ATTACHMENT B

Invitation to Tender

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Pre Closing Date Notice to Respondents

Contract Name:	Sunshine Coast Mass Transit Project - Business Case Advice and Economic and Financial Analysis
Contract Number:	ITT1878
Notice to Respondents No.	One (1)
Date:	21 May 2019

Respondents are to note the following:

The Closing Date on the Queensland Government QTenders site was inadvertently dated 11 June **2020**.

The Closing Date in the Invitation to Tender of 11 June **2019** is correct.

The Closing Date on the Queensland Government QTenders site has now been updated to **11 June 2019.**

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ACKNOWLEDGEMENT OF NOTICE TO RESPONDENTS

Respondents are to acknowledge receipt of this Notice to Respondents in Part 3 – Respondent Compliance of the Response Form.

Pre Closing Date Notice to Respondents

Contract Name:	Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analysis
Contract Number:	ITT1878
Notice to Respondents No.	Two (2)
Date:	28 May 2019

Respondents are to note the following responses to questions raised:-

Question 1: There is some inconsistency in the dates outlined in Schedule 5 - Attachment 1 - Technical Specification – between Figure 8 and Tables 2 and 3.
Please provide clarity and alignment of the deliverable dates?

Response 1: The dates in Tables 2 and 3 are correct.

Question 2: In relation to the Project Proposal required as part of the Methodology, does the 20 page limit apply across both Separable Portions?

Response 2: The 20 page limit is per Separable Portion and excludes both the one page CV's and the completed Schedule 6 – Appendix 1 - Tender Response Form.

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ACKNOWLEDGEMENT OF NOTICE TO RESPONDENTS

Respondents are to acknowledge receipt of this Notice to Respondents in Part 3 – Respondent Compliance of the Response Form.

Pre Closing Date Notice to Respondents

Contract Name:	Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analyses
Contract Number:	ITT1878
Notice to Respondents No.	Three (3)
Date:	4 June 2019

Respondents are to note the following:

1. All references to:
   - Separable Portion 1 mean Separable Portion A, and
   - Separable Portion 2 mean Separable Portion B.

Respondents are to note the following responses to questions raised:-

Question 1: What analysis will Council's existing cost estimator provide versus what will Council require from Separable Portion B from a cost estimation (capital and operating) perspective?

Response 1: Refer to *Schedule 5 – Attachment 1 – Technical Specification* table 1. Principal will supply risk adjusted capital infrastructure construction and vehicle costs (only) P50 for LRT and BRT options. Economic and Financial Adviser will provide any other required costs, risk adjusted using appropriate methodology.

Question 2: Will the Economic and Financial Adviser be responsible for risk analysis and adjustments (to reach P50 costs)?

Response 2: Refer to *Schedule 5 – Attachment 1 – Technical Specification* table 1. Yes for all options except LRT and BRT options where risk adjusted infrastructure and vehicle capital costs will be provided. All other costs for LRT and BRT options are to be estimated and risk adjusted by the Economic and Financial Adviser.

Question 3: Should we allow for 7 options to be analysed (economic and financial) for the PBC?

Response 3: Refer to *Schedule 5 – Attachment 1 – Technical Specification* table 1. Only the options specified, including two contingency options, are required by the tender. These two contingency options would be expected to be based on high level costs with an appropriate risk adjustment, both provided by the Economic and Financial Adviser. However Respondents may choose to allow for other contingencies if this is integral to their proposed methodology.

Question 4: Please confirm if we can submit two separate Tender Response Forms one for each portion?

Response 4: If a Respondent wants to be considered for both portions, Council requires one Tender Response Form. If key personnel are only to be utilised on one of the portions, this can be identified in the Project Proposal. Please refer to previously distributed Notice to Respondents Two for details of the total number of pages for the Project Proposals.

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ACKNOWLEDGEMENT OF NOTICE TO RESPONDENTS

Respondents are to acknowledge receipt of this Notice to Respondents in Part 3 – Respondent Compliance of the Response Form.

Question 5: For Separable Portion B, please confirm if the following services are required.

a) Capital cost estimates (capex)
b) Operational and maintenance capital cost estimates (opex)
c) Cash flow and escalation modelling (capex & opex)

Response 5:

a) Yes, refer to *Schedule 5 – Attachment 1 – Technical Specification*, table 1
b) Yes for all options
c) Yes for all options.

Question 6: Please provide approximate lengths/metrics so the potential scope of works can be adequately understood to facilitate the development of a representative fee proposal?

Response 6: The expected focus for the Preliminary Business Case cost estimates and the subsequent Economic and Financial analyses will be the Stage one corridor previously identified through Council light rail planning extending from Maroochydore to Kawana town Centre, a distance of approximately 14 km. Refer to the project website: https://lightrail.sunshinecoast.qld.gov.au/proposed-route

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Pre Closing Date Notice to Respondents

Contract Name:	Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analyses
Contract Number:	ITT1878
Notice to Respondents No.	Four (4)
Date:	5 June 2019

Respondents are to note the following *extension* to Closing Date details:

Closing Date	~~12 noon, 11 June 2019~~ **12 noon, 18 June 2019**

Respondents are to note the following responses to questions raised:-

Question 1: Regarding the scope for the capital cost plans required for Separable Portion B,

- Quality Bus Corridor; and
- Upgrade of Existing Bus Network

Please confirm the lump sum fee should be included for a full 14km's of (1) Quality Bus Corridor, and (2) Upgrade of existing Bus Network cost options analysis? Can Council provide a (likely, or potential) high level scope summary associated with each option? In addition, please outline what the potential additional 'contingency options' will be?

Response 1: Regarding the Quality Bus Corridor option, as per Schedule 5 – Attachment 1 – Technical Specification, table 1 the Department of Main Roads and Transport (TMR) have developed the CoastConnect Project which would form the basis for this option. Details of this project can be found on the TMR website https://www.tmr.qld.gov.au/Projects/Name/C/CoastConnect-Caloundra-to-Maroochydore-Quality-Bus-Corridor

Council is in possession of high level capital cost estimate breakdowns for this project which was referenced in the 2012 Line in the Sand report at $370 Million overall. These estimates covered a full scope from Maroochydore to Caloundra. As per the Technical Specification these estimates need to be reviewed and updated, and an operating model and costs need to be calculated for this Quality Bus Corridor Option that serves the Sunshine Coast University Hospital and Kawana Town centre precinct. It is to be expected the Quality Bus Corridor option would be located generally in the same corridor as the LRT and BRT options being approximately 14 km in length.

The upgrade of the existing bus system will need to be costed mostly from a perspective of bus equipment and depot costs, localised bus infrastructure costs and increased bus network operating costs. Council will be able to supply baseline existing costs for the bus network as well as modelled increased bus kilometres.

The two additional contingency options, are required to enable Council to respond to emergent requests from evaluators in central agencies including Infrastructure Australia, Building Queensland and Queensland Treasury. The cost estimating brief for these options are expected to be provided by the Consultant at relatively high level, based mostly on "first principles". These estimates will be used in the earlier optioneering phases of the Preliminary Business Case rather than the final assessment of preferred option/s. Council will be able to supply modelled outcomes for these options should they emerge.

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ACKNOWLEDGEMENT OF NOTICE TO RESPONDENTS

Respondents are to acknowledge receipt of this Notice to Respondents in Part 3 – Respondent Compliance of the Response Form.

Respondents are referred to the 2012 *Line in the Sand* report for further consideration. Respondents are expected to utilise their own expertise to determine the types of options that may emerge from this initial optioneering process. Although these contingency options should be allowed for, Council has already incorporated some initial advice from the Strategic Business Case Phase in the Technical Specification, to the effect that evaluators in central agencies are most interested in lower cost bus options as alternatives to light rail technology in the Sunshine Coast Urban Corridor including:

- upgrading the existing bus network,
- developing a Quality Bus Corridor, and
- Bus Rapid Transit

Question 2: Can Council provide the rationale for the budget range estimates for both portions, given the characteristics of the project?

Response 2: No. Council considers the advertised contract value range to be accurate, and will not be amending the contract value range or scope of work at this time for either portion.

A tender that meets the scope of work would be considered conforming, even if it exceeded the advertised contract value range. A tender that provides an alternative methodology with a reduced scope of work would be considered non-conforming.

Council reserves the right to consider all tender responses, conforming or non-conforming at its sole discretion, as outlined in the Tender Process Terms.

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Pre Closing Date Notice to Respondents

Contract Name:	Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analyses
Contract Number:	ITT1878
Notice to Respondents No.	Five (5)
Date:	13 June 2019

Respondents are to note the following attached item:

1. ***Revised* Schedule 6 – Appendix 2 – Pricing Schedule**
   This attachment is to replace in its entirety Schedule 6 – Appendix 2 – Pricing Schedule of the Invitation to Tender. Amendments to this attachment are in relation to the protection, to allow for additional columns, and to amend the formula in the Nett Fee column, for the additional columns added.

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ACKNOWLEDGEMENT OF NOTICE TO RESPONDENTS

Respondents are to acknowledge receipt of this Notice to Respondents in Part 3 – Respondent Compliance of the Response Form.

Contract Name: Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analyses
Contract Number: ITT1878
REVISED Schedule 6 - Appendix 2 - Pricing Schedule - SEPARABLE PORTION A

RESPONDENT NAME:
DATE:

	Hours															
Resource	*Project Director*	*Project Manager*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	**Net fee $**
Rate	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Activity																
Inception																
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Milestone 1 - Draft Preliminary Business Case																
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Milestone 1.2: Final Business Case																
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Milestone 1.3: Draft Infrastructure Australia Stage 2 Template																
Activity																$ -
Activity																$ -
Activity																$ -
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Milstone 1.4: Key Stakeholder Engagement																
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Other…																
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Activity																$ -
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Project Totals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$ -

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Contract Name: Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analyses
Contract Number: ITT1878
REVISED Schedule 6 - Appendix 2 - Pricing Schedule - SEPARABLE PORTION B

RESPONDENT NAME:
DATE:

	Hours																
Resource	*Project Director*	*Project Manager*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	*etc*	**Net fee $**
Rate	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Activity																	
Inception																	
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Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Milestone 2.1 - Draft financial analysis																	
Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Milestone 2.2: Draft economic analysis																	
Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Milestone 2.3: Final financial analysis																	
Activity																	$ -
Activity																	$ -
Activity																	$ -
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Milstone 2.4 Final economic analysis																	
Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Other…																	
Activity																	$ -
Activity																	$ -
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Activity																	$ -
Activity																	$ -
Activity																	$ -
Activity																	$ -
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Project Totals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$ -

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Invitation to Tender

Contract Name: Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analyses

Contract Number: ITT1878

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Contract Overview

Tenders are invited for the development of a Preliminary Business Case for the Sunshine Coast Mass Transit Project.

This contract is structured into two Separable Portions:

- Separable Portion A - Business Case Adviser
  - Manage the development of a Preliminary Business Case for a mass transit system on the Sunshine Coast.
- Separable Portion B – Economic and Financial Analyses
  - Prepare economic and financial analyses to establish the Preliminary Business Case.

Respondents can tender for one or both Separable Portions. Council may at its sole discretion elect to award the separable portions to one or two Consultants.

The Consultant is required to prepare and submit a preliminary business case to Council which aligns with Building Queensland's Business Case Development Framework, and an Infrastructure Australia (IA) Stage 2 template in accordance with IA's business case framework. The Preliminary Business case will be used to inform a decision whether to proceed with the Detailed Business Case, and to guide other subsequent stages of work for this project.

The Preliminary Business Case will undertake analysis of key components of the mass transit project including a range of options, and recommend a preferred option and the next steps.

The successful Consultant will have a demonstrated track record of developing business cases for key mass transit projects (e.g., regional rail, metro rail, light rail, bus rapid transit etc).

It is anticipated this contract will commence in June 2019, and will be completed within 46 weeks.

This is a lump sum contract. Council considers the contract value range for each Separable Portion as follows:

- Separable Portion A – between $300,000 and $350,000
- Separable Portion B – between $150,000 and $300,000.

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PART 1 – TENDER PROCESS TERMS

The Tender Process Terms will govern the entire Tender Process, including the assessment of all Tenders.

The Tender Process Terms are available on the following link: https://d1j8a4bqwzee3.cloudfront.net/~/media/Corporate/Documents/Tenders/tender_process_terms_march.pdf

A summarised version of the process is as follows:

- This document represents the release of the Tender to the market;
- Tenders will be accepted until **12noon 11 June 2019**;
- Evaluation of Tenders will be conducted against predetermined evaluation criteria and within Council's governance and probity framework;
- Council, at its sole discretion, may shortlist Tenders and conduct interviews as deemed necessary;
- Council may accept none, one or more of the Tenders submitted.

Probity Environment

In the preparation of any Tender, Prospective Respondents should consider the following:

- All requests for assistance, advice, clarifications and/or further information should be directed to the contact point contained in Schedule 1 Item 5 of this Invitation to Tender.
- Direct contact with any elected member of Council or Local Government Employee regarding any part of this Tender, other than those listed in Schedule 1 Item 5, is prohibited.
- Any prohibited contact with a Local Government Employee or elected member of Council may result in the Respondent or Prospective Respondent and their Tender being disqualified from the Tender Process.
- The Tender Process Terms will take precedence over information contained in this part in the event of conflict between the two.

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PART 2 – LIST OF SCHEDULES

The following Schedules form part of this Invitation to Tender:

Schedule 1	Tender Details
Schedule 2	Information Session
Schedule 3	Evaluation Criteria
Schedule 4	General Terms and Conditions
Schedule 5	Service Specification and Supporting Documentation
Schedule 6	Tender Response Form

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SCHEDULE 1 – TENDER DETAILS

Terms used in this Invitation to Tender take their meaning from the Tender Process Terms (TPT) (*available in Part 1 of the Invitation to Tender above*).

This Invitation to Tender is subject to the Tender Process Terms. A brief summary of key aspects of this Invitation to Tender is set out in the table below:

Item	Description	Detail
1.	Closing Date (Clause 1.1 and 5.3(b)(ii) of the TPT)	12noon, 11 June 2019.
2.	Contract Name and Number: (Clauses 1.1 and 5.3(b)(i) of the TPT)	Contract Name: Sunshine Coast Mass Transit Project - Business Case Advice and Economic and Financial Analyses Contract No: ITT1878
3.	Tender lodgement times (Clause 5.3(b)(ii) of the TPT)	Any time up to 12noon on the Closing Date.
4.	Validity Period (Clause 5.7 of the TPT)	90 days from the Closing Date.
5.	Name and contact details	The Contract Administrator is the **Project Manager, Liveability and Natural Assets**. **Technical Enquiries** Prospective Respondents are to address enquiries in relation to technical aspects of the Contract, in writing via email to tenderenquiries@sunshinecoast.qld.gov.au. All enquiries must reference the Contract Number ITT1878. **Submission Enquiries** For assistance with accessing the Invitation to Tender and attachments, or submitting your electronic Tender, please contact the Queensland Government QTenders website team via email BSU@hpw.qld.gov.au or telephone (07) 3215 3699. Note: Respondents must keep the file size of each document below 10Mb.
6.	Tender Box	Tenders must be submitted electronically through the Queensland Government QTenders portal prior to the Closing Date: https://www.hpw.qld.gov.au/qtenders/index.do
7.	Local Government inviting Tenders	Sunshine Coast Regional Council ABN 37 876 973 913.
8.	Clarifications	Cut-off for requests for clarification or further information is 5 days prior to the Closing Date.

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SCHEDULE 2 – INFORMATION SESSION

Not applicable.

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SCHEDULE 3 – EVALUATION CRITERIA

The Evaluation Criteria are:

(a) Price
(b) Capability and Experience
(c) Methodology
(d) Contribution to Local Economy
(e) Social Benefit and Indigenous Engagement

SCHEDULE 4 – GENERAL TERMS AND CONDITIONS

The following attachment comprises the General Terms and Conditions.

Details
General Terms and Conditions (AS4122-2010) • Terms and Conditions of Contract • Annexure to the Australian Standard 4122-2010 – Part A • Annexure to the Australian Standard 4122-2010 – Part B • Annexure to the Australian Standard 4122-2010 – Part C

SCHEDULE 5 – SERVICE SPECIFICATION and SUPPORTING DOCUMENTATION

The following attachments comprise the Service Specification and form part of this Invitation to Tender:

Attachment Number	Details
1.	Technical specification
2.	Key Performance Indicators

The following attachments comprise the Supporting Documentation and form part of this Invitation to Tender:

Prospective Respondents must sign a confidentiality deed to access these attachments.

To request access to these documents, please email your company's entity name, ABN, and address to tenderenquiries@sunshinecoast.qld.gov.au, referencing *ITT1878 Confidentiality Deed.* A copy of the confidentiality deed will then be provided for execution prior to being provided access.

Attachment Number	Details
3.	Sunshine Coast Mass Transit Project Strategic Business Case - Working draft (Corview, 2019)
4.	Sunshine Coast demographics and preliminary modelling summary report (VLC, 2018)
5.	Sunshine Coast Concept Mass Transit Plan (VLC, 2018)

SCHEDULE 6 – TENDER RESPONSE FORM

Refer to attached documents for completion and electronic lodgement in the Tender Box.

Appendix Number	Details
1.	Tender Response Form (Word format)
2.	Schedule of Rates - Part 2.1 (Excel format)

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Tender Process Terms

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1. Interpretation

1.1. Definitions

In these Tender Process Terms:

Acceptance Notice has the meaning given to that term by **clause 9.2(a)**.

Notice to Respondents has the meaning given to that term by **clause 3.4(b)**.

Alternative Tender means a Tender submitted in accordance with **clause 5.5**.

Associate of the Respondent means any Related Body Corporate of the Respondent and any officer, employee, agent, contractor, consultant, adviser of the Respondent.

Business Day means a day which is not a Saturday, Sunday or public holiday in Nambour, Queensland.

Closing Date means the time and date set out in **item 1** of **Schedule 1**.

Conflict of Interest includes engaging in any activity, or having any interest, which conflicts or may conflict with the ability of the Respondent to submit a Tender in good faith and objectively.

Conforming Tender has the meaning given in **clause 5.4**.

Consequential Loss means:

(a) indirect loss;

(b) loss of profits;

(c) loss of revenue;

(d) loss of savings;

(e) loss of opportunity;

(f) loss of bargain;

(g) loss of use;

(h) damage to credit rating;

(i) loss of or damage to reputation, future reputation or publicity;

(j) loss in connection with claims made by third parties;

(k) remote, abnormal or unforeseeable loss; and

(l) any consequential loss or damage that is similar to the losses in this definition, whether or not such loss or damage was foreseeable or within the contemplation of Council, Prospective Respondents and/or the Respondents at the time Council entered into these Tender Process Terms.

Contract Administrator means the person identified in **item 5** of **Schedule 1**.

Contract Documents means:

(a) the Invitation to Tender;

(b) the General Terms and Conditions contained in and referred to in **Schedule 4** of the Invitation to Tender;

(c) the Service Specification contained in **Schedule 5** of the Invitation to Tender;

(d) all Schedules to the Invitation to Tender excluding the Supporting Documentation;

(e) all Notice to Respondents;

(f) the Tender Response Form of the successful Respondent; and

(g) the Acceptance Notice.

Contract Number for the Service Contract means the unique identifying number for the Service Contract specified in **item 2** of **Schedule 1**.

Council means Sunshine Coast Regional Council.

Council Confidential Information means any technical, commercial or other information, ideas,

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concepts, know-how, data, drawings, specifications or designs of any kind in any form or medium supplied or made available by Council or brought into existence by the Respondent for the submission of the Tender, including (but without limiting the generality of this definition):

(a) the information in these Tender Process Terms; and

(b) the Respondent's Tender.

Evaluation Criteria for the Service means the evaluation criteria for the Service set out in **Schedule 3**.

General Terms and Conditions means the document titled "General Terms and Conditions" set out in **Schedule 4**.

Government Entity means any government or statutory body (including a business unit or division of Council, a local government, a government owned business, State agency or authority or Commonwealth agency or authority).

Information Session means the information session referred to in **clause 2.1(a)** and set out in set out in **Schedule 2**.

Intellectual Property Rights means all intellectual and industrial property rights and interests throughout the world, whether registered or unregistered, including trade marks, designs, patents, inventions, circuit layouts, copyright and analogous rights, confidential information, know-how and all other intellectual property rights as defined in Article 2 of the convention establishing the World Intellectual Property Organisation of 14 July 1967 as amended from time to time.

Invitation to Tender means:

(a) the document titled "Invitation to Tender" and its schedules to which these Tender Process Terms are attached; and

(b) these Tender Process Terms (excluding the Information Session).

Local Government Act means the *Local Government Act 2009* (Qld).

Negotiations means negotiations in accordance with **clause 7.4**.

Non-conforming Tender has the meaning given in **clause 5.4(b)**.

Prospective Respondent means any person that has requested or obtained a copy of the Invitation to Tender, but has not submitted a Tender.

Related Body Corporate has the meaning given in the *Corporations Act 2001* (Cth).

Required Information for the Service means the information and documentation for the Service specified in **Schedule 6**.

Respondent means any person lodging a Tender.

RTI Act means the *Right to Information Act 2009* (Qld).

Service means the services (and, if applicable, goods) to be supplied under the Service Contract.

Service Contract means the contract between Council and the successful Respondent comprising:

(a) the Invitation to Tender;

(b) the General Terms and Conditions contained in and referred to in **Schedule 4** of the Invitation to Tender;

(c) the Service Specification contained in **Schedule 5** of the Invitation to Tender excluding the Supporting Documentation;

(d) all Schedules to the Invitation to Tender;

(e) all Notice to Respondents;

(f) all responses to clarifications and information provided by the successful Respondent;

(g) the Tender Response Form of the successful Respondent; and

(h) the Acceptance Notice.

Service Specification means the specification set out in **Schedule 5**.

Supporting Documentation means the documentation set out in **Schedule 5** as Supporting

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Documentation.

Tender means a tender or tenders (including Alternative Tenders submitted under **clause 5.5**) submitted by the Respondent in response to these Tender Process Terms (as varied in accordance with **clause 8**).

Tender Box means the tender box identified in **item 6** of **Schedule 1**.

Tender Documents means the Tender Process Terms but does not include any Notice to Respondents.

Tender Process Terms means this document titled Tender Process Terms, including its schedules, Notice to Respondents and the Invitation to Tender including its schedules.

Tender Process means the process of Council inviting Tenders (including multi-phase Tenders), the preparation and submission of Tenders by Respondents, the communications and negotiations between Council and Respondents in relation to the process and Tenders, the subsequent consideration and evaluation of Tenders by Council and the negotiation of and entering into Service Contracts.

Tender Response Form means the form set out in **Schedule 6**.

1.2. Undefined terms

In these Tender Process Terms, where a term is not defined in **clause 1.1**, but is defined in the Contract Documents, it has the meaning given in the Contract Documents.

1.3. Construction

Unless expressed to the contrary, in these Tender Process Terms:

(a) words in the singular include the plural and vice versa;

(b) any gender includes the other genders;

(c) all references to time are to the time in Nambour, Queensland;

(d) if a word or phrase is defined, its other grammatical forms have corresponding meanings;

(e) "includes" means includes without limitation;

(f) no rule of construction will apply to a clause to the disadvantage of a party merely because that party put forward the clause or would otherwise benefit from it; and

(g) a reference to:

  (i) a person includes a partnership, joint venture, unincorporated association, corporation and a government or statutory body or authority;

  (ii) a person includes the person's legal personal representatives, successors, assigns and persons substituted by novation;

  (iii) any legislation includes subordinate legislation under it and includes that legislation and subordinate legislation as modified or replaced; and

  (iv) an obligation includes a warranty or representation and a reference to a failure to comply with an obligation includes a breach of warranty or representation.

(h) Clause, schedule and annexure references in these Tender Process Terms are references to clauses, schedules and annexures of these Tender Process Terms, unless stated otherwise.

1.4. Headings

Headings do not affect the interpretation of these Tender Process Terms.

1.5. Inconsistency

In the event of an inconsistency between the parts of these Tender Process Terms listed in this **clause 1.5**, the document higher in the list shall prevail to the extent of the inconsistency:

(a) these Tender Process Terms (other than the Information Session, the Contract Documents and the Tender Response Form);

(b) the Contract Documents; and

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(c) the Tender Response Form.

2. Information Session

2.1. Information Session

(a) An information session will be held as set out in **Schedule 2** (Information Session).

(b) Attendance by Prospective Respondents at the Information Session is recommended but is not compulsory.

(c) Without limiting the rights of Prospective Respondents under **clause 4.3**, Council requires Prospective Respondents to submit questions and requests for clarification in writing to Council prior to the Information Session. Such advance written questions and requests for clarification will be considered by Council and Council will endeavour to respond to them:

(i) at the Information Session verbally;

(ii) after the Information Session in writing; or

(iii) under the process set out in **clause 4.3**.

(d) Council may, at its discretion, address any questions or requests for clarification that are raised at the Information Session by:

(i) responding in whole or in part during the Information Session; or

(ii) declining to responding during the Information Session and, instead, issuing a written response after the Information Session, once it has had an opportunity to consider the question or request for clarification.

(e) If Council provides a verbal response during the Information Session, it may vary or qualify that response by issuing a written response at any time after the Information Session. Any written response issued by Council following the Information Session shall supersede verbal responses provided during the Information Session to the extent of any inconsistency.

(f) At the Information Session, Council will provide general information about the procurement contemplated by the Tender Documents and will endeavour to answer questions and requests for clarification submitted to Council in accordance with **clause 2.1(c)**.

(g) Questions and requests for clarification put to Council, together with answers and responses to those questions and requests for clarification, will be issued in writing to all Prospective Respondents, regardless of whether or not they attend the Information Session. In doing so, Council will endeavour not to identify the Prospective Respondent that asked the question or made the request for clarification, unless the question, request for clarification, answer or response identifies the Prospective Respondent.

(h) No answers or responses issued by Council under this **clause 2.1** will form part of the terms of these Tender Process Terms unless Council issues them as a Notice to Respondents.

(i) Any answers or responses issued by Council under this **clause 2.1** are issued subject to terms of these Tender Process Terms.

3. Council Tender Process

3.1. Limited liability of Council

Council's total liability to each Respondent and Prospective Respondent whether in contract, tort (including for negligence or misrepresentation), restitution, under statute (to the extent permitted by law) or otherwise at law or in equity arising in connection with a Respondents or Prospective Respondent's participation in the Tender Process is, to the extent that it is not expressly excluded, limited to an amount of nil.

3.2. Exclusion of Consequential Loss

Council is not liable for any Consequential Loss, howsoever caused (including by the negligence of Council), suffered or incurred by any Respondent or Prospective Respondent, whether or not Council knew or should have known of the possibility of such damage or that such damage was otherwise foreseeable.

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3.3. Release and indemnity

(a) Each Respondent and Prospective Respondent releases and indemnifies Council, its councillors, employees, agents and contractors from and against all claims (including for negligence or misrepresentation by Council) arising out of or in connection with the provision of, or the purported reliance upon, or use of, any information (including in the Tender Documents) provided by or on behalf of Council in connection with the Tender Process.

(b) For the purpose of obtaining the benefit of the indemnity granted under **clause 3.3(a)**, Council:

(i) acts on its own behalf and as the agent for each of Council's councillors, employees, agents and contractors; and

(ii) communicates assent by each of its councillors, employees, agents and contractors to the promise of indemnification made by the Respondent and Prospective Respondent under **clause 3.3(a)** in respect of each of those persons.

(c) It is not necessary for Council, its councillors, employees, agents or contractors to suffer or incur any loss or damage prior to making a claim under the indemnity in **clause 3.3(a)**.

(d) **Clauses 3.1**, **3.2** and **3.3** survive the expiry or termination of any contract that forms between a Prospective Respondent and Council or a Respondent and Council under these Tender Process Terms.

3.4. Variations

(a) Without limiting any other rights or remedies of Council, it may, in its absolute discretion, at any time by notice to each Prospective Respondent and Respondent, do one or more of the following:

(i) vary, suspend or terminate the Tender Process;

(ii) vary the terms of the Tender Process Terms;

(iii) direct each Respondent (as a result of a variation to the Tender Process Terms) to submit revised pricing and rates; or

(iv) extend the Closing Date.

(b) All variations to the Tender Process Terms will be issued by Council in the form of a written Notice to Respondents (which must refer to this **clause 3.4**) to these Tender Process Terms (Notice to Respondents), and will form part of the terms of the Tender Process Terms on and from the date specified in the Notice to Respondents, or if no date is specified, immediately.

(c) The Respondent may not do any of the things that Council is permitted to do under **clause 3.4(a)** without the prior written consent of Council.

3.5. Exclusion from Tender Process

(a) Council may, in its absolute discretion, without prejudice to any other rights or remedies of Council, exclude a Respondent from continued participation in the Tender Process and may cease to consider any Tender submitted by the Respondent if Council determines that the Respondent or any of its Associates has failed to comply with a material requirement of these Tender Process Terms (but, for the avoidance of doubt, Council is not obliged to do so).

(b) Council may, in its absolute discretion, waive some or all of the obligations of a Respondent under the Tender Process Terms.

3.6. No joint bids

Each Tender must be submitted by a single Respondent only. Tenders by joint Respondents are not permitted and will not be accepted by Council.

4. Respondent's obligations

4.1. Respondent's warranties

(a) By lodging a Tender, a Respondent represents and warrants, and it is a condition of these Tender Process Terms, that:

(i) each of the matters set out in the Respondent's Tender are true, accurate, complete and

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not misleading or deceptive;

(ii) it has not relied and will not rely upon the Tender Process Terms or any Tender Documents as being accurate, adequate, suitable or complete for the purposes of enabling it to supply the Service;

(iii) it has not relied, and will not rely, on information provided by or on behalf of Council without independently verifying such information and independently satisfying itself as to the accuracy, adequacy, suitability or correctness of such information;

(iv) it has satisfied itself as to the local conditions, environment and facilities that may impact on its ability to supply the Service;

(v) it has examined, and will examine, all information relevant to the risks, contingencies and other circumstances having an effect on its Tender and the supply of the Service;

(vi) it has fully informed itself of the nature of the obligations to be performed under the relevant Service Contract, including the labour, plant, materials, mechanical plant and other resources necessary, suitable or desirable to perform the obligations under the relevant Service Contract;

(vii) it has satisfied itself as to the correctness and sufficiency of its Tender for the performance of the obligations under the relevant Service Contract and that its rates and prices include compliance with all its obligations under the relevant Service Contract and of all matters and things necessary for the due and proper performance of the relevant Service Contract in accordance with the terms of the relevant Service Contract; and

(viii) it has carried out its own investigations as to the feasibility of its Tender and relied on those investigations.

(b) The Respondent acknowledges and agrees that Council will rely upon the representations made and warranties given in **clause 4.1(a)** in considering any Tender of the Respondent and in considering whether to enter into the Service Contract with the Respondent.

(c) Failure by a Respondent to do any or all of the things it represents and/or warrants to have done, or will do, will not relieve the Respondent of its obligations to perform and complete the relevant Service Contract in accordance with its terms.

(d) Council does not represent or warrant that any of the information provided by Council as Supporting Documentation in **Schedule 5** (Supporting Documentation), or as part of the Tender Process, is complete or accurate.

4.2. Expenditure of money

Each Respondent and Prospective Respondent:

(a) expends money, makes commitments and incurs liabilities in responding to these Tender Process Terms at its own risk and expense; and

(b) has no claim against Council for any of the expenses, commitments or liabilities referred to in **clause 4.2(a)**.

4.3. Information or clarification

(a) Any requests for information or clarification regarding the Tender Process or Contract Documents must, in the first instance, be directed to the Contract Administrator.

(b) Council will not accept any requests for information or clarification on or after the date that is 5 days prior to Closing Date.

(c) Responses to any requests for information or clarification will be provided to all Prospective Respondents.

(d) No response or statement made by the Contract Administrator or any other member of Council should be construed as modifying these Tender Process Terms or any other Tender Documents, unless expressly stated otherwise in a Notice to Respondents.

(e) Any information provided to the Respondent by or on behalf of Council, including in these Tender Process Terms, is:

(i) provided for the convenience of the Respondent only and unless expressly incorporated

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into the Tender Process Terms, does not form part of the Tender Process Terms; and

(ii) not warranted or held out by Council as accurate, adequate, suitable, complete or correct.

(f) If a Respondent or a Prospective Respondent requests information or clarification from Council on any part of these Tender Process Terms:

(i) the Respondent must direct its enquiries in writing to the Contract Administrator;

(ii) Council is not bound by any information or clarification provided orally (including at the Information Session) or in writing; and

(iii) the Respondent or Prospective Respondent consents to Council disclosing any request for information or clarification made by the Respondent or Prospective Respondent, together with the written response of Council to all other Respondents and Prospective Respondents.

(g) In addition to the Information Session, Council may decide prior to the Closing Date to hold briefing and clarification sessions for Prospective Respondents (whether separately or together) at times and venues specified by Council.

5. Tenders

5.1. Content of Tenders

(a) Each Tender must:

(i) be in legible English;

(ii) be accompanied by a fully completed Tender Response Form properly executed by the Respondent;

(iii) include all information and documentation required to be provided by these Tender Process Terms (including the relevant Required Information);

(iv) be submitted in the format required by **clause 5.2**; and

(v) be lodged in accordance with **clause 5.3**.

(b) If the Tender Response Form is executed under power of attorney, the Respondent must submit a certified copy of the deed under which the attorney's authority to execute the Tender Response Form is derived.

5.2. Format of Tenders

If a Respondent submits more than one Tender, each Tender must be complete and must not be supplemented by cross-references to information contained in other Tenders or documents.

5.3. Electronic lodgement of Tenders

(a) The Respondent must lodge one copy of its Tender in the format provided by Council (using the template provided by Council) via the Tender Box.

(b) Tenders must be:

(i) clearly marked with the relevant Contract Number;

(ii) lodged in the Tender Box on any Business Day between the hours specified in **item 3** of **Schedule 1** by the Closing Date.

(c) No other method of lodging a Tender is acceptable, and Tenders may not be lodged by post, facsimile or email.

(d) Council will not accept or consider Tenders which are not lodged on or before the Closing Date.

5.4. Conforming Tenders

(a) A Conforming Tender is one which:

(i) is lodged on or before the Closing Date;

(ii) is not lodged on the basis of any condition or qualification;

(iii) accepts the terms of the relevant Service Contract to which the Tender relates;

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(iv) is not a Tender that is determined to be a Non-conforming Tender under **clauses 6.2(e)** and **13.4(d)** or any other term of these Tender Process Terms which allow Council to deem a Tender to be non-conforming, allow Council not to review a Tender or cause a Tender to become non-conforming;

(v) supplies all information and responses requested by these Tender Process Terms;

(vi) is submitted using the form and format of the Tender Response Form;

(vii) complies with requirements, terms and conditions of these Tender Process Terms; and

(viii) is submitted by a Respondent.

(b) A Non-conforming Tender is one that fails to meet the requirements in **clause 5.4(a)**.

5.5. Alternative Tenders

A Respondent may lodge an Alternative Tender for the Service provided that:

(a) the Alternative Tender is lodged by the Closing Date; and

(b) the Respondent has lodged a Conforming Tender for the Service.

5.6. No public opening

Tenders will not be publicly opened by Council.

5.7. Validity period

Each Tender submitted for a phase remains valid and is irrevocable:

(a) for the period of time specified in **item 4** of **Schedule 1** of the Invitation to Tender for that phase;

(b) for ninety (90) days from the Closing Date of any invitation for best and final offers invited in a Notice to Respondents; or

(c) until Council notifies the Respondent that the Tender has not been accepted, whichever occurs first.

5.8. Licence to use

(a) The documents comprising each Tender become the property of Council upon being submitted.

(b) The Respondent grants Council and its councillors, employees, agents and contractors an irrevocable, perpetual, non-exclusive, free of charge licence (including the right to sublicense) to use and exercise all Intellectual Property Rights in the whole or any part of the Respondent's Tender for any purpose related to the Tender Process, including the use, reproduction and modification of the Tender.

(c) The Respondent represents and warrants, and it is a condition of these Tender Process Terms, that:

(i) it owns or has a right to use the Intellectual Property Rights in its Tender for the purposes of the Tender Process;

(ii) it has the right and authority to grant the licence in **clause 5.8(b)**; and

(iii) Council's exercise of the rights granted by the Respondent under **clause 5.8(b)** will not infringe the Intellectual Property Rights or other rights of any third party.

(d) This **clause 5.8** survives the expiry or termination of any contract that forms between a Prospective Respondent and Council or a Respondent and Council under these Tender Process Terms.

6. Further information and investigations

6.1. Further information

(a) Council may seek clarification, amendment and/or improvement of a Tender or require a Respondent to provide additional information concerning any part of its Tender on a case-by-case basis, but is under no obligation to do so, and may decide not to extend such an opportunity to each Respondent.

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(b) The Respondent must respond to a request in accordance with **clause 6.1(a)** within the time specified by Council.

(c) Without limiting **clause 6.1(a)**, the Respondent must, if requested by Council, give a presentation in relation to the Tender at a time and place specified by Council.

6.2. Investigations

(a) Council may conduct independent investigations regarding a Respondent and its Tender, including in relation to the Respondent's:

(i) commercial structure;

(ii) financial status;

(iii) business and credit history;

(iv) prior contract compliance and performance; and

(v) criminal records or pending charges of its staff and employees.

(b) By submitting a Tender, the Respondent:

(i) consents to such investigations being conducted;

(ii) agrees to cooperate with any investigations (including an audit of the Respondent's financial status) by Council or its agent; and

(iii) consents to Council or its agent contacting and obtaining information about the Respondent from the Respondent or any third party that Council considers may be able to provide information about the Respondent which is relevant to the evaluation of its Tender.

(c) Subject to **clause 10**, Council is under no obligation to provide the Respondent with details of the results of any investigations.

(d) If Council requests that the Respondent provide any information to Council under this **clause 6.2**, the Respondent must provide the information to Council in the time reasonably required by Council (if any).

(e) Failure to provide any information to Council within the time reasonably required by Council, may result in the Tender being deemed by Council as a Non-conforming Tender by notice to the Respondent.

7. Evaluation of Tenders

7.1. Evaluation

(a) Council will evaluate Conforming Tenders (and any Non-conforming Tenders it notifies a Respondent that it will evaluate) against the Evaluation Criteria and, to the extent they are relevant and applicable to the evaluation process, having regard to the sound contracting principles of the Local Government Act.

(b) The evaluation of Tenders will be based primarily upon the information provided in the Tenders (as varied in accordance with these Tender Process Terms).

(c) In addition to **clause 7.1(b)**, Council may, in its absolute discretion, in evaluating Tenders have regard to:

(i) Council's and its advisors' previous experience and dealings with the Respondent;

(ii) any information received from any referee in relation to the Respondent;

(iii) any information about a Respondent which is in the public domain; and

(iv) any information obtained pursuant to investigations carried out in accordance with **clause 6.2** or which comes to the attention of Council or its advisers.

(d) The Respondent must ensure that its Tender addresses all Evaluation Criteria.

7.2. Short-listing

(a) Council may short-list Respondents on one or more occasions during the Validity Period. Council has no obligation to notify Respondents of any decision under this **clause 7.2(a)**.

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(b) Notwithstanding that Council has short-listed (or notified Respondents of a decision to short-list) one or more Respondents:

(i) all Respondents (including Respondents not short-listed) remain bound by these Tender Process Terms;

(ii) Council may continue to evaluate all Tenders (including Tenders of Respondents not short-listed);

(iii) Council may include in a short-list one or more Respondents that were previously excluded from the short-list;

(iv) no contract forms between Council and any Respondent that has been short- listed or, as a result of a decision (or notification of a decision) by Council to short-list Respondents; and

(v) a decision by Council to short-list (or notify Respondents of a decision to short- list) does not amount to a representation by Council that it will not later decide to award one or more Service Contracts to any Respondent that is not included in the short-list.

(vi) Council may invite shortlisted Respondents to submit a Tender for a further phase.

7.3. Workshops

(a) Council may invite up to three of the highest ranked Respondents to participate in facilitated workshops, on an individual basis, involving the evaluation panel and project personnel. There will be no joint workshops completed.

(b) The workshop/s will focus on contract specific issues including service delivery, scheduling and adjustment of service rates.

(c) Council may use any information gained from the workshop in the evaluation of Tenders.

7.4. Negotiations

(a) Council reserves the right to enter into negotiations with one or more Respondents in respect of their Tenders (Negotiations), but is under no obligation to do so, and Council need not extend the opportunity to each Respondent.

(b) The objective of Negotiations with a Respondent is to agree all commercial issues and completely settle the terms of the relevant Service Contract to which the Respondent's Tender relates.

(c) If Council wishes to enter into Negotiations with a Respondent, Council may do one or more of the following:

(i) issue the Respondent with a program and timetable for negotiations together with:

A redrafts of the relevant Service Contract; and

B Council's comments on the Service Contract submitted by the Respondent;

(ii) meet and negotiate with the Respondent; and

(iii) require the Respondent to:

A comply with Council's program, timetable, location and format for Negotiations; and

B meet and negotiate in good faith with Council to endeavour to finalise the terms of the Service Contract.

(d) Unless otherwise stated, Council entering into Negotiations with a Respondent does not amount to a rejection of that Respondent's Tender, or the making of a counter offer to that Respondent.

(e) Council may at any time discontinue Negotiations with a Respondent and exercise any of its other rights under these Tender Process Terms.

8. Variations to Tenders and terms

(a) Subject to **clause 8(d)**, a Respondent must not vary its Tender unless invited to do so by Council.

(b) Council may:

(i) invite one or more Respondents to vary its Tender but has no obligation to do so and need

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not extend the same opportunity to each Respondent; and

(ii) accept or reject a variation to a Tender in its absolute discretion.

(c) Any variations to a Tender which are invited by Council (including as a result of a request for clarification, improvement or additional information under **clause 6.1** or as a result of Negotiations) that are accepted in writing by Council, will form part of the Tender as if they were included in the original Tender submitted by the Respondent.

(d) Council may vary the terms of some or all of the Contract Documents by notice to each Prospective Respondent and Respondent prior to Council accepting a Tender under **clause 9**, provided that each Respondent notified of such a variation will have a period of 72 hours (or such longer period specified by Council in its notice) to vary its Tender in response to the variation of Council. Nothing in this **clause 8(d)** obliges Council to issue any notice to Prospective Respondents or Respondents as a result of Negotiations with a Respondent.

9. Acceptance of Tenders

9.1. Acceptance of Tenders

(a) Council is not bound to accept the lowest price or any Tender.

(b) Council may accept any Tender in whole or in part.

(c) Council may (but is not obliged to) consider any Tender which is a Non-conforming Tender.

(d) Council may invite some or all Respondents to change their Tender in response to a change to the terms of the Tender Process Terms documents or a change to the Tender Process.

9.2. Formation of contract

(a) Subject to **clause 9.2(b)**, notwithstanding that Council may advise the Respondent that its Tender has been accepted, no contractual relationship exists or will arise between Council and any Respondent in respect of the Service unless and until Council informs the Respondent in writing that it has accepted the Respondent's Tender (Acceptance Notice).

(b) The Respondent must, if required by Council, execute a Service Contract within 48 hours of receiving the Acceptance Notice.

10. Right to information

(a) The RTI Act provides members of the public with a legally enforceable right to access documents held by Council.

(b) The RTI Act requires that documents be disclosed upon request, unless there are valid grounds under the RTI Act for exempting the documents from disclosure.

(c) Each Respondent acknowledges and agrees that information provided by the Respondent to Council during the Tender Process (including Tenders) is potentially subject to disclosure to third parties under the RTI Act.

(d) If the disclosure of information provided by a Respondent to Council during the Tender Process (including its Tender) would be of substantial concern to the Respondent, the relevant documents should be stamped "Commercial-in-Confidence", however, Council does not warrant or guarantee that that information or documents will not be disclosed in response to an application under the RTI Act.

(e) This **clause 10** survives the expiry or termination of any contract that forms between a Prospective Respondent and Council or a Respondent and Council under these Tender Process Terms.

11. Council Confidential Information

11.1. Duty of confidentiality

(a) The Respondent must:

(i) keep confidential all Council Confidential Information; and

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(ii) not disclose, or allow to be disclosed, any Council Confidential Information to any person except:

A as required by law;

B if the information is already in the public domain other than as a result of a breach of confidentiality;

C with the prior written consent of Council; or

D to an Associate of the Respondent if, and to the extent that, it needs to know the information for the purposes of the Tender Process.

(b) In **clauses 11** and **12**, references to "Respondent" includes a Prospective Respondent.

11.2. Use of Council Confidential Information

The Respondent must ensure that all Council Confidential Information in the possession or control of the Respondent or any of its Associates is only used for the purpose of the Respondent's involvement in the Tender Process and is not used for any other purpose whatsoever.

11.3. Security of confidential information

The Respondent must:

(a) maintain effective security measures to protect all Council Confidential Information from unauthorised access, use, copying or disclosure;

(b) notify Council immediately in writing if the Respondent becomes aware of any possible or actual breach of this **clause 11** and take all reasonable steps required to prevent or stop that breach, at the Respondent's own expense; and

(c) reasonably assist Council in connection with any action or investigation regarding any possible or actual unauthorised disclosure or misuse of Council Confidential Information.

11.4. Disclosure required by law

(a) Subject to **clause 11.4(b)**, if the Respondent is required to disclose Council Confidential Information under **clause 11.1(a)(ii)A**, the Respondent must:

(i) first, to the extent practicable, give reasonable notice to and consult with Council as to the form and content of the disclosure;

(ii) disclose only the minimum amount of Council Confidential Information required to comply with the relevant law or stock exchange requirement; and

(iii) do whatever is necessary to ensure that the disclosed Council Confidential Information is treated confidentially.

(b) The Respondent acknowledges and agrees that Council may publish information relating to these Tender Process Terms and the Service Contract that it is required to disclose under the Local Government Act and its regulations without Council complying with any of the requirements set out in **clause 11.4(a)**.

11.5. Disclosure to Associates

(a) The Respondent must:

(i) inform each of its Associates to whom Council Confidential Information is disclosed of the Respondent's obligations under this **clause 11**;

(ii) ensure that each of its Associates to whom Council Confidential Information is disclosed strictly observes all of the Respondent's obligations under this **clause 11** as if these obligations were imposed directly on that Associate; and

(iii) ensure that no Associate to whom Council Confidential Information is disclosed does anything which, if done by the Respondent, would breach this **clause 11**.

(b) The Respondent is liable to Council for any breaches of the Respondent's obligations under this **clause 11** by its Associates.

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11.6. Return or destruction

If requested by Council, the Respondent must immediately return to Council (or if Council requests, destroy) all materials containing any of Council Confidential Information in the Respondent's (or any of its Associates') possession or control.

11.7. Survival

This **clause 11** survives expiry or termination of any contract that forms between a Prospective Respondent and Council or a Respondent and Council under these Tender Process Terms.

12. Respondent confidential information

(a) The Respondent may identify to Council documents or information that the Respondent considers to be confidential information of the Respondent and may request to Council that such documents or information not be published or disclosed.

(b) Council will consider any request from the Respondent under **clause 12(a)** but has no obligation not to publish or disclose any document or information referred to it under **clause 12(a)**.

(c) Where Council has previously accepted that information or documentation referred to it under this **clause 12** will not be published or disclosed, Council can, at any time, amend or alter its decision by notice to the Respondent.

(d) This **clause 12** survives the expiry or termination of any contract that forms between a Prospective Respondent and Council or a Respondent and Council under these Tender Process Terms.

13. General

13.1. Council's discretion

Unless expressly provided otherwise, any right, power or privilege of Council under these Tender Process Terms and in relation to the Tender Process may be exercised by Council:

(a) in its absolute discretion;

(b) without giving reasons; and

(c) without reference to the Respondent.

13.2. Tendered prices

(a) All prices included in the Tender must be in Australian dollars and be GST exclusive.

(b) All prices included in the Tender must be prices that are current as at the Closing Date.

13.3. No advertising

The successful Respondent may not publish any information in relation to the award of the Service Contract without the prior written approval of Council.

13.4. Competitive neutrality

(a) Subject to **clause 13.4(b)**, a Respondent which:

  (i) is bound to comply with competitive neutrality principles; or

  (ii) is a Government Entity, may submit a Tender.

(b) Any Respondent contemplated by **clause 13.4(a)** that submits a Tender represents and warrants to Council that:

  (i) the Respondent has undertaken proper processes to consider, assess and evaluate applicable principles of competitive neutrality that are relevant to its Tender;

  (ii) its Tender has been completed and submitted on the basis that it complies with the applicable competitive neutrality principles; and

  (iii) if Council awards the Service Contract to the Respondent, the performance of that contract by the Respondent in accordance with its terms will not breach applicable principles of

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competitive neutrality.

(c) In addition to any other right Council has under these Tender Process Terms to request information from a Respondent, Council may require a Respondent to provide information and documentation to Council (including after execution of the applicable Service Contract) to demonstrate compliance by the Respondent with the requirements of this **clause 13.4**, including:

(i) financial and logistical models;

(ii) outcomes of community consultation;

(iii) investigations; and

(iv) reports.

(d) The Respondent must promptly comply with any request made by Council under **clause 13.4(c)**. If the Respondent does not comply with a request made by Council under **clause 13.4(c)**, Council may determine that the Tender is a Non-conforming Tender by notice to the Respondent.

13.5. No incentives or contact

(a) A Respondent (including its officers, employees and agents) must not give or offer to Council or any councillor or employee of Council, or to a parent, spouse, child or associate of a councillor or employee, any inducement, gift or reward, which could in any way tend to influence Council's actions in relation to a Tender.

(b) If Council discovers at any time that a Respondent has breached **clause 13.5(a)**, Council may decide not to consider that Tender.

13.6. No collusion

The Respondent represents and warrants that the Tender is in all respects an independent Tender and that no collusion has taken place between the Respondent and any other Respondent, Prospective Respondent or interested party in the preparation of the whole or any part of the Tender.

13.7. Conflicts of Interest

(a) Each Respondent warrants that to the best of its knowledge, as at the date of the Tender, neither the Respondent nor any of its Associates have, or are likely to have, any Conflict of Interest in any matters connected with the Tender Process except for those matters nominated by the Respondent in its completed Tender Response Form.

(b) If a Conflict of Interest or risk of Conflict of Interest arises during the Tender Process, the Respondent must immediately give notice of the Conflict of Interest, or the risk of it, to the Contract Administrator.

13.8. No canvassing

A Respondent must not engage or communicate with Council, its councillors or its employees in connection with the Tender Process or a Tender except:

(a) as contemplated by this Tender Process;

(b) when making a request for information or clarification under **clause 4.3(f)**; or

(c) in response to a request by Council under these Tender Process Terms.

(d) If Council discovers at any time that a Respondent has breached this **clause 13.8** Council may decide not to consider that Tender.

13.9. Governing law and jurisdiction

(a) This document is governed by and is to be construed in accordance with the laws applicable in Queensland.

(b) Each party irrevocably and unconditionally submits to the non-exclusive jurisdiction of the courts exercising jurisdiction in Queensland and any courts which have jurisdiction to hear appeals from any of those courts and waives any right to object to any proceedings being brought in those courts.

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13.10. Severability

(a) Subject to **clause 13.10(b)**, if any provision or term of these Tender Process Terms is illegal or unenforceable in any relevant jurisdiction, it may be severed for the purposes of that jurisdiction without affecting the enforceability of the other provisions of these Tender Process Terms.

(b) **Clause 13.10(a)** does not apply if severing the provision:

(i) materially alters the:

A scope and nature of these Tender Process Terms;

B the relative commercial or financial positions of the parties; or

(ii) would be contrary to public policy.

13.11. Waiver and exercise of rights

(a) A single or partial exercise or waiver by a party of a right relating to these Tender Process Terms does not prevent any other exercise of that right or the exercise of any other right.

(b) A party is not liable for any loss, cost or expense of any other party caused or contributed to by the waiver, exercise, attempted exercise, failure to exercise or delay in the exercise of a right.

13.12. Entire agreement

(a) The Tender Process Terms constitutes the entire agreement between the parties as to its subject matter and supersedes all prior agreements, arrangements, memorandum of understandings, representations, warranties, promises, statements, negotiations and letters in respect of its subject matter.

(b) Each Respondent and Prospective Respondent relies entirely on its own independent appraisal and assessment of all relevant matters and not on any representations or misrepresentations made by Council or its agents prior to the formation of or in connection with the contract constituted by the Tender Process Terms.

(c) No oral explanation or information provided by any party to another:

(i) affects the meaning or interpretation of the Tender Process Terms; or

(ii) constitutes any collateral agreement, warranty or understanding between any of the parties.

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Schedule 1

Tender Details

The Tender Details are set out in Schedule 1 of the Invitation to Tender.

Schedule 2

Information Session

The Information Session is set out in Schedule 2 of the Invitation to Tender.

Schedule 3

Evaluation Criteria

The Evaluation Criteria is set out in Schedule 3 of the Invitation to Tender.

Schedule 4

General Terms and Conditions

The General Terms and Conditions are set out in Schedule 4 of the Invitation to Tender.

Schedule 5

Service Specification and Supporting Documentation

The Service Specification and Supporting Documentation are set out in Schedule 5 of the Invitation to Tender.

Schedule 6

Tender Response Form

The Tender Response Form is set out in Schedule 6 of the Invitation to Tender.

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Schedule 4
General Terms and Conditions

Contract Name: Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analyses

Contract Number: ITT1878

Amended from Australian Standard 4122-2010

4.1 The words "*Principal*" and "*Client*" have the same meaning when used in this Invitation to Tender.

4.2 The General Terms and Conditions will govern any Contract established as an outcome of this Invitation to Tender.

4.3 The General Terms and Conditions comprise Australian Standard AS4122-2010 General Conditions of Contract for Consultants and Annexures Part A and Part B.

4.4 Annexure Part B contains deletions, amendments and additions to Australian Standard AS4122-2010 general conditions of contract. Where words contained in Annexures Part A and Part B differ to those in the Australian Standard AS4122-2010 general conditions of contract, the Annexure shall take precedence.

4.5 This Invitation to Tender document does not include a copy of the Australian Standard AS4122-2010. Respondents are to make their own arrangements to obtain a copy. These are available through SAI Global Ltd http://infostore.saiglobal.com/store or contact their Customer Service Centre on 1300 654 646.

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ANNEXURE TO THE AUSTRALIAN STANDARD 4122-2010 – PART A

This Annexure shall be completed and issued as part of the Invitation to Tender documents and, subject to any amendments to be incorporated into the Contract, is to be attached to these Conditions and shall be read as part of the Contract.

Item

1.	The *Client* is: (clause 1.1)	Sunshine Coast Regional Council ABN – 37 876 973 913 Locked Bag 72 Sunshine Coast Mail Centre QLD 4560
2.	The *Consultant* is: (clause 1.1)	Refer to Tender Response Form
3.	The *Contract Documents* are: (clause 1.1)	1. Letter of Acceptance 2. Technical Specifications and all relevant attachments to the Invitation to Tender 3. These General Conditions of Contract 4. The *Consultant's* tender
4.	The *Scope* is described in the following *Documents*, or the *Scope* is: (clause 1.1)	Refer to Schedule 5 – Attachment 1 – Technical Specification
5.	The purpose(s) for which the *Services* will be suitable is/are: (clause 5.1)	Preliminary Business Case
6.	The *Client's* representative is: (clause 6.1)	Contract Administrator
7.	The *Consultant's* representative is: (clause 6.2)	Refer to Tender Response Form
8.	Claims for payment must be made on the following basis: (clause 10.1)	Lump Sum Fee GST Inclusive: Yes
9.	Disbursement for which the *Consultant* may claim payment: (clause 10.2)	Nil
10.	Time to claim payment is no later than: (clause 10.3)	Claims shall be made on the 1st business day of each month and payment shall be made within 30 days from receipt of a correctly rendered invoice in accordance with clause 41.
11.	The time for payment is no later than: (clause 10.6)	No later than 30 calendar days after satisfaction of Part B clause 41.
12.	The rates of interest for overdue payments: (clause 10.9)	Seven (7%) percent per annum
13.	The date or the period after commencement of this *Contract*, by which the *Services* must be completed is:	Date: 29 May 2020
14.	Other causes of delay for which the *Consultant* may notify an extension of time:	Nil

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	(clause 12.3(c))		
15.	The *Approvals* to be obtained by the *Consultant* are: (clause 13.2)	N/A	
16.	The key personnel are: (clause 18)	Name:	Role to be performed:
		Refer to Tender Response Form	Refer to Tender Response Form
		2.	
17.	Existing conflicts of interest: (clause 19.2)	Refer to Tender Response Form	
18.	Copyright and other *Intellectual Property Rights*, the Alternative that applies is: (clause 21.3)	Alternative 2	
19.	List excluded *Intellectual Property Rights*: (clause 21.3)	N/A	
20.	The additional amounts payable to the *Consultant* for granting of *Intellectual Property Rights* to the *Client* is: (clause 21.4)	Nil	
21.	Does clause 22 (*Moral Rights*) apply? (clause 22.1)	Yes If Yes, the author is Sunshine Coast Council	
22.	The following *Documents* are confidential: (clause 23.1)	All documents supplied from commencement of contract, unless specifically identified as public documents.	
23.	Maximum period for which *Client* may suspend the *Services* at any one time, after which the *Consultant* may terminate: (clause 24.4)	12 months	
24.	The *Consultant's* liability is limited to: (clause 29.1)	The limit under clause 29.1 is $25,000,000 for each and every claim, but not in the aggregate.	
25.	The amount of public liability insurance is: (clause 30.2)	$20,000,000.00 Twenty Million Dollars for each and every claim [Minimum]	
26.	The amount of the professional indemnity insurance is: (clause 30.4)	$5,000,000.00 One Million Dollars for each and every claim [Minimum]	
27.	The professional indemnity insurance must be maintained for the following period: (clause 30.4)	Seven (7) years after the date of completion of the *Services*.	
28.	The *Client* must effect the following insurances and maintain them for the following periods: (clause 30.7)	Nil	
29.	The address for service of notices is: (clause 33.1)	*Client*:	

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		Address: Locked Bag 72, Sunshine Coast Mail Centre QLD 4560 Email: Refer to the Letter of Acceptance *Consultant*: Address: Refer to Tender Response Form Email: Refer to Tender Response Form
30.	The law governing this *Contract* is: (clause 35)	Queensland
31.	Has this *Contract* been amended from its original form?	Yes

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ANNEXURE TO THE AUSTRALIAN STANDARD 4122-2010 – PART B

DELETIONS, AMENDMENTS AND ADDITIONS

DELETIONS:

Nil

AMENDMENTS:

The following clauses have been amended and differ from the corresponding clauses in AS 4122-2010.

1. INTERPRETATION

Add the following at the end of the sentence in *Legislative Requirements*:

"as amended supplemented, replaced or novated"

9. VARIATIONS

Delete subclause 9.2 and replace with:

"If the *Consultant* considers any *Direction* requires a *Variation* but the *Direction* is not in writing or does not specify that it directs a *Variation*, then the *Consultant* must promptly notify the *Client* in writing setting out why the *Consultant* considers the *Direction* requires a *Variation*. In that case the *Consultant* must not comply with the *Direction* unless the *Consultant* receives a written *Direction* specifying a *Variation*.

Insert the following new subclause 9.2A:

If the *Consultant* receives a written notice that the *Client* rejects the written *Direction* regarding the requested *Variation* setting out the reasons why, the *Consultant* must comply with the *Direction* but may within twenty (20) *Business Days*, dispute the *Client's* notice by serving a further notice under clause 32."

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18. KEY PERSONNEL

Delete clause 18 and replace with:

"18.1 The *Services* must be performed by the key personnel as specified in the Tender Response Form, unless the *Client* has consented otherwise in writing. A person replacing the key personnel, with the *Client's* written consent, will be considered to be one of the key personnel during the *Consultant's* engagement to provide the *Services*.

18.2 The *Consultant* must ensure that the key personnel are competent and have the necessary qualifications and experience, and shall exercise skill, care and diligence in execution and completion of the *Services* on which they will be engaged.

18.3 The *Consultant* must not without the written consent of the *Client*:

(a) Allow key personnel to delegate any part of the *Services*;

(b) The Key Personnel shall retain responsibility for the quality and timely delivery of the Services. The *Consultant* shall not allocate tasks not connected with the Services to Key Personnel if the allocation of those tasks would compromise the quality or delivery of Services.

18.4 If any of the key personnel are not available to perform any of the *Services* allocated to them the *Consultant* must immediately:

(a) Notify the *Client* in writing of the circumstances;

(b) If so requested by the *Client*, arrange for replacement of that person with a person satisfactory to the *Client* at its sole discretion, at no cost to the *Client*.

18.5 The *Client* may, on reasonable grounds, give notice to the *Consultant* to remove any key personnel from working on the *Services*. Upon receipt of such notice under this clause, the *Consultant* must, at

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no cost to the *Client*, promptly remove and replace the key personnel mentioned in the notice with a person approved by the *Client*."

20. SUBCONTRACTING AND ASSIGNMENT

Delete subclauses 20.1 and 20.2 and replace with:

"The *Consultant* shall not, without prior written approval of the *Client*, assign, in whole or in part, any right, benefit or interest in this *Contract*. The *Client* may assign its interest in this *Contract* to a third party, in which event the *Consultant* agrees to be bound by the terms and conditions contained herein as if the *Contract* had been made between the *Consultant* and that third party."

23. CONFIDENTIALITY

Delete clause 23 and replace with:

"23.1 The *Consultant*, except as required by law, acknowledges that confidential information is sensitive and valuable, and will remain at all times the property of the *Client*. The *Consultant* must ensure that it and its employees, agents and approved subconsultants, keep confidential any information obtained in the course of performing the *Contract*. However, the *Consultant* may disclose any information:

(a) which it is legally required or entitled to disclose; or

(b) to its legal and accounting advisers for the purposes of obtaining advice in relation to the *Contract* or any matter arising from the *Contract*."

23.2 The confidentiality obligations of the parties will not extend to:

(a) information already in the public domain other than due to a breach of this *Contract*;

(b) any disclosure required by law; or

(c) any disclosure reasonably required in order to comply with a request for information made by an appropriate government agency or government authority.

23.3 The *Client* may at any time, require the *Consultant* to arrange for its employees, agents, subconsultants or consultants engaged in the work under the *Contract*, to execute a Deed of Confidentiality in a form provided by the *Client*.

23.4 In the event of a breach of any part of this clause the *Client* may serve on the *Consultant* a written notice to show cause pursuant to clause 27 of the *Contract*."

ADDITIONS:

The following clauses have been added to those of AS 4122-2010 clauses 1 to 36:

29 LIMITATION OF LIABILITY

29.3 Clause 29.1 does not apply to the extent a liability is insured and recovered under an insurance policy maintained by the *Consultant* pursuant to clause 30 (or would have been recovered but for an act or omission of the *Consultant*).

37. TERM OF CONTRACT

This *Contract* will be a one-off consultancy with work to be completed within 46 weeks.

38. POLICY, DELEGATIONS & GUIDELINES COMPLIANCE

The *Consultant*, its employees, agents and subcontractors shall comply with all relevant Policies and Guidelines of the Principal that are existing, introduced, amended, supplemented or replaced from time to time, which include but are not limited to relevant IT, Code of Conduct, Management of Impaired Performance at Work CEO Procedure, Fraud and Corruption.

39. LICENCE ARRANGEMENTS FOR SPATIAL DATA SUPPLIED BY COUNCIL

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39.1 Where the *Contract* requires the *Client* to supply digital spatial data to the *Consultant*, the *Consultant* must undertake to sign a Data Licence Agreement covering the terms and conditions of the data supply:

(a) Where the *Contract* is a 'one-off' *Contract*, the *Consultant* must sign a Standard Data Licence Agreement.

(b) Where a Preferred Supplier or is subject to a Standing Arrangement, the *Consultant* must have a valid and current Standing Agreement for the supply of *Client's* data, and undertake to sign an appropriate attachment covering data supplied as part of the current *Contract*;

39.2 The *Consultant* must adhere to all terms and conditions set out in the Standard Agreement or Standing Agreement including attachments.

39.3 If changes or additions to a Standard Agreement or Standing Agreement are deemed necessary, additions or amendments may be made by mutual agreement, using an appropriate Deed of Variation.

40. MEDIA RELEASES

40.1 The *Consultant* must not issue any advertisement, information, publication, document or article for publication concerning the *Contract* or any activities undertaken in performance of the *Contract* in any media without the prior written approval of the *Client*. The *Consultant* must refer to the *Client* any media enquiries concerning the *Contract* and its performance.

40.2 No advertising in any form, including but not limited to, *Consultant's* banners, shade cloth or similar, is allowed on, or in the near vicinity of, the site that is the subject of the *Contract*, without the express written consent of the *Client*.

40.3 The *Client* reserves the right, as its sole discretion, to install signage, shade cloth fence covers and/or advertising if any kind whatsoever, on, or in the near vicinity of, the site that is the subject if the *Contract*. This may include the *Consultant's* logo/brand as mutually agreed.

41. INVOICING

41.1 The *Consultant* must submit invoices to the *Client's* representative. The *Client* will not have any obligation to pay the *Consultant* for *Services* and any disbursements until:

(a) achievement of the individual key contract milestones have been completed to the satisfaction of the *Client's* representative; and

(b) the *Client's* representative has been given a correctly rendered invoice.

41.2 A correctly rendered invoice must:

(a) Be mailed to the address on the purchase order; and

(b) Identify:

(1) the *Services* and any disbursements of the subject of the invoice; and

(2) on the invoice if the invoice has been paid:

(2.1) that the invoice has been paid by credit card; and

(2.2) a nil balance is due and payable.

In the event of any overpayment, the *Consultant* will reimburse the *Client* within seven (7) days of the date of such overpayment.

(c) Specify all of the following:

(i) title of the *Contract*;

(ii) the contract number allocated to the *Contract* by the *Client*;

(iii) details of the *Services*;

(iv) purchase order number;

(v) details of the amount requested by the *Consultant*;

(vi) Australian Business Number of the *Consultant*;

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(vii) address for payment of the *Consultant*;

(viii) date of supply of the *Services* and any disbursements identified in the invoice;

(ix) *Consultant's* invoice number and invoice date;

(x) total amount payable by the *Client* and particulars of any GST payable in respect of the *Contract*;

(d) In addition where the *Services* are charged on a time basis, provide records of time spent by individual persons on the *Services*, verified by the *Client's* representative; and

(e) In addition where targets are set out in the order or the specification provide sufficient detail to enable the *Client's* representative to assess progress against the targets; and

(f) Otherwise comply with the requirements of a tax invoice for the purposes of the GST Act.

41.3 Upon receipt of an invoice, the *Client's* representative may require the *Consultant* to provide additional information to assist the *Client's* representative to determine whether or not an amount is payable.

42. LIABILITY

Neither party will be liable to the other for loss of actual or anticipated revenue or profits, increased capital or financing costs, or increased overheads or operational costs or any other indirect, special, consequential, or punitive damages or loss arising from or in connection with the *Services* or this *Contract* and howsoever arising under any indemnity, statue, contract, tort (including negligence), or otherwise at law.

43. ETHICAL PRINCIPLES

43.1 The *Client* and the *Consultant*, at all times agree to adhere to, and abide by, the ethical principles of the *Public Sector Ethics Act 1994* or its successor.

43.2 The *Consultant* has an obligation to advise and educate its employees, agents and subconsultants engaged for *Services* under the *Contract*, on the ethical principles outlined in the *Public Sector Ethics Act 1994* or its successor.

44. DOCUMENTS

All *Documents* supplied shall be in editable Microsoft Office compatible format with a minimum of three (3) copies. The *Client* may request the *Consultant* to produce all *Documents* up to the date of request at any time during the *Contract* in a format agreed in writing.

45. GIS DIGITAL FILE FORMATS

All GIS digital data supplied by the *Client* will be in Esri File Format (shape file) only. The *Consultant* must have the necessary knowledge and expertise to import and export this format, at the *Consultant's* own expense.

46. PRIVACY

46.1 This *Contract* is an agency contract for the purposes of section 35 of the *Information Privacy Act 2009*. The *Consultant* is bound by the 11 Information Privacy Principles, and with respect to any act done, or practice engaged in by the *Consultant* for the purposes of this *Contract*, in the same way and to the same extent as the *Client* would have been bound in respect of that act or practice had it been directly carried out or engaged in by the *Client*.

46.2 Any personal information provided as part of the tender process and duration of the *Contract* will be used for the purposes of contracting with the *Consultant*, provision of services under the *Contract* and the ongoing contract management. The *Client* is authorised to collect this information in accordance with the *Local Government Act 2009* and other Local Government Acts. Personal information will be accessed by persons who have been authorised to do so. Personal information is dealt with in accordance with the *Client's* Privacy Policy available on the *Client's* website www.sunshinecoast.qld.gov.au.

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46.3 The obligation rests with the *Consultant* to advise individuals that are engaged in employment under this *Contract*, of all instances where their personal information has been provided to the *Client*. *Consultants* must advise individuals that all personal information is dealt with in accordance with the *Client's* Privacy Policy and the *Information Privacy Act 2009*.

47. NOTICE TO REMEDY

47.1 Without prejudice to any other rights of the *Client* under this *Contract* or at common law, if for any reason the *Consultant* fails to perform any obligation under this *Contract* which is capable of remedy, the *Client* may give notice to the *Consultant* requiring the *Consultant* to remedy the default (Notice to Remedy).

47.2 Notice to Remedy must specify that it is a notice issued under that clause.

47.3 The *Consultant* must remedy the default in accordance with a Notice to Remedy:

(a) in the manner (if any) specified in the notice;

(b) within the time (if any) specified in the notice (which must be a reasonable time); or

(c) if no time is specified in the notice, within ten (10) Business Days of the date of receipt of the notice.

47.4 If the *Consultant* fails to remedy a default in accordance with a Notice to Remedy, without prejudice to any other rights of the *Client* under this *Contract* or at common law, the *Client* may, at its option do any or all of the following:

(a) refer the matter to dispute resolution;

(b) suspend any or all payments to the *Consultant* under this *Contract* for the period during which the default remains unremedied;

(c) remedy the default itself or arrange for the default to be remedied by a third party; or

(d) issue the *Consultant* with a Notice to Show Cause pursuant to clause 27.

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49. HOLD POINTS

The *Consultant* shall not proceed with the *Contract* past the *Hold Points*, until the *Client* gives notice in writing that the *Consultant* can proceed.

The *Client* may in its sole discretion elect not to proceed past any *Hold Points* and should the *Client* elect not to proceed then it will give the *Consultant* seven (7) days notice that it does not wish to proceed past a *Hold Point* and the Contract will be at an end. Upon the *Client* exercising its right not to proceed under this clause, the *Client* agrees to pay a lump sum unit based on the rates submitted in Schedule 6 – Appendix 2 – Schedule of Rates - Part 2.1 for each item of the Stage that has been completed at the time notice is given under this clause.

This *Contract* has the following *Hold Points*:

Separable Portion A:

- Draft Preliminary Business Case
- Final Preliminary Business Case
- Draft Infrastructure Australia Stage 2 Template
- Final Infrastructure Australia Stage 2 Template

Separable Portion B:

- Draft Financial Analysis
- Final Financial Analysis
- Draft Economic Analysis
- Final Economic Analysis

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PART C

Annexure to the Australian Standard
General Conditions of Contract for Consultants
AS 4122-2010

Moral Rights Consent Form 1 – For Employees of the *Consultant*

(clause 22)

To: [INSERT CONSULTANT]

ABN: [INSERT ABN]

In relation to any work that I perform for [*Consultant's* name] ('you') in the course of my employment, I agree as follows:

(a) Unless you and I agree otherwise in writing, I will not be attributed personally as the author of my work and you will be described as the author of any work I perform and as the author of any product that results from my work.

(b) Alternatively you and your client may agree on the form of attribution to be given to any specific product of my work.

(c) Without notifying or consulting me, you may alter my work in any way that you consider desirable, or necessary.

(d) You need not advise me if you are notified of any intended alteration to or demolition of any project, building or structure related to my work.

(e) You may provide a copy of this content to any client.

(f) This consent also applies to all work that I have already performed for you.

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Signed by the holder of *Moral Rights*: _____

_____ / / _____

Print name of signatory Date

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Moral Rights Consent Form 2– For use by the *Consultant* with its subconsultants and subcontractors (clause 22)

To: [INSERT CONSULTANT]
ABN: [INSERT ABN]
Project Name: [INSERT NAME OF PROJECT]

Note: Project name must be inserted for this consent to be valid.

In relation to any services that we supply to [*Consultant's* name] ('you') in the course of [project name], we agree that, given the nature of the work, and the purpose, manner and context of its intended use:

(a) Nothing in this consent prevents you describing yourself as an author or the author of [project name] or as the project comes to be known from time to time.

(b) We will also be attributed as an author in circumstances that you consider reasonable and practicable, or as otherwise agreed with you in writing.

(c) You need not advise us if you are notified of any intended alteration to or demolition of any project, building or structure related to our work.

(d) You may provide a copy of this content to any of your clients.

(e) We have the right to give this consent on behalf of our employees and our own subconsultants and subcontractors (if any).

(f) We will provide you with copies of such consents within a reasonable time if you request them.

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Signed by the subconsultant on behalf of each holder of *Moral Rights*: _____

_____ / / _____

Print name and ABN of subconsultant/subcontractor. Date

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Schedule 5 – Attachment 1
Technical Specification

Contract Name: Sunshine Coast Mass Transit – Business Case Adviser and Economic and Financial Analyses.

Contract Number: ITT1878

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Version 1

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1 Overview and objective

To support the development of a business case for the Sunshine Coast Mass Transit Project, Sunshine Coast Council (The Principal) require the services of expert service providers in two component areas:

1. **Business Case Adviser:** Manage the development of a Preliminary Business Case for a mass transit system on the Sunshine Coast. This work is to be prepared in 2019 and 2020 in accordance with the Building Queensland and Infrastructure Australia business case frameworks.
2. **Economic and Financial Analyses:** Prepare economic and financial analyses to establish the Preliminary Business Case. This work is required to be completed in February 2020.

These two tasks are to be considered as **two separable portions**.

The Principal has undertaken a range of planning and design studies since 2012 based on a light rail solution. Those studies concluded light rail technology was the best option and the project should initially be focussed on the coastal urban renewal corridor extending from Maroochydore to Caloundra. This assessment was based largely on the ability of light rail to shape the future of an emerging city, and to encourage and sustain urban transformation.

The business case process now requires reappraisal of a range of options including whether to invest in a new mass transit system, and if so, what technology should be adopted.

The Principal has recently completed a draft Strategic Business Case (SBC) regarding a mass transit network for the Sunshine Coast Council area. This has recommended proceeding to a Preliminary Business Case (PBC) for a discrete area of the region, extending approximately 13.5 km along the coastal urban corridor from Maroochydore CBD to Kawana Town Centre/ University Hospital health precinct.

To support the Preliminary Business Case, the Principal has separately engaged expert service providers to undertake:

- Development of base and project case land use scenarios, and undertaking urban renewal economic analysis
- Transport and land use modelling
- Engineering design and cost estimating for LRT and BRT options in the corridor from Maroochydore to Kawana

The Consultant for both portions will be required to interface with these other project advisers. Provision for these interfaces is to be included in the Contract price.

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2 Background

2.1 Sunshine Coast Mass Transit Project status

- Although it is an emerging major city, the Sunshine Coast presently has a public transport system more like that of a large regional town. A major upgrade of the public transport system will be needed as the region grows into Queensland's third city.
- The **Sunshine Coast Light Rail Project was established in 2012** following the recommendations of a task force comprised of business and community interests that proposed solutions for a less car dependent future.
- The aim of the Sunshine Coast Mass Transit project is to provide for planning, corridor protection and project delivery of a **high frequency mass transit network** to extend from Sunshine Coast Airport through Maroochydore, Kawana and Caloundra to the existing railway at Beerwah.
- Corridor planning and community consultation based on a light rail option occurred from 2014 to 2016. This resulted in a potential light rail corridor being designated for further investigation extending from Maroochydore, through Kawana to Caloundra Town Centre. This is shown on the project website https://lightrail.sunshinecoast.qld.gov.au/proposed-route or search "light rail sunshine coast".

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- Current project activities are centred on preparing a **Preliminary Business Case (PBC) for the first stage of a mass transit system that would extend from Maroochydore to Kawana.** This is being developed under guidelines published by Building Queensland. The business case workings also aim to satisfy Infrastructure Australia's Assessment Framework so as to qualify for future Commonwealth funding.
- Appraisal of a range of options is required under these frameworks, and for this reason, the project has been retitled "**the Sunshine Coast Mass Transit Project**"
- Urban renewal in the coastal urban corridor from Maroochydore to Kawana is at the heart of the business case for the mass transit system. Assessment of urban renewal benefits is therefore an important part of the PBC process.
- There is also a companion project entitled **Sunshine Coast Urban Infill Planning Strategy** being progressed by the Principal. This has a broader planning and delivery scope than required for the business case process, focussing on the staged implementation of infill across the region, including the opportunity for increased infill in the coastal urban corridor attributable to the mass transit system investment.
- **Completion of the PBC for Stage 1 of the mass transit system is expected in May in 2020**,
- A recent Queensland Government Media Statement[1] announced the formation of a partnership with the Queensland Government to develop the **Detailed Business Case (DBC).**
- Subject to the findings of the DBC, and to funding negotiations, the **planned opening date for the first stage of the mass transit system is 2025.**

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2.2 Recent studies

- In 2018, among other studies, the Mass Transit project team completed strategic transport modelling, developed a Concept Mass Transit Master Plan for the region, and prepared a draft Strategic Business Case (SBC) in accordance with the Building Queensland Framework. These confidential documents are available to prospective tenderers through the process described on page 4 of 4 in the Invitation to Tender document.
- The recommendation of the draft SBC is for Council to progress a Preliminary Business Case (PBC) for mass transit in the corridor between Maroochydore and the Sunshine Coast University Hospital (SCUH). The SBC recommended at least two mass transit technology options be compared: light rail transit (LRT) and bus rapid transit (BRT).

3 Project context

3.1 The Local Government Area

The Sunshine Coast Regional Council area occupies 2,251 km^{2}on the south east coast of Queensland. (See figure 1). It is already the third largest population centre in Queensland, and the 10th largest in Australia. Its population of 303,000 in 2016 grew to 319,000 in 2019[2]. The population of the region is forecast to grow

[1] http://statements.qld.gov.au/Statement/2019/5/8/palaszczuk-government-backs-sunshine-coast-public-transport-plan Accessed 16 May 2019

[2] https://profile.id.com.au/sunshine-coast/population. Accessed 10 April 2019.

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to 386,960 in 2026, and to reach at least 495,000 in 2041 – a 63% increase in 25 years. Recent QGSO forecasts suggest a median series projection of 518,000 in 2041[3]. By 2050, there could be over 600,000 people in the Council area.

The Sunshine Coast is also one of Australia's prime tourist destinations, offering a laid-back tourism experience lifestyle centred around:

- pristine beaches
- freshwater rivers and lakes
- subtropical forests
- comfortable climate.

In 2017/18 there were over 12 million visits[4] to the Sunshine Coast local government area[5], comprising:

- 1.5 million international visitor nights
- 6.5 million domestic visitor nights
- 4.5 million days visits

The Sunshine Coast has a diverse urban form with a focus for housing and employment growth generally along the coastal corridor. Areas of urban growth are planned to be separated from the urban conurbation of Brisbane and its surrounding local governments by an interurban break (see figure 1). There are several larger inland towns and a series of smaller rural towns and villages in the hinterland.

The region's travel patterns are dominated by trips made in small passenger or commercial vehicles, with 85% of all daily trips taken in a motorised vehicle that is not a public transport vehicle. Public transport accounts for just 3 per cent of all trips and active transport the remaining 12 per cent[6]. The growth of car ownership on the Sunshine Coast is amongst the highest in Australia. Ongoing growth of population and employment combined with the current highly car dependant travel patterns conveys a very clear risk of growth in demand for transport services and accompanying congestion on the road network.

Continuing to meet this growth in demand via facilities for small motor vehicles will destroy the region's liveability. A major swing to more efficient, lower impact transport modes is required.

The Sunshine Coast Integrated Transport Strategy[7] (ITS) proposes the mechanisms to achieve such a major swing. It sets a target to reduce the dominance of vehicle travel to 70 per cent of all trips, while increasing the market share of public transport to 10 per cent, and the share of active transport trips to 20 per cent.

The centrepiece of this strategy is a connected passenger transport network that:

- provides seamless door-to-door travel
- incorporates a mix of traditional public transport and new "smart" mobility options.

This connected network would include a major improvement to mass transit via the establishment of a high frequency mass transit system, and the alignment of new urban development along the corridors served by that system. Accordingly, an important priority in the ITS is high frequency public transport connections within the coastal growth corridor (e.g. proposed Light Rail) and the North Coast Rail Line duplication.

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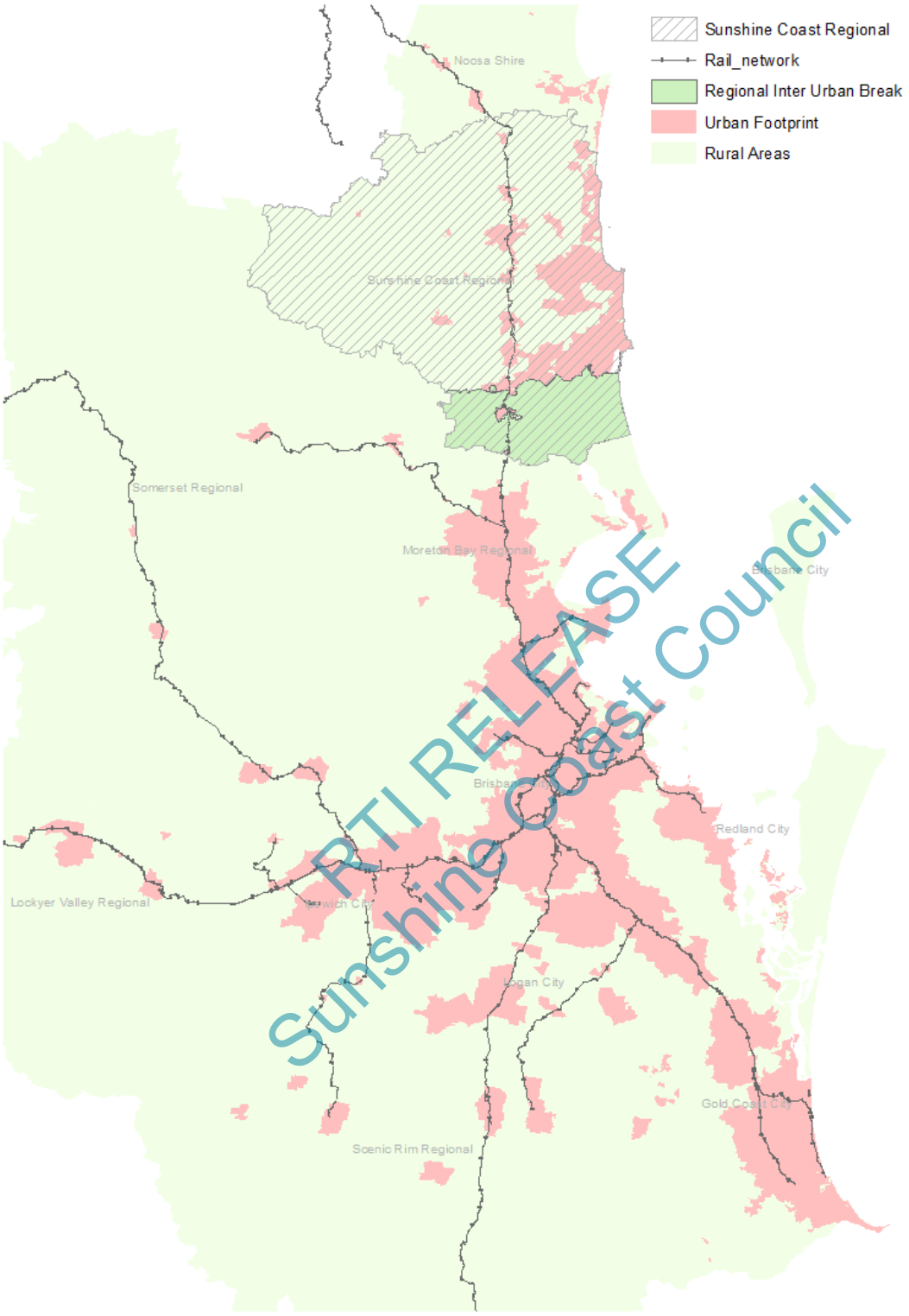
[3] Queensland Government Statisticians Office. 2018. Projected population, by local government area, Queensland, 2016 to 2041.

[4] https://economy.id.com.au/sunshine-coast/tourism-visitor-summary. Accessed 10 April 2019.

[5] The Sunshine Coast Regional Council LGA excludes Noosa shire Council.

[6] Sunshine Coast Council. 2018. Integrated Transport Strategy.

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Figure 1: the Sunshine Coast LGA in the context of South East Queensland

Source: QSpatial.

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3.2 The Vision for the Sunshine Coast

The vision for the Sunshine Coast Region is to be:

Australia's most sustainable region - healthy, smart, creative[7].

This is a transformational agenda that reflects a balance between economic, social and environmental objectives. The vision is anchored in the economic prosperity of the community, and at the same time focused on the liveability of the region and making sure the region's outstanding environmental assets are protected and remain a valuable community resource for generations to come.

3.3 Growth management strategy

The Council's vision is underpinned by a growth management strategy established in the 2014 Planning Scheme, as outlined in the map Figure 2 below. That growth management strategy includes:

- Concentration of population growth and economic activity in the area from Beerwah to the Airport which will contain at least 80% of future population growth and over 75% of future employment growth within the Sunshine Coast Regional Council area.
- Ongoing self-containment of employment, whereby the majority of people continue to live and work within the Sunshine Coast Region
- The success of the major Maroochydore CBD project by linking it to population catchments and other employment clusters in the region
- The development of the major urban communities at Palmview, Beerwah East and Aura to be based on more sustainable transport practices and linked to employment areas within the Sunshine Coast – Maroochydore, Kawana and Caloundra
- Proposed urban transformation and renewal in the Maroochydore to Caloundra urban corridor.
- The Sunshine Coast Enterprise Corridor (the Enterprise corridor) extends from the Sunshine Coast Airport to the western boundary of Caloundra South. It includes the major employment clusters of Maroochydore, Kawana and the Sunshine Coast University.

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[7] Sunshine Coast Council. 2019. Corporate Plan 2019-2023

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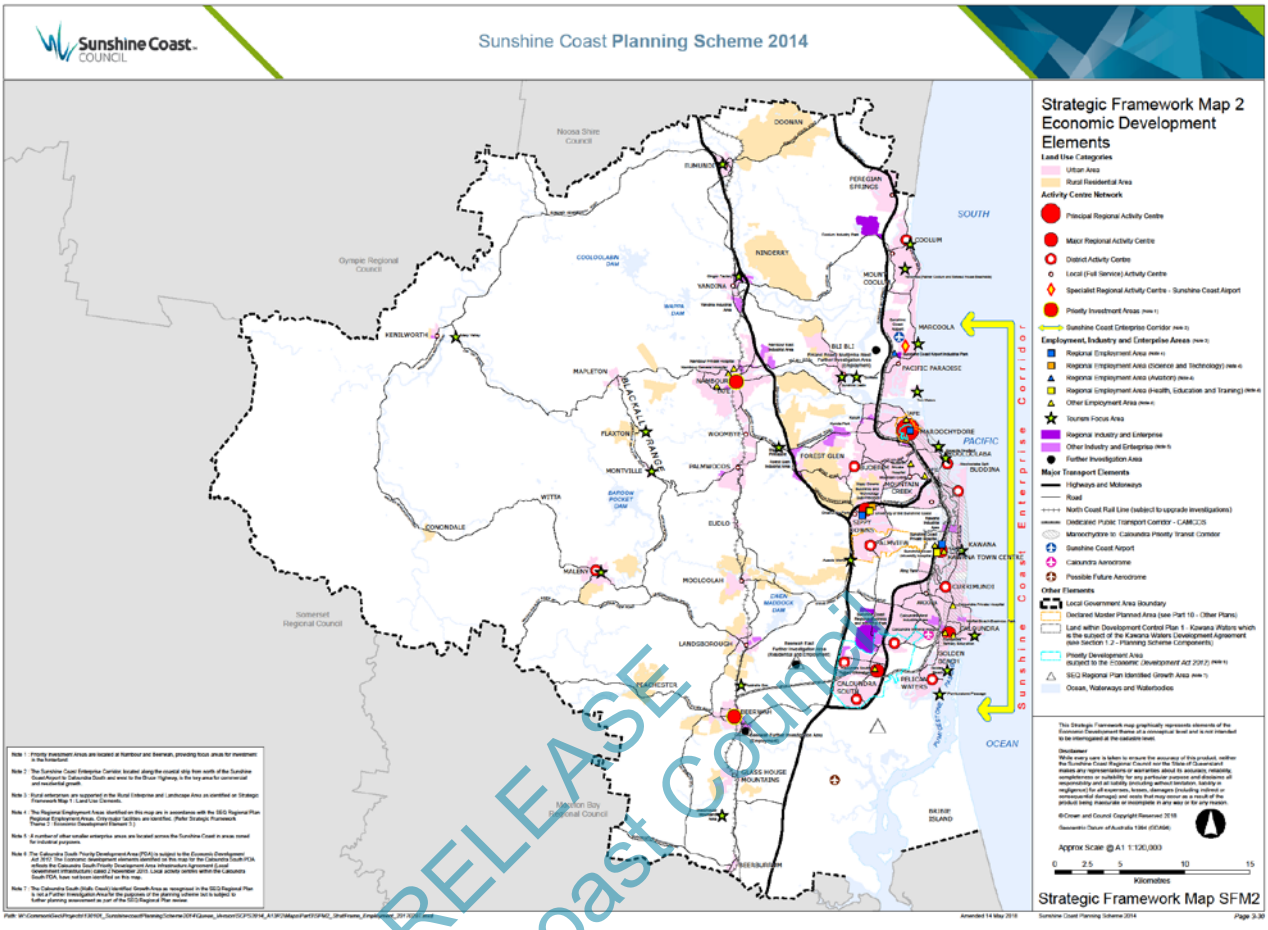


Figure 2. Planning Scheme 2014. Strategic Framework Map 2. Economic Development Elements

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3.4 The coastal urban corridor – *the Mass Transit Area of Interest*

The 2014 planning Scheme includes the "Maroochydore to Caloundra Priority Transit Corridor" as shown on the map, figure 2. Similarly the 2017 SEQ Regional Plan designated this corridor an "urban corridor" centred around a high frequency public transport connection. It also established a clear policy for the corridor based on increased density and urban renewal clustered around proposed stations in proposed high frequency public transport connection. For the purposes of the business case workings for the mass transit system, this coastal urban corridor has been termed the *mass transit area of interest*.

The draft Strategic Business Case for the Sunshine Coast Mass Transit Project found that the sector of the coastal urban corridor between Maroochydore and Sunshine Coast University Hospital in the Kawana Town Centre has exceptional potential to develop better and more affordable living opportunities for a large share of the significant population growth forecast for the Sunshine Coast region. Urban renewal will also directly support economic growth along the corridor and within the emerging economic development clusters at the Maroochydore Town Centre and the Kawana Town Centre and Health Precinct. Other direct public transport linkages will be needed to connect to economic clusters at Sunshine Coast Airport, Kunda Park, Nambour and the University of the Sunshine Coast campus at Sippy Downs.

3.5 Employment strategy

Contrary to some perceptions, the Sunshine Coast enjoys a high level of employment self-containment and a broadening base of industries. Currently over 77 per cent of the region's residents who have a job work

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within the Sunshine Coast Regional Council boundaries[8]. Some 90 per cent of the people who work on the Sunshine Coast also live there[9]. As well as the obvious economic benefits, this implies considerable lifestyle and environmental benefits as people spend less time and money travelling and more time with family or in recreational activities. By comparison less than five per cent of Sunshine Coast residents who have a job travel to Brisbane City Council local government area to work[10]. The Sunshine Coast Council has a regional economic development strategy that aims to ensure the vast majority of local residents continue to live and work within the region.

3.6 Sunshine Coast Enterprise Corridor

The Sunshine Coast Enterprise Corridor (the Enterprise Corridor) stretches along the coastal strip from the Sunshine Coast Airport at Mudjimba to the Bruce Highway at Caloundra South (Aura). The corridor represents the key regional location for commercial and residential growth over the next 20 years and is home to many of the region's 30,000 registered businesses. Envisioned in the Sunshine Coast Regional Economic Development Strategy 2013-2033, the Enterprise Corridor is designated in the Sunshine Coast Planning Scheme as the key area for commercial and residential growth. See the map figure 2 above. Development assessment levels in the Planning Scheme 2014 are geared to stimulate investor interest and confidence and are characterised by flexibility to adapt to market conditions.

The Enterprise Corridor will cater for the majority of the region's future housing and employment growth, and includes the extension to the Sunshine Coast Airport within its scope.

3.7 SEQ Regional Plan Provisions

The urbanised areas of the Sunshine Coast will continue to expand, however the SEQ Regional Plan mandates that at least 63% of the forecast 87,000 new urban dwellings provided over the 25 years from 2016 to 2041 should be consolidated into the existing urban footprint. A strong focus area for this urban consolidation will be on achieving urban transformation in the coastal urban corridor. See the "Urban consolidation area" on the map Figure 3 below.

3.8 Mass transit corridors to support growth

Planned growth of both urban expansion and consolidated urban development will need to be supported by improved transport infrastructure. In particular, there is a clear need for a massively improved public transport system if the present dominance of private car travel is to be reduced. Two planned mass transit corridors exist[11] [12] as shown in Figure 3 below. There is also a corridor being protected to support a long term upgrade by way of duplication and realignment of the present North Coast Line between Beerburrum and Nambour[13].

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Australian Bureau of Statistics, Census of Population and Housing 2016.Compiled and presented in profile.id. https://profile.id.com.au/sunshine-coast/residents. Accessed 10 April 2019.

[9] Australian Bureau of Statistics 2016. *Ibid*. https://profile.id.com.au/sunshine-coast/workers

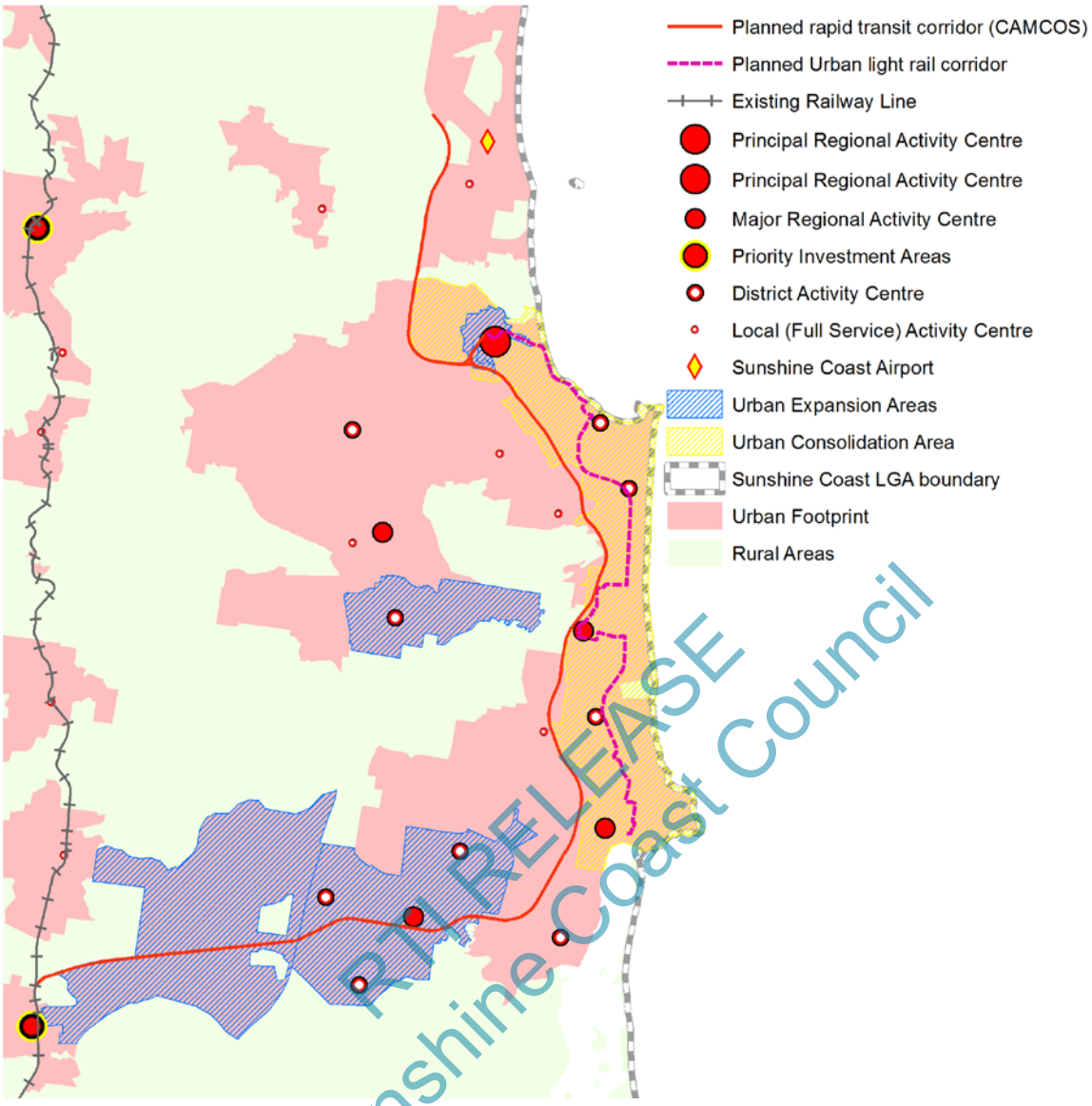
[10] Australian Bureau of Statistics, Census of Population and Housing 2016. Compiled and presented in profile.id. https://profile.id.com.au/sunshine-coast/residents. Accessed 10 April 2019.

[11] Details on the CAMCOS corridor can be found at https://www.tmr.qld.gov.au/Projects/Name/C/Caboolture-to-Maroochydore-Corridor-Study

[12] Details on the urban (light rail) corridor can be found at https://lightrail.sunshinecoast.qld.gov.au/sunshine-coast-light-rail.

[13] Detail on the Beerburrum to Nambour project can be found at https://www.tmr.qld.gov.au/Projects/Name/B/Beerburrum-to-Nambour-Rail-Upgrade-Project

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Figure 3: Planned transit corridors and land use plans

4 Previous investigations of mass transit on the Sunshine Coast

4.1 Line in the Sand Report 2012

Sunshine Coast Council convened a broadly based taskforce in February 2012 that comprised key industry and community representatives, as well as several community members selected from an expression of interest process. With a shared vision that a rapid public transit system could be a 'game changer' for the Sunshine Coast, the Taskforce was supported by an expert professional team. It received input from the community through an interactive web based "hub".

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The resulting report, "A Line in the Sand[14]", was a Prefeasibility and Rapid Economic Assessment that demonstrated a sleek, modern public mass transit system could potentially be:

- Catalytic and capable of creating economic growth and social benefit
- A flagship rapid transit transport option that protects our relaxed way of life and benefits the whole Sunshine Coast

If supported by visionary policy, such as strategic urban consolidation along growth corridors, this flagship rapid transit system could provide a broader diversity of lifestyle opportunities and reduce the present emphasis on urban sprawl, protecting farmland and natural habitat and reducing pressure on regional roads and other public infrastructure.

The Taskforce concluded:

"A new rapid transit system, such as light rail, is a "game changing" project with the potential to transform the future of the Sunshine Coast.

The Taskforce recommends Council endorse the next step toward the Sunshine Coast Light Rail 2020 vision by proceeding to Phase 2, full feasibility and business case.

The options to be considered should include:

1. *The reference case; light rail at-grade;*
2. *A hybrid option for light rail with some sections elevated to improve running speeds; and*
3. *Possibly a bus rapid transit option if it can be demonstrated it has the potential to meet the longer term requirements for public transport patronage."* [15]

4.2 Feasibility, route planning and consultation

Subsequent studies have further investigated the potential to facilitate population growth and grow the local economy through well-designed urban villages that evolve around a rapid public transport system. These studies include:

- Route Planning and Impact Assessment Report (2013) – business case approach to route options
- Sunshine Coast Light Rail: Shaping Our Future (2016)[16]
- Sunshine Coast Light Rail Community Consultation Report (2015)[17]
- GHD report developing cost estimates and concept design as basis for light rail business case and protection of a corridor.
- Urban Transformation – Directions Paper for the Future of the Sunshine Coast. SCRC 2017[18]

5 Strategic Business Case findings

The Principal has completed a draft Strategic Business Case for a Sunshine Coast Mass Transit Project that considered a broad study area based on the population growth corridor from Beerwah to the Sunshine Coast Airport.

A range of infrastructure and non-infrastructure-based potential initiatives were comparatively assessed and subjected to a strategic merit test to determine the potential transport outcomes each initiative could deliver, and the performance of each initiative against the project objectives. This analysis concluded that the best performing options were based on mass transit infrastructure initiatives that:

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[14] Sunshine Coast Council. 2012. "A Line in the Sand". https://lightrail.sunshinecoast.qld.gov.au/3943/documents/38030
[15] Sunshine Coast Council. *Op cit.* p 12
[16] Sunshine Coast Council. 2014. https://lightrail.sunshinecoast.qld.gov.au/3943/documents/16684
[17] https://lightrail.sunshinecoast.qld.gov.au/route-options-consultation-results
[18] Sunshine Coast Council. 2016. https://lightrail.sunshinecoast.qld.gov.au/3943/documents/64496

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- provide coverage along the coastal areas of the Sunshine Coast region from Maroochydore to Caloundra,
- include inland connections through urban expansion areas and connecting to the existing passenger rail network.

Light rail is the technology preferred by the Principal for the coastal precinct based on its previous detailed planning and consultation, and an appraisal of the proven effects of light rail schemes in achieving urban renewal in their catchments. However as required by the relevant business case frameworks, the Preliminary Business Case will investigate potential modes and transport technologies further to ensure a full suite of options is considered.

6 Scope of Services

To deliver a Preliminary Business Case, the Principal requires:

1. The Consultant to develop and author a Preliminary Business Case (PBC) document that meets the requirements of the Queensland *Business Case Development Framework*, the Queensland *Project Assessment Framework*, and the Infrastructure Australia *Assessment Framework.*
2. The Consultant to prepare economic and financial analyses to underpin the Preliminary Business Case.

The findings of the Preliminary Business Case must be rigorously justified in order to meet requirements of evaluating agencies in the both the Queensland and Commonwealth governments.

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6.1 Objectives, deliverables and milestones

6.1.1 High level program objectives

The purpose of the Sunshine Coast Light Rail Program is to provide for planning, corridor protection and project delivery of a high frequency mass transit network to extend from Sunshine Coast Airport through Maroochydore, Kawana and Caloundra to the existing North Coast Railway at Beerwah.

Supporting program objectives are:

- Provide an agreed overall plan for the future Sunshine Coast mass transit system
- Establish a staging plan for delivery of the mass transit system
- Establish key projects to deliver the mass transit system in priority stages
- Develop a detailed urban transformation corridor strategy and master plan
- Conduct business case activities based on the mass transit system staging plan to meet Queensland and Commonwealth standards
- Communicate and advocate for the program and its timely development.

6.1.2 Sunshine Coast Mass Transit Project objectives

The draft Strategic Business Case identifies the following project objectives for the Sunshine Coast Mass Transit Project:

1. Support the Sunshine Coast's productivity, employment growth and self-containment targets by supporting existing and emerging strategic centres
2. Maintain, and where possible improve liveability and provide a catalyst for positive change by unlocking urban renewal opportunities
3. Improve accessibility, convenience and resilience of the integrated transport network
4. Provide a deliverable and value for money solution

These objectives will guide the development of benefits assessments and option evaluation in the Preliminary Business Case phase. They may be refined over the life of the PBC.

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6.1.3 Objectives of this commission

6.1.3.1 Separable portion A – Business Case Adviser

At a minimum the Consultant will:

- Efficiently coordinate the project workings through early establishment of strategy and documentation requirements, coordinating workstream interfaces, with rigorous quality assurance.
- Develop a compelling project narrative that pulls together the complex social, economic, technical, financial, regulatory, environmental and funding components of a project evaluation into a form that not only meets the requirements of all levels of government but also facilitates balanced decision making.
- Be the principal author of the Preliminary Business Case and also provide targeted deliverables, including project options assessment and delivery options assessment.
- Coordinate preliminary market sounding.
- Draft the Infrastructure Australia Stage 2 Template – Initiative identification and Option Development.
- Coordinate liaison with the key government agencies through the Business Case Reference Group which includes Transport and Main Roads, Building Queensland, Infrastructure Australia, Department of Infrastructure, Regional Development and Cities, Queensland Treasury and Department of State Development, Manufacturing, Infrastructure and Planning.

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6.1.3.2 Separable portion B – Economics and Financial Analyses

At a minimum the Consultant will:

- Undertake the complex economic and financial analyses to support the Preliminary Business Case, in accordance with guidelines provided by Building Queensland, Queensland Treasury and Infrastructure Australia.
- Prepare vehicle operating and service costs for these two options based in inputs provided by the Principal through transport modelling as shown in Table 1 below noting that capital costs for LRT and BRT options will be provided separately.
- Prepare other capital and non-capital costs for estimates based on estimates from other similar projects and first principles, as shown in table 1 below.

Table 1. Costs of options to be estimated by the Economics and Financial Adviser under Separable Portion B

Option	Elements
Light Rail Transit	Principal will provide capital costs and modelling of network operations and supporting bus network operations together with patronage. Economics and Financial Adviser will cost operations.
Bus Rapid Transit	Principal will provide capital costs and modelling of network operations and supporting bus network operations together with patronage. Economics and Financial Adviser will cost operations.
Quality Bus Corridor	TMR has prepared the CoastConnect project and the Principal has access to plans and very high level cost estimates. Principal will supply modelling of network operations together with patronage. Economics and Financial Adviser will estimate high level capital costs and operating costs including supporting bus operations.
Upgrade of existing bus network	Principal will provide modelling of bus network operations and patronage. Economics and Financial Adviser will estimate capital and operating costs.
Contingency options	Allowance under separable portion 2 for two further options incorporating infrastructure and services to be determined through the PBC process

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6.1.4 Scope of Preliminary Business Case

6.1.4.1 Standards to be met

- The Preliminary Business Case and the supporting Economic and Financial analyses must meet the requirements as determined by the Preliminary Business Case Template developed by building Queensland under the Business Case Development Framework
- The Preliminary Business Case and the supporting Economic and Financial Analyses must meet the requirements of the Queensland Government's Project Assessment Framework relating to a *Preliminary Evaluation*
- The Preliminary Business Case and the supporting Economic and Financial analyses must be cognisant of and consistent with the Infrastructure Australia Assessment Framework, and methodology should recognise the relevant guidelines provided in the Assessment Framework

6.1.4.2 Forecasting time fames

- The modelling suites utilised are capable of forecasting over the 2016- 2041 period, with interim 5 year cohorts also possible.

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- The required forecasting year is 2041
- Capital and operating costs and benefits assessments may need to be undertaken over a longer period

6.1.4.3 Mass transit technology options

- According to the Australian Government[19], rail is the most efficient way to move people quickly to and from CBDs and employment clusters. This approach underpins some of the assumptions in the Sunshine Coast Light Rail program to date. However as noted above the business case process will require a re-appraisal of all options including other mass transit technologies.

- The Preliminary Business Case will examine a range of options including:
  - Conventional light rail
  - Bus Rapid Transit
  - Quality bus corridor generally as per TMR's **CoastConnect** project
  - Upgrade of the present bus network utilising increased service frequency and coverage with only limited infrastructure support

- The Principal has already commissioned major engineering study to prepare preliminary designs for:

  a. Light Rail Transit (LRT)

     Light rail transit (LRT) The LRT option to be appraised in the PBC will be based on the reports already produced, including the Concept Design (GHD, 2016) and the Route Planning Impact Assessment (Arup Hassell Aurecon, 2012). The system contemplated by these documents is one similar to Gold Coast Light Rail (Stage 1).

  b. Bus Rapid Transit

     The BRT option will achieve at least the "bronze" standard as defined in The BRT Standard[20]. The BRT system to be designed will include as a minimum: category "B" right-of-way longitudinally separated (mostly centre running), with off-board ticketing, platform-level boarding. Broadly speaking, the BRT option should be analogous to light rail – that is, centre running in an exclusive right of way, on platform ticketing etc.

- Other technology options, for example a low cost quality bus corridor based on the previously announced CoastConnect project by TMR will also be appraised in the Preliminary Business Case. Refer to Table 1 above.

6.1.4.4 Benefits assessed

- The Preliminary Business Case must include the fullest range of land use benefits and wider economic benefits to compare a base case and a with-project case land use scenario. A separate commission already in play will develop these scenarios and provide quanta of economic benefits and wider economic benefits. Offers for this current commission must provide a detailed methodology as to how these will be accounted for in the economic and financial analyses.

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[19] Australian Government. 2017. *The National Rail Program: Investing in rail networks for our cities and regions.* P 4.
[20] Institute for Transportation and Policy Development. 2016. The BRT Standard. https://www.itdp.org/2016/06/21/the-brt-standard/

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6.1.5 Key Deliverables for this commission

6.1.5.1 Separable portion 1.

- Deliverable 1.1:
    - A draft Preliminary Business Case: *Stage one of a mass transit system to support urban transformation in the coastal urban corridor extending from Maroochydore to Caloundra*. This draft will address the contents of the Building Queensland Preliminary Business Case template, "Control Point 3" and allow detailed feedback from agencies.
- Deliverable 1.2:
    - Preliminary Business Case – *Stage one of a mass transit system to support urban transformation in the coastal urban corridor extending from Maroochydore to Caloundra.* This will meet the full requirements of the Building Queensland Business Case Development Framework including the Preliminary Business Case template.
- Deliverable 1.3:
    - Completion of IA Template for Stage 2 Template; *Initiative identification and options development*
- Deliverable 1.4:
    - Direct engagement of Queensland Treasury, Queensland Department of State Development, Manufacturing, Infrastructure and Planning, Queensland Transport and Main Roads, and Building Queensland
    - Direct engagement of Infrastructure Australia and Commonwealth Department of Infrastructure, Regional Development and Cities.
    - Participation in the business case reference group established under the project's governance framework, and provide for preparation of materials for, and responding to requests from, the business case reference group.

6.1.5.2 Separable portion 2

- Deliverable 2.1

  Draft Financial analysis to meet Building Queensland and TMR requirements including forecast nominal costs adjusted to P 50 confidence level.
- Deliverable 2.2

  Draft Economic analysis to meet Building Queensland and Queensland Treasury requirements for Benefit cost Ratio incorporate the full range of economic benefits and costs.
- Deliverable 2.3

  Final economic analysis
- Deliverable 2.4

  Final economic analysis

6.1.6 Milestones

The Principal requires the first draft of the Preliminary Business Case in 2019. The Business Case Management will be expected to be agile and responsive in terms of timing in order to coordinate and cooperate with the engineering and cost estimating team, economic modellers and other specialists.

A high level project Gantt chart is provided below at Figure 8.

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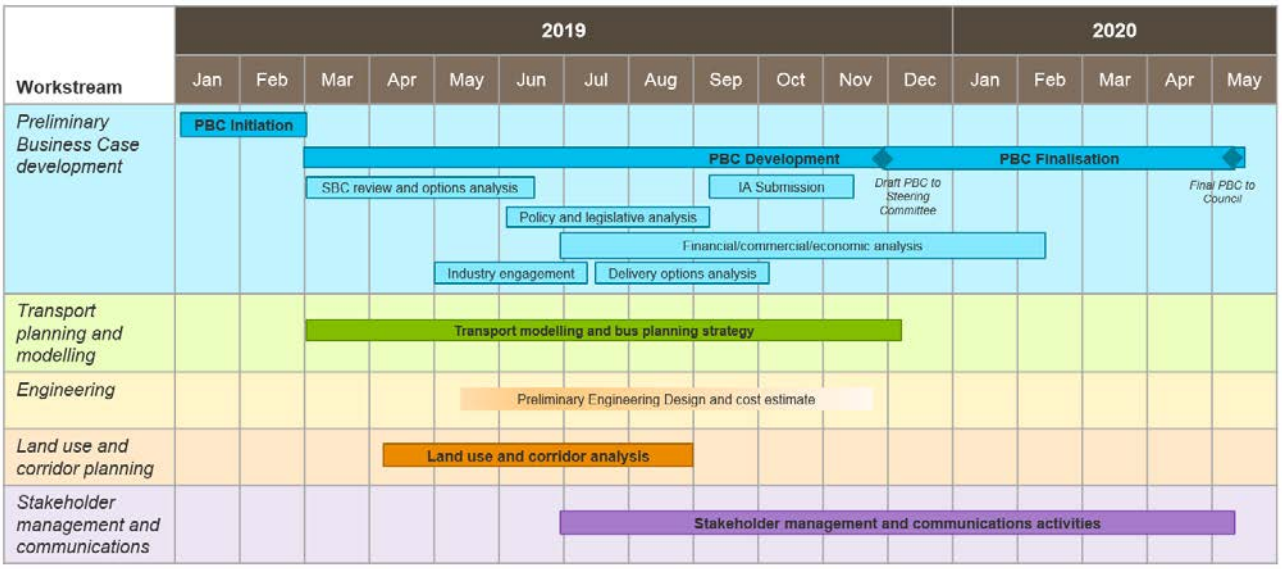


Figure 8. High level project plan for Preliminary Business Case

The milestones are as shown in Tables 2 and 3 below. The Consultant will be expected to commence provision of services immediately following award of the Contract.

Milestone	Time allocation	Hold Point
Inception meeting	June 2019	
Deliverable 1.1 Draft Preliminary Business Case	December 2019	Hold Point
Deliverable 1.2 Final Preliminary Business Case	April 2020	Hold Point
Deliverable 1.3 Draft IA stage 2 template	Within 2 weeks of deliverable 1.2	Hold Point
Deliverable 1.4 Final IA stage 2 template	May 2020	Hold Point
Deliverable 1.5 Key stakeholder engagement	Ongoing, completed by April 2019	

Table 2 – milestones for Separable portion A

Milestone	Time allocation	Hold Point
Inception meeting	June 2019	
Deliverable 2.1 Draft financial analysis	November 2019	Hold Point
Deliverable 2.2 Draft economic analysis	November 2019	Hold Point
Deliverable 2.3 Final financial analysis	February 20120	Hold Point
Deliverable 2.4 Final economic analysis	February 2020	Hold Point

Table 3 – Milestones for Separable portion B

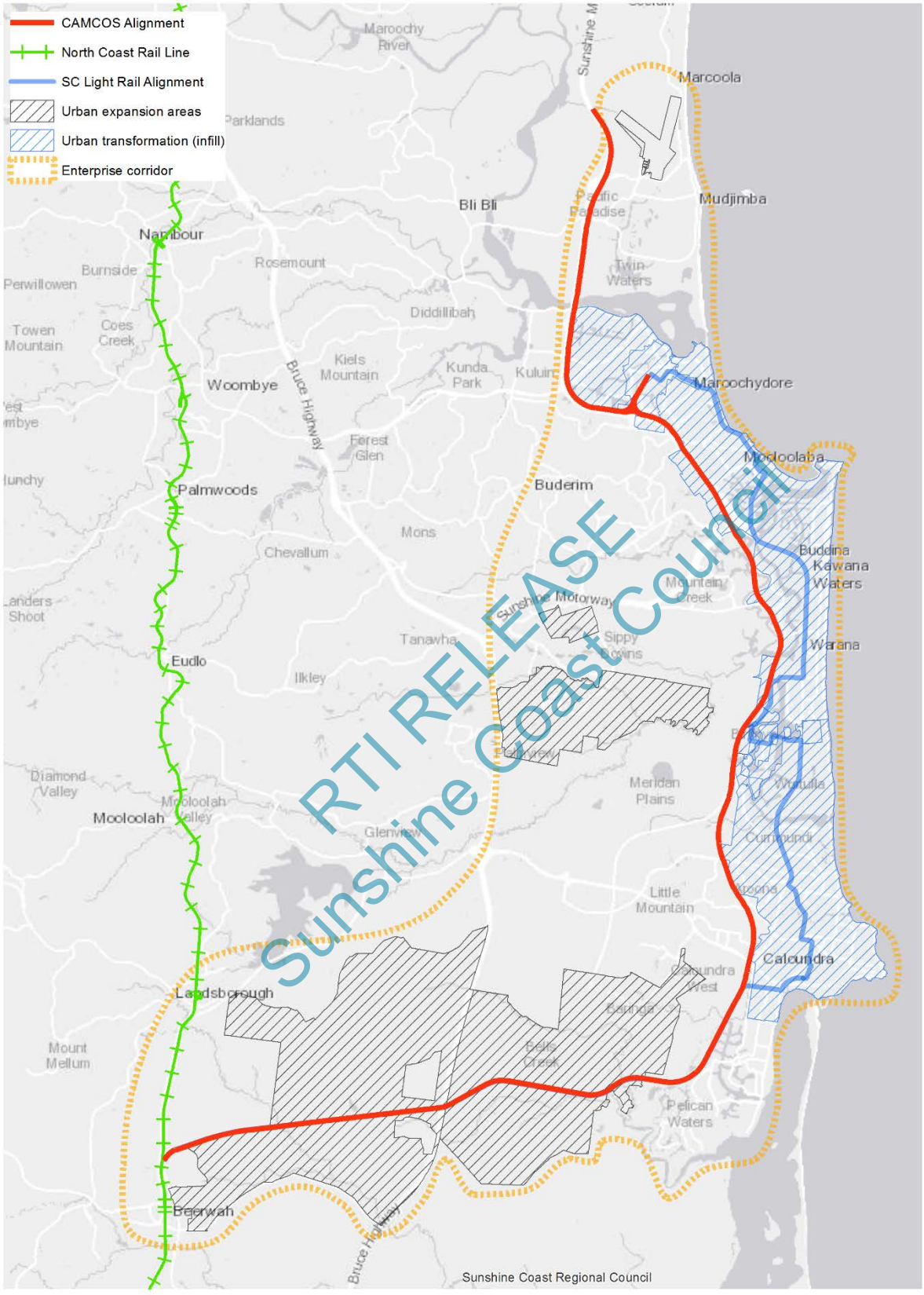
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6.2 Target study area of interest for the Preliminary Business Case

As determined by the Strategic Business Case, the target study area for the Preliminary Business Case is the coastal urban corridor from Maroochydore to Caloundra. This is termed the *Mass transit area of interest* for the purposes of business case development.

The Principal has mapped this corridor in detail in its Strategic Transport Model developed by the modelling supplier, VLC, and this is the area in which the “With-Project” land use scenario will focus urban renewal. This shown generally as the blue hachured area on figure 9 below.

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Figure 9. Target Study Area for Preliminary Business Case is shown in blue

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7 Supporting work by others

To support the Preliminary Business Case, the Principal will separately engage expert service providers to undertake:

- Development of base and with-project case land use scenarios, and undertaking urban renewal economic analysis
- Transport and land use modelling
- Engineering design and cost estimating for LRT and BRT options in the corridor from Maroochydore to Kawana

7.1 Urban economics

The Principal has engaged and expert team to develop base and with-project case land use scenarios, and undertake urban renewal economic analysis to support a business case under Building Queensland's Business Case Development Framework. This work will also feed into an urban infill strategy for the Sunshine Coast.

Elements of this work will include:

- Develop an integrated transport and land use concept plan to provide the policy framework which will underpin development of land use scenarios and built forms that are consistent with the policy expectations of the Principal and the local community
- Undertake market analysis for the Sunshine Coast Region having regard to past trends, current planning policy and the latest projections for population and employment growth up until 2041, using projections provided by the Queensland Government Statisticians Office as a starting point.
- Assess the ability of a major mass transit investment to deliver growth across employment and residential sectors in response to the improved amenity and accessibility it provides
- Confirm station precincts and vision for each precinct
- Determine urban form typologies referenced to Queensland planning terminology and the Council's Planning Scheme
- Determine future land use vision and capacity for each station precinct
- Develop "with-project " and "without project (base)" land use scenarios
- Undertake urban economic analysis of benefits achieved and value created to support the business case development

The commission has been awarded to a team led by JLL who will work with LUTI, Cox and Place to deliver as above.

The urban renewal economic appraisal in this already commissioned work will incorporate:

- Dependence testing
- Supply-side analysis
- Demand-side analysis
- Utilise a hedonic pricing model to monetise the impact of transit-led urban renewal

In respect of inputs for the economic and financial analyses (Separable portion 2), the urban economic appraisal by LUTI will analyse four key attributes of urban renewal in accordance with IA and NSW Treasury guidelines:

1. Improved land use assessment for project dependant development
2. Infrastructure and service cost savings
3. Environmental and sustainability benefits
4. Amenity and social benefits (health and removal of blight)

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Wider economic benefit and value creation estimates will also be produced for incorporation in the economic analysis developed under Separable portion 2 of this current Preliminary Business Case commission. The assessment of WEBs will follow Infrastructure Australia's guidelines, with benefits estimated for both the base case and with-project land use scenarios to address:

- Agglomeration
- Output change in imperfectly competitive markets
- Labour supply

The urban economic work is timed to conclude by **end of August 2019**, with interim deliverables that can be utilised by this Preliminary Business Case commission.

7.2 Transport and land use modelling

The Principal has engaged Veitch Lister Consulting (VLC) to provide the role of transport modelling adviser and demographic analyst for the Strategic and Preliminary Business Case work.

VLC have a suite of inter-modal modelling and forecasting tools capable of feeding into economic models for major projects. These tools allow for forecasting based any range of transport investment and land use scenarios that are required to be tested.

The VLC commission will provide:

- A robust strategic travel demand 'Project Model' for supporting business case evaluation that will withstand scrutiny of independent and third-party reviews
- An appropriately validated 2016 base case model including TransLink 2041 bus network
- 2041 Model runs for base and with-project land use scenarios (developed by JLL under 7.1)
- Transport constrained demographic scenario at 2041 (developed by VLC/ JLL)
- 2026, 2031 and 2036 demographic scenarios for two land use scenarios (chosen from Base Case, Project Case, Transport Constrained).
- Model runs for sensitivity testing of key policy levers including parking policy
- Model runs to test for sensitivity for the effect of transport disruptors including mobility as a Service and Connected and Autonomous Vehicles

The project model is well developed and is awaiting information from TMR to translate the QGSO 2041 population and Queensland Treasury 2041 employment forecasts into fine- grained model zones.

The land use scenarios developed under 7.1 Urban economics (above) will be loaded into the VLC model in order for detailed outputs addressing the matters required for the Business Cases, including inputs to the economic analysis (Separable portion 2).

The modelling work is ongoing. However it is expected to produce suitable inputs for economic modelling by October 2019.

7.3 Preliminary engineering design and P50 capital cost estimates

Working alongside the Business Case adviser, an engineering and cost estimation consulting team commissioned separately by the Principal will provide light rail and bus rapid transit system design and advisory services and risk adjusted P50 capital cost estimates for the mass transit route between the Maroochydore City Centre and the Sunshine Coast University Hospital (SCUH). The capital cost estimates will be risk adjusted P50 level of confidence (in accordance with TMR's Project Cost Estimating Manual). They will be adjusted for key risks identified and quantified in the design and cost estimation process.

The cost estimating team is required to prepare a report in June 2019, detailing the cost estimator's requirements of other specialists and the desirable/critical timing of these requirements.

The project capital cost estimate will be a Type 1 project as defined in Section 9, Table 9.1 of the Department of Transport and Main Roads (DTMR) Project Cost Estimating Manual.

Property valuations will provided by the Principal.

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This work is timed for completion **in late November 2019**, with preliminary estimates expected in September 2019.

7.4 Other relevant projects in the area of interest

Relevant projects being undertaken the study area include:

- Mooloolaba Transport Corridor Upgrade (MTCU)[21]
- Mooloolaba Place Making project[22];
- Sunshine Coast University Hospital access improvements project[23];
- CoastConnect project by TMR[24]
- Currimundi bus interchange project (work in play by TMR);

8 Supporting documents

The confidential supporting documents identified in the invitation to tender will be made available to prospective respondents upon submission of an executed confidentiality deed. Refer page 4 of 4 of the Invitation to Tender documents for further details.

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[21] https://www.sunshinecoast.qld.gov.au/Council/Planning-and-Projects/Infrastructure-Projects/Mooloolaba-Transport-Corridor-Upgrade

[22] https://www.sunshinecoast.qld.gov.au/Council/Planning-and-Projects/Council-Plans/Place-Making-Mooloolaba-Master-Plan

[23] https://www.tmr.qld.gov.au/Projects/Name/S/Sunshine-Coast-University-Hospital-access-improvements

[24] https://www.tmr.qld.gov.au/Projects/Name/C/CoastConnect-Caloundra-to-Maroochydore-Quality-Bus-Corridor

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Schedule 5 – Attachment 2
Key Performance Indicators

Contract Name: Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analyses

Contract Number: ITT1878

Council measures Contractor performance through Key Performance Indicators (KPIs). Achievement of the agreed KPI targets demonstrates to Council that the Supplier is delivering on core components of the Contract.

The KPIs will also assist both Council and Suppliers to review performance at regular intervals throughout the term of the Contract. Council will utilise the results obtained from the reviews to provide valuable feedback to the Supplier regarding their performance

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KPI Ref.	KPI	Objective	Source Data	Calculation	Minimum Standard	Target	Review Frequency
A	Delivery Methodology	Ensure compliance with the **approved** consultancy project brief to ensure the project deliverables and objectives are met	Project Communication Register	Number or corrective action requests to address non-compliance with the **approved** project brief	Less than 1 requests recorded during the review period	Zero corrective action requests	Bimonthly
B	Consultancy Services Timeframes	Meets the deadlines imposed by the **agreed** Consultancy Services Program	Project Program Tracking	Number of Days: Service Progression/ Service Program	Less than 5 business days overdue	Zero days overdue	Bimonthly
		Meets the **agreed** deadlines for each of the milestones	Variation Request	Number of Days: Variation duration (days) / Agreed variation duration (days)	Less than 5 business days overdue	Zero days overdue	Completion of each milestone
C	Key Personnel	The **approved** key personnel are utilised on the project for the duration of the project.	Tender response form, Contract communication register	Number of recorded occurrences where the Consultant fails to allocate the nominated key personnel	1 minor occurrence over the review period	Zero occurrences	Completion of each milestone
D	Alignment to Building Queensland's Business Case Development Framework	The **approved** methodology is implemented to produce the required outputs and quality	Tender response form, Contract communication register	Number of recorded occurrences where the Consultant deviates from the approved methodology.	2 minor occurrences over the review period	Zero occurrences	Completion of each milestone
E	Quality	The consultancy services delivers the expected outputs.	Request for Information Register	Number of deliverables requiring additional information or amendments to the information provided.	No more than 2 primary deliverables requiring additional information or amendments to information provided.	Zero requests.	Completion of each milestone
F	Communication	The consultants **Key Representative/s** attends project meetings	Meeting Attendance Register – Meeting Minutes	Percent attended: meetings attended/ number of meeting requests	Over 95% of meeting attended by the consultants key representative/s	100% of meetings attended by the consultants key representative/s	Bimonthly

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Schedule 6 - Appendix 1
Tender Response Form

Contract Name: Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analyses

Contract Number: ITT1878

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Part 1 Respondent's Details

The Respondent must complete this Tender Response Form in its entirety, including every Part, to ensure the Tender is a Conforming Tender. Failure to provide the information may make the Tender a Non-Conforming Tender.

If the Respondent wishes to include further information than that requested in the Tender Response Form, they must complete the acknowledgement and table at the end of the relevant Part, before attaching the extra information.

The Respondent must first submit a Conforming Tender, before submitting an Alternative Tender. Alternative Tenders must be clearly and fully described.

The Respondent submits this Tender as a:
☐ Conforming Tender; or ☐ Alternative Tender (only if Conforming Tender also submitted).

Date of submission:

Information Required	Details
LEGAL ENTITY NAME of Respondent *If Respondent is a company – specify the full company name and full name of all directors and secretaries.*	
Respondent's Australian Company Number (ACN) (if applicable)	
Respondent's Australian Business Number (ABN)	
Respondent's Registered Business Name or Trading Name	
State or Territory in which Business / Corporation / Individual is registered	
Name of Holding Company / Corporate Group (if applicable)	
Is the Respondent registered for GST?	☐ Yes ☐ No
Address/es for the service of notices	Postal Address: Email Address:
Street address (registered office address of the Respondent, only if different from Postal Address)	
Branch responsible for servicing this Contract	
Contact name	
Contact email	
Contact telephone	

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Part 2 Evaluation Criteria

2.1 Price

RESPONDENT'S NAME:

LUMP SUM

This is a lump sum Contract.

Separable Portion A - Lump sum price (excluding GST)	$
Separable Portion B – Lump sum price (excluding GST)	$
GST	$
Lump sum price (including GST)	$

PRICING SCHEDULE

The Respondent must provide a unit rate for each item in the attached Schedule 6 – Appendix 2 – Pricing Schedule – Part 2.1 (MS Excel) of this Tender Response Form.

The completed Pricing Schedule (MS Excel) must be uploaded as an MS Excel file and not be password protected.

This is a lump sum contract and is not a schedule of rates contract. When submitting their lump sum price, the Respondent is obliged to price the entire works required for successful completion of this Contract. The purpose of this Pricing Schedule is to provide a guide for progress payments and will be relied upon in the event of any contract variations.

MULTIPLE PORTION DISCOUNT

Where a Tender is submitted for more than one (1) Separable Portion, the Respondent is to nominate a percentage discount that will apply to their Pricing Schedules/Schedule of Rates should they be awarded more than one (1) separable portion.

Combinations of Separable Portions	Percentage Discount
Separable Portion A – Business Case Adviser, AND Separable Portion B – Economics and Financial Analyses	%

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2.2 Capability and Experience

RESPONDENT'S NAME:

Contract Experience

Provide details of recent and/or current contracts of a similar nature to those required in this Contract (See Specification and scope document) which have been undertaken in the last 12 to 24 months, where key personnel nominated in the "*Resources"* section of Part 2.3 of this Tender Response Form have been/are involved.

At least one example must be for development of a business case for a key transport infrastructure project (e.g. regional rail, metro rail, light rail or rapid bus transit)

CONTRACT 1	
Contract Name	
Organisation work undertaken for	
Description of Contract work	
Contract start date	
Contract completion date	
Key personnel nominated in Part 2.3 "*Resources*"	
Any delays and reasons	
Your initial Contract amount	
Your Contract amount at completion	
Reasons for variations (if any)	
Referee Contact Name: Contact Number: Contact Email:	

CONTRACT 2	
Contract Name	
Organisation work undertaken for	
Description of Contract work	
Contract start date	
Contract completion date	
Key personnel nominated in Part 2.3 "*Resources*"	
Any delays and reasons	
Your initial Contract amount	
Your Contract amount at completion	
Reasons for variations (if any)	
Referee Contact Name: Contact Number: Contact Email:	

CONTRACT 3	
Contract Name	
Organisation work undertaken for	
Description of Contract work	
Contract start date	
Contract completion date	

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Key personnel nominated in Part 2.3 "*Resources*"	
Any delays and reasons	
Your initial Contract amount	
Your Contract amount at completion	
Reasons for variations (if any)	
Referee Contact Name: Contact Number: Contact Email:	

Commitments during contract period

The Respondent is committed to the following contracts during the nominated contract period:

Organisation	Description of Contract	Completion Date	Referee
			Contact Name: Number: Email:
			Contact Name: Number: Email:
			Contact Name: Number: Email:

Please provide an explanation as to how you would coordinate projects to ensure that there is no impact on the delivery of this Contract.

Additional Information

List all attached documents in the table below and describe their relevance to this Part. Any attachments not referenced to the relevant Part will not be considered.

Attachment No.	Attachment Description

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2.3 Methodology

RESPONDENT'S NAME:

Methodology for delivery of Specification

The Respondent must attach a Project Proposal, of **no more than 20 pages**, outlining: • Understanding of scope of works and Sunshine Coast context; • Details of key personnel, and their availability with reference to the project; and • Breakdown of methodology for each component of the project, including identification of other key tasks or refinement of the key tasks nominated in the Project Brief to best achieve the objectives of the Preliminary Business Case, and ensure that the preparation of the Preliminary Business Case is subject to appropriate consultation.	Attached ☐

The Respondent's proposed Date for Completion (assuming contract award date of 22 June 2019).	Completion date:
The Respondent must attach a Gantt Chart of the proposed program aligned to the identified Date for Completion.	☐ Attached
If the Respondent's proposed Date for Completion differs from Council's nominated Date for Completion, the Respondent shall detail the reasons for the difference.	

Skills and Resources of the team offered

NOMINATED KEY PERSONNEL				
Role in this Contract	Nominated Key Personnel	Service period with your business	Years in Industry	Key Skills
Consultant's Representative				

SUB-CONSULTANTS If sub-consulting any work under the Contract, please provide details of proposed sub-contractors.				
Name of Sub-Consultant	Role of Sub-Consultant	Location of Sub-Consultant	Period of association with your business	Referee
				Contact Name: Number: Email:
				Contact Name: Number: Email:

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				Contact Name: Number: Email:
				Contact Name: Number: Email:

An organisation chart specific to the nominated project team, together with 1 page CVs for the project team is to be included	Organisation Chart ☐ Attached Resumes ☐ Attached

Quality Assurance

Does your business have a quality assurance policy? If yes, attach a copy of the policy.	☐ Attached
Is your business accredited to ISO 9001? If yes, attach a copy of the accreditation certificate.	☐ Attached

Provide details of what systems, processes and procedures are in place to ensure quality of the goods and services supplied by your business, and how this will be applied in delivering this Contract.

Health and Safety

Council is dedicated to promoting and improving standards of Health and Safety to ensure a safe and healthy working environment for all of its workers, contractors, visitors, customers/clients and the public in general.

Provide copies of each of the following essential items:	• Safety Policy • WHS Incident Report Form and Procedures	☐ Attached ☐ Attached

Is your business certified to AS 4801 (Occupational Health & Safety Management Systems)? If yes, a copy of the accreditation certificate and safety policy must be attached. **OR** Does your business have a Work Health and Safety Management System? If yes, please attach key details about the system and how your business maintains a safe system of work.	☐ Yes No ☐ ☐ Attached
Has your business ever received a work improvement, prohibition notice or other fine or offence under any work health and safety legislation? If yes, Council is interested in the steps taken following the event to improve your work practices and the improvements implemented since the event.	☐ Yes No ☐

Environment and Sustainability

Outline any initiatives being implemented by your business to ensure and continually improve: • the overall sustainability of your business and its products. • management of environmental impacts. e.g. any energy, water, waste, packaging, transport and community initiatives that improve sustainability.
Outline any environmental or sustainability initiatives that: • your business will enforce during the term of this Contract. • could possibly enhance the future efficiency of the final asset.

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Contract Name: Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analyses
Contract Number: IT1878

Does your business have an environment and sustainability policy and/or environmental and sustainability performance targets? If yes, attach a copy of the environmental policy.	☐ Yes ☐ No ☐ Attached
Is your business accredited to ISO 14001? If yes, attach a copy of the accreditation certificate.	☐ Yes ☐ No ☐ Attached
Has your business participated in an environmental management or sustainability program? e.g. Queensland State Government's ecoBiz Queensland program link: www.ecobiz.cciq.com.au If you are currently participating in any such programs, please provide any certification or documentation relating to the program and your involvement.	☐ Yes ☐ No ☐ Attached

Additional Information

List all attached documents in the table below and describe their relevance to this Part. Any attachments not referenced to the relevant Part will not be considered.

Attachment No.	Attachment Description

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2.4 Contribution to Local Economy

RESPONDENT'S NAME:

Council aims to encourage the development, growth and sustainability of the local economy within the Sunshine Coast local government area (LGA). Refer to this map for the boundary of the Sunshine Coast LGA. Council will evaluate this criterion by considering the financial and social contributions made by your business to the local economy. Please refer to Council's Social Strategy, Regional Economic Development Strategy and Local Preference in Procurement Guideline for more information.

Respondents are to confirm if they identify as one of the following:	
(a) Locally owned and operated (primary office within the Sunshine Coast LGA, as well as any employees); or	☐ Yes
(b) Are not locally owned, but have a local operation/office in the Sunshine Coast LGA with local employees; or	☐ Yes
(c) Are not locally owned, or have a local operation/office, but have employees who reside within the Sunshine Coast LGA; or	☐ Yes
(d) Have no operation or employees based within the Sunshine Coast LGA.	☐ Yes

Respondents who identify as either (a), (b), or (c) above, must provide details below to demonstrate their local presence within the Sunshine Coast LGA:	
Address of local operation/office (if applicable):	
Function of local operation/office (if applicable):	
No. of employees performing in local operation and/or residing in Sunshine Coast LGA:	
Business activities, and proportion of services performed in the Sunshine Coast LGA:	

Provide details of how your business currently contributes, or will contribute, to employment generation and future growth within the Sunshine Coast LGA. This may include but is not limited to: • New employees required for the Contract; • Temporary labour hire arrangements; • Incorporation of employment opportunities for vulnerable groups (for example Indigenous, long term unemployed, people with a disability or mental illness, disengaged youth and the aged) within the community; • Training and skills development initiatives, apprenticeships, school based apprenticeships and or Cadet placements, work experience etc; • Partnerships with TAFE, Universities.

Provide details of how your business currently contributes, or will contribute, to local economic growth and provide sustainable economic benefits within the Sunshine Coast LGA.

Provide details of sub-contractors/suppliers within the Sunshine Coast LGA from whom you will/or currently source services/goods/materials if awarded this Contract, and the type of services/goods/materials sourced. (i.e. fuel, office supplies, plant and equipment etc.)

Name of local Sub-Contractor / Supplier	Role of local Sub-Contractor / Supplier and period of association with your business	Estimated value of expenditure with this local supplier / subcontractor for previous 12 months	Referee contact details (provide name and contact number)

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Provide details and supporting evidence of any social contribution activities your business undertakes, or will undertake, which enhance the Sunshine Coast community. This may include, but is not limited: • support/partner with local community groups/not-for profit organisations to build their capacity (including sporting and recreational clubs) • volunteering activities that strengthen the community (for example delivery of a solution to a local issue, providing pathways to training and employment for volunteers, building capacity of volunteers) • support or undertake initiatives or events that contribute to the personal health and wellbeing and safety of locals • contribution towards affordable and appropriate living • supporting or understanding initiatives or events that contribute to an inclusive community and opportunities for all.

Additional Information

List all attached documents in the table below and describe their relevance to this Part. Any attachments not referenced to the relevant Part will not be considered.

Attachment No.	Attachment Description

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2.5 Social Benefit and Indigenous Engagement

RESPONDENT'S NAME:

Social Benefit Engagement

Please refer to Council's Social Strategy and Social Benefit Procurement Guideline for more information.

Is your business a Social Benefit Supplier, including:	
• Community Organisation, including not-for-profit entities; or	☐ Yes
• Australia disability enterprise; or	☐ Yes
• Charitable business venture; or	☐ Yes
• Community development finance institution; or	☐ Yes
• Worker or community owned co-operative; or	☐ Yes
• Fair trade social enterprise; or	☐ Yes
• Intermediate labour market companies; or	☐ Yes
• Social Enterprise.	☐ Yes
If yes to any of the above items, please provide supporting documentation.	☐ Attached

Is your business engaging any Social Benefit Suppliers in your supply chain? If yes, please provide details.

Indigenous (Aboriginal and Torres Strait Islander) Engagement

Please refer to Council's Reconciliation Action Plan 2017-2019 (RAP) and Indigenous (Aboriginal and Torres Strait Islander) Procurement Guideline for more information.

Is your business:	
• 50 % or majority owned by Aboriginal or Torres Strait Islander people; or	☐ Yes
• A non-Indigenous business that employs at least 25% of Aboriginal or Torres Strait Islander workers; or	☐ Yes
• An equal Joint Venture agreement with a majority owned Aboriginal or Torres Strait Islander business entity; or	☐ Yes
• Registered as an Indigenous Business with the Black Business Finder or with Supply Nation.	☐ Yes
If yes to any of the above items, please provide supporting documentation.	☐ Attached

Does or will your business engage Indigenous Business in its supply chain, or employing Indigenous people in the delivery of this contract? If yes, please provide details.

Additional Information

List all attached documents in the table below and describe their relevance to this Part. Any attachments not referenced to the relevant Part will not be considered.

Attachment No.	Attachment Description

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Contract Name: Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analyses
Contract Number: IT1878

Part 3 Respondent Compliance

RESPONDENT'S NAME:

Insurance and Licences

All Insurance Certificates of Currency must be in the Respondent's correct legal entity name.

Note: Council does *not* accept insurance policies with aggregated total limits.

Copies of the following relevant Insurance Certificates of Currency must be attached:

Insurance Type	Copy of insurance attached.
Workers Compensation (Workcover)	Yes ☐ No ☐
Public Liability (Minimum required $20 Million/occurrence)	Yes ☐ No ☐
Professional Indemnity (Minimum required $5 Million/occurrence)	Yes ☐ No ☐

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Contract Name: Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analyses
Contract Number: IT1878

RESPONDENT'S NAME:

Contract Terms and Conditions

Council will not agree to any Respondent proposed variations or departures to any of the clauses, conditions and requirements of the Invitation to Tender documents.

☐ I/We have read, understood and accept all of the clauses, conditions and requirements of the Invitation to Tender documentation and make this Tender accordingly.

The documentation referred to in this Part includes all Invitation to Tender documentation and any and all schedules and attachments.

Notices to Respondents

If Council has provided Notices to Respondents prior to the Closing Date, please acknowledge.

The following Notices to Respondents have been received and are acknowledged by the Respondent:

Notice to Respondents No.	Date Issued

Conflict of Interest

The following information is disclosed for the purposes of this Tender. The Respondent must provide details of any actual, perceived or potential Conflicts of Interest that exist or may arise in connection with the making and/or formation of any Contract.

If there is nothing to declare, the Respondent *must* insert "**None**" in the space below.

In submitting a Tender in response to this Invitation to Tender, the Respondent acknowledges and warrants that to the best of my/our knowledge and belief and subject to any disclosures detailed below:

(a) no family, business or pecuniary relationships exist between the Parties to this Tender;

(b) neither the Respondent nor its officers, employees, contractors or family members have:

(i) engaged in any unethical behaviour or sought and/or obtained an unfair advantage; or

(ii) received or will receive any pecuniary or in-kind advantage from any other Respondent.

In relation to this Tender Process;

(c) no officer, employee, contractor or family member associated with the Respondent is or has been engaged by Council in a position or role that in any way relates to the Respondent's Tender or this Tender Response Form;

(d) no officer, employee, contractor or family member associated with Council has been offered any benefit or inducement associated with this Tender, including any offer relating to employment; and

(e) other than specified below, neither the Respondent nor any of its officers, employees, contractors or family members have or are likely to have any Conflict of Interest.

The Respondent further undertakes to immediately notify the Contract Administrator for Council in writing if any warranty contained in this Tender Response Form becomes, or may become incorrect.

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Contract Name: Sunshine Coast Mass Transit Project - Business Case Adviser and Economic and Financial Analyses
Contract Number: IT1878

Respondent Declaration

RESPONDENT'S NAME:

Respondents are to note that the Respondent Declaration Part of the Tender Response Form must be signed and submitted with your Tender. Respondents may print, sign and scan this Part of the Tender Response Form as a separate attachment and attach it with their Tender submission.

Tender Response Form Declaration

The Respondent offers to provide the relevant Goods and/or Service to the Council in accordance with the information, standards, warranties and representations in the Respondent's submission (including this Tender Response Form) and the terms of the Contract.

The Respondent agrees that, by submitting this Tender Response Form, it is bound by the terms and conditions of, and gives all representations, warranties and acknowledgements required by, the Invitation to Tender and attached documents.

The Respondent agrees that its submission will remain open for acceptance by the Council and will be valid and irrevocable for the Validity Period.

The Respondent acknowledges that unless otherwise expressly stated, all terms used in this Tender Response Form have the meaning assigned to them in the Tender Process Terms or associated documents.

The signatories below represent and warrant that they are authorised to execute this Tender Response Form for and on behalf of the Respondent.

If this Tender Response Form is executed under power of attorney for and on behalf of the Respondent, the attorney warrants that it is duly authorised to execute this Tender Response Form for and on behalf of the Respondent and that the attorney's authority is derived under a deed.

Executed as a deed poll in favour of Council.

[Execution clause for execution of this deed poll by a *company*]

Executed by)
)
)

.....	.....
[Insert full name of Respondent]	[Insert ACN of Respondent]
.....	.....
[Signature Secretary/Director/Authorised Representative]	[Signature of Director]
.....	.....
[Insert name of Secretary/Director/Authorised Representative]	[Insert name of Director]

Date: ……. / ……. / …….

[Execution clause for execution of this deed poll by an *individual*]

Signed sealed and delivered by)
)
)

.....	..... .
[Insert full name of Respondent]	[Signature of Respondent]

in the presence of:

.....	.....
[Signature of witness]	[Insert name of witness]

Date: ……. / ……. / …….

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[Execution clause for execution of this deed poll by a *Partnership*]

Executed by)
)
)

....
[Insert full name of Partner/s] [Signature of Partner/s]

....
[Signature of Witness] [Insert name of witness]

Date: ……. / ……. / …….

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SUNSHINE COAST MASS TRANSIT PROJECT – BUSINESS CASE ADVISER AND ECONOMIC AND FINANCIAL ANALYSES CONTRACT NO. ITT1878

Schedule 6 – Appendix 2 – Pricing Schedule has been removed because it has been superseded by Revised Schedule 6 – Appendix 2 – Pricing Schedule which was issued with Notice to Respondents Five (5) Dated 13 June 2019.

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Sunshine Coast Mass Transit Project

Strategic Business Case

Version 0.3 - 18 January 2019

Working Draft

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1 EXECUTIVE SUMMARY

1.1 Conclusions and recommendations

Key conclusions and recommendations from the Sunshine Coast Mass Transit Project Strategic Business Case (SBC) development process include:

- The Sunshine Coast Mass Transit Project is an integrated land use and transport project. The Investment Logic Map (ILM) has demonstrated the importance of taking an integrated land and use and transport planning approach to develop the Project to address problems and service needs, realise benefits and enable strategic responses.
- Seventeen current and potential initiatives were identified and assessed in the SBC. The assessment of the initiatives showed that:
    - Whilst the eight current initiatives identified will not meet service needs in themselves, they should continue to be developed as part of current planning and project development processes[1].
    - A land use only potential initiative will not adequately address the problems nor fully realise identified benefits. However, in order to achieve the urban renewal project objectives, a land use strategy must support a preferred mass transit solution
    - Implementation of road demand management strategies and major upgrades to road network potential initiatives would also not in themselves be sufficient to meet key land use objectives, in particular urban renewal outcomes in the coastal corridor.
    - A range of infrastructure based potential initiatives were comparatively assessed and subjected to a strategic merit test to determine the potential transport outcomes each initiative could deliver, and the performance of each initiative against the project objectives. The infrastructure initiatives that provide coverage along the coastal areas of the Sunshine Coast region from Maroochydore to Caloundra, as well as inland connections through greenfield developments and connecting to the existing passenger rail network perform best against the project objectives. Given the number of key activity centres and current traffic movements, the coastal corridor between Kawana and Maroochydore has the highest requirement for urban renewal and increased transit amenity.
- The Sunshine Coast Mass Transit Preliminary Business Case (PBC) should focus on a mass transit solution (either light rail or bus rapid transit[2]) in the Maroochydore to Kawana coastal corridor, with safeguarding for network extensions and/or connections to potential future mass transit solutions in the southern coastal corridor between Kawana to Caloundra, as well as the inland corridors between Beerwah and the Sunshine Coast Airport.

[1] These initiatives will form the 'without project' case against which a 'with project' case can be measured.
[2] Based on previous analysis completed by Council, a range of mass transit technologies such as heavy rail, elevated rail and monorail are considered to be unfeasible for the coastal corridor.

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1.2 Background

The Sunshine Coast region is approximately 100 kilometres north of Brisbane and covers an area from Beerburrum, the Glass House Mountains and Caloundra in the south, Kenilworth and the Connondale National Park to the west, and Eumundi and Peregian and in the north.

During the past 30 years, the Sunshine Coast region has experienced significant population growth and urban development, and now represents a regional economy worth more than $15 billion[3]. The region has a number of major economic centres including Maroochydore, Kawana and Caloundra.

The current region's population of 303,000 in 2016 is projected to grow to 518,000 by 2041. In the same period, employment is projected to grow from 118,000 to 195,000[4]. In order to support this growth, the 2017 *South East Queensland Regional Plan (ShapingSEQ)* forecasts dwellings to grow by 87,000 by 2041, and this plan requires that 63 per cent of future development in the Sunshine Coast region is to be consolidation/infill development.

The Bruce Highway runs through the western side of Sunshine Coast region, with a number of highly utilised Queensland Government-controlled roads providing access from the Bruce Highway to the coastal areas of the Sunshine Coast, namely Caloundra Road, Sunshine Motorway and Maroochydore Road. Other key routes providing connections throughout the coastal region between Caloundra and Maroochydore include Nicklin Way, Kawana Way, Aerodrome Road and Alexandra Parade. They are supported by approximately 30 bus routes, taxi, Home and Community Care/Aged Care transport services, Council Link services, school buses and tourist shuttle/bus services. Inter-regional connectivity is provided by the Bruce Highway and the North Coast rail line.

Currently, approximately 90 per cent of trips that originate within the Sunshine Coast region will finish at a location within the region. 5 per cent of trips will travel south towards Brisbane and the Moreton Bay region and the remaining 5 per cent of trips will travel north and west of the region[5].

Table 1.1 provides a snapshot of the key demographics, economic and employment statistics and transport elements of the Sunshine Coast region.

Sunshine Coast Regional Snapshot			
Key demographics	2016	2041	Growth
Population	303,600	518,000	214,400 (approximately 70%)
Employment	118,000	195,000	77,000 (approximately 65%)
Dwellings	126,000	213,000	87,000 (approximately 65%)
Economic statistics			
ShapingSEQ infill target	• 63% (approximately 54,000 dwellings)		
Gross Regional Product	• $15.74 billion in 2017-18, equating to approximately 5% of Queensland's economy		
Gross Regional Product growth	• 2.8% per annum over past 10 years (Queensland average was 1.9%)		

[3] National Instructure of Economic and Industry Research – nieir.com.au
[4] Queensland Government Statistician's Office regional population and employment projections – qgso.qld.gov.au
[5] Sunshine Coast Council SCIMM demographic forecasts for 2041 and VLC preliminary external trip modelling (2018)

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Sunshine Coast Regional Snapshot	
Major employment sectors	• Health care and social assistance • Construction, • Education and training, • Retail • Accommodation and food services
Major employment centres	• Maroochydore • Kawana • Caloundra
Transport elements	
Major transport routes	• Bruce Highway • Caloundra Road • Sunshine Motorway • Maroochydore Road • Nicklin Way • Aerodrome Road • Alexandra Parade
Major public transport services	• North Coast Rail Line • Approximately 30 bus routes
Transport trip destinations	• 90% intra-regional origin/destination trips (contained within Sunshine Coast) • 5% trips with southern destination (Moreton Bay or Brisbane) • 5% trips with northern or western destination (Noosa or Gympie)

Table 1.1 – Key demographics, economic statistics and transport elements for the Sunshine Coast region

1.3 Investment logic map

An ILM process was completed for the Sunshine Coast Mass Transit Project, which identified high level service needs, benefits sought, strategic responses and seventeen current and potential initiatives.

These service needs, benefits sought, strategic responses and initiatives are discussed in the following sections.

1.4 Service need and urgency

Service needs identified in the ILM include:

- lack of a mass transit system to support integrated regional outcomes to drive greater sustainability, accessibility and productivity
- limited appetite for urban renewal within the region, likely driven by high levels of greenfield development and take-up
- growing levels of road congestion on key arterial roads within the Sunshine Coast region, resulting in increasing costs of congestion
- low levels of public transport mode share, with current public transport options considered uncompetitive compared to private vehicles.

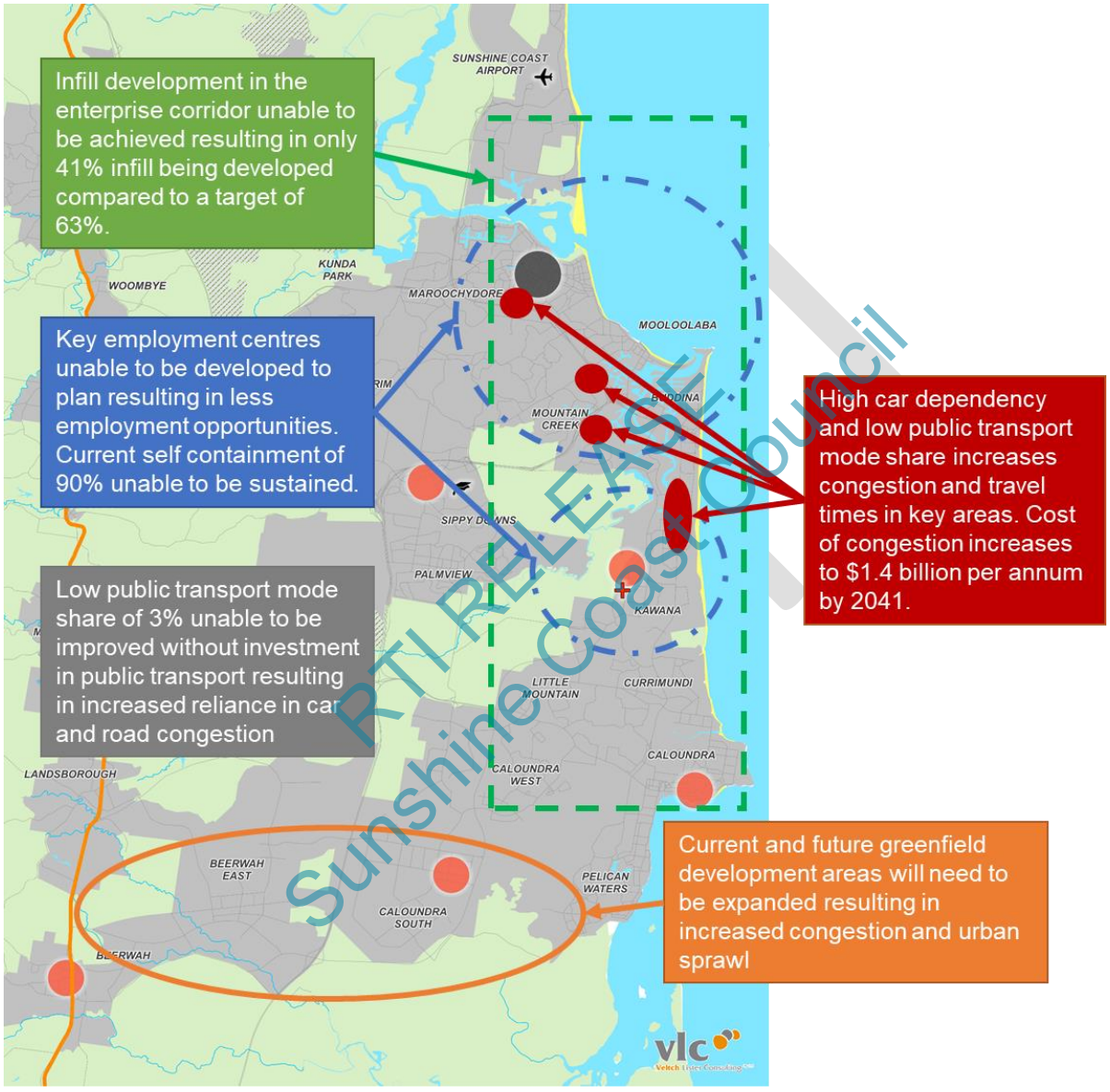
As these problems are currently occurring and are forecast to be further exacerbated, early intervention will be critical, particularly in relation to driving alternative land use outcomes. The demand for accessibility to jobs and other economic centres in the Sunshine Coast

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Enterprise Corridor will increase, driving the urgency for a solution that can move people within this corridor, as well as induce housing demand and take-up of development opportunities. A catalytic mass transit project would increase mode share for the region and induce greater levels of infill housing to allow a greater number of residents to live closer to their places of employment, and provide easier accessibility to those economic areas.

Figure 1.1 provides a graphical overview of the region, and summarises the key service needs.



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Figure 1.1 – Sunshine Coast region service need summary

1.5 Benefits sought and project objectives

In response to the service needs, the following benefits sought have been identified for the Sunshine Coast Mass Transit Project:

- Linking priority economic development (Maroochydore Principal Activity Centre), knowledge based industry areas (Kawana Health Precinct) and tourist destinations (Sunshine Coast Airport, Mooloolaba and Caloundra).

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- Greater access for Sunshine Coast residents to employment, schools, shopping, services and recreational facilities within 30 minutes of home.
- Improved land use outcomes including a broad range of housing opportunities such as affordable living, 'missing middle' housing and mixed-use development in established urban centres on the Sunshine Coast.
- Increased transport options (both public transport and active transport) for people of different ages and mobility levels without reliance upon private motor vehicles and, subsequently, significant reductions in motor traffic, car parking requirements and environmental impacts.

In response to the service needs and benefits sought, project objectives were developed to guide the definition of strategic responses, and the identification and comparative assessment of initiatives. Table 1.2 outlines the project objectives with supporting sub-objectives.

Project Objective	Sub-Objectives
Support the Sunshine Coast's productivity, employment growth and self-containment targets by supporting existing and emerging strategic centres	• Supports the development amenity of key existing economic centres including Maroochydore, Kawana, Sippy Downs and Caloundra • Supports the delivery of game changer projects including the greenfield Maroochydore Central Business District (CBD), expanding the University of the Sunshine Coast, Sunshine Coast Public Hospital, Sunshine Coast Airport Expansion, and the International Broadband Network Cable • Supports the development of key industries including health and well-being, education and research, tourism, sport and leisure, knowledge industries and professional services, agribusiness, aviation and aerospace and clean technologies • Supports jobs growth target of 100,000 over the next 25 years • Supports employment self-containment • Supports transition to the New Economy
Maintain, and where possible improve liveability and provide a catalyst for positive change by unlocking urban renewal opportunities	• Supports the development of diverse housing to meet future housing needs and provide affordable living options for everyone • Support the achievement of brownfield urban consolidation targets including dwelling and population growth within existing areas • Support the redevelopment of planned urban renewal areas within the Sunshine Coast Enterprise Corridor from the Airport to Caloundra South, including Maroochydore, Kawana, and Caloundra • Supports the *ShapingSEQ* target of 53,700 consolidation dwellings (approximately 63 per cent) by 2041
Improve accessibility, convenience and resilience of the integrated transport network	• Provide a high visibility, legible, frequent (i.e. turn up and go (service with sufficient non-peak services), easy-to-use public transport system that provides an adequate level of service for non-regular users, such as tourists and other visitors • Have potential to make a significant contribution towards Improving public transport mode share to 10 per cent by 2041 through providing an attractive alternative for intra-regional trips • Sufficient right of way to achieve public transport travel times comparable with car based travel

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Project Objective	Sub-Objectives
	• Improved customer transport experience through improved convenience, frequency, reliability and legibility of system • Improve the resilience of the transport network • Provide a safe, reliable and convenient travel option • Balance between intra and inter regional task (e.g. a mix of rapid and urban services)
Provide a deliverable and value for money solution	• Deliverability and opportunities for optimisation with staging and avoiding redundant infrastructure • Suitability of construction and delivery methodology, timeframes to develop • Minimise level of community, property, heritage and environmental impacts • Maximise environmental, social and sustainability outcomes • Provision of a value for money and affordable solution • Facilitates opportunities for private investment • Creates value and potential opportunities to share value to defray the cost of the project • Defers investment in other infrastructure • Gives consideration to potential complementary infrastructure, such as active transport • Gives consideration to efficient redeployment of flexible transport assets and/or services

Table 1.2 – Sunshine Coast Mass Transit Project objectives and sub-objectives

1.6 Strategic responses, current and potential initiatives

Strategic responses identified in the ILM include:

- Managing/influencing development priorities and settlement patterns that support private investment and urban renewal to meet infill targets.
- Implementation of road network demand management strategies (such as Intelligent Transport Systems (ITS), car parking management etc.).
- Development of an integrated land use, transport and economic development strategy.
- Improvement and optimisation of current public transport network.
- Investment in new stageable and integrable-type transport systems.

The identified strategic responses cover a broad range of issues, including land use management, road demand management, integration of land use and transport planning, and the optimisation and investment in the transport network.

Given the complexities of the Sunshine Coast region's service needs, it is reasonable to expect that a combination of the strategic responses may be required to achieve optimal long-term economic, land and transport outcomes. As an example, any transport infrastructure initiative would likely deliver greater benefits if underpinned by an integrated economic, land use and transport strategy to guide urban renewal outcomes.

Table 1.3 provides an overview of the current and potential initiatives identified and assessed as part of the SBC development process.

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Initiative	Description
Current Initiatives	
1. Town planning at Maroochydore	This initiative involves the planning, carrying out, promoting, coordinating and controlling the development of land in the Maroochydore City Centre. This initiative will provide a mix of residential, commercial, retail, civic and community uses in order to improve the business district and city centre, complementing and enhancing Maroochydore's existing business offering.
2. Town planning at Caloundra South and Beerwah East	This initiative involves the planning, carrying out, promoting, coordinating and controlling the development of land in Caloundra South (Aura) and the future major urban area of Beerwah East. This initiative will include developing a compact community supported by public transport, housing choice and affordability, employment opportunities, facilities and services in order to service the region's growing population.
3. Development of new land use and planning scheme (to replace 2014 Planning Scheme)	This initiative involves a detailed review and update of the 2014 Planning Scheme to provide an up-to-date land use planning scheme for the Sunshine Coast region to regulate the way land, buildings and structures are used and developed. It is proposed for commencement in 2020.
4. Development of road travel demand management strategies	This initiative involves the implementation of travel demand management strategies to encourage alternative transport mode usage and reduce road network congestion and flow on impacts. Current programs are focussed on voluntary travel behaviour change and managing the supply of parking at the Kawana and Maroochydore centres.
5. Development of new Integrated Transport Strategy	This initiative involves the development of an Integrated Transport Strategy to capture the opportunities and respond to the transport challenges facing the Sunshine Coast region to achieve a connected, smart, integrated, safe and efficient transport system that contributes to the region's economic viability, sustainability and lifestyle. A new Integrated Transport Strategy was adopted by Council in December 2018.
6. Development of new Regional Economic Development Strategy	This initiative involves the development of an economic strategy for the Sunshine Coast region to provide a vision and blueprint for sustainable economic growth. It will help to ensure the region actively participates in the global economy and deliver the lifestyle and opportunities for local residents and businesses alike.
7. Bus network infrastructure improvements	This initiative entails the progressive extension and increased service levels for the existing bus network, together with the staged installation of the CoastConnect quality bus corridor scheme to improve bus running times between Maroochydore and Caloundra. CoastConnect is a "quality bus corridor" that proposes a staged development of infrastructure improvements including widening of intersections and adding general traffic lanes to assist bus travel, and bus stop upgrades.
8. Investment in additional road network capacity	This initiative involves the progressive upgrading of existing road infrastructure to address congestion issues and mitigate increased road network demand.
Potential Initiatives	
Reform/Better Use potential initiatives	
1. Land use only solution	This initiative involves additional land use reform on the Sunshine Coast region, beyond land use focused activities covered under current initiatives. This would involve extensive urban consolidation at higher levels than currently envisaged in the Planning Scheme and *ShapingSEQ*.

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Initiative	Description
2. Implementation of road travel demand management strategies	This initiative involves additional travel demand management strategies on the Sunshine Coast region, beyond current voluntary change initiatives. Options could include toll points, congestion charges or further parking management strategies to restrain the growth and supply, and increase the price of parking an activity centres.
3. Major upgrades to road network to keep service levels consistent	This initiative involves the delivery of major road infrastructure upgrades beyond those already planned to ensure that performance of the road network does not continue to degrade in the future.
Infrastructure-based potential initiatives	
1. Passenger rail between Beerwah and Sunshine Coast Airport	This initiative involves delivering a new passenger line from the existing Queensland Rail network from Beerwah to the Sunshine Coast Airport via Maroochydore through the CAMCOS corridor.
2. Fast rail between Beerwah and Sunshine Coast Airport	This initiative involves delivering a new line from the existing Queensland Rail passenger rail network from Beerwah to the Sunshine Coast Airport via Maroochydore through the CAMCOS corridor. The key difference between this initiative to the infrastructure initiative 1. above is the mode of rail is considerably faster than existing Queensland Rail services and the number of stops would be significantly reduced, similar to what has been proposed under the North Coast Connect project.
3. Light rail between Maroochydore and Caloundra	This initiative involves delivering an on-street light rail system along a coastal corridor between Maroochydore, Kawana and Caloundra.
4. Light rail between Beerwah and Maroochydore	This initiative involves delivering an on-street light rail system along a coastal corridor between Maroochydore and Kawana. The rapid light rail system then extends down to Beerwah through the CAMCOS corridor, with an on-street spur line to Caloundra.
5. Light rail between Maroochydore and Kawana, and passenger rail to Beerwah	This initiative involves an on-street light rail system between Maroochydore and Kawana, and a passenger rail system from Kawana to Beerwah through the CAMCOS corridor.
6. Passenger rail between Beerwah and Sunshine Coast Airport, and light rail between Maroochydore and Caloundra	This initiative involves delivering passenger rail from Beerwah to the Sunshine Coast Airport via Caloundra, which integrates with an on-street light rail system from Maroochydore to Caloundra. This initiative is a combination of infrastructure initiatives 1.and 3. above.

Table 1.3 – Description of identified initiatives

A strategic assessment was undertaken of the identified initiatives to develop an initial shortlist for further analysis. A qualitative review of each initiative was completed to understand the land use, transport and economic implications of each initiative.

Current initiatives assessment

The seven current initiatives are not considered sufficient in themselves to meet the Sunshine Coast Mass Transit Project objectives. They provide insufficient transit amenity to support planned land use and employment and productivity changes, and will not in themselves overcome the problems or provide the benefits identified as being required under the ILM process.

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These projects however will continue to be developed (as they are committed projects/initiatives), but there is a need for them to be augmented with further potential initiatives.

Reform/Better Use potential initiatives assessment

The potential initiative based solely on land use reform will not in itself have sufficient transit capacity to support the increase in zoning. However increased land use density in urban renewal areas would continue to be assessed as part of the updated planning scheme currently being developed by Council. This could be a supporting initiative for a mass transit solution.

Implementation of road travel demand management strategies and major upgrades to road network potential options would also not in themselves be sufficient to meet key land use objectives, in particular urban renewal outcomes in the coastal corridor, even if they were to be politically feasible. Furthermore, as the Department of Transport and Main Roads (TMR) is the owner of the key arterial roads within the region, these initiatives could not be adequately progressed by Council, in isolation from the Queensland Government. However, to support any preferred solution, Council may look to implement some further road demand strategies, such as parking management, to support any shift to a new mass transit solution.

Infrastructure-based potential initiatives

Based on initial consideration of the infrastructure-based potential initiatives, it can be surmised that any of these initiatives could address all project objectives, as any of those initiatives could deliver economic, land use and transport outcomes, and all can be considered deliverable.

Figure 1.2 provides a spatial overview of the six infrastructure based potential initiatives.

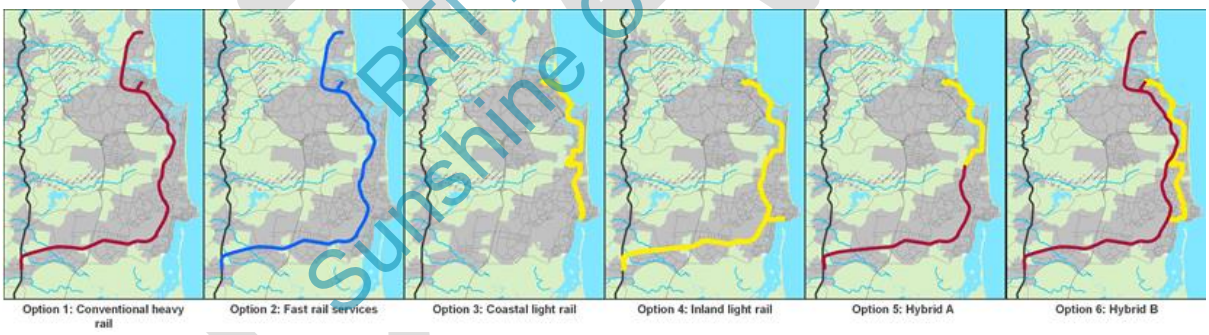


Figure 1.2 – Infrastructure-based potential initiatives for mass transit on the Sunshine Coast

1.7 Initiative assessment

A strategic merit test was undertaken of the six infrastructure based potential initiatives against the project objectives listed in Section 1.5 above. A summary of the outcomes of the assessment is provided in Table 1.4.

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Initiative	Objective 1 (Productivity and growth support)	Objective 2 (Urban Renewal outcomes)	Objective 3 (Integrated transport network outcomes)	Objective 4 (Deliverability and value for money)	OVERALL SCORE
1. Passenger rail between Beerwah and Sunshine Coast Airport	🔴	🔴	🟡	🟡	🔴
2. Fast rail between Beerwah and Sunshine Coast Airport	🔴	🔴	🟡	🟡	🔴
3. Light rail between Maroochydore and Caloundra	🟡	🟢	🟡	🟢	🟡
4. Light rail between Beerwah and Maroochydore	🟢	🟢	🟡	🟢	🟢
5. Light rail between Maroochydore and Kawana, and passenger rail to Beerwah	🟢	🟡	🟢	🟢	🟢
6. Passenger rail between Beerwah and Sunshine Coast Airport, and light rail between Maroochydore and Caloundra	🟢	🟢	🟢	🟡	🟢

Table 1.4 – Strategic merit test summary results

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The key outcomes from the strategic merit test include:

- Options 1 and 2 do not satisfactorily meet the Sunshine Coast Mass Transit Project objectives, largely due to their inland transit focus offering little to no productivity, accessibility and urban renewal outcomes along the coastal part of the Sunshine Coast Enterprise Corridor.
- Option 3 in isolation provides good urban renewal outcomes given its coastal location, however does not fully meet the productivity and transport objectives, as it does not offer improved inter-regional connectivity.
- Option 4 would deliver good outcomes across all objectives given the connection provided through the inland corridor and along the Sunshine Coast Enterprise Corridor. For the most part, this initiative provides good transport outcomes, however it should be noted that light rail through the CAMCOS corridor would result in lower top speeds and therefore longer public transport travel times compared to the initiatives that provide other transit modes through the inland corridor. These travel time penalties are partially offset by faster acceleration and deceleration. Light rail sectors would also likely run at higher frequencies, so the increased in vehicle travel times would also be partially offset by reduced average wait times.
- Option 5 meets all objectives, however urban renewal outcomes may be lessened given light rail does not extend to Caloundra compared to Options 3, 4 and 6. This task could be serviced by a high frequency bus with priority (to complete with private vehicle travel times.
- Option 6 delivers on all project objectives as it is considered to be an ultimate mass transit solution, with the exception of value for money, as it is considered to comparatively have the largest capital and operating costs. However, out of all initiatives assessed, this initiative delivers the highest accessibility outcomes given the network coverage provided and induces a higher number of public transport trips within the region.

Given the size of the ultimate mass transit solution for the region, it is proposed to narrow the focus of analysis on a mass transit solution for the PBC. Figure 1.3 provides a breakdown of the geographical areas under the best performing mass transit initiative (Option 6), which highlights the key elements of each geographical area.

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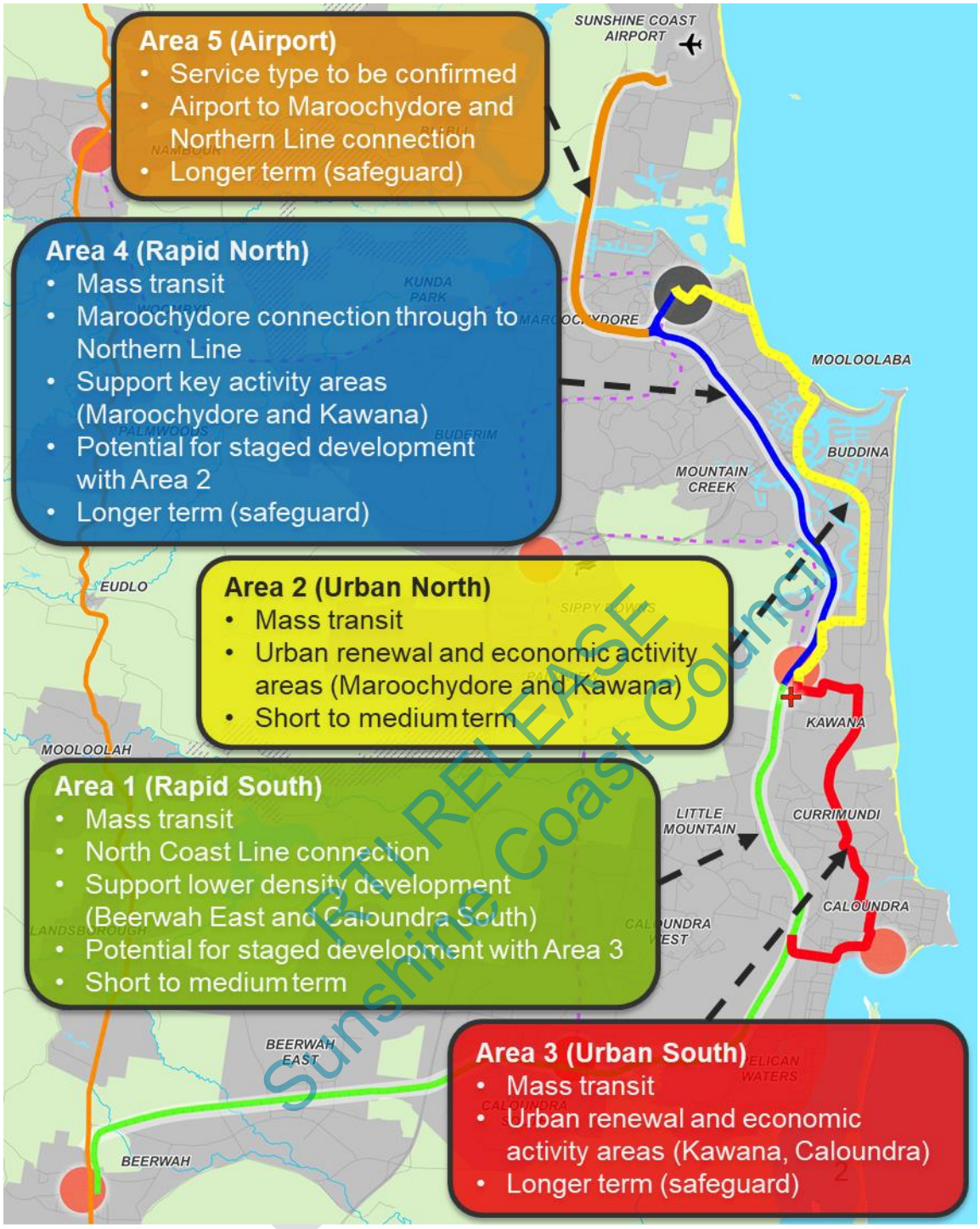


Figure 1.3 – Geographic breakdown and focus areas for a Sunshine Coast mass transit solution

The graphic above shows that Areas 1 and 2 could be progressed in the short to medium term, as these areas have a large contingent of greenfield developments (Area 1) and economic activity centres (Area 2). Given the focus on urban renewal requirements for the Sunshine Coast and infill targets that have been set for 2041, the Sunshine Coast Mass Transit PBC should be led by Council and focus on a mass transit solution for Area 2, with Area 1 forming a large focus of the Southern Sunshine Coast Public Transport Strategy, which is being led by TMR.

Whilst mass transit technologies were assumed for the purposes of the analysis in SBC, the PBC will investigate potential modes and transport technologies further. Council have

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previously considered a range of technologies such as heavy rail, elevated rail and monorail for the Area 2 corridor, however these will be relitigated in the PBC. The PBC will also focus on the comparison between light rail and bus rapid transit in order to determine the technology that best addresses the Sunshine Coast Mass Transit Project objectives. Other elements of any potential solution for Area 2 that the PBC will confirm include the detailed transit route and station location, however these are unlikely to materially deviate from previously released route and station location information.

1.8 Preliminary Business Case planning

The next step for the Sunshine Coast Mass Transit Project is to complete a PBC. A key objective of the PBC is to enable project decision makers to reliably and confidently decide on whether to progress a preferred project solution/s for further analysis in a Detailed Business Case (DBC), which will then ultimately present a case for investment in the project.

The Sunshine Coast Mass Transit Project PBC is expected to be undertaken between February and December 2019. It is anticipated that the Project Steering Committee will consider the PBC in December 2019 and submit the PBC to the Queensland Government in January 2020 for formal consideration. The PBC will then be finalised and submitted to Council for consideration in May 2020.

Similar to this SBC, the Sunshine Coast Mass Transit Project PBC will be undertaken in accordance with a range of Queensland and Australian government frameworks.

Figure 1.4 presents a high-level schedule outlining the indicative timeframes to complete the Sunshine Coast Mass Transit Project PBC.

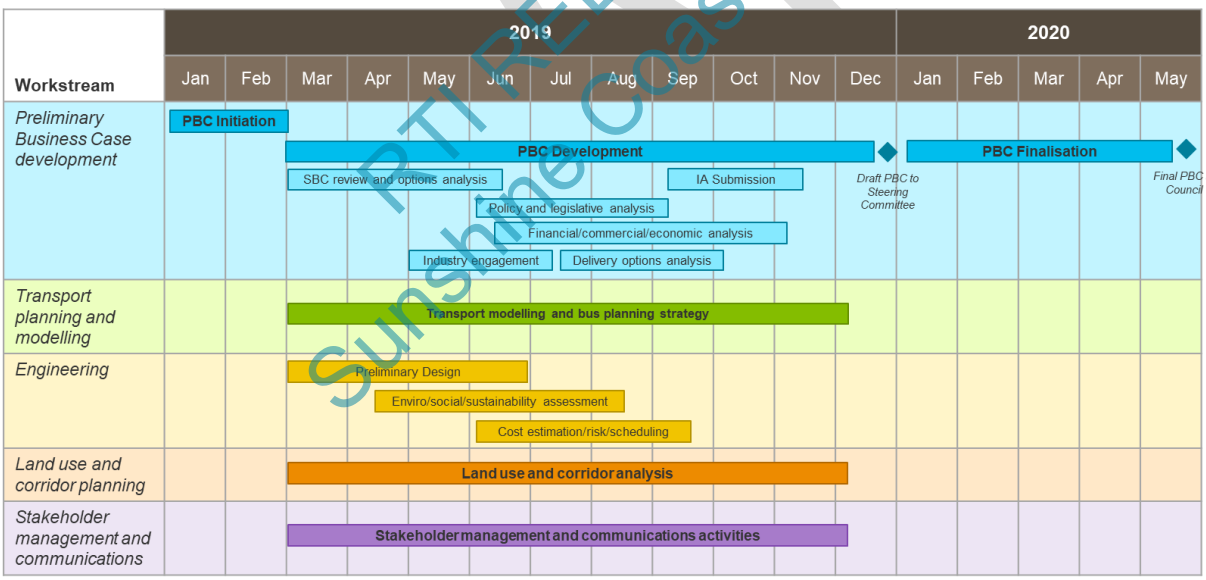


Figure 1.4 – Sunshine Coast Mass Transit Project PBC Schedule

As shown in the figure above, there are five key workstreams that will work together to develop and deliver the Sunshine Coast Mass Transit Project PBC.

Subject to approval of this SBC, the Sunshine Coast Mass Transit Project PBC phase will commence in February 2019 and be completed by December 2019. The DBC phase is then expected to commence in early 2020. Table 1.5 summarises the overarching timeframes for the Sunshine Coast Mass Transit Project.

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Project Phase	Dates
Strategic Business Case development	October 2018 – January 2019 (considered by Council in March 2019)
Preliminary Business Case development	February 2019 – December 2020 (considered by Council in May 2020[6])
Detailed Business Case development	February 2020 – December 2020
Investment Decision and Procurement	By end 2022 (indicative)
Delivery	By end 2025 (indicative)

Table 1.5 – Key milestones for the Sunshine Coast Mass Transit Project

Commercial and delivery analysis, as well as detailed project scheduling, are key tasks for both the PBC and DBC phases. As these activities progress, the timeframes presented in the table above will become more certain and additional key project milestones can be defined.

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[6] The difference in time between PBC completion and Council consideration is due to the local government elections scheduled for March 2020. It is expected that DBC activities can commence prior to the PBC consideration by Council.

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2 INTRODUCTION AND BACKGROUND

2.1 Purpose and Overview of this Chapter

The purpose of this chapter is to provide an overview of the history and current key elements of the public transport network on the Sunshine Coast, and to provide an overview and background on previous studies completed on new public transport initiatives for the region.

This chapter outlines:

- the background of public transport on the Sunshine Coast, and the key drivers behind the study of a mass transit system for the region
- previous projects, studies and business cases that have identified the requirement for a mass transit solution on the Sunshine Coast
- related initiatives that are currently under investigation or development which may have an impact on, or be impacted upon by the Sunshine Coast Mass Transit Project
- the development process for this Strategic Business Case (SBC), including governance arrangements, approvals requirements and document structure.

2.2 Background

The Sunshine Coast region is approximately 100 kilometres north of Brisbane and covers an area from Beerburrum, the Glass House Mountains and Caloundra in the south, Kenilworth and the Connondale National Park to the west, and Eumundi and Peregian and in the north. During the past 30 years, the Sunshine Coast region has experienced significant population growth and urban development, and now represents a regional economy worth more than $15 billion[1].

The Sunshine Coast Council (Council) area is bounded by the Gympie Regional Council area in the north-west, Noosa Shire in the north-east, the Coral Sea in the east, the Moreton Bay Regional Council area in the south, and the Somerset Regional Council area in the south-west, as shown in Figure 2.1.

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[1] National Instructure of Economic and Industry Research – nieir.com.au

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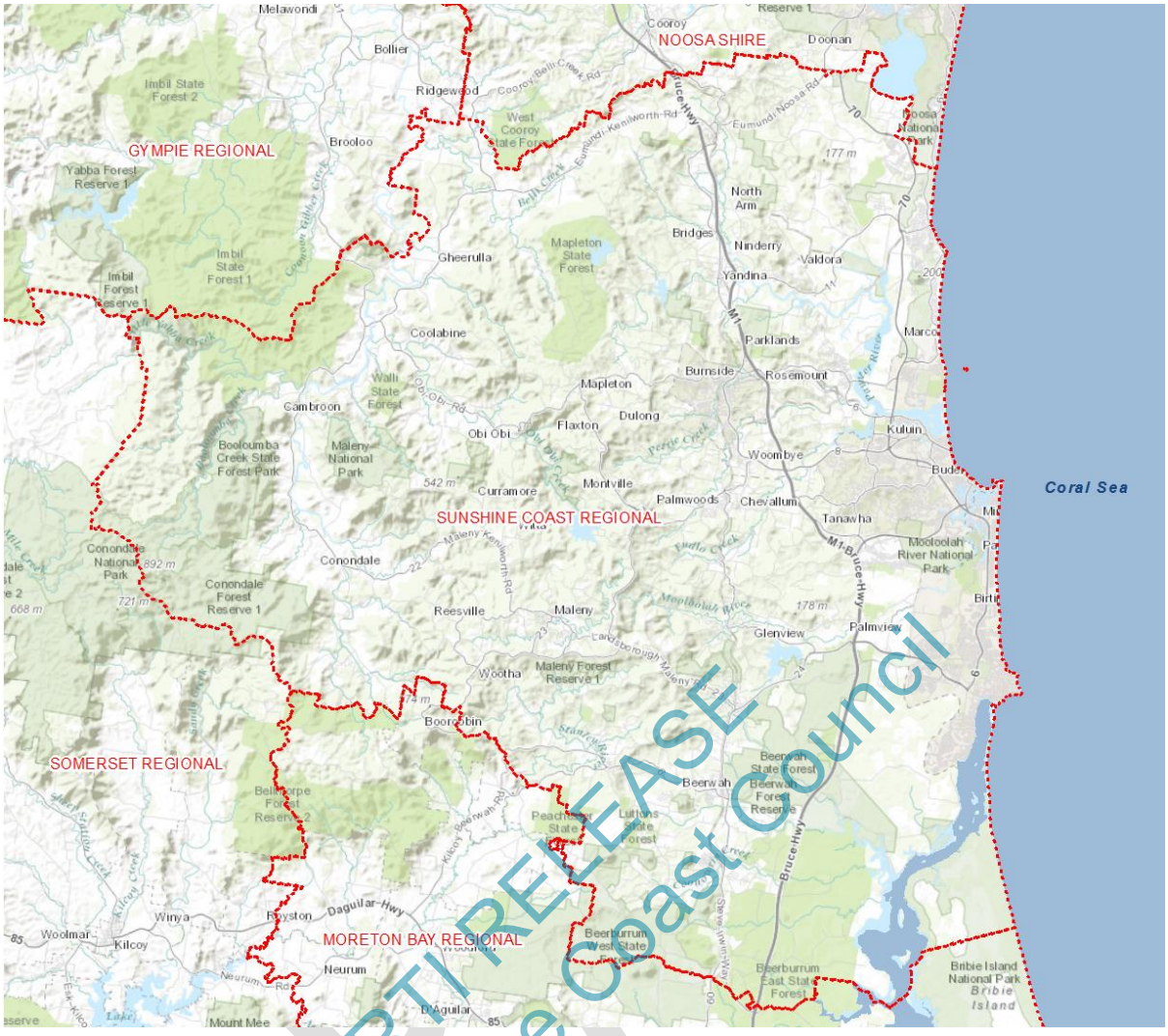


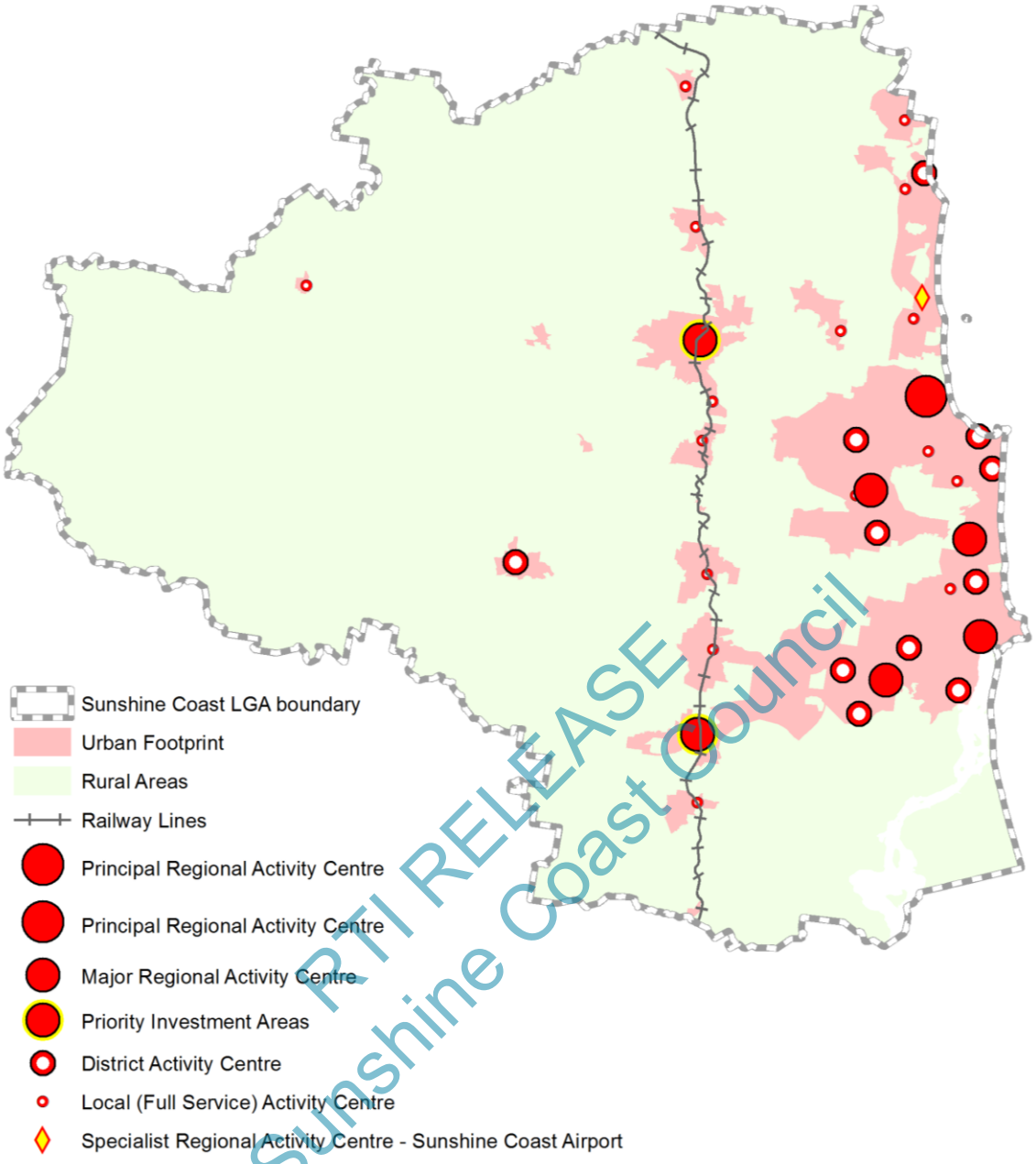
Figure 2.1 – Key areas of Sunshine Coast region

The Bruce Highway runs through the western side of Sunshine Coast region, with a number of highly utilised Queensland Government-controlled roads providing access from the Bruce Highway to the coastal areas of the Sunshine Coast, namely Caloundra Road, Sunshine Motorway and Maroochydore Road. Other key routes providing connections throughout the coastal region between Caloundra and Maroochydore include Nicklin Way, Kawana Way, Aerodrome Road and Alexandra Parade.

The Sunshine Coast region is serviced by the North Coast rail line, which is located on the western side of the Bruce Highway, approximately 18 kilometres from coastal areas. Park-n-Ride facilities (of varying sizes) are provided at all rail stations on the Sunshine Coast with the largest (207 car parks) at Landsborough Station. Figure 2.2 outlines the location of the north Coast Line in relation to the key activity centres within the Sunshine Coast region.

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Figure 2.2 – Location of the North Coast rail line and Sunshine Coast key activity centres

Rail feeder bus services are provided between Maroochydore Bus Station and Landsborough Rail Station (via Mooloolaba and Sippy Downs), Maroochydore and Nambour (via Woombye), and between Caloundra Bus Station and Landsborough. In addition to passenger services to Nambour and Gympie, the North Coast Rail Line accommodates Tilt Train services to central and northern Queensland, as well as freight rail services. North of Beerburrum, the North Coast Rail Line comprises of a single rail track which limits service frequency (however the Beerburrum to Nambour Project, discussed in Section 2.4.3 below, proposes to improve the capacity of the line).

The Sunshine Coast region is served by approximately 30 bus routes, which are a combination of coverage services and patronage services. Coverage services have low service frequency and the routes are designed to maximise the coverage of public transport, often resulting in indirect routes with long travel times. Patronage services have a higher

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service frequency and routes are designed to be direct so as to maximise ridership on key corridors and to/from key trip generators.

The Sunshine Coast is also served by other passenger transport options such as local taxi services, Home and Community Care/Aged Care transport services retirement village buses, courtesy buses (clubs, RSLs, etc.), Council Link services, school buses, and tourist shuttle/bus services.

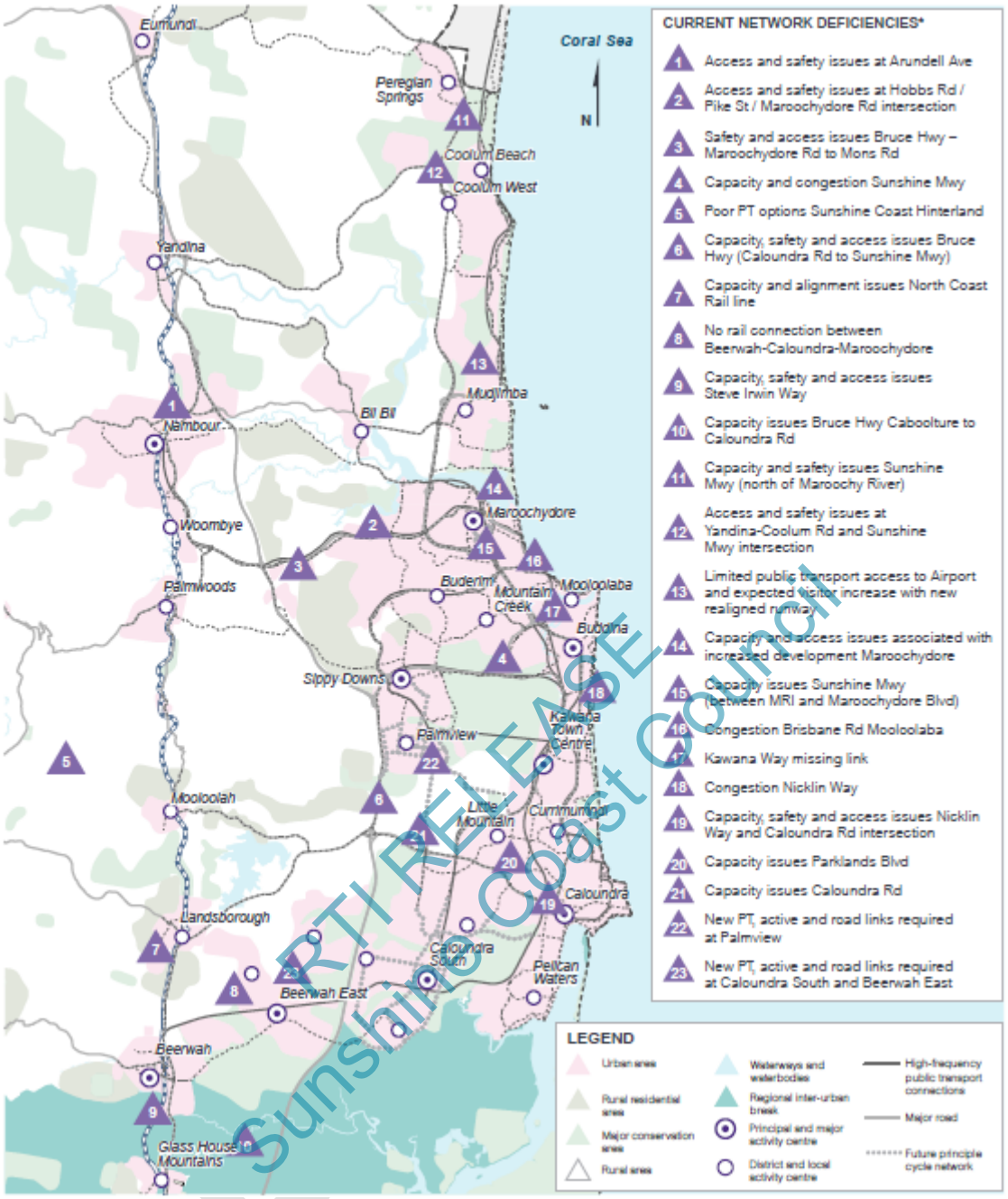
The population of the region is currently more than 300,000, and is forecast to reach over half a million residents by 2041[2]. It is expected that this population growth will concentrate in major greenfield developments at Caloundra South and Palmview, and also in the continued growth of Maroochydore (as the principal activity centre for the Sunshine Coast) and Kawana. Employment is also expected to increase from 118,000 jobs in 2016 to 195,000 by 2041[3].

Population and employment growth has significant implications for the transport network. Figure 2.3 provides a summary of the key transport routes within the Sunshine Coast region and a number of key identified deficiencies.

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[2] Queensland Government Statistician's Office regional population projections – qgso.qld.gov.au
[3] Queensland Government Statistician's Office regional employment projections – qgso.qld.gov.au

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Figure 2.3 – Current transport network deficiencies on the Sunshine Coast[4]

The transport network within the Sunshine Coast is experiencing growing road congestion, particularly on the Nicklin Way and the areas around the Mooloolah River crossing. Between Caloundra and Mooloolaba, the network is almost completely reliant on Nicklin Way, which is the only direct connection between the two centres. This restricted network has a range of implications for the region including the sustainability of growth opportunities, loss of productivity and the safe accessibility of various areas within the region for the community.

Currently, approximately 90 per cent of trips that originate within the Sunshine Coast region will finish at a location within the region. 5 per cent of trips will travel south towards Brisbane

[4] *Integrated Transport Strategy* 2018, Sunshine Coast Council, p25 (note numbering is not in order of priority)

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and the Moreton Bay region and the remaining 5 per cent of trips will travel north and west of the region[5]. This trend is expected to continue into the future, demonstrating a significantly high level of intra-regional travel, and highlights the self-contained nature of the Sunshine Coast region.

Various initiatives and projects have been initiated to address the growing transport issues facing the Sunshine Coast region. The key previous initiatives and projects are described in Section 2.3 below, along with commentary on their current status.

2.3 Previous studies and initiatives

This section summarises the key previous projects and initiatives that have been established to address the current and forecast public transport requirements for the Sunshine Coast region, including:

- Caboolture to Maroochydore Corridor Study
- Multi Modal Transport Corridor project
- Sunshine Coast Transport Project
- Maglev Transportation Unsolicited Proposal
- Other Sunshine Coast mass transit investigations.

Discussion on each project is provided, along with commentary on the current status of each initiative.

2.3.1 Caboolture to Maroochydore Corridor Study

The South East Queensland Integrated Regional Transport Plan of 1997 identified the need for protecting major transport corridors. The Caboolture to Maroochydore Corridor Study (CAMCOS), completed in 2001, investigated the delivery of a major public transport corridor connecting the principal activity centre of the Sunshine Coast Region, Maroochydore, with the broader South East Queensland (SEQ) region.

The study was undertaken in three stages:

- Stage One – Corridor Identification
- Stage Two – Corridor Evaluation
- Stage Three – Route Assessment

The Queensland Government agreed to implement the recommendations from the CAMCOS study, including the need to protect a preferred future public transport corridor from Beerwah to Maroochydore, and on to the Sunshine Coast Airport. Since the completion of the study, the Queensland Government has acquired various parcels of land for the corridor.

Figure 2.4 provides a summary of the CAMCOS corridor options, noting that the current CAMCOS corridor has a number of alternative route variations around Caloundra, Mooloolaba and Maroochydore.

[5] Sunshine Coast Council SCIMM demographic forecasts for 2041 and Veitch Lister Consulting preliminary external trip modelling (2018)

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Figure 2.4 – CAMCOS corridor

Track upgrading and duplication from Caboolture to Beerburrum was completed in 2009, as was the elimination of the open level crossing at Beerwah, ultimately providing for the branching off of the new line to Caloundra and Maroochydore.

Given the length of time since the original CAMCOS study was completed, elements of the study have been superseded by more recent planning and strategy at a state and local level. However, the CAMCOS corridor was gazetted as a future transport corridor and features in various Queensland Government planning instruments dated from 2015.

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2.3.2 Multi Modal Transport Corridor

The Multi Modal Transport Corridor is a proposed transport corridor from Caloundra Road to the Sunshine Motorway. Planning for the corridor was undertaken in 2008 and included a motorway-standard road (Caloundra-Mooloolaba Road), local arterial road (Kawana Way), pedestrian and cycle facilities and the CAMCOS rail line. The first stage of the Caloundra-Mooloolaba Road (connecting Caloundra Road to Creekside Boulevard/Kawana Way) was constructed in 2009.

In 2011, the Queensland Government's *Connecting SEQ 2031* strategy stated that 'no new urban motorway links are proposed' on the Sunshine Coast. The planning and design undertaken for the Multi Modal Transport Corridor was refined and altered in places in response to *Connecting SEQ 2031* and through the Sunshine Coast Transport Project (discussed in Section 2.3.3 below).

2.3.3 Sunshine Coast Transport Project

As noted above, the Queensland Government has previously completed planning for CAMCOS, the Multi Modal Transport Corridor and a bus corridor project called Coast Connect (elements of which are still currently in active planning, and discussed further in Section 2.4.5 below). Although each project could be independently justified, the estimated total capital cost across all three projects was judged to be unaffordable.

The 2011 Sunshine Coast Transport Project investigated opportunities to scale back each project, particularly by taking advantage of potential synergies between the three projects. As part of this, the long term planning for the Multi Modal Transport Corridor and CoastConnect was simplified, and an affordable and integrated implementation program was developed that could be rolled out over time.

Overall, from a potential capital expenditure of approximately $7 billion, a targeted $300 million first stage package was identified that would deliver priority improvements to the public transport and road networks.

A business case for the Sunshine Coast Transport Project Stage 1 was commenced in 2012, however work on this was halted as there were insufficient funds to progress the project further.

No further work has been explicitly undertaken to date on the Sunshine Coast Transport Project, however planning is being progressed separately by the Department of Transport and Main Roads (TMR) on the Mooloolah River Interchange upgrade as well as CoastConnect, as discussed in Section 2.4.5 below.

2.3.4 Maglev Transportation Unsolicited Proposal

In 2013, The Queensland Government was approached by American Maglev Technology (AMT) with an unsolicited proposed for Maglev transportation for the Sunshine Coast region. AMT proposed a public transportation system using magnetic levitation technology, with the route extending from Sunshine Coast Airport to Caloundra. However, the proposal focused on a first stage, the 'Blue Line', which would connect the Sunshine Coast University Hospital with the Maroochydore Central Business District (CBD).

AMT estimated the cost of the first stage of the proposal to be $267 million, and AMT proposed to privately develop, finance, design, construct and operate the Blue Line, provided the Queensland Government made significant payments to AMT (either through

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subsidisation of the true cost of passenger fares or service payments to AMT). AMT proposed that it would retain farebox revenue collected from Maglev passengers.

The Queensland Government, through Queensland Treasury undertook a detailed feasibility assessment as part of its Market Led Proposals framework of AMT's proposal, however the Queensland Government decided not to proceed with the proposal.

2.3.5 Other Sunshine Coast Council mass transit investigations

Council convened a broad based taskforce in February 2012 that comprised key industry and community representatives, as well as several community members selected from an expression of interest process. With a shared vision that a rapid public mass transit system could be a 'game changer' for the Sunshine Coast, the taskforce was supported by an expert professional team and facilitated input from the community through an interactive web based "hub". The resulting report, "*A Line in the Sand*", was a Prefeasibility and Rapid Economic Assessment that demonstrated a sleek, modern public mass transit system could potentially be:

- catalytic and capable of creating economic growth and social benefit to the Sunshine Coast
- a flagship transport option that protects the way of life and benefits the whole Sunshine Coast
- if supported by visionary policy, such as strategic urban consolidation along growth corridors, could provide a broader diversity of lifestyle opportunities and reduce the present emphasis on urban sprawl, protecting farmland and natural habitat and reducing pressure on regional roads and other public infrastructure.

Subsequent studies have further investigated the potential to facilitate population growth and grow the local economy through well-designed urban villages that evolve around a rapid public transport system. These studies include:

- Route Planning and Impact Assessment Report (2013) – business case approach to potential route options
- Sunshine Coast Light Rail: Commercial Analysis Report (2013) – shortlisting of opportunities for business case, government priority, financing and value capture
- Sunshine Coast Light Rail – Preliminary Business Case (PBC) (2014)
- Sunshine Coast Light Rail Liveable Communities Program – Feasibility Report (2014)
- Sunshine Coast Light Rail: Shaping Our Future (2016) – report developing cost estimates and concept design as basis for light rail business case and protection of dedicated corridor
- Urban Transformation – Directions Paper for the Future of the Sunshine Coast.

The work produced in the reports and business cases above have driven the desire of the Council to collate all previous work completed to continue investigations into mass transit, including light rail for the Sunshine Coast region.

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2.4 Current related transport projects and initiatives

There are a number of related transport projects and initiatives for the Sunshine Coast region, that are currently under investigation or delivery by a range of governmental jurisdictions. These projects include:

- Sothern Sunshine Coast Public Transport Strategy
- North Coast Connect
- North Coast Line Upgrade – Beerburrum to Nambour
- Mooloolah River Interchange
- CoastConnect.

Identifying these projects is important to understand the interdependencies they may have with the Sunshine Coast Mass Transit Project, and to identify elements of each project which may influence the analysis and/or outcomes for the Sunshine Coast Mass Transit Project.

2.4.1 Southern Sunshine Coast Public Transport Strategy

The Southern Sunshine Coast Public Transport Strategy (SSCTPS) is being completed by TMR. The project's key aim is to develop an integrated public transport strategy for the southern Sunshine Coast which covers the area from Maroochydore to Beerwah. It will have a specific focus on identifying a preferred trunk public transport network whilst considering the supporting network of services, land-use and infrastructure. The intent is to provide an alternative transport solution to the private vehicle to reduce traffic congestion.

This project responds to the need in the Sunshine Coast to provide accessible and mobile transport platforms, specifically high-functioning public transport options. This study acknowledges the transport related studies previously completed on the Sunshine Coast region, including CAMCOS study, and its intent is to provide clarity as to what the preferred public transport solution is.

The SSCTPS Stage 1 was completed in November 2017, and involved a scope review and identification of potential interventions for an integrated public transport strategy on the southern Sunshine Coast. Stage 2 is currently underway and will deliver a Strategic Assessment of Service Requirements (SASR) to evaluate and determine potential solutions to deliver a trunk public transport option to service the corridor connecting Beerwah to the Sunshine Coast Airport.

The SSCTPS and Sunshine Coast Mass Transit projects have similar objectives around identifying and confirming the best public transport solution for the Sunshine Coast region. As such, the two projects are actively engaging on analysis outcomes and progress, and formal confirmation of how the SSCTPS will progress after the SASR stage expected in 2019.

2.4.2 North Coast Connect

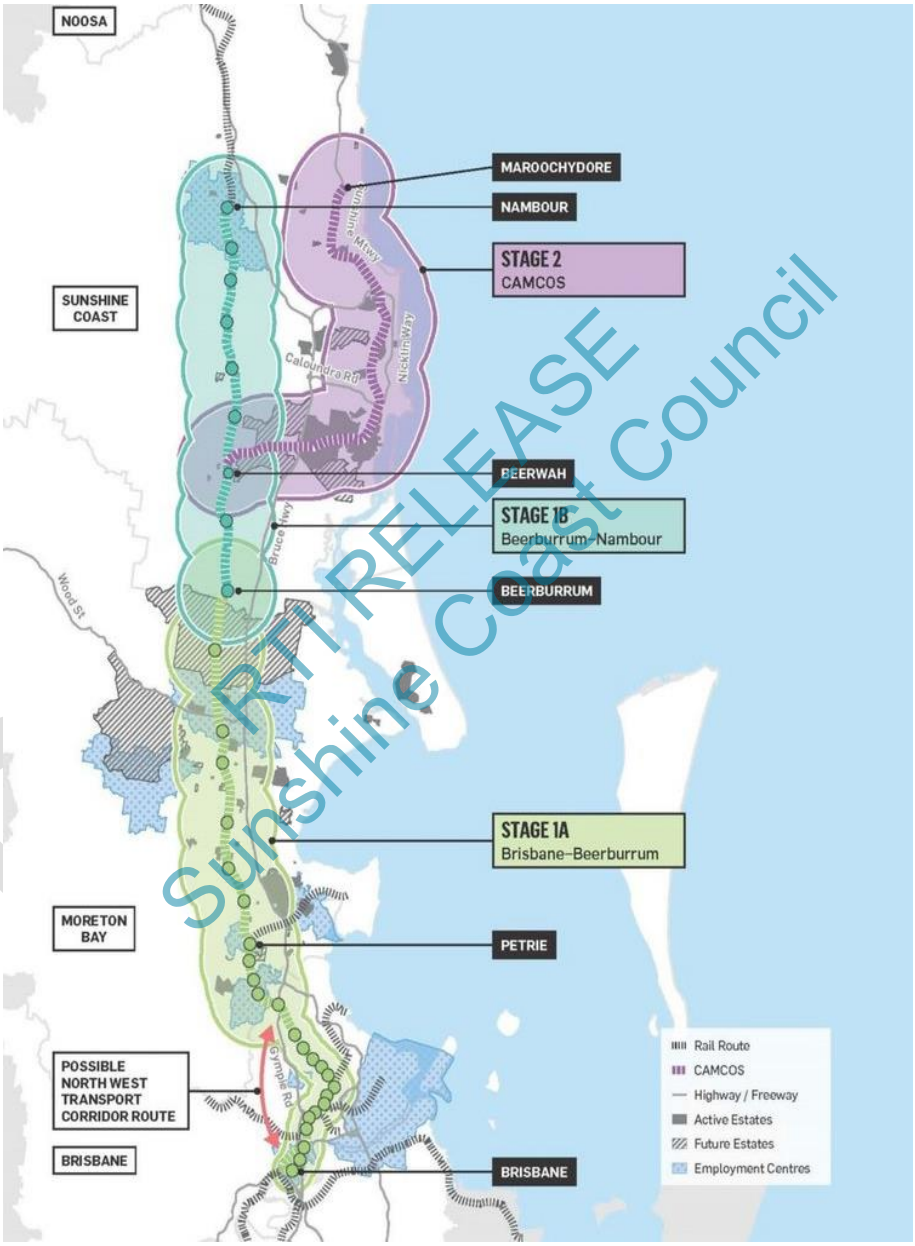
The North Coast Connect is a three stage rail project proposed by the a consortium including Stockland, KPMG, Urbis and SMEC in response to the Australian Government fast rail prospectus intending to facilitate faster rail services from Brisbane to the Moreton Bay and Sunshine Coast regions. It would provide a combination of existing and new infrastructure upgrades to enhance the rail network and to significantly reduce travel time between these locations. The project would consist of three key stages of work including:

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- Stage 1A – Upgrade of existing section of North Coast Line from Brisbane to Beerburrum
- Stage 1B – Beerburrum to Nambour Rail Upgrade Project (described further in Section 2.4.3 below).
- Stage 2 – CAMCOS – A new passenger rail service branching off the North Coast Line at Beerwah and comprising a 40km spur-line.

Figure 2.5 provides a summary of the North Coast Connect project scope, as approved by the Department of Infrastructure, Regional Development and Cities (DIRDC) in March 2018.



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Figure 2.5 – North Coast Connect project scope

The Faster Rail Prospectus is a commitment by the Australian Government to explore and provide rail services between Australia's major cities and regions. The 2017-18 Budget announcement confirmed $20 million of funding was available in Australia to support business case development for rail projects which demonstrate they provide faster rail travel times through new or enhanced infrastructure. North Coast Connect fits this brief and

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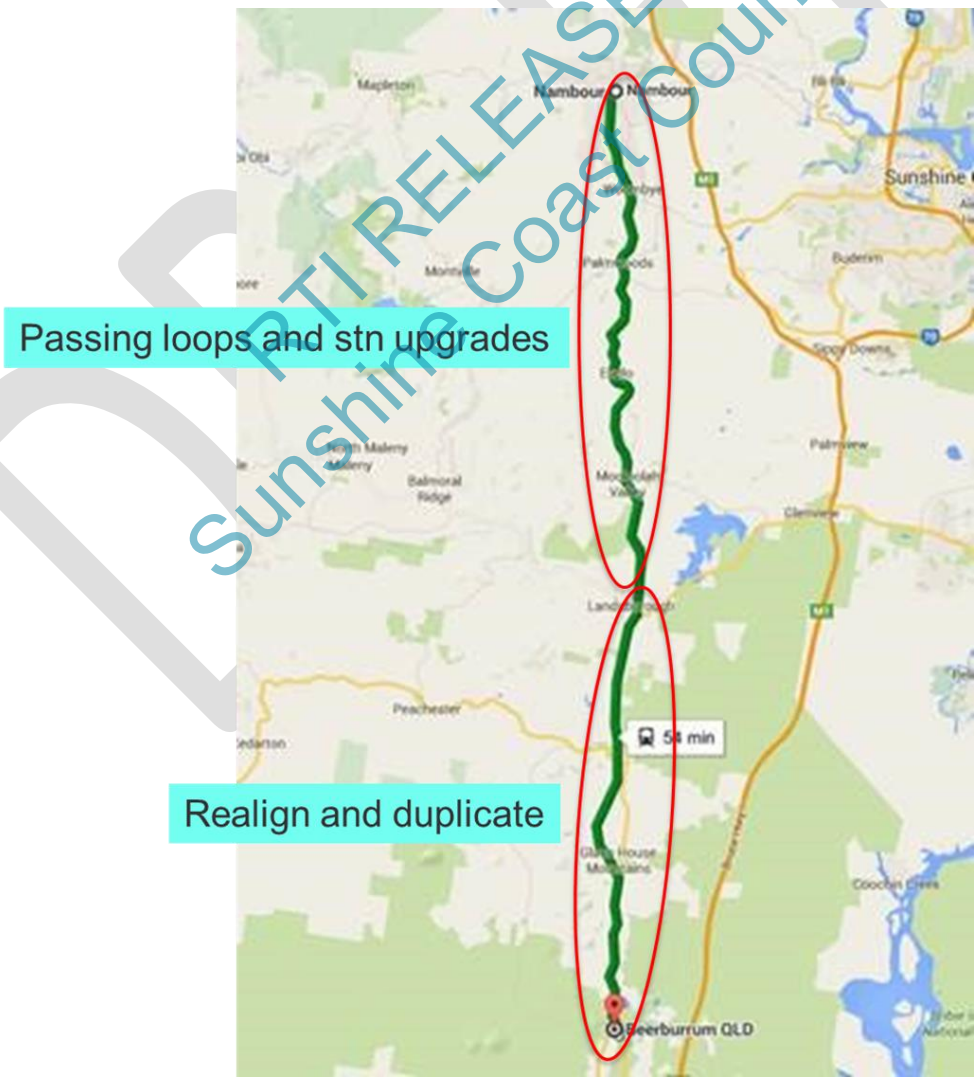
responded to this initiative as well as the need in SEQ to provide more efficient and connected rail links between Brisbane, Sunshine Coast and Moreton Bay. The anticipated completion of the North Coast Connect is 2036 for a preliminary estimated project construction cost of $4.24 billion.

The project proposal phase for this project has been completed and the project is expecting to deliver all three Business Cases, in line with Building Queensland frameworks and the Project Assessment Framework (PAF), to government by the middle of 2019.

Overall, the proposed North Coast Connect is focused on inter-regional travel whereas the Sunshine Coast Mass Transit Project solution will also focus on intra-regional travel.

2.4.3 North Coast Line Upgrade – Beerburrum to Nambour

The Beerburrum to Nambour Rail Upgrade Project proposal includes a duplication of the North Coast rail line between Beerburrum and Landsborough (approximately 20 kilometres in length) and a range of upgrades to the existing rail infrastructure between Landsborough and Nambour including passing loop extensions, provision of dual platforms at stations connected by lifts and pedestrian bridges, and additional car parking at some stations. Figure 2.6 provides a summary of the scope of the Beerburrum to Nambour Rail Upgrade Project.



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Figure 2.6 – Beerburrum to Nambour North Coast Line Upgrade project scope

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Beerburrum to Nambour Rail Upgrade Project is forecast to deliver:

- increased capacity and travel time savings for freight and passenger services
- up to four additional passenger services per hour in the peak
- increased passenger service reliability
- a more integrated and effective transport network, through the provision of additional parking at stations and additional feeder bus services.

The Beerburrum to Nambour Rail Upgrade Project aims to address conflicts on the North Coast line between passenger and freight services north of Beerburrum. However, the Beerburrum to Nambour Rail Upgrade Project is fundamentally a much more modest proposal than North Coast Connect and does not offer a fast commute from Nambour to Brisbane (forecast to be a travel time saving of less than 5 minutes). It instead forms part of the infrastructure requirements for the proposed North Coast Connect project (discussed in Section 2.4.2 above).

One important feature of the Beerburrum to Nambour Rail Upgrade Project is the duplication of the North Coast Line from Beerburrum to Beerwah. This section the line will also serve the future proposed Beerwah to Maroochydore spur line, assuming that spur is to be connected to the Queensland Rail network. This 12-kilometre section of the Beerburrum to Nambour Rail Upgrade Project will comprise a significant proportion of the forecast $780 million total project cost, and is an essential component of any future upgrade of the North Coast Line irrespective of whether the priority is to serve Nambour or Maroochydore.

Similar to North Coast Connect, the Beerburrum to Nambour Rail Upgrade Project has differing objectives to the Sunshine Coast Mass Transit Project, namely focusing on inter-regional travel and freight improvements, whereas the Sunshine Coast Mass Transit Project will aim to support intra-regional travel. However, given its proximity to the Sunshine Coast Mass Transit Project study area, and the increased capacity delivered by the project, this project is an important strategic consideration for any new mass transit solution for the region.

2.4.4 Mooloolah River Interchange/Kawana Arterial Road

TMR is progressing investigations for a range of major upgrades in the area of the Sunshine Motorway – Mooloolah River Interchange (MRI), including a new motorway standard arterial road from the MRI past the hospital to the Corbould Way, expanded lane connections, new river crossing and intersection upgrades. Preliminary planning is complete and a preferred planning option has been developed for an interchange and TMR is currently preserving the land required to accommodate the project. It is expected that the MRI will improve safety on the Sunshine Motorway near the Mooloolah River, improve network access to the new Sunshine Coast University Hospital precinct and Kawana Town Centre, and improve travel time reliability.

TMR has completed a PBC for the project and is expected to complete a Detailed Business Case (DBC) by the middle of 2020.

The MRI project is a key complementary project for the Sunshine Coast Mass Transit Project, as the MRI project provides a key alternative route to Nicklin Way, which will assist with managing traffic impacts during the delivery of the mass transit corridor and potentially provide road users with a second route away from the likely mass transit corridor.

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2.4.5 CoastConnect

CoastConnect is a Queensland Government initiative to improve public transport and sustainable travel on the Sunshine Coast, in response to the forecast growth in the region and the need for an efficient transport system. The focus of the project is the Caloundra to Maroochydore corridor, which also captures the activity centres of Kawana and Mooloolaba.

A number of planning and design studies have been undertaken to support the development of this project, with the latest being the Concept Design and Impact Management Plan (CDIMP), finalised in 2011.

The new bus stations at Maroochydore, Sunshine Coast University Hospital and Kawana have already been constructed and are fully operational. Bus Priority measures have also been implemented within Birtinya.

More detailed planning for bus stations at Mooloolaba and Currimundi are occurring between 2017 and 2019. Bus priority and bus stations have been captured in the development of the road network surrounding the Sunshine Coast University Hospital, which reflects the CoastConnect intent. TMR is currently reviewing the CoastConnect planning, with a focus on the Nicklin Way section providing access to the Kawana Health Precinct, where due to network congestion and bus volumes, improvements to the general purpose lanes along with bus branding initiatives are proposed[6].

Currently, there are no funding or timeframe commitments for the delivery of the remainder of the CoastConnect corridor. However, the future proposed initiatives for CoastConnect may form part of the supporting network required under a mass transit solution, as it is expected that the Sunshine Coast bus network will still play an important role in delivering an integrated public transport network for the region.

2.5 Current related land use and regional development projects and initiatives

Similar to the current related transport projects and initiatives identified in Section 2.4, there are a number of land use and regional development initiatives which will share a relationship with any potential mass transit solution on the Sunshine Coast, including:

- Maroochydore City Centre Priority Development Area
- Caloundra South Priority Development Area
- Sunshine Coast Airport Expansion Project
- Sunshine Coast International Broadband Network Cable
- South East Queensland City Deal.

The interdependency between mass transit and land use and regional growth is important to define to ensure a coordination of transport, land use and economic growth outcomes for the region.

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[6] https://www.tmr.qld.gov.au/Projects/Name/S/Sunshine-Coast-University-Hospital-access-improvements

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2.5.1 Maroochydore City Centre Priority Development Area

Maroochydore has an existing number of important functions for the region accommodating major retail centres, government services, and residential areas for permanent residents and holiday makers alike.

The Maroochydore City Centre Priority Development Area development scheme was approved by the Queensland Government on 11 July 2014 and subsequently amended in April 2016. The development scheme is the planning document that assists in planning, carrying out, promoting, coordinating and controlling the development of land in the Maroochydore City Centre Priority Development Area. All development applications within the Priority Development Area are assessed against the development scheme.

Once completed, the Maroochydore City Centre will be instrumental in building and strengthening the region, providing a mix of residential, commercial, retail, civic and community uses in order to develop a thriving and vibrant business district and city centre, complementing and enhancing Maroochydore's existing business offering. The Priority Development Area scheme will also coordinate the development of city building infrastructure for the Sunshine Coast community as well as creating significant opportunities for economic development and employment.

Given the economic importance of the Maroochydore CBD and its development priority, accessibility and connectivity to and around the city centre will be essential. As such, this project is a high priority and is being funded by Council. A complementary public transport solution such as the Sunshine Coast Mass Transit Project will improve the attractiveness of the city for further urban growth and land use outcomes and boost the economic productivity of the city.

2.5.2 Caloundra South Priority Development Area (Aura)

In 2010, the Queensland Government declared Caloundra South an Urban Development Area under the *Urban Land Development Authority Act 2007*. This declaration gave planning responsibility to the Urban Land Development Authority, which in 2013, subsequently transitioned to Economic Development Queensland. The Caloundra South Urban Development Area then became a declared Priority Development Area under the *Economic Development Act 2012*.

The Caloundra South Priority Development Area is approximately 2,360 hectares of greenfield land located to the south of the established Caloundra urban area and is intended to be developed over a 30 to 40 year period. The Caloundra South Priority Development Area is planned to be home for approximately 50,000 residents, with 20,000 new homes, major parklands, sports parks, educational facilities and 700 hectares of linked conservation land.

Given the Caloundra South Priority Development Area is located alongside the CAMCOS corridor and the projected housing and population growth it is expected to generate for the region, the Caloundra South Priority Development Area is a key consideration for the Sunshine Coast Mass Transit Project. If the travel patterns of residents in Caloundra South Priority Development Area reflect those of the wider region, their focus will be on intra-regional movements, and therefore a suitable transport solution that caters for the long term growth of Caloundra South Priority Development Area is a key consideration for the Sunshine Coast Mass Transit Project.

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2.5.3 Sunshine Coast Airport Expansion Project

The length, width and orientation of the existing Sunshine Coast Airport's runway were recognised as limiting future growth in passenger numbers, destinations and freight capacity. Council's Sunshine Coast Airport Expansion Project will deliver a new longer and wider runway, a half-length parallel taxiway, expanded apron, perimeter road and significant drainage channels.

In adopting the 2007 Sunshine Coast Airport Master Plan, Council determined the preferred option for the future of the airport was to develop a new longer main runway, aligned in a south-east/north-west direction.

The new facilities will provide opportunities for airlines to offer new services to a wider range of destinations. It will cater for larger, more fuel efficient aircraft that can fly longer distances and open the Sunshine Coast up to direct flight access from destinations across Australia, Asia and the Western Pacific. It is expected that the airport expansion will contribute over $4 billion to the Sunshine Coast economy by 2040 and potentially attract up to 2 million more passengers to the Sunshine Coast region by 2040.

The Sunshine Coast Airport has been identified as being included as part of the Sunshine Coast Mass Transit study area, to ensure consideration is given to providing a reliable public transport connection between the Airport and key destinations around the Sunshine Coast to the forecasted increased number of visitors to the region.

2.5.4 Sunshine Coast International Broadband Network Cable

The Sunshine Coast International Broadband Network Cable project includes the delivery of a 550km undersea fibre optic cable, and supporting land infrastructure, which will connect the Sunshine Coast to the 9,600km Japan-Guam-Australia South (JGA-S) submarine cable.

From 2020, the new internet cable will increase Queensland's international competitiveness and stimulate new investment. It is forecasted that this cable will generate up to 864 new jobs, and up to $927 million in new investment for Queensland.

The economic uplift generated for the Sunshine Coast region from this project will be considered as part of the analysis for the Sunshine Coast Mass Transit Project.

2.5.5 South East Queensland City Deal

City Deals are a key mechanism of the Australian Government's Smart Cities Plan, and provide a new approach for all levels of government to work together to plan and deliver transformative outcomes for Australian cities.

In May 2017, the Australian Government invited the Queensland Government, the SEQ Council of Mayors, and SEQ councils to jointly develop a City Deals strategy for SEQ. The development and establishment of a SEQ City Deal will provide a tripartite focus on investments and actions that will help align planning, investment and governance to accelerate growth and job creation, stimulate urban renewal and support the future prosperity and liveability of the SEQ region.

Whilst it is expected that any transport projects under the SEQ City Deal will focus on improving connectivity to Brisbane, the Sunshine Coast Mass Transit project may be considered as a headline project for the City Deal.

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2.6 Scope and structure of this Strategic Business Case

Council is leading the development of the Sunshine Coast Mass Transit Project SBC. The SBC is the first document in the business case suite of the Building Queensland Business Case Development Framework (BCDF). It aims to ensure the service need is substantiated and effectively articulated and that the benefits sought are achieved through the proposed initiatives. Furthermore, completing a robust SBC supports the integrity of the deliverables under the future stages of the BCDF, being a PBC and DBC.

In addition to the Building Queensland BCDF, this SBC has been developed in accordance with the requirements and guidance material under:

- Queensland Treasury's PAF
- Building Queensland's Cost Benefit Analysis Guide – Supplementary Guidance (December 2016)
- Building Queensland's Social Impact Evaluation Guide – Supplementary Guidance (December 2016)
- The DIRDC Australian Transport Assessment and Planning Guidelines.

2.6.1 Governance arrangements

Governance arrangements have been established for the Sunshine Coast Mass Transit Project to guide and inform decision-making and to facilitate a transparent and accountable reporting framework.

As required within the provisions of the PAF and Building Queensland's BCDF, Council will be the party responsible for progressing the Project through the SBC and PBC phases. The Project Owner for these phases is the Group Executive Liveability and Natural Assets, who will report to the Council of the Sunshine Coast. At this stage, it is expected that the Queensland Government would lead the Sunshine Coast Mass Transit Project DBC phase, however this is not yet confirmed.

Figure 2.7 provides a summary of the current governance structure for the Sunshine Coast Mass Transit Project SBC phase.

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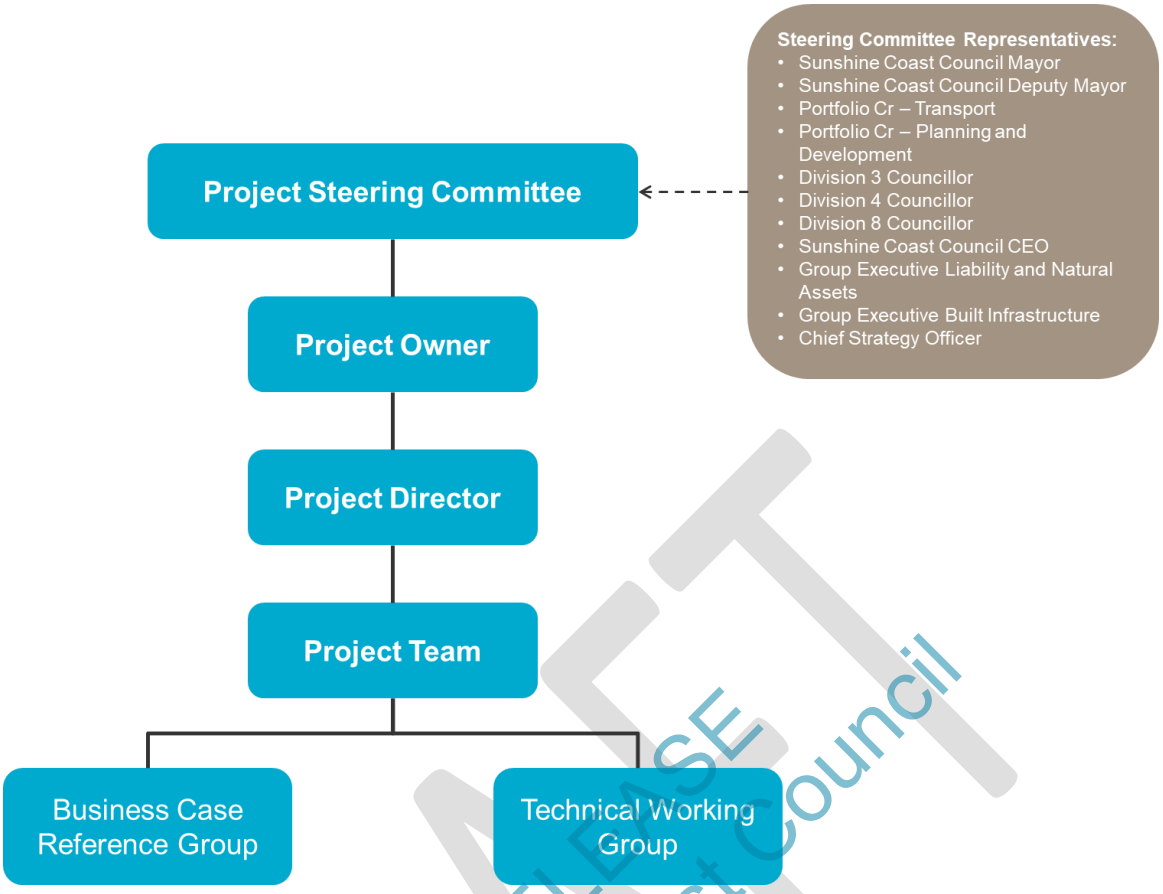


Figure 2.7 – Sunshine Coast Mass Transit Project SBC governance structure

Table 2.1 outlines the roles and responsibilities of key persons and parties under the governance arrangements for the Sunshine Coast Mass Transit Project SBC.

Governance Level	Role
Project Steering Committee	• Provide high level direction and policy guidance to the project team • Endorse the project plan and any key variations • Advocate for the Sunshine Coast Mass Transit Project to Queensland Government and Australian Government Members of Parliament (MPs) and agencies • Ensure alignment of the Sunshine Coast Mass Transit Project to other corporate objectives • Link the Sunshine Coast Mass Transit Project to other key transport and urban planning priorities and studies • Review business case deliverables • Endorse the project directions and finding for recommendation to Council • Resolve issues escalated by the project team
Project Owner	• Lead the Sunshine Coast Mass Transit Project, including representation to Council's senior management and Administration as required • Define the project scope, including ensuring any changes/variations take full consideration of their impact on Council in terms of cost, time and quality • Own key project documentation • Make decisions on issues escalated to the Project Owner, with particular focus on continued project justification

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Governance Level	Role
	• Provide business assurance, ensuring the project remains on target to deliver products that will achieve the expected business benefits • Participate in Project Assurance activities as/when required • Provide feedback in lessons learned workshops and project evaluation reviews.
Project Director	• Develop the SBC in accordance with relevant guidance materials including Building Queensland's BCDF, PAF and with any direction provided by the Project Steering Committee • Ensure quality and costs are monitored and controlled and deliverables are achieved in expected timeframes • Direct and manage the Project Team • Make project decisions on issues and escalate matters to the Project Owner that are above this level of authority. • Liaise with the Project Owner on SBC development • Escalate matters to the Steering Committee or Project Owner, as required • Provide regular status reports at the Steering Committee meetings and attend the meetings as the executive officer.
Project Team	• Support the Project Director in the development of the SBC, SBC supporting documentation and any other SBC deliverables

Business Case Reference Group	• Assist in progressing the planning and development of the Sunshine Coast Mass Transit Project SBC
	• Provide relevant government consideration on matters such as:
	  ○ service need and benefits sought definition
	  ○ technical project options
	  ○ stakeholder interests and requirements
	  ○ economic analysis
	  ○ business case development requirements
	• Provide input to resolution of key issues identified during course of analysis
	• Provide input to whole of government decision making.

Technical Working Group	• Undertake and share key technical analysis to inform the development of the SBC

Table 2.1 – Sunshine Coast Mass Transit Project SBC governance roles and responsibilities

Governance arrangements for the Sunshine Coast Mass Transit Project are subject to change and are likely to expand to include additional assurance groups and working groups as future business case stages commence.

2.6.2 Approval of this Strategic Business Case

It is expected that this SBC will be provided to the Business Case Reference Group for review and comment in early 2019. It should be noted that formal endorsement from the Reference Group will not be sought.

Once feedback from the Business Case Reference Group is incorporated, the SBC will be provided to the Project Steering Committee for formal approval of its recommendations. The Steering Committee will then determine whether the SBC will be presented to Council for endorsement.

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2.6.3 Structure of this Strategic Business Case

A structure for the Sunshine Coast Mass Transit Project SBC has been developed based on the Building Queensland BCDF, and is as follows:

- **Chapter 1: Executive Summary** – presents the key findings and recommendations of the Sunshine Coast Mass Transit Project SBC.
- **Chapter 2: Introduction and Background** – presents background information on the Sunshine Coast Mass Transit Project including previous studies and work completed to date, related projects and the purpose and structure of the Sunshine Coast Mass Transit Project SBC and the governance arrangements under which the SBC was completed.
- **Chapter 3: Strategic Context and Rationale** – presents the key government policies and frameworks that the Sunshine Coast Mass Transit Project aligns with, and the key economic, housing and population forecasts for the Sunshine Coast region and key hubs within the region. The Investment Logic Map (ILM) is also presented in this chapter.
- **Chapter 4: Service Need** – presents the analysis that determines that a solution is required to address a number of regional, land use and transport needs in the Sunshine Coast region.
- **Chapter 5: Benefits Sought** – presents the desired outcomes from the project, based on the service needs described in Chapter 4. The objectives for the Sunshine Coast Mass Transit Project are also presented in this chapter.
- **Chapter 6: Strategic Responses** – presents the strategic responses that could be implemented to address the identified service needs in Chapter 4 and achieve the identified benefits sought in Chapter 5.
- **Chapter 7: Initiative Identification and Analysis** – presents the full range of initiatives identified and considered that could address the service needs described in Chapter 4.
- **Chapter 8: Preliminary Stakeholder Analysis** – presents a summary of the identified stakeholders with a key interest in the project, and discusses indicative management plans to manage affected stakeholders.
- **Chapter 9: Conclusions and Recommendations** – summarises the outcomes of the SBC, including key service needs, benefits sought and proposed project options to undergo further investigation and analysis. The recommendations for the progression of the project are also presented.
- **Chapter 10: Preliminary Business Case Planning** – presents the processes and requirements for delivering a PBC for the Project. Timeframes and key milestones for the completion of the PBC are also discussed.

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3 STRATEGIC CONTEXT AND RATIONALE

3.1 Purpose and Overview of this Chapter

The purpose of this chapter is to provide strategic context to the Sunshine Coast Mass Transit Project, including planning objectives, and alignment with strategic government plans and policies, as well as drivers of demand impacting current and future service needs.

This chapter outlines:

- the strategic objectives and visions of the Sunshine Coast Council (Council) for the transport system for the Sunshine Coast, and the region's long term economic, community and environmental goals
- relevant Australian, Queensland and Council strategic policies, and the alignment of a mass transit project with the objectives of these policies
- current and forecast demographics of the Sunshine Coast Region, focusing on economic productivity, population growth, housing demands and employment distributions
- the emerging technologies that have been identified as potentially playing a future role in the transport networks of cities
- the outcomes of the Investment Logic Mapping (ILM) process completed for this Strategic Business Case (SBC).

Defining the strategic objectives and confirming the alignment of the Sunshine Coast Mass Transit Project with key government policies and frameworks provides clear context for the remaining analysis completed in this SBC.

3.2 Sunshine Coast Council Strategic Objectives and Visions

Council has embraced the long-term aspirational vision to be Australia's most sustainable region. The vision '*Australia's most sustainable region – healthy, smart, creative'* is a transformational agenda that reflects a balance in Council's economic, social and environmental objectives, namely:

- **A smart economy** – A prosperous, high-value economy of choice for business, investment and employment.
- **A strong community** – In all Sunshine Coast communities, people are included, treated with respect and opportunities are available to all.
- **A healthy environment** – Maintaining and enhancing the region's natural assets, liveability and environmental credentials.

The corporate goals of Council have guided the development of a long-term transport-focused vision for the region:

> *In 2041, the Sunshine Coast community is connected by a smart, integrated, safe and efficient transport system. This transport system is embraced by the community, enhances the quality of life, contributes to the economic viability and adds to the sustainability of the region.*

The objectives and visions described above have driven the core analysis presented in this SBC, including:

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- providing guidance in ensuring the Sunshine Coast Mass Transit Project aligns with key policies and frameworks from all levels of government, as presented in this chapter
- identifying and assessing service needs that in turn provide the foundation for identifying the benefits sought, project objectives and potential strategic responses to these service needs, as presented in Chapters 4, 5 and 6 respectively
- defining, assessing and shortlisting the potential initiatives that may address the identified service needs, as presented in Chapter 7.

As noted above, the following sections present the relevant policies and frameworks from differing levels of government. Discussion around how the Sunshine Coast Mass Transit Project aligns with the objectives of each policy is also provided, thereby demonstrating that the project supports and integrates with the long-term plans of all levels of government.

3.3 Alignment to Government Plans and Policies

A range of Australian Government, Queensland Government and Council plans and policies have been identified and considered in the context of the Sunshine Coast Mass Transit Project to understand how the project aligns to the concepts presented in the plans and policies.

Understanding the alignment between a Sunshine Coast mass transit solution and these government policies is critical to ensuring any solution aims to achieve the same strategic objectives and goals. These goals aim to improve the economic, environmental and social standings of cities, states and the nation, and any project should be measured against how well it delivers against these goals.

In particular, the alignment of the Sunshine Coast Mass Transit Project to these policies ensures the major investment decision required for the project supports the transport infrastructure priorities of all levels of government. Figure 3.1 provides a summary of the relevant plans and policies discussed in this chapter, and the government jurisdiction under which they it.

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Australian Government Plans and Policies

- *Australian Infrastructure Plan* (Infrastructure Australia)
- *Smart Cities Plan* (Department of Prime Minister and Cabinet)

Queensland Government Plans and Policies

- *State Infrastructure Plan* (Department of State Development, Manufacturing and Planning)
- *ShapingSEQ* (Department of State Development, Manufacturing and Planning)

Local Government Plans and Policies

- *Sunshine Coast Regional Economic Development Strategy*
- *Sunshine Coast Sustainable Transport Strategy/Integrated Transport Strategy*
- *Sunshine Coast Planning Scheme*
- *Sunshine Coast Environment and Liveability Strategy*

Figure 3.1 – Government plans and policies applicable to the Sunshine Coast Mass Transit Project

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3.3.1 Australian Government

3.3.1.1 Australian Infrastructure Plan (Infrastructure Australia)

The Australian Infrastructure Plan (AIP), released by Infrastructure Australia in February 2016, provides a positive reform and investment roadmap for Australia. The plan sets out the infrastructure challenges and opportunities Australia faces over the next 15 years and the solutions required to drive productivity growth, maintain and enhance the nation's standard of living, and ensure Australian cities remain world class.

The plan outlines a long-term strategy that lays the foundation for a more productive Australia. Key proposed reforms are summarised into the following headings and sub-headings:



- productive cities, productive regions
- efficient infrastructure markets
- sustainable and equitable infrastructure
- better decisions and better delivery.

The AIP indicates that Australia must upgrade its urban passenger transport networks so they are more integrated, have higher capacity and are able to meet the twin demands of population growth and rising expectations for service levels[1]. At the same time, the structure, operation and use of these networks should be transformed to meet connectivity needs.

In particular, the AIP identifies the Sunshine Coast as a key region of Australia, alongside the eight capital cities and other key regions such as Newcastle, Wollongong, Geelong, and the Gold Coast[2].

[1] *Australian Infrastructure Plan*, 2016, Infrastructure Australia, p46
[2] *Australian Infrastructure Plan*, 2016, Infrastructure Australia, p30

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A key recommendation from the AIP is that the Sunshine Coast should be supported by governments, businesses and local communities to grow its population and economy. Access to new or upgraded infrastructure will be important in enabling these cities to develop strong economic and employment links with bigger cities[3].

How the Sunshine Coast Mass Transit Project aligns with Australian Infrastructure Plan

The Sunshine Coast Mass Transit Project will improve the economic viability of the Sunshine Coast by improving connectivity between key economic areas to foster agglomeration through easy movement of people and knowledge. The project will also facilitate links to existing public transport networks, such as the North Coast rail line, to improve connectivity between the Sunshine Coast and Brisbane.

3.3.1.2 Smart Cities Plan (Department of the Prime Minister and Cabinet)

The *Smart Cities Plan* sets out the Australian Government's vision for cities and outlines three pillars of Smart Investment, Smart Policy and Smart Technology:

- Smart Investment – We will become smarter investors in our cities' infrastructure by:
  - prioritising projects that meet broader economic objectives
  - treating infrastructure as an investment wherever possible
  - getting involved early to ensure rigorous planning and business cases
  - increasing investment (i.e. investigating value capture opportunities).
- Smart Policy – We will coordinate and drive smarter city policy by:
  - delivering 'City Deals'
  - leading regulatory reform
  - measuring success.
- Smart Technology – We will drive the take-up of smart technology to improve the sustainability of our cities and drive innovation by:
  - thinking of technology solutions first
  - leveraging open and real-time data
  - driving use of energy efficient technologies.



The *Smart Cities Plan* highlights the challenges facing cities around economic transition, jobs, housing and transport. Businesses have an incentive to locate in areas with access to the largest numbers of potential employees. Likewise, people have incentives to settle where they can access the greatest number of employment opportunities. As economic activity becomes more concentrated, demand for housing and land in nearby areas rises.

While no city around the world has eliminated congestion, most world-class cities have invested in fast, efficient public transport systems to provide viable alternatives to private passenger vehicles. Well-designed public transport networks, including heavy and light rail, buses, ferries and integrated active transport, are an efficient, convenient and environmentally friendly way of transporting large numbers of people within and between

[3] *Australian Infrastructure Plan*, 2016, Infrastructure Australia, p41

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cities. Better accessibility needs a combination of demand management and investment in public transport, roads and active transport, including walking and cycling. In particular, the Smart Cities Plan references the success of the Gold Coast Light Rail network to promote higher levels of public transport usage in the region, as well as the expected reduction of congestion and stimulation of urban renewal and jobs in the emerging health and knowledge precinct and tourism sector[4].

The Smart Cities Plan outlines a number of policy objectives and themes including:

- 30-minute cities – Providing easy access to places visited on a daily basis. This includes investing in fast, efficient public transport systems to provide viable alternatives to passenger vehicles[5].
- Investing in public transport – The Australian Government is committed to improving connectivity and reducing congestion in cities, through funding rail projects as well as roads, to unlock growth and improve access to jobs and services, provide network-wide solutions, and promote well located jobs and housing to reduce travel times[6].
- Value capture – With better transport connections, reduced congestion and new opportunities for investment, new infrastructure projects tend to make the land around them more valuable. Value capture uses a share of this increased value to help finance the infrastructure responsible for the uplift[7].
- Delivering City Deals – City Deals aim to develop collaborative plans with governments, industries and communities to deliver better outcomes through coordinated investment in cities of all sizes[8].

How the Sunshine Coast Mass Transit Project Aligns with the Smart Cities Plan

The Sunshine Coast Mass Transit Project aligns with the Smart Cities Plan by providing a more efficient and resilient transport system to improve accessibility and connectivity within the Sunshine Coast to promote and foster regional economic growth.

A mass transit solution on the Sunshine Coast will also assist with achieving the concept of a '30-minute city' for the Sunshine Coast by delivering a high-frequency service connecting key education, employment, residential and recreation centres.

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[4] *Smart Cities Plan*, 2016, Department of the Prime Minister and Cabinet, p16
[5] *Smart Cities Plan*, 2016, Department of the Prime Minister and Cabinet, p11
[6] *Smart Cities Plan*, 2016, Department of the Prime Minister and Cabinet, p16
[7] *Smart Cities Plan*, 2016, Department of the Prime Minister and Cabinet, p20
[8] *Smart Cities Plan*, 2016, Department of the Prime Minister and Cabinet, p21

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3.3.2 Queensland Government

3.3.2.1 State Infrastructure Plan (Department of State Development, Manufacturing, Infrastructure and Planning)

The State Infrastructure Plan (SIP) was released in March 2016. It outlines a new strategic direction for the planning, investment and delivery of infrastructure in Queensland. The SIP sets out the Queensland Government's strategic direction for infrastructure by identifying what is required from infrastructure (objectives) and how these objectives can be best achieved (directions). These objectives and directions seek to address the high-level challenges Queensland will face over coming decades.



The SIP outlines the following four objectives to guide infrastructure priorities[9]:

- improving prosperity and liveability
- infrastructure that leads and supports growth and productivity
- infrastructure that connects communities and markets
- improving sustainability and resilience.

It also outlines Queensland's infrastructure directions, which are[10]:

- finding the right solutions: better planning and assessment
- the most effective funding and financing options available
- the most efficient procurement: lower costs for business
- getting the most from what we have: better use of existing assets
- better engagement: understanding needs and setting expectations.

Specific to the transport infrastructure requirements in Queensland, the SIP outlines the strategic responses and priorities to the key objectives. This is to enable Queensland Government departments and industry to align their activities in response to these priorities. The responses include[11]:

- focusing on maintenance and rehabilitation of existing infrastructure to reduce the long-term cost of repair and improve network resilience
- unlocking the potential of critical supply chains by identifying and improving the freight network
- seeking innovation and technology solutions to create a better performing and lower emissions transport system
- seeking public transport solutions, including demand management, to address the strong growth of South East Queensland (SEQ)
- digitally connected smart infrastructure to improve capacity, safety and security
- connecting regional communities with access to essential services and opportunities.

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[9] *State Infrastructure Plan (Part A: Strategy)*, 2016, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p29
[10] *State Infrastructure Plan (Part A: Strategy)*, 2016, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p31
[11] *State Infrastructure Plan (Part A: Strategy)*, 2016, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p52

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How the Sunshine Coast Mass Transit Project Aligns with the State Infrastructure Plan

The Sunshine Coast Mass Transit Project supports the key objectives of the SIP and has considered its principles to ensure transport outcomes support the wider public transport network and land use opportunities.

The Sunshine Coast Mass Transit Project also addresses a range of cross-government and transport responses contained in the SIP including[12]:

- providing a coordinated land use and public transport planning solution that connects areas of high growth and high productivity ensuring infrastructure investment is maximised
- undertaking robust analysis to fully define the infrastructure needs of the Sunshine Coast region, and facilitating cross-government coordination to optimise government investment
- seeking public transport solutions to address the strong growth of SEQ and the Sunshine Coast region by a more effective public transport network plan to move more people and connect communities with access to essential services and opportunities.

3.3.2.2 ShapingSEQ – South East Queensland Regional Plan (Department of State Development, Manufacturing, Infrastructure and Planning)

In 2016, the Queensland Government completed a review of the previous regional plan for SEQ. This review resulted in the development of *ShapingSEQ*. The draft plan was open for public consultation up to March 2017, and the final plan was released in August 2017.

ShapingSEQ provides a framework for managing the region's growth over the next 25 years and sets a vision for the next 50 years. Its development has included significant consultation with state and local governments and the community in response to the region's expected changing population, both in size (from 3.5 million in 2016 to 5.3 million people by 2041) and demographics. Five key themes underpin the 50-year vision for SEQ's future: Grow, Prosper, Connect, Sustain, and Live.



ShapingSEQ proposes policy directions and benchmarks to address the expected growth, including creating a region which is well-designed with communities that provide a diverse range of affordable living options. It also seeks to boost jobs growth across the region, in the industries of the future. *ShapingSEQ* will drive for a region that is smart, sustainable, compact, connected, safe and healthy for now and into the future.

ShapingSEQ discusses the long-term vision to change the region's transport priorities to achieve a more sustainable, healthier and fairer transport system, and the priority of public and active transport. This includes making the most of existing systems and targeting strategic investment in new region-shaping infrastructure. Integrated land use and

[12] *State Infrastructure Plan (Part A: Strategy)*, 2016, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p52

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infrastructure planning is fundamental to achieving community aspirations, economic growth, and efficient and affordable infrastructure delivery[13].

How the Sunshine Coast Mass Transit Project Aligns with ShapingSEQ

The Sunshine Coast Mass Transit Project supports the 50-year vision for SEQ with good public transport network integration and connectivity, and frequent, reliable services to connect people with jobs, education, health facilities, tourism and recreation opportunities, reducing reliance on private car travel and encouraging urban development and consolidation.

ShapingSEQ makes specific reference to the need to use land and infrastructure efficiently by focusing density in and around appropriate locations along the urban corridor from Maroochydore to Caloundra, and in areas with superior access to public transport, employment and services[14].

ShapingSEQ also identifies a proposed passenger transport corridor between Maroochydore and Caloundra as the catalyst to provide a cohesive corridor of distinctive, high-quality urban environments that are typically 'Sunshine Coast' in character and optimise access to future passenger transport services. Mixed-use development opportunities, and housing choice and affordability, will also be maximised[15].

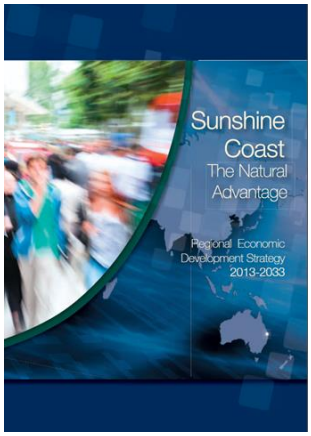
3.3.3 Sunshine Coast Council

3.3.3.1 Sunshine Coast Regional Economic Development Strategy 2013-2033

The Sunshine Coast Regional Economic Development Strategy 2013-2033 provides a 20-year vision and blueprint for sustainable economic growth. The Strategy has been developed by regional business, industry and local government leaders and informed through contributions from Sunshine Coast residents and community organisations.

The Strategy seeks to ensure the Sunshine Coast region realises its full potential, with a confident future and as an active participant in the global economy, which in turn will deliver the lifestyle and opportunities for local residents and businesses alike. To do this, the region will pursue five essential pathways[16]:

1. strong leadership embracing collaboration, agility and a determination to succeed
2. the essential infrastructure to support growth and competitiveness
3. investment in high-value industries that generate enduring employment
4. a focus beyond the Sunshine Coast's boundaries to these domestic and global markets where the region has a clear competitive advantage



[13] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p66
[14] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p122
[15] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p122
[16] *Sunshine Coast: The Natural Advantage – Regional Economic Development Strategy 2013-2033*, 2013, Sunshine Coast Council, p5

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5. the talent and skills of its workforce and the contribution of community members.

One key element of the Regional Economic Development Strategy is the concept of the Sunshine Coast Enterprise Corridor. The Sunshine Coast Enterprise Corridor is located along the coastal strip from north of the Sunshine Coast Airport to Caloundra South and west to the Bruce Highway. It is now designated in the Sunshine Coast Planning Scheme (discussed further in Section 3.3.3.3 below) as the key area for commercial and residential growth.

How the Sunshine Coast Mass Transit Project Aligns with the Sunshine Coast Regional Economic Development Strategy

The Sunshine Coast Mass Transit Project supports the vision of Sunshine Coast Regional Economic Development Strategy through the proposed improvement of the transport system in the region, and the land use outcomes that the project is seeking to achieve. The strategy notes that enhancing the connectivity between urban centres in the Sunshine Coast Enterprise Corridor will also be essential to support future investment and planning prospects[17].

3.3.3.2 Sunshine Coast Sustainable Transport Strategy 2011-2031/Integrated Transport Strategy

The *Sunshine Coast Sustainable Transport Strategy 2011-2031* was adopted by Council at the beginning of 2011, refreshed in 2014 and was expected to be updated as the *Integrated Transport Strategy* in late 2018. A draft of the *Integrated Transport Strategy* was released in mid-2018 for public consultation. The *Integrated Transport Strategy* presents a vision to achieve a connected, smart, integrated, safe and efficient transport system that contributes to the region's economic viability, sustainability and lifestyle. It will guide the development of the transport system to meet growing demand for services and infrastructure while encouraging a shift to more sustainable modes, creation of new travel choices and readiness for smart mobility[18].

The *Integrated Transport Strategy* presents three key objectives, which in turn provide strategic direction for a number of key future policies and actions:

- Connected and Integrated – An integrated transport system that connects people and places, supports future growth and serves the economy.
- Smart and Sustainable – A transport system that provides increased travel choice and mobility across the region and is adaptable to emerging technologies and new business models.
- Safe and Efficient – People and goods enjoy safe, reliable and convenient travel within an efficient transport system.

The *Integrated Transport Strategy* identifies a number of transport challenges which need to be managed to protect the distinctive lifestyle and values of the Sunshine Coast, including[19]:

- A growing and aging population
- High car dependency and congestion

[17] *Sunshine Coast: The Natural Advantage – Regional Economic Development Strategy 2013-2033,* 2013, Sunshine Coast Council, p20
[18] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p10
[19] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p26

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- Decline of public transport trips
- Road safety
- Climate change
- Fiscal constraints.



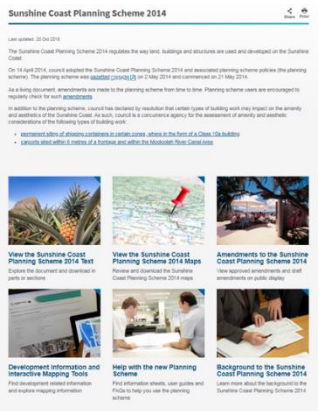
While transport infrastructure is essential and will address a number of these challenges, solutions may be found in emerging technologies and smart mobility, as well as through travel behaviour change.

How the Sunshine Coast Mass Transit Project Aligns with the Sunshine Coast Sustainable Transport Strategy/Integrated Transport Strategy

A mass transit solution (namely light rail) features heavily in the *Integrated Transport Strategy*, including as a potential solution to providing a high-frequency public transport connections between key centres to ensure adequate capacity to accommodate growth and deliver travel time competitiveness[20]. The *Integrated Transport Strategy* also discusses how integrated transport and land use outcomes can be achieved on the Sunshine Coast, including how a more compact urban form focussed around high-frequency passenger transport corridors will reduce car dependence, congestion and impacts of development and transport on the natural environment[21].

3.3.3.3 Sunshine Coast Planning Scheme 2014

The Sunshine Coast Planning Scheme 2014 is a policy in place to regulate development on the Sunshine Coast and the way the land, buildings and structures are used. The Planning Scheme informs Council's intention for future development in the planning scheme area until 2031. It is applicable to all the premises, roads, waterways and local government tidal areas within the planning scheme area, unless defined as a Priority Development Area by Queensland Government legislation.



The Planning Scheme comprises of a number of components including the strategic framework, which sets out the policy direction for the Planning Scheme area and includes a number of themes such as settlement pattern, economic development and transport to achieve the strategic intent.

How the Sunshine Coast Mass Transit Project Aligns with the Sunshine Coast Planning Scheme 2014

The Planning Scheme discusses a long term vision, where places on the Sunshine Coast are well connected and efficiently served by an integrated transport system which provides a framework for prosperity and community wellbeing. The Sunshine Coast is connected by a fully integrated and accessible transport system that serves community needs. The integrated transport system provides the structure for future development, including the 'game changer' projects and the establishment of a high value economy[22].

[20] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p36
[21] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p45
[22] *Sunshine Coast Planning Scheme 2014* – Section 3.2, 2014, Sunshine Coast Council, p3-5

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The Planning Scheme references the Maroochydore to Caloundra Priority Transit Corridor, which connects major business, tourism, education and population centres within the Sunshine Coast Enterprise Corridor. Development is designed to increase walking and cycling, minimise dependency on private motor vehicle use and contribute to greater levels of regional self-containment. An extensive network of walking and cycling paths are connected to the efficient and safe public transport system[23].

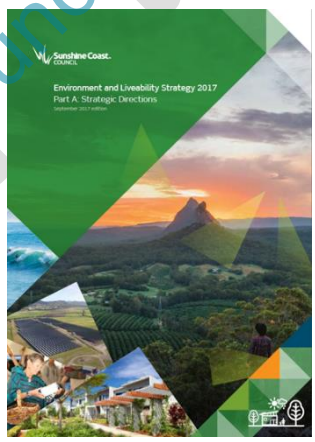
It is clear that a mass transit system can form part of the integrated transport system referenced in the planning scheme. Given the clear relationship between transport and land use outcomes that will be analysed as part of the Sunshine Coast Mass Transit Project, the Planning Scheme will become an important guide for this analysis. Material updates to the Planning Scheme may also be required as part of the Sunshine Coast Mass Transit Project.

3.3.3.4 Sunshine Coast Environment and Liveability Strategy 2017

The Sunshine Coast Environment and Liveability Strategy provides long-term strategic direction to shape the region by guiding growth and delivering the transformational change required to maintain a healthy environment and liveable Sunshine Coast in 2041 for future generations.

The strategy consists of three parts, namely:

- Part A – Strategic directions (vision, guiding principles, policy positions)
- Part B – Five-year implementation plan (transformational actions) (current as at September 2018)
- Part C – Network plan (technical detail and desired standards of service)



The strategy focuses on the preservation and enhancement of the natural environment and the liveability of the region, enabling a good quality of life for all residents and supporting a strong economy in an accessible and well-connected built environment. The strategy also seeks to strengthen the community's resilience and deliver balanced economic, social and environmental outcomes that respect the principles of sustainability[24].

How the Sunshine Coast Mass Transit Project Aligns with the Sunshine Coast Environment and Liveability Strategy

The Sunshine Coast Mass Transit Project aligns with the Environment and Liveability Strategy as the project is aiming to fundamentally improve the long-term liveability of the Sunshine Coast region through the delivery of a mass transit public transport system. The strategy notes the majority of Sunshine Coast residents live in large detached low density housing with a reliance on private car travel and limited access to frequent public transport, which is placing significant pressure on finite resources and existing infrastructure[25].

The strategy explains that an emphasis on infill development on the coastal areas of the region, supported by appropriate infrastructure (such as a light rail system) can create a new way of living and minimise impacts on the natural environment[26]. The sustainability of the

[23] *Sunshine Coast Planning Scheme 2014* – Section 3.2, 2014, Sunshine Coast Council, p3-5
[24] *Environment and Liveability Strategy (Part A – Strategic Directions),* 2017, Sunshine Coast Council, p6
[25] *Environment and Liveability Strategy (Part A – Strategic Directions)*, 2017, Sunshine Coast Council, p75
[26] *Environment and Liveability Strategy (Part A – Strategic Directions)*, 2017, Sunshine Coast Council, p46

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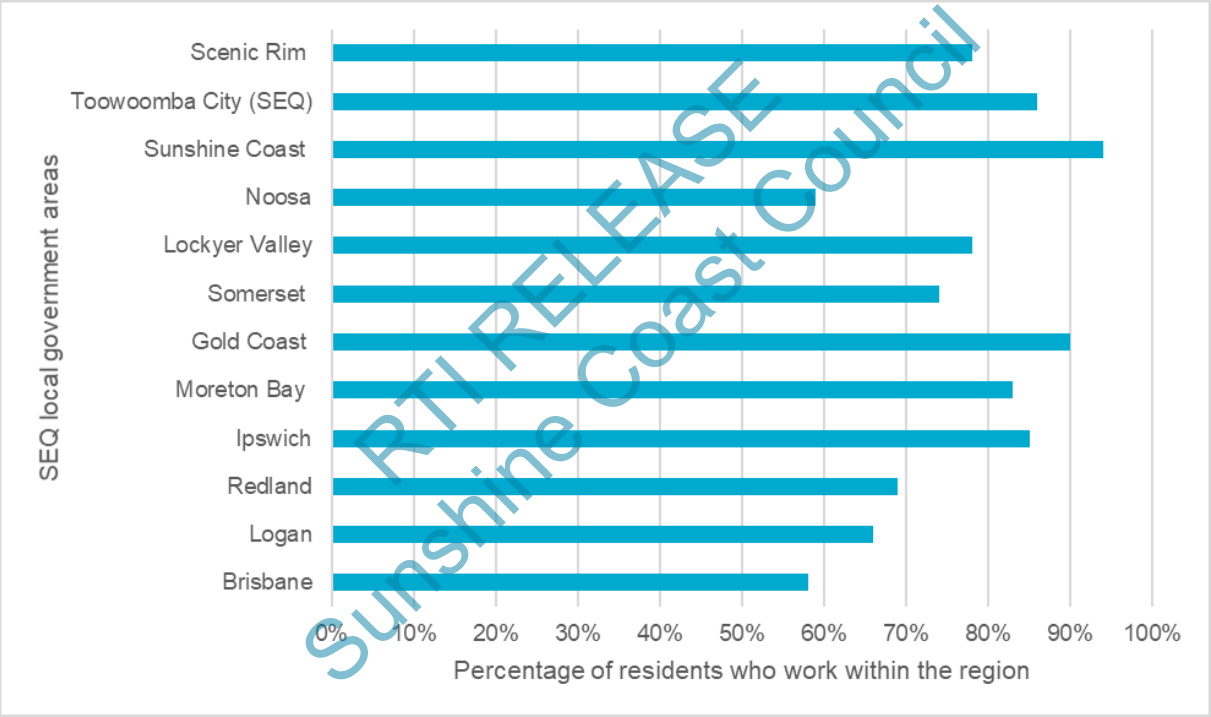
ultimate mass transit solution and its impacts on the natural environment and liveability of the Sunshine Coast region will be a key consideration, and will be assessed in detail in future project feasibility phases.

3.4 Demographics and Forecasts

3.4.1 Economic and Employment Forecasts

The Sunshine Coast economy, with a Gross Regional Product (GRP) of $15.8 billion in 2018[27], currently accounts for around 5 per cent of Queensland's Gross State Product. The Queensland Government projects that the Sunshine Coast economy could grow to $33 billion by 2033[28].

Employment on the Sunshine Coast is projected to grow from 118,000 in 2016 to around 195,000 in 2041[29]. A dominant feature of Sunshine Coast employment, both currently and in the forecast period is that the region has the highest proportion of residents that live and work in their same local government area (LGA) than any other LGA in SEQ, as shown in Figure 3.2.



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Figure 3.2 – Percentage of residents who work and live within the same region across SEQ [30]

The Sunshine Coast regional economic base is described in Figure 3.3 below. The dominant industries of employment on the Sunshine Coast are health care and social assistance, construction, and retail trade, which collectively constitute around 40 per cent of the region's workforce. Relative to the SEQ average, the Sunshine Coast is overrepresented in these sectors, and underrepresented in the professional and information, media and telecommunications services industries.

[27] National Instructure of Economic and Industry Research – nieir.com.au
[28] *Sunshine Coast: The Natural Advantage – Regional Economic Development Strategy* 2013-2033, 2013, Sunshine Coast Council, p20
[29] Queensland Government Statistician's Office regional employment projections – qgso.qld.gov.au
[30] Queensland Government Statistician's Office regional employment projections – qgso.qld.gov.au

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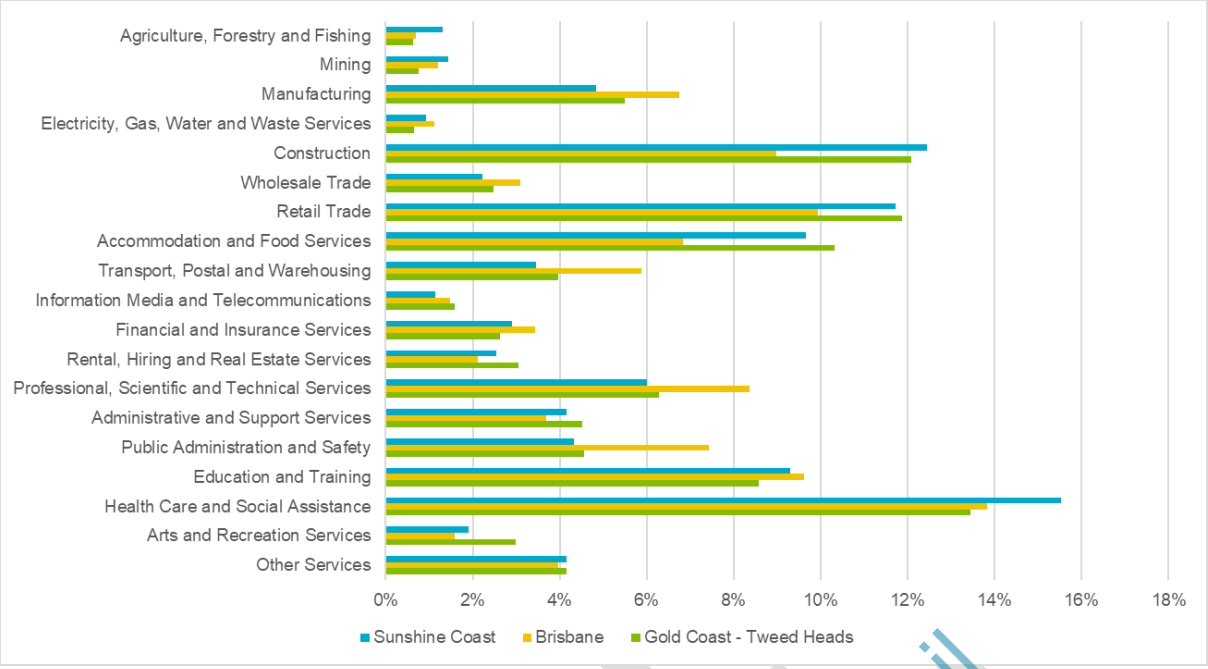


Figure 3.3 – Percentage of employment by industry in the Sunshine Coast region, compared to Brisbane and Gold Coast regions[31]

The changing shape of the Sunshine Coast workforce is presented in Figure 3.4, which shows the changing shares of industries in percentage point terms between now and 2041. It shows an increase in the contribution of health care, and high-end service industry employment, with offsetting declines in retail trade, transport, and agriculture.

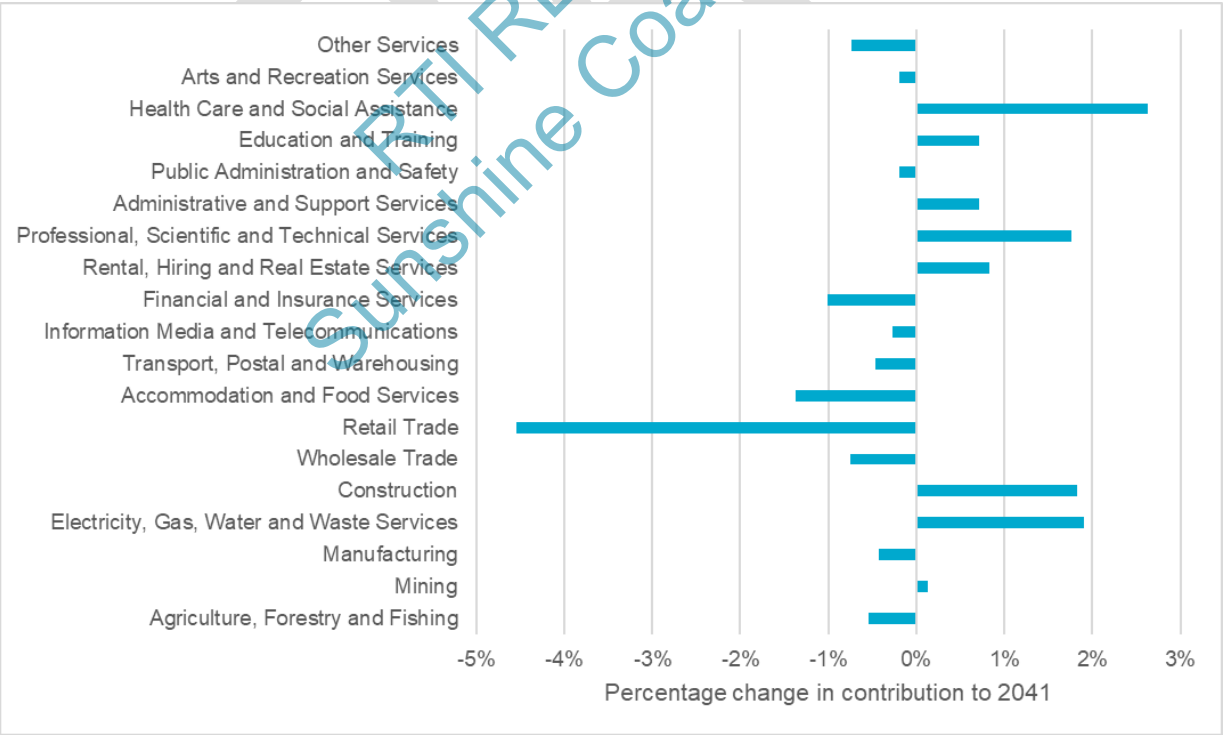


Figure 3.4 – Forecasted contribution changes by industry in the Sunshine Coast region to 2041[32]

[31] Queensland Government Statistician's Office regional employment projections – qgso.qld.gov.au
[32] Queensland Government Statistician's Office regional population projections – qgso.qld.gov.au

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3.4.2 Population and Housing Forecasts

As noted in Chapter 2, the Sunshine Coast LGA contained approximately 303,000 residents in 2016. This is projected to grow to around 518,000 residents by 2041, which reflects an additional 215,000 residents over 25 years, resulting in a total population growth of over 70 per cent. Figure 3.5 provides a summary of the projected population growth, comparing the various series of projections. The region's population projections reflect a compound annual growth rate of 2.2 per cent. This is significantly higher than the Queensland state average (1.6 per cent) and third only to Ipswich (4.2 per cent) and Logan (2.3 per cent) in terms of forecast growth.

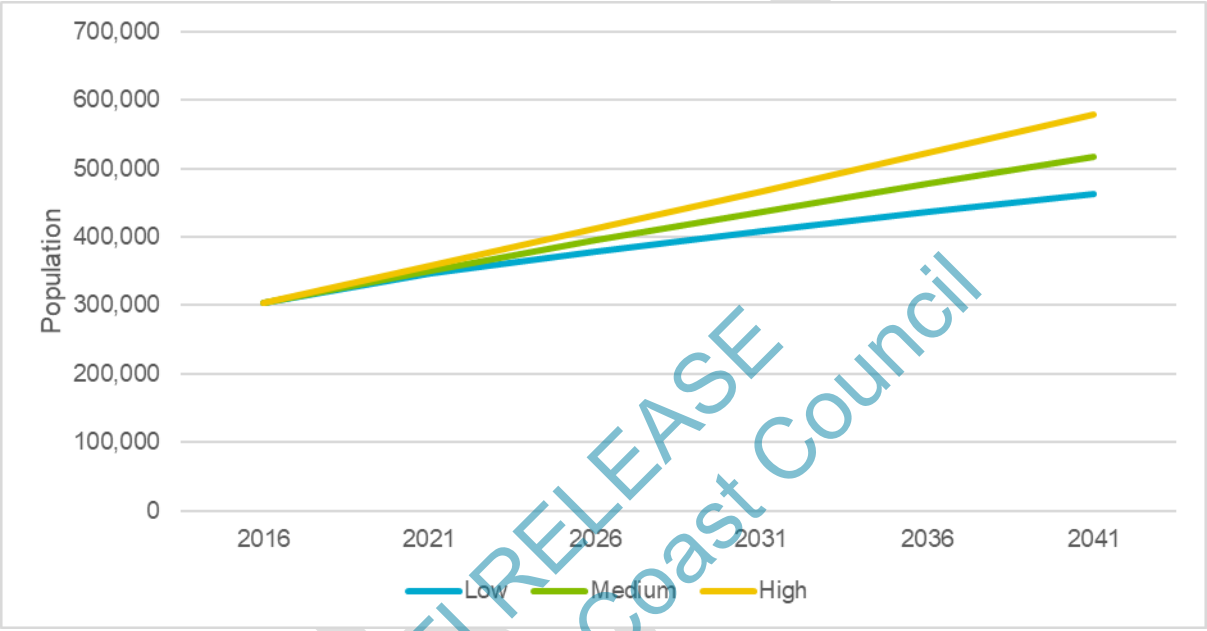


Figure 3.5 – Sunshine Coast population forecasts to 2041, comparing low, medium and high series[33]

As a result of this population growth, it is projected that the number of dwellings required in the Sunshine Coast LGA will increase by approximately 87,000 from 126,000 currently to 213,000 in 2041[34].

3.5 Emerging Transport Technologies

After many decades of relatively minor changes in transport modes, the decades ahead promise major mobility changes. Emerging technologies are already changing the way people travel, a trend that is forecast to continue and accelerate in the future.

It should be noted that emerging technologies are not a valid reason to delay planning for the development of a mass transit network using conventional technologies. Instead, as planning progresses and as new technologies are proven, their potential effects on mass transit should be assessed on their merits[35].

3.5.1 Bus Rapid Transit

Bus Rapid Transit (BRT) is a bus-based transit system that can achieve high capacity, speed, and service quality by combining segregated bus lanes that are typically median

[33] Queensland Government Statistician's Office regional population projections – qgso.qld.gov.au
[34] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p120
[35] *Sunshine Coast Concept Mass Transit Plan*, 2018, Veitch Lister Consulting, p40

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aligned with off-board fare collection, level boarding, bus priority at intersections, and other quality-of-service elements (such as information technology and strong branding). A variety of Bus Rapid Transit schemes have been installed in cities around the world, either to make better use of existing investments in bus systems, or as alternative to a fixed track electric traction powered light rail system.

Bus Rapid Transit systems utilise conventional buses, and in some cases, high capacity buses together with improved infrastructure to improve the efficiency and level of service offered by urban bus transport. There are many variations in the level of service offered by bus systems claiming to be BRT. Accordingly, the BRT Standard has been developed by the Institute for Transportation Development and Policy as an evaluation and rating tool for BRT corridors based on international best practices. It establishes a common definition of BRT and the elements that make it up to ensure BRT corridors more uniformly deliver world-class passenger experiences, significant economic benefits, and positive environmental impacts. Higher end BRT systems rating either Gold or Silver under the BRT Standard can emulate many of the benefits of light rail[36].

However, these systems can still prove expensive to build, and typically require more vehicles and drivers than an equivalent light rail system. A decision to adopt a BRT system needs to take full account of both capital and operating costs, as well as the ability of BRT to address project objectives relating to urban renewal.

3.5.2 Supporting feeder transport

As noted above, emerging transport trends are improving mobility for the community, however they cannot replace the need for a mass transit system that can move large numbers of people efficiently in a constrained urban environment. These transport technologies can instead play a supporting, complementary role to the Sunshine Coast Mass Transit Project to provide a true alternative transport option to private car, through a ‘door to door’ trip. Examples of these supporting feeder transport technologies include:

- **Demand Responsive Transport (DRT)** – A DRT system provides a more flexible approach to service the coverage or social goals of public transport. Some forms of DRT have existed for many years but new technologies and business models such as ridesharing show substantial promise to deliver a DRT service that could be embraced by the community. These have the potential to expand the catchment of mass transit stations and save on the cost of parking provision.
- **Autonomous Vehicles (AVs)** – The growth in driving assistance technologies is expected to increase in the years ahead until new vehicles reach “level 4 automation” which effectively means they are driverless. These Autonomous Vehicles (AVs) will change travel behaviours as they improve safety and productivity of road corridors and reduce perceived travel time costs because users can do other activities while travelling. In particular, if AVs emerge in shared fleets, such as in DRT services, then they could begin to substitute for connector and local public transport services.
- **Mobility as a Service (MaaS)** – The penetration of smartphones across the population and the rapid growth of the digital economy, in conjunction with the emergence of the concepts of DRT and AVs, enable a new system of mobility. MaaS is where a person consults their mobility app when they seek to travel somewhere

[36] https://www.itdp.org/2016/06/21/the-brt-standard/

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and the app provides a tailored solution to suit the requirements of the traveller. The solution could involve a bus or train trip or a DRT lift or a taxi or rideshare, bike share or e-scooter share or anything else that is available. This service could eliminate the need for many to own their cars. By avoiding the capital and on-going costs of vehicle ownership, many can save money while utilising transport modes that meet their needs for each trip.

- **Last mile solution** – Improvements in electric battery technologies are driving growth in last mile solutions, such as e-scooters and e-bikes. Such technologies are often proliferating rapidly via shared fleets operated by commercial providers, offering a cost-effective, fast, and reliable mode of travel for short trips. In doing so, such technologies may increase the ease with which people can access rapid and frequent public transport, increasing its relative attractiveness compared to other transport modes.

3.6 Project Investment Logic Map

The Building Queensland BCDF recommends the development of an ILM to support the process of conceptualising investment proposals.

Broadly, the ILM is a technique to ensure that robust discussion and thinking is done up-front, resulting in a sound problem definition, before solutions are identified and before any investment decision is made. It is a technique to ensure the 'story' about any proposed investment makes sense (the 'logic' part of ILM) and to test and confirm that the rationale for a proposed investment is evidence-based and sufficiently compelling to convince decision makers to commit to invest in further investigation and planning[37].

The ILM supports the narrative of the SBC, as it provides an overview of:

- the service need
- the benefits sought from a response to the service need
- initiatives identified to address the service need and achieve some or all of the benefits sought.

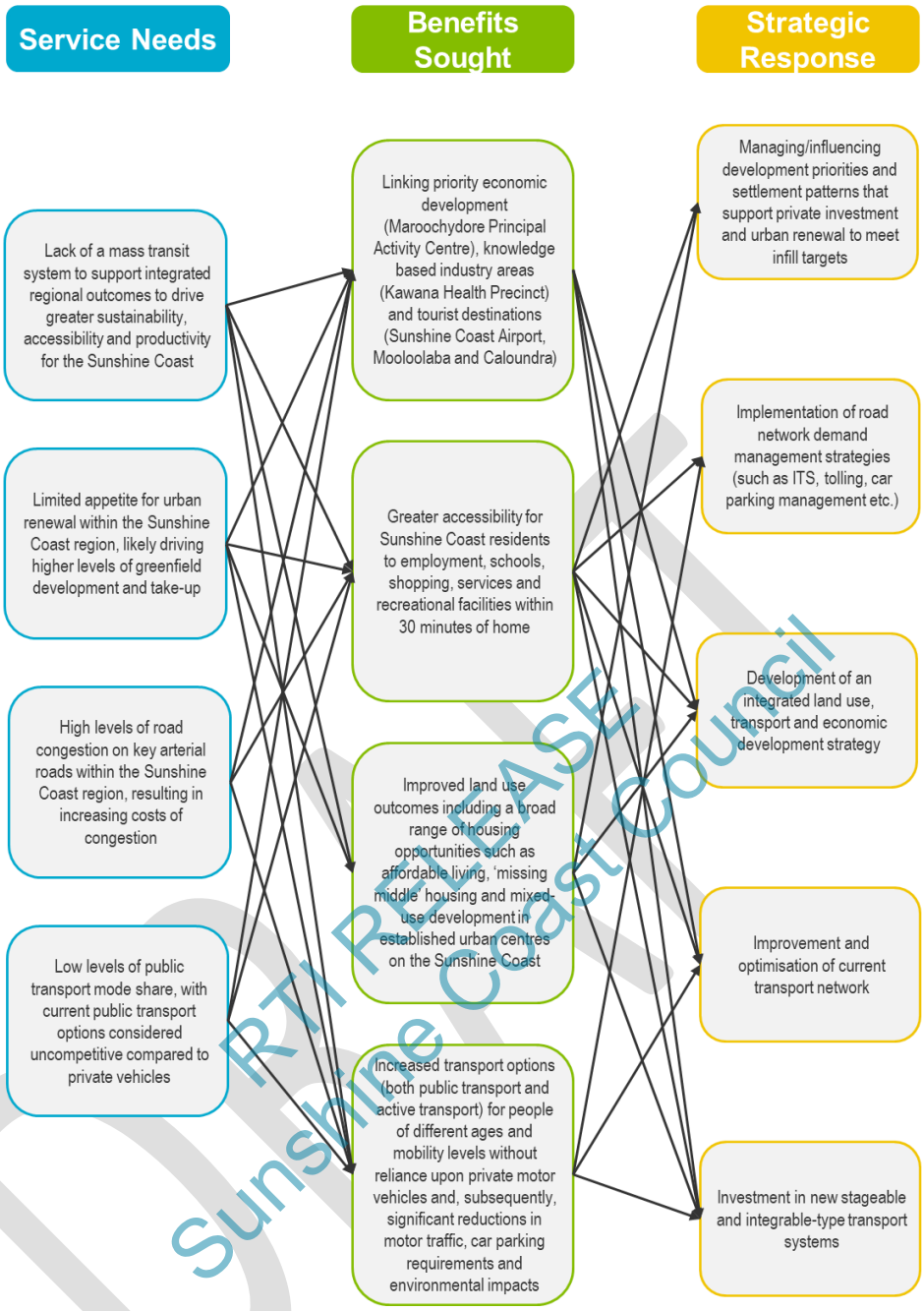
The ILM for the Sunshine Coast Mass Transit Project was developed and presented at a workshop on November 26, 2018. Attendees at the workshop included representatives from Council, Building Queensland and TMR[38]. The development of the ILM was largely in line with the guidance material outlined in the Building Queensland BCDF, however there are some minor deviations. In particular, it was noted by the workshop participants that after the identification of strategic responses in the ILM process, a number of initiatives were already in existence that could form part of one or more of the identified strategic responses, and address at least in part, the identified service needs. However, it was apparent through the ILM mapping that no active initiative could address every service need and that other initiatives were required. As such, the initiatives were identified under two broad categories, namely current initiatives and potential initiatives.

The ILM for the Sunshine Coast Mass Transit Project is split into two graphics, with the first half shown in Figure 3.6 and the second half shown in Figure 3.7.

[37] https://treasury.govt.nz/information-and-services/state-sector-leadership/better-business-cases-bbc/bbc-methods-and-tools/investment-logic-mapping
[38] Note that the TMR representative did not attend the full workshop

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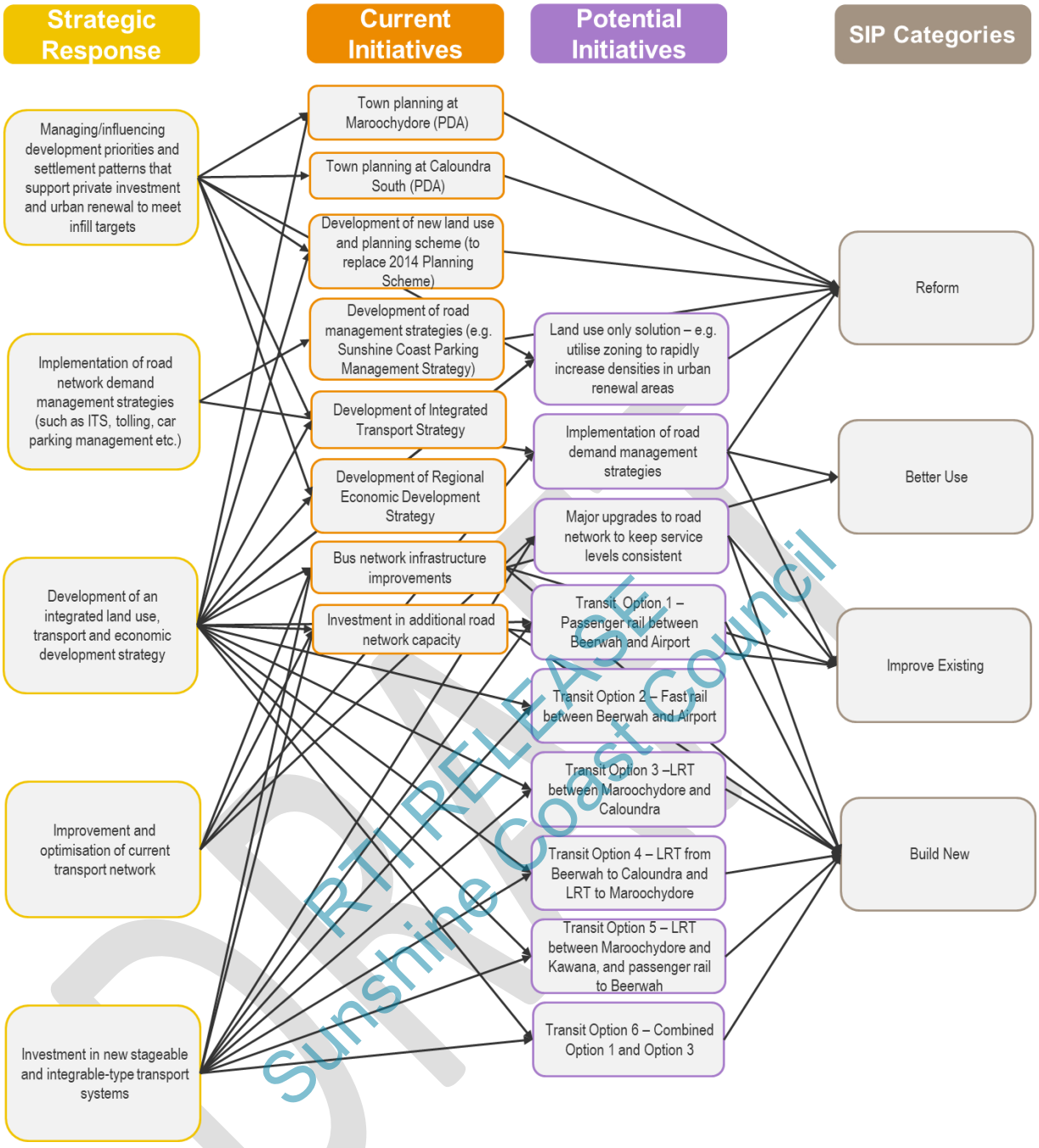
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Figure 3.6 – Sunshine Coast Mass Transit Project SBC ILM (Part 1)

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Figure 3.7 – Sunshine Coast Mass Transit Project SBC ILM (Part 2)

As noted above, this ILM underpins the narrative of this SBC, with the following chapters structured around the ILM elements, starting with service needs, which are discussed in detail in Chapter 4.

One of the first steps for the Preliminary Business Case (PBC) will be to review and update (if required) the ILM, to ensure that the identified elements are still an accurate representation of the project's investment story. Any material changes to the ILM will be documented and validated in the PBC.

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4 SERVICE NEED

4.1 Purpose and Overview of this Chapter

The purpose of this chapter is to clearly identify and articulate the problems to be addressed or opportunities to be captured for the Sunshine Coast region. This chapter draws from the service needs identified in the Investment Logic Map (ILM), presented in Chapter 3.

This chapter outlines:

- the background and approach to service need definition for this Strategic Business Case (SBC)
- the analysis underpinning each identified service need identified in the Project's ILM and each service need's effect on the Sunshine Coast region
- the strategic opportunity for the Sunshine Coast that can be captured from a project solution that addresses the service needs
- the urgency of a project solution on the Sunshine Coast region to ensure that the needs of the region aren't exacerbated by a continued lack of intervention.

This chapter demonstrates the need for investment in the transport network in the Sunshine Coast region, and the need for this investment to be integrated with existing and future land use to meet vision of the Sunshine Coast Council (Council) outlined in Chapter 3.

4.2 Service Need Definition

Identifying service needs (namely problems or opportunities) is critical to understanding the scope of issues that a project can address. Developing a sound understanding of the extent, scale, cause and effect of service needs provides a strong evidence-based foundation for developing a project solution, and ultimately investing in that project solution. Failure to do this may result in a mismatch of problems/opportunities and solutions, and/or solutions that do not adequately or effectively alleviate problems in the long-term.

The identification and preliminary analysis of the service needs outlined in this chapter have been developed through the consideration of the information presented in Chapter 3, namely the Council vision, as well as the numerous studies, strategies and proposals developed by the Australian Government, Queensland Government and Council. The long-term demographic forecasts and emerging transport technologies also provide context for the service need analysis.

As shown in the ILM in Chapter 3, there are a number of proposed service needs that have been identified:

- Accessibility to, between and within the key economic precincts on the Sunshine Coast is inefficient and unreliable, thereby limiting regional productivity and limiting the opportunity to be a sustainable and self-contained region.
- The lack of a mass transit-style public transport network is resulting in disjointed land use outcomes, with limited appetite for urban renewal in key areas within the Sunshine Coast region, meaning long term urban renewal targets are unlikely to be achieved.
- Residents and visitors to the Sunshine Coast do not have access to a reliable, convenient, high-capacity, and integrated public transport service, thereby driving high levels of private vehicle usage and resulting road congestion.

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- The current Sunshine Coast public transport network is unlikely to encourage long term transport mode shift, as the bus network cannot provide a viable alternative to the accessibility, convenience, comfort and travel times provided by private vehicle travel. Sustainability targets may also not be achieved as the bus network alone is unlikely to meet long term environmental, liveability, amenity and economic targets for the region.

Each of these service needs is described in further detail in the sections below.

4.2.1 Integrated transport and land use outcomes for regional sustainability, accessibility and productivity

Based on current population levels, the Sunshine Coast is the ninth largest city in Australia, with only Sydney, Melbourne, Brisbane, Perth, Adelaide, Gold Coast and Newcastle with higher population levels. Furthermore, as noted in Chapter 3, the Sunshine Coast region's population is expected to grow by over 70 per cent (or a compound annual growth rate of 2.2 per cent) by 2041 to over 500,000 people. Comparatively, Australia's overall population is expected to grow annually at a rate of no higher than 1.8 per cent per year[1].

From the top nine most populous Australian cities listed above, Sunshine Coast can be considered the only city not supported by a mass transit system. As discussed in Chapter 3, the Australian Infrastructure Plan identifies the Sunshine Coast as a key region of Australia, noting that the key regions in Australia must upgrade its urban passenger networks, so they are more integrated, have higher capacity and are able to meet the twin demands of population growth and rising expectations for service levels[2].

As noted in Chapter 2, the western part of the Sunshine Coast region is accessible by the existing passenger rail network, however the key activity centres are based towards the coastal areas, meaning other forms of transport are required to access these areas. Currently, the preferred mode of choice is private vehicle, with public transport mode share within the region considered to be low. This is discussed further in Section 4.2.4 below. Furthermore, the current levels of self-containment on the Sunshine Coast, evident by the number of residents who work within the region (sitting at over 90 per cent, as demonstrated in Chapter 3), is not currently supported by an accessible public transport network, further inducing the high private vehicle usage within the region.

4.2.2 Limited appetite for urban renewal

The *South East Queensland Regional Plan (ShapingSEQ)* has set land use targets for the Sunshine Coast region in 2041 at 63 per cent consolidation (or infill development) and the remaining 37 per cent to be expansion development (through new greenfield dwellings)[3]. From a sustainability perspective, this is a laudable goal, as there is strong evidence linking urban densification and sustainability from a budgetary standpoint, along with an environmental one[4].

However, given the number of greenfield developments either underway within the Sunshine Coast region (such as Caloundra South and Palmview), as well as planned development at Beerwah East, the region could be at risk of not meeting these land use targets.

[1] *Population Projections, Australia, 2017 (base) – 2066*, Australian Bureau of Statistics
[2] *Australian Infrastructure Plan*, 2016, Infrastructure Australia, p46
[3] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p120
[4] *The Costs of Urban Sprawl – Infrastructure and Transportation*, 2010, R.Trubka, P.Newman, and D.Bilsborough, p1

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ShapingSEQ identifies the geographic area similar to the Sunshine Coast Enterprise Corridor as being the location for the majority of future infill development, and take-up analysis shows that under current projections and without intervention, the *ShapingSEQ* consolidation target of 53,700 falls well short, with JLL forecasting only 22,450 new dwellings taken up within the corridor[5]. This leaves a deficit of around 31,250 dwellings, meaning that additional housing requirements to support the forecasted population growth for the region will likely be provided by greenfield developments. In order to meet targets and avoid the problems that arise from sprawl, a catalytic project is required that shifts demand to infill from greenfield.

In the absence of a catalytic project (e.g. mass transit that encourages development in infill areas), the base case should hinge on historical trends, not ambitious targets. A demographic and employment base case that uses historical splits between infill and greenfield dwellings is currently being developed by Council to support future analysis for the Sunshine Coast Mass Transit Project[6].

4.2.3 High private vehicle usage and road congestion

High passenger vehicle utilisation and traffic congestion has a significant cost to society, both in terms of the costs to users (their time costs, costs to operate vehicles and the cost of traffic accidents), non-users, and society more broadly (through environmental costs). As a part of this SBC, these costs have been quantified at a preliminary level to demonstrate the size of this problem now, and into the future.

As an input into this study, Veitch Lister Consulting undertook analysis of the traffic flows in the case where no mass transit project is built, and the minimum required investments to the road network are undertaken. Section 4.2.3.1 provides an overview of the key assumptions underpinning this analysis, and Section 4.2.3.2 presents the outcomes of the analysis to support the service need analysis.

4.2.3.1 Transport network modelling assumptions

In order to model the movements for the Sunshine Coast transport network in 2041, a number of key assumptions were made:

- **Demographics** – demographics are consistent with TMR's projections at the SA1 level. These projections are underpinned by the distribution of growth as set out by the 2015 Queensland Government Statistician's Office (QGSO) dwelling and population projections.
- **Road Network** – the road network reflects a do minimum scenario. Upgrades are only included where firm commitments to delivery exist. New local roads have been included to service greenfield development areas such as Caloundra South and Palmview.
- **Bus Network** – the bus network is based on the 2041 modelled network from the Sunshine Coast Integrated Multi-Modal Model. The network has been slightly modified to conform with the requirements of the Zenith model and includes slightly modified stopping patterns and service frequencies. There are approximately 62,000

[5] *Sunshine Coast Light Rail Preliminary Market Assessment (Draft)*, 2018, JLL, p35
[6] Current modelling uses planning targets as a basis for defining the service needs, however modelling in later phases will use trend data for the base case

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bus kilometres travelled in this network, significantly more than the 14,100 bus kilometres travelled in 2016.

- **Rail Network** – rail services on the North Coast Line operate at frequencies adopted from the 2017 Cross River Rail Business Case (which assumes 4 morning peak services, 4 afternoon peak services and 1 inter-peak service).

4.2.3.2 Transport network modelling outcomes

The key findings of the transport network modelling include:

- There will continue to be heavy growth in private vehicle traffic, particularly in the Caloundra to Maroochydore corridor, and in the connecting roads near new greenfield developments (for example around Caloundra South).
- Key roadways will be heavily congested by 2041, with volume to capacity ratios of around 1.1 (which would reduce average speeds by around 40 per cent).
- A traffic problem over the corridor that amounts to $1.4 billion per annum by 2041 for the entire Sunshine Coast region, with most of this problem focused in the Sunshine Coast Enterprise Corridor (i.e. from the Sunshine Coast Airport to Caloundra). This problem is the summation of costs borne by road users (time and additional vehicle operation costs), the costs from crashes and environmental costs.

Figure 4.1 provides a summary of the comparable cost of congestion in 2016 and 2041 under current land use forecasts (i.e. without a mass transit project), for various areas of the Sunshine Coast region, including the entire local government area (LGA).

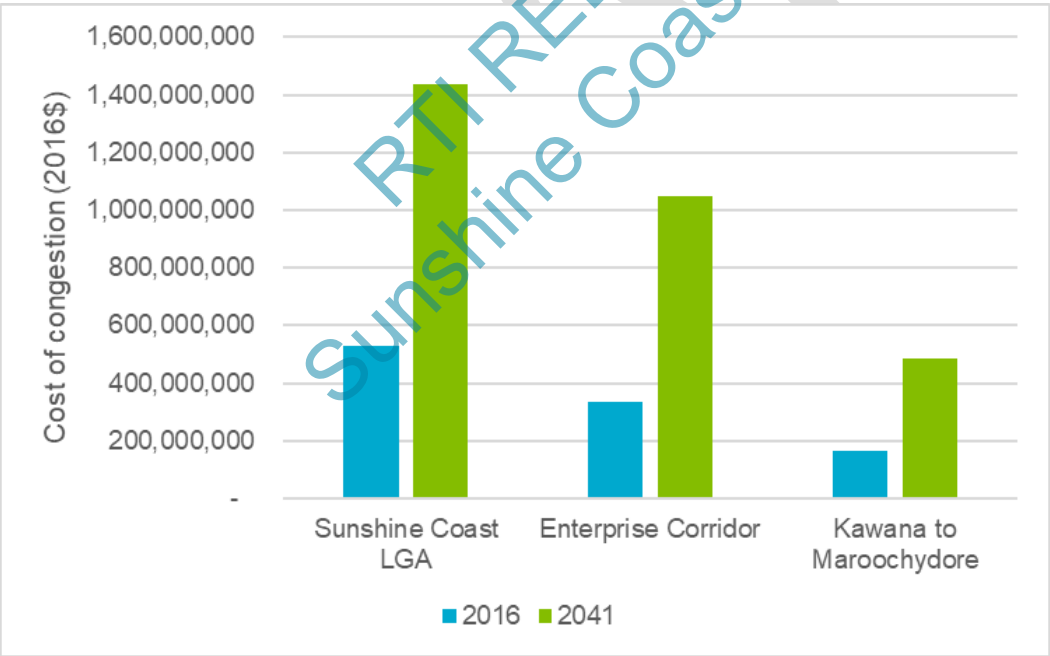


Figure 4.1 – 2016 to 2041 comparable cost of congestion for the Sunshine Coast region without a mass transit project (2016 dollars)

The analysis shows that for the region, the cost of congestion grows by approximately 171 per cent to 2041, whilst the cost of congestion for the Sunshine Coast Enterprise Corridor grows by approximately 213 per cent, and more specifically, congestion between Kawana and Maroochydore grows by approximately 200 per cent.

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Figure 4.2 provides a further breakdown of the cost of congestion between Kawana and Maroochydore.

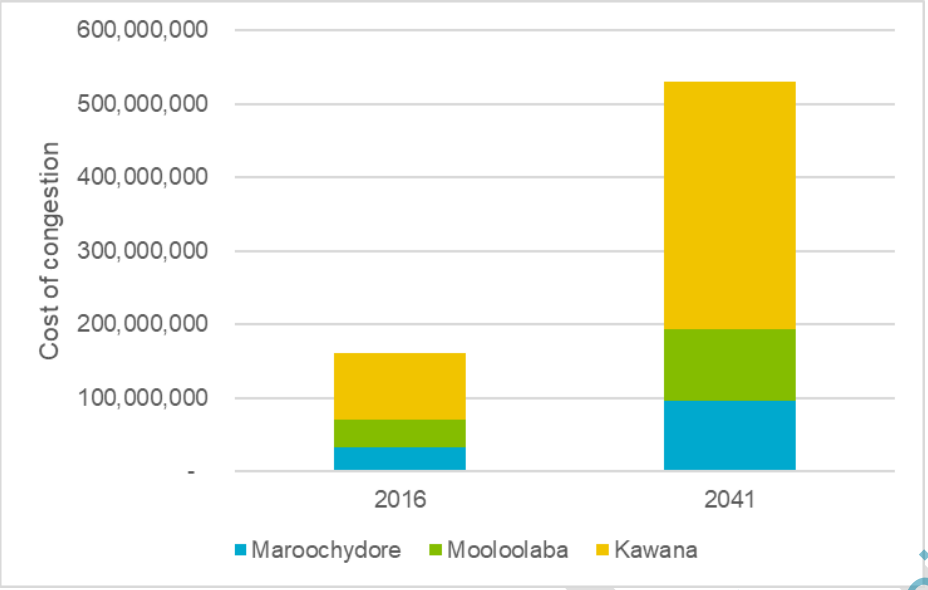


Figure 4.2 – 2016 to 2041 comparable cost of congestion for the Kawana to Maroochydore corridor without a mass transit project (2016 dollars)

Figure 4.2 above demonstrates that of the three key centres in the Sunshine Coast Enterprise Corridor, the traffic problem is centred around Kawana, which in turn has significant impacts on the Sunshine Coast University Hospital, which is a major employment generator for the region currently given healthcare services is the highest sector of employment in the region, and this employment share is forecast to continue to grow, as discussed in Chapter 3.

Figure 4.3 below shows the comparable traffic modelling for Kawana between 2016 and 2041. While the 2016 analysis outcomes demonstrate that flows are already slow (with a volume to capacity ratio of 0.7 – 0.85, which indicates a reasonably restricted level of flow), the 2041 analysis outcomes demonstrate a road network around Kawana at the upper end of the congestion spectrum, particularly in the key parts of the network around the hospital.

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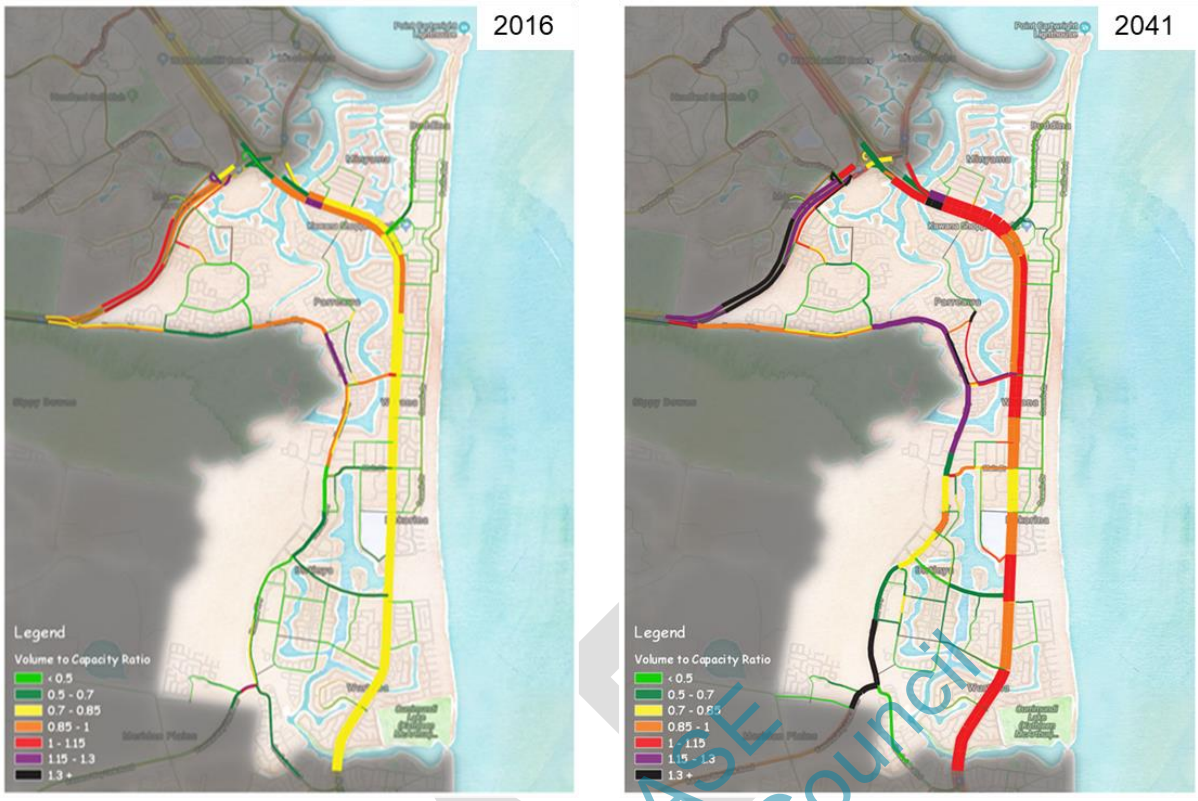


Figure 4.3 – 2016 to 2041 comparable Kawana traffic flows without a mass transit project

Figure 4.4 below shows that the traffic problem in Maroochydore is also projected to worsen considerably. While flows are currently relatively unrestricted, there are bottlenecks projected to form at the highway offramp in particular by 2041 without major intervention.

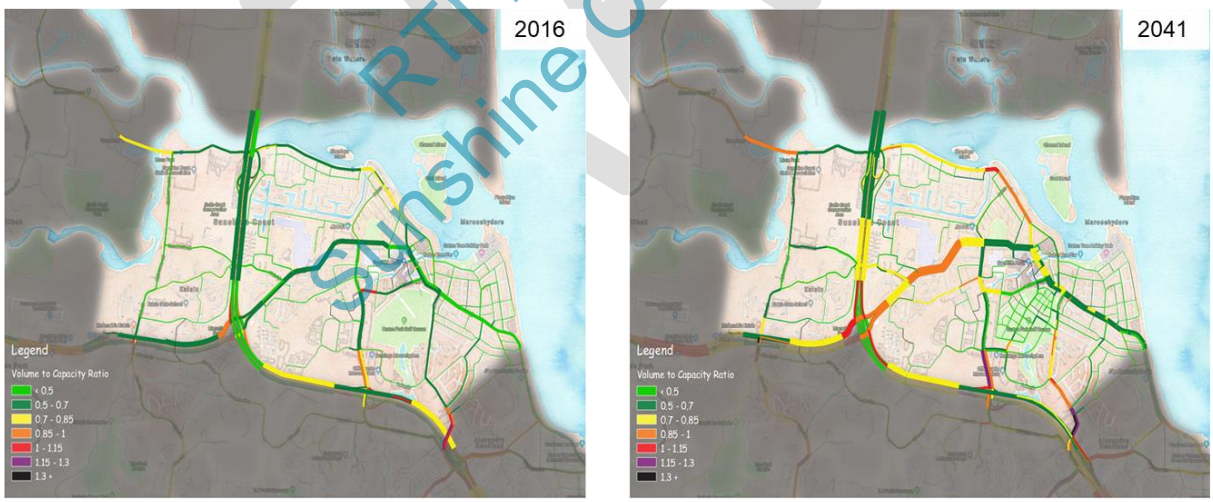


Figure 4.4 – 2016 to 2041 comparable Maroochydore traffic flows without a mass transit project

Figure 4.5 below shows a rapidly deteriorating traffic flow in Mooloolaba and surrounds. The main route between the Sunshine Motorway and Mooloolaba town centre (Brisbane Road) is projected to see peak traffic at the upper end of the model's spectrum by 2041.

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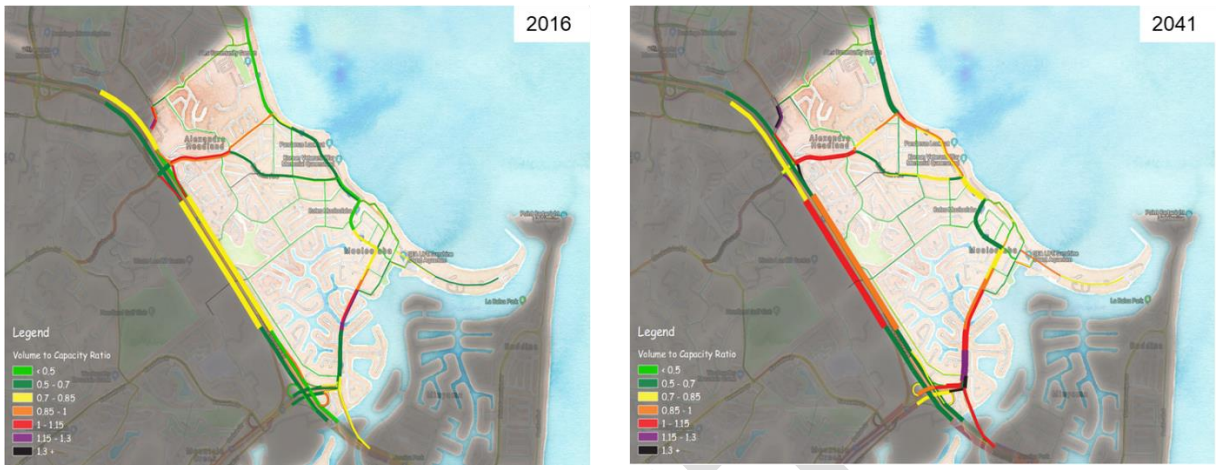


Figure 4.5 – 2016 to 2041 comparable Mooloolaba traffic flows without a mass transit project

As noted in Section 4.2.2 above, this pattern of traffic usage is based on the uptake of infill development that aligns with current planning targets. In the more likely "transport constrained" base case, these traffic issues can be expected to be exacerbated. In other words, without a catalytic mass transit-type project, infill development take-up is projected to be well under the required targets for the region[7]. Modelling in this SBC has not assessed this scenario, but with residential settlements moved effectively further away from key employment centres, the traffic issues presented above are likely to be worsened.

4.2.4 Limited public transport mode share

The mode share between private vehicles and public transport on the Sunshine Coast is currently around 3 per cent in total, however less than 3 per cent of journeys to work are taken on public transport[8]. This is significantly lower than the journey to work shares for the Gold Coast (4.2 per cent) and Queensland as a whole (7.1 per cent)[9]. In comparison, private vehicle travel is the dominant mode share in the Sunshine Coast region, at 85 per cent overall (however 93 per cent of trips to work are taken using private car). The remaining trips (mode share of approximately 12 per cent) are taken using active transport (i.e. walking, cycling etc.)[10].

Without intervention to more sustainable transport modes and reduced car dependency, an additional 830,000 daily vehicle trips are forecast on the Sunshine Coast transport network by 2041, which represents a 70 per cent increase from 2016[11]. As in Section 4.2.2 above, dispersed land use outcomes within the region is one driver of this forecasted increase. The abundance of parking in close proximity to key centres and the lack of alternative travel options also influence high private vehicle use[12].

Sunshine Coast public transport trips have been in decline since 2010. This decline can be attributed to a combination of factors including improved data collection and more accurate patronage records (through the implementation of the *go card*) as well as fare increases. There has also been limited service expansion and investment in public transport to match the urban and population growth. It is very difficult to encourage people to elect to travel by

[7] *Sunshine Coast Light Rail Preliminary Market Assessment (Draft),* 2018, JLL, p35
[8] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p24
[9] https://home.id.com.au/demographic-resources/
[10] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p22
[11] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p35
[12] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p27

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public transport if it is not an attractive alternative[13]. The existing public transport network is the bus network, which predominantly services a captive market, including people without a car or driver's licence. Furthermore, comparative analysis on journey to work between public transport and private vehicle within the region shows that currently public transport trips generally take two to four times longer than car travel[14].

The public transport network is relatively basic, with only one bus route (the 600 route) between Caloundra and Maroochydore offering a high-frequency 'turn up and go' service (with frequencies at 15 minutes in peak periods). The network includes several services with frequencies exceeding one hour and some not operating on weekends. It also continues to be a challenge to provide timely public transport infrastructure and services to efficiently service emerging communities in greenfield development areas[15].

4.3 Opportunity for the Sunshine Coast region

Aside from identifying and assessing service needs, it is important to recognise that opportunities can be captured from a project solution. Drawing from the Council's vision for the Sunshine Coast region, namely to be Australia's most sustainable region, the opportunity for Council is to achieve urban transportation on the coastal corridor to build a connected, lifestyle community with housing and employment choices, bound together by mass transit.

By integrating transport, land use (urban renewal) and economic development initiatives, the Sunshine Coast region can become more sustainable by:

- increasing economic activity and productivity
- increasing land use efficiency
- improving liveability and self-containment.

This in turn would lead to a range of regional benefits that can only be achieved through a combination of land use and economic development planning undertaken in conjunction with the delivery of an efficient transport network.

4.4 Urgency

The urgency for action for a mass transit system within the Sunshine Coast region, and in particular the Sunshine Coast Enterprise Corridor is driven by the policy directions outlined in Chapter 3, in particular the infill development targets set by *ShapingSEQ.* In 2017, *ShapingSEQ* established a target of accommodating an additional 53,700 consolidation-type dwellings by 2041 to achieve the overall target of 63 per cent. This equates to approximately 2,240 additional infill dwellings in the existing urban area each year from 2017 to 2041. However as discussed in Section 4.2.2, without a catalytic project within the Sunshine Coast Enterprise Corridor, it is estimated only 41 per cent of the required 53,700 dwellings will be taken up, meaning the *ShapingSEQ* targets will not be achieved and the increased demand for housing will likely be met by further greenfield developments, thereby failing to exploit the agglomeration opportunity.

The Sunshine Coast Regional Economic Development Strategy also identifies the need to support the development of key economic centres including Maroochydore, Kawana, Caloundra and Sippy Downs, key industries such as health, education, tourism and game

[13] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p28
[14] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p28
[15] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p28

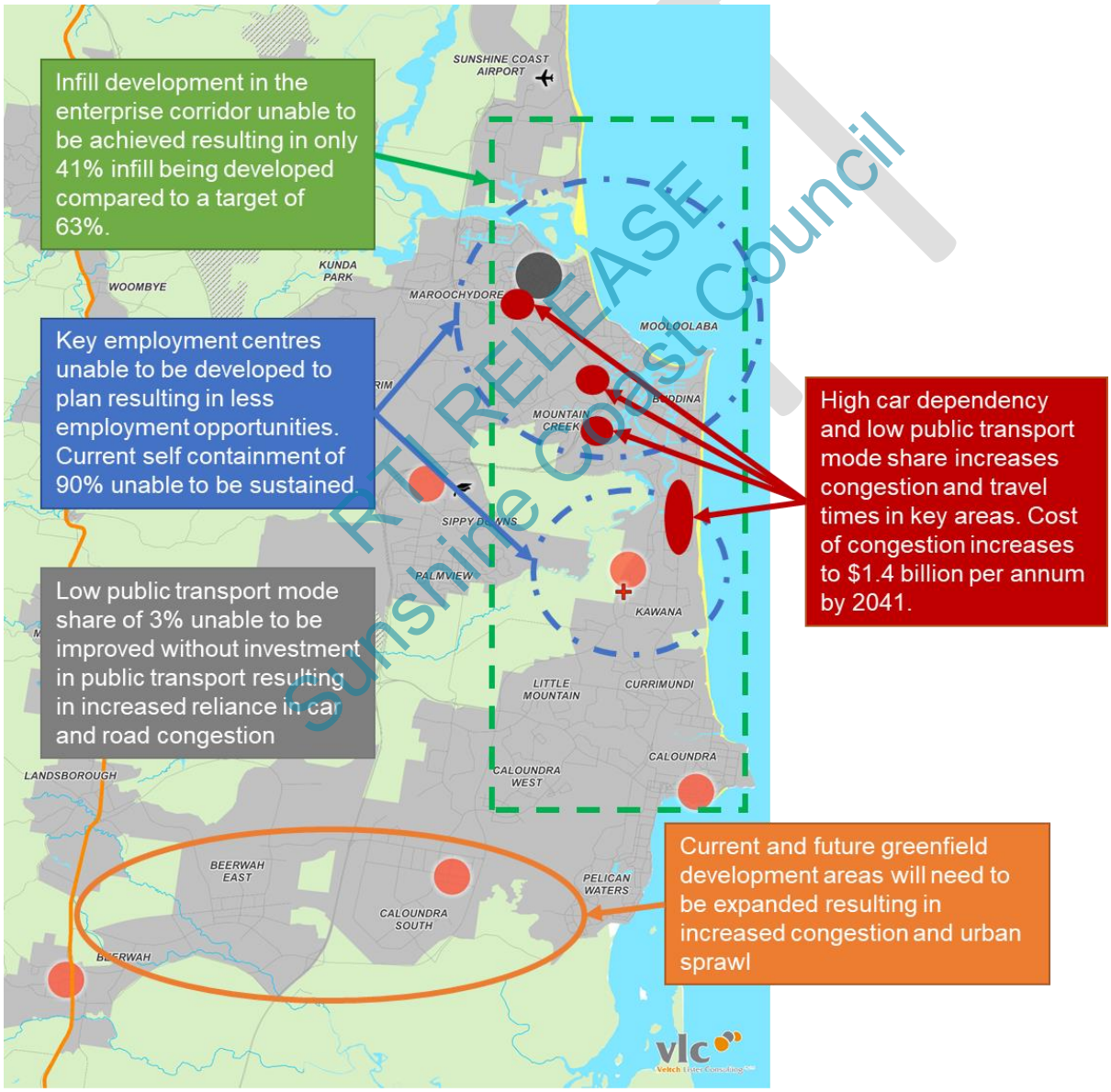
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changer projects such as the greenfield Maroochydore CBD, expanding the new Sunshine Coast Public Hospital and the Sunshine Coast International Broadband Cable to support 100,000 additional jobs over the next 25 years.

Furthermore, as demonstrated in Section 4.2.3 above, there are a range of traffic concerns in the Sunshine Coast region, largely driven by a high private car dependency in the Sunshine Coast region. Without urgent intervention, the effects of high private vehicle usage will exacerbate, materialising in the form of further congestion along major corridors, thereby increasing travel times and degrading accessibility within the region. Vehicle operating costs will rise for road users, and there will be flow on liveability, amenity and environmental impacts.

Figure 4.6 provides a graphical overview of the region, and summarises the key service needs as discussed in this chapter and the urgency required to address these needs.



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Figure 4.6 – Sunshine Coast region service need summary

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4.5 Service Need Summary

As a region, the Sunshine Coast is now at a critical juncture in its evolution as emerging issues challenge the region's economic growth, productivity and lifestyle, liveability and sustainability aspirations. Promoting public transport as a viable alternative for accessing key activity centres within the region, and as a trigger for greater urban renewal will be essential to addressing these issues.

The key challenges that have been identified for the Sunshine Coast region include:

- lack of a mass transit system to support integrated regional outcomes to drive greater sustainability, accessibility and productivity
- limited appetite for urban renewal within the region, likely driven by high levels of greenfield development and take-up
- growing levels of road congestion on key arterial roads within the Sunshine Coast region, resulting in increasing costs of congestion
- low levels of public transport mode share, with current public transport options considered uncompetitive compared to private vehicles.

As these problems are forecast to be further exacerbated, early intervention will be critical, particularly in relation to driving alternative land use outcomes. The demand for accessibility to jobs and other economic centres in the Sunshine Coast Enterprise Corridor will increase, driving the urgency for a solution that can move people within this corridor, as well as induce housing demand and take-up of development opportunities. A catalytic mass transit project would increase mode share for the region and induce greater levels of infill housing to allow a greater number of residents to live closer to their places of employment, and provide easier accessibility to those economic areas.

Overall, by integrating transport, land use (urban renewal) and economic development initiatives, the Sunshine Coast region can become more sustainable by:

- increasing economic activity and productivity (agglomeration)
- increasing land use efficiency
- preserving existing non-urban (rural and environmental) areas
- improving liveability
- improving self-containment.

This in turn would lead to a range of regional benefits that can only be achieved through a combination of land use and economic development planning undertaken in conjunction with the delivery of an efficient transport network.

By actively pursuing investment in a mass transit network for the region, the Sunshine Coast can harness a range of integrated economic, land use and transportation benefits. Essentially this can be envisaged as a connected, lifestyle community with housing and employment choices, bound together by a mass transit network. The concepts of such benefits are discussed further in Chapter 5.

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5 BENEFITS SOUGHT

5.1 Purpose and Overview of this Chapter

The purpose of this chapter is to identify and describe the benefits sought from the Sunshine Coast Mass Transit Project, based on the strategic context analysis presented in Chapter 3 and the service needs analysis presented in Chapter 4.

This chapter outlines:

- the strategic context driving the benefits sought for a mass transit project for the Sunshine Coast region, namely the relationship between economic, land use and transport outcomes
- the proposed benefits sought for the Sunshine Coast Mass Transit Project
- the identified objectives and sub-objectives for the Sunshine Coast Mass Transit Project.

Benefits sought articulate an initial concept of what the service needs for a project are aiming to achieve (i.e. the benefits to the community, enterprise or organisation that aim to be delivered as a result of any investment).

By documenting the benefits sought for the Sunshine Coast Mass Transit Project, a baseline can be provided for comparing the benefits expected to be achieved by each potential initiative identified in Chapter 7. The benefits sought identified in this chapter will also guide detailed analysis required for the Preliminary Business Case (PBC) to ensure that benefits claimed to be achieved by the ultimate project solution can be supported with quantitative evidence.

5.2 Relationship between Economic, Land Use and Transport Aspirations

Efficient and effective transport infrastructure is essential to the growth and competitiveness of a city or a region. It is a key economic enabler, allowing efficient trading between businesses, workers to access job opportunities and residents and visitors to enjoy leisure activities.

It also enables land-use planning by signalling where new or intensified urban development is feasible and underpins an appropriate spatial distribution of economic activity. By supporting denser land uses, well-planned transport infrastructure directly generates opportunities for agglomeration economies. Agglomeration is fundamentally about the productivity benefits that come from proximity, both in the physical sense and through good connectivity. Well-designed transport infrastructure creates proximity by effectively moving workers closer to jobs, and firms closer to their customers and suppliers. This lowers the costs of trade and of exchanging ideas and increases the pool of shared resources, both labour and capital, making cities more productive and attractive.

A well-planned transport initiative, coupled with appropriate land-use policies and interventions such as investment attraction, can make the transport system a catalyst for a wider site and city transformation.

The Australian Government's *Smart Cities Plan* indicates that most world-class cities have invested in fast, efficient public transport systems to provide viable alternatives to private

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vehicles[1]. These cities have used transport investments to reduce congestion, and its associated costs, and enable economic opportunity and growth.

Integrating transport, land use and the economy can improve a city's competitiveness by:

- reducing the cost of commuting and trade by relieving congestion pressures
- improving the quality of life and the environment
- enabling efficient land use
- enhancing connectivity between businesses and workers and business and their customers and suppliers, thus boosting productivity.

Figure 5.1 presents an example of the city-building benefits of transport initiatives in Australia, specifically, Melbourne's City Loop (rail), City Link (road) and Western Ring Road projects (measured in gross value added between 1981 and 2011).

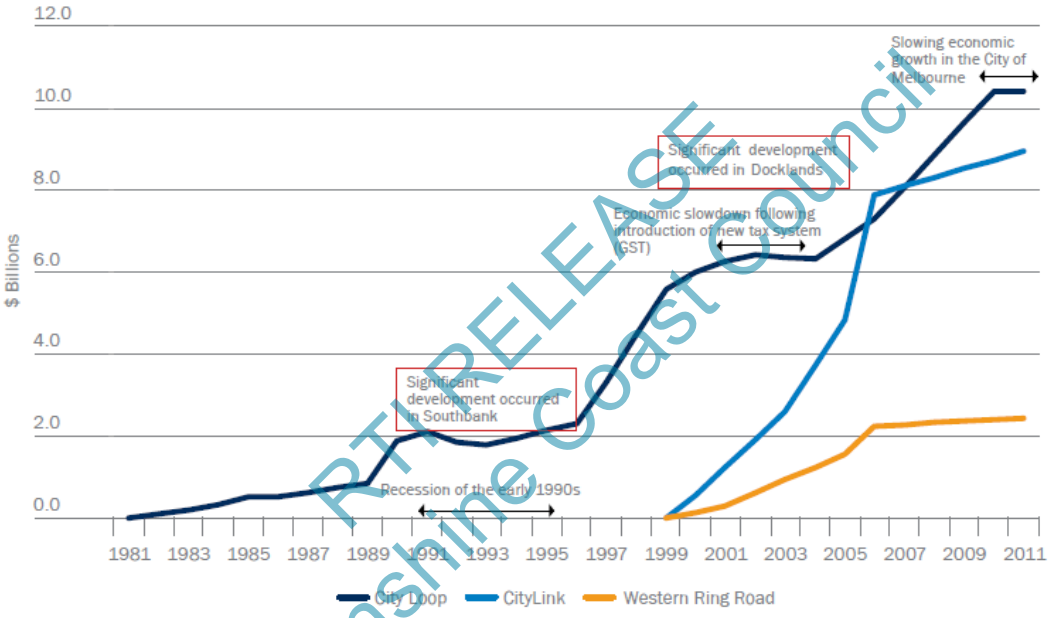


Figure 5.1 – Benefit Stream Across Time of Selected Melbourne Transport Projects ($ billions), 1981–2011[2]

5.3 Proposed Benefits Sought

As shown in the Investment Logic Map (ILM) in Chapter 3, there are a number of benefits sought that have been identified for the Sunshine Coast Mass Transit Project:

- Linking priority economic development (Maroochydore Principal Activity Centre), knowledge based industry areas (Kawana Health Precinct) and tourist destinations (Sunshine Coast Airport, Mooloolaba and Caloundra).
- Greater access for Sunshine Coast residents to employment, schools, shopping, services and recreational facilities within 30 minutes of home.

[1] *Smart Cities Plan*, 2016, Department of the Prime Minister and Cabinet, p12
[2] *State of Australian Cities 2014-15* (based on estimates by SGS Economics & Planning), 2015, Department of Infrastructure and Regional Development, p125

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- Improved land use outcomes including a broad range of housing opportunities such as affordable living, 'missing middle' housing and mixed-use development in established urban centres on the Sunshine Coast.
- Increased transport options (both public transport and active transport) for people of different ages and mobility levels without reliance upon private motor vehicles and, subsequently, significant reductions in motor traffic, car parking requirements and environmental impacts.

Each of these benefits sought is described in further detail in the sections below.

5.3.1 Linking priority economic development, knowledge based industry areas and tourist destinations

In a broad sense, this benefit sought relates to a desired productivity improvement for the Sunshine Coast region, through improved connectivity between key areas within the region.

The *Integrated Transport Strategy* confirms that at a regional scale, the focus is to move people and goods efficiently between facilities, employment and recreation destinations on the Sunshine Coast to reduce trips and distances. Whilst key areas of the Sunshine Coast are linked by roads and through bus services, the upgrading of transport infrastructure and key transport links would be required not only to meet future population needs but also to support high-value industry growth and investment on the Sunshine Coast[3].

Without an effective transport network, population increases (and therefore travel demand) will increase travel times (particularly for commuting journeys), increase the variability in travel times and increase congestion. As such, transport connectivity is important in supporting both high-productivity agglomerations and labour market participation[4].

Agglomeration is when people and businesses co-locate because they draw benefit from being in close proximity to each other. A key factor to improving productivity is through agglomeration benefits, with labour mobility critical to achieving this. Highly skilled and educated people tend to congregate in areas such as cities, which provide higher-value jobs. This collective pooling of skills has synergistic effects on productivity, fostering the growth and spread of knowledge, encouraging innovation, attracting other talented people and boosting labour participation.

Agglomeration benefits employers, employees and the wider economy. Employers have access to a greater pool of skilled workers and can better match these workers to knowledge-intensive jobs. Workers have access to higher value jobs and a more resilient job market, which provides alternative opportunities in the event that an individual firm or a market sector experiences a downturn. Agglomeration also assists with the spread of knowledge throughout the economy, both between firms and from worker to worker.

The benefits of agglomeration are best achieved by investment in public transport infrastructure to efficiently link workers with the knowledge-intensive jobs that drive economic activity[5]. This arises through two mechanisms. First, public transport infrastructure encourages densification and the location of workers nearer key employment centres.

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[3] *Sunshine Coast: The Natural Advantage – Regional Economic Development Strategy 2013-2033*, 2013, Sunshine Coast Council, p14
[4] *Productive Cities – Opportunity in a changing economy*, 2013, Grattan Institute, p39
[5] *State of Australian Cities 2014-15*, 2015, Department of Infrastructure and Regional Development, p111

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Secondly, the infrastructure itself by reducing travel times effectively brings workers closer to their employers, and businesses closer to their customers and suppliers.

Improvements to the public transport network that increase the efficiency of commuting, serve the increasingly urbanised job market and support the transition to knowledge and service industries, are crucial to achieving sustainable and diverse economic growth on the Sunshine Coast.

Connecting the Sunshine Coast's well-defined major economic and employment centres (namely Maroochydore, Kawana and Caloundra) through an integrated, mass transit passenger transport network would facilitate long-term sustainable and diverse economic growth within the Sunshine Coast region, and materially contribute to the economic viability for the SEQ region more broadly.

5.3.2 Greater accessibility to employment, schools, shopping, services and recreational facilities

In a broad sense, this benefit sought relates to a desired increase in accessibility for the Sunshine Coast region, by enabling an efficient movement of people and goods to, from and within the key areas of the Sunshine Coast.

As noted in Chapter 4, private vehicle travel within the Sunshine Coast region is the dominant more share, which is driving high levels of congestion on major traffic routes. This is driven by a range of factors including a dispersed settlement pattern, low density and distances between centres. The abundance of parking in close proximity to key centres and the lack of alternative travel options also influence high car use within the region[6].

The Department of Infrastructure, Regional Development and Cities (DIRDC) notes that an effectively functioning public transport system can increase productivity for the economy as a whole by enhancing access to jobs, increasing business and freight movement efficiently, and through easing growing road congestion pressures[7].

The Australian Government's *Smart Cities Plan* states that in the 21st century, cities need to be productive and accessible[8]. The *Smart Cities Plan* discusses the concept of a 30-minute city where everyone can easily access the places they need to visit on a daily basis, wherever they live. It involves planning cities so residents can access employment, schools, shopping, services and recreational facilities within 30 minutes of their home[9].

The concept of a 30-minute city for the Sunshine Coast could be achieved through a more compact urban form focussed around high-frequency passenger transport corridors, which in turn will reduce car dependence, congestion and impacts of development and transport on the natural environment[10]. Encouraging self-containment in the Sunshine Coast region and within centres through local access to goods, services and employment will also enable shorter trips and increase the opportunity to use more sustainable transport[11].

[6] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p27
[7] *Role of public transport in delivering productivity outcomes*, 2014, Rural and Regional Affairs and Transport References Committee, p19
[8] *Smart Cities Plan*, 2016, Department of Prime Minister and Cabinet, p2
[9] *Smart Cities Plan*, 2016, Department of the Prime Minister and Cabinet, p11
[10] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p45
[11] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p46

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5.3.3 Improved land use outcomes in established urban centres

In a broad sense, this benefit sought relates to a desire to improve the land use outcomes within the urban areas of the Sunshine Coast.

As discussed in Chapter 4, urban renewal as proposed by *ShapingSEQ* needs to be achieved through quality forms of residential and commercial development, with a mix of housing choices and densities that are linked to local services and jobs via quality public transport[12]. Yet as economic activity becomes more concentrated, demand for housing and land in nearby areas rises and there are risks to housing affordability. If infill development lags, population growth will be met through greenfield settlement, which leads to congestion and the need to invest in infrastructure to mitigate this. The infrastructure required would be relatively inefficient and expensive road infrastructure. Effective policy, planning and regulatory levers must be used to develop an urban form that allows for increased population density in the urban areas of the Sunshine Coast, maximising the use of existing infrastructure and improving the cost effectiveness of new infrastructure while offering the lifestyle and environment with local employment opportunities and a range of housing typologies.

Improving urban land use outcomes can also reduce the impact upon the environment, by reducing urban sprawl and carbon footprint. Additionally, a strong focus on transport-oriented development and concentrating diverse housing supply closer to public transport could cut down congestion and carbon emissions[13].

The significant projected population growth on the Sunshine Coast, will underpin an increasing demand for housing, infrastructure and services. In particular, a suitable transport network must enable urban renewal outcomes, as well as provide the capacity for the expansion of business and other urban economic development opportunities as discussed in Section 5.3.1 above.

5.3.4 Increased transport options to drive reductions in motor traffic, car parking requirements and environmental impacts

In a broad sense, this benefit sought relates to a desire to improve the transport network on the Sunshine Coast, and enable a mode shift from private cars to public transport in order to reduce reliance on private vehicle usage (and the flow on impacts of this).

Chapter 4 provides significant evidence of the impacts of high private car usage on the Sunshine Coast, and comparatively, the low usage rates of public transport. Without a viable alternative transport solution, substantial road capacity investment would be necessary to avoid excessive congestion which is expected to compromise the distinctive quality of life on the Sunshine Coast, and have flow on effects to the community, environment and economy[14]. A viable and attractive public transport system which would decrease the number of vehicles on the road through a shift in mode share can also support a reduction in the frequency of crashes[15].

Delivery of a public transport solution which is legible and provides clear connectivity to other existing transport modes will also improve its attractiveness and induce a mode shift away

[12] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p40
[13] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p4
[14] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p35
[15] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p28

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from private vehicles. In order to drive this mode shift, a solution would need to provide a viable alternative to private car travel by offering convenient connectivity to the right areas within the region, with competitive travel times, appropriate flexibility (i.e. turn up and go), and at a lower value.

Council, through the *Integrated Transport Strategy* is aspiring to a mode share target for the region of at least 10 per cent on public transport (up from 2 per cent) by 2041, along with an increase in active transport trips to account for 20 per cent of the region's mode share. This in turn equates to a reduction of private vehicle usage to account for 70 per cent of trips taken in the region[16].

A mass transit solution that can effectively enhance and/or integrate into the existing transport networks on the Sunshine Coast, as well as overcome the issues of misaligned land use planning will significantly improve overall accessibility and connectivity in the region.

5.4 Sunshine Coast Mass Transit Project Objectives

In response to the strategic analysis presented in Chapter 3, the service need analysis presented in Chapter 4 and the benefits sought discussed above, objectives for the Sunshine Coast Mass Transit Project have been developed to help guide the identification of strategic responses (presented in Chapter 6) and the options analysis (presented in Chapter 7). These objectives were identified by the Sunshine Coast Mass Transit project team, and encapsulate the goals of various levels of government, whilst taking account of the service need requirements to ultimately deliver on the regional vision of Sunshine Coast Council (Council). A suite of sub-objectives have been identified for each objective to provide further definition and context. Table 5.1 summarises each objective and the respective sub-objectives.

Project Objective	Sub-Objectives
Support the Sunshine Coast's productivity, employment growth and self-containment targets by supporting existing and emerging strategic centres	• Supports the development amenity of key existing economic centres including Maroochydore, Kawana, Sippy Downs and Caloundra • Supports the delivery of game changer projects including the greenfield Maroochydore CBD, expanding the University of the Sunshine Coast, Sunshine Coast Public Hospital, Sunshine Coast Airport Expansion, and the International Broadband Network Cable • Supports the development of key industries including health and well-being, education and research, tourism, sport and leisure, knowledge industries and professional services, agribusiness, aviation and aerospace and clean technologies • Supports jobs growth target of 100,000 over the next 25 years • Supports employment self-containment • Supports transition to the New Economy
Maintain, and where possible improve liveability and provide a catalyst for positive change by unlocking	• Supports the development of diverse housing to meet future housing needs and provide affordable living options for everyone • Support the achievement of brownfield urban consolidation targets including dwelling and population growth within existing areas

[16] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p35

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Project Objective	Sub-Objectives
urban renewal opportunities	• Support the redevelopment of planned urban renewal areas within the Sunshine Coast Enterprise Corridor from the Airport to Caloundra South, including Maroochydore, Kawana, and Caloundra • Supports the *ShapingSEQ* target of 53,700 consolidation dwellings (approximately 63 per cent) by 2041
Improve accessibility, convenience and resilience of the integrated transport network	• Provide a high visibility, legible, frequent (i.e. turn up and go (service with sufficient non-peak services), easy-to-use public transport system that provides an adequate level of service for non-regular users, such as tourists and other visitors • Have potential to make a significant contribution towards Improving public transport mode share to 10 per cent by 2041 through providing an attractive alternative for intra-regional trips • Sufficient right of way to achieve public transport travel times comparable with car based travel • Improved customer transport experience through improved convenience, frequency, reliability and legibility of system • Improve the resilience of the transport network • Provide a safe, reliable and convenient travel option • Balance between intra and inter regional task (e.g. a mix of rapid and urban services)
Provide a deliverable and value for money solution	• Deliverability and opportunities for optimisation with staging and avoiding redundant infrastructure • Suitability of construction and delivery methodology, timeframes to develop • Minimise level of community, property, heritage and environmental impacts • Maximise environmental, social and sustainability outcomes • Provision of a value for money and affordable solution • Facilitates opportunities for private investment • Creates value and potential opportunities to share value to defray the cost of the project • Defers investment in other infrastructure • Gives consideration to potential complementary infrastructure, such as active transport • Gives consideration to efficient redeployment of flexible transport assets and/or services

Table 5.1 – Sunshine Coast Mass Transit Project objectives and sub-objectives

These objectives and sub-objectives will guide the development of the optimal solution for the Sunshine Coast Mass Transit Project to focus on exploring what solution is best suited to achieve a particular outcome, rather than simply directing decision-making towards investment-oriented solutions. The project objectives will stimulate strategic thinking and planning, resulting in a project solution that is more likely to be considered and developed in a broader and more integrated strategic context.

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6 STRATEGIC RESPONSES

6.1 Purpose and Overview of this Chapter

The purpose of this chapter is to identify and describe the strategic responses (as identified in the Investment Logic Map (ILM)) which could be implemented to address the service needs identified in Chapter 4 and deliver the benefits sought identified in Chapter 5.

This chapter outlines:

- an overview of the relationship of the strategic responses to the other key elements of the ILM
- the proposed strategic responses to the service needs and benefits sought for the Project
- the conclusions drawn from the identified strategic responses, and their relationship to the initiatives identified in Chapter 7.

A strategic response is a high-level intervention, that has the potential to deliver some or all of the identified benefits sought and in doing so, address the related service need.

A strategic response can address the service need by:

- responding directly to a problem/opportunity to minimise or negate it
- implementing strategies to influence the causes of the problem/opportunity, in other words reduce the likelihood of the problem occurring
- implementing strategies to influence the effects/impacts of the problem.

Similar to the identification of service needs and benefits sought for the Sunshine Coast region, a holistic approach has been taken in defining potential strategic responses. The ILM demonstrates that each strategic response can be expected to deliver at least two of the four benefits sought, re-iterating the inclusivity of the proposed strategic responses.

6.2 Proposed Strategic Responses

As presented in the ILM in Chapter 3, there are a number of strategic responses that have been identified for the Sunshine Coast Mass Transit Project:

- Managing/influencing development priorities and settlement patterns that support private investment and urban renewal to meet infill targets.
- Implementation of road network demand management strategies (such as Intelligent Transport Systems (ITS), car parking management etc.).
- Development of an integrated land use, transport and economic development strategy.
- Improvement and optimisation of current public transport network.
- Investment in new stageable and integrable-type transport systems.

Each of these strategic responses is described in further detail in the sections below.

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6.2.1 Managing/influencing development priorities and settlement patterns

This strategic response is driven by the benefits sought as presented in Chapter 5 relating to accessibility and land use improvements.

Chapter 4 discussed the impacts of the forecast population growth and currently planned greenfield settlements in the region on accessibility and land use outcomes. These challenges could be managed by imposing development limits in the region's planning schemes to drive new developments to certain areas within the Sunshine Coast, or to other regions outside of the Sunshine Coast.

With the housing consolidation targets presented in *ShapingSEQ* of approximately 63 per cent, the plan supports the focusing of density in and around appropriate locations along the urban corridor from Maroochydore to Caloundra, and in areas with superior access to public transport, employment and services. Ultimately, these places would be more compact, mixed use, connected and active, and provide improved urban amenity. Housing diversity, including a range of 'missing middle' housing forms, would also increase in and around these places[1].

6.2.2 Implementation of road network demand management strategies

This strategic response is driven by the benefits sought presented in Chapter 5 relating to accessibility and transport network improvements.

As demonstrated in Chapter 4, there is a high private car usage within the Sunshine Coast region. This, combined with distance to employment, disconnected public transport networks and dispersement of residential areas makes choosing the car the most obvious and attractive transport option.

Road demand management strategies would aim to deter the use of private vehicles (particularly during peak periods) and foster equally convenient alternative transport options. Additionally, these demand management strategies could in the long term, reduce the amount of money that the community needs to spend on building, maintaining and replacing the council road network.

6.2.3 Development of an integrated land use, transport and economic development strategy

This strategic response is driven by the benefits sought presented in Chapter 5 relating to productivity, accessibility and land use improvements.

As discussed in Chapter 3, *ShapingSEQ* identifies the Sunshine Coast as a target area for urban infill explicitly notes that the area's capacity to accommodate forecast population growth will require improved public transport through a proposed passenger transport corridor between Maroochydore and Caloundra[2]. Under any scenario, a revised land use strategy building upon the 2014 Planning Scheme would likely be required to focus the development of the Sunshine Coast Enterprise Corridor, under which the proposed passenger transport corridor sits within. *ShapingSEQ* dictates that the corridor would need to be a cohesive, distinctive, and high-quality urban environment that is typically 'Sunshine

[1] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p122
[2] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p122

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Coast' in character which maximises development opportunities, housing choice and affordability[3].

The Regional Economic Development Strategy confirms that the Sunshine Coast Enterprise Corridor will represent the key area for commercial and residential growth over the next 20 years and provide the location for many of the high-value industries to establish, expand and mature. The connectivity of the Sunshine Coast Enterprise Corridor will also be essential to support future investment and planning prospects[4].

Overall, the various strategies are setting the strategic direction for the Sunshine Coast economy, land use patterns and transport requirements, however a holistic approach is needed to shape the way the future population of the corridor lives, works, travels and interacts with the community.

An integrated land use, transport and economic development strategy should embody:

- urban renewal and increased housing supply that enhances quality of life for residents on the Sunshine Coast
- regional economic aspirations and employment opportunities
- increased transport capacity and convenience in the Sunshine Coast Enterprise Corridor and the region more broadly to act as a catalyst for sustainable infill growth and densification
- improved public transport consistent with the *Integrated Transport Strategy* to keep up with planned growth, protect the Sunshine Coast lifestyle and support a growing economy.

6.2.4 Improvement and optimisation of current public transport network

This strategic response is driven by the benefits sought presented in Chapter 5 relating to productivity, accessibility and transport network improvements.

As discussed in Chapter 4, the current road transport network is experiencing congestion predominantly due to a heavy reliance on private vehicles to complete trips within the region.

The *Integrated Transport Strategy* notes that a globally constrained fiscal environment has created challenges for all levels of government to provide services and infrastructure to meet demand of growing communities. This requires governments to consider alternative funding models for delivering infrastructure and services and optimising existing infrastructure and services[5].

In order to avoid major investment into new transport infrastructure, there may be possibilities to reform the current network to optimise its usage. Targeted investment in the current network may be required to support the optimisation strategy.

6.2.5 Investment in new stageable and integrable-type transport systems

This strategic response is driven by the benefits sought presented in Chapter 5 relating to productivity, accessibility, land use and transport network improvements.

[3] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p122
[4] *Sunshine Coast: The Natural Advantage – Regional Economic Development Strategy 2013-2033*, 2013, Sunshine Coast Council, p20
[5] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p29

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As discussed in the other strategic responses above, and reinforced by the ILM mapping, the transport network has a key role to play in supporting the long-term sustainability and viability of the Sunshine Coast region, and new investment in transport infrastructure could deliver all benefits sought, and therefore address a range of key issues facing the region.

Infrastructure investment has a well-established link to economic gains. The International Monetary Fund estimates that each dollar of infrastructure investment could boost economic activity by as much as $1.80[6]. The State Infrastructure Plan notes that infrastructure investment has long-term benefits to labour productivity and incomes by enhancing the state's capital stock[7].

Connecting Brisbane, a joint Brisbane City Council and Queensland Government strategy completed in 2017 outlining the future roadmap for Brisbane's integrated public transport system, notes that rising government investment in public transport services and infrastructure will see the development and delivery of a range of initiatives, providing a more attractive customer offer and networks that are more efficient and reliable, and result in an increasing modal share[8].

However, any new Sunshine Coast transport infrastructure, regardless of mode, should be stageable to ensure that investment is targeted, and a program of extensions can be effectively managed, as demonstrated by the Gold Coast Light Rail system.

Any new transport infrastructure would also need to be demonstrably integrated into the existing transport network, as well as any future network changes that may be delivered by other government jurisdictions in the Sunshine Coast region.

6.3 Conclusions

The identified strategic responses cover a broad range of issues, including land use management, road demand management, integration of land use and transport planning, and the optimisation and investment in the transport network.

Chapter 7 builds upon the concepts described in each strategic response by identifying initiatives that could wholly or partially deliver on each strategic response. The ILM demonstrates that there are a range of initiatives that can evolve from each strategic response.

Given the complexities of the region's service needs, it is reasonable to expect that a combination of the strategic responses may be required to achieve optimal long-term economic, land and transport outcomes. As an example, any transport infrastructure initiative would likely deliver greater benefits if underpinned by an integrated economic, land use and transport strategy to guide urban renewal outcomes.

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[6] *State Infrastructure Plan (Part A: Strategy)*, 2016, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p9
[7] *State Infrastructure Plan (Part A: Strategy)*, 2016, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p9
[8] *Connecting Brisbane*, 2017, Brisbane City Council and Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p36

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7 INITIATIVE IDENTIFICATION AND ANALYSIS

7.1 Purpose and Overview of this Chapter

The purpose of this chapter is to present the identified initiatives that could address the service needs identified in Chapter 4. This chapter presents an analysis of initiatives against the project objectives identified in Chapter 5 and presents preliminary economic analysis for a selection of initiatives.

This chapter outlines:

- the initiatives identified for the project and methodology used for identification, including consideration of the options framework provided by the Queensland Government's *State Infrastructure Plan* (SIP)
- the outcomes of an initiative shortlisting of the identified initiatives
- the outcomes of a strategic merit test completed for the remaining initiatives to determine the next steps for the Sunshine Coast Mass Transit Project, in particular the analysis focus for the Preliminary Business Case (PBC).

Initiatives are high-level activities to address the service need, building upon the concepts described under the strategic responses. Initiatives may include activities that improve the use of an asset, change behaviour or focus, improve the capacity of an existing asset or implement a new asset.

Initiatives may, at some future point, become options, projects or elements of a program. Not all potential initiatives are likely to be implemented and some actions may become redundant as a result of other identified/implemented actions.

7.2 Initiative Identification

As part of the Investment Logic Map (ILM) workshop, a range of initiatives were identified to inform the ILM and this Strategic Business Case (SBC). This section provides some back ground and explanation as to how the initiatives were identified, and provides an overview of each initiative.

7.2.1 Background and Methodology

Given the maturity of Council, it is clear that after the identification of strategic responses in the ILM process, a number of initiatives were already in existence that could form part of one or more of the identified strategic responses, and address at least in part, the identified service needs. However, it was apparent through the ILM mapping that no current initiative could address every service need and that other initiatives were required. As such, the initiatives were identified under two broad categories:

- Current initiatives
- Potential initiatives. Potential initiatives were then split into two sub-categories:
    - Reform/Better Use potential initiatives
    - Infrastructure-based potential initiatives

7.2.1.1 Alignment to State Infrastructure Plan Framework

Chapter 3 presented a range of policies and frameworks and discussed the alignment of the Sunshine Coast Mass Transit Project with the objectives and goals of these initiatives. In

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particular, the Queensland Government's SIP presents an Options Assessment Framework, with the purpose of prioritising infrastructure investment and filtering infrastructure related investment decisions across government[1]. This prioritisation tier is consistent with the strategic assessment stage of the Queensland Government's Project Assessment Framework (PAF) which seeks to develop and describe a range of solutions with the potential to achieve the desired outcome. Figure 7.1 summarises the SIP Options Assessment Framework.

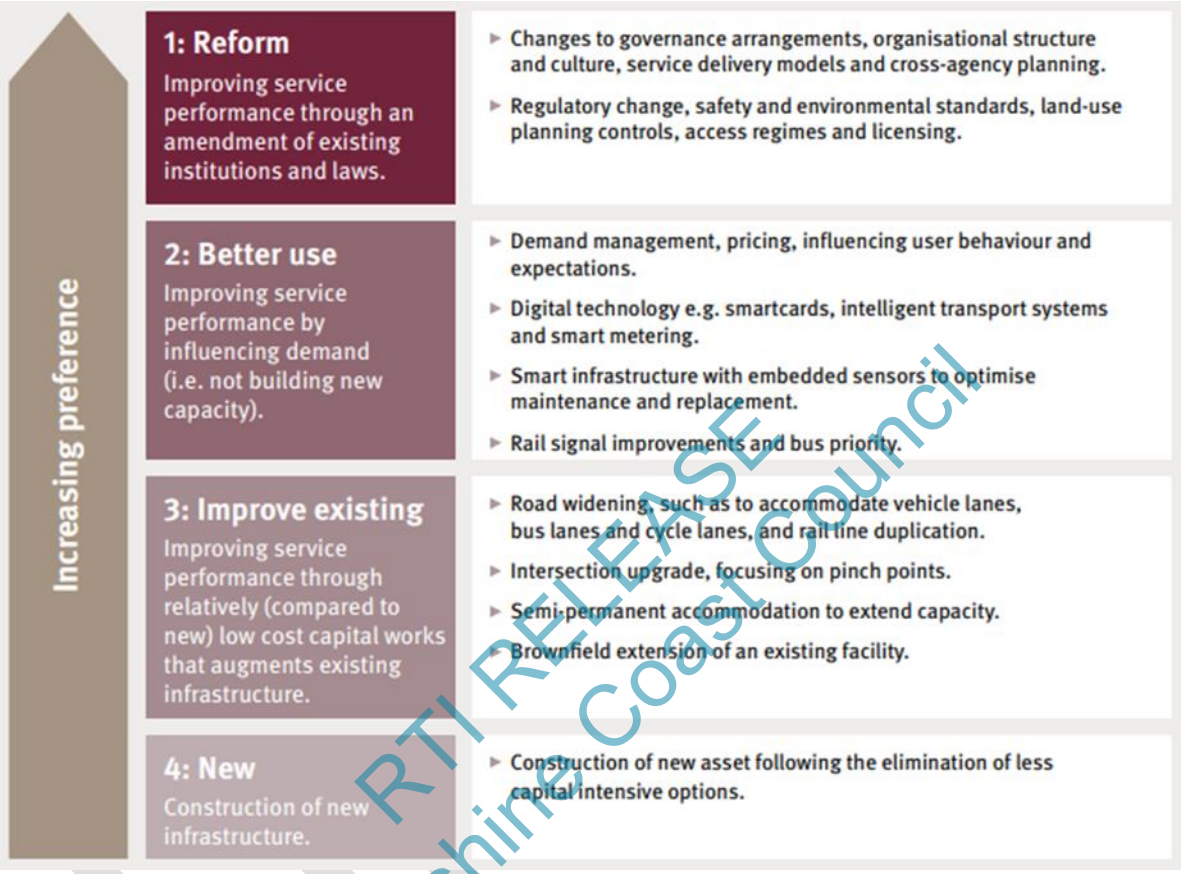


Figure 7.1 – SIP options framework

Each identified initiative was mapped to each relevant SIP category to demonstrate their alignment to the SIP framework.

7.2.2 Initiatives Description

As shown in the ILM in Chapter 3, a large number of initiatives were identified as forming part of a strategic response to address service needs in the Sunshine Coast. These are listed and described in Table 7.1.

Initiative	Description
Current Initiatives	
1. Town planning at Maroochydore	This initiative involves the planning, carrying out, promoting, coordinating and controlling the development of land in the Maroochydore City Centre. This initiative will provide a mix of residential, commercial, retail, civic and community uses in order to improve the business district and city

[1] *State Infrastructure Plan - Part A: Strategy*, 2016, Department of Infrastructure, Local Government and Planning, p41

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Initiative	Description
	centre, complementing and enhancing Maroochydore's existing business offering.
2. Town planning at Caloundra South and Beerwah East	This initiative involves the planning, carrying out, promoting, coordinating and controlling the development of land in Caloundra South (Aura) and the future major urban area of Beerwah East. This initiative will include developing a compact community supported by public transport, housing choice and affordability, employment opportunities, facilities and services in order to service the region's growing population.
3. Development of new land use and planning scheme (to replace 2014 Planning Scheme)	This initiative involves a detailed review and update of the 2014 Planning Scheme to provide an up-to-date land use planning scheme for the Sunshine Coast region to regulate the way land, buildings and structures are used and developed. It is proposed for commencement in 2020.
4. Development of road travel demand management strategies	This initiative involves the implementation of travel demand management strategies to encourage alternative transport mode usage and reduce road network congestion and flow on impacts. Current programs are focussed on voluntary travel behaviour change and managing the supply of parking at the Kawana and Maroochydore centres.
5. Development of new Integrated Transport Strategy	This initiative involves the development of an Integrated Transport Strategy to capture the opportunities and respond to the transport challenges facing the Sunshine Coast region to achieve a connected, smart, integrated, safe and efficient transport system that contributes to the region's economic viability, sustainability and lifestyle. A new Integrated Transport Strategy was adopted by Council in December 2018.
6. Development of new Regional Economic Development Strategy	This initiative involves the development of an economic strategy for the Sunshine Coast region to provide a vision and blueprint for sustainable economic growth. It will help to ensure the region actively participates in the global economy and deliver the lifestyle and opportunities for local residents and businesses alike.
7. Bus network infrastructure improvements	This initiative entails the progressive extension and increased service levels for the existing bus network, together with the staged installation of the CoastConnect quality bus corridor scheme to improve bus running times between Maroochydore and Caloundra. As noted in Chapter 2, CoastConnect is a "quality bus corridor" that proposes a staged development of infrastructure improvements including widening of intersections and adding general traffic lanes to assist bus travel, and bus stop upgrades.
8. Investment in additional road network capacity	This initiative involves the progressive upgrading of existing road infrastructure to address congestion issues and mitigate increased road network demand.
Potential Initiatives	
Reform/Better Use potential initiatives	
1. Land use only solution	This initiative involves additional land use reform on the Sunshine Coast region, beyond land use focused activities covered under current initiatives. This would involve extensive urban consolidation at higher levels than currently envisaged in the Planning Scheme and *ShapingSEQ*.
2. Implementation of road travel demand management strategies	This initiative involves additional travel demand management strategies on the Sunshine Coast region, beyond current voluntary change initiatives. Options could include toll points, congestion charges or further parking management strategies to restrain the growth and supply, and increase the price of parking an activity centres.

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Initiative	Description
3. Major upgrades to road network to keep service levels consistent	This initiative involves the delivery of major road infrastructure upgrades beyond those already planned to ensure that performance of the road network does not continue to degrade in the future.
Infrastructure-based potential initiatives (refer to Figure 7.2)	
1. Passenger rail between Beerwah and Sunshine Coast Airport	This initiative involves delivering a new passenger line from the existing Queensland Rail network from Beerwah to the Sunshine Coast Airport via Maroochydore through the CAMCOS corridor (as described in Chapter 2).
2. Fast rail between Beerwah and Sunshine Coast Airport	This initiative involves delivering a new line from the existing Queensland Rail passenger rail network from Beerwah to the Sunshine Coast Airport via Maroochydore through the CAMCOS corridor. The key difference between this initiative to the infrastructure initiative 1. above is the mode of rail is considerably faster than existing Queensland Rail services and the number of stops would be significantly reduced, similar to what has been proposed under the North Coast Connect project (as discussed in Chapter 2).
3. Light rail between Maroochydore and Caloundra	This initiative involves delivering an on-street light rail system along a coastal corridor between Maroochydore, Kawana and Caloundra.
4. Light rail between Beerwah and Maroochydore	This initiative involves delivering an on-street light rail system along a coastal corridor between Maroochydore and Kawana. The rapid light rail system then extends down to Beerwah through the CAMCOS corridor, with an on-street spur line to Caloundra.
5. Light rail between Maroochydore and Kawana, and passenger rail to Beerwah	This initiative involves an on-street light rail system between Maroochydore and Kawana, and a passenger rail system from Kawana to Beerwah through the CAMCOS corridor.
6. Passenger rail between Beerwah and Sunshine Coast Airport, and light rail between Maroochydore and Caloundra	This initiative involves delivering passenger rail from Beerwah to the Sunshine Coast Airport via Caloundra, which integrates with an on-street light rail system from Maroochydore to Caloundra. This initiative is a combination of infrastructure initiatives 1.and 3. above.

Table 7.1 – Description of identified initiatives

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7.3 Initiative Shortlist

A strategic assessment was undertaken of the identified initiatives to develop an initial shortlist for further analysis. A qualitative review of each initiative was completed to understand the land use, transport and economic implications of each initiative.

Current initiatives assessment

The seven current initiatives are not considered sufficient in themselves to meet the Sunshine Coast Mass Transit Project objectives. They provide insufficient transit amenity to support planned land use and employment and productivity changes, but will not in isolation overcome the problems or provide the benefits identified as being required under the ILM process.

These projects however will continue to be developed (as they are committed projects/initiatives), but there is a need for them to be augmented with further potential initiatives.

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Reform/Better Use potential initiatives assessment

The potential initiative based solely on land use reform will not in itself have sufficient transit capacity to support the increase in zoning. However increased land use density in urban renewal areas would continue to be assessed as part of the updated planning scheme currently being developed by Council. This could be a supporting initiative for a mass transit solution.

Implementation of road travel demand management strategies and major upgrades to road network potential options would also not in themselves be sufficient to meet key land use objectives, in particular urban renewal outcomes in the coastal corridor, even if they were to be politically feasible. Furthermore, as TMR is the owner of the key arterial roads within the region, these initiatives could not be adequately progressed by Council, in isolation from the Queensland Government. However to support any preferred solution, Council may look to implement some further road demand strategies, such as parking management, to support any shift to a new mass transit solution.

Infrastructure-based potential initiatives

Based on initial consideration of the infrastructure-based potential initiatives, it can be concluded that any of these initiatives could potentially address all project objectives, as any of those initiatives could deliver economic, land use and transport outcomes, and all can be considered deliverable. In order to understand how each initiative could potentially address the Sunshine Coast Mass Transit Project objectives outlined in Chapter 5, they are further analysed in Section 7.4 below.

7.4 Analysis of Remaining Initiatives

Based on the initial assessment of initiatives, six potential initiatives have been selected to undergo further analysis to determine a further shortlist to undergo detailed analysis in future project stages. This list of initiatives includes:

- Option 1 – Passenger rail between Beerwah and Sunshine Coast Airport
- Option 2 – Fast rail between Beerwah and Sunshine Coast Airport
- Option 3 – Light rail between Maroochydore and Caloundra
- Option 4 – Light rail between Beerwah and Maroochydore
- Option 5 – Light rail between Maroochydore and Kawana, and passenger rail to Beerwah
- Option 6 – Passenger rail between Beerwah and Sunshine Coast Airport, and light rail between Maroochydore and Caloundra

Figure 7.2 provides an overview of the each of the above options.

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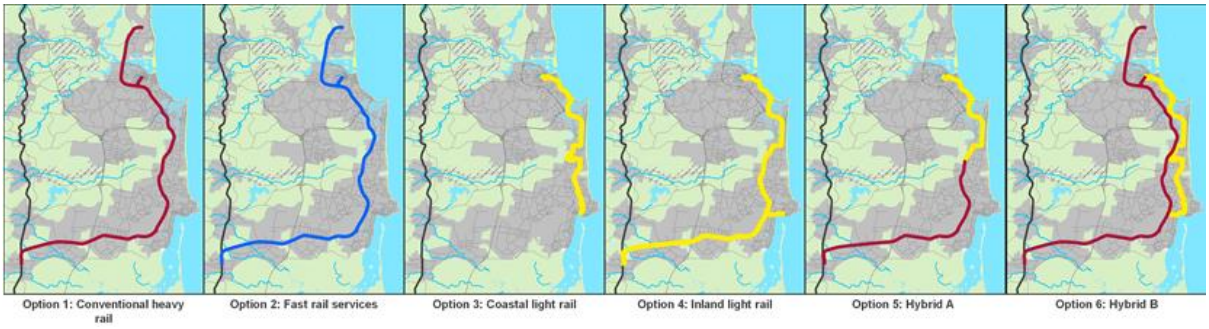


Figure 7.2 – Infrastructure-based potential initiatives for mass transit on the Sunshine Coast

These options were identified by Veitch Lister Consulting as part of the Sunshine Coast Concept Mass Transit Master Plan prepared for Sunshine Coast Council (Council) in December 2018. These options were identified based on an understanding of the key major centres and movements within the Sunshine Coast region. Preliminary transport modelling was completed on these options to obtain a number of key transport performance indicators, which are referenced where relevant.

It is acknowledged that it is unnecessary at the SBC phase to define technologies or modes for initiatives, however to provide some distinction between initiatives, appropriate technologies have been assumed. Technology and mode type will be further analysed in the PBC.

It is recognised that by identifying mode-type for a number of the initiatives above, there is alignment with proposed projects from other government jurisdictions (for example Option 2 reflects the North Coast Connect project being investigated by the Australian Government, as described in Chapter 2). By including a broad range of initiatives, Council can be suitably informed on which solution will be best for Council to progress.

Base Case

As noted above, the six current initiatives that were identified in Table 7.1 have been ruled out for further analysis because they were not deemed to be able to meet the Sunshine Coast Mass Transit Project objectives. However given that these initiatives are either in place, underway or committed initiatives, for the purposes of all future analysis, these initiatives have been combined together for inclusion in the Base Case.

7.4.1 Analysis Outcomes

A strategic merit test of the 6 potential infrastructure initiatives was undertaken to understand how each initiative addresses the project objectives. As outlined in detail in Chapter 5, the objectives for the Sunshine Coast Mass Transit Project are:

- Support the Sunshine Coast's productivity, employment growth and self-containment targets by supporting existing and emerging strategic centres.
- Maintain, and where possible improve liveability and provide a catalyst for positive change by unlocking urban renewal opportunities.
- Improve accessibility, convenience and resilience of the integrated transport network.
- Provide a deliverable and value for money solution.

Each initiative was allocated a score using the traffic light scoring system outlined in Table 7.2 below.

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Result	Traffic light score
Strong alignment with the project objective	●
Some alignment with the project objective	●
Poor alignment with the project objective	●

Table 7.2 – Strategic merit test traffic light scoring system

Table 7.3 provides a summary of the strategic merit test scoring for each initiative against each project objective. An overall traffic light score is then given for each initiative.

The detailed analysis results for each option against each project objective is attached to the SBC as Appendix A.

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Initiative	Objective 1 (Productivity and growth support)	Objective 2 (Urban renewal outcomes)	Objective 3 (Integrated transport network outcomes)	Objective 4 (Deliverability and value for money)	OVERALL SCORE
1. Passenger rail between Beerwah and Sunshine Coast Airport	🔴	🔴	🟡	🟡	🔴
2. Fast rail between Beerwah and Sunshine Coast Airport	🔴	🔴	🟡	🟡	🔴
3. Light rail between Maroochydore and Caloundra	🟡	🟢	🟡	🟢	🟡
4. Light rail between Beerwah and Maroochydore	🟢	🟢	🟡	🟢	🟢
5. Light rail between Maroochydore and Kawana, and passenger rail to Beerwah	🟢	🟡	🟢	🟢	🟢
6. Passenger rail between Beerwah and Sunshine Coast Airport, and light rail between Maroochydore and Caloundra	🟢	🟢	🟢	🟡	🟢

Table 7.3 – Strategic merit test summary results

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Based on the summary table above, it can be seen that Options 1 and 2 do not satisfactorily meet the Sunshine Coast Mass Transit Project objectives, largely due to their inland transit focus offering little to no productivity, accessibility and urban renewal outcomes along the coastal part of the Sunshine Coast Enterprise Corridor. Option 3 in isolation provides good urban renewal outcomes given its coastal location, however does not fully meet the productivity and transport objectives, as it does not offer improved inter-regional connectivity.

Option 4 would deliver good outcomes across all objectives given the connection provided through the inland corridor and along the Sunshine Coast Enterprise Corridor. For the most part, this initiative provides good transport outcomes, however it should be noted that light rail through the CAMCOS corridor would result in lower top speeds and therefore longer public transport travel times compared to the initiatives that provide other transit modes through the inland corridor. These travel time penalties are partially offset by faster acceleration and deceleration. Light rail sectors would also likely run at higher frequencies, so the increased in vehicle travel times would also be partially offset by reduced average wait times.

Option 5 meets all objectives, however urban renewal outcomes may be lessened given light rail does not extend to Caloundra compared to Options 3, 4 and 6. This task could be serviced by a high frequency bus with priority (to complete with private vehicle travel times.

Option 6 delivers on all project objectives as it is considered to be an ultimate mass transit solution, with the exception of value for money, as it is considered to comparatively have the largest capital and operating costs. However, out of all initiatives assessed, this initiative delivers the highest accessibility outcomes given the network coverage provided and induces a higher number of public transport trips within the region.

7.5 Conclusions

The analysis in this chapter demonstrates that the current initiatives that Council and TMR are undertaking are not sufficient to meet the project objectives. This is supported by the service needs analysis in Chapter 4 which shows that the current initiatives (collectively assumed to be the Base Case or 'without project' case) cannot address the service needs identified in the ILM, and therefore achieve Council's vision for the Sunshine Coast region.

In terms of potential initiatives, a land use only initiative will not in itself have sufficient transit amenity to support the increase in zoning. However, in order to achieve the urban renewal project objectives, a land use strategy must support a preferred mass transit solution. As discussed in Chapters 5 and 6, integration of land use and transport planning is critical to achieving optimal economic outcomes for the region.

Implementation of road travel demand management strategies and major upgrades to road network potential initiatives would also not in themselves be sufficient to meet key land use objectives.

A range of infrastructure based potential initiatives were comparatively assessed and subjected to a strategic merit test to determine the potential transport outcomes each initiative could deliver, and the performance of each initiative against the project objectives. This analysis concluded that the infrastructure initiatives that provide coverage along the coastal areas of the Sunshine Coast region from Maroochydore to Caloundra, as well as inland connections through greenfield developments and connecting to the existing passenger rail network, perform best against the project objectives.

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7.6 Recommended approach for the Preliminary Business Case

Given the size of the ultimate mass transit solution for the region, it is proposed to narrow the focus of analysis on a mass transit solution for the PBC. Figure 7.3 provides a breakdown of the geographical areas under the best performing mass transit initiative (Option 6), which highlights the key elements of each geographical area.

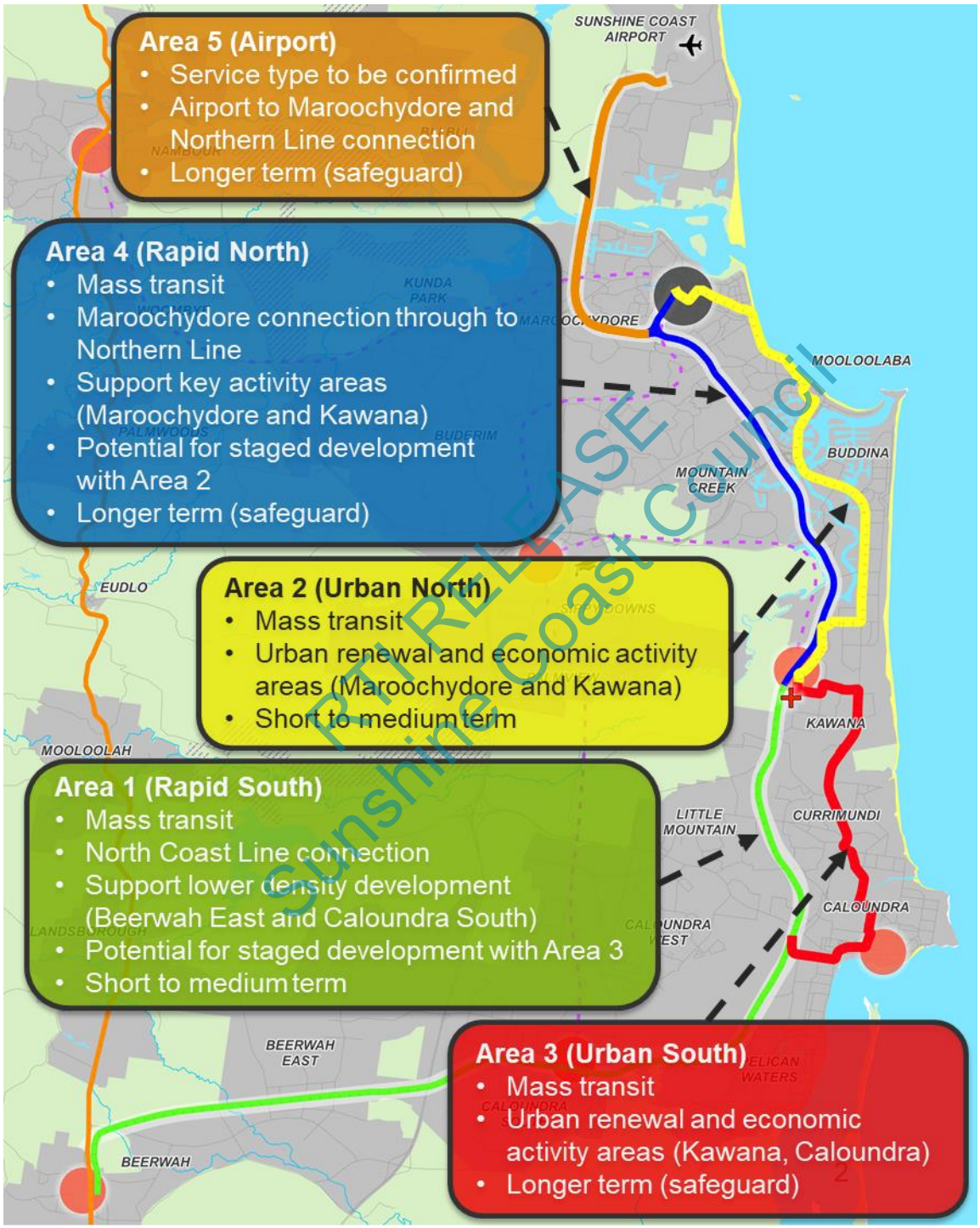


Figure 7.3 – Geographic breakdown and focus areas for a Sunshine Coast mass transit solution

The graphic above shows that Areas 1 and 2 could be progressed in the short to medium term, as these areas have a large contingent of greenfield developments (Area 1) and economic activity centres (Area 2). Based on the service need analysis presented in Chapter

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4, in particular the urgency of the urban renewal requirements for the Sunshine Coast and infill targets that have been set for 2041, it is recommended that the PBC should focus on a mass transit solution for Area 2.

Furthermore, with Council focusing on progressing planning for a mass transit solution for Area 2, other jurisdictions' agencies, such as TMR, can continue progressing planning mass transit for other high priority geographic areas such as Area 1. It should be noted that transparency between agencies would be required during future planning to ensure solutions that are progressed are complementary and deliver positive, balanced outcomes for the region, such as those discussed in Chapter 5.

Whilst mass transit technologies were assumed for the purposes of the analysis in this chapter, the PBC will investigate potential modes and transport technologies further. Council have previously considered a range of technologies such as heavy rail, elevated rail and monorail for the Area 2 corridor, however these will be relitigated in the PBC. The PBC will also focus on the comparison between light rail and bus rapid transit in order to determine the technology that best addresses the Sunshine Coast Mass Transit Project objectives. Other elements of any potential solution for Area 2 that the PBC will confirm include the detailed transit route and station location, however these are unlikely to materially deviate from previously released route and station location information.

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8 PRELIMINARY STAKEHOLDER ANALYSIS

8.1 Purpose and Overview of this Chapter

The purpose of this chapter is to identify the key current and any future stakeholders for the project and their level of interest in the project. The analysis in this chapter builds on previous stakeholder analysis work completed as part of transport investigations on the Sunshine Coast, and identifies future focus areas as the Sunshine Coast Mass Transit Project progresses.

This chapter outlines:

- the summary findings of previous community consultation undertaken in 2014 by Sunshine Coast Council (Council) on a potential light rail system
- the current and potential future stakeholders for the Sunshine Coast Mass Transit Project and their potential project interests
- proposed indicative management and engagement strategies for the identified stakeholders
- the next steps for engaging with stakeholders during upcoming project phases.

8.2 Previous Community Consultation Completed

8.2.1 2014 Sunshine Coast Light Rail Project

During October and November 2014, Council undertook community consultation on the Sunshine Coast Light Rail project. The focus of consultation was to outline the project to members of the Sunshine Coast community, explaining the potential benefits of light rail, and to gather community feedback on a number of route options in the areas of Maroochydore, Mooloolaba, Kawana and Caloundra, as shown in Figure 8.1.

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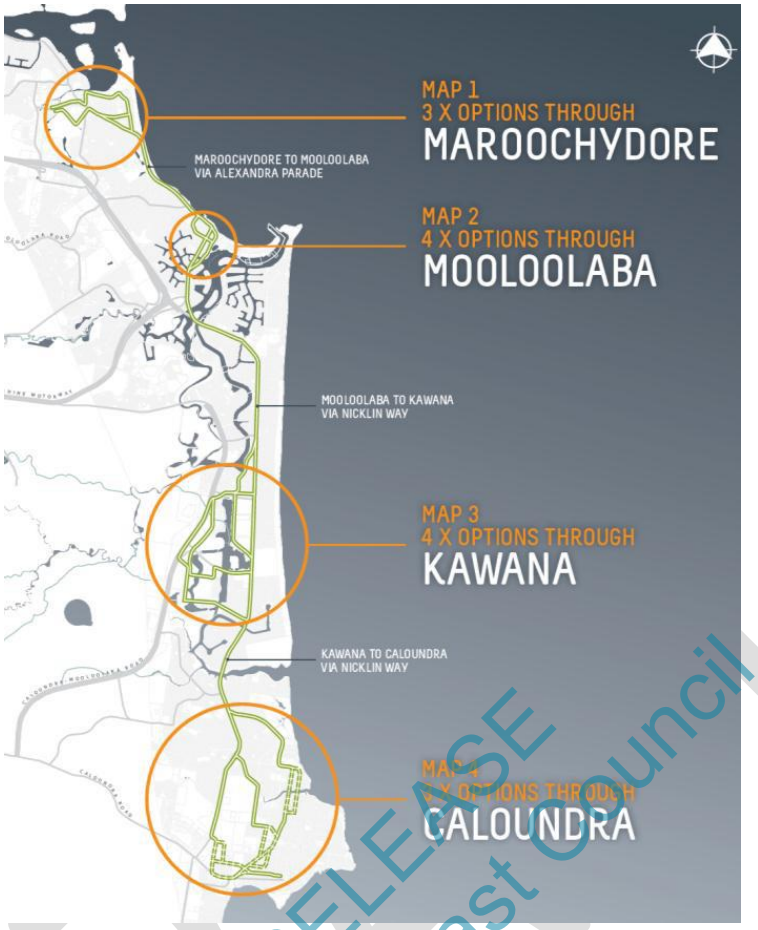


Figure 8.1 – Light rail route options summary presented during 2014 community consultation

Overall, the consultation process found that community reaction to a potential light rail system for the Sunshine Coast was considered overwhelmingly positive and is broadly supported by the community[1]. In particular respondents identified they would use the northern areas of the route slightly more, while also identifying Maroochydore and Kawana as the two most important areas of the corridor, indicating a level of support for an initial stage of light rail being between Maroochydore and Kawana[2].

In relation to Kawana, the majority of respondents preferred route options that accessed the hospital precinct, while key issues raised included access to other major destinations, travel time and connections to future heavy rail (i.e. CAMCOS)[3].

Overall, the main deterrents to the use of light rail were identified as fare cost, travel time, location of light rail corridor, access to the light rail, frequency and reliability and preference for driving[4].

The findings of the consultation were presented in a publicly released report in May 2015 titled *Sunshine Coast Light Rail Route Options Consultation Report*.

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[1] *Sunshine Coast Light Rail Route Options Consultation Report*, 2015, Sunshine Coast Council, p2
[2] *Sunshine Coast Light Rail Route Options Consultation Report*, 2015, Sunshine Coast Council, p19
[3] *Sunshine Coast Light Rail Route Options Consultation Report,* 2015, Sunshine Coast Council, p20
[4] *Sunshine Coast Light Rail Route Options Consultation Report,* 2015, Sunshine Coast Council, p20

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8.2.2 2018 Draft Sunshine Coast Integrated Transport Strategy Community Consultation

As discussed in Chapter 3, the Sunshine Coast Integrated Transport Strategy will shape how transport is planned and delivered for the Sunshine Coast with a focus on delivering a mode shift to more passenger transport and active transport trips to help manage congestion and enhance the lifestyle of the Sunshine Coast region. In order to inform the final strategy, Council sought feedback from the Sunshine Coast community.

Consultation occurred over two stages:

- **Stage 1 (Market Research)** – Market research was undertaken between November 2017 and February 2018 to better understand community opinions and obstacles to travel behaviour change and to help inform the development of the *draft Integrated Transport Strategy*. In particular, this stage of consultation helped to identify the transport challenges and opportunities and refine the vision, objectives and strategies for success (including the policy directions and actions) outlined in the draft Strategy.
- **Stage 2 (Community Consultation)** – Council approved the *draft Integrated Transport Strategy* for community consultation between June and July 2018. Stage 2 provided a strong community endorsement of the Strategy and helped refine the final Integrated Transport Strategy, in preparation for Council adoption.

Key findings from Stage 1 on the *draft Integrated Transport Strategy* consultation relevant to the Sunshine Coast Mass Transit Project Strategic Business Case (SBC) include:

- Most respondents (40 per cent) are moderately satisfied with the current transport system on the Sunshine Coast, 33 per cent are not satisfied at all, and only 15 per cent are 'very' or 'extremely' satisfied.
- 87 per cent of respondents rarely or never use public transport and only 2 per cent use public transport daily, 5 per cent weekly and 6 per cent once a month.
- Key responses for not using public transport more regularly included:
    - Just prefer the car
    - Accessibility is poor
    - Frequencies are inconvenient
    - Journey times are not competitive
- 77 per cent of respondents support investment in light rail to help manage the growth impacts and maintain lifestyle.
- 74 per cent of respondents support Council's travel behaviour change focus.

Key findings from Stage 2 on the *draft Integrated Transport Strategy* consultation relevant to the Sunshine Coast Mass Transit Project SBC include:

- 81 per cent of respondents agree with need to reduce reliance on cars and strongly support the need to increase the public transport mode share target above 10 per cent
- 97 per cent of respondents support for Council to continue advocating for investment in transport

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- The most important policy outcomes are considered to be:
    - High frequency public transport connections
    - Improved local feeder bus services
    - Travel behaviour change
    - Technology that helps people travel
    - More compact urban form around public transport
- 93 per cent of respondents agree travel behaviour change is critical and the community has a significant role to play.

The feedback received from this consultation will inform the final Integrated Transport Strategy and provides valuable context on how the Sunshine Coast community may receive any mass transit solution.

8.3 Sunshine Coast Mass Transit Project Stakeholder Identification and Analysis

The Sunshine Coast Mass Transit Project SBC and future PBC and DBC phases will undoubtedly draw the interest of a range of stakeholders. Furthermore, the construction and operation of a new mass transit system will have a range of impacts on various stakeholders, including government agencies, property owners, local businesses, road users and public transport users.

Table 8.1 identifies each stakeholder group, their likely interest in the Sunshine Coast Mass Transit Project and proposed indicative management strategies to manage these interests as the project progresses.

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Stakeholder Group	Project Interest	Proposed Indicative Management Strategies
Government Stakeholders		

Sunshine Coast Council, including
• Mayor and Councillors
• Council Chief Executive Offer and organisational groups:
  ○ Customer Engagement and Planning Services
  ○ Economic and Community Development
  ○ Business Performance
  ○ Built Infrastructure
  ○ Liveability and Natural Assets
	• Ability of the project to achieve regional economic, land use and transport planning aspirations
	• Impact of project on community members
	• Ensuring value for money from business case development
	• Funding outcomes for project, including opportunity for innovative funding solutions such as private investment and value capture
	• Impacts and/or relationships with other Council projects and initiatives
	• Ongoing role of other government agencies
		• Membership on Project Steering Committee
		• Project briefings to Group Executives as required
		• Engagement at Council officer level with project team on progress, required business case inputs and any relevant considerations for Council groups

Queensland Government, including:
• Cabinet Members, including Premier, Deputy Premier, Minister for State Development, Manufacturing, Infrastructure and Planning, and Minister for Transport and Main Roads
• Local Members of Parliament, including members for Caloundra, Kawana, Buderim and Maroochydore.
• Government agencies, including:
  ○ Department of Transport and Main Roads
  ○ Queensland Treasury
  ○ Building Queensland
  ○ Department of State Development,
	• Ability of the project to achieve regional and state-wide economic, land use and transport planning aspirations
	• Impact of project on community members
	• Funding outcomes for project, including opportunity for innovative funding solutions such as private investment and value capture
	• Impacts and/or relationships with other Queensland Government projects and initiatives
	• Ensuring alignment of business case to key guidelines and frameworks
	• Ongoing role of other government agencies
		• Membership on Project Steering Committee
		• Observer roles on Business Case Reference Group
		• Project briefings to Cabinet Members and/or Local Members of Parliament as required
		• Project briefings to agency executives as required
		• Engagement at Council officer level with related projects' teams on project progress

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Stakeholder Group	Project Interest	Proposed Indicative Management Strategies
Manufacturing, Infrastructure and Planning ○ Department of Premier and Cabinet		
Australian Government, including: • Ministry Members, including Prime Minister, Deputy Prime Minister and Minster for Infrastructure and Transport and Regional Development, Treasurer, and Minister for Cities, Urban Infrastructure and Population • Local Members of Parliament, including members for Fisher and Fairfax • Government agencies, including: ○ Department of Infrastructure, Regional Development and Cities ○ Infrastructure Australia ○ Department of Prime Minister and Cabinet	• Ability of the project to achieve regional and nation-wide economic, land use and transport planning aspirations • Impact of project on community members • Funding outcomes for project, including opportunity for innovative funding solutions such as private investment and value capture • Impacts and/or relationships with other Australian Government projects and initiatives • Ensuring alignment of business case to key guidelines and frameworks (including the Infrastructure Australia submission templates) • Ongoing role of other government agencies	• Observer roles on Business Case Reference Group • Project briefings to Ministry Members and/or Local Members of Parliament as required • Project briefings to agency executives as required
External Stakeholders		
Sunshine Coast residents	• Potential uplift to demographics and regional economic position due to a new transport system and resulting impacts to development • Impacts on accessibility within the region during construction of a new mass transit system • Impacts on accessibility within the region once new mass transit system is operational • Opportunities for employment during construction and/or operational phases	• Release of public project updates and information • Future community consultation activities

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Stakeholder Group	Project Interest	Proposed Indicative Management Strategies
	• Perceptions around use of ratepayer monies to fund studies for the project • Wider public transport network impacts, including accessibility and integration with other transport modes.	
Affected land holders within the mass transit corridor	• Potential land acquisition requirements for the project • Disruptions (such as access restrictions, noise, vibrations, dust etc.) during project construction • Liveability once project is operational (noise around stations, tram noise etc.) • Impacts to land values due to the project • Changes to Council planning schemes	• Identification of land requirements once final project solution is confirmed and targeted engagement with affected land holders • Release of public project updates and information • Future community consultation activities • Development of detailed impact management plans prior to construction commencing
Potential participants in the development of the project	• Opportunities for roles to participate in project development	• Release of public project updates and information
Public transport industry groups	• Implications of a new mass transit system for all public transport networks, including bus and active transport • Ensuring project solution caters for complementary active transport opportunities, such as cycling and walking	• Release of public project updates and information • Possible future targeted engagement
Rail industry groups	• Implications of a new mass transit system for rail industry in Queensland • Ensuring safety regulations and standards are upheld • Opportunities for employment for members	• Release of public project updates and information • Possible future targeted engagement
Motoring industry groups	• Implications of a new mass transit system on road network and private car users	• Release of public project updates and information • Possible future targeted engagement

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Stakeholder Group	Project Interest	Proposed Indicative Management Strategies
Tourism operators	• Impact on tourism forecasts due to project • Impacts to operators during construction of a new mass transit system • Accessibility to/from key tourism areas on Sunshine Coast once a new mass transit system is operational • Connectivity of Sunshine Coast Airport	• Release of public project updates and information • Future community consultation activities • Possible future targeted engagement
Public transport operators	• Impacts to transport operations during construction (route changes etc.) • Impacts to operations once operations commence (service contract changes etc.) • Interest in operations contract opportunities for the new mass transit network	• Identification of key public transport operator stakeholders, with possible joint TransLink/Council engagement at a future point in time once preferred solution is confirmed and secondary public transport network impacts are assessed.
Property developers	• Impact of project on current or planned developments within the Sunshine Coast region • Outcomes of any reviews of planning provisions as a result of a preferred project solution • Opportunities for incentives for urban renewal type redevelopments • Implications of any value capture initiatives on future developments	• Release of public project updates and information • Future community consultation activities • Possible future targeted engagement

Table 8.1 – Key Sunshine Coast Mass Transit Project stakeholder groups interests and proposed management strategies

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8.4 Proposed Future Stakeholder Engagement

Based on Table 8.1 above, it is apparent that there are a number of stakeholders that will require ongoing and in some cases, targeted engagement as the Sunshine Coast Mass Transit Project progresses.

As part of the PBC, Council will focus its engagement efforts on clarifying the positions and interests of the identified stakeholders in relation to a new mass transit system on the Sunshine Coast, and to clarify potential interests, impacts and requirements that need to be considered as the project progresses. This will include the development of a Stakeholder Management Plan to formalise the engagement and management of identified stakeholders. The proposed stakeholder consultation program is further discussed in Chapter 10.

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9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Purpose and Overview of this Chapter

The purpose of this chapter is to summarise the key outcomes of the Sunshine Coast Mass Transit Project Strategic Business Case (SBC) and to present its recommendations.

9.2 Key Findings of the Strategic Business Case

The development of this SBC included a review of government planning policies, the development of an Investment Logic Map (ILM), a review of current and previous projects developed in the region, analysis of the region's service needs, development of project objectives and the identification of strategic responses and current and potential initiatives. The development process included consultation with key government agencies to ensure a whole-of-government planning and options assessment approach was adopted[1].

This SBC found that there are four key service needs for the Sunshine Coast region:

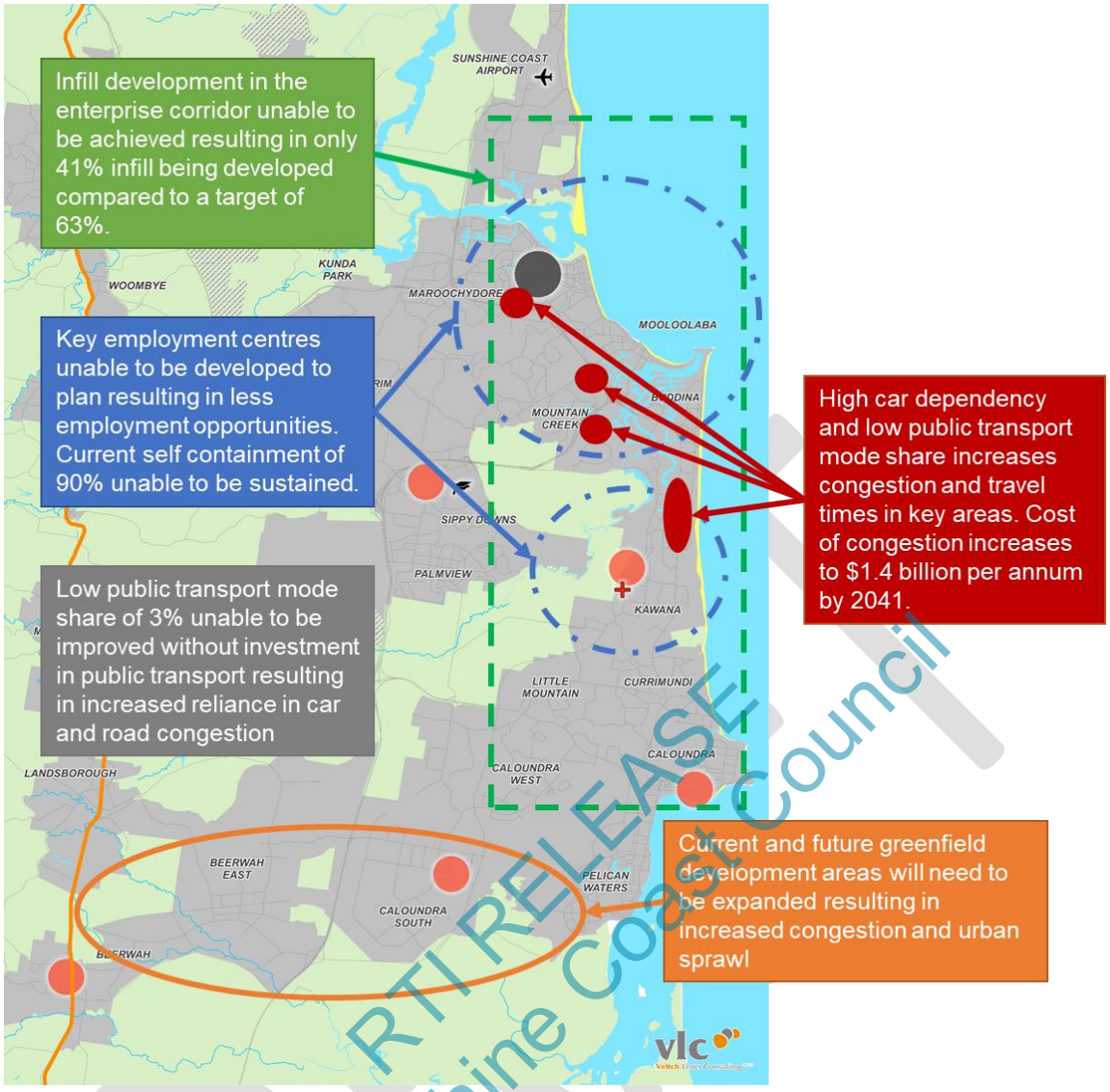
- Accessibility to, between and within the key economic precincts on the Sunshine Coast is inefficient and unreliable, thereby limiting regional productivity and limiting the opportunity to be a sustainable and self-contained region.
- The lack of a mass transit-style public transport network is resulting in disjointed land use outcomes, limiting appetite for urban renewal in key areas within the Sunshine Coast region, meaning long term urban renewal targets are unlikely to be achieved.
- Residents and visitors to the Sunshine Coast do not have access to a reliable, convenient, high-capacity, and integrated public transport service, thereby driving high levels of private vehicle usage and resulting road congestion.
- The current Sunshine Coast public transport network is unlikely to encourage long term transport mode shift, as the bus network in mixed traffic cannot provide a viable alternative to the accessibility, convenience, comfort and travel times provided by private vehicle travel. Sustainability targets may also not be achieved as the bus network alone is unlikely to meet long term environmental, liveability, amenity and economic targets for the region.

Figure 9.1 provides a graphical summary of the key factors contributing to the service needs discussed in the SBC.

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[1] The development process of the Sunshine Coast Mass Transit Project Strategic Business Case included consultation with the Sunshine Coast City Council, Building Queensland, Queensland Treasury, Department of Premier and Cabinet, Department of Transport and Main Roads and Infrastructure Australia.

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Figure 9.1 – Sunshine Coast region service need summary

The service need analysis has established that there is an urgency for a mass transit solution for the Sunshine Coast, particularly if infill development targets established by *ShapingSEQ* are to be achieved. Without a catalytic project within the Sunshine Coast Enterprise Corridor (which is where the majority of the infill development will be directed towards), it is estimated only 41 per cent of the required 53,700 dwellings will be taken up, meaning the *ShapingSEQ* targets will not be achieved and the increased demand for housing will likely be met by further greenfield developments, thereby failing to exploit the agglomeration opportunity.

There are also a range of traffic concerns in the Sunshine Coast region, largely driven by a high private car dependency in the Sunshine Coast region. Without urgent intervention, the effects of high private vehicle usage will exacerbate, materialising in the form of further congestion along major corridors, thereby increasing travel times and degrading accessibility within the region. Vehicle operating costs will rise for road users, and there will be flow on liveability, amenity and environmental impacts.

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In order to address the identified service needs, there are four potential benefits sought:

- Linking priority economic development (Maroochydore Principal Activity Centre), knowledge based industry areas (Kawana Health Precinct) and tourist destinations (Sunshine Coast Airport, Mooloolaba and Caloundra).
- Greater access for Sunshine Coast residents to employment, schools, shopping, services and recreational facilities within 30 minutes of home.
- Improved land use outcomes including a broad range of housing opportunities such as affordable living, 'missing middle' housing and mixed-use development in established urban centres on the Sunshine Coast.
- Increased transport options (both public transport and active transport) for people of different ages and mobility levels without reliance upon private motor vehicles and, subsequently, significant reductions in motor traffic, car parking requirements and environmental impacts.

There are five potential strategic responses that could address the identified service needs and benefits sought:

- Managing/influencing development priorities and settlement patterns that support private investment and urban renewal to meet infill targets.
- Implementation of road network demand management strategies (such as Intelligent Transport Systems (ITS), car parking management etc.).
- Development of an integrated land use, transport and economic development strategy.
- Improvement and optimisation of current public transport network.
- Investment in new stageable and integrable-type transport systems.

Given the complexities of the region's service needs, it is reasonable to expect that a combination of the strategic responses may be required to achieve optimal long-term economic, land and transport outcomes.

Seventeen current and potential initiatives were identified in the SBC to address to the strategic responses. They consist of land use and transport initiatives being progressed by either the Sunshine Coast Council (Council) or Queensland Government. An assessment of the initiatives showed that:

- The eight current initiatives identified should continue to be developed as part of current planning and project development processes. They will form the basis of the "base case" or "without project case" against which any future investment could be measured.
- A land use only potential initiative will not adequately address the problems nor fully realise identified benefits. However, in order to achieve the urban renewal project objectives, a land use strategy must support a preferred mass transit solution. As discussed in Chapters 5 and 6, integration of land use and transport planning is critical to achieving optimal economic outcomes for the region.
- Implementation of road travel demand management strategies and major upgrades to the road network would not meet key land use objectives, in particular urban renewal outcomes in the coastal corridor.

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- Of the infrastructure-based potential initiatives identified, it was concluded that the infrastructure initiatives that provide coverage along the coastal areas of the Sunshine Coast region from Maroochydore to Caloundra, as well as inland connections through greenfield developments and connecting to the existing passenger rail network perform best against the project objectives.
- However, given the size of the ultimate mass transit solution for the region, it is proposed to narrow the focus of analysis on a mass transit solution for the Preliminary Business Case (PBC). Figure 9.2 provides a breakdown of the geographical areas under the best performing mass transit initiative (Option 6[2]), which highlights the key elements of each geographical area.

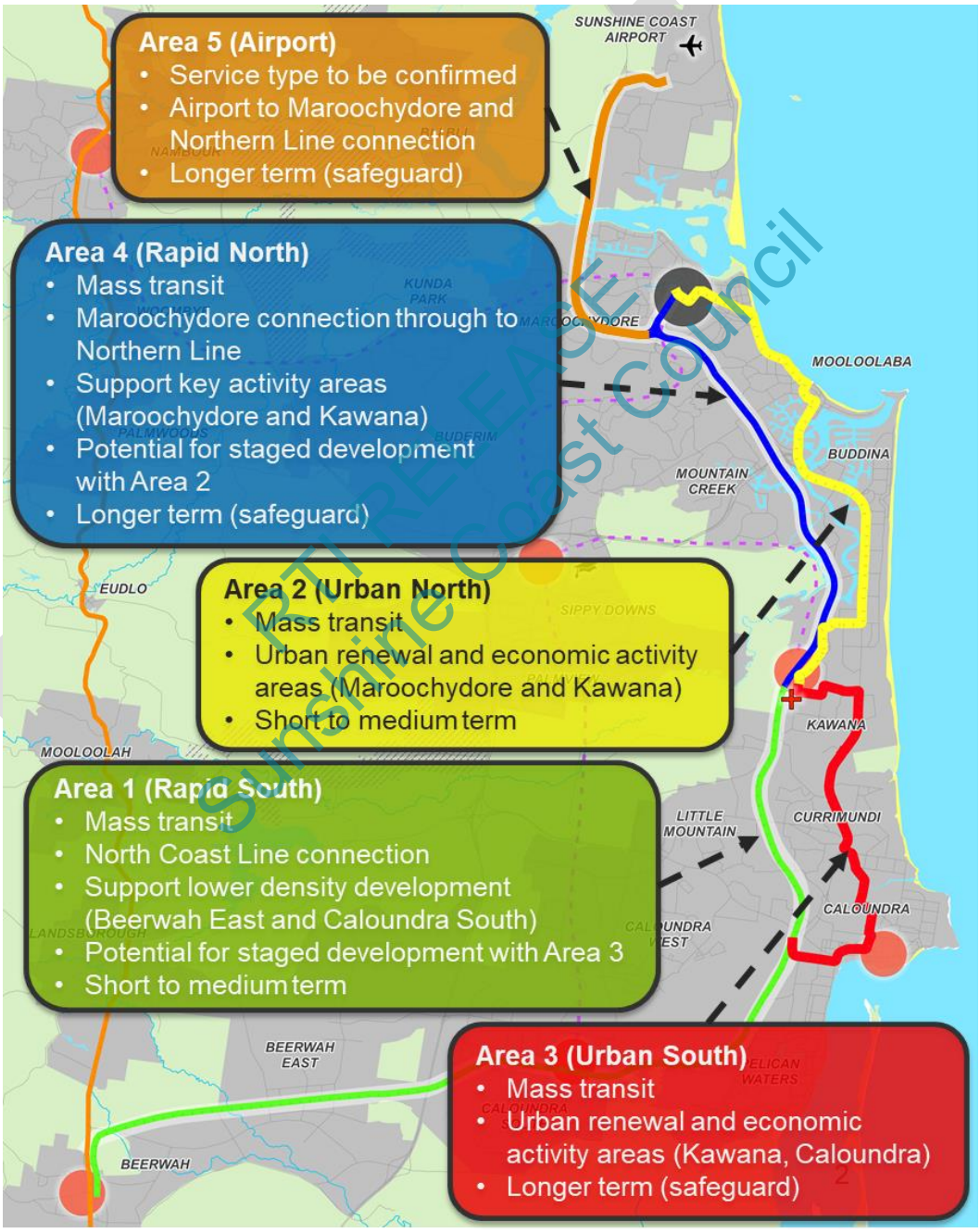


Figure 9.2 – Geographic breakdown and focus areas for a Sunshine Coast mass transit solution

[2] Option 6 from the *Sunshine Coast Concept Mass Transit Plan* (Veitch Lister Consulting, 2018)

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- It is proposed that Areas 1 and 2 could be progressed in the short to medium term, as these areas have a large contingent of greenfield developments (Area 1) and economic activity centres (Area 2).
- Given the focus on urban renewal requirements for the Sunshine Coast and infill targets that have been set for 2041, it is recommended that the PBC should focus on the solution for Area 2. Furthermore, with Council focusing on progressing planning for a mass transit solution for Area 2, other jurisdictions' agencies, such as TMR, can continue progressing planning mass transit for other high priority geographic areas such as Area 1
- A number of stakeholders have been identified as having an interest in the Sunshine Coast Mass Transit Project and its progression, including Council representatives, Queensland Government representatives, Australian Government representatives, Sunshine Coast residents, industry groups, public transport operators and property developers. Preliminary engagement strategies for each stakeholder have been identified and engagement will be further progressed in future project stages.
- To support land use and transport planning, there is a need to develop the Sunshine Coast Mass Transit Project PBC for government consideration in early 2020. The scope of the business case is proposed to be focused on the Maroochydore to Kawana corridor, with safeguarding for network extensions and/or connections to potential future mass transit solutions in the southern coastal corridor between Kawana to Caloundra, as well as the inland corridors between Beerwah and the Sunshine Coast Airport. Further detail on the scope of PBC is presented in Chapter 10.

9.3 Recommendations

This SBC recommends that Council:

- Endorses the Sunshine Coast Mass Transit Project Strategic Business Case.
- Approves the Sunshine Coast Mass Transit Project to progress to the Preliminary Business Case stage, under the Queensland Government's Project Assessment Framework and Building Queensland's Business Case Development Framework.
- Notes that the Sunshine Coast Mass Transit Project is aiming to achieve the following objectives:
    - Supporting the Sunshine Coast's productivity, employment growth and self-containment targets by supporting existing and emerging strategic centres.
    - Improving liveability and provide a catalyst for positive change by unlocking urban renewal opportunities.
    - Improving accessibility, convenience and resilience of the integrated transport network.
    - Providing a deliverable and value for money solution.
- Notes that any new mass transit system for the Sunshine Coast needs to be considered as an integrated land use and transport solution, in order to maximise benefits for the Sunshine Coast region.
- Notes that a mass transit solution is required to address the productivity, accessibility, land use and transport service needs of the region, however Council is

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strategically best placed to focus on a project solution within the Maroochydore to Kawana corridor.

- Notes that close engagement with TMR will continue to ensure integration of the Sunshine Coast Mass Transit Project with other transport planning outcomes, including the Southern Sunshine Coast Public Transport Study (SSCTPS).

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10 PRELIMINARY BUSINESS CASE PLANNING

10.1 Purpose and Overview of this Chapter

The purpose of this chapter is to outline the plan to develop the Preliminary Business Case (PBC) for the Sunshine Coast Mass Transit Project. The PBC represents the second stage in the Building Queensland Business Case Development Framework (BCDF), and is a critical step in the feasibility study cycle to confirm a preferred project solution to progress to detailed feasibility analysis.

This chapter outlines:

- the timeframes for completion of the Sunshine Coast Mass Transit Project PBC, including key activities to be completed by Sunshine Coast Council (Council). A summary of activities and milestones to be undertaken after the completion of the PBC is also outlined.
- the resourcing and budgeting requirements to complete the key activities for the PBC
- the governance arrangements for the development of the PBC, including the role of key stakeholders in the PBC phase
- the planned communications strategy for the PBC phase, including targeted stakeholder engagement strategies and market engagement activities.

The PBC aims to transition the concepts documented in this Strategic Business Case (SBC) through an options generation and assessment process, to culminate in one or more preferred options for detailed analysis within the DBC.

A key objective of the PBC is to enable project decision makers to reliably and confidently decide on whether to progress a preferred project solution/s for further analysis in a Detailed Business Case (DBC), which will then ultimately present a case for investment in the project. In order to maximise the success of the PBC, it is important that robust planning is undertaken with key project representatives for the PBC phase prior to its commencement.

10.2 Preliminary Business Case Timeframes and Milestones

Subject to approval of this SBC by the Project Steering Committee, the Sunshine Coast Mass Transit Project will proceed to the PBC phase. Table 10.1 outlines the overarching timeframes for the Sunshine Coast Mass Transit Project, including the timeframe for delivery of the PBC.

Project Phase	Dates
Strategic Business Case development	October 2018 – January 2019 (considered by Council in March 2019)
Preliminary Business Case development	February 2019 – December 2020 (considered by Council in May 2020[1])
Detailed Business Case development	February 2020 – December 2020
Investment Decision and Procurement	By end 2022 (indicative)
Delivery	By end 2025 (indicative)

Table 10.1 – Key milestones for the Sunshine Coast Mass Transit Project

[1] The difference in time between PBC completion and Council consideration is due to the local government elections scheduled for March 2020. It is expected that DBC activities can commence prior to the PBC consideration by Council

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The Sunshine Coast Mass Transit Project PBC is expected to be undertaken between February and December 2019. It is anticipated that the Project Steering Committee will consider the PBC in December 2019 and submit the PBC to the Queensland Government in January 2020 for formal consideration. The PBC will then be finalised and submitted to Council for consideration in May 2020.

Figure 10.1 presents a high-level schedule outlining the indicative timeframes to complete the Sunshine Coast Mass Transit Project PBC.

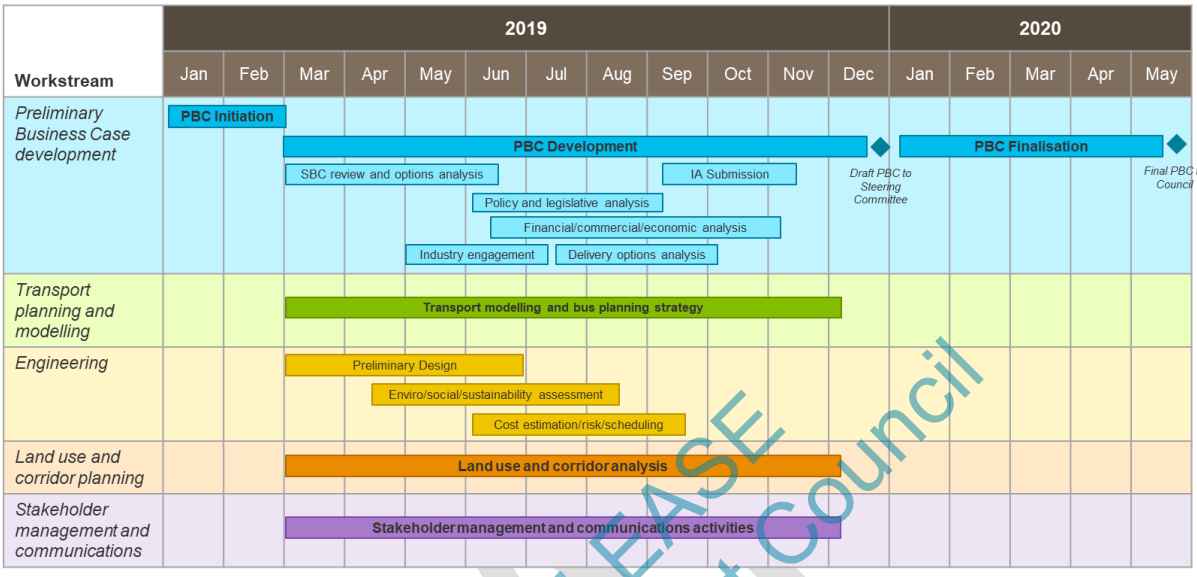


Figure 10.1 – Sunshine Coast Mass Transit Project PBC Schedule

As shown in the figure above, there are five key workstreams that will work together to develop and deliver the PBC. The key activities for each of these streams is discussed further in Section 10.2.1 below.

10.2.1 Preliminary Business Case Activities

The level of confidence required for estimates in a PBC under the Building Queensland BCDF guidelines is P50, meaning a reasonable level of engineering investigation and design is required.

The PBC for the Sunshine Coast Mass Transit Project will be undertaken in accordance with a range of frameworks, including:

- The Queensland Government's Project Assessment Framework
- Building Queensland's Preliminary Business Case Template and Guide (December 2016)
- Building Queensland's Cost Benefit Analysis Guide (2016)
- Building Queensland's Social Impact Evaluation Guide (2016)
- National Public Private Partnership (PPP) Guidelines
- The Department of Infrastructure and Regional Development's Australian Transport Assessment and Planning (ATAP) Guidelines.

Key activities and deliverables to be undertaken for the Sunshine Coast Mass Transit Project to inform the PBC and ensure its compliance with the above frameworks are outlined in Table 10.2.

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Key Activity	Tasks
Preliminary Business Case development workstream	
Review of Investment Logic Map (ILM) and service need and benefit sought analysis	• Review and update of ILM where required. • Review and update of service need and benefits sought analysis.
Detailed options analysis, including mass transit technology analysis	• Review and update SBC options analysis outcomes where required. • Develop options analysis process based on PBC scope, including alternative mass transit technology options such as bus rapid transit. • Complete and document options analysis outcomes.
Considering whole of government policy issues including legal and legislative, regulatory, approvals, and other legal issues	• Complete a preliminary assessment of any legal, regulatory and government policy considerations for the preferred project solution/s to identify any key risks to the project's scope, delivery and/or operations.
Economic appraisal	• Undertake an economic analysis on the preferred project solution/s using a combination of Rapid Cost-Benefit Analysis and Multi Criteria Analysis.
Industry engagement and market sounding	• Complete a desktop analysis of similar projects to understand funding models, delivery strategies, operational arrangements etc. • Prepare for and undertake a market sounding exercise with relevant market participants. Participants may include constructors, operators, and/or financiers, depending on scope of market sounding. Preparation activities would include identifying participants, preparing questionnaires, arrangement of meetings, attending meetings and writing up outcomes.
Commercial analysis including delivery options analysis	• Complete a commercial analysis on the preferred project solution/s, including a delivery options analysis to determine the merits of various delivery models. Analysis will include the applicability of a PPP model to the preferred project solution/s.
Financial analysis	• Complete a preliminary financial analysis of the project's capital and operating costs, using a purpose-built financial model. The analysis will be informed by the risk and delivery options analysis.
Funding model including value capture	• Complete an affordability and value capture assessment to determine potential alternative funding sources to assist with funding of the project.
PBC document and Infrastructure Australia Stage 2 submission drafting and management	• Develop the PBC document to align with relevant frameworks. • Coordinate and collate inputs from other workstreams and draft PBC chapters. • Manage internal project team and other stakeholder review and feedback of PBC chapters. • Development of an Infrastructure Australia Stage 2 submission, based on key findings of the PBC.
Transport planning and modelling workstream	
Strategic transport modelling	• Update strategic modelling parameters where required. • Update to incorporate analysis requirements for options analysis (mode types, alignments etc.).

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Key Activity	Tasks
	• Develop outputs to inform preliminary capital, operating and revenue cost estimates (such as optimal station locations and layout (e.g. platform length), rollingstock requirements, operating kilometres, forecast farebox revenue etc.). • Develop outputs to inform economic analysis, including the impacts of all shortlisted options on traffic flows and vehicle delays. • Complete any required scenario/sensitivity analysis (such as alternative population forecasts, service plans, feeder service networks, other transport project impacts etc.) to test the impact of 'alternative futures'.
Bus planning strategy	• Develop preliminary bus networks for both 'with project' and 'without project' scenarios to inform transport modelling and cost estimating.
Engineering workstream	
Design work for a preferred solution/s	• Complete high level designs and drawings on the preferred project solution/s to a standard where P50 (and P90 if directed by Council) cost estimates can be developed. Key aspects of the design would include (at a minimum) track, power system (depending on mode), stations, vehicles and depots. • Complete a technical environmental and sustainability assessment on the preferred project solution/s to identify key impacts/benefits and sustainability strategies.
Social impact evaluation	• Complete a social impact evaluation on the preferred project solution/s to identify key impacts and to inform the economic analysis.
Development of delivery cost estimate	• Develop real cost estimate for delivery of the high level design solution/s, to a suitable level to inform financial and economic analysis. • Develop preliminary construction program to inform cost estimate.
Operational planning with cost estimating for operating and maintaining the system	• Develop real cost estimate for the operations and maintenance of the preferred solution/s, including preliminary estimates on staff, power/fuel, vehicle maintenance, infrastructure maintenance overhead costs etc., to a suitable level to inform financial and economic analysis.
Undertake risk analysis	• Review risk analysis from the SBC and update identified risks. • Document new risks relating to the preferred project solution/s, including any construction, operational, design, environmental, stakeholder, strategic/business, and financial risks. Risks will be described, potential mitigations strategies identified, owners will be allocated and ratings assigned. • Quantify risks where possible to develop a P50 (and potentially P90) risk contingency for both delivery and operational risks to apply to the base capital and operating costs estimates.
Land use and corridor planning workstream	
Land use and corridor planning studies	• Develop a base case that assesses the land use outcomes in a transport constrained environment using historical uptake of infill and greenfield lots.

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Key Activity	Tasks
	• Develop land use forecasts under different transport project interventions, including the preferred project solution/s.
Stakeholder management and communications workstream	
Consultation with key stakeholders	• Develop a Stakeholder Management Plan to formally identify key stakeholders and their interests in the Sunshine Coast Mass Transit Project. • Continue engagement with key project stakeholders through PBC governance arrangements, including TMR

Table 10.2 – Key activities to be undertaken during the PBC for the Sunshine Coast Mass Transit Project

10.2.2 Risk management

Successful project management relies on all team members continually and actively managing risks as they arise. The Sunshine Coast Mass Transit project team will adopt an approach to risk assessment and management that enhances the inherent strengths of project teams by applying a whole of project focus to risk management.

There will be two primary categories of risk to be managed through the future phases of the Sunshine Coast Mass Transit Project:

- process risks
- project risks.

This section outlines a brief methodology to address each of these types of risk during the next phases of the project, with a focus on risk management for the PBC phase.

10.2.2.1 Process Risks

Process risks are risks that affect the process of developing the project through the current and future phases. Process risks do not necessarily have a direct impact on the outturn cost to deliver the infrastructure project, however they may have significant time, reputation and management cost impacts.

Process risks are temporal and change throughout the development of the project and therefore need to be continually reviewed and actioned.

A process risk register was developed for this SBC and this register will be reviewed and updated at the commencement of the PBC. The key process risks that will continue to be managed through PBC phase include:

- The risk around project governance, and any potential timing of a future transition of the Sunshine Coast Mass Transit Project to a Queensland Government-led project.
- The risk of lack of DBC funding (Queensland Government/Council) and conflicts with other projects.
- The risk of lack of co-location, and delays to the project around the establishment of a project team and office setup.
- The risk that the timing of planning scheme amendments hinders value capture opportunities.
- The risk of lack of political alignment between the three levels of government.
- The risk that the project narrative for a new mass transit system for the region is not compelling.

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- The risk that status/listing of the Sunshine Coast Mass Transit Project on Building Queensland and/or Infrastructure Australia's pipeline reports and infrastructure priority lists is not obtained.

10.2.2.2 Project Risk Management

Project risks are risks that affect the outcomes of the project and have a range of potential impacts including time, cost, quality, health and safety, reputation and environment. The understanding of the project will change as the project proceeds and the assessment of project risks needs to be regularly reviewed and updated to reflect the current status of the project.

The focus of project risk management will also change as projects develop to reflect the roles that different parties play at different stages of the project. In the pre-procurement phase, as Council (and ultimately the Queensland Government) develops the project solution/s and prepares to formally engage the market and procure works packages, it will seek to contractually allocate risks to the contractors, however until works contracts are executed, the Council and the Queensland Government, are by proxy managing all of the project risks.

For example, the contracts will likely allocate design and construction risks to the contractors, however prior to contract execution, there will be no contractors in place to carry those risks and therefore the Council and the Queensland Government will be managing those risks. In this example, the Council and the Queensland Government may continue to undertake activities such as site investigations and ongoing design refinement to reduce the residual risk exposure.

Post contract execution, the Council and the Queensland Government's focus will shift to managing the residual risks that it has responsibility for under the terms of the contracts.

Given that at the SBC phase, a preferred project solution has yet to be confirmed, there are no project risks identified. During the PBC phase and subsequent DBC phase, project risks relating to the preferred project solution/s will be identified by the project team and managed by the project owners, whether they are Council representatives or project consultants.

10.3 Preliminary Business Case resource planning

The proposed project team structure for the PBC phase is shown in Figure 10.2. Elements of the non-core team will be activated as required during the PBC phase.

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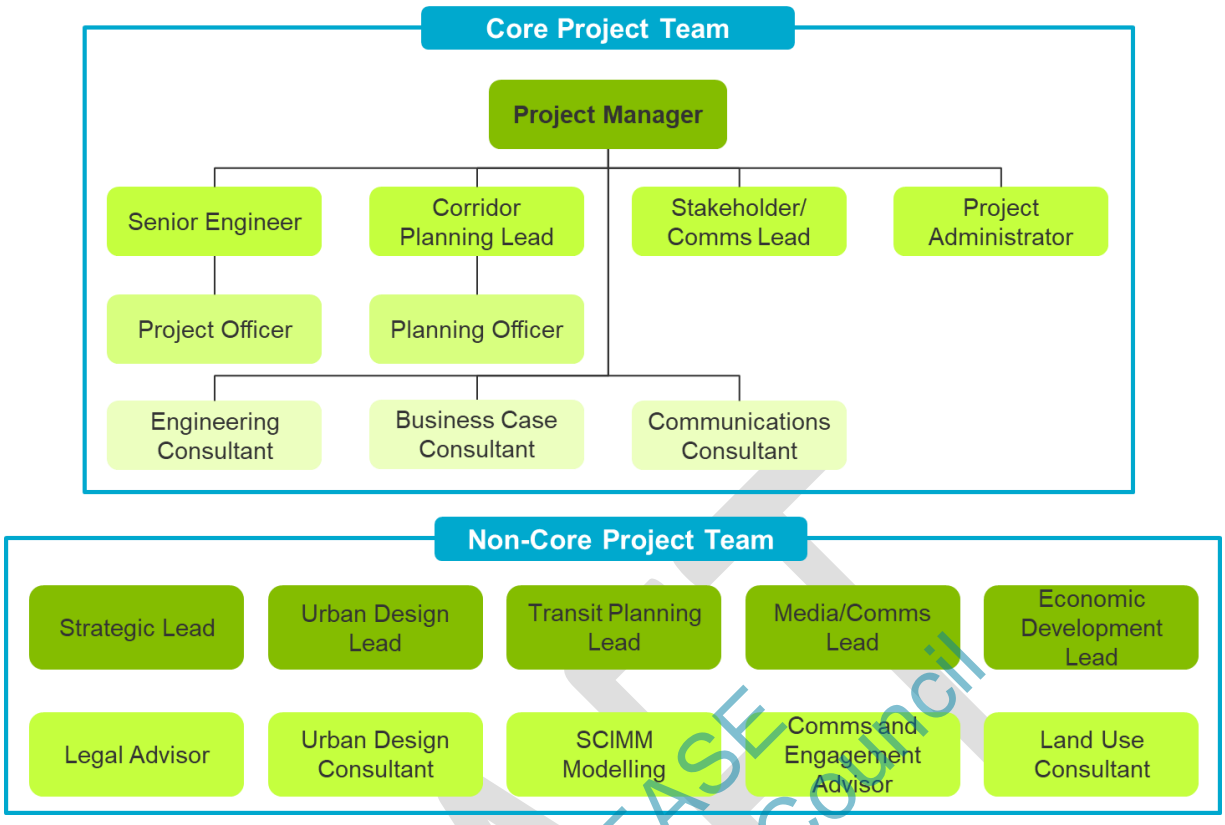


Figure 10.2 – Sunshine Coast Mass Transit Project Team for the PBC phase

The key project team resources and the working arrangements for the development of the PBC phase are shown in Table 10.3.

Resourcing Consideration	Details
Function and integration	• Dedicated core project team including additional internal resources and consultant resources. Wider project team members will continue to progress work program from respective branch business areas. • Frequency of project team meetings and/or working days will increase during PBC phase as workload increases
TMR Involvement	• Continued participation at Project Steering Committee and Business Case Reference Group meetings until formal TMR support is gained and relevant resources are committed to the project.
Location	• Project team meetings may rotate between Council or consultant advisors' office locations. • Core project team is likely to be located at Council's administration offices at Caloundra, contributors to the wider project team may located at Council offices at Caloundra, Maroochydore and Nambour.
Resourcing	• It is proposed that additional resources are applied to the core project team including resources for: ○ Project Manager to December 2019 ○ Senior Engineer to December 2019 ○ Corridor Planning Lead to December 2019 ○ Planning Officer to December 2019 ○ Legal Officer (0.4 FTE (full time equivalent) to December 2019) ○ Communications Lead to December 2019 ○ Project Administrator to December 2019

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Resourcing Consideration	Details

	• The wider project team members would continue to support the project on a part time basis and through their involvement at the Project Steering Committee. The wider project team members include representatives from:
	  ○ Queensland Government
	  ○ Transport Planning and Traffic Lead
	  ○ Economic Development and Major Projects Lead
	  ○ Strategic Planning Lead
	  ○ Urban Design Lead.
	• The wider project team resources can be undertaken using existing resources within individual business areas.
	• The core project team may require additional resources to fill the dedicated roles and/or to backfill to replace team members that are allocated to the project team from within other departments.

Table 10.3 – Sunshine Coast Mass Transit Project PBC key resourcing considerations

10.4 Preliminary Business Case budget

The proposed budget for the Sunshine Coast Mass Transit Project PBC Phase is summarised in Table 10.4

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Item	Timing	Delivery Method	Estimated Cost
REDACTED			

Table 10.4 – Sunshine Coast Mass Transit Project PBC Budget

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10.5 Preliminary Business Case governance arrangements

Governance and decision making arrangements for the PBC phase need to be sufficiently robust to allow for the efficient management of the Sunshine Coast Mass Transit Project's PBC deliverables within the proposed timeframes.

The existing governance arrangements, as detailed in Chapter 2, are considered to meet this criterion and will therefore continue to govern the Sunshine Coast Mass Transit Project throughout the PBC phase. Additional working groups will be added to the governance arrangements to assist with development of technical deliverables for the PBC.

The current governance structure is considered to be 'best for project', and has been developed in the context of the Sunshine Coast Mass Transit Project's management

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arrangements and the multiple stakeholders requiring consultation during its development. The existing arrangements take into consideration:

- the requirements of various levels of government (i.e. Council, Queensland Government and Australian Government)
- the potential for future multi-jurisdictional sponsorship of the Sunshine Coast Mass Transit Project
- the Sunshine Coast Mass Transit Project is technically complex and will need to interface and integrate with existing infrastructure and other potential projects in the Sunshine Coast region
- transparency in decision making, roles and responsibilities across stakeholders and within the project governance structure
- accountability within the project team and the other governance entities
- establishment of a skilled project team, chosen for their relevant experience, skills, and timely delivery of project outcomes.

The governance arrangements will be reassessed for future phases, once the PBC has been completed.

10.6 Project Assurance

Depending on the capital costs or risk associated with a project, a project's progress and quality may be assessed via a series of gateway reviews by independent reviewers. These reviews help ensure that the project (and associated investment) meets strategic objectives and achieves value for money.

It is standard for a Gateway review to be undertaken at the completion of the PBC, prior to commencing the DBC. A Gateway review is not mandatory, however given that it is likely that the Queensland Government will manage the DBC, a Gateway review can provide assurance to the Queensland Government that the scope and purpose of the Sunshine Coast Mass Transit Project has been adequately researched, that there is a shared understanding of what is to be achieved by key stakeholders, that it fits within overall policy or management strategy and priorities. It also provides assurances that there is a realistic possibility of securing the resources needed for delivery and that any procurement takes account of prevailing government policies.

The Gateway unit, within the Queensland Treasury Commercial Group, facilitates the establishment of review teams for projects, with the onus on project owners to contact the Commercial Group to discuss their requirements for a Gateway review.

10.7 Project Communications Strategy

As part of the development of the Sunshine Coast Mass Transit PBC, Council will focus its engagement efforts on working closely with key stakeholders and industry participants to further clarify potential interests, impacts and requirements that need to be considered as the Project progresses.

As discussed in Chapter 8, stakeholder engagement during the PBC will occur through a range of forums. These will include:

- project governance arrangements (Project Steering Committee, Working Groups, Reference Groups etc.)

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- targeted project briefings
- public communications, including media statements and project updates
- market sounding
- stakeholder consultation activities.

As noted in Section 10.2.1 above, initial market engagement activities will also be carried out during the PBC, potentially focusing on discussing technical and commercial elements of the project with constructors, operators and financiers. A market sounding strategy will be prepared in the early stages of the PBC with further detail on the objectives and process for the market sounding activities.

A detailed stakeholder consultation process for the Sunshine Coast Mass Transit Project is currently planned and budgeted for within the PBC scope. This engagement will include broad consultation activities, such as marketing of the Sunshine Coast Mass Transit Project to raise general awareness of the Project and its progress. A Stakeholder Management Plan will be prepared in the early stages of the PBC with further detail on the objectives and process for the stakeholder engagement strategies and activities.

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GLOSSARY OF TERMS

Term	Description
Accessibility	The ability to reach desired goods, services, activities and destinations. Accessibility can be viewed from different perspectives, such as from the perspective of a particular location, a particular group, or a particular activity.
Active travel/transport	Forms of human-powered travel/transport involving mostly either walking or cycling.
American Maglev Technology (AMT)	An American company, specialising in magnetic transportation technology. AMT lodged an unsuccessful unsolicited proposal to the Queensland Government in 2013 to deliver a Maglev powered mass transit system for the Sunshine Coast.
Australian Infrastructure Plan (AIP)	The Australian Infrastructure Plan, released by Infrastructure Australia in February 2016, provides a reform and investment roadmap for Australia
Australian Transport Assessment and Planning (ATAP)	A framework from the Department of Infrastructure, Regional Development and Cities providing a logical, multi-step approach aimed at achieving the high-level goals and transport system objectives of a jurisdiction.
Autonomous Vehicle (AV)	A vehicle that is capable of sensing its environment and moving with little or no human input.
Bus Rapid Transit or Bus semi-rapid Transit (BRT or BST)	A distinctive bus-based semi-rapid transit system operating predominantly in its own right-of-way but not grade-separated from other traffic. BRT may also operate in mixed traffic for limited sections. Typically, BRT offers high frequency services, with station spacing at 400-1000 metres apart. The correct terminology is “Bus Semi-rapid Transit.
Business Case Development Framework (BCDF)	The Business Case Development Framework, owned by Building Queensland, provides detailed, section-by-section guidance on the requirements for Building Queensland business cases.
Caboolture to Maroochydore Corridor Study (CAMCOS)	The Caboolture to Maroochydore Corridor Study investigated the delivery of a major public transport corridor connecting the principal activity centre of the Sunshine Coast Region, Maroochydore, with the broader South East Queensland region.
Central Business District (CBD)	The commercial and business centre of a city.
Demand Responsive Transport (DRT)	A form of transport where vehicles alter their routes based on particular transport demand rather than using a fixed route or timetable.
Department of Infrastructure, Regional Development and Cities (DIRDC)	The Department of Infrastructure, Regional Development and Cities is a government agency within the Australian Government.
Detailed Business Case (DBC)	A Detailed Business Case is the third step in the Building Queensland business case development process. A Detailed Business Case aims to provide evidence for investment in a Reference Project/s, and progresses the work completed in the Strategic Business Case and Preliminary Business Case.
Faster rail	According to the Australian Government[1], faster rail connects between cities and surrounding urban areas. It may consist of a spectrum of

[1] Australian Government. 2017. The National Rail Program: Investing in rail networks for our cities and regions. P13

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Term	Description
	projects ranging from incremental improvements to existing rail networks to new high-speed systems operating at 250 km/h or more.
Full time equivalents (FTEs)	The hours worked by one employee on a full-time basis. The concept is used to convert the hours worked by several part-time employees into the hours worked by full-time employees.
Gross Regional Product (GRP)	A monetary measure of the market value of all final goods and services produced in a region.
Heavy rail	A term sometimes used in Australian transport vernacular to describe a passenger railway that is not a light railway. e.g. Queensland Rail trains, Sydney trains.
High-frequency mass transit	A form of public transport that concentrates on moving large numbers of people over a fixed route or network where services operate at 'turn up and go', with headways of 15 minutes or less.
High-frequency public transport	Public transport services that operate at 'turn up and go', with headways of 15-minute or less.
High Speed Rail	Rail guided mass transit technology that operates in its own fully segregated corridor at maximum operating speeds between 200 and 320 km/h. A commercial speed in excess of 250 km/h is considered by UIC to be the principal criterion for truly High Speed Rail. However in cases where distances are shorter and there is no air competition, a maximum operating speed of above 200 km/h may also be termed "High Speed Rail"[2].
Infrastructure Australia (IA)	An independent statutory body, established by the Australian Government, with a mandate to prioritise and progress nationally significant infrastructure.
Investment Logic Map (ILM)	A technique to ensure the 'story' about any proposed investment makes sense (the 'logic' part of ILM) and to test and confirm that the rationale for a proposed investment is evidence-based and sufficiently compelling to convince decision makers to commit to invest in further investigation and planning[3].
Intelligent Transport Systems (ITS)	A system which aims to provide innovative services relating to different modes of transport and traffic management and enable users to be better informed and make safer, more coordinated, and 'smarter' use of transport networks.
Japan-Guam-Australia South (JGA-S) submarine cable	The Japan-Guam-Australia South (JGA-S) submarine cable is a 9.500 kilometre undersea fibre optic cable system, providing expanded communication networks from Japan and Australia, to Asia and the United States.
Light rail	A highly flexible form of rail-guided mass transit technology utilising electrically powered vehicles and able to operate either in its own grade-separated right-of-way or in its own right-of-way but not grade-separated from other traffic. It may also operate in a mixed traffic or a shared pedestrian environment for limited sections.
Light Rail Rapid Transit (LRRT)	Rail-guided mass transit technology utilising its own grade-separated right-of-way and operating either under signal control (railway standard) or line-of-sight (tramway) standard. LRRT is typically electrically powered and utilises modular vehicles or train sets from 30 to 60 metres long. Maximum operating speeds are typically 80 to 105 km/h.

[2] International Union of Railways (UIC). 2018. High Speed Rail – Fast Track to sustainability.
[3] https://treasury.govt.nz/information-and-services/state-sector-leadership/better-business-cases-bbc/bbc-methods-and-tools/investment-logic-mapping

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Term	Description
Light Rail Transit (LRT)	Rail-guided mass transit technology utilising predominantly its own right-of-way but not usually vertically separated from other traffic. It may also operate in a mixed traffic or in a shared pedestrian environment for limited sections. Typically Light Rail Transit uses line-of-sight (tramway) standard running, and obeys normal traffic signals. It is electrically powered and utilises modular vehicles between 20 and 50 m long. Maximum operating speed is typically 70 km/h.
Local Government Area (LGA)	A defined geographic area that a local government is responsible for.
Mass transit (MT)	A form of public transport that concentrates on moving large numbers of people over a fixed route or network. It can imply a high capacity version of 'high-frequency public transport'.
Members of Parliament (MPs)	An elected representative to a parliament.
Mobility as a Service (MaaS)	Where a person consults a mobility app when they seek to travel somewhere and the app provides a tailored solution to suit the requirements of the traveller.
Mooloolah River Interchange (MRI) Project	A TMR project investigating a range of major upgrades in the area of the Sunshine Motorway – Mooloolah River interchange, including expanded lane connections, new river crossing and intersection upgrades.
Passenger Rail	A general term used to describe a railway that caries passengers, including Light Rail, Regional Rail, and High Speed Rail (as opposed to freight rail that carries goods and raw materials).
Passenger Transport	Refers to public transport and extends to include ride share, car share and other emerging shared travel models.
Preliminary Business Case (PBC)	A Preliminary Business Case is the second step in the Building Queensland business case development process. A Preliminary Business Case aims to transition the concept documented in the Strategic Business Case through an options generation and assessment process it culminates in a preferred option/s for analysis within the Detailed Business Case.
Project Assessment Framework (PAF)	A Queensland Government policy that is used across government to ensure a common, rigorous approach to assessing projects at critical stages in their lifecycle, from the initial assessment of the service required, through to delivery.
Project Steering Committee (PSC)	The primary decision-making governance body for the Sunshine Coast Mass Transit Project.
Public Private Partnership (PPP)	A cooperative arrangement between one or more public and private sectors.
Public transport	Common carrier types of passenger transport with fixed routes and schedules, available for use by all persons who pay the established fare. Also termed Scheduled public transport[4]. It includes train, bus ferry and taxi services provided or regulated through a range of operators by the Queensland Government.
Queensland Government Statistician's Office	A division of Queensland Treasury, providing statistical services, data and analysis for population dynamics and forecasts, residential dwelling activities and urban land supply.
Rapid transit	A generic class of mostly electrically powered guided transit technologies that operate exclusively in their own grade separated right-of-way.

[4] Some jurisdictions include on-demand options including taxis as a formal component of public transport

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Term	Description
	Characterised by higher speeds, high capacity and reliability. It includes" High Speed Rail", "Regional Rail", "Suburban Rail" and "Light Rail Rapid Transit". In a few cases, it may include bus technology[5].
Regional rail (RGR)	A longer distance rail-guided passenger technology or service with few stations and relatively high operating speeds. Characterised by high performance and service quality. Operates between conurbations in its own grade-separated corridor or with a limited number of protected level crossings. Typical maximum operating speeds of 100 to 180 km/h. Queensland Rail trains are mostly "Regional Rail" and can operate at 140 km/h maximum speed.
State Infrastructure Plan (SIP)	A Queensland Government plan released in March 2016 that outlines a new strategic direction for the planning, investment and delivery of infrastructure in Queensland. It consists of Part A (Strategy) that outlines the vision for infrastructure in Queensland and Part B (Program) that outlines a program of investment over the next four years and the opportunities for the future.
Strategic Assessment of Service Requirements (SASR)	The Strategic Assessment of Service Requirements is a pre-project phase of the Queensland Government's Project Assessment Framework. This phase facilitates the strategic business decision of whether a project response is required to address an identified service need. The primary output of the Strategic Assessment of Service Requirements phase is a Strategic Business Case.
Semi-rapid transit	A generic class of technologies using mostly its own right-of-way, but not grade-separated from other transport modes, instead typically operating line-of-sight and obeying traffic signals. Includes" Light Rail Transit" and "Bus Rapid Transit[6]".
South East Queensland (SEQ)	Geographic and demographic region located on the south east coast of Queensland that includes the local government areas of Brisbane, Gold Coast, Ipswich, Logan, Lockyer Valley, Moreton Bay, Redland, Scenic Rim, Somerset, Noosa and Sunshine Coast.
Southern Sunshine Coast Public Transport Study (SSCTPS)	The Southern Sunshine Coast Public Transport Study is being completed by TMR, and is aiming is to develop an integrated public transport strategy for the southern Sunshine Coast which covers the area from Maroochydore to Beerwah. It will have a specific focus on identifying a preferred trunk public transport network whilst considering the supporting network of services, land-use and infrastructure. The intent is to provide an alternative transport solution to the private vehicle to reduce traffic congestion.
Strategic Business Case (SBC)	A Strategic Business Case is the first step in the Building Queensland business case development process. A Strategic Business Case is primarily used to determine whether further investigation of the identified service need is warranted.
Suburban Rail	A rail-based passenger technology or service connecting centres within conurbations. Stations typically 2-4 km apart. It operates in its own right-of-way with grade-separation or protected level crossings. Typical maximum operating speed 100 km/h. Queensland Rail trains operating within the Brisbane City network could be considered "Suburban Rail".

[5] To qualify as a rapid transit technology, bus rapid transit has to operate in its own grade-separated right of way, which very few systems claiming to be BRTs actually do. Examples of true BRT include the proposed Brisbane Metro. Most so-called BRT systems are actually "Bus Semi-rapid Transit (BST)

[6] *ibid*

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Term	Description
Sunshine Coast Enterprise Corridor (SCEC)	The area defined as stretching primarily along the coastal strip from the north of the Sunshine Coast Airport to Caloundra South and bounded to the west by the Bruce Highway. The expanded corridor could be considered to include Beerwah East and Beerwah if these are connected to the rest of the corridor by high frequency mass transit.
TransLink	Division of TMR with responsibility for buses, trains, ferries and trams across SEQ, regional passenger transport services, demand responsive transit, active transport, taxi regulation, long distance rail, coaches and regional air.
Transport and Main Roads (TMR)	The Department of Transport and Main Roads is a government agency within the Queensland Government.

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REFERENCE LIST

Sunshine Coast Light Rail: Shaping Our Future **(Sunshine Coast Council)**

Sunshine Coast Light Rail: A Line in the Sand **(Sunshine Coast Council)**

Sunshine Coast Concept Mass Transit Plan **(Veitch Lister Consulting)**

Sunshine Coast Demographics and Preliminary Modelling Report **(Veitch Lister Consulting)**

Sunshine Coast Light Rail Preliminary Market Assessment **(JLL)**

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Prepared for

SUNSHINE COAST COUNCIL

Model summary report (Volume 1)

Sunshine Coast demographics and preliminary modelling

September, 2018

Sunshine Coast Demographics and Preliminary Modelling

Modelling Summary Report (Volume 1)

Project No. 18-027

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Date	Revision	Prepared By	Checked By	Approved By	Description
24/09/2018	A	Mark Iliffe	Gavin Nicholls		Initial Draft
28/09/2018	B	Mark Iliffe			Final Draft
10/10/2018	C	Mark Iliffe	Gavin Nicholls	Gavin Nicholls	Final Report
03/12/18	D	Mark Iliffe	GN	GN	Final Amendments

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1. Introduction

Veitch Lister Consulting has been engaged by Sunshine Coast Council to undertake preliminary modelling for several public transport scenarios and to quantify their impacts on trips to, from and within the Sunshine Coast. The modelling has been undertaken in VLC's *Zenith Model of SEQ for Sunshine Coast* and sits within the context of the Sunshine Coast Light Rail Project. The results of this modelling will be used to inform the development of the Sunshine Coast Concept Mass Transit Master Plan.

The Sunshine Coast Demographics and Preliminary Modelling project has two key objectives:

1. Prepare a new model zone system and develop two 2041 demographic scenarios for use in transport modelling.
2. Model a series of network scenarios relating to rail investment with a focus on understanding levels of self-containment, public transport patronage and external trip end patterns.

It is not the intention that this investigation provides a full and comprehensive analysis of the modelled networks. The summaries and insights presented herein are high level in nature, they are presented to provide context and a starting point for more detailed analysis that will occur as part of the subsequent Sunshine Coast Concept Mass Transit Master Plan.

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2. Report Structure

Volume 1 (Model Summary Report)

Volume 1 **(this volume)** provides the reader with an overview of the investigation and its findings. Its primary purpose is to outline context and assumptions that assist in interpreting detailed model results presented in subsequent volumes. A high-level comparative analysis of all scenarios and key insights is provided as context to the modelling results presented in volumes 3 and 4.

Volume 2

Volume 2 details how the Base Case and Project Case demographic scenarios used in the modelling have been developed.

Volume 3

Volume 3 presents key results from the network scenarios modelled under the Base Case demographics.

Volume 4

Volume 4 presents key results from the network scenarios modelled under the Project Case demographics.

Volume 5

Volume 5 contains the sectorised matrices from each of the modelled networks under the Base Case demographics.

Volume 6

Volume 6 contains the sectorised matrices from each of the modelled networks under the Project Case demographics.

Volume 7 (Model Validation Report)

Volume 7 is the model validation report outlines results from the 2016 Zenith model of SEQ for Sunshine Coast and demonstrates that it meets nationally recognised acceptance criteria.

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3. Demographic Scenarios

Network scenarios in this project have been modelled under two demographic scenarios; Base Case and Project Case. Volume 2 of this report is a detailed technical note that outlines how each demographic scenario has been developed. The total number of jobs and people assumed for the Sunshine Coast in 2041 are the same in both scenarios.Table 3-1 Population and employment growth for the Sunshine Coast (as modelled) details the 2016 and 2041 population and employment (Jobs) numbers within the Sunshine Coast Council LGA.

Table 3-1 Population and employment growth for the Sunshine Coast (as modelled)

	2016	2041	%Change	Absolute Change
Population	303,151	494,406	63.1 %	191,255
Employment	127,988	192,404	50.3 %	64,416

Source: (demogs_SC_z2513_Proj_v1d_2041_old-format.csv, demogs_SC_z2513_v5_2016_old-format.csv)

The Base Case demographic scenario underpins model results in Volume 3 of this report. The distribution of growth in the Base Case scenario is consistent with projections from TMR and the Queensland Government Statisticians Office. When distributing growth to the Zenith Model zone system attention has been given to plans of development and current land use patterns.

The Project Case demographic scenario underpins model results in Volume 4 of this report. The distribution of population and employment growth on the Sunshine Coast has been modified from the Base Case scenario to align with council's detailed understanding of opportunities, constraints and expectations in terms of development activity and approvals. The Project Case demographic scenario reflects the growth distribution pattern of Sunshine Coast Council's 'LR17' scenario from the Population and Employment Assessment tool (PAP).

ShapingSEQ is the South East Queensland (SEQ) regional plan that outlines a framework for managing growth, land use and development. According to ShapingSEQ, approximately 62% of all new dwellings in Sunshine Coast Council Local Government Area are to occur as infill development (otherwise known as "consolidation"). The hashed area (existing urban area) in Figure 3-1 and Figure 3-2 is the statistical boundary used to quantify infill development. Both the Base Case and Project Case demographics achieve the 62% consolidation target set out in ShapingSEQ.

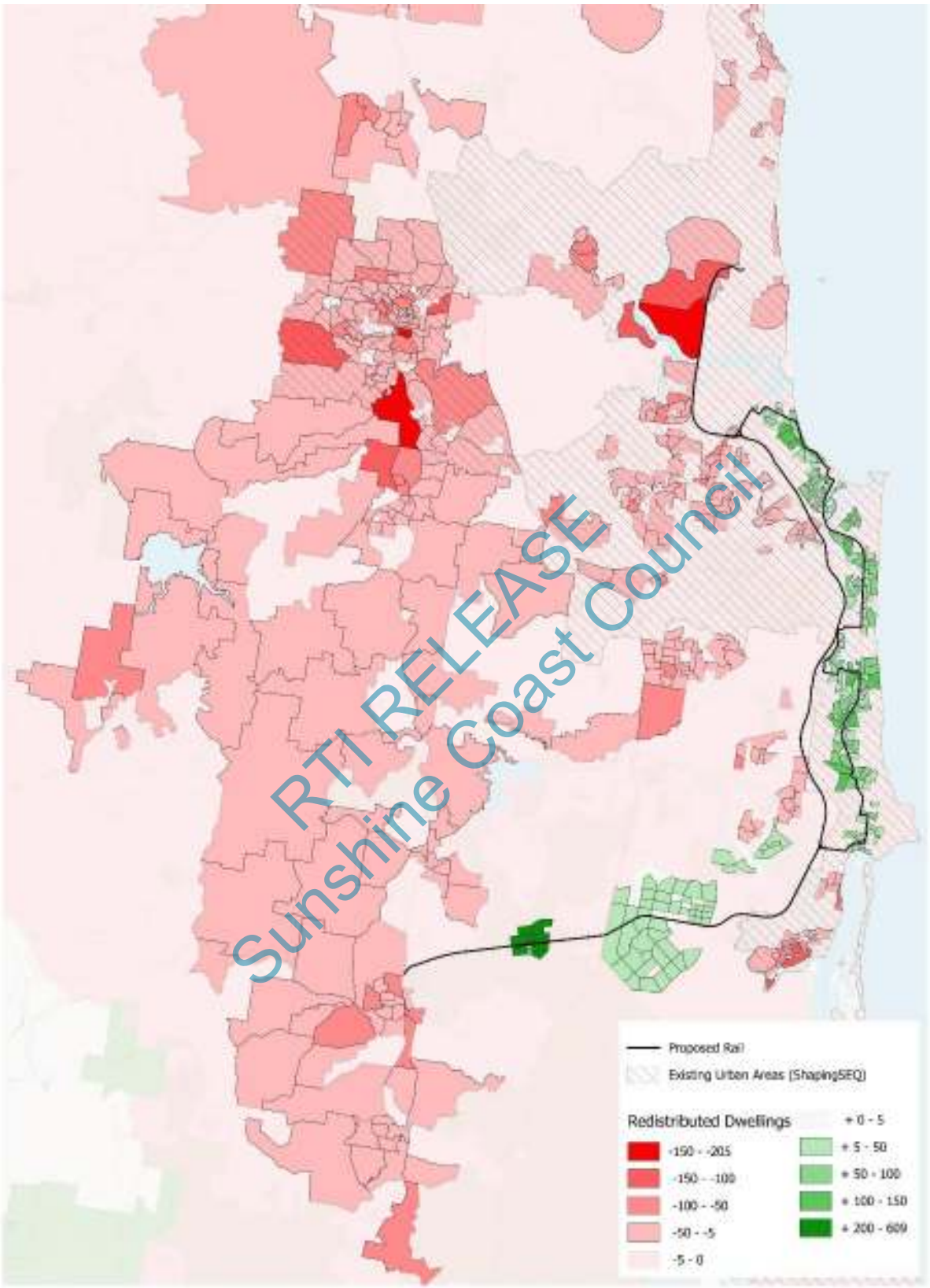
The Base Case demographic scenario reflects the intent of the SEQ Regional plan and includes a significant amount of growth as urban consolidation. If these policy objectives are not met the pattern of development is likely to be quite different, more greenfield development would occur and the urban footprint would continue to expand.

There is only a marginal difference between Base Case and Project Case demographics when looking at the proportion of growth that occurs as greenfield development. Modelling a scenario where infill targets are not met would assist in understanding the importance of consolidation and infrastructure that supports the preferred infill development pattern. Similarly, an urban infill demographic scenario with higher levels of consolidation could highlight the need for, and benefit of, mass transit on the Sunshine Coast. These scenarios could also consider increased employment densities around the transit corridors to assess effects on service efficacy and passenger loads.

Figure 3-1 shows how dwelling growth from the Base Case has been redistributed in order to develop the Project Case demographics. Figure 3-2 shows how employment growth from the Base Case has been redistributed to develop the Project Case demographics. The redistribution method is outlined in Volume 2 of this report and should be referred to for more information.

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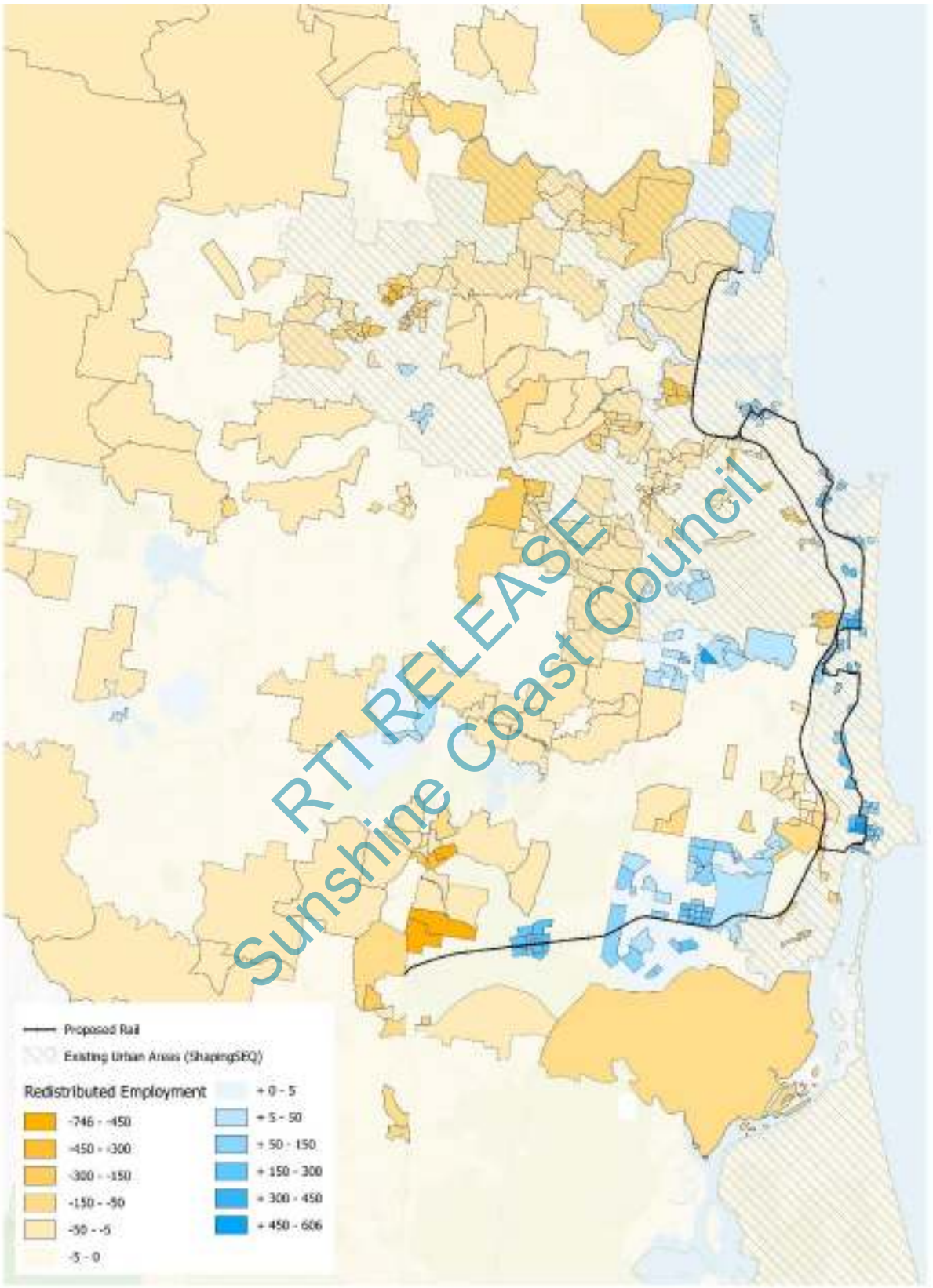
Figure 3-1 Redistribution of dwelling growth (Base Case to Project Case)



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Figure 3-2 Redistribution of employment growth (Base Case to Project Case)



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aModelled Scenarios

In total, the outputs of 15 modelled scenarios are presented herein. These scenarios comprise of nine different network scenarios, including the Reference Case Network have been modelled as part of this project at the 2041 horizon. Only six of these network scenarios are modelled under both the Base Case and Project Case demographic scenarios. The final three scenarios; Light Rail (Full A), Light Rail (Full B) and Light Rail (CAMCOS A) have only been modelled under the Project Case demographics.

Table 3-2 Summary of Modelled Scenarios

	Demographic Scenario	
Network Scenario	Base Case	Project Case
Reference Case Scenario	✔	✔
Scenario 1: CAMCOS	✔	✔
Scenario 2: North Coast Connect	✔	✔
Scenario 3: Light Rail	✔	✔
Scenario 4: Light Rail and CAMCOS	✔	✔
Scenario 5: Light Rail and North Coast Connect	✔	✔
Scenario 6: Light Rail (Full A)		✔
Scenario 7: Light Rail (Full B)		✔
Scenario 8: Light Rail (CAMCOS A)		✔

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Network scenarios were developed in collaboration with Council. The service profiles and stopping patterns have been developed, where possible, to accord with existing planning studies including:

- **The Caboolture to Maroochydore Corridor Study (CAMCOS)**: this study proposes a passenger rail service branching off the North Coast railway line at Beerwah and extending through Caloundra to Maroochydore. The CAMCOS corridor is a protected future passenger rail corridor.
- **North Coast Connect Project Stage 2 – Detailed Project Proposal**: this study details a plan to deliver faster rail connections between the Sunshine Coast and the Brisbane CBD. The plan utilises the existing North Coast Line and the CAMCOS corridor to deliver 45-minute travel times between Maroochydore CBD and the Brisbane CBD and Nambour and the Brisbane CBD.
- **A line in the sand: Taskforce Prefeasibility and Rapid Economic Appraisal Report:** this study underpins the network assumptions used to model the light rail networks including station locations, route alignments and travel times. Other model parameters including transfer and access penalties have been taken from the Gold Coast Light Rail.

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3.1 Scenario 1: Reference Case Scenario

3.1.1 Reference Case Road Network

The Reference Case road network reflects a do minimum scenario. Upgrades are only included where firm commitments to delivery exist. New local roads have been included to service greenfield development areas such as Caloundra South (Aura), Beerwah East and Palmview. Figure 3-3 shows the 2041 Reference Case road network. Figure 3-4 shows new and upgraded links in the 2041 Reference Case road network.

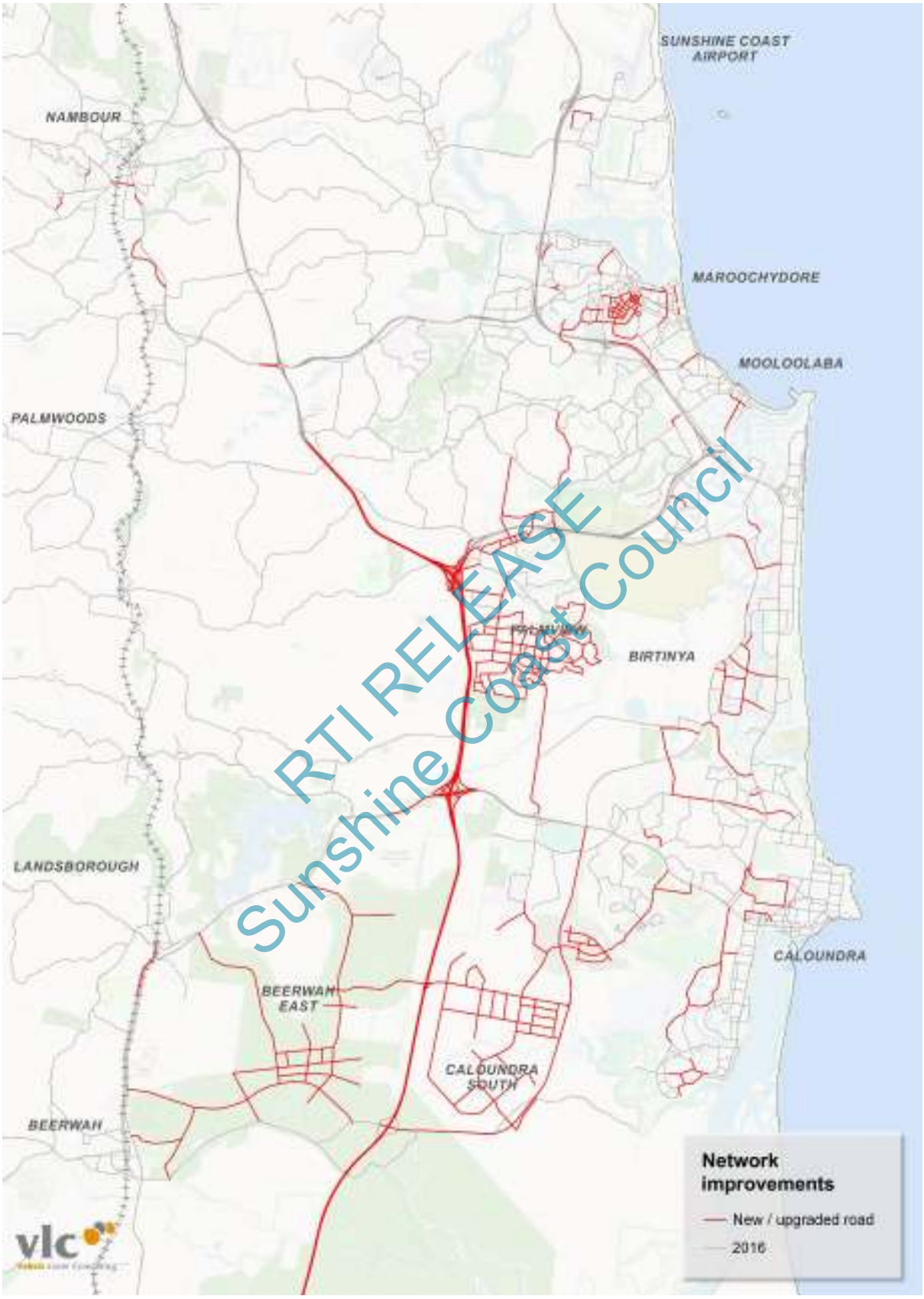
Figure 3-3: Reference Case Road Network



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Figure 3-4: New and upgraded links included in the 2041 Reference Case Network



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The Reference Case network forms the basis of all future network scenarios. The network descriptions in Volumes 3 and 4 highlight any relevant changes.

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3.1.2 Reference Case Public Transport Network

The Reference Case bus network is based on the 2041 modelled network from the Sunshine Coast Integrated Multi-Modal Model. The bus network has been slightly modified to conform with the requirements of the Zenith model and includes slightly modified stopping patterns and service frequencies.

There are 62,000 bus kilometres travelled in the 2041 network, significantly more than the 14,100 bus kilometres travelled in 2016. Rail services on the North Coast Line operate at frequencies adopted from the Cross-River Rail Business Case. The fare structure adopted in this and all other scenarios is based on Translink's Fairer fares for South East Queensland.

Figure 3-5 shows the public transport network and service frequencies of trains on the North Coast Line under the reference case scenario.

Figure 3-5 North Coast Line rail frequencies



Frequency (services per hour)		
AM Peak	Inter Peak	PM Peak
4	1	4

Station Locations

- Nambour
- Woombye
- Palmwoods
- Eudlo
- Mooloolah
- Landsborough
- Beerwah

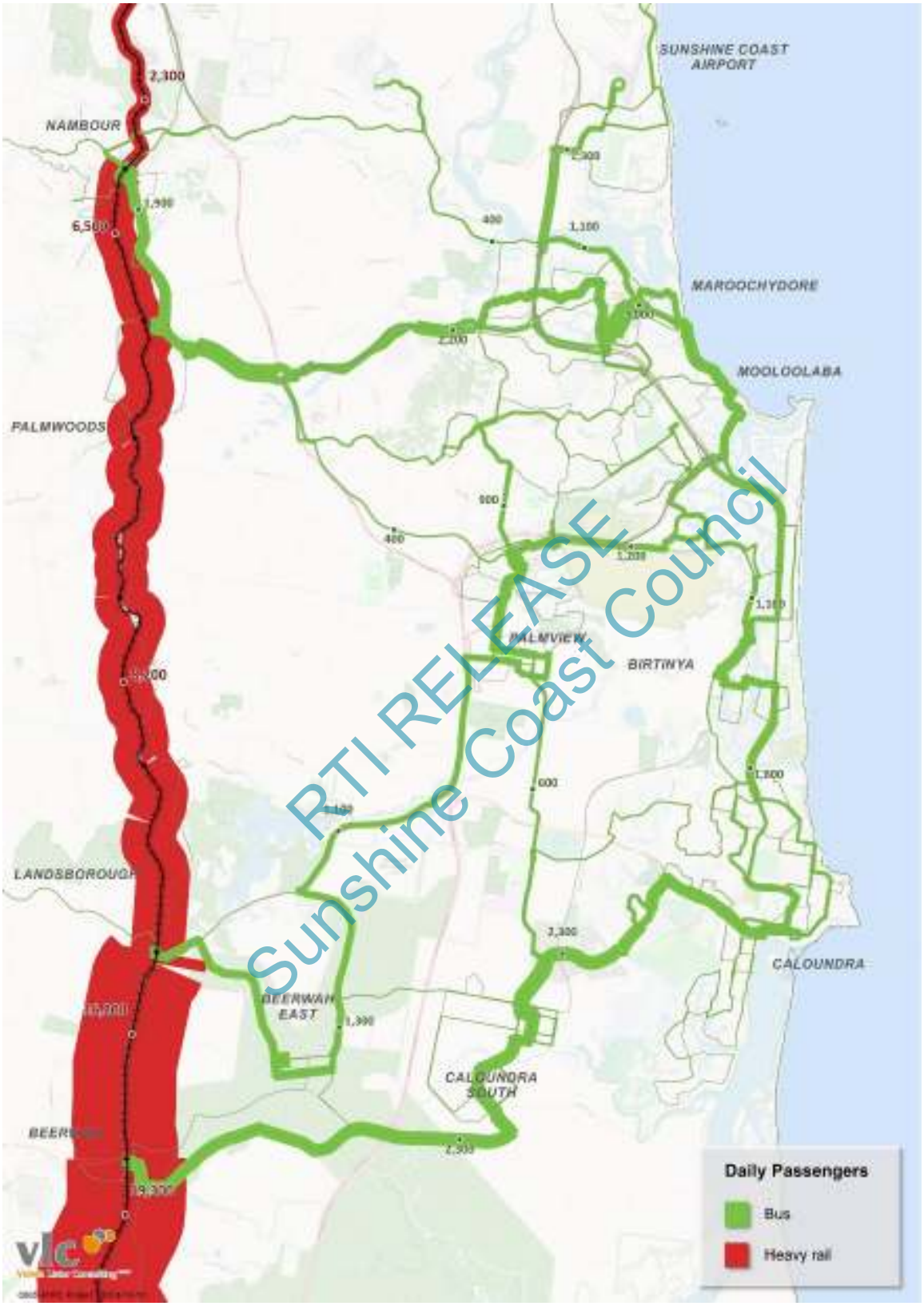
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3.1.3 Reference Case Daily Public Transport Passenger Loads

Daily public transport passenger loads for the Reference Case with Project Case demographics are shown in Figure 3-6.

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Figure 3-6: Daily passenger loads - Reference Case (Project Case demographics)



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3.3 Scenario 2: CAMCOS Rail

The CAMCOS Rail scenario includes heavy rail services within the designated CAMCOS corridor. The bus network has been modified from the Reference Case to enable transfers at key stations (shown in Figure 3-7).

Figure 3-7 CAMCOS Rail frequencies and station locations



Frequency (services per hour)		
AM Peak	**Inter Peak**	**PM Peak**
CAMCOS Rail		
3	2	3
North Coast Line		
3	1	3

Station Locations

- Sunshine Coast Airport
- Pacific Paradise
- Kuluin
- Maroochydore CBD
- Mountain Creek
- Parrearra
- Kawana
- Creekside
- Aroona
- Caloundra
- Pelican Waters
- Caloundra South
- Beerwah East (Project Case demographics only)

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3.2.1 Scenario 2: Daily Public Transport Passenger Loads

Daily public transport passenger loads for Scenario 2 with Project Case demographics are shown in Figure 3-8.

Figure 3-8: Daily public transport passenger loads (CAMCOS Rail 2041 - Project Case Demographics)



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3.3 Scenario 3: North Coast Connect

The North Coast Connect scenario has been coded to reflect a faster rail scenario with 45-minute travel times between Nambour and Brisbane and Maroochydore CBD and Brisbane. In this scenario there are fewer services and fewer stops than in the CAMCOS Rail scenario. Bus network changes like those in the CAMCOS Rail scenario have been made to facilitate interchanges at rail stations and the affected bus routes are shown in Figure 3-9.

The modelled fare structure in this scenario (and all other scenarios) is based on Fairer fares for South East Queensland[1]. A journey from Maroochydore to the Brisbane CBD covers 6-zones and in today's dollars would cost $13.09. It is reasonable to assume that passengers would have to pay a premium for the shorter travel times that North Coast Connect delivers. If higher fares were modelled the passenger loads forecasted in this scenario would be lower.

Figure 3-9: North Coast Connect Rail Frequencies and Station Locations



Frequency (services per hour)		
AM Peak	**Inter Peak**	**PM Peak**
CAMCOS Corridor		
2	2	2
Station Locations • Sunshine Coast Airport • Maroochydore CBD • Kawana • CaloundraCaloundra South Station		
Nambour Line (Fast Rail)		
2	1	2
Station Locations • Nambour • Landsborough • Beerwah		
Nambour Line (Standard Rail)		
2	1	2
Station Locations • Nambour • Woombye • Palmwoods • Eudlo • Mooloolah • Landsborough • Beerwah		

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3.3.1 Scenario 3: Daily Public Transport Passenger Loads

Daily public transport passenger loads for Scenario 3 with Project Case demographics are shown in Figure 3-10

[1] https://translink.com.au/sites/default/files/assets/resources/about-translink/projects-initiatives/fare-review/qld-government-response-to-seq-fare-review.pdf

Figure 3-10: Daily public transport passenger loads (North Coast Connect 2041 - Project Case Demographics)



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3.4 Scenario 4: Light Rail

The Light Rail scenario includes a light rail network connecting Maroochydore CBD with Caloundra. The route services the Kawana Waters precinct, includes 28 stations and has 8 services per hour. The 600-bus route has been truncated in this scenario to connect with the southernmost light rail station. Rail services on the North Coast Line are consistent with the Reference Case Scenario.

Figure 3-11 shows the public transport network under this scenario.

Figure 3-11: Sunshine Coast Light Rail Service Frequencies and Station Locations



Frequency (services per hour)		
AM Peak	Inter Peak	PM Peak
8	8	8

Station Locations

- Aerodrome Rd At Maud St
- Alexadra Pde At Maroubra St
- Alexandra Pde At Mari St
- Alexandra Pde At Buderim Av
- Venning St At First Av
- Brisbane Rd At Foote St
- Brisbane Rd At Pangarinda Pl
- Brisbane Rd At Amarina Av
- Nicklin Way At Jessica Blvd
- Nicklin Way At Kawana Shoppingworld
- Nicklin Way At Koorin Dr
- Nicklin Way At Kawana Island Dr
- Nicklin Way At Minkara St
- Main Dr At Sportsman Pde
- Kawana Way At Capital Pl
- Kawana Way At Lake Kawana Blvd
- Eccles Blvd At Doherty St
- Birtinya Blvd At Lake Kawana Blvd
- Nicklin Way At Wurley Dr
- Nicklin Way At Moondara Dr
- Nicklin Way At Piringa St
- Nicklin Way At Currimundi Marketplace
- Beerburrum St At Mooya St
- Allen St At Queen St
- Ulm St At Regent St
- Omrah Av At Nutley St

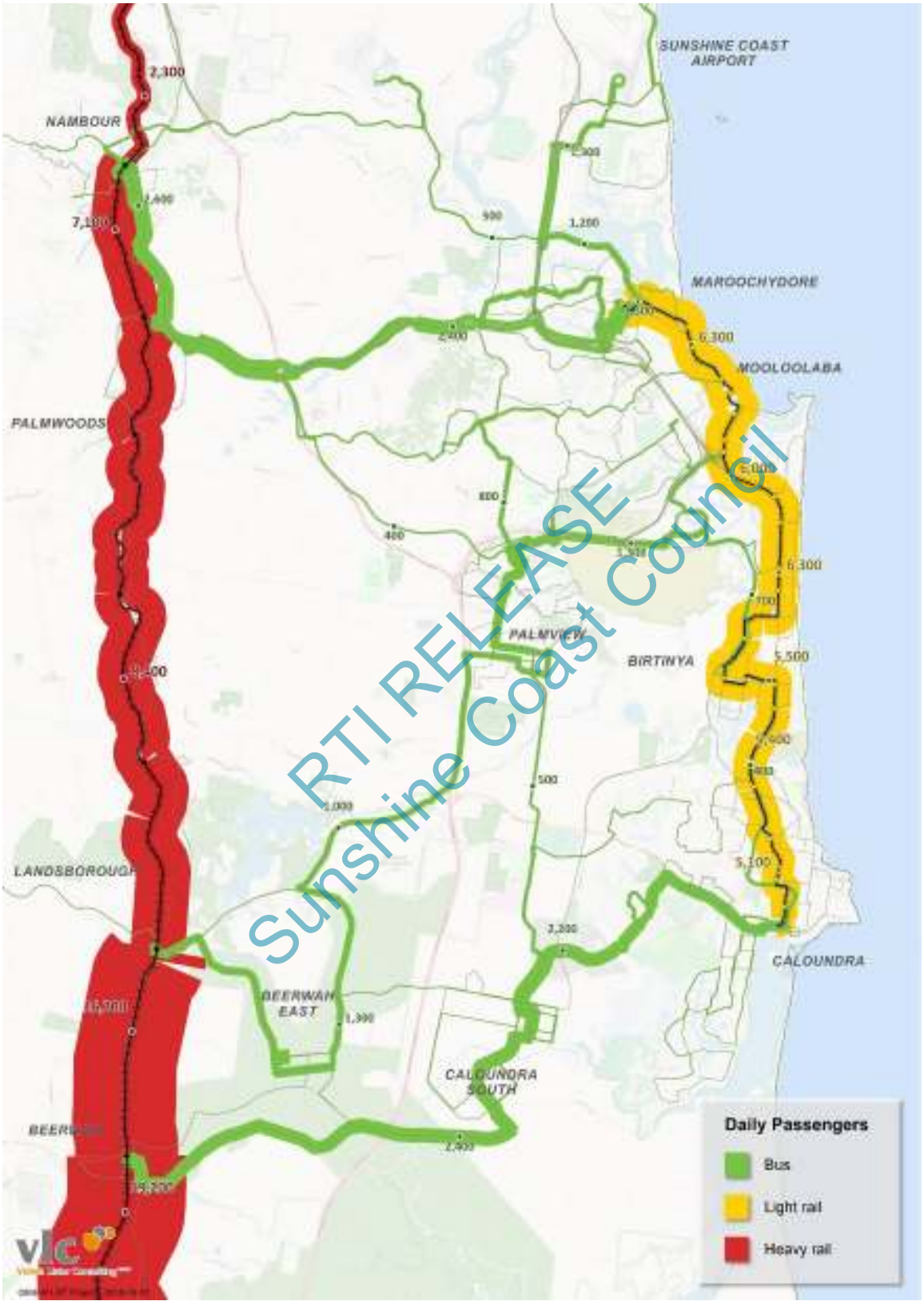
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3.4.1 Scenario 4: Daily Public Transport Passenger Loads

Daily public transport passenger loads for Scenario 4 with Project Case demographics are shown in Figure 3-12.

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Figure 3-12: Daily public transport passenger loads (Light Rail 2041 - Project Case Demographics)



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3.5 Scenario 5: Light Rail and CAMCOS Rail

The Light Rail and CAMCOS Rail scenario includes both CAMCOS Rail and Light Rail networks, service frequencies are consistent with the relative standalone network scenarios and stop locations on the CAMCOS corridor remain unchanged. Light Rail services have been extended west of Caloundra to connect with CAMCOS Rail at Caloundra West.

Figure 3-14 shows the public transport network under this scenario.

Figure 3-14: Sunshine Coast Light Rail and CAMCOS Rail service frequencies and stop locations



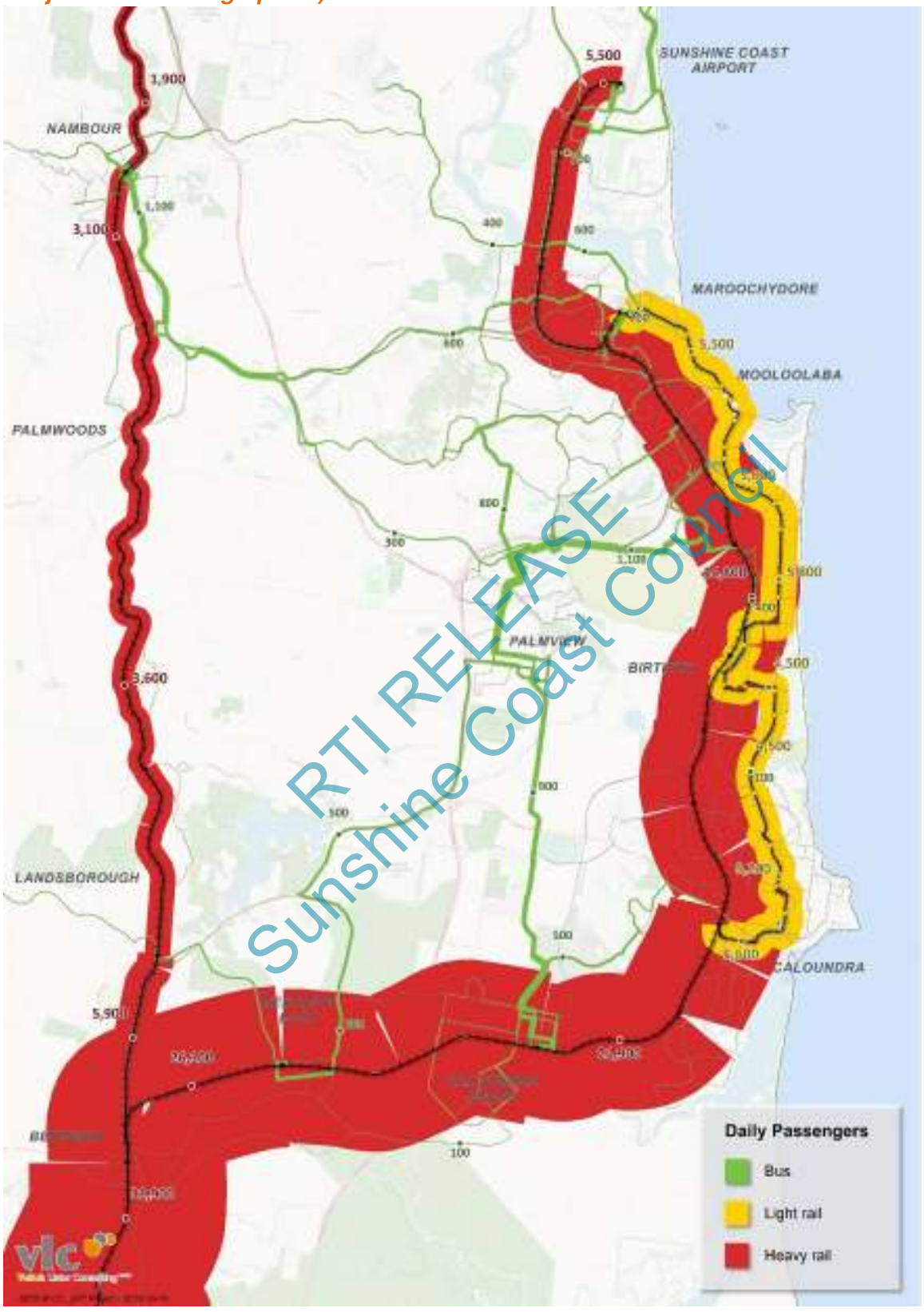
Frequency (services per hour)
North Coast Line and CAMCOS Rail frequency as per Scenario 2: CAMCOS Rail. Light rail service frequencies as per Scenario 4: Light Rail.
Station Locations
North Coast Line and CAMCOS station locations as per Scenario 2: CAMCOS Rail. Light rail stations as per frequencies as per Scenario 4: Light Rail. **NB:** Light Rail services have been extended west of Caloundra to connect with CAMCOS Rail at Caloundra West.

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3.5.1 Scenario 5: Daily Public Transport Passenger Loads

Daily public transport passenger loads for Scenario 5 with Project Case demographics are shown in Figure 3-15.

Figure 3-15: Daily public transport passenger loads (Light Rail and CAMCOS - 2041 - Project Case Demographics)



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3.6 Scenario 6: Light Rail and North Coast Connect

The Light Rail and North Coast Connect scenario includes the North Coast Connect services and Light Rail networks. Light Rail services have been extended west of Caloundra to connect with CAMCOS Rail at Caloundra West.

Figure 3-16 shows the public transport network under this scenario.

Figure 3-16: Sunshine Coast and North Coast Connect Frequencies and Station Locations



Frequency (services per hour)
North Coast Line and North Coast Connect frequency as per Scenario 3: North Coast Connect. Light rail service frequencies as per Scenario 4: Light Rail.
Station Locations
North Coast Line and North Coast Connect station locations as per Scenario 3: North Coast Connect. Light rail stations as per frequencies as per Scenario 4: Light Rail. **NB:** Light Rail services have been extended west of Caloundra to connect with North Coast Connect at Caloundra West.

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3.6.1 Scenario 6: Daily Public Transport Passenger Loads

Daily public transport passenger loads for Scenario 6 with Project Case demographics are shown in Figure 3-17.

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Figure 3-17: Daily public transport passenger loads (Light Rail and North Coast Connect- 2041 - Project Case Demographics



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3.7 Scenario 7: Light Rail (Full A)

The Light Rail (Full A) scenario is a complete light rail solution. The route follows the CAMCOS corridor south of Kawana Waters before it deviates to the Light Rail Corridor between Kawana Waters and Maroochydore CBD. Importantly, services do not extend north to the Sunshine Coast Airport and the network includes a spur that connects the CAMCOS corridor with Caloundra. There are eight services per hour on the network with four travelling from Maroochydore CBD to Caloundra and four from Maroochydore CBD to Beerwah. Additional stops have been added at Caloundra South, Beerwah East and Australia Zoo.

Figure 3-18 shows the public transport network under this scenario.

Figure 3-18: Full Light Rail A stop locations and service frequencies.



Frequency (services per hour)		
AM Peak	**Inter Peak**	**PM Peak**
Maroochydore CBD to Caloundra West		
8	8	8
Station Locations • Maroochydore CBD • Dalton Dr • Wises Rd • Mountain Creek • Parrearra • Birtinya • Kawana Way At Doherty St • Creekside • Aroona • Caloundra West • Dalton Dr • Wises Rd		
Caloundra West to Caloundra		
4	4	4
Station Locations • Caloundra West • North St (Golden Beach) • Omrah Av At Nutley St (Caloundra)		
Caloundra West to Beerwah		
4	4	4
Station Locations • Pelican Waters • Caloundra South • Caloundra South Middle • Caloundra South Western • Beerwah East (east) • Beerwah East (west) • Australia Zoo • Beerwah		

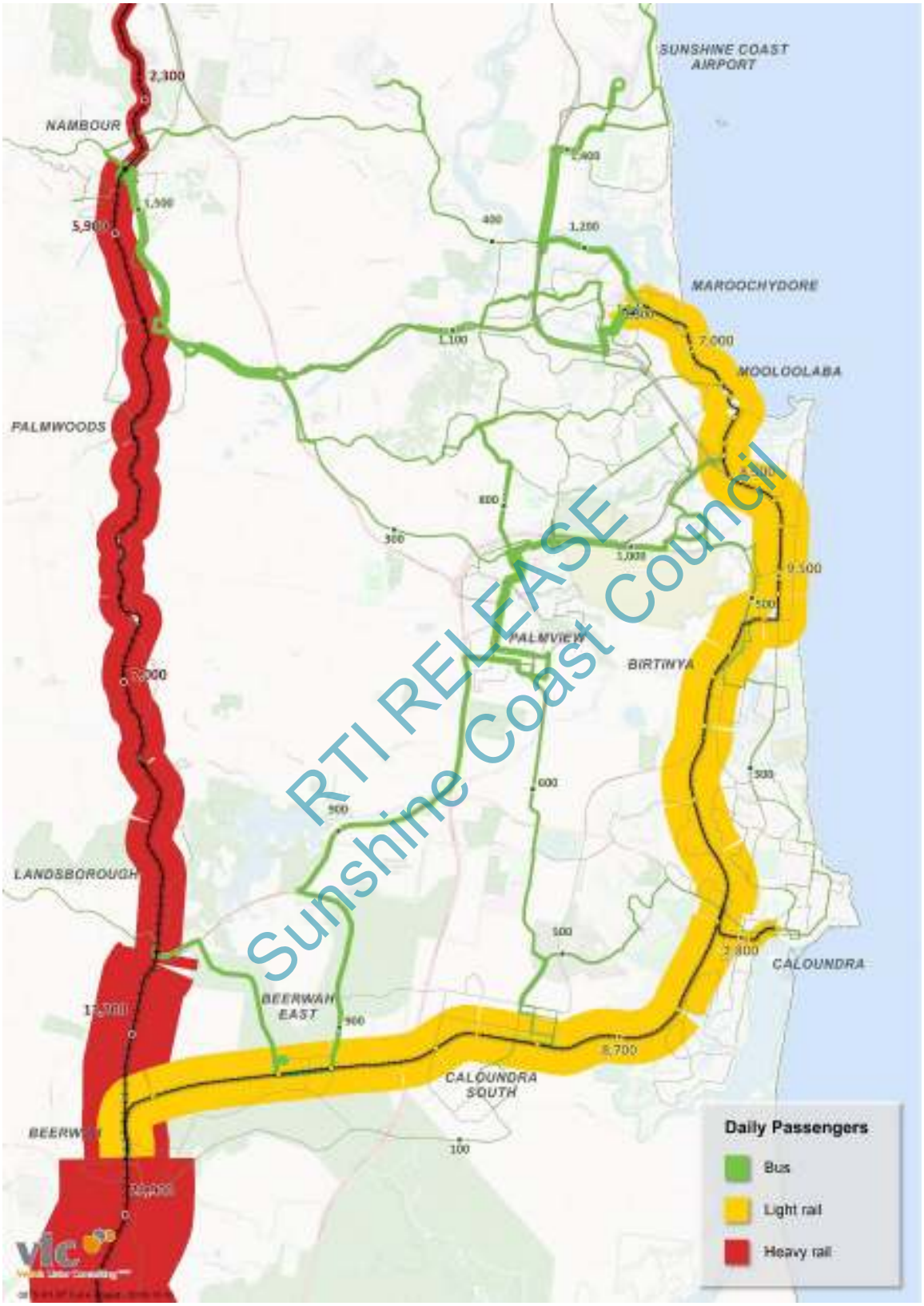
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3.7.1 Scenario 7: Daily Public Transport Passenger Loads

Daily public transport passenger loads for Scenario 7 with Project Case demographics are shown in Figure 3-19

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Figure 3-19: Daily Public Transport Passenger Loads (Full Light Rail A)



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3.8 Scenario 8: Light Rail (Full B)

The Light Rail (Full B) scenario has the same route alignment and stopping pattern as Light Rail (Full A) with a different service profile. In this scenario there are 2 independent routes; Maroochydore CBD to Caloundra and Beerwah to Caloundra West Station each with 8 services per hour all day.

Figure 3-20 shows the public transport network under this scenario.

Figure 3-20: Light Rail (Full B) stop locations and service frequencies



Frequency (services per hour)		
AM Peak	**Inter Peak**	**PM Peak**
Maroochydore CBD to Caloundra		
8	8	8

Station Locations

- Maroochydore CBD At Plaza Pde
- Aerodrome Rd At Maud St
- Alexandra Pde At Maroubra St
- Alexandra Pde At Mari St
- Alexandra Pde At Buderim Av
- Venning St At First Av
- Brisbane Rd At Foote St
- Brisbane Rd At Pangarinda Pl
- Brisbane Rd At Amarina Av
- Nicklin Way At Jessica Blvd
- Nicklin Way At Kawana Shoppingworld
- Nicklin Way At Koorin Dr
- Nicklin Way At Kawana Island Dr
- Nicklin Way At Minkara St
- Main Dr At Sportsman Pde
- Birtinya Station
- Kawana Way At Doherty St
- Creekside
- Aroona
- Caloundra West
- North Street

Caloundra West to Beerwah		
8	8	8

Station Locations

- Caloundra West
- Pelican Waters
- Caloundra South
- Caloundra South Middle
- Caloundra South Western
- Beerwah East (east)
- Beerwah East (west)
- Australia Zoo
- Beerwah

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3.8.1 Scenario 8: Daily Public Transport Passenger Loads

Daily public transport passenger loads for Scenario 8 with Project Case demographics are shown in

Figure 3-21

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Figure 3-21: Daily Public Transport Passenger Loads (Full Light Rail B)



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3.9 Scenario 9: Light Rail (CAMCOS A)

The Light Rail (CAMCOS A) scenario includes light rail operating in a truncated CAMCOS corridor (terminating at Maroochydore CBD). Service patterns are the same as in Light Rail (Full A).

Figure 3-22 shows the public transport network under this scenario.

Figure 3-22: Light Rail (CAMCOS A) station locations and service frequencies.



Frequency (services per hour)		
AM Peak	**Inter Peak**	**PM Peak**
Maroochydore CBD to Caloundra West		
8	8	8

Station Locations
- Maroochydore CBD
- Dalton Dr
- Wises Rd
- Mountain Creek
- Parrearra
- Birtinya
- Kawana Way At Doherty St
- Creekside
- Aroona
- Caloundra West
- Dalton Dr
- Wises Rd

Caloundra West to Caloundra		
4	4	4

Station Locations
- Caloundra West Station
- North St (Golden Beach)
- Omrah Av At Nutley St (Caloundra)

Caloundra West to Beerwah		
4	4	4

Station Locations
- Pelican Waters
- Caloundra South
- Caloundra South Middle
- Caloundra South Western
- Beerwah East (east)
- Beerwah East (west)
- Australia Zoo
- Beerwah

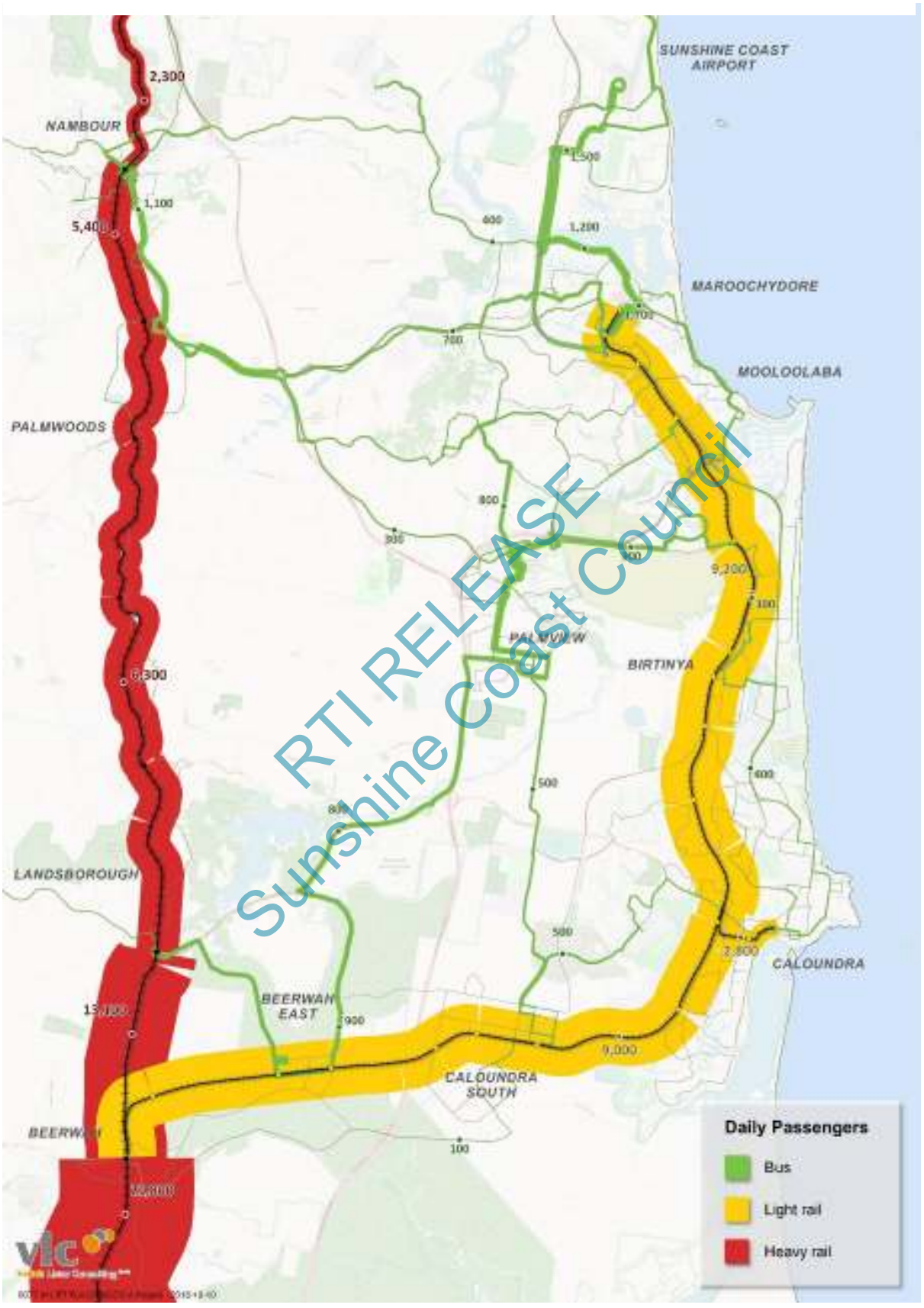
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3.9.1 Scenario 9: Daily Public Transport Passenger Loads

Daily public transport passenger loads for Scenario 9 with Project Case demographics are shown in Figure 3-21.

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Figure 3-23: Daily Public Transport Passenger Loads (Light Rail CAMCOS (A))



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4. Analysis Summary

4.1 Heavy Rail Scenarios

Both CAMCOS Rail and North Coast Connect serve predominantly interregional demands.Figure 4-1Figure 4-1 and Figure 4-2 show the daily south bound patronage profile of CAMCOS Rail and North Coast Connect respectively. These charts show daily volumes on each segment of the south bound route; the number of passengers boarding and alighting at each station; and, the mode by which passengers' access and depart the stations.

Figure 4-1 and Figure 4-2 show that daily passenger loads steadily increase as services progress south along the corridor. At the last station within the Sunshine Coast (Beerwah) North Coast Connect services (running in the CAMCOS corridor) carry 16,832 passengers. CAMCOS Rail on the other hand, carries fewer passengers at this point with 13,346 heading south of the final Sunshine Coast station each day.

CAMCOS Rail serves significantly more local trips than North Coast Connect. North Coast Connect is a high speed limited stop interregional service. With CAMCOS Rail there are 6341 alightings within the Sunshine Coast (from south bound passengers) compared to North Coast Connect where there are only 2208 south bound alightings.

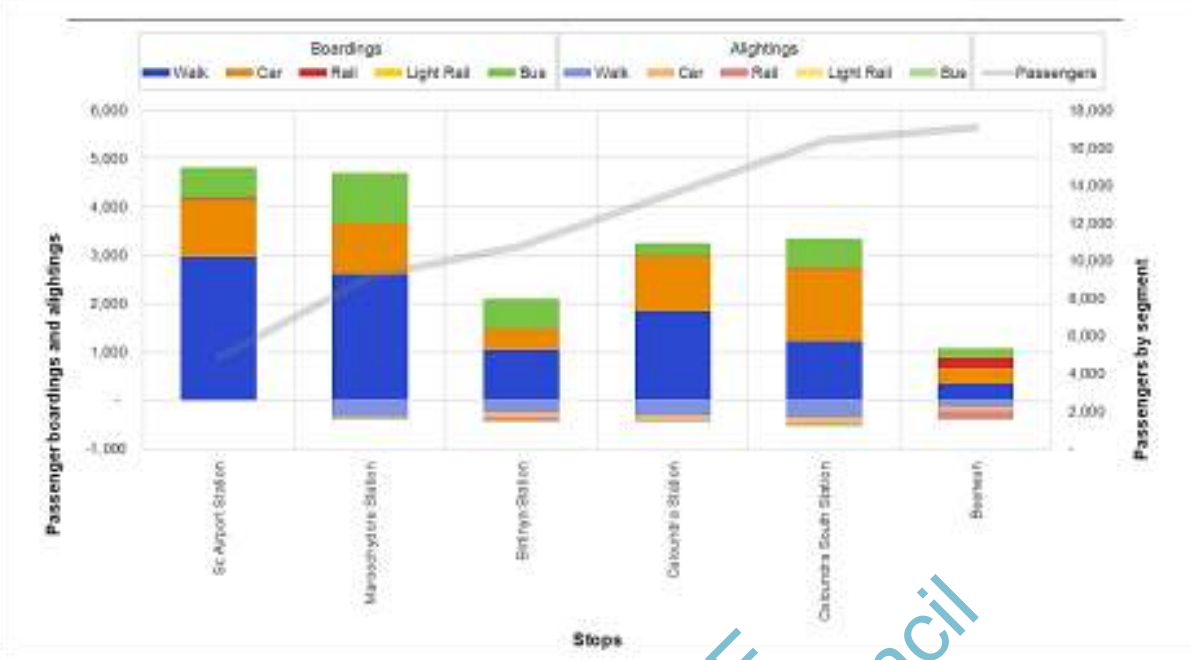
Figure 4-1: CAMCOS Rail line Loading South Bound (Daily Volumes) *(Scenario 2)*



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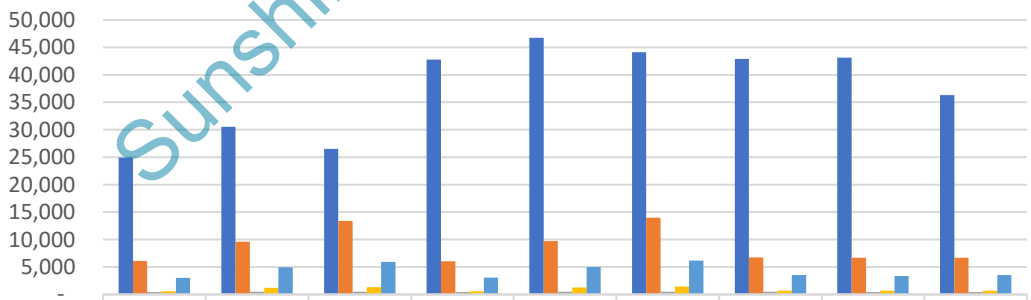
Figure 4-2: North Coast Connect Line Loading South Bound (Daily Volumes)(scenario 3)



The interregional function of CAMCOS Rail and North Coast Connect is further evidenced by the number of trips to Brisbane being made by public transport as shown in Figure 4-3. Under the CAMCOS Rail network there are 56% more trips by public transport to Brisbane compared to the reference case; but, with North Coast Connect, the number of public transport trips to Brisbane more than doubles (118%) compared to the reference case. Conversely, under CAMCOS Rail there are more public transport trips being made within the Sunshine Coast, 30,540 trips compared to 26,536 trips under North Coast Connect.

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Figure 4-3: Destination of public transport trips that start within the Sunshine Coast (as modelled)



	Reference Case Network	CAMCOS	North Coast Connect	Sunshine Coast Light Rail	Sunshine Coast Light Rail and CAMCOS	Sunshine Coast Light Rail and North Coast Connect	Sunshine Coast Light Rail Full A	Sunshine Coast Light Rail Full B	Sunshine Coast Light Rail Full A CAMCOS
Within Sunshine Coast	24,957	30,540	26,536	42,768	46,752	44,130	42,887	43,145	36,316
To Brisbane	6,126	9,584	13,411	6,054	9,743	13,975	6,768	6,710	6,697
To Noosa / Gympie	469	488	483	476	495	492	480	479	478
To Moreton Bay	550	1,203	1,348	552	1,245	1,459	668	660	668
To SEQ Balance	3,004	4,950	5,937	3,067	5,016	6,144	3,558	3,339	3,556

Within Sunshine Coast To Brisbane To Noosa / Gympie To Moreton Bay To SEQ Balance

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The limited number of stops and interregional function of North Coast Connect sees more passengers driving and using the bus to connect with train services when compared to CAMCOS Rail. With CAMCOS Rail, more passengers can walk to catch the train and less need to drive because there are more stations to serve the developed areas. Bus connections are less attractive under CAMCOS Rail due to the longer overall trip times compared to North Coast Connect. Table 4-1 shows the proportion of passengers walking, driving and using the bus to access rail services under the North Coast Connect and CAMCOS Rail scenarios.

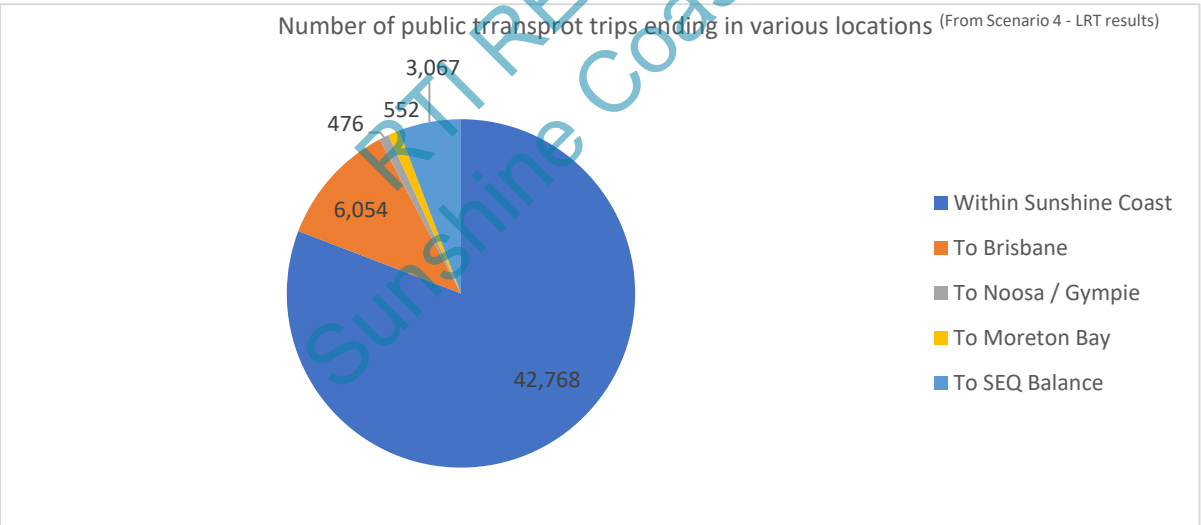
Table 4-1: Heavy Rail Access Mode (south bound trips from within the sunshine coast)

	Access Mode			
	Walk	Car	Rail	Bus
North Coast Connect (scenario 3)	53%	29%	1%	17%
CAMCOS (Scenario 2)	70%	21%	1%	9%

4.7 Light Rail Scenarios

In contrast to North Coast Connect and CAMCOS Rail, the Light Rail Scenario (scenario 4) serves a purely local function. In the Sunshine Coast Light Rail scenario there are 54,700 public transport trips originating from within the Sunshine Coast on an average day, higher than both CAMCOS Rail (48,400) and North Coast Connect (50,000). In 2041 under the Light Rail network scenario, approximately 81% of all public transport trips from within the Sunshine Coast are local (Figure 4-4)

Figure 4-4: Destination of public transport trips from within the Sunshine Coast LGA



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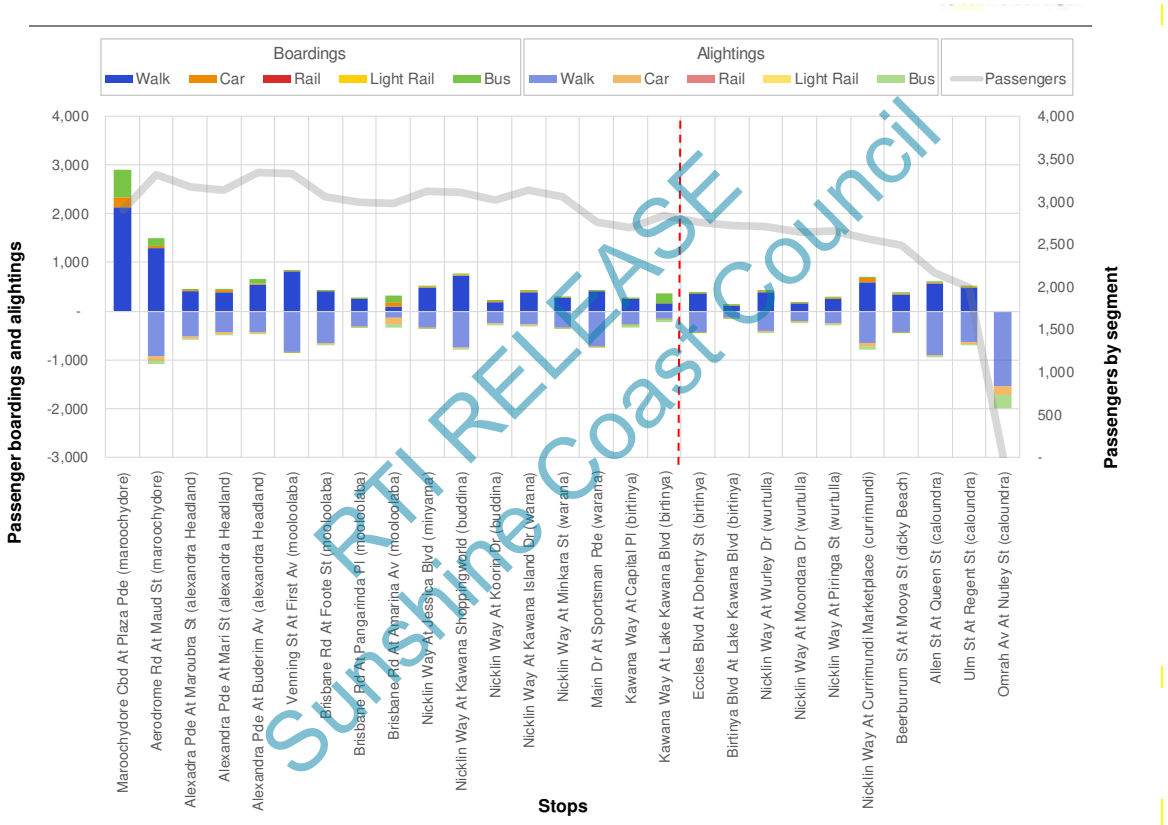
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The local function of Light Rail in scenario 4, is evident in the daily south bound patronage profile shown in Figure 4-5. The patronage profile of Light Rail services in scenario 4 is relatively flat, the number of passengers boarding and alighting at each station (excluding end of line stations) is somewhat balanced which is vastly different to the patterns seen on CAMCOS Rail and North Coast Connect.

The red dashed line in Figure 4-5 marks the point at which a steady decline in passenger load begins. This section of the corridor seems to attract the fewest passenger; however, when light rail is combined with CAMCOS Rail and North Coast Connect the pattern changes and a distinct spike occurs as passengers use Light Rail to access CAMCOS Rail/North Coast Connect Services (this is discussed further in section 4.3).

Figure 4-5: Sunshine Coast Light Rail Line Loading South Bound (Daily Volumes)

(Scenario 4)



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Most passengers access Light Rail by walking (86%); this high level of walk access is facilitated through regular stopping patterns, high frequency services and proximity to high density residential and employment areas. Only 5% of passengers access south bound services by car. 27% of these boardings occur at Maroochydore CBD, 13% occur at Brisbane Road at Amarina Avenue and 11% occur at Nicklin Way at Currimundi Marketplace.

Transfers from buses occur in locations where a number of local services terminate, such as Maroochydore CBD which accounts for 47% of all boarding's from bus, and Kawana Way at Lake Kawana Boulevard (Birtinya) which accounts for 16% of all bus to light rail transfers. Table 4-2 details the proportion of passengers walking, driving and using the bus to access south bound Sunshine Coast Light Rail services.

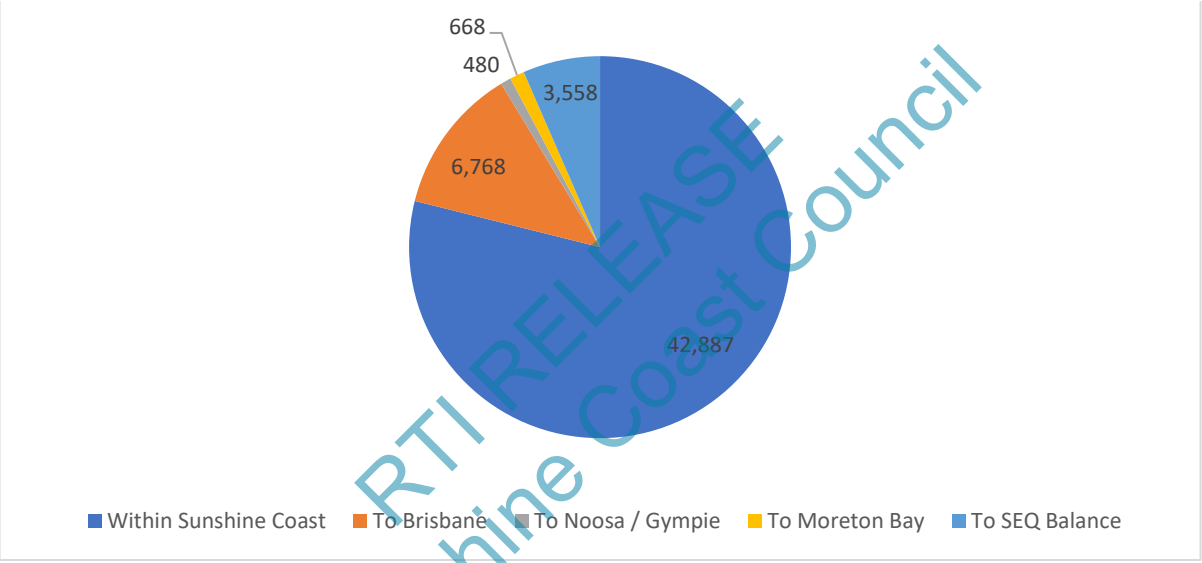
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Table 4-2: Light Rail Access Mode (south bound trips from within the sunshine coast)

	Access Mode			
	Walk	Car	Rail	Bus
Light Rail (Scenario 4:LRT)	86%	5%	0%	9%

The Light Rail (Full A) (Scenario 7), delivers the third highest daily public transport trips of all scenarios. The only scenarios with more trips than Scenario 7 are Light Rail and CAMCOS Rail and Light Rail and North Coast Connect. With 55,600 daily public transport trips, the Light Rail (Full A) scenario sees the second highest number of first boardings occurring on light rail services (30,900) and approximately 79% of all public transport trips are local to the Sunshine Coast LGA. 88% of passengers walk to stations to access light rail services under Scenario 7: Light Rail (Full A) and only 5% drive.

Figure 4-6: Public transport trip destination (Light Rail (Full A) Network 2041) (scenario 5)



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Table 4-3: Light Rail Full A - Access Mode (South Bound Services)

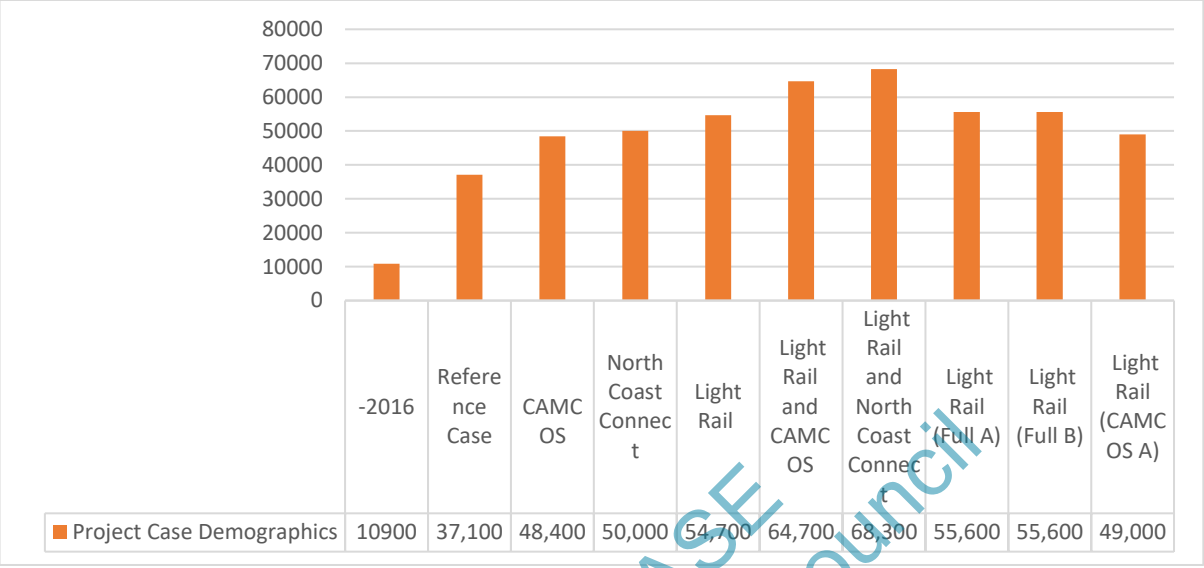
	Access Mode			
	Walk	Car	Light Rail	Bus
Light Rail (Scenario 5)	**88%**	**5%**	**3%**	**5%**

In Light Rail (Full B) interchanges are required to at Caloundra West for a large number of journeys due to the service profile. In the model the interchange penalties at Caloundra West Station are the same as rail to rail transfers used in other scenarios. However, even though there are more services in the Light Rail (Full B) scenario, the need to transfer results in lower daily loads on light rail services. This is evident when comparing line loadings from Light Rail (Full A) in Figure 3-19 and Light Rail (Full

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B) in Figure 3-21. Light Rail (CAMCOS A) (Scenario 9) results in the fewest public transport trips being made (per day) from within the Sunshine Coast when compared to all of the other Light Rail scenarios

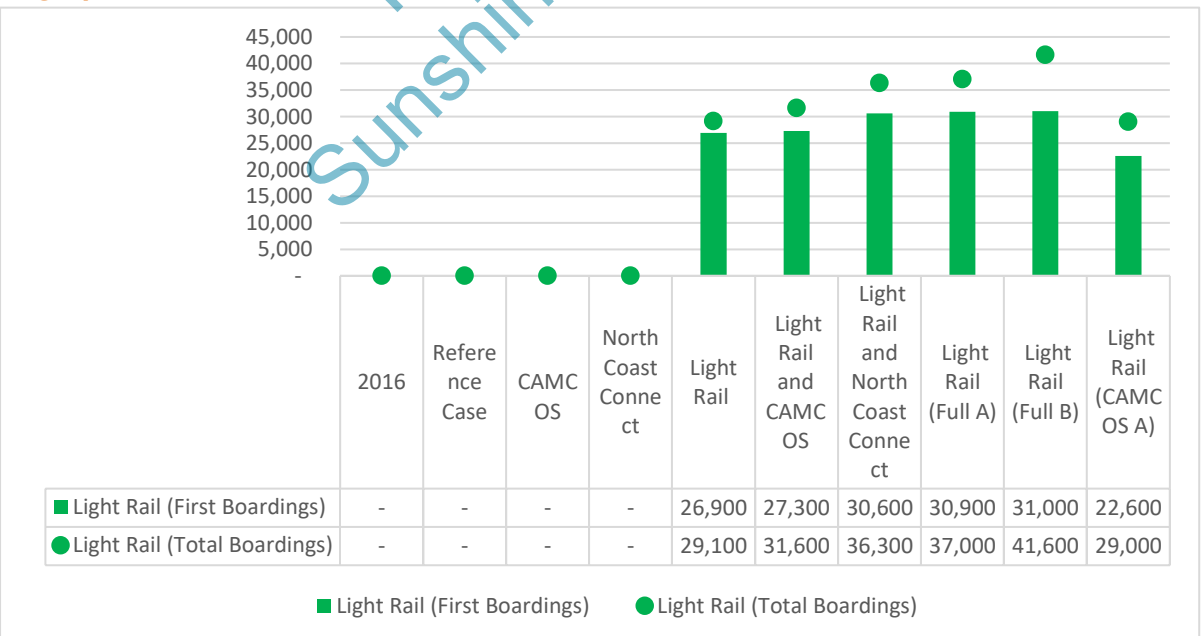
Figure 4-7: Number of public transport trips originating from within the Sunshine Coast as modelled by scenario (Project Case Demographics)



	-2016	Reference Case	CAMCOS	North Coast Connect	Light Rail	Light Rail and CAMCOS	Light Rail and North Coast Connect	Light Rail (Full A)	Light Rail (Full B)	Light Rail (CAMCOS A)
Project Case Demographics	10900	37,100	48,400	50,000	54,700	64,700	68,300	55,600	55,600	49,000

Figure 4-11 shows the total number of public transport trips (daily) that begin on light rail (as columns) and the total number of light rail boardings, including transfers (as dots). This figure shows that Light Rail (CAMCOS A) attracts the least boardings of all light rail scenarios modelled, Light Rail (Full B) has the highest total boardings because more interchanges are required at Caloundra West

Figure 4-8:Number of First and Total Boardings for light rail scenarios (2041 - Project case demographics)



	2016	Reference Case	CAMCOS	North Coast Connect	Light Rail	Light Rail and CAMCOS	Light Rail and North Coast Connect	Light Rail (Full A)	Light Rail (Full B)	Light Rail (CAMCOS A)
Light Rail (First Boardings)	-	-	-	-	26,900	27,300	30,600	30,900	31,000	22,600
Light Rail (Total Boardings)	-	-	-	-	29,100	31,600	36,300	37,000	41,600	29,000

Light Rail (First Boardings) Light Rail (Total Boardings)

4.3 Combined Heavy Rail and Light Rail Scenarios

Boardings on light rail increase when combined with both CAMCOS Rail and North Coast Connect. Light Rail supports North Coast Connect by providing better access and North Coast Connect services

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provide faster trip times for some segments of the light rail corridor (Maroochydore CBD to Kawana Waters for example).

The interaction between CAMCOS Rail and Light Rail is not as clear cut as it is in the Light Rail and North Coast Connect because boardings on the CAMCOS Rail line drop when combined with Light Rail. The interactions are quite complex with the two network elements competing in some places and supporting each other in others. There is a trade-off between the two lines, but Light Rail is the clear winner in all cases with more passengers using Light Rail to access the heavy rail systems.

Table 4-4: Total South Bound Boardings by line for the modelled scenarios

	Total south bound boardings (Daily)		
	Light Rail	CAMCOS	North Coast Connect
Light Rail Scenario	14,525	-	-
CAMCOS Scenario	-	19,688	-
North Coast Connect Scenario	-	-	19,041
CAMCOS and Light Rail Scenario	15,665	18,686	-
North Coast Connect and Light Rail Scenario	17,972	-	19,795

Table 4-5 shows the total number of public transport trips from within the Sunshine Coast. In this table rail includes the North Coast Line.

Table 4-5: Total First Boardings (Daily PT trips originating within the Sunshine Coast)

Mode	2041 Light Rail	2041 Light Rail and CAMCOS	2041 Light Rail and North Coast Connect
Bus	19,600	14,900	18,000
Heavy Rail	8,200	22,500	19,700
Light Rail	26,900	27,300	30,600
Total Sunshine Coast PT	**54,700**	**64,700**	**68,300**

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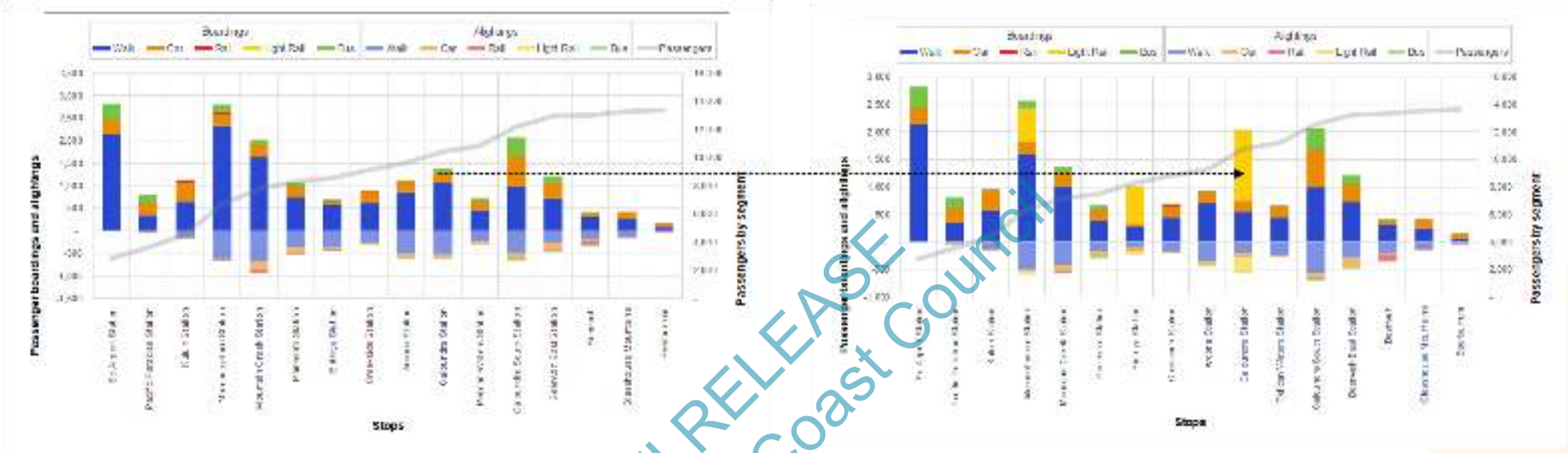
When light rail is combined with CAMCOS Rail and North Coast Connect, fewer passengers access heavy rail by walking. Light Rail provides a more attractive option than walking and expands the catchment of both CAMCOS Rail and North Coast Connect.

For CAMCOS Rail, the proportion of passengers accessing rail by walking drops from 70% to 58% after adding light Rail. The effect can be seen Figure 4-9 (on the following Page) which shows the line loading profile of CAMCOS Rail before (left) and after (right) light rail integration.

How, and where people board CAMCOS Rail and North Coast Connect changes once light rail is introduced. With integration of the two networks more transfers occur at interchange points such as Birtinya and Caloundra Station. More passengers access Caloundra Station because light rail extends the service catchment of heavy rail into the southern section of the light rail corridor. This effect is evidenced in Figure 4-9 **Error! Reference source not found.**, which when compared to Figure 4-5, shows a spike in loadings on light rail for route segments south of Kawana Way at Lake Kawana Blvd (Birtinya).Figure 4-10 is from the 'Light Rail and CAMCOS' scenario but the same phenomenon occurs in 'Light Rail and North Coast Connect' scenario (refer to Volume 4 Scenario 3P for the corresponding chart).

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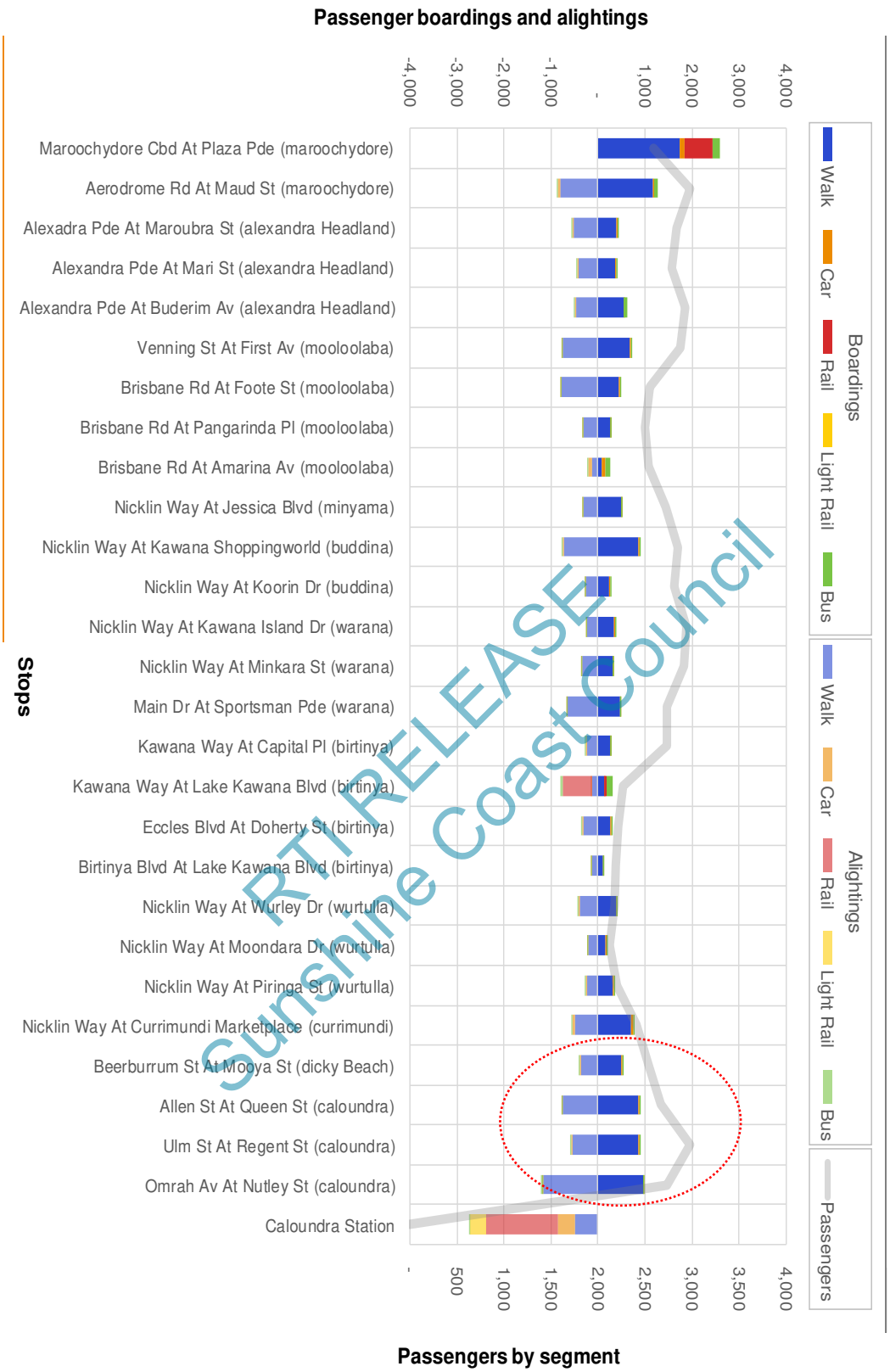
Figure 4-9: South bound line loading - CAMCOS Rail before and after light rail



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Figure 4-10: Sunshine Coast Light Rail Line Loading South Bound (Light Rail and CAMCOS Rail Network)



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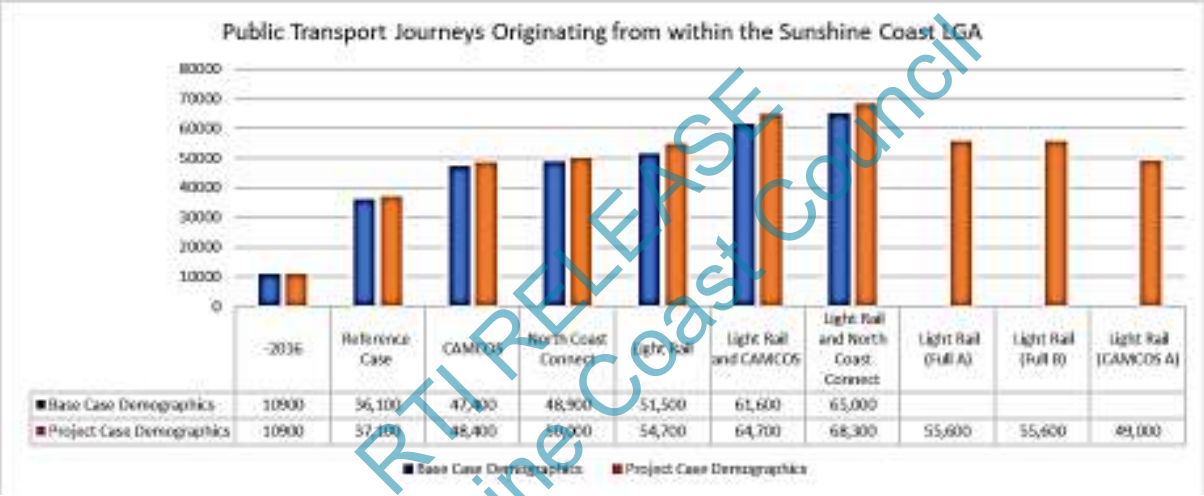
4.4 Summary of Performance

The following summary looks at the relative performance of each modelled network. The complex interactions between modes and network effects on trip patterns, mode shares and traffic volumes make it difficult to summarise and compare all aspects in a concise manner. The following, therefore, looks to outline high-level statistics that give a good indication of how each scenario performs relative to one another.

4.4.1 Public Transport Trips

Figure 4-11 shows the number of daily public transport trips originating from within the Sunshine Coast under each of the modelled scenarios. The pattern is consistent for both demographic scenarios and shows that more infrastructure results in more public transport trips. Model results from the Project Case demographic scenario consistently result in more trips being made by public transport than the Base Case demographics.

Figure 4-11: Public Transport trips originating from within the Sunshine Coast



The highest number of public transport trips occur in the Light Rail and North Coast Connect scenario. This is a result of shorter travel times facilitated by intermodal transfers that result in faster trips. The CAMCOS Rail and Light Rail Scenario produces the second highest number of public transport trips for similar reasons.

The Light Rail (Full A) and Light Rail (Full B) scenarios result in the third highest number of public transport trips. These scenarios perform better than North Coast Connect and CAMCOS Rail, even though services do not extend north to the airport. For context, the station at Sunshine Coast Airport in the CAMCOS Rail scenario attracts 2,859 boardings per day. Modelled ridership would be noticeably higher if light rail was extended to the Sunshine Coast Airport. The Sunshine Coast Light Rail Scenario achieves the fourth highest public transport patronage of all scenarios. Light Rail (Full A) appears to deliver the best result when considering patronage levels relative to the cost of the scenarios that attract more trips.

4.4.2 Boardings by Mode

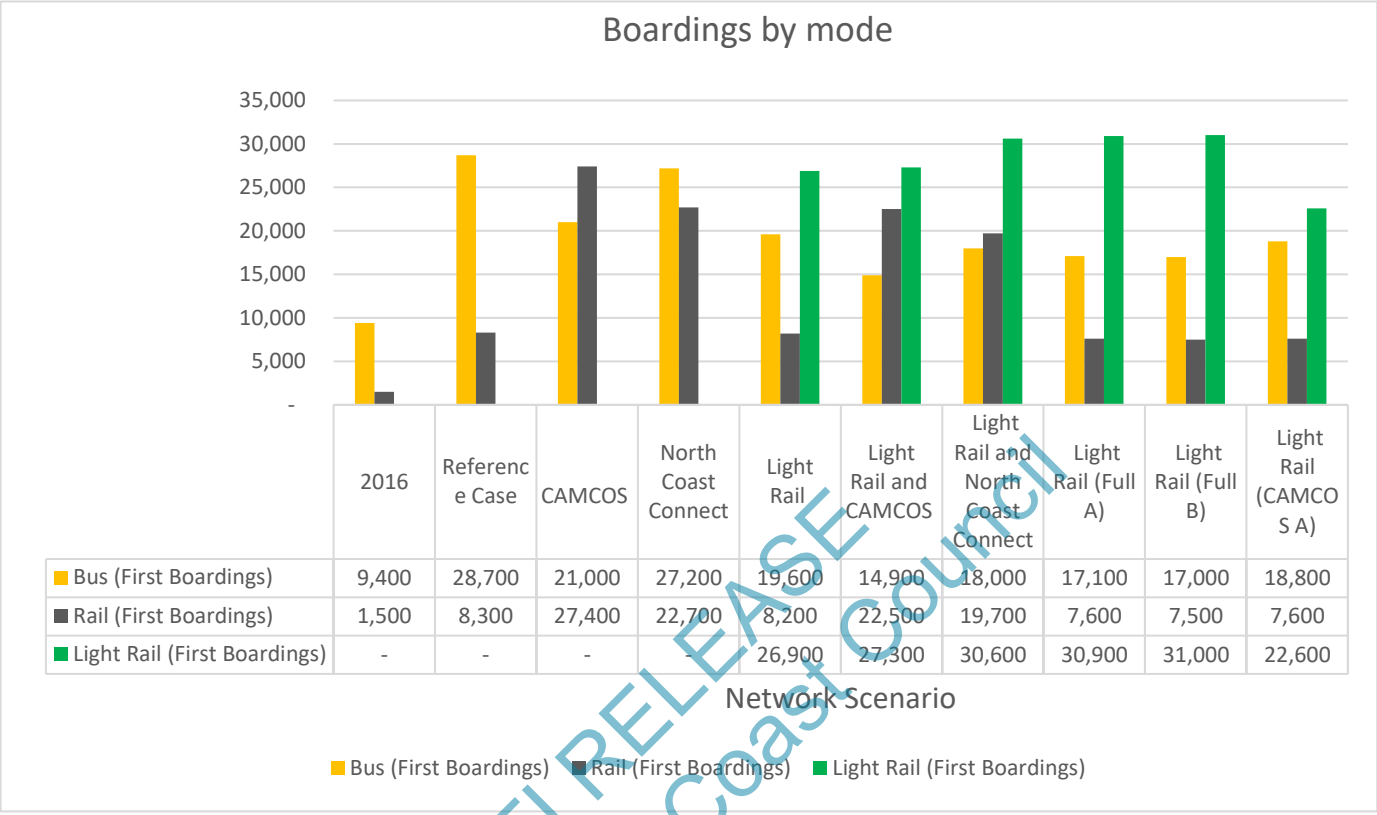
Figure 4-12 shows the number of trips that start by accessing light rail, rail and bus. This figure highlights the competition between bus and light rail with fewer bus boardings in scenarios where light rail is modelled. It is recommended that the bus network be amended to support the preferred option in more detailed studies.

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For light rail, the number of first boardings is highest in the Light Rail (Full B) scenario. The CAMCOS Rail and, Light Rail CAMCOS scenarios see more heavy rail boardings than those with North Coast Connect due to CAMCOS's local function.

Figure 4-12: Modelled Boardings by Mode (from within the Sunshine Coast)



	2016	Reference Case	CAMCOS	North Coast Connect	Light Rail	Light Rail and CAMCOS	Light Rail and North Coast Connect	Light Rail (Full A)	Light Rail (Full B)	Light Rail (CAMCOS A)
Bus (First Boardings)	9,400	28,700	21,000	27,200	19,600	14,900	18,000	17,100	17,000	18,800
Rail (First Boardings)	1,500	8,300	27,400	22,700	8,200	22,500	19,700	7,600	7,500	7,600
Light Rail (First Boardings)	-	-	-	-	26,900	27,300	30,600	30,900	31,000	22,600

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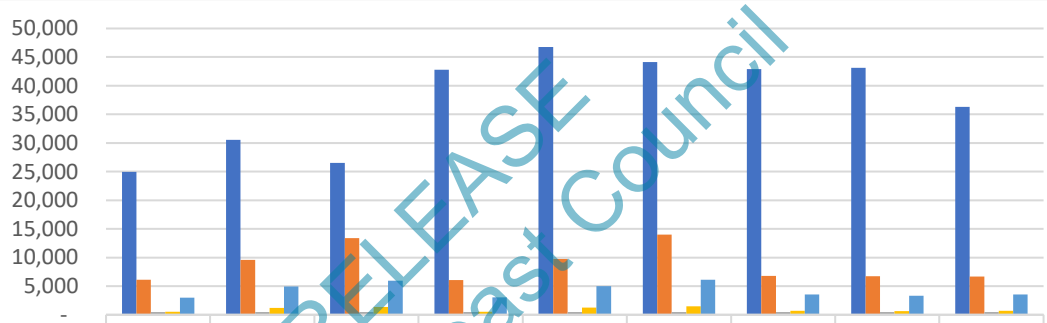
4.4.3 Public Transport Trips by Destination

Figure 4-13 (on the following page) shows the number of public transport trips made within, and from the Sunshine Coast to external areas. The greatest number of trips within, and external to, the Sunshine Coast occurs in the Light Rail and North Coast Connect scenario, followed closely by the Light Rail and CAMCOS Rail scenario.

When considering public transport ridership within the Sunshine Coast, Light Rail (Full B) and Light Rail (Full A) result in the third and fourth highest number of trips respectively. The public transport Trip numbers and benefit of these scenarios seem quite competitive given that services in these scenarios do not extend north of Maroochydore CBD and would require significantly less infrastructure investment than scenarios with higher public transport trips.

The Light Rail (CAMCOS A) scenario results in the lowest number of internal public transport trips when compared with the other light rail scenarios.

Figure 4-13: Modelled public transport trip destinations from the Sunshine Coast



	Reference Case Network	CAMCOS	North Coast Connect	Sunshine Coast Light Rail	Sunshine Coast Light Rail and CAMCOS	Sunshine Coast Light Rail and North Coast Connect	Sunshine Coast Light Rail Full A	Sunshine Coast Light Rail Full B	Sunshine Coast Light Rail Full A CAMCOS
Within Sunshine Coast	24,957	30,540	26,536	42,768	46,752	44,130	42,887	43,145	36,316
To Brisbane	6,126	9,584	13,411	6,054	9,743	13,975	6,768	6,710	6,697
To Noosa / Gympie	469	488	483	476	495	492	480	479	478
To Moreton Bay	550	1,203	1,348	552	1,245	1,459	668	660	668
To SEQ Balance	3,004	4,950	5,937	3,067	5,016	6,144	3,558	3,339	3,556

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4.4.4 Self-Containment (Project Case demographics)

Trip self-containment for each network is presented in Table 4-6. Variation in these numbers is low across the board. The marginal differences are a function of the model which does not consider changes to land uses, demographics and household composition that may result from different network scenarios. However, under network scenarios that include North Coast Connect (45-minute trains to Brisbane CBD) a greater proportion of trips are attracted to regions to the south of the Sunshine Coast.

Table 4-6: Trip self-containment

Network	Sunshine Coast	Brisbane	Noosa / Gympie	Moreton Bay	SEQ Balance
Reference Case Scenario	94.76%	1.39%	1.85%	1.53%	0.46%
Scenario 1: **CAMCOS**	94.69%	1.43%	1.85%	1.55%	0.48%
Scenario 2: **North Coast Connect**	94.56%	1.54%	1.85%	1.55%	0.50%
Scenario 3: **Light Rail**	94.78%	1.38%	1.85%	1.53%	0.46%
Scenario 4: **Light Rail and CAMCOS**	94.69%	1.43%	1.85%	1.55%	0.48%
Scenario 5: **Light Rail and North Coast Connect**	94.55%	1.55%	1.85%	1.55%	0.50%
Scenario 6: **Light Rail (Full A)**	94.76%	1.40%	1.85%	1.53%	0.47%
Scenario 7: **Light Rail (Full B)**	94.76%	1.40%	1.85%	1.53%	0.47%
Scenario 8: **Light Rail (CAMCOS** A)	94.76%	1.40%	1.85%	1.53%	0.47%

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5. Recommendations

This analysis has provided a high-level overview of how the different public transport scenario impact ridership and which networks support local and external destinations. This volume provides a precursor to the model results presented in Volumes 2 and 3 which, when combined with the trip matrices, can be used to compare any scenario and further investigate their impact on trip patterns and distribution.

The following points are some of the key messages from this investigation:

- CAMCOS Rail and North Coast Connect serve a predominantly interregional function.
- CAMCOS Rail serves more of a local function than North Coast Connect due to higher frequencies and more regular stopping patterns.
- Light Rail Results in more trips on public transport from within the Sunshine Coast when compared to CAMCOS Rail and North Coast Connect.
- When CAMCOS Rail and Light Rail are combined there is both competition and support between the services. The most notable change in CAMCOS Rail patronage is a shift from walk access to light rail access and an increased service catchment, particularly in the southern section of the light rail corridor.
- The highest number of public transport trips from within the Sunshine Coast occurs under the North Coast Connect and Light Rail scenario. This is largely due to a passenger's ability to minimise travel times by combining modes.
- Light Rail (Full A) and Light Rail (Full B) achieve the third highest number of public transport trips from within the Sunshine Coast. This is a competitive result given that the network in these scenarios does not extend to the Sunshine Coast Airport and would require significantly less capital investment than the two scenarios that achieve higher patronage (CAMCOS Rail and Light Rail and North Coast Connect and Light Rail).

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Prepared for

SUNSHINE COAST COUNCIL

Demographic tech note (Volume 2)

Sunshine Coast demographics and preliminary modelling

September, 2018

Sunshine Coast Demographics and Preliminary Modelling

Technical Note

2041 Demographic Scenario and Zone System development

18-027

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Date	Revision	Prepared By	Checked By	Approved By	Description
08.08.2018	1.0	MI	GN	GN	Final For Review

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1. Introduction

Veitch Lister Consulting (VLC) have developed two distinct demographic scenarios for the Sunshine Coast. These demographics have been employed in modelling to test their effect on patronage on a series of future mass transit network scenarios. The demographics have been prepared in a new and customised model zone system, referred to herein as the Sunshine Coast Zenith (SCZ) travel zone system. This Technical note focuses on the development of the SCZ system and the two demographic scenarios referred to as the (1) Base Case and (2) Project Case.

2. The Sunshine Coast Zenith System

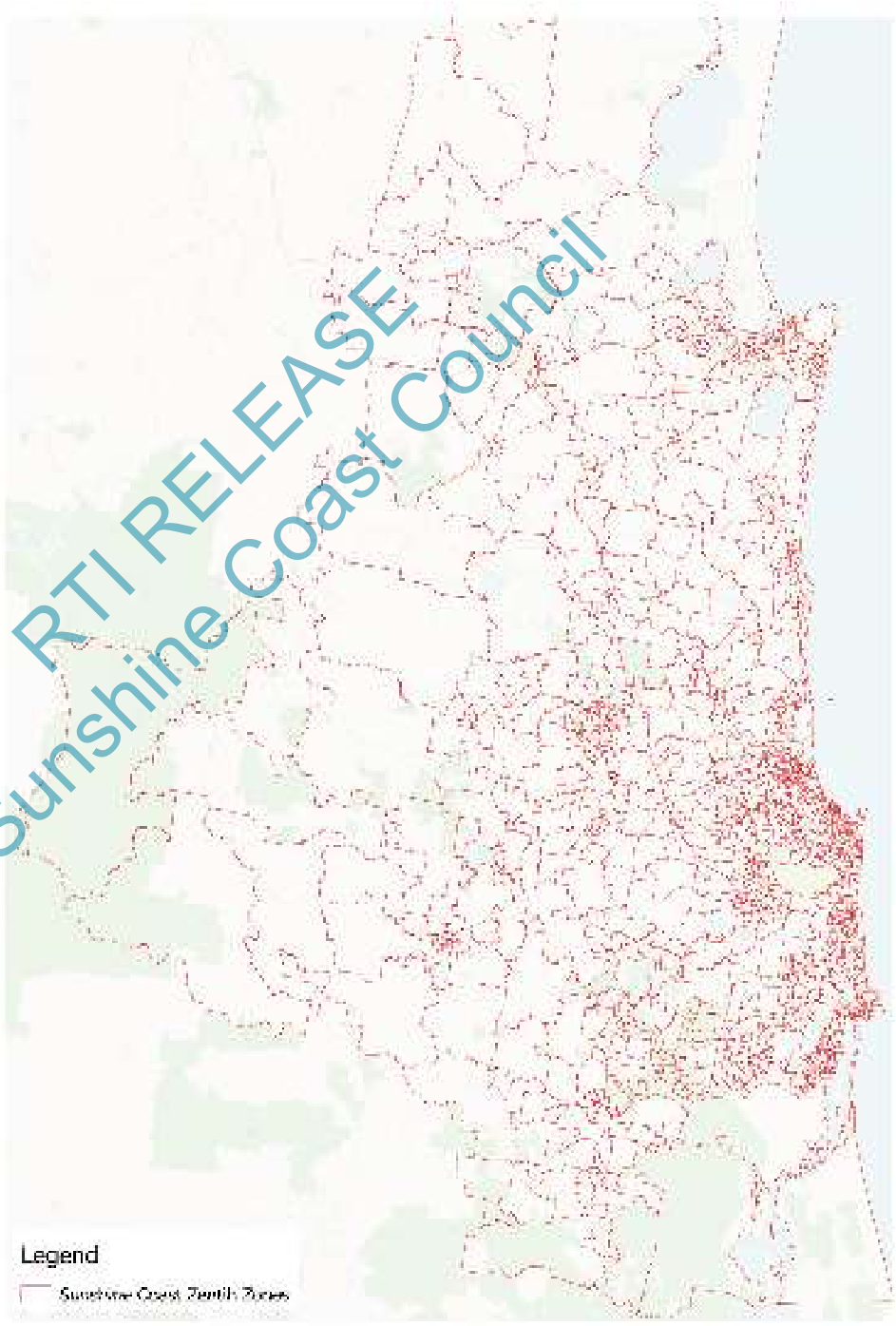
The Sunshine Coast Zenith zone system has been developed to concord with existing model zone systems and standard geographies. SCZ is the most detailed of all zone systems for the sunshine coast and provides comprehensive concordance with the following geographic boundaries:

- Sunshine Coast Integrated Multi-Modal Model (SCIMMM) Zone Systems
- South East Queensland Strategic Transport Model – Multi Modal
- Australian Statistical Geography Standard (ASGS) 2016 Statistical Area 1 (SA1)
- ASGS 2016 Statistical Area 2 (SA2)

The SCZ zone system consists of 1496 travel zones within the Sunshine Coast Council area, it covers 646 SA1s and can be aggregated up to any of the above listed geographies.

The SCZ zone system has been issued to council in GIS files for the entire SCIMMM model area. Figure 1 illustrates the detail and extent of the SCZ zone system.

Figure 1: The SCZ zone system



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3. Developing the Demographic Scenarios

Shaping SEQ estimates and future supply benchmarks

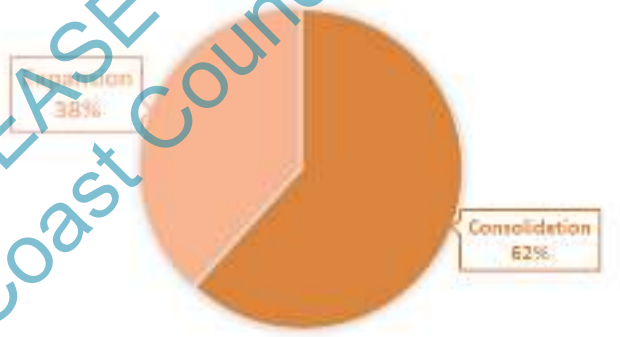
ShapingSEQ is the South East Queensland (SEQ) regional plan that outlines a framework for managing growth, land use and development. The plan presents population and employment estimates as well as benchmarks that local governments and state agencies are required to use as a guide for more detailed planning. Table 1 details the population and employment forecasts that underpin ShapingSEQ.

Table 1: ShapingSEQ population and employment forecasts

	2016	2041	Growth
Population	303,400	495,000	191,600
Employment	117,851	193,092	75,241

The efficient use of land and infrastructure is a key outcome of ShapingSEQ. One of the key mechanisms for achieving this outcome is consolidating growth by focusing on more infill development. According to ShapingSEQ, Infill development on the Sunshine Coast will occur in and around the urban corridor from Maroochydore to Caloundra and in areas with good access to public transport. According to ShapingSEQ, approximately 62% of all new dwellings in SCC are to occur as infill development (otherwise known as "consolidation").

Figure 2: Consolidation vs Expansion benchmarks (ShapingSEQ)



Whilst the bulk of new dwellings are to be accommodated as infill development there is still a need for expansion in new and undeveloped areas. The intent of ShapingSEQ is to deliver complete communities in greenfield areas such as Beerwah East, Caloundra South and Palmview; 38% of all new dwellings are to occur in these greenfield development sites.

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ShapingSEQ and its relevance to the demographic scenarios

The two demographic scenarios discussed below have been prepared to demonstrate how network performance is impacted by alternative growth distribution patterns. The Base Case demographics have been set up to be consistent with TMR's growth forecasts and are a disaggregated version of forecasts provided to VLC on 01/06/17 from TMR's Transport Analysis Unit (Mobile population Final output 2011-41). On the other hand, the Project Case demographics reflect Sunshine Coast Council's planned distribution of growth and align more closely with the ShapingSEQ desired regional settlement pattern. The Base Case

3.1 Base Case Demographics

Purpose

Base Case demographics have been developed to reflect a 2041 future where population growth and the distribution of households is completely consistent with that of TMR's projections at the SA1 level. These projections are underpinned by the distribution of growth as set out by the 2015 Queensland Government Statistician's Office (QGSO) dwelling and population projections and are reflective of the ShapingSEQ totals.

Development process

The Land Use Management and Rationalisation (LUMAR) tool has been used to disaggregate SA1 level projections at 2041 to the SCZ travel zone system. LUMAR is a geospatial distribution engine that provides a robust framework within which the 2041 forecasts at SA1 level can be spatially dispersed to the smaller SCZ travel zones. Land use overrides have been employed to ensure future land use planning is reflected in the distribution of forecast growth. Systematic checks have been employed to ensure that the distribution of growth within each SA1 is consistent with planning for greenfield areas and observed land use patterns. Post processing adjustments have been focused on SA1's that are comprised of three or more SCZ travel zones to ensure growth within an SA1 has been allocated to each of the zones appropriately.

For Caloundra south Priority Development Area (PDA), the distribution of population and employment is informed by Aura Master Plan revision 1.03.18. In other growth areas such as Palmview, Maroochydore Town Centre, Kawana Waters and Sippy Downs we have used Council's planning layouts to inform the distribution of growth. The Beerwah East urban expansion area has no growth in Queensland Government Statistician's Office (QGSO) dwelling and population projections and as such is not included in the Base Case demographics.

Population and Employment Growth

Table 2 shows base year population[1] and employment as well as growth from the source data. Population within the Sunshine Coast Local Government Area is forecast to increase by 63% to 494,406 persons between 2016 and 2041.

Table 2: Base Case population and employment

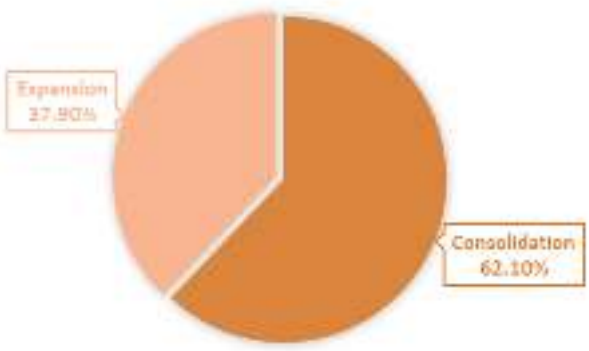
	2016	2041	%Change	Absolute Change
Population	303,151	494,406	63.1%	191,255
Employment	127,988	192,404	50.3%	64,416

The population and employment figures outlined in Table 2 align quite closely with the benchmarks set out in ShapingSEQ (See Table 1); with only 594 fewer people and 688 fewer jobs these forecasts are considered to be more than acceptable in the context of a 25-year forecast.

Consolidation vs Expansion

Analysis of the forecast dwelling distribution against the existing urban areas outlined in ShapingSEQ has produced a ratio of consolidation to expansion that is consistent with the benchmark in ShapingSEQ. Figure 3 shows the consolidation vs expansion ratio of growth in the Base Case scenario.

Figure 3: Base Case Expansion Vs Consolidation Statistic



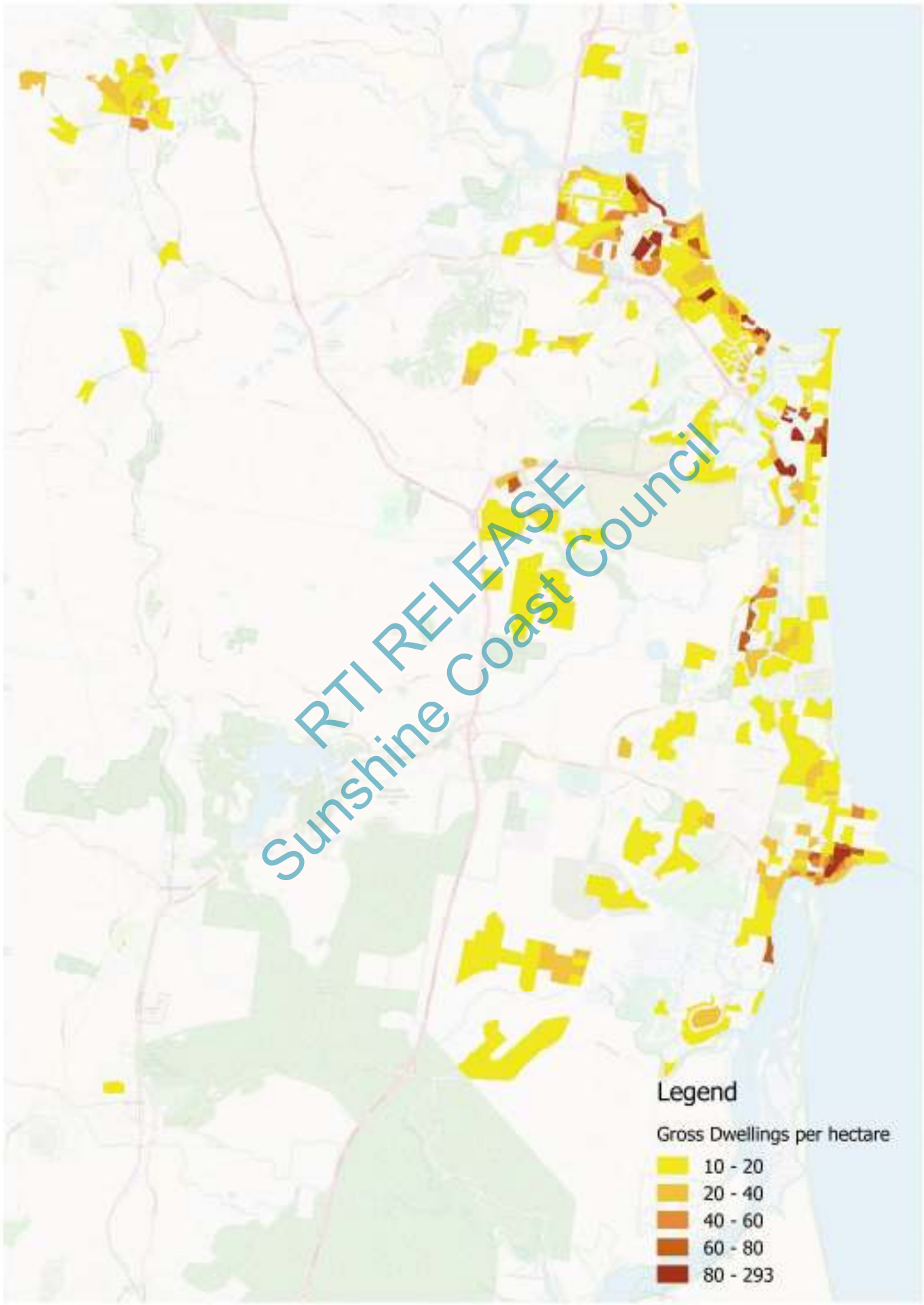
Growth Distribution

The following pages include figures that illustrate the distribution of dwellings, population and employment growth in the Base Case. Figure 4shows the gross dwelling density of each SCZ travel zone, Figure 5 and Figure 6 are dot density maps that illustrate the distribution of population and employment growth in the Base Case scenario. Maroochydore Town Centre, Caloundra South, Palmview and the coastal urban strips accommodate the largest increases in population. For employment, the most noticeable growth occurs in Maroochydore Town Centre and existing commercial areas.

[1] Base year demographics are based on the 2016 census data and as such differ from ShapingSEQ 2016 numbers. (presumably shaping SEQ numbers are not taken directly from the 2016 census)

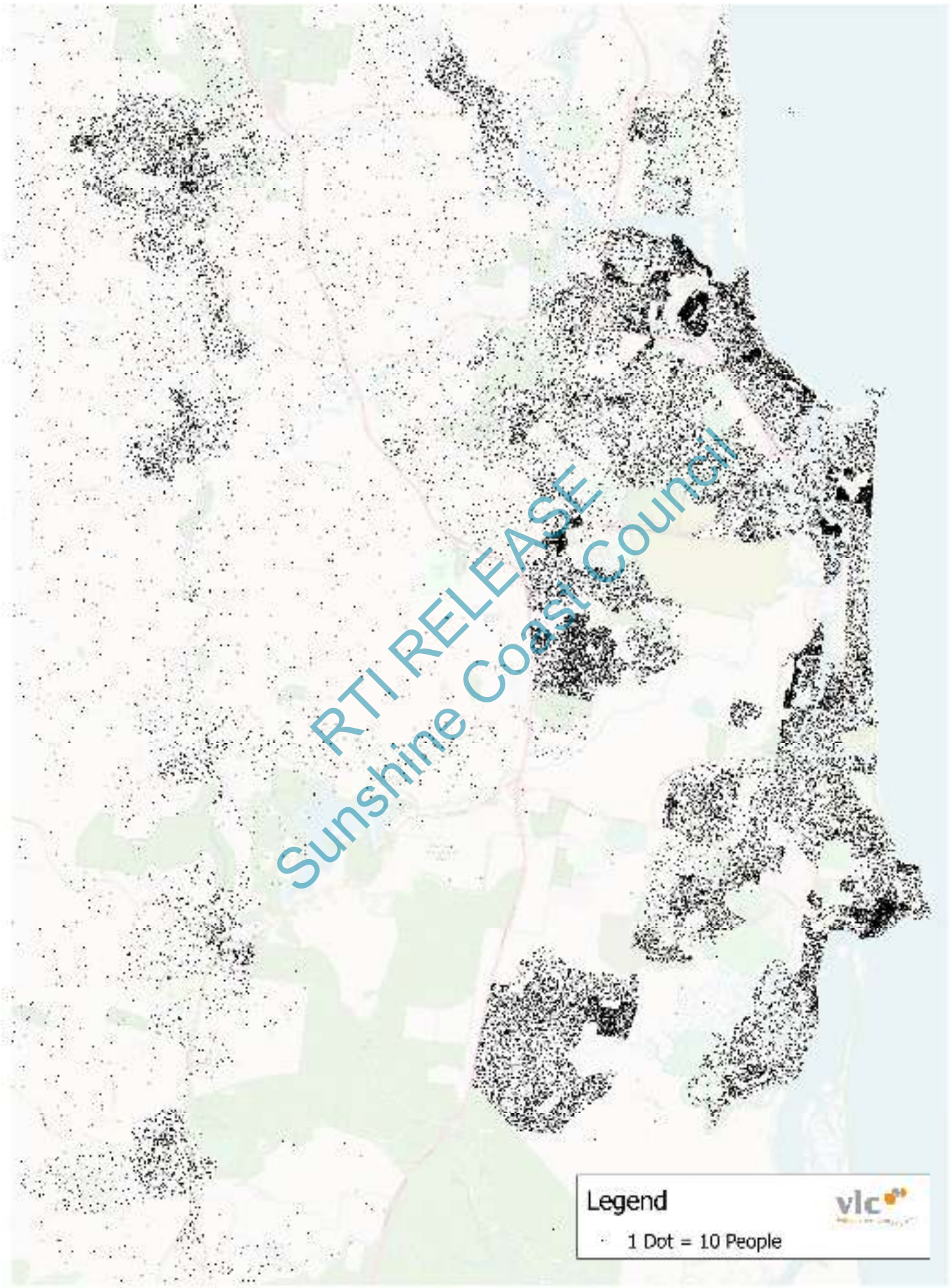
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Figure 4: Project Case Dwelling Density (2041)



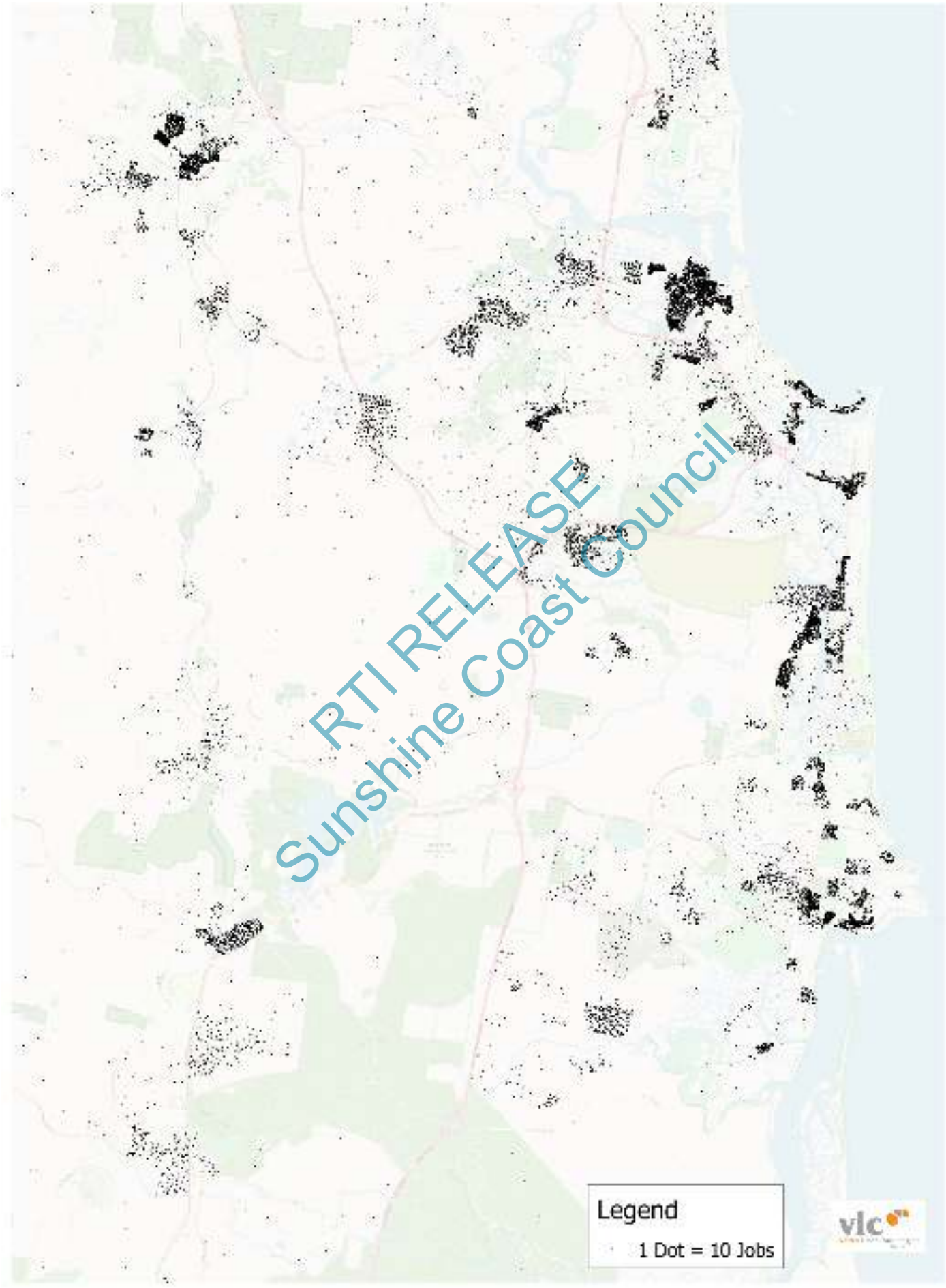
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Figure 5: Population Growth Distribution Base Case Demographics (2016-2041)



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Figure 6: Employment Growth Distribution Base Case Demographics (2016-2041)



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3.2 Project Case Demographics

Purpose

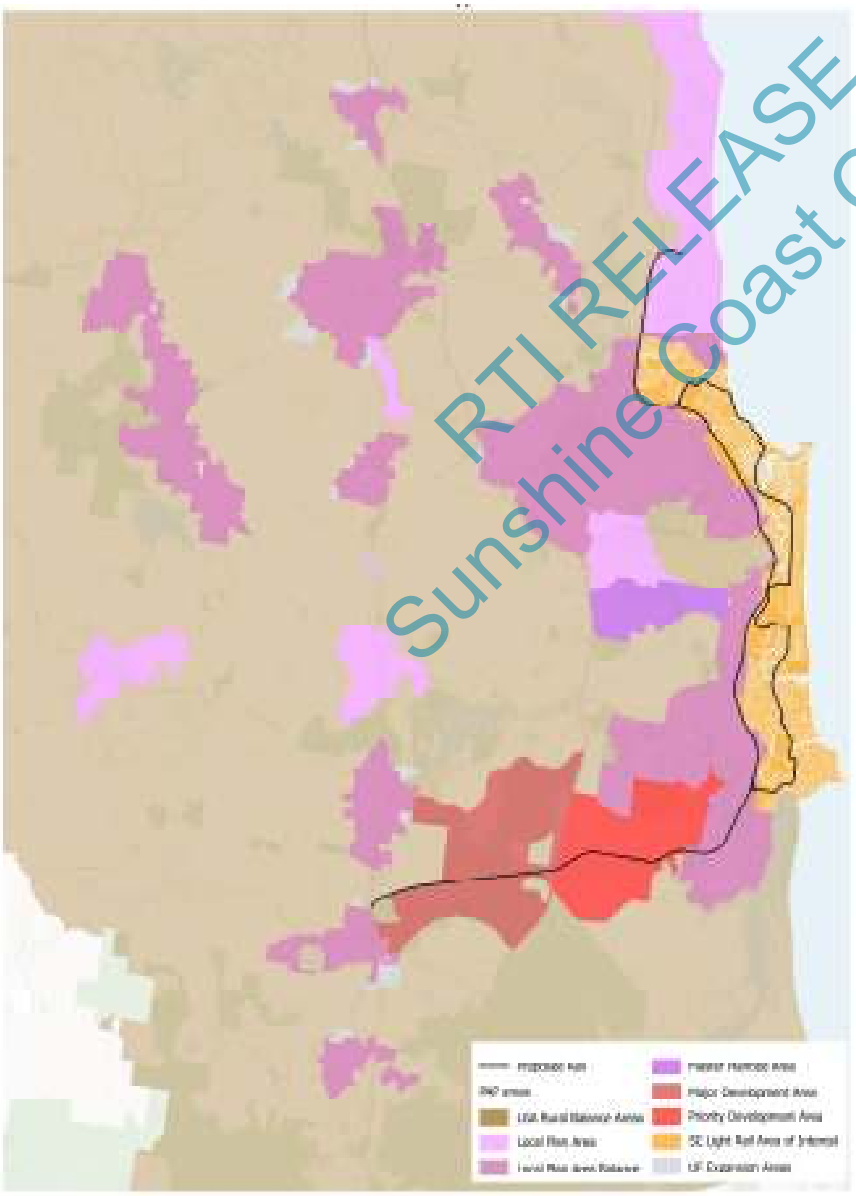
The Project Case demographics have been developed to reflect a 2041 future where the distribution of growth aligns with council's detailed understanding of opportunities, constraints and expectations in terms of development activity and approvals. The Project Case demographics are a redistribution scenario only, they do not make any assumptions about additional growth and as such the totals remain consistent with the QGSO forecasts.

Development process - Population

The project Case used the Base Case demographics discussed in section 3.1 as a starting point. The point of reference / target for developing the Project Case demographics was Sunshine Coast Council's development projections for the LR17 2041 scenario. This LR17 scenario was extracted from the Population and Employment Assessment tool (known as PAP) as a guide for developing the Project Case demographics.

PAP data was provided at aggregated geographies, each of the areas was assigned one of eight area types and included dwelling and employment forecast. Figure 7 shows the geography of the eight PAP area types.

Figure 7: PAP Area Types



The percentage of dwellings in each area type has been used to describe an urban growth pattern as per Column 2 of Table 3. This growth pattern has been used by VLC to redistribute growth from the Base Case to create the Project Case demographics.

The process of redistributing growth to reflect the PAP pattern involved the following high-level steps:

1. Identify the percentage of dwellings in each PAP area type.
2. Assign PAP area types to the SCZ zone system.
3. Calculate the percentage of dwellings in each SCZ zone relative to the corresponding PAP area type.
4. Redistribute growth from the Base Case to match the percentage of dwellings in each PAP area identified in step 1.

For example, the Light Rail Area of Interest contained 36.6% of dwellings in PAP but only 33.5% of dwellings in the Base Case demographics. By taking growth from areas where the percentage of dwellings was too high (ie. Local Plan Area Balance) and relocating it in the Light Rail Area of Interest, VLC redistributed growth so that the Light Rail Area of interest contains 36.5% of dwellings.

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Table 3 summarises the adjustment for each PAP area type, the final column is the absolute number of dwellings that have been added to or taken away from an area in order to meet the PAP development pattern. A series of additional principles were implemented to firm up the redistribution process and to establish sensible patterns for redistribution;

- Only growth between 2016 and 2041 was redistributed (SA1 populations and dwellings must not reduce beyond the 2016 census totals),
- In the light rail corridor, redistributed dwellings have been redistributed to zones that are within 400m of stations. Higher densities have been imposed in zones that are within 200m of a station,
- Households have adopted the profile of the zone they've been relocated to. Some factoring of the average profiles has been required to meet the QGSO population totals.

Table 3: PAP area type, corresponding dwelling catchments and Project Case adjustments

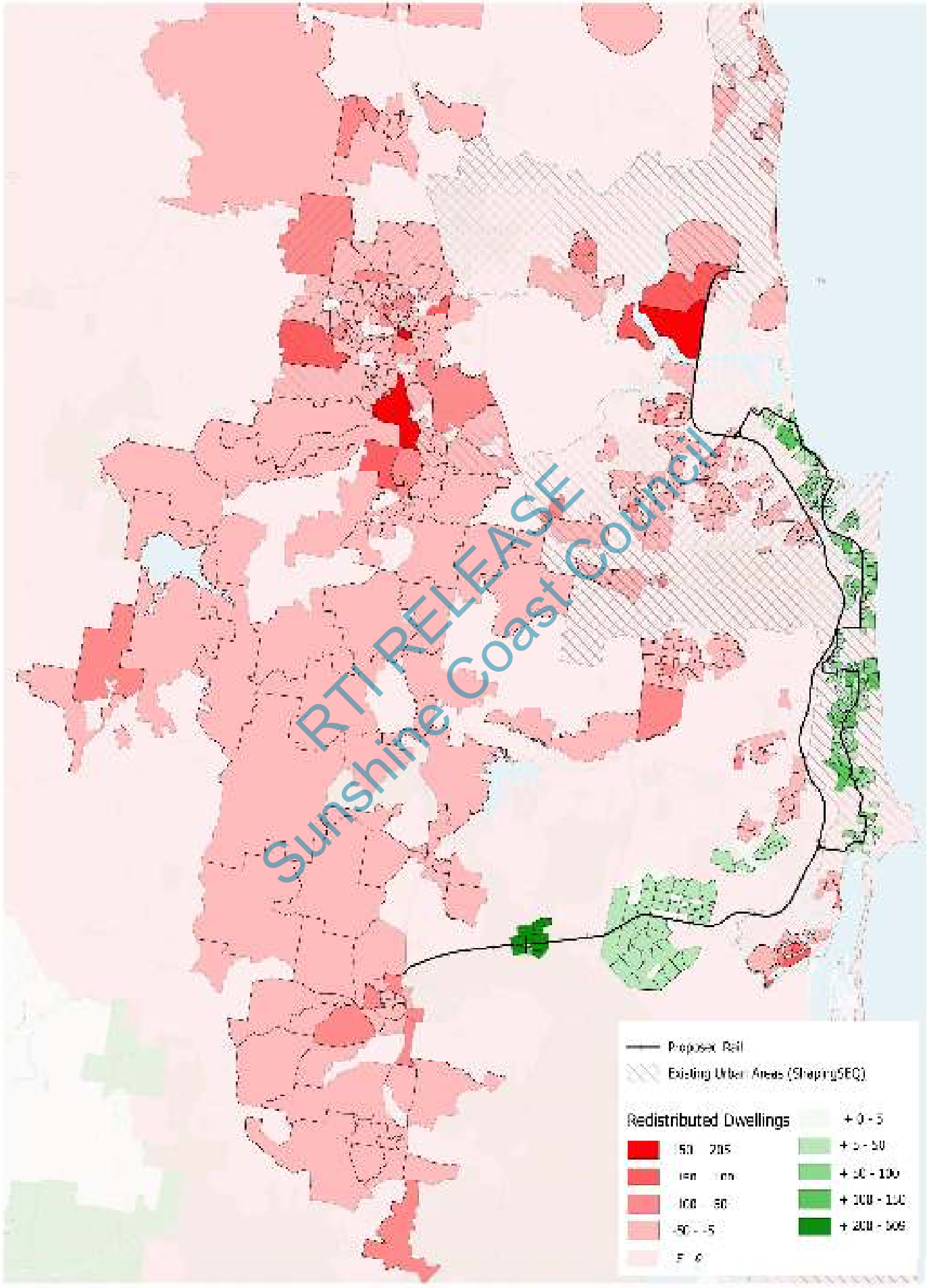
PAP Area Type	% of PAP Dwellings	% of Base Case Dwellings	% of Project Case Dwellings	Base Case Dwellings	Project Case Households	Dwelling Adjustment
LGA Rural Balance Areas	7.0%	10.9%	9.4%	21,436	18,553	-2,883
Local Plan Area	13.2%	13.5%	13.2%	26,480	26,002	-478
Local Plan Area Balance	27.5%	30.7%	27.5%	60,520	54,074	-6,445
Major Development Area	2.1%	0.0%	2.0%	6	3,967	+3,961
Master Planned Area	3.1%	3.4%	3.1%	6,771	6,133	-637
Priority Development Area	8.2%	7.9%	8.2%	15,526	16,056	+530
Light Rail Area of Interest	36.6%	33.5%	36.5%	65,897	71,849	+5,9531
UF Expansion Areas[2]	2.4%	0.1%	0.1%	216	216	+0

Figure 8 illustrates how dwellings have been redistributed to achieve the PAP LR17 development pattern. Red zones are those from which dwellings have been removed and green zones are those where additional dwellings have been located. In general, dwellings have been taken from the Rural Balance and Local Plan Area Balance and redistributed to the Light Rail Area of Interest. There are slightly more dwellings in Caloundra South with fewer in Palmview. Beerwah East is also included in the Project Case and is identified as the Major Development Area in PAP. In 2041 Beerwah East accommodates 3961 dwellings, with growth focused around the future rail station.

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[2] These areas are smaller than the corresponding SCZ zones. As such the dwelling percentage of these areas in the modelled zones could not be quantified. Numbers for these areas are encapsulated in the neighboring highest use PAP area.

Figure 8: Redistribution of new dwellings 2016-2041 (Base Case to Project Case)



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Development process – Employment

The process used for dwelling redistribution was also followed for employment redistribution. The employment mix of new jobs adopts the employment mix of the destination; however, unlike household profiles factoring for employment wasn't required.

Table 4: PAP area type, corresponding employment catchments and Project Case adjustments

PAP Area Type	PAP %Emp	Base Case %Emp	Project Case %Emp	Base Case Employment	Project Case Employment	Employment Adjustment
LGA Rural Balance Areas	1.68%	8.21%	6.08%	15,790	11,700	-4,090
Local Plan Area	12.88%	12.61%	12.78%	24,259	24,599	+339
Local Plan Area Balance	29.31%	35.01%	29.31%	67,366	56,399	-10,967
Major Development Area	1.39%	0.04%	0.90%	80	1,741	+1,661
Master Planned Area	1.56%	0.64%	1.23%	1,226	2,364	+1,139
Priority Development Area	5.64%	2.63%	4.56%	5,062	8,778	+3,716
SC Light Rail Area of Interest	47.48%	40.84%	45.10%	78,578	86,780	+8,202
UF Expansion Areas	0.06%	0.02%	0.02%	43	43	-

Employment Growth

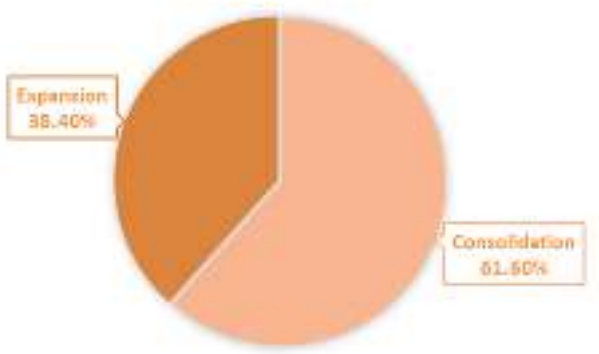
Employment growth is the same as in the Base Case. The mix of jobs and employment industry of relocated job has changed to reflect the commercial environment of the new location. For example, an agricultural job in the Rural Balance area could not realistically be relocated to the light rail area of interest without changing the industry of employment of that job.

Consolidation vs Expansion

Analysis of the growth distribution in the Project Case shows that the ratio of consolidation vs expansion is consistent with the benchmark for the Sunshine Coast LGA in ShapingSEQ. Figure 9 shows the consolidation vs expansion ratio of growth in the Base Case scenario.

Figure 10 illustrates how job growth has been redistributed to achieve the PAP LR17 development pattern. Yellow zones are those from which jobs have been removed and blue zones are those where additional jobs have been located. In general, jobs have been taken from the Rural Balance and Local Plan Area Balance and redistributed in the Light Rail Area of Interest, commercial precincts of new enterprise areas such as Sippy Downs and new town centres at Caloundra South, Palmview and Beerwah East.

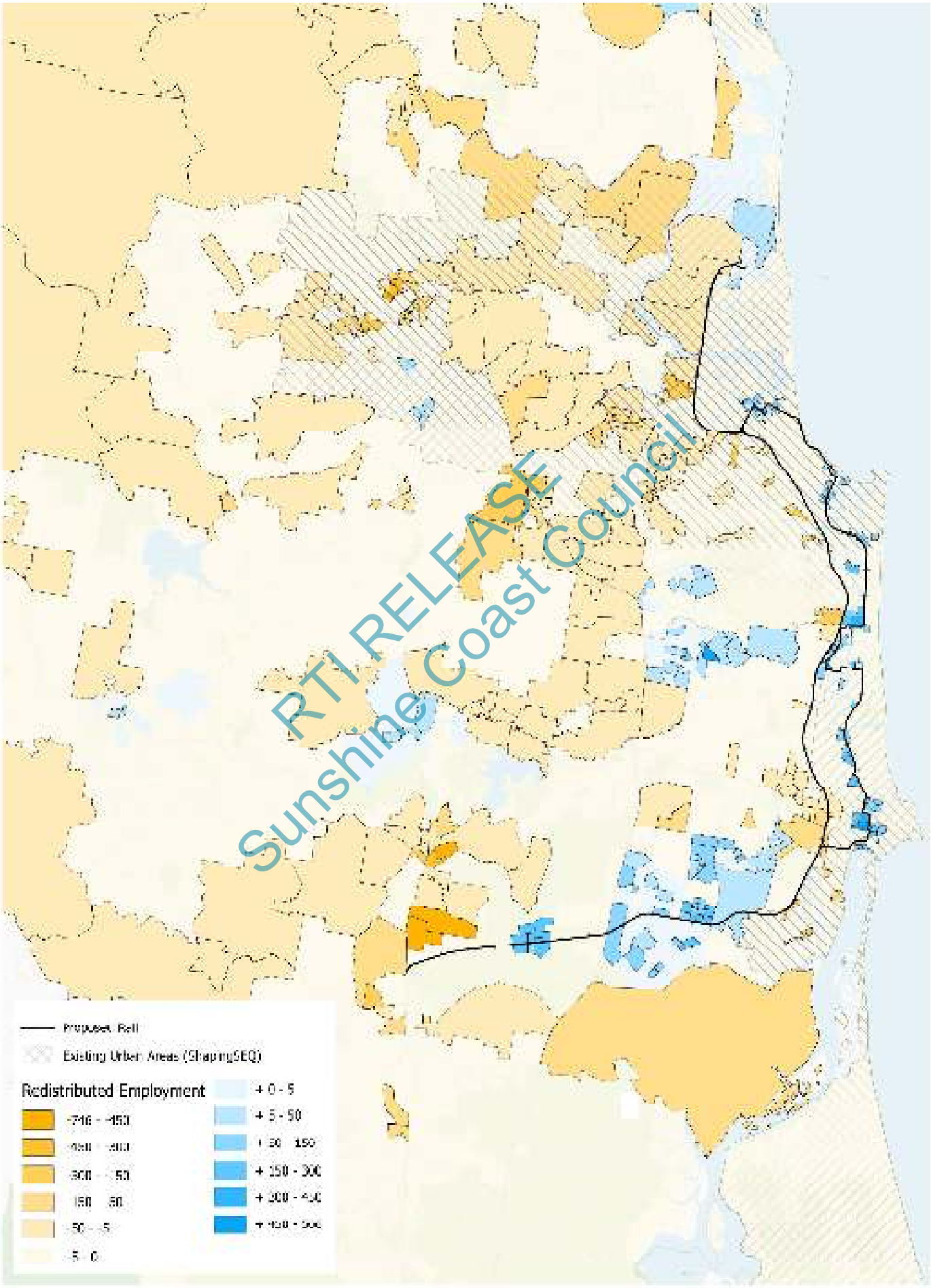
Figure 9: Project Case Expansion Vs Consolidation



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Figure 10: Redistribution of new employment 2016-2041 (Base Case to Project Case)



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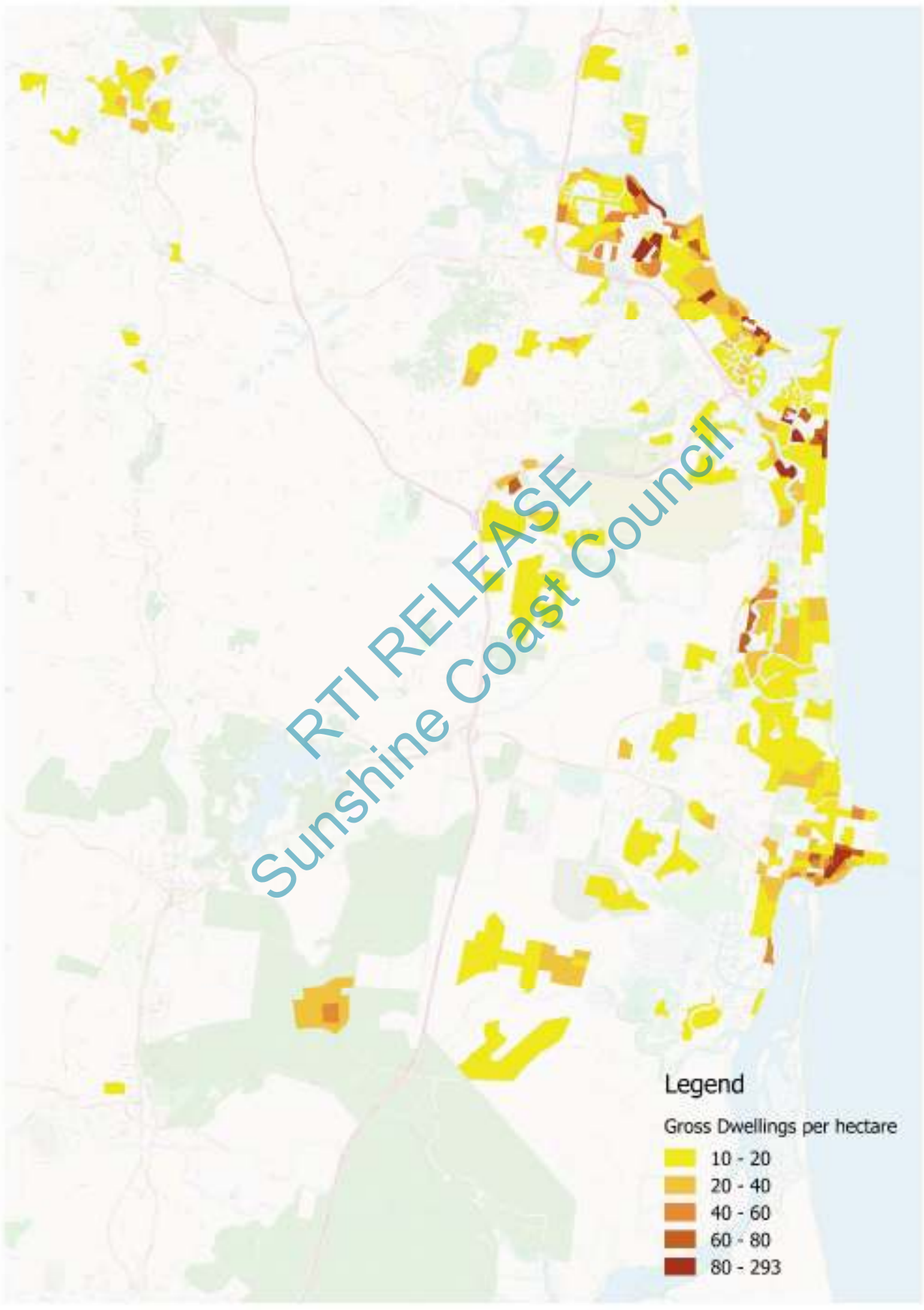
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Growth Distribution

The following pages include figures that illustrate the distribution of dwellings, population and employment growth in the Project Case. Figure 11 shows the gross dwelling density of each SCZ travel zone, Figure 12 and Figure 13 are dot density maps that illustrate the distribution of population and employment growth in the Project Case scenario. The emergence of Beerwah East is clearly visible in these plots. Maroochydore Town Centre, Caloundra South, Palmview and the coastal urban strips accommodate the largest increases in population. For employment, the most noticeable growth occurs in Maroochydore Town Centre and existing commercial areas.

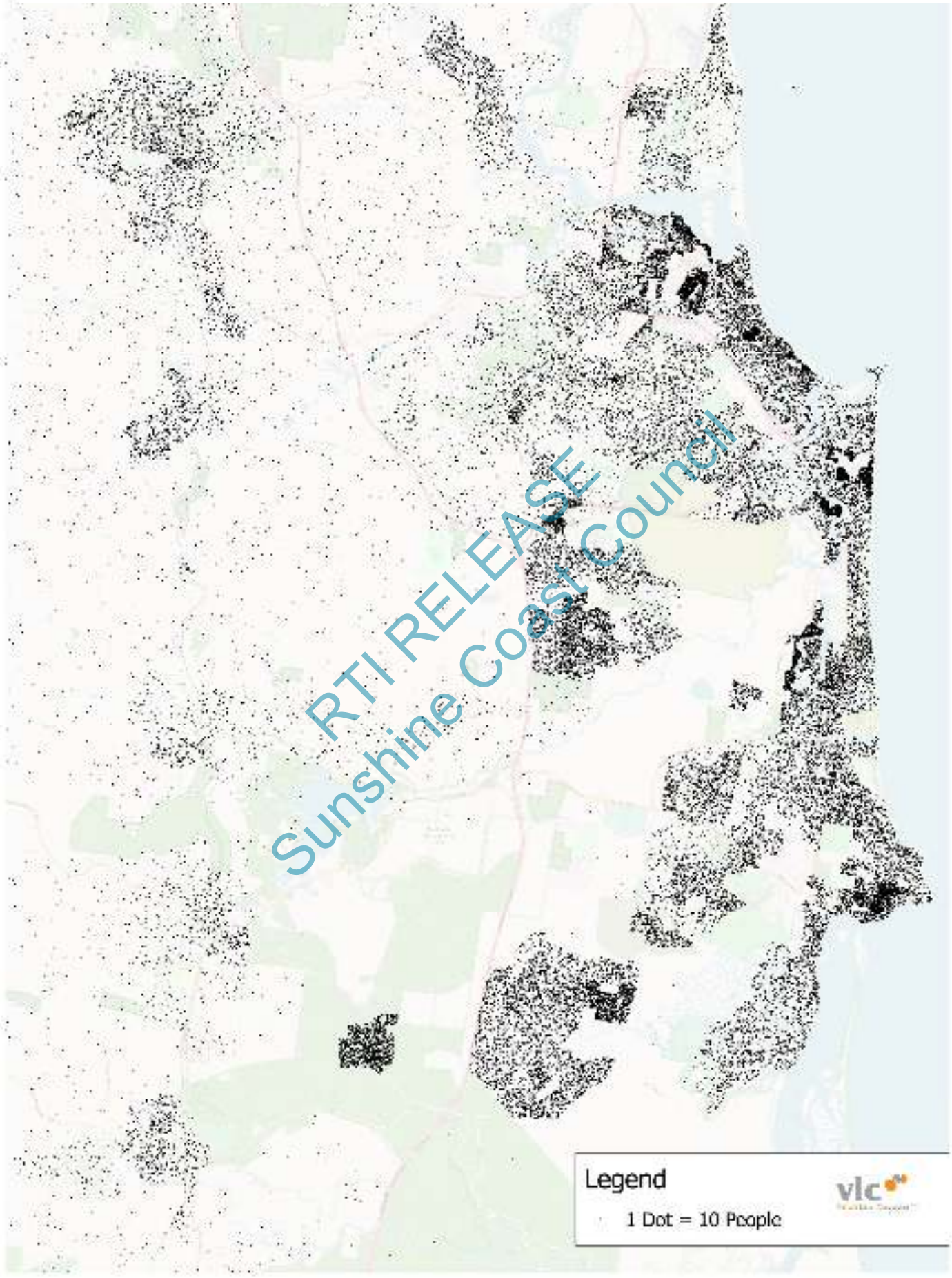
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Figure 11: Project Case Dwelling Density (2041)



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Figure 12: Population Growth Distribution Project Case Demographics (2016-2041)



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Figure 13: Employment Growth Distribution Project Case Demographics (2016 – 2041)



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4. Conclusion

This technical note describes how and why the Base Case and Project Case demographic scenarios have been developed. The key concluding points are:

1. The Base Case demographics replicate TMR's forecasts at the SA1 level but have been disaggregated to the more detailed Sunshine Coast Zenith zone system. Totals are the same at the SA1 level and and align well with the population and forecasts of ShapingSEQ.

2. The Project Case demographics have been developed to align more closely with Sunshine Coast Council's expectations for the distribution of population and employment growth.

3. The Project Case demographics are a redistribution of growth to match the relative distribution of growth in PAP. The total number of dwellings, population and employment are consistent with the Base Case and LGA totals from QGSO and TMR.

4. Both demographic scenarios align with the infill and expansion benchmarks set out in ShapingSEQ for the Sunshine Coast LGA. However, Beerwah East is only included in the Project Case.

5. In all other LGAs growth is consistent with the QGSO and TMR SA1 totals.

This technical note has focused on the high-level statistics and processes employed to develop the demographic scenarios. Complete data for each scenario has been provided to the Sunshine Coast Council for use in future modelling and analytical tasks.

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Prepared for

SUNSHINE COAST COUNCIL

Model results - Base case demographics (Volume 3)

Sunshine Coast demographics and preliminary modelling

September, 2018

Sunshine Coast Demographics and Preliminary Modelling

Model Results Base – Base Case Demographics (Volume 3)

18-027

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Date	Revision	Prepared By	Checked By	Approved By	Description
24/09/2018	A	Andrew O'Brien, Brandon Peij	Mark Iliffe	Gavin Nicholls	Final Draft
08/01/2019	B	BP	Mark Iliffe	Gavin Nicholls	Reissue with corrected V/C plots for all scenarios

Volume 3- Base Case Demographics

Preliminary modelling Results

Modelled Scenarios:

Modelled Network	Scenario Reference	VLC Model Variant
Reference Case Network	1B	59
CAMCOS	2B	62
North Coast Connect	3B	71
Sunshine Coast Light Rail	4B	60
Sunshine Coast Light Rail and CAMCOS	5B	64
Sunshine Coast Light Rail and North Coast Connect	6B	72

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3. North Coast Connect (Scenario 3B) 26
4. Sunshine Coast Light Rail (Scenario 4B) 36
5. Sunshine Coast Light Rail and CAMCOS (Scenario 5B) 46
6. Sunshine Coast Light Rail and North Coast Connect (Scenario 6B) 57

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1. Reference Case (Scenario 1B)

The reference case scenario provides a baseline for comparing against subsequent scenario modelling, it uses the reference case road and public transport networks discussed in volume 1. Figure 5 shows the public transport network used, while rail service frequencies are show in Table 1

Figure 1: Reference Case PT Network



Table 1: Reference Case Service Assumptions

Rail Lines		Stops in Sunshine Coast	Fr A
Nambour Line (Standard Train)		Beerwah Landsborough Mooloolah Eudlo Palmwoods Woombye Nambour	4

1.1 Mode Share

The mode share of person trips generated from sectors within the Sunshine Coast is presented in Table 6. At the LGA level, car is the dominant mode (77.1%) with walking & cycling accounting for the second highest share of all trips (21.3%). Public transport mode share is low at 1.6% of all trips.

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Table 2: Person Trip mode share by macro sector of origin

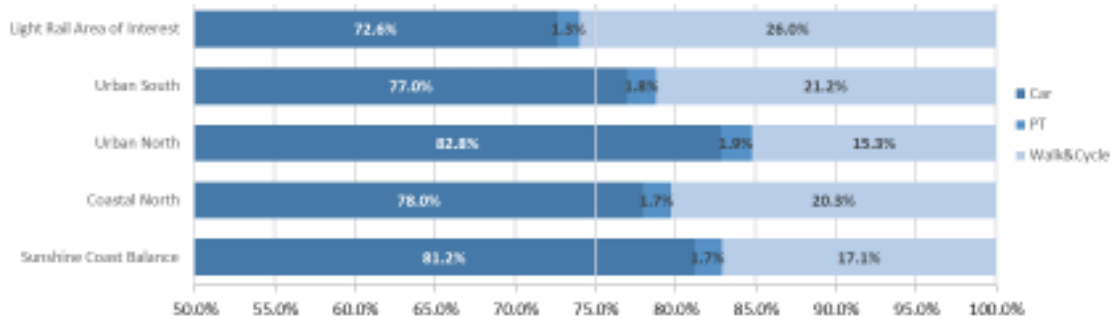
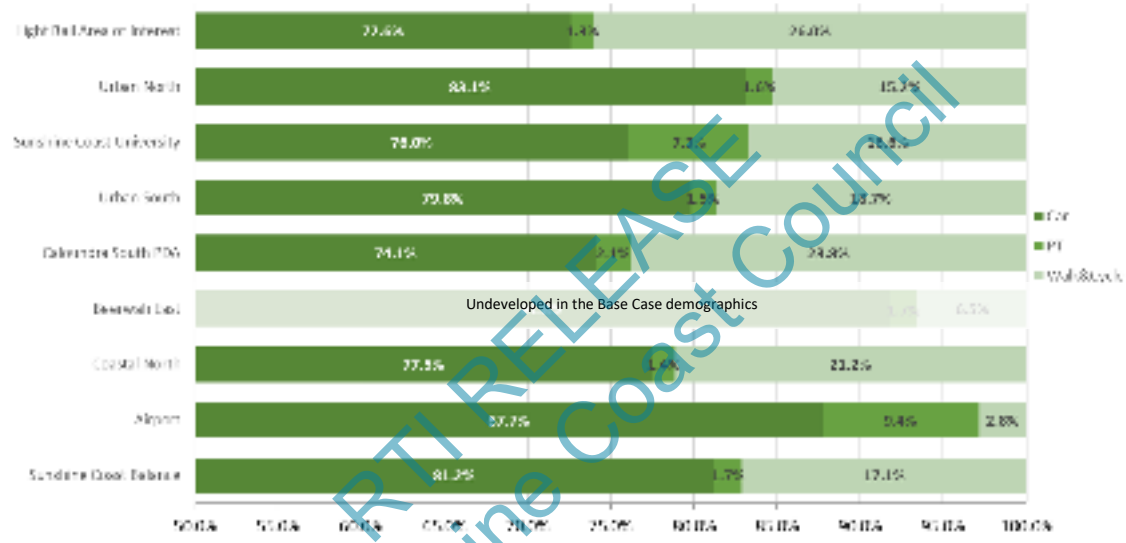


Table 7 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast Local Government Area.

Table 3: Person Trip mode share by detailed sector of origin

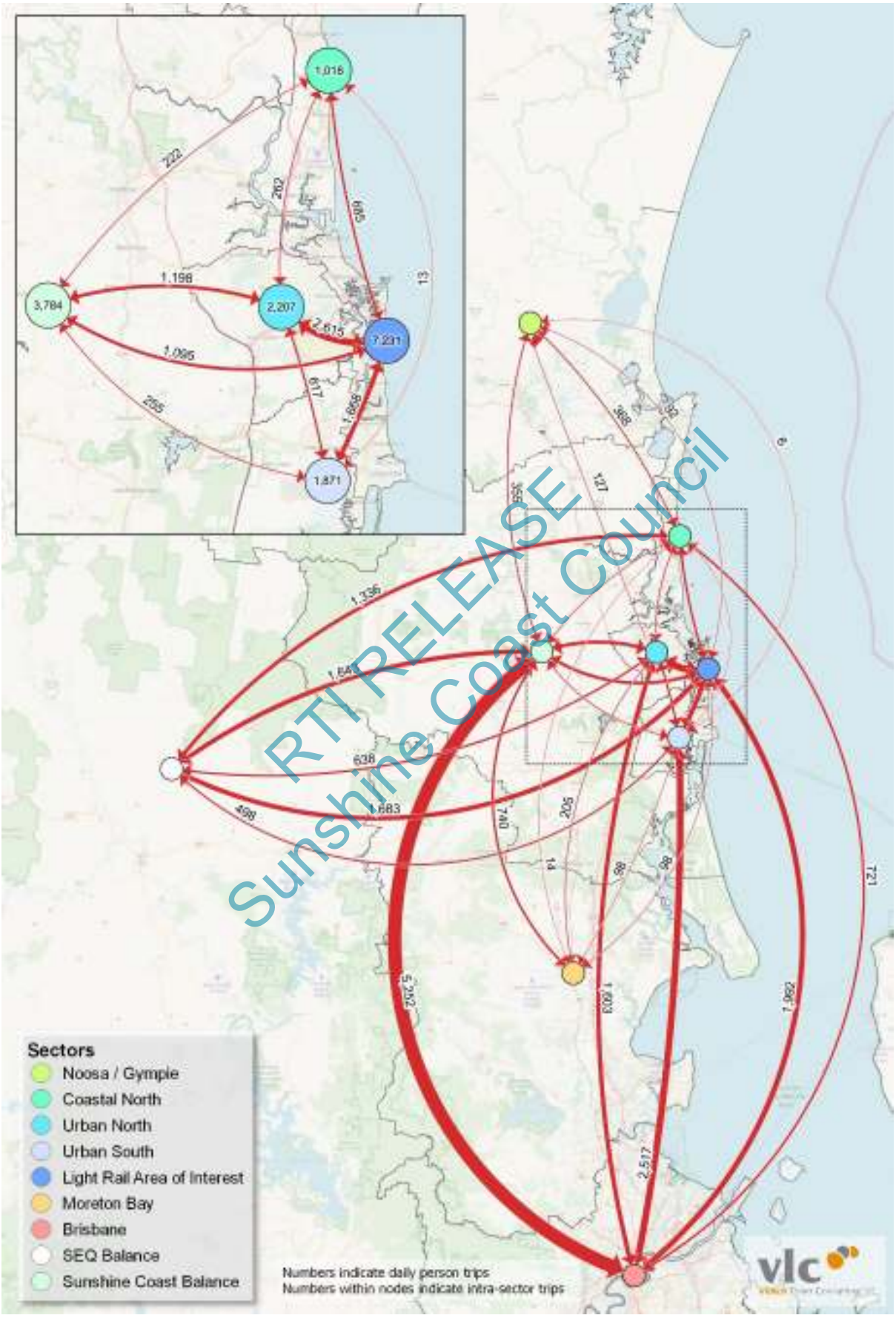


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1.2 Sunshine Coast Trip Self Containment

In the Reference Case scenario, the Sunshine Coast generates 2,168,000 trips per day. Of these trips, 94.7% are satisfied by destinations within the LGA; 1.9% leave for Noosa/Gympie, 1.5% go to Moreton Bay and 1.4% are destined for Brisbane.

1.3 Public Transport Trip Distribution



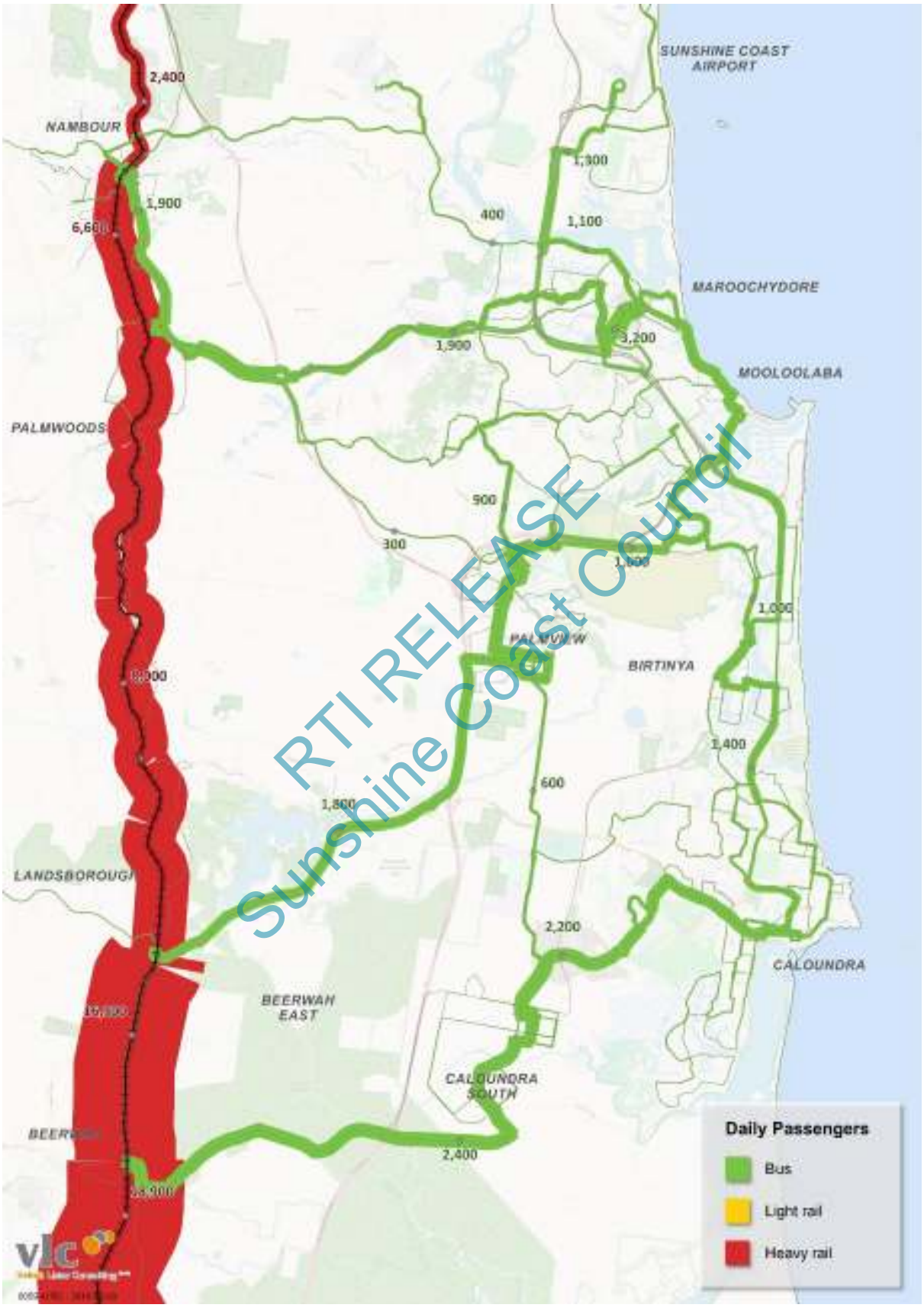
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1.4 AM (2hr) Public Transport Passenger Loads



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1.5 Daily Public Transport Passenger Loads



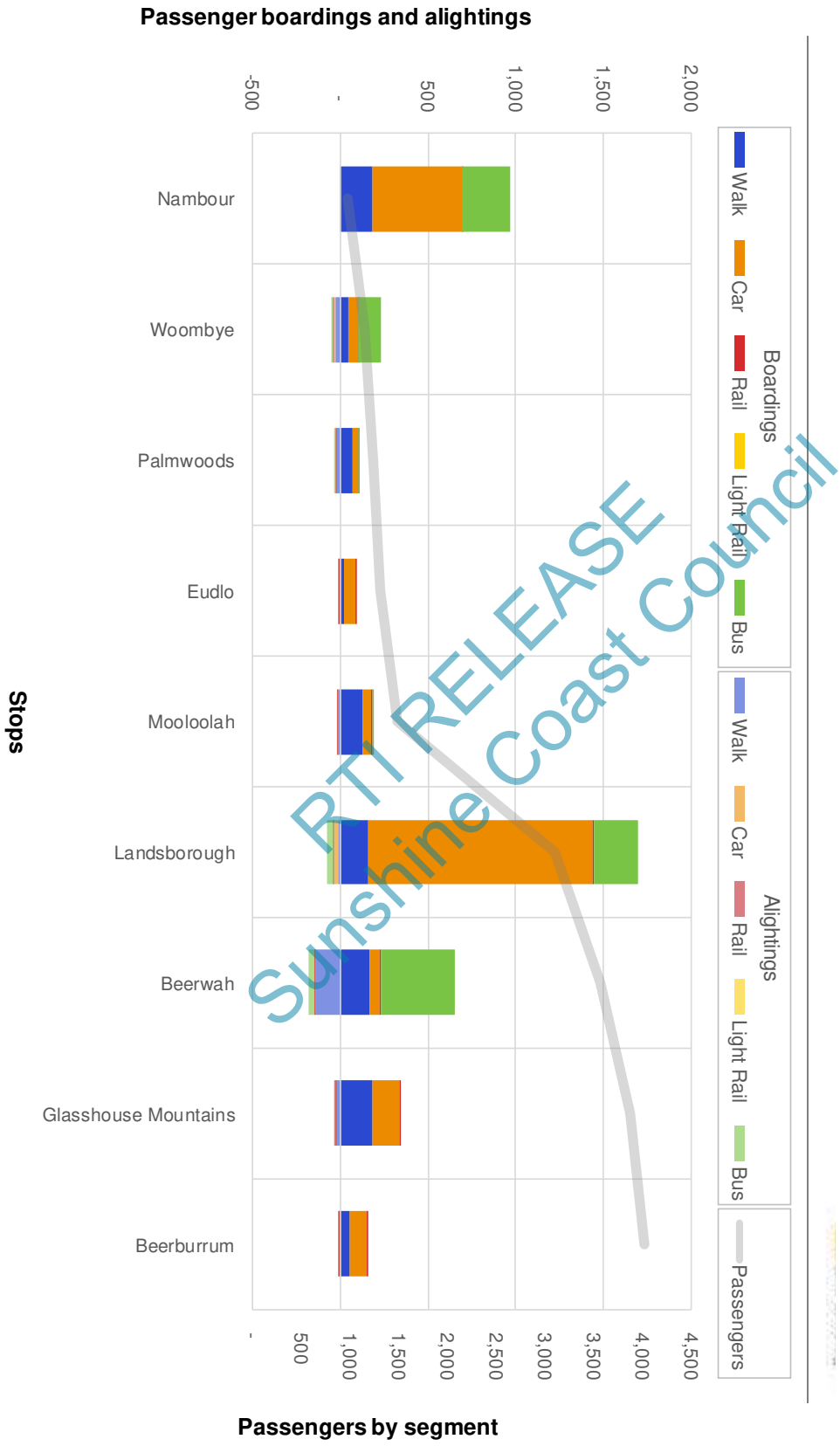
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1.6 Daily Station Access by Mode



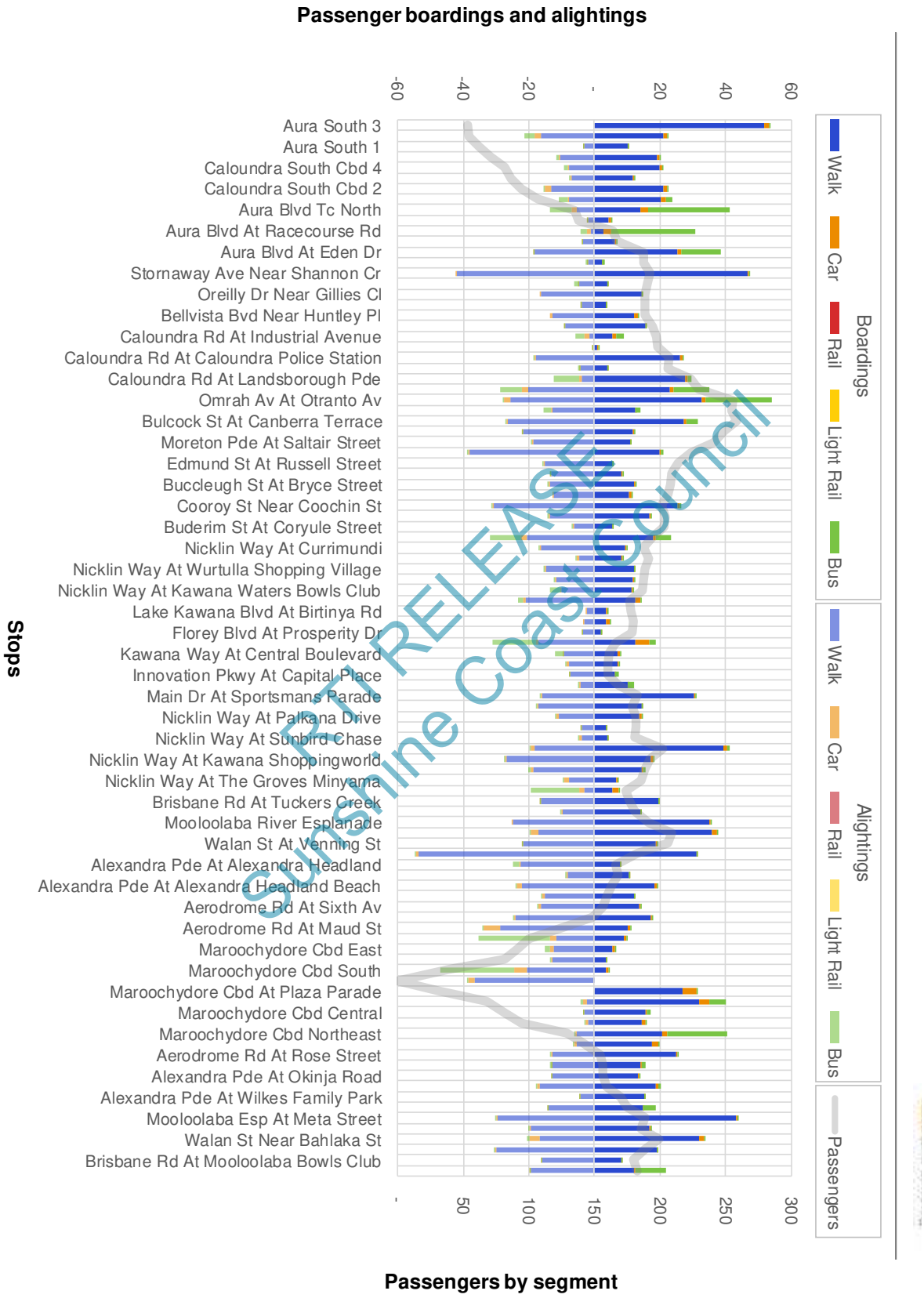
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1.7 North Coast Rail Line Utilisation



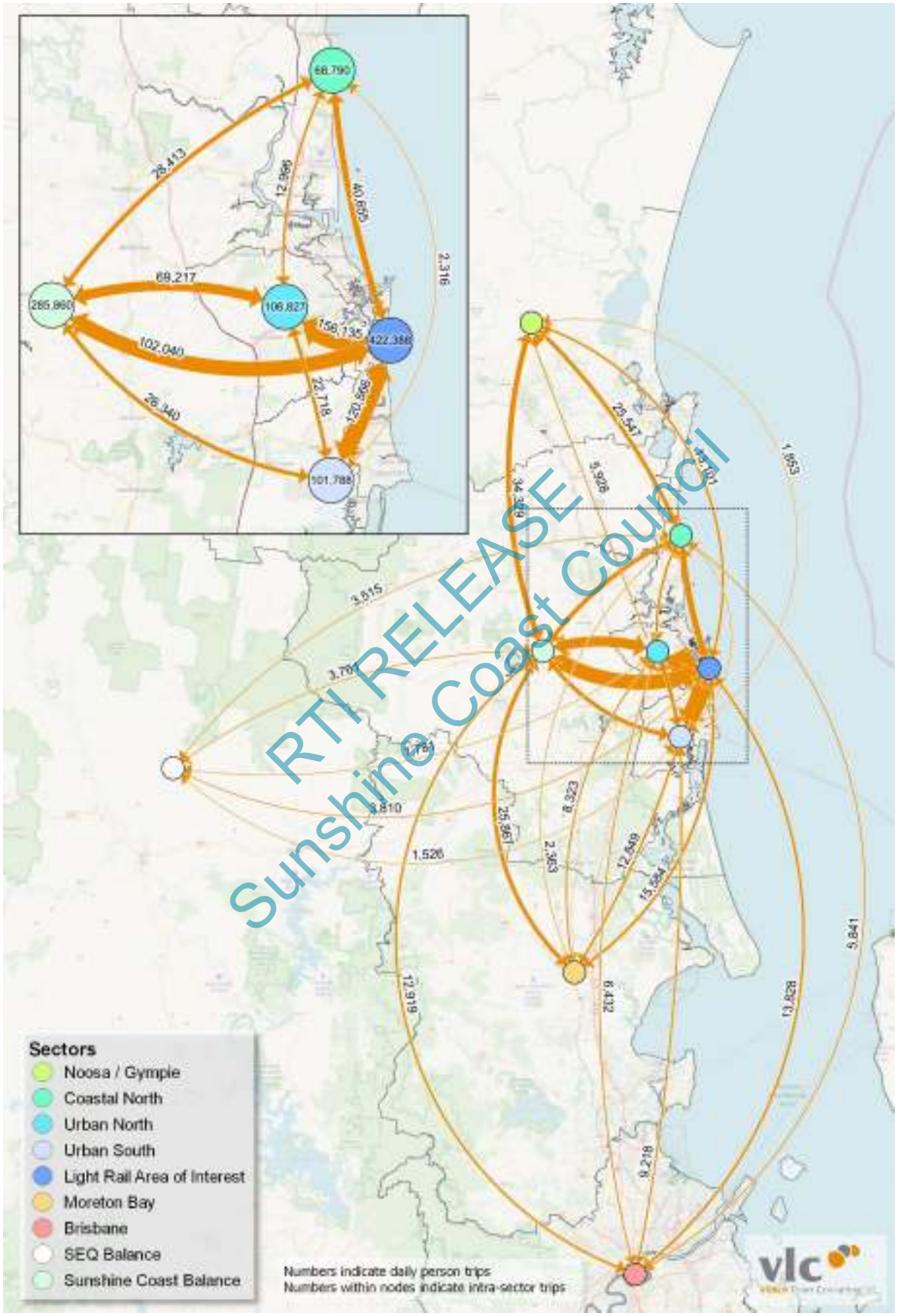
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1.8 600 Bus Route Utilisation



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1.9 Private Vehicle Trip Distribution



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1.10 Daily Vehicle Loads



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1.11 AM Peak Volume to Capacity Ratio



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2. With CAMCOS (Scenario 2B)

The with CAMCOS network includes the CAMCOS rail line and amendments to the reference case bus routes that enable passengers to interchange at CAMCOS stations. Figure 6 shows the modelled PT network including the CAMCOS Rail line, its stations, new bus stops for interchanges, and routes that have been amended to facilitate network integration. Table 4 shows rail service frequencies.

Figure 2: With CAMCOS PT Network (2B)



Table 4: CAMCOS Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	As per Reference Case	3	1	3
CAMCOS Corridor (Standard Train)	Beerwah Caloundra South Pelican Waters Caloundra Aroona Creekside Kawana Parrearra Mountain Creek Maroochydore Kuluin Pacific Paradise SC Airport	3	2	3

2.1 Mode Share

The mode share of person trips generated from sectors within the Sunshine Coast is presented in Table 6. At the LGA level, car is the dominant mode (76.7%) with walking & cycling accounting for the second highest share of all trips (21.2%). Public transport mode share is low at 2.1% of all trips.

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Table 5: Person Trip mode share by macro sector of origin

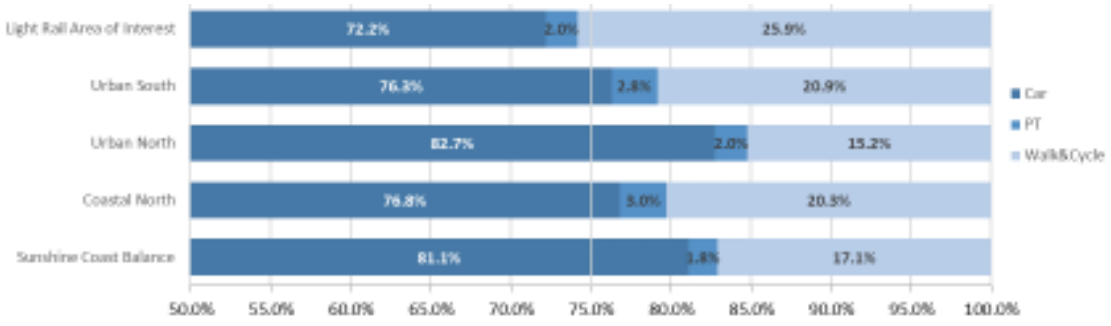
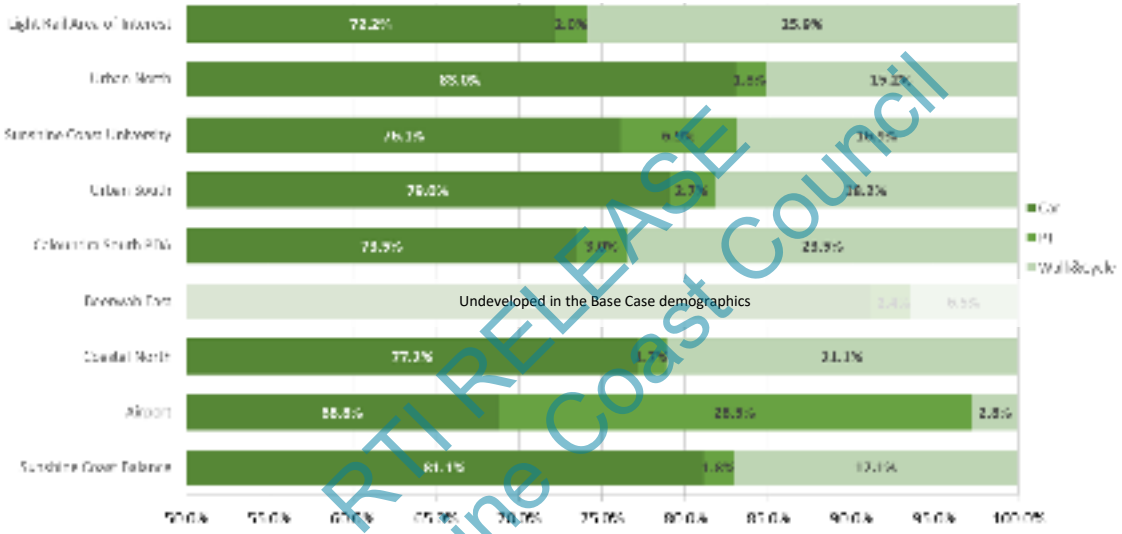


Table 7 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast Local Government Area.

*Table 6: Person Trip mode share by **detailed** sector of origin*

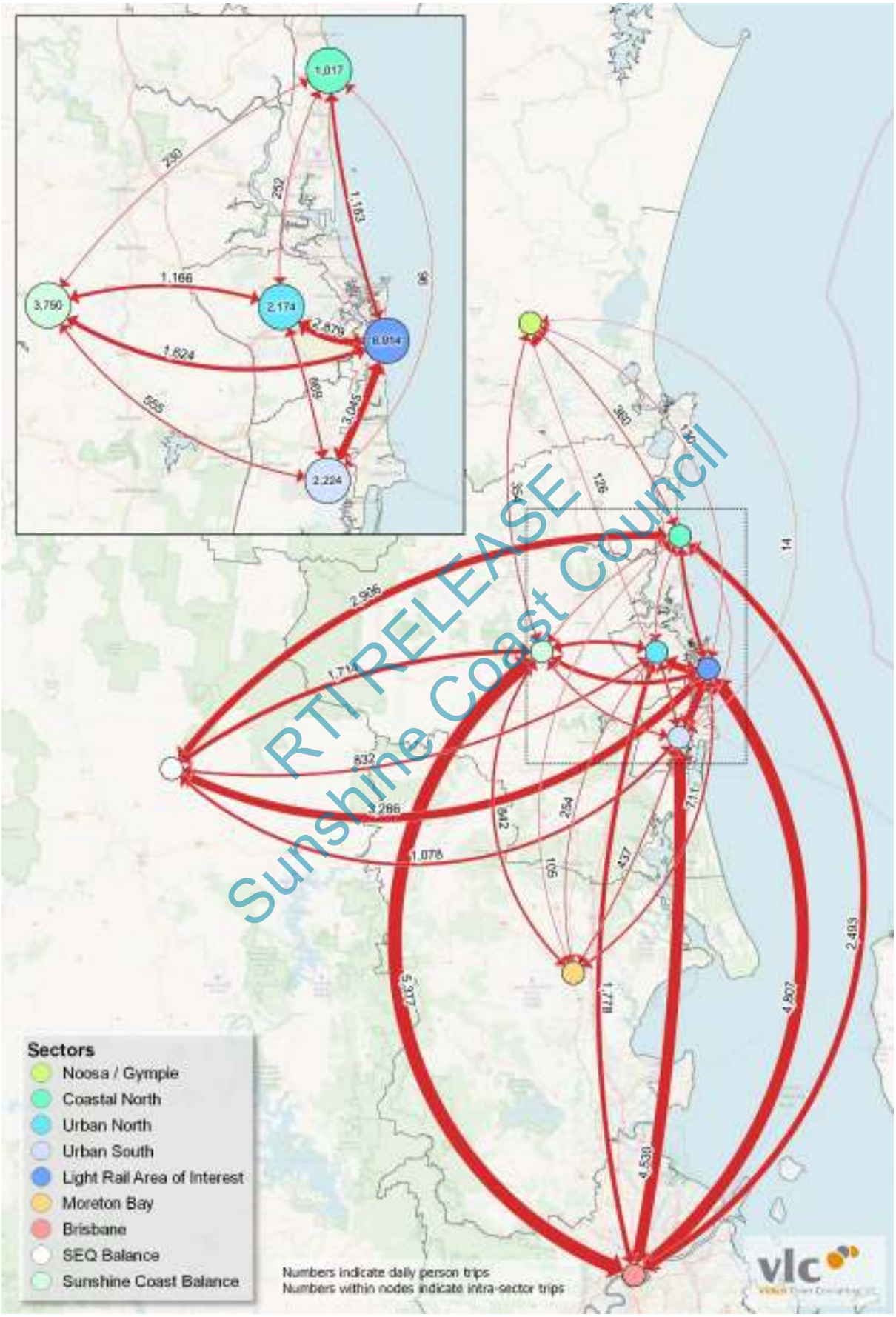


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2.2 Sunshine Coast Trip Self Containment

In the with CAMCOS Scenario the model shows that the Sunshine Coast generate 2,167,700 trips per day. Of these trips, 94.7% are satisfied by destinations within the LGA; 1.9% leave for Noosa/Gympie, 1.5% go to Moreton Bay and 1.4% are destined for Brisbane.

2.3 Public Transport Trip Distribution



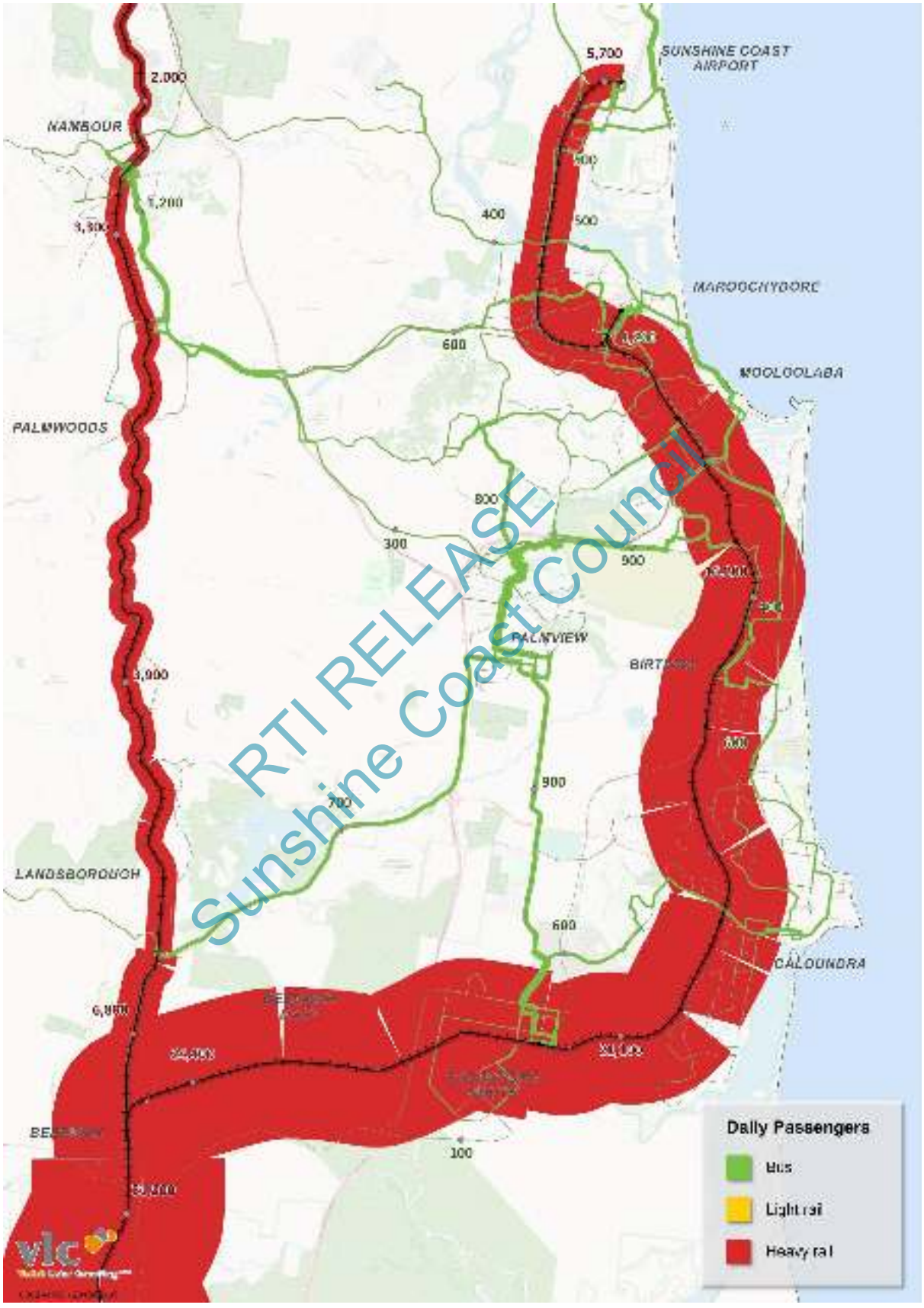
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2.4 AM (2hr) Public Transport Passenger Loads



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2.5 Daily Public Transport Passenger Loads



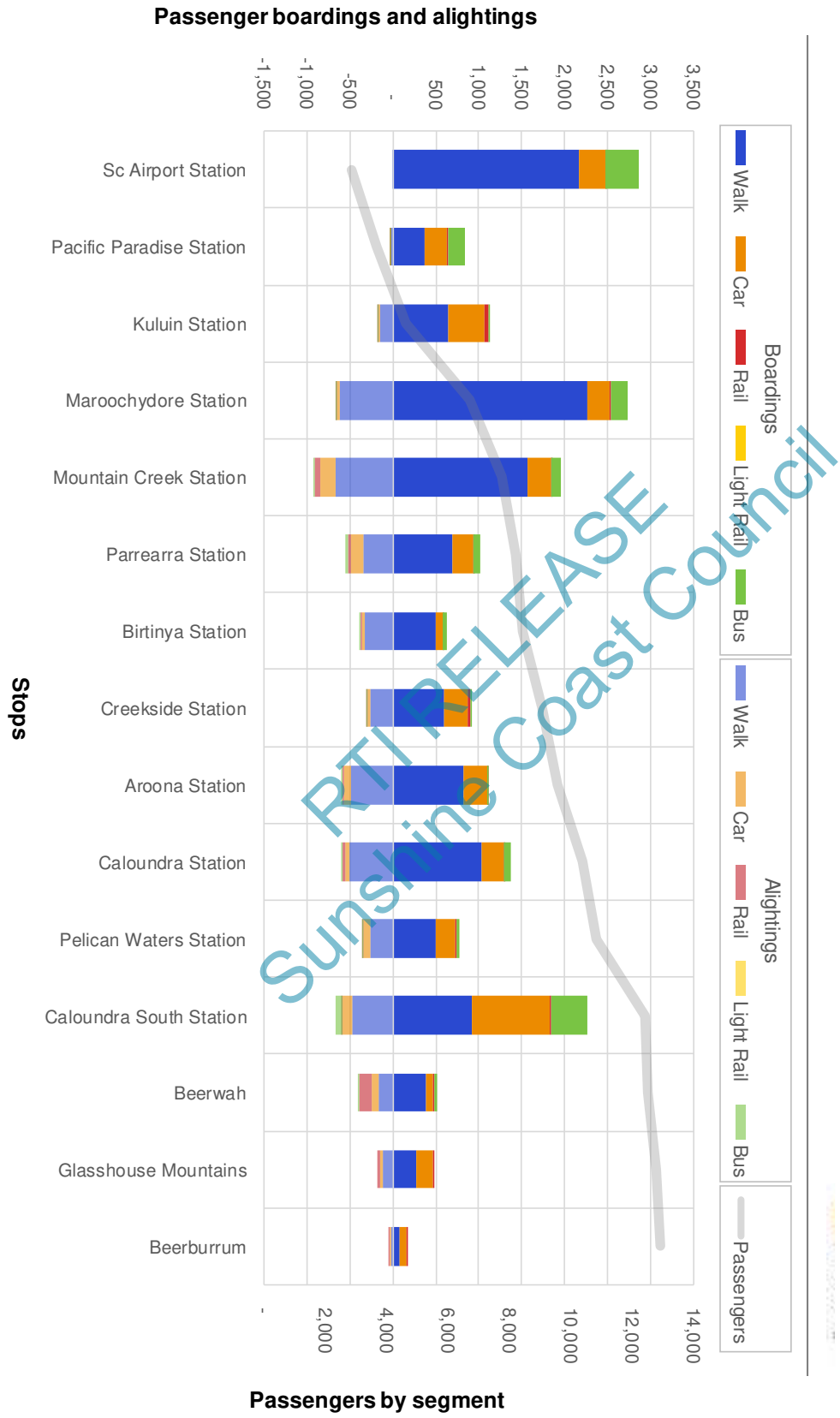
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2.6 Daily Station Access by Mode



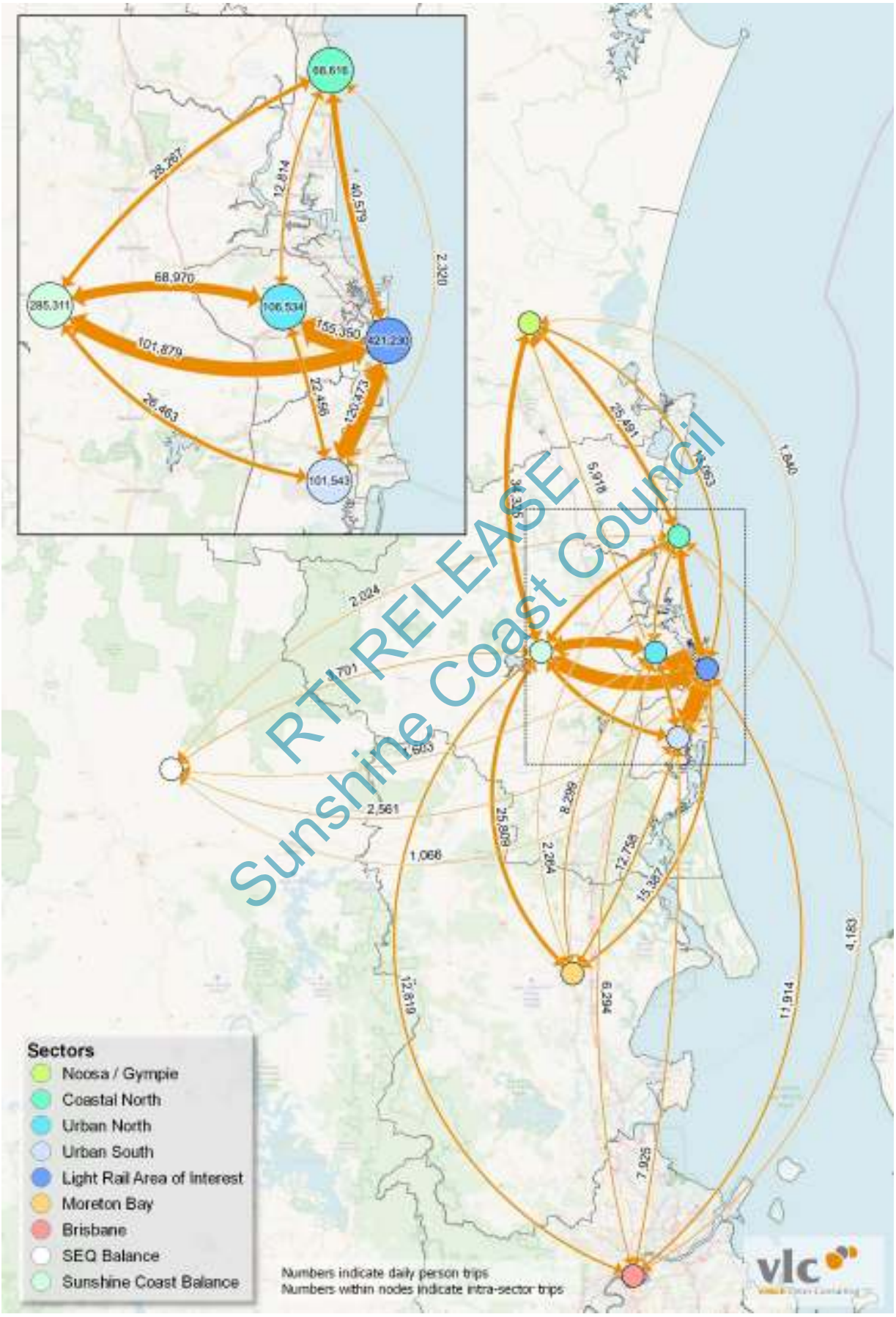
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2.7 CAMCOS Utilisation (South Bound)



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2.8 Private Vehicle Trip Distribution



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2.9 Daily Vehicle Loads

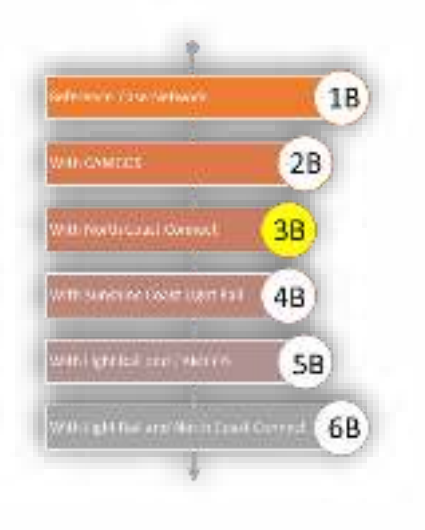


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2.10 AM Peak Volume to Capacity



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3. North Coast Connect (Scenario 3B)

The with North Coast Connect scenario includes faster rail services from Brisbane to Nambour and Maroochydore. Amendments to the reference case bus routes have been made to facilitate interchanges at North Coast Connect stations. Figure 7 shows the modelled PT network including the North Coast Connect Rail line, stations, new bus stops for interchanges, and routes that have been amended to facilitate network integration. Table 7 shows rail service frequencies.

Figure 3: With North Coast Connect PT Network



Table 7: North Coast Connect Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	As per Reference Case	2	1	2
Nambour Line (Fast Train – 45 minutes to Brisbane)	Beerwah Landsborough Nambour	2	1	2
CAMCOS Corridor (Fast Train – 45 minutes to Brisbane)	Beerwah Caloundra South Caloundra Kawana Maroochydore SC Airport	2	2	2

3.1 Mode Share

The mode share of person trips generated from sectors within the Sunshine Coast is presented in Table 9. At the LGA level, car is the dominant mode (76.6%) with walking & cycling accounting for the second highest share of all trips (21.2%). Public transport mode share is low at (2.2%) of all trips.

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Table 8: Person trip mode share by macro sector of origin

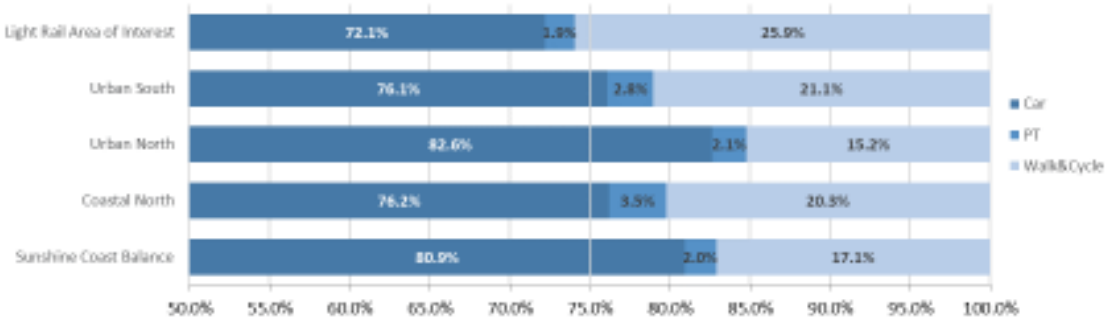
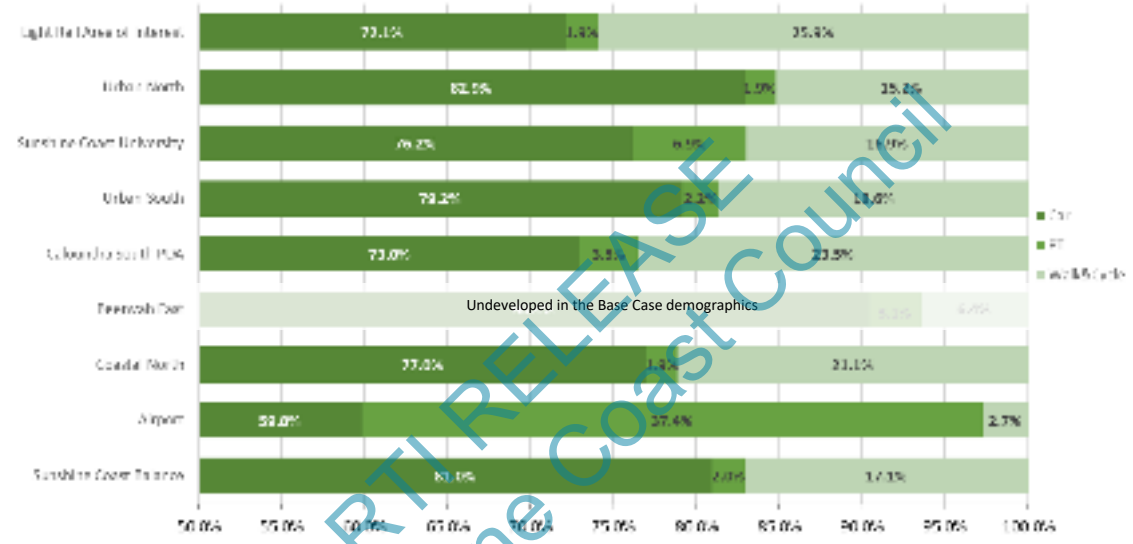


Table 10 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast.

Table 9: Person trip mode share by detailed sector of origin

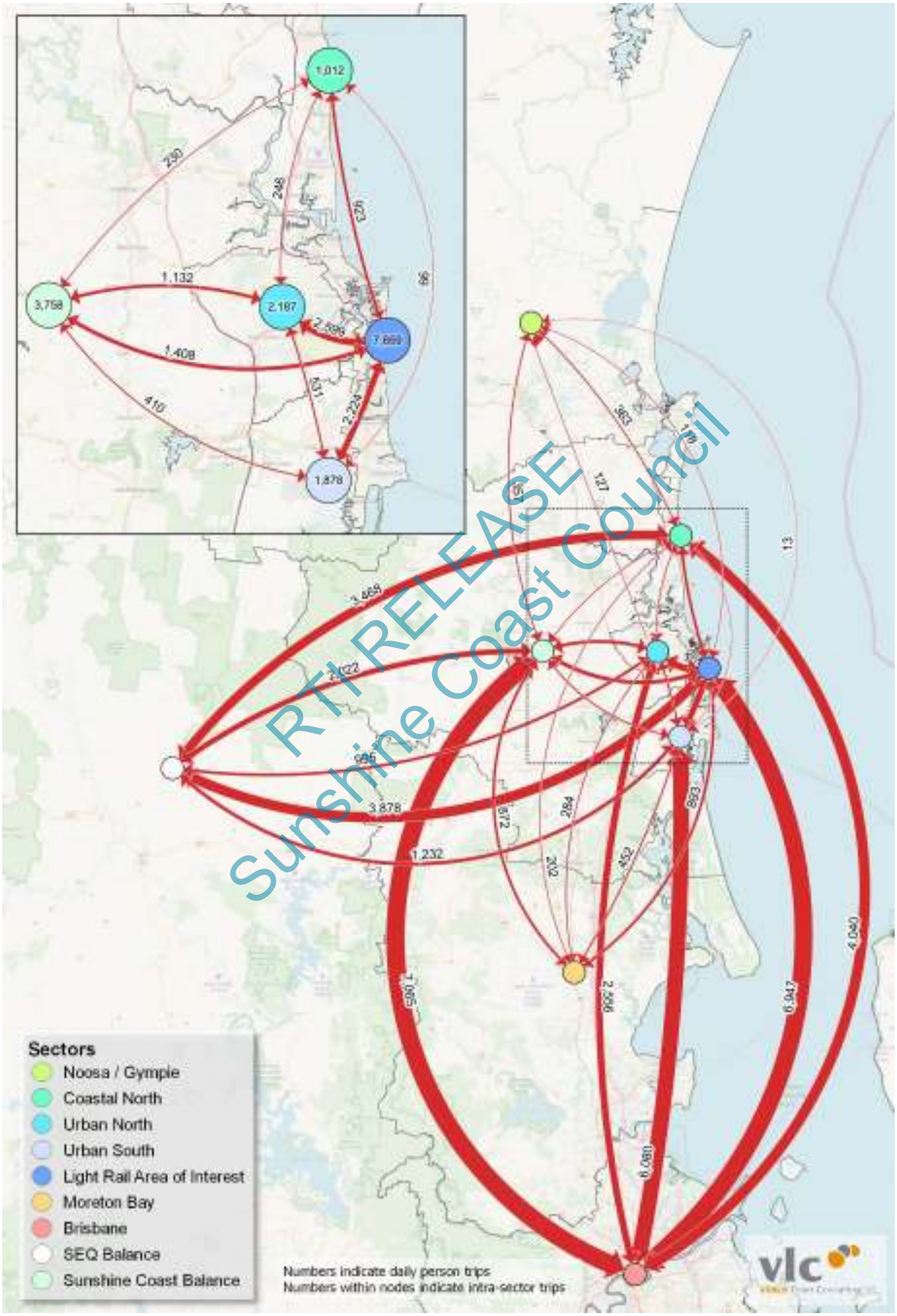


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3.2 Sunshine Coast Trip Self Containment

In the North Coast Connect scenario modelling shows that the Sunshine Coast generates 2,166,000 trips per day. Of these trips, 94.5% are satisfied by destinations within the LGA; 1.9% leave for Noosa/Gympie, 1.5% go to Moreton Bay and 1.5% are destined for Brisbane.

3.3 Public Transport Trip Distribution



3.4 AM (2hr) Public Transport Passenger Loads



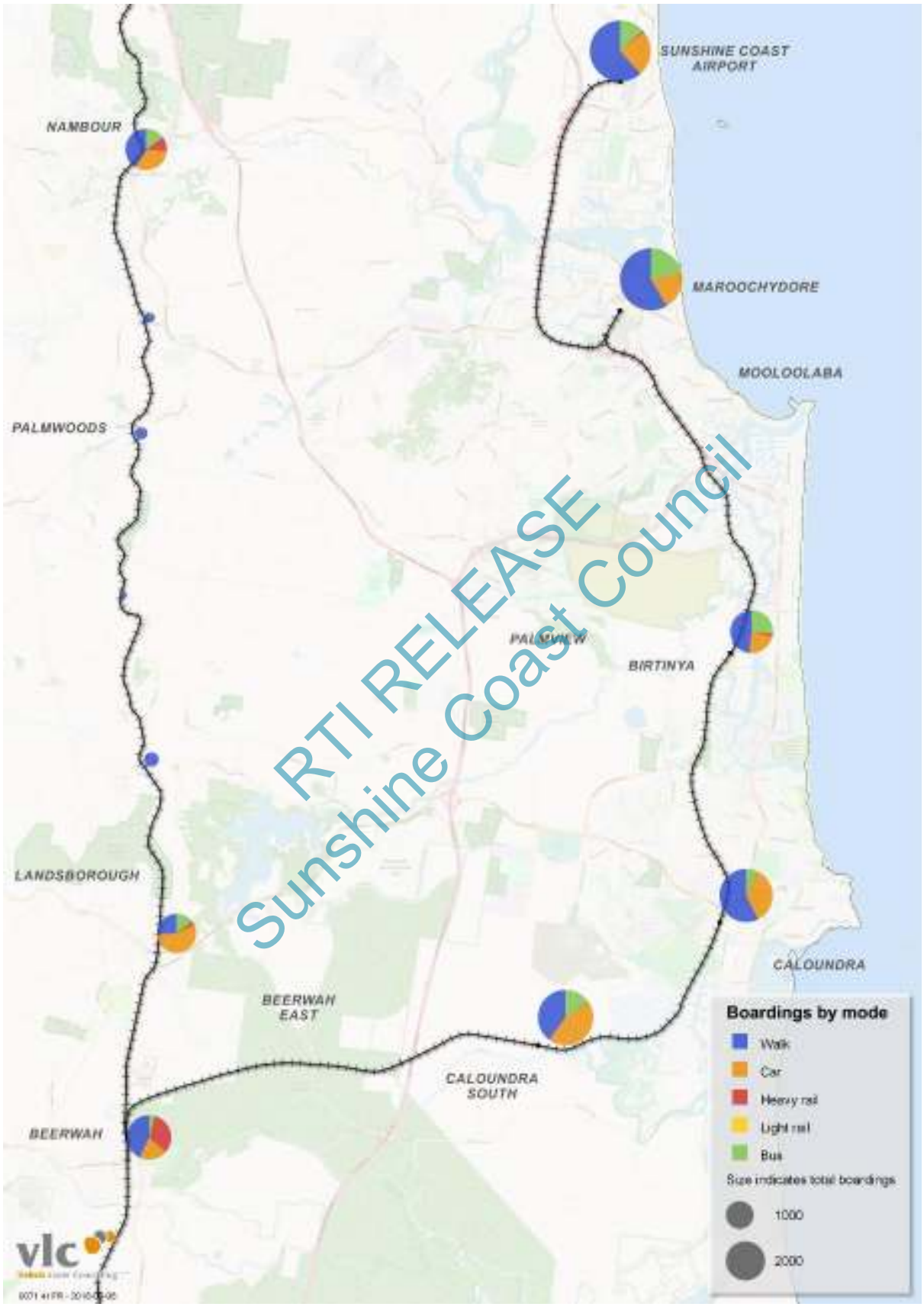
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3.5 Daily Public Transport Passenger Loads



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3.6 Daily Station Access by Mode



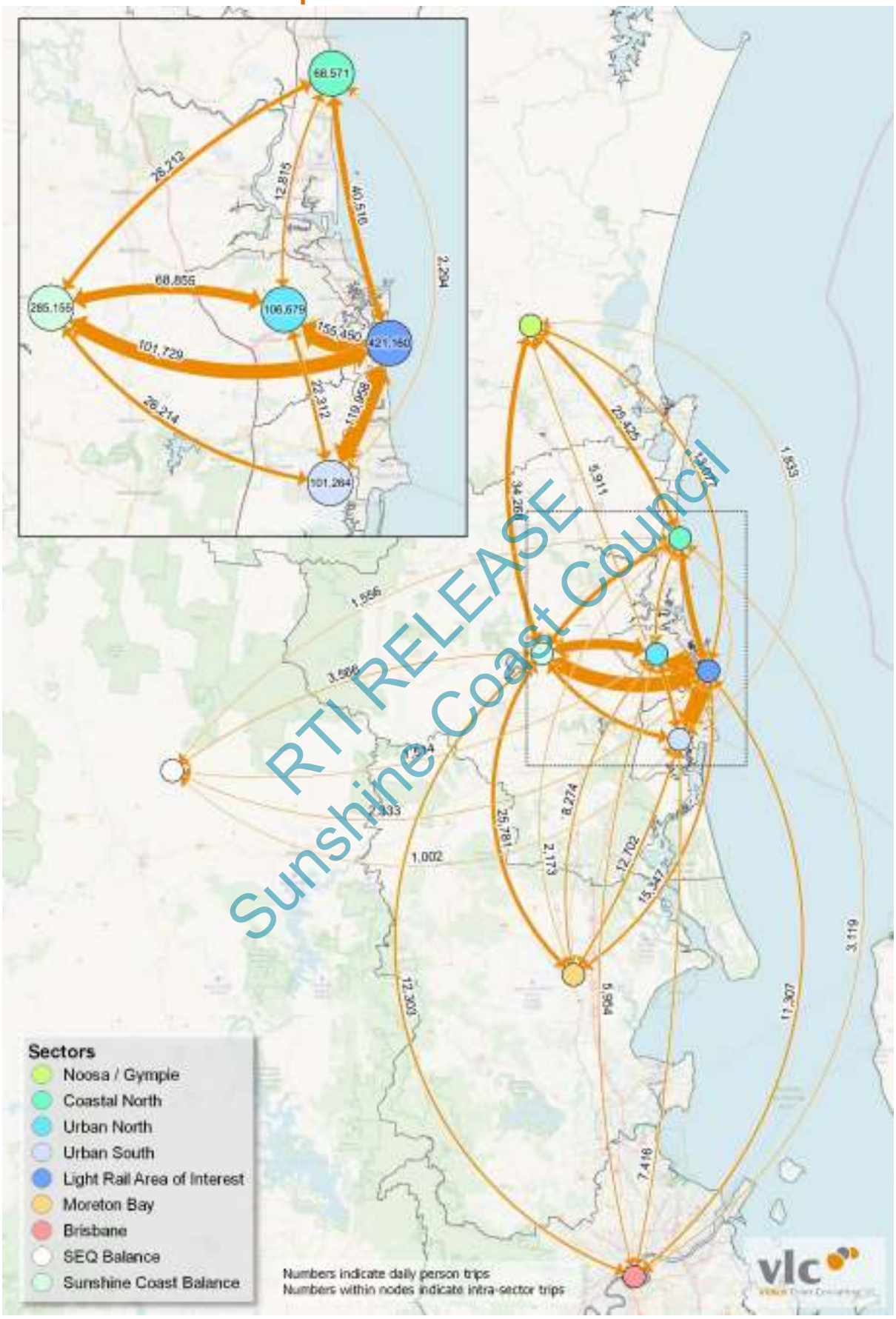
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3.7 Maroochydore to Brisbane - North Coast Connect



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3.8 Private Vehicle Trip Distribution



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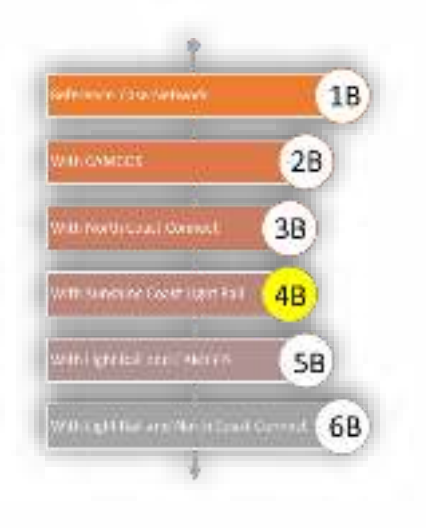
3.9 Daily Vehicle loads



3.10 AM Peak Volume to Capacity



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4. Sunshine Coast Light Rail (Scenario 4B)

The Sunshine Coast Light Rail scenario includes light rail connection from Caloundra to Maroochydore. Amendments to reference case bus routes have been made to facilitate passenger interchange at light rail stations. Figure 8 shows the modelled PT network including Sunshine Coast Light Rail and its stations. Table 10 shows rail service frequencies.

Figure 4: Light Rail PT Network



Table 10: Light Rail Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	As per Reference Case	4	1	4
Light Rail Caloundra to Maroochy-dore	Nutley St Regent St Queen St Mooya St Currimundi Marketplace Piringa St Moondara Dr Wurley Dr Lake Kawana Blvd Doherty St Lake Kawana Blvd Capital Pl Sportsman Pde Minkara St Kawana Island Dr Koorin Dr Kawana Shoppingworld Jessica Blvd Amarina Av Pangarinda Pl Foote St First Av Buderim Av Mari St Maroubra St Maud St Plaza Pde	8	8	8

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4.1 Mode Share

The mode share of person trips generated from sectors within the Sunshine Coast is presented in Table 12. At the LGA level, car is the dominant mode (76.6%) with walking and cycling accounting for the second highest share of all trips (21.1%). Public transport accounts for 2.3% of all trips.

Table 11: Person trip mode share by macro sector of origin

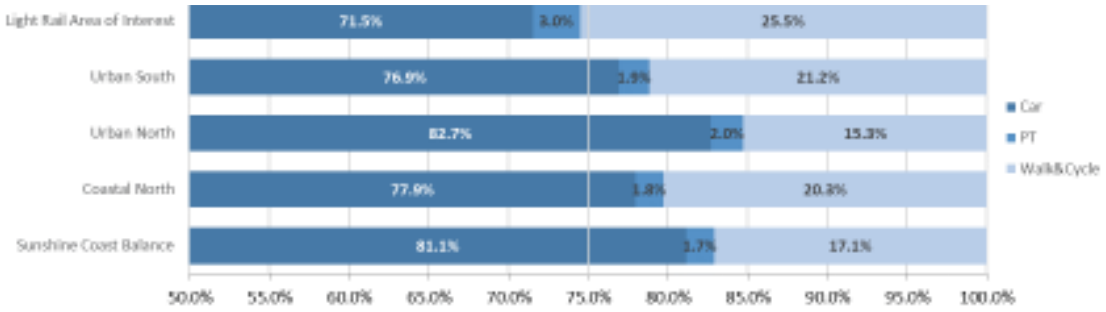
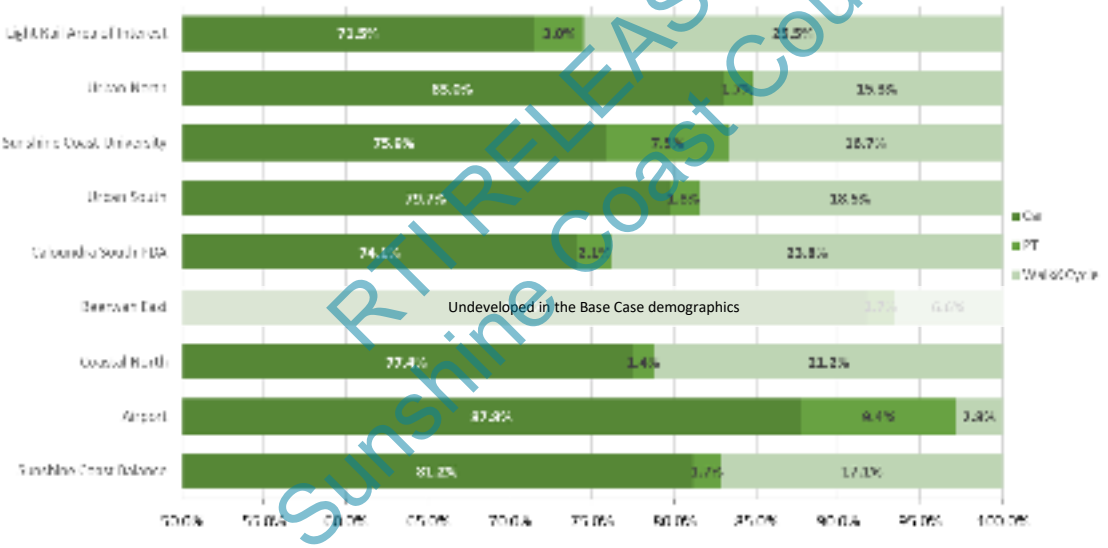


Table 13 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast.

Table 12: Person trip mode share by detailed sector of origin

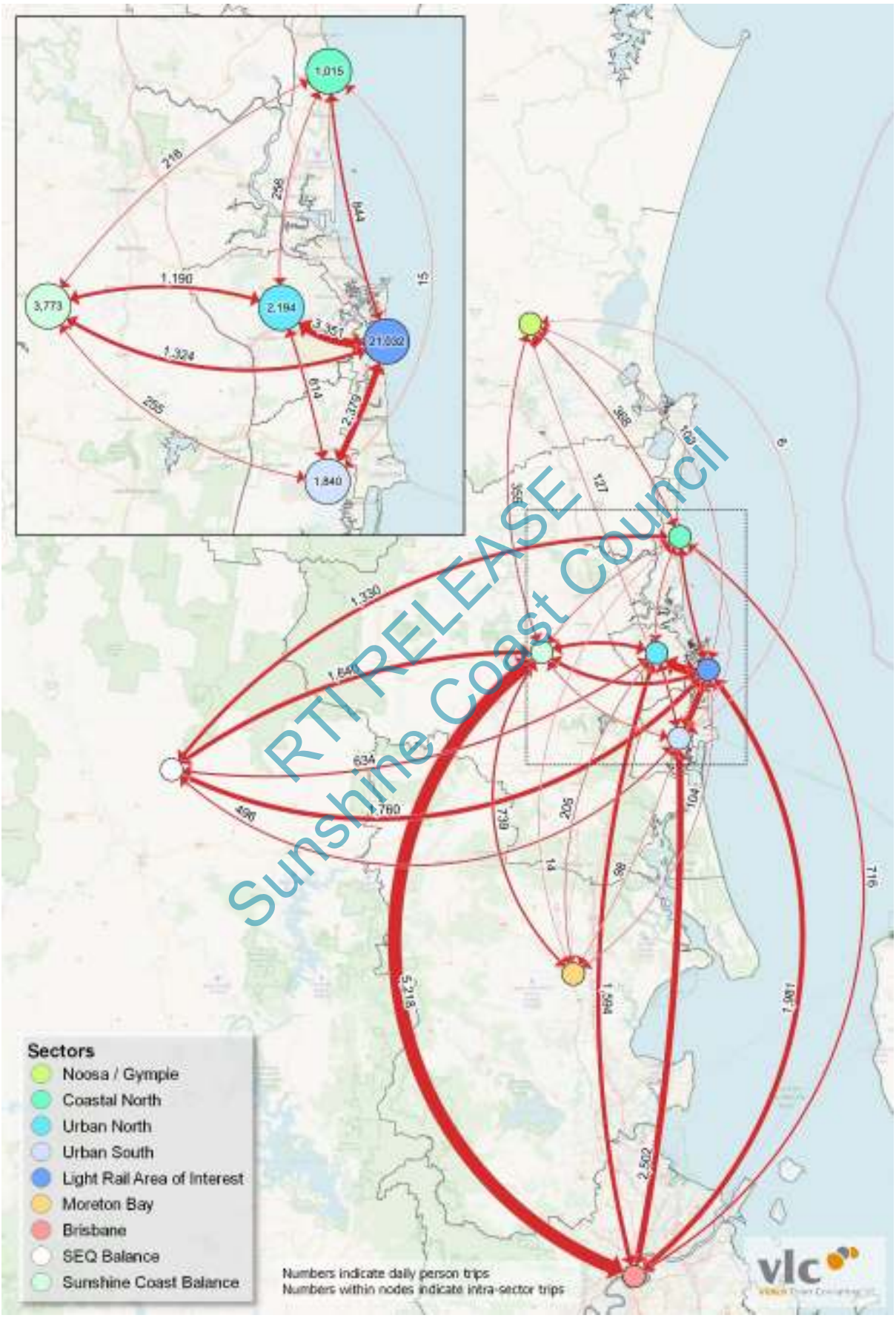


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4.2 Sunshine Coast Trip Self Containment

In the Light Rail scenario, the Sunshine Coast generates 2,168,100 trips per day. 94.7% of these trips are satisfied by destinations within the LGA; 1.9% are destined for Noosa/Gympie, 1.5% to Moreton Bay and 1.4% to Brisbane.

4.3 Public Transport Trip Distribution



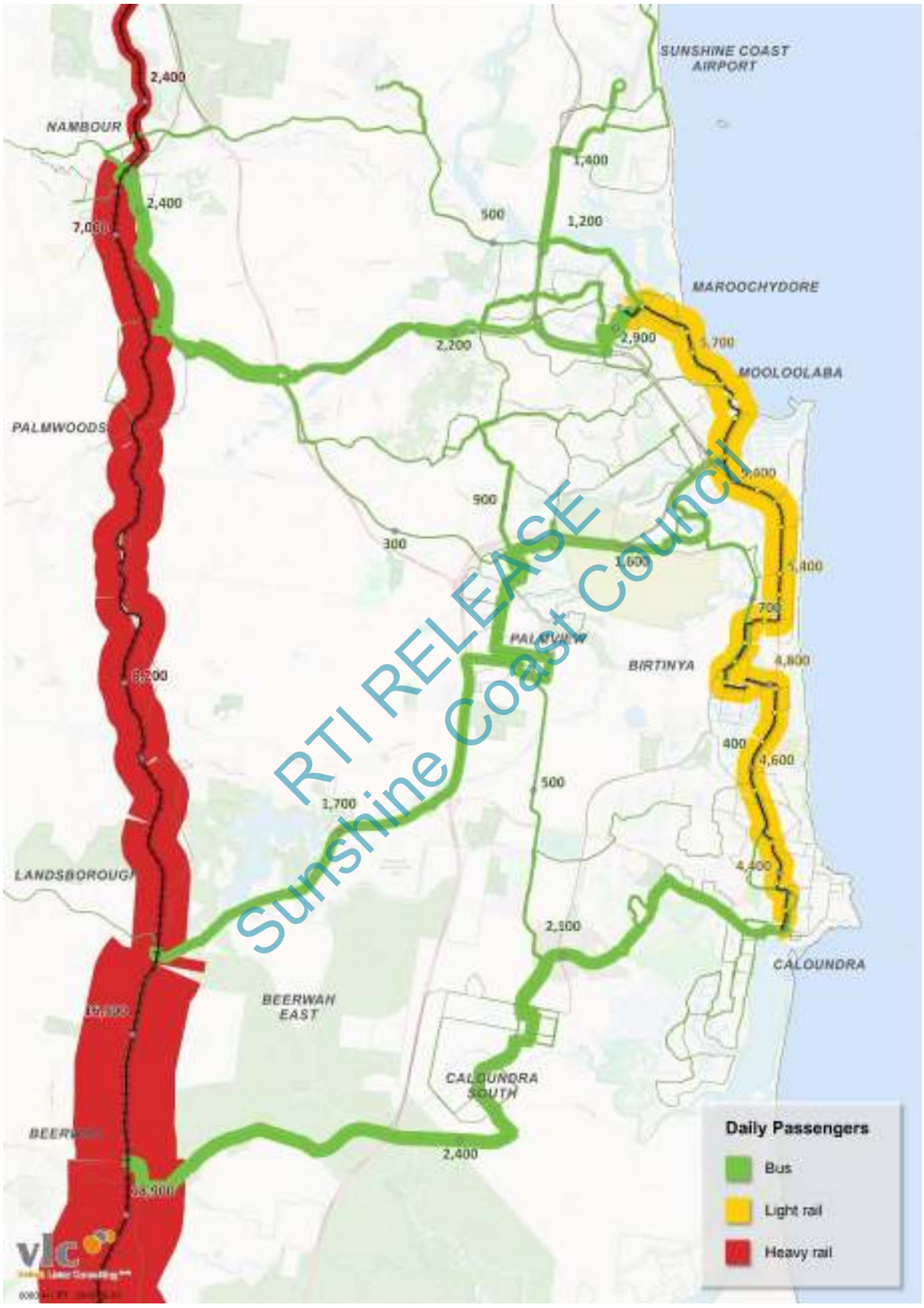
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4.4 AM (2hr) Public Transport Passenger Loads



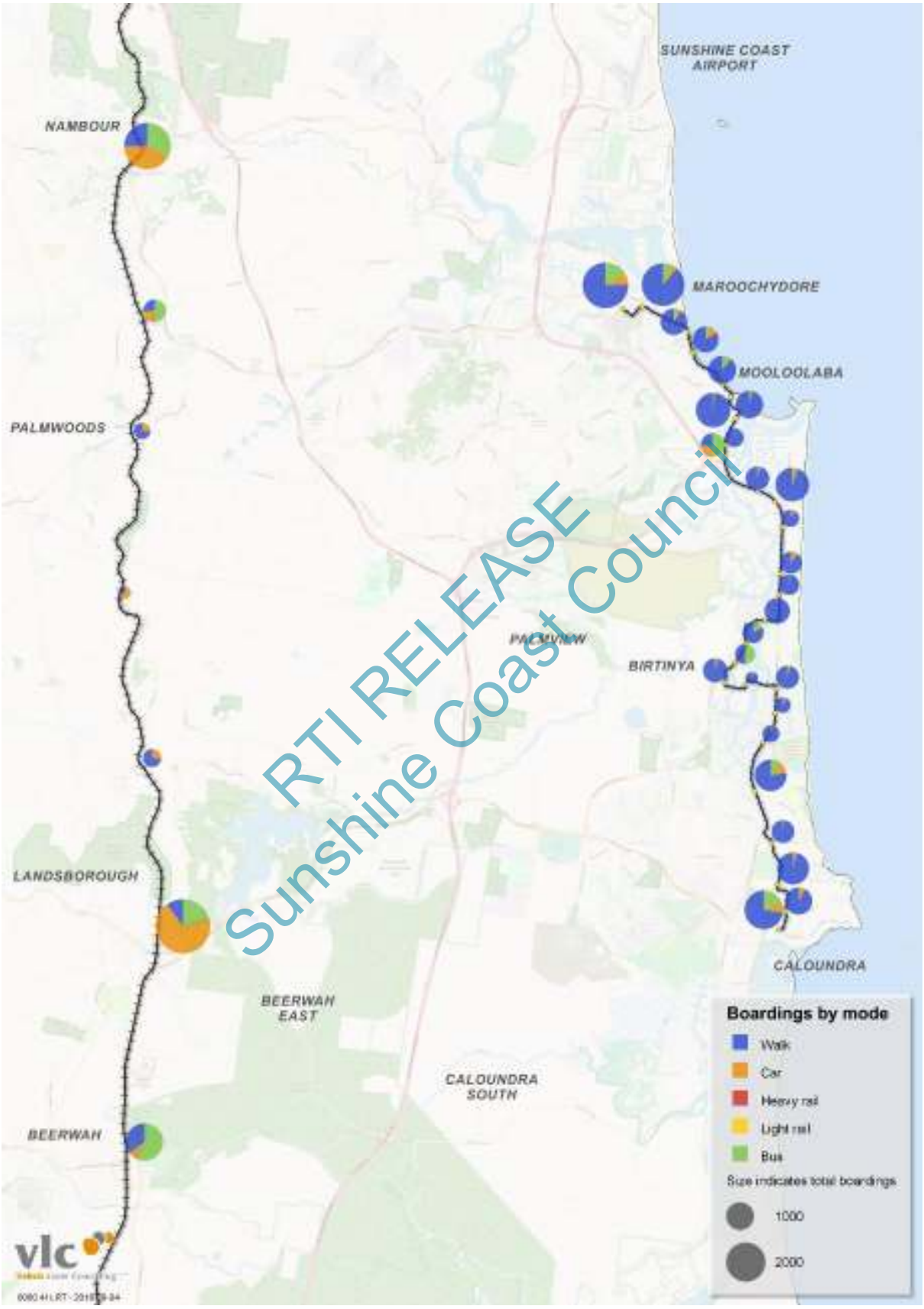
RTI RELEASE
Sunshine Coast Council

4.5 Daily Public Transport Passenger Loads



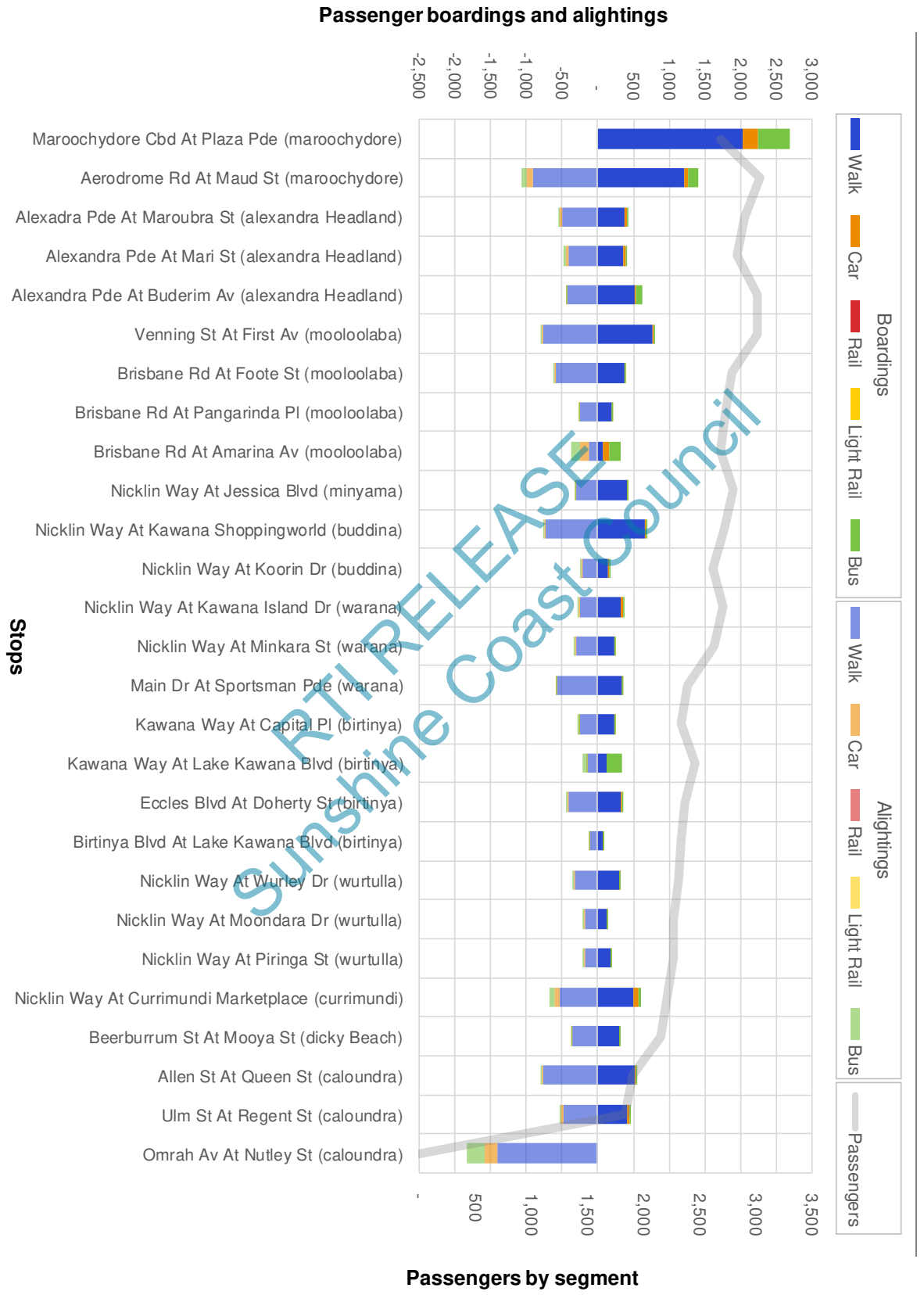
RTI RELEASE
Sunshine Coast Council

4.6 Daily Station Access by Mode



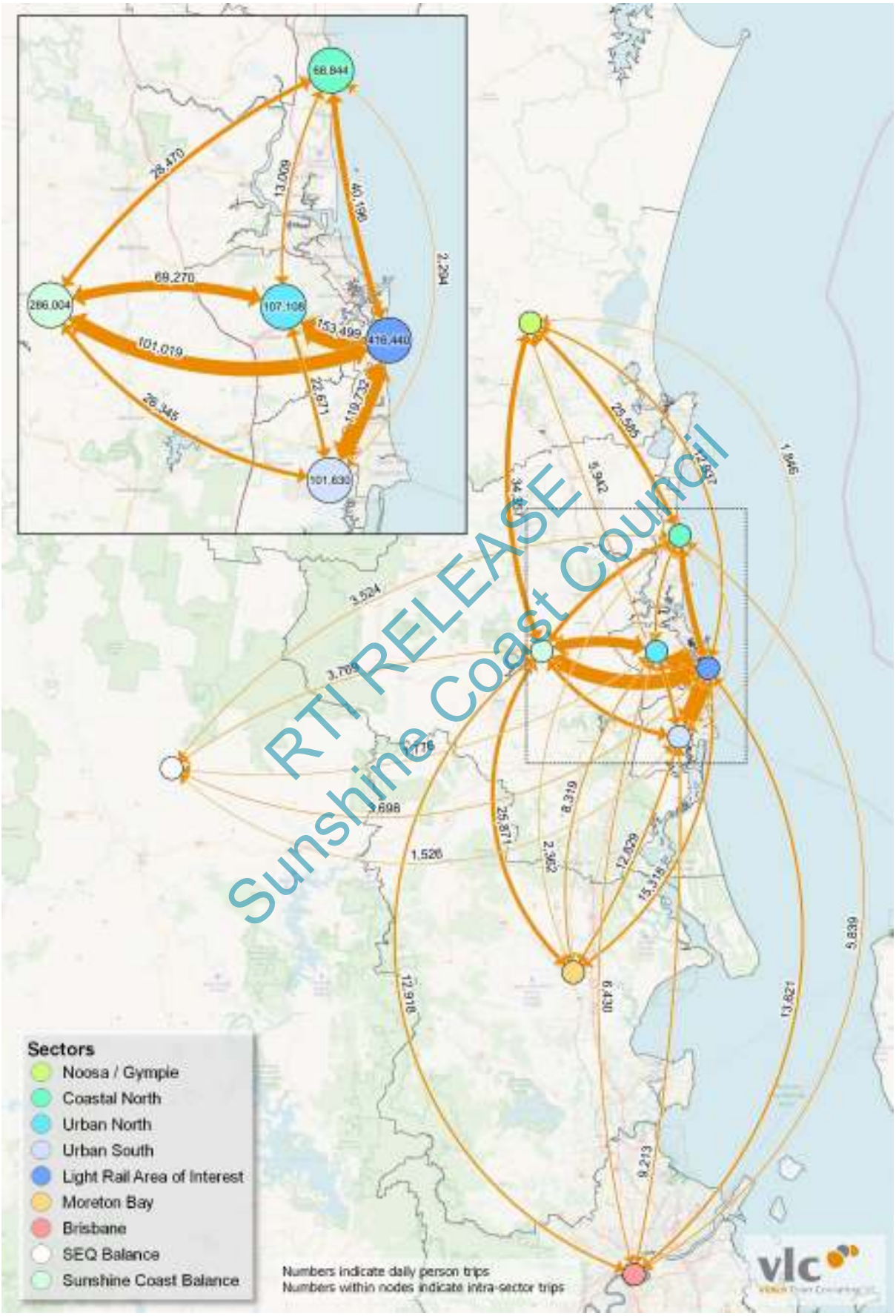
RTI RELEASE
Sunshine Coast Council

4.7 Light Rail Utilisation (South Bound)



RTI RELEASE
Sunshine Coast Council

4.8 Private Vehicle Trip Distribution



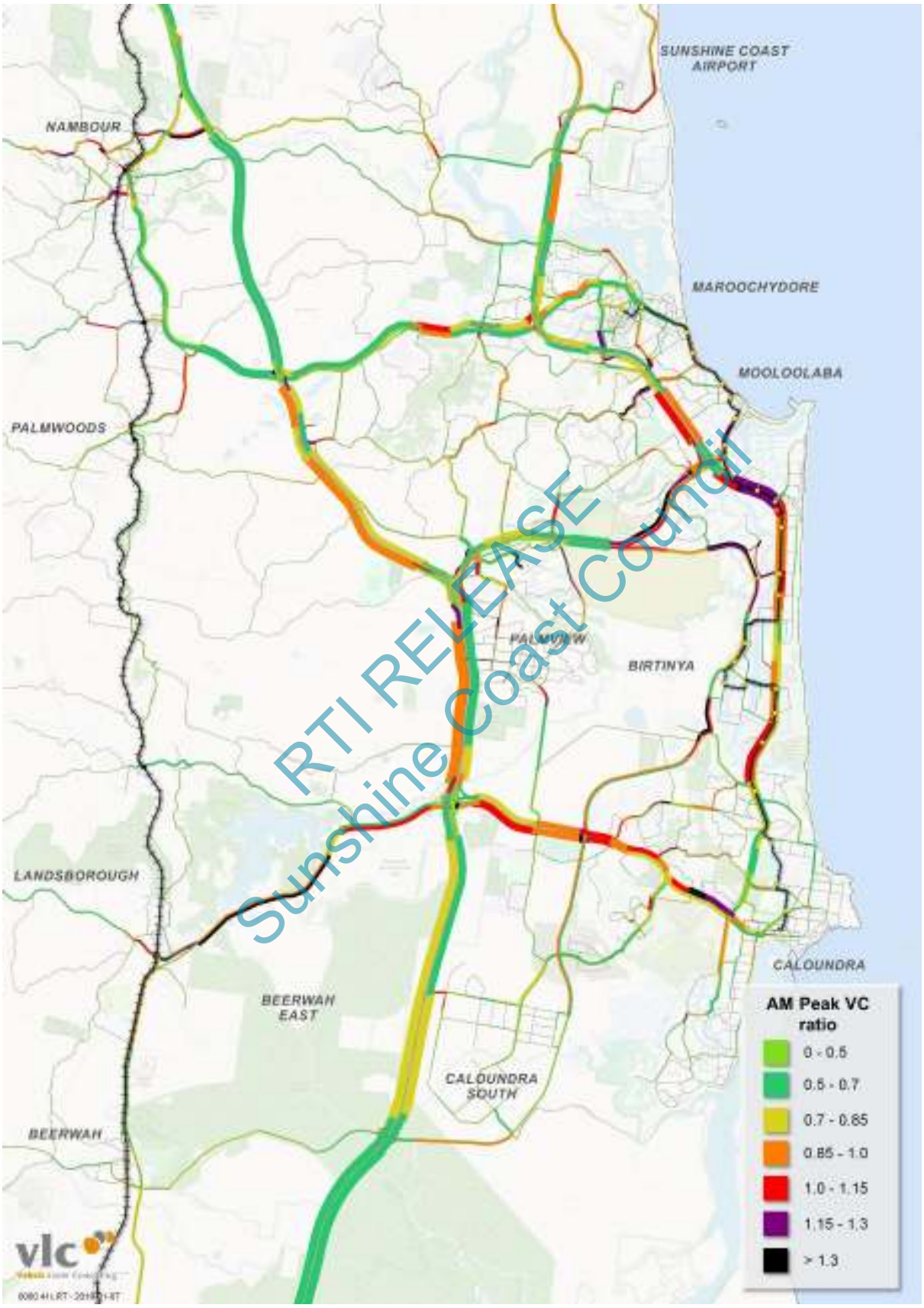
RTI RELEASE
Sunshine Coast Council

4.9 Daily Vehicle Loads



RTI RELEASE
Sunshine Coast Council

4.10 AM Peak Volume to Capacity



RTI RELEASE
Sunshine Coast Council



5. Sunshine Coast Light Rail and CAMCOS (Scenario 5B)

The Sunshine Coast Light Rail and CAMCOS scenario includes both Rail elements of scenario 2B and 4B. In this scenario light rail has been extended west to connect with CAMCOS Rail. Bus network changes have been carried forward to facilitate integration across modes, network changes and rail alignments are presented in Figure 9. Table 13 shows both light and heavy rail service frequencies.

Table 13: Light Rail with CAMCOS Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	As per Reference Case	3	1	3
CAMCOS Corridor (Standard Train)	As per CAMCOS scenario (2B)	3	2	3
Light Rail Caloundra to Maroochy-dore	As per Sunshine Coast Light Rail scenario (4B)	8	8	8

Figure 5: With Light Rail and CAMCOS



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5.1 Mode Share

The mode share of person trips generated from sectors within the Sunshine Coast is presented in Table 15. At the LGA level, car is the dominant mode (76.2%) with walking & cycling accounting for the second highest share of all trips (21%). Public transport accounts for approximately 2.8% of all trips.

Table 14: Person trip mode share by macro sector of origin

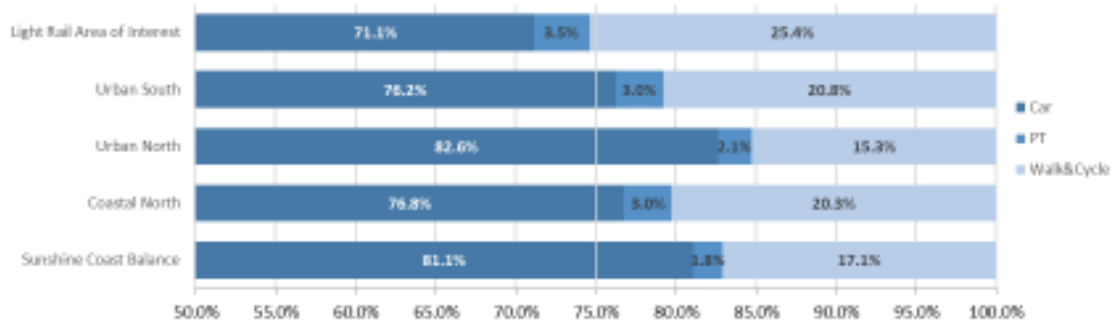
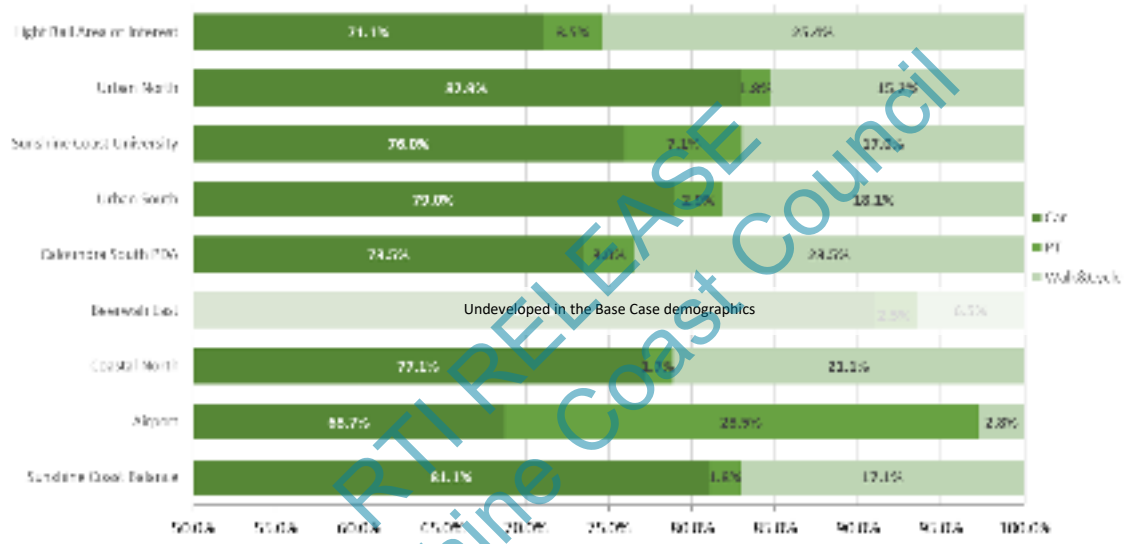


Table 16 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast.

Table 15: Person trips mode share by detailed sector of origin

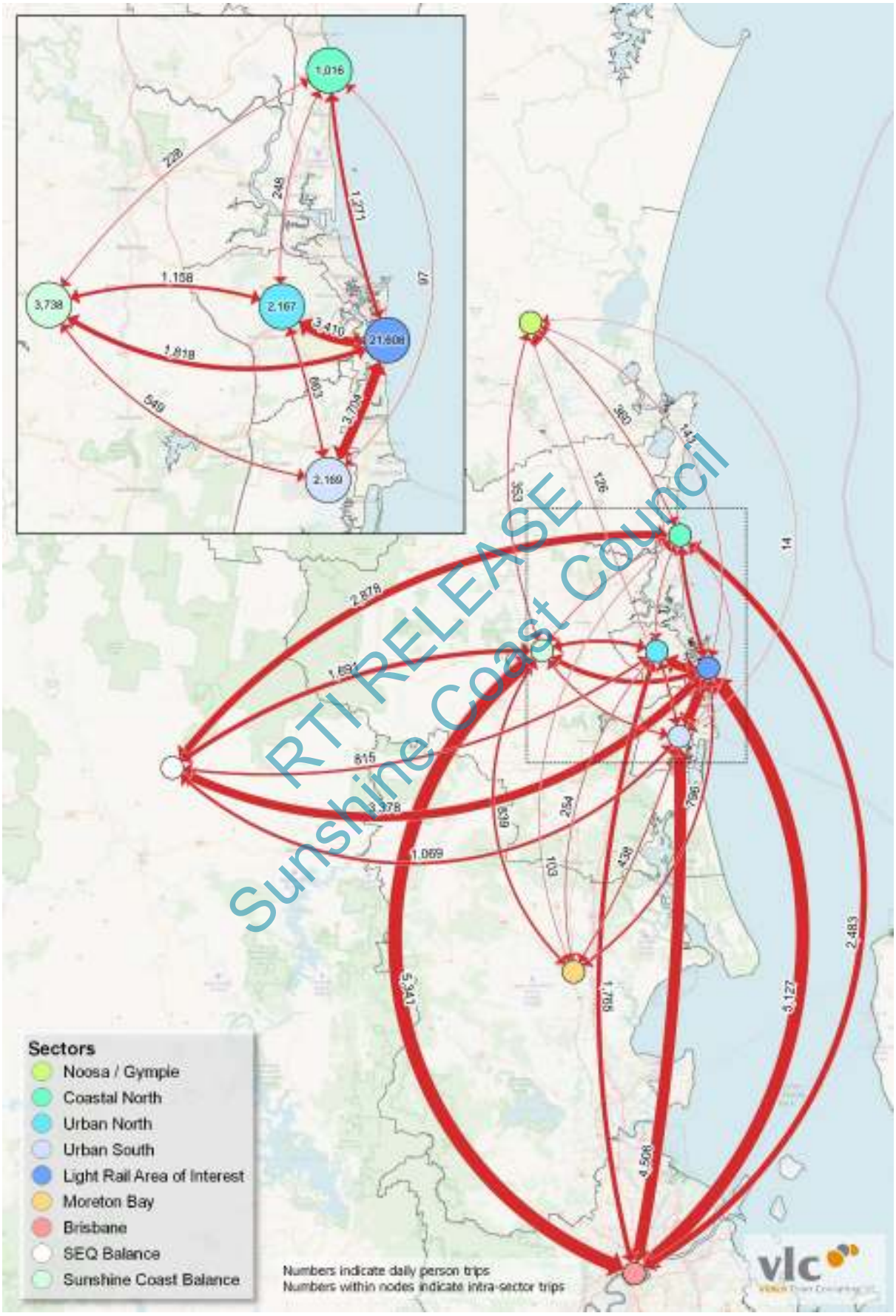


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5.2 Sunshine Coast Self Containment

Under the Light Rail and CAMCOS network scenario the Sunshine Coast generates 2,167,800 trips per day. 94.7% of these trips are satisfied by destinations within the LGA; 1.9% are destined for Noosa/Gympie, 1.5% to Moreton Bay and 1.4% to Brisbane.

5.3 Public Transport Trip Distribution



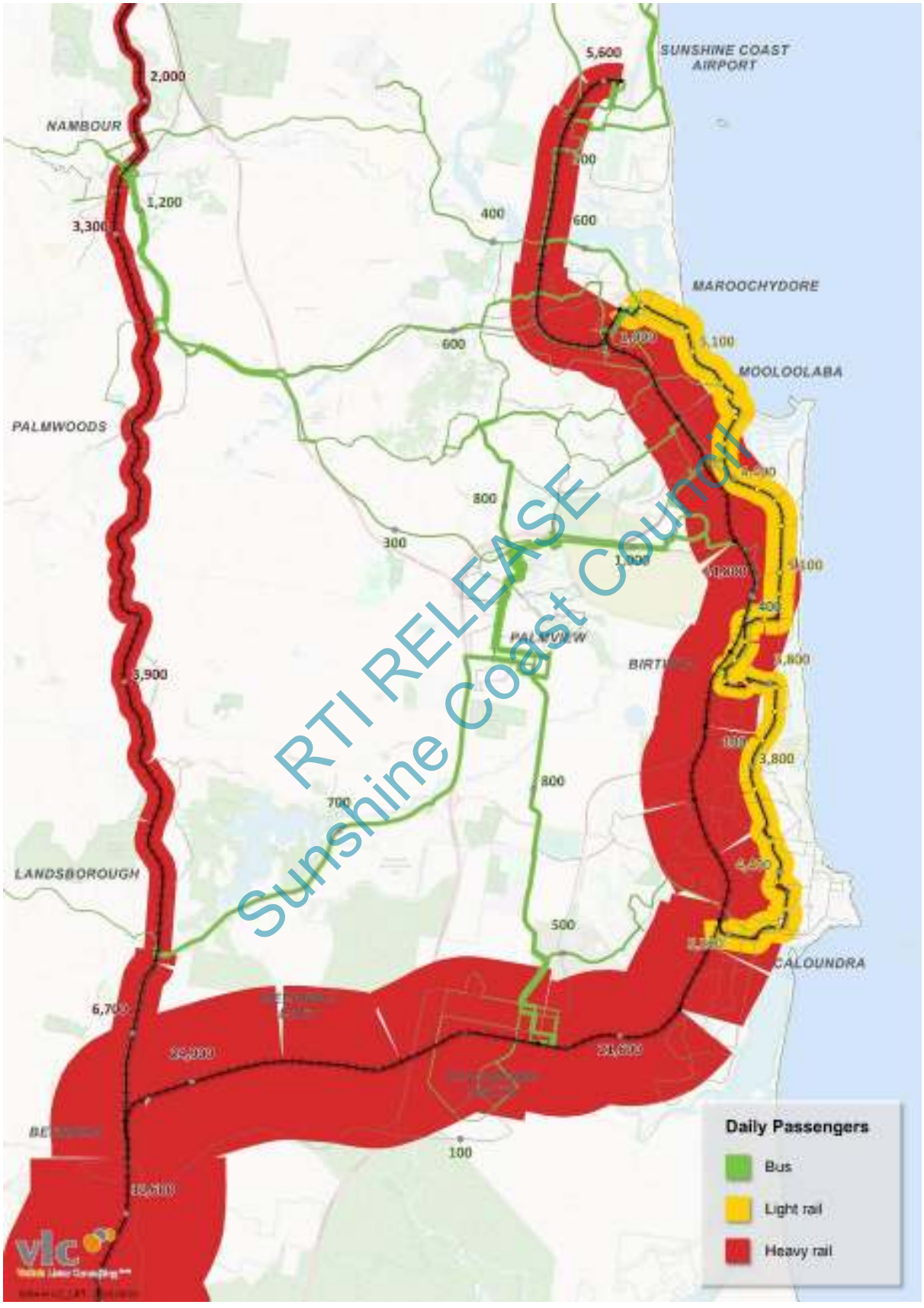
RTI RELEASE
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5.4 AM (2hr) Public Transport Passenger Loads



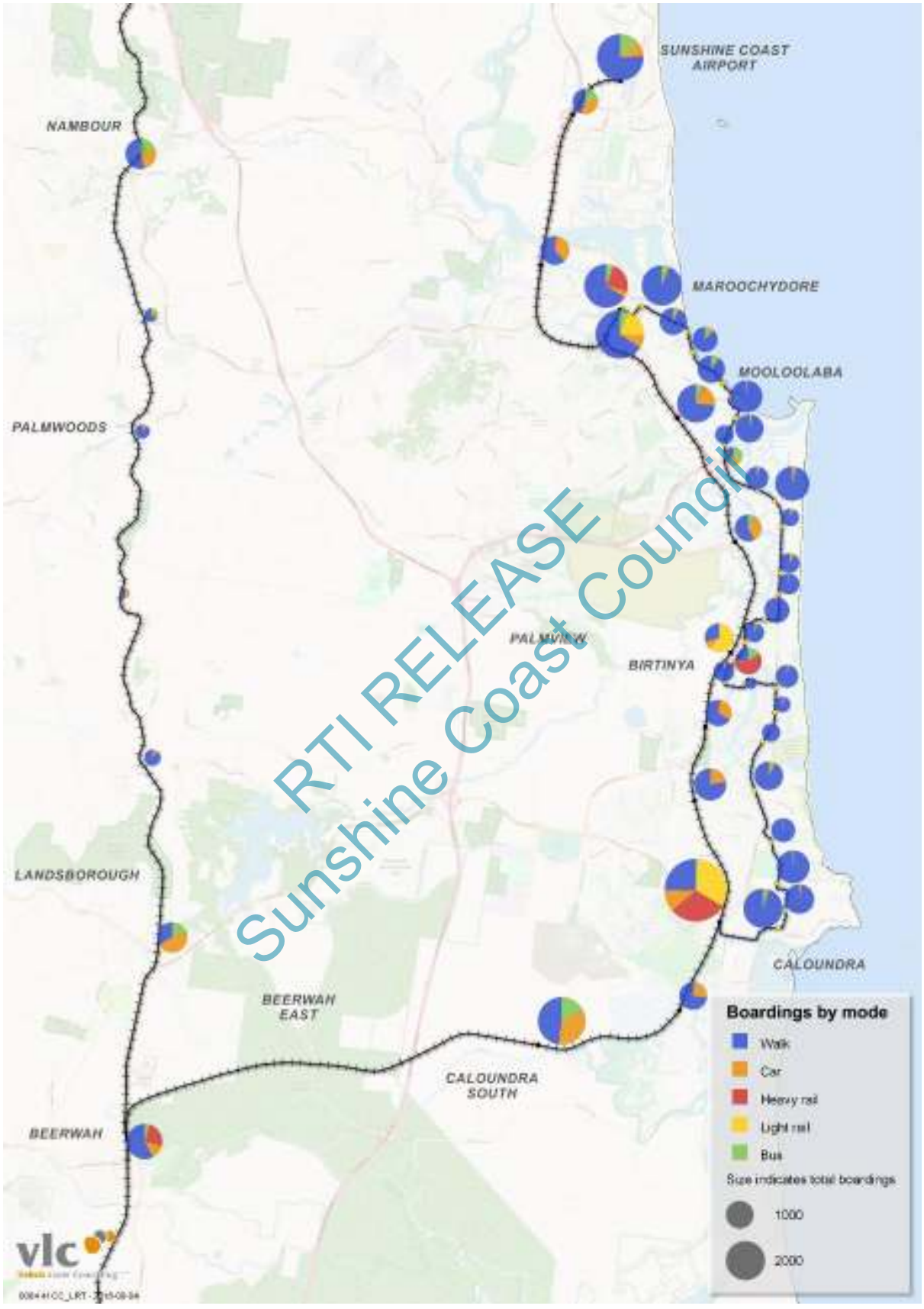
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5.5 Daily Public Transport Passenger Loads



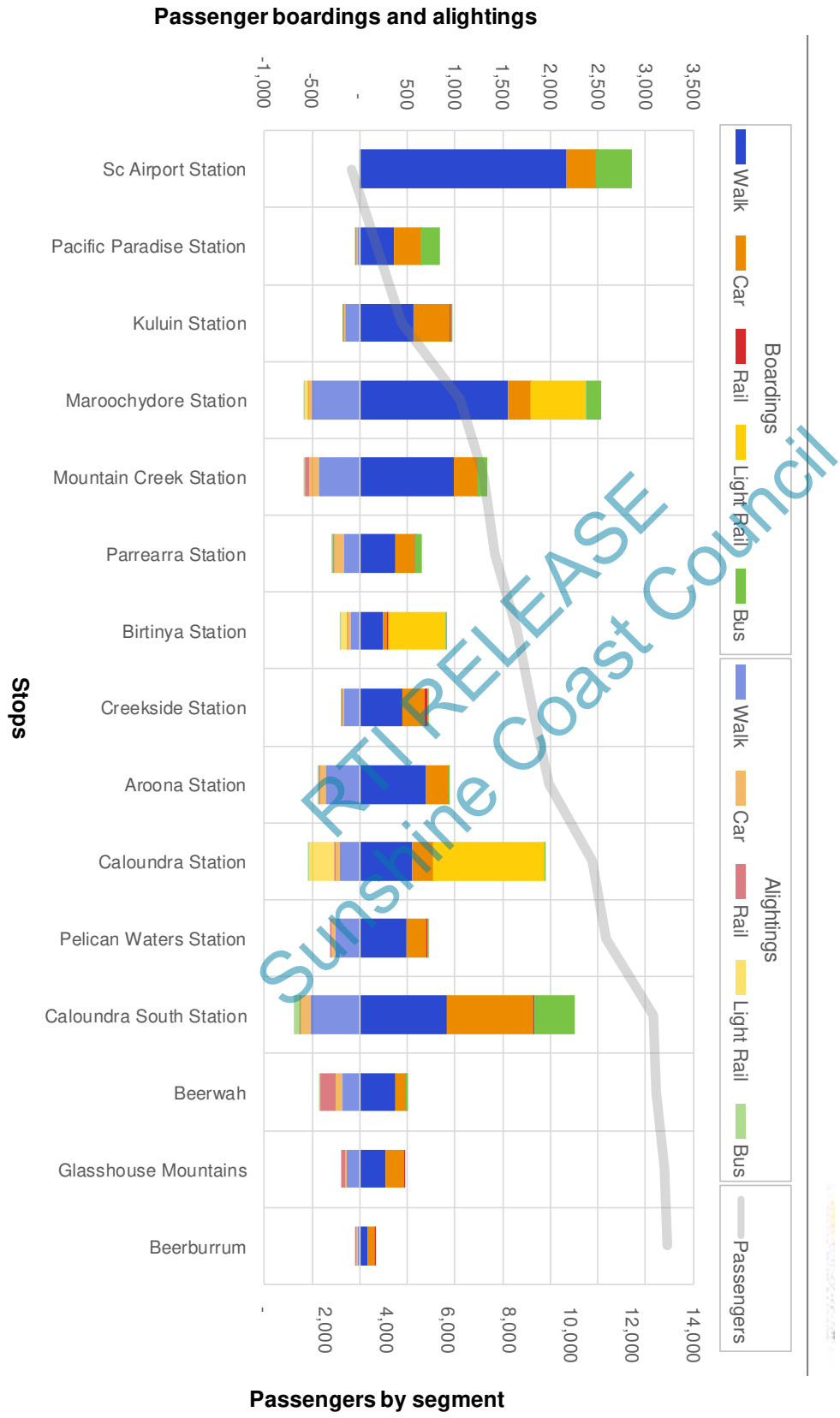
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5.6 Daily Station Access by Mode



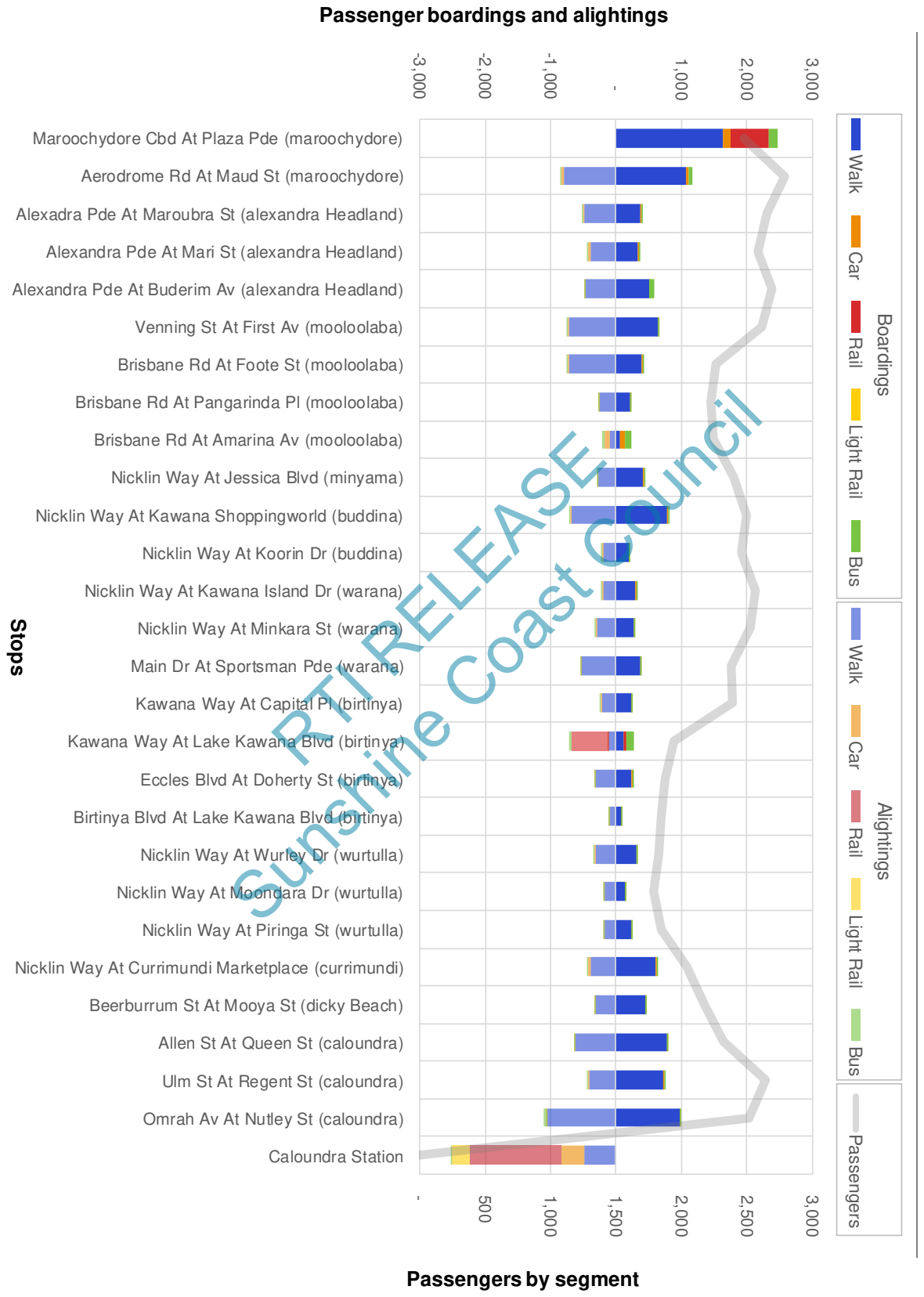
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5.7 CAMCOS Utilisation (Southbound)



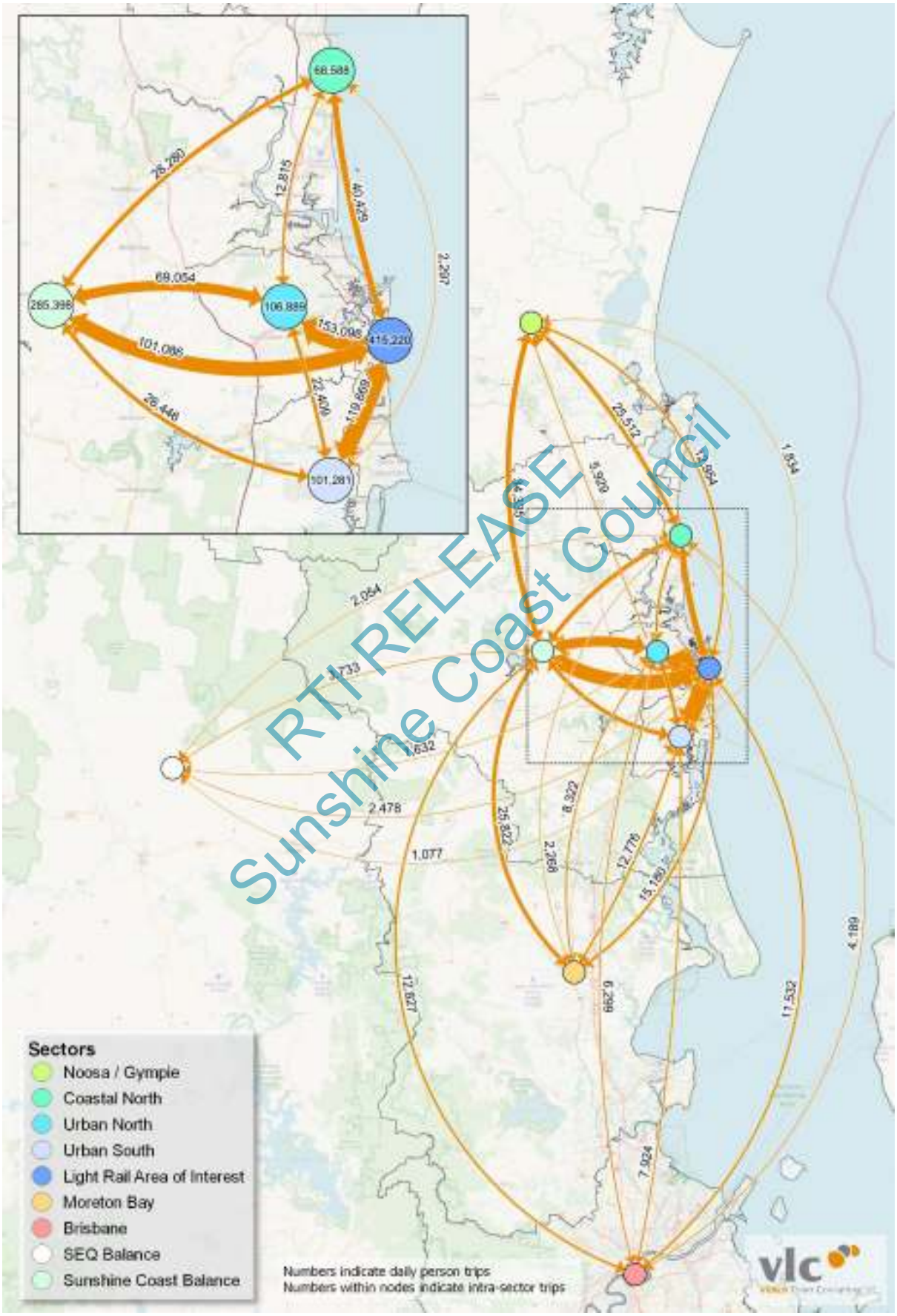
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5.8 Light Rail Utilisation (South Bound)



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Sunshine Coast Council

5.9 Vehicle Trip Distribution



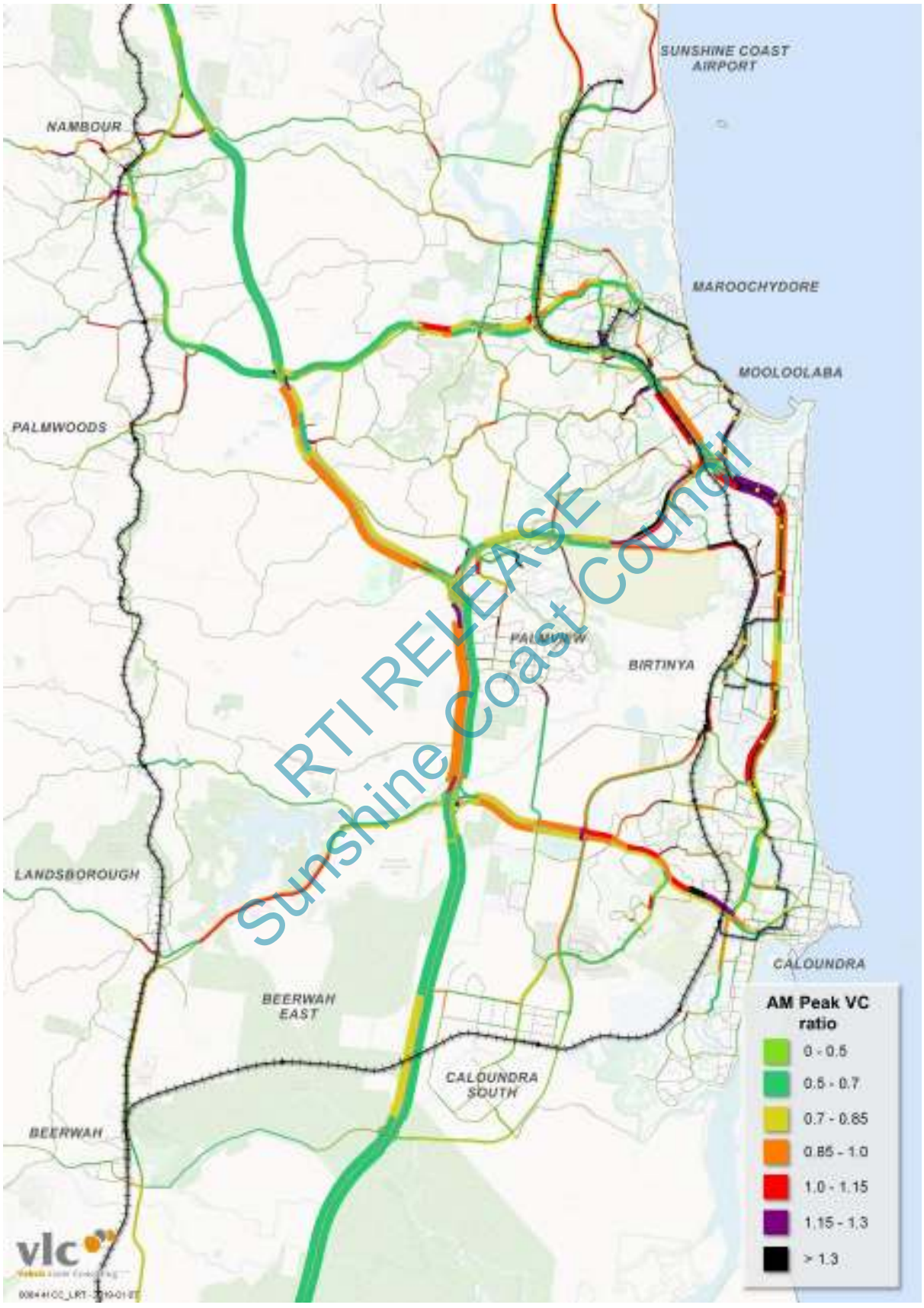
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5.10 Daily Boardings and Access Mode

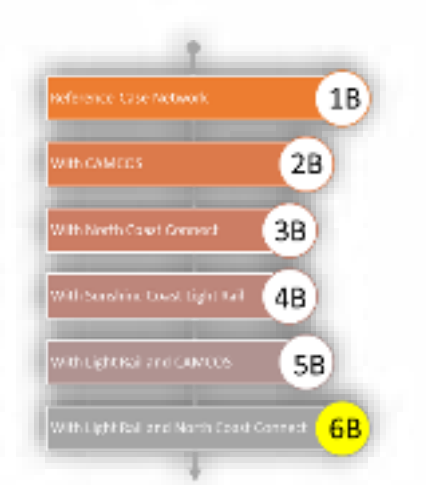


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5.11 AM Peak (2hr) Volume to Capacity



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6. Sunshine Coast Light Rail and North Coast Connect (Scenario 6B)

The Sunshine Coast Light Rail and North Coast Connect scenario includes both rail elements of scenario 3B and 4B. In this scenario light rail has been extended west to connect with North Coast Connect services. Bus network changes have been carried forward to facilitate integration across modes, network changes and rail alignments are presented in Figure 10. Table 16 shows both light and heavy rail service frequencies.

Table 16: Light Rail with North Coast Connect Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	As per Reference Case	2	1	2
Nambour Line (Fast Train – 45 minutes to Brisbane)	As per North Coast Connect scenario (3B)	2	1	2
CAMCOS Corridor (Fast Train – 45 minutes to Brisbane)	As per North Coast Connect scenario (3B)	2	2	2
Light Rail Caloundra to Maroochy-dore	As per Sunshine Coast Light Rail scenario (4B)	8	8	8

Figure 6:Light Rail and Coast Connect PT Network



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6.1 Mode Share

The mode share of person trips generated from macro sectors within the Sunshine Coast is presented in Table 18. At the LGA level, car is the dominant mode (76%) with walking & cycling accounting for the second highest share of all trips (21%). Public transport accounts for approximately 2.9% of all trips.

Table 17: Mode Share (person trips) by macro sector of origin

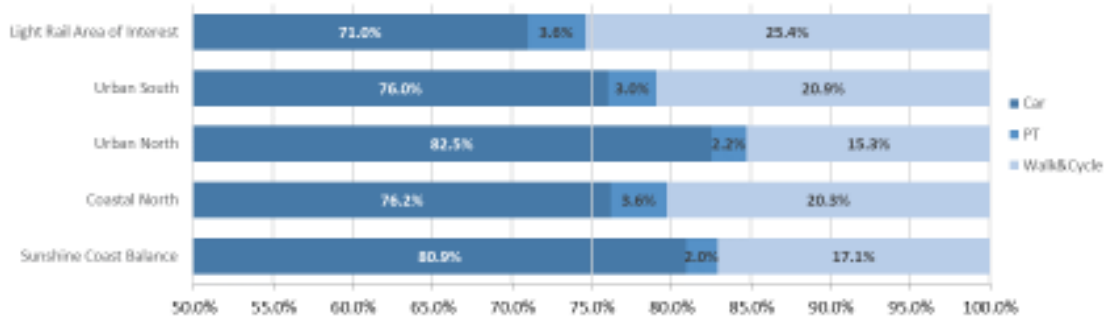
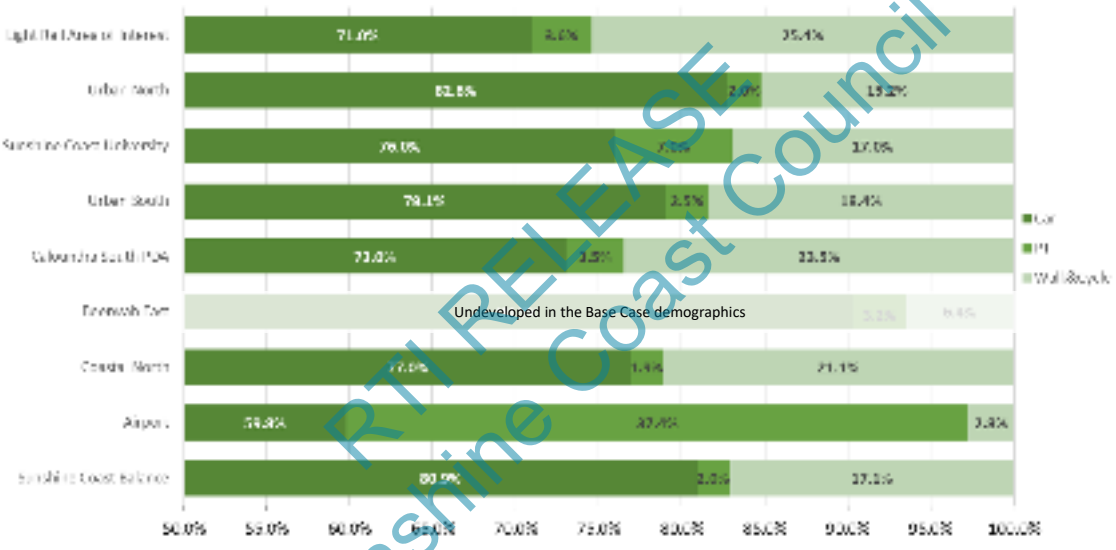


Table 19 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast.

Table 18: Mode share (person trips) by detailed sector of origin

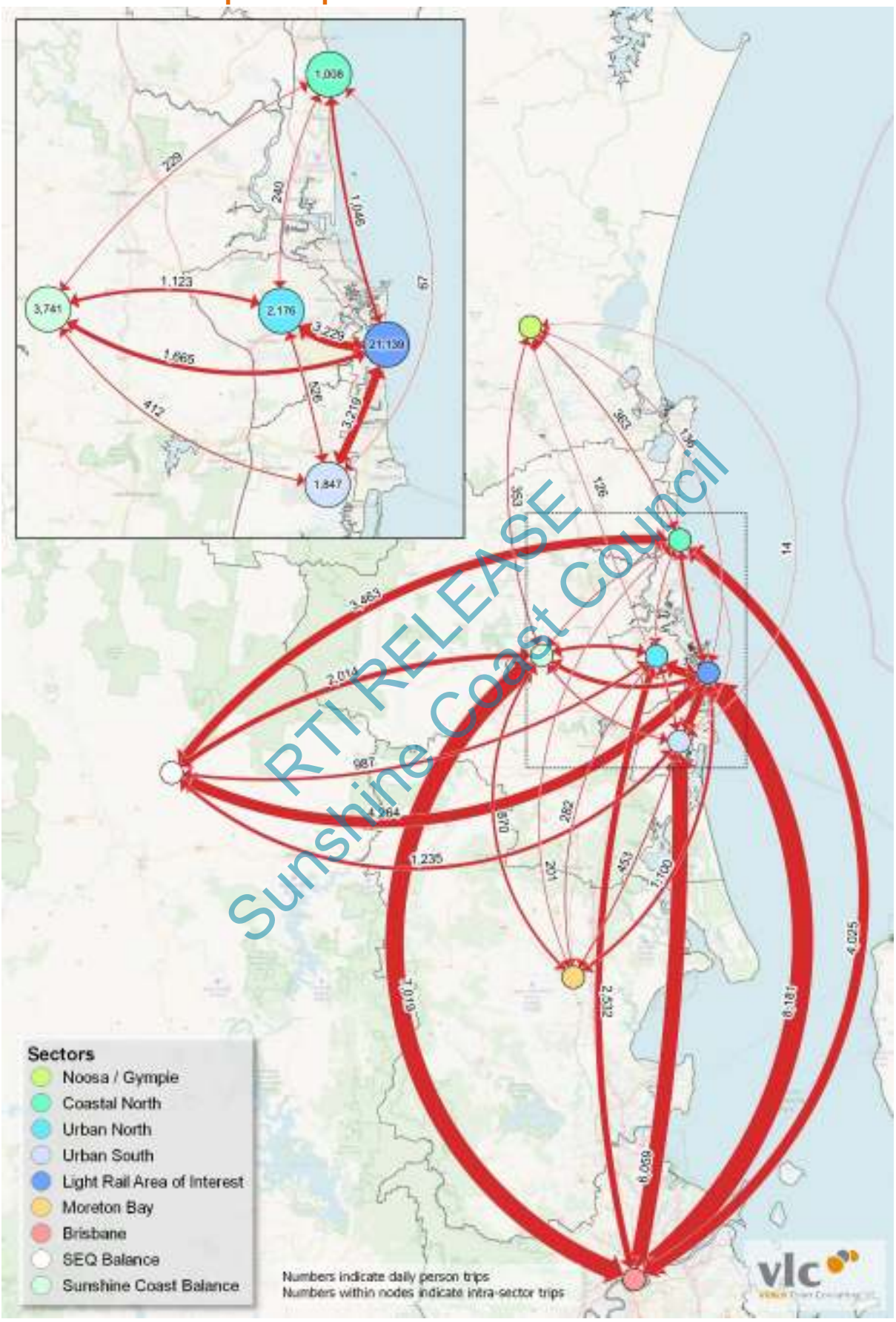


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6.2 Sunshine Coast Trip Self Containment

With both Light Rail and North Coast Connect the Sunshine Coast generates 2,166,000 trips per day. 94.5% of these trips are satisfied by destinations within the LGA; 1.9% are destined for Noosa/Gympie, 1.5% to Moreton Bay and 1.6% to Brisbane.

6.3 Public Transport Trip Distribution



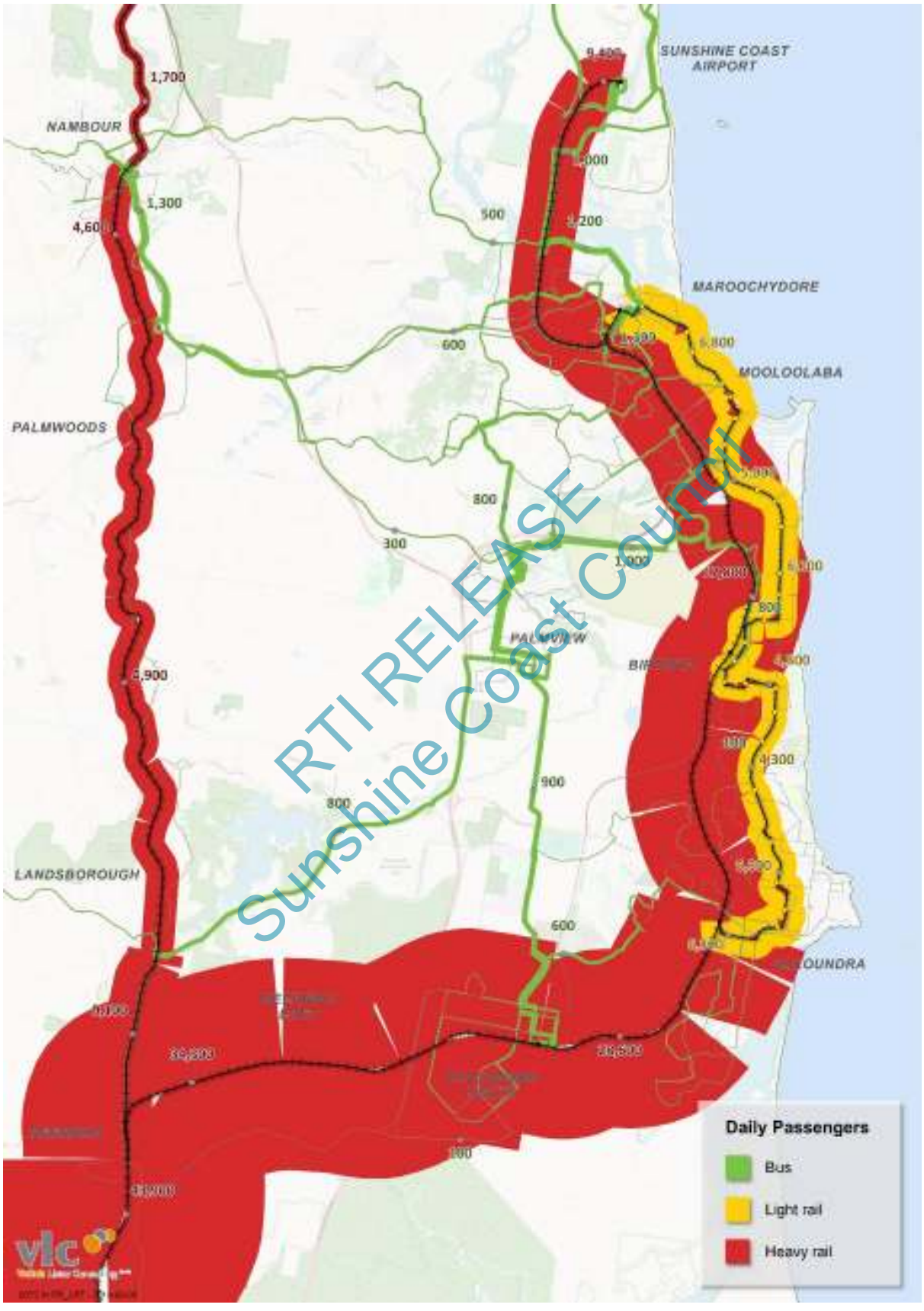
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6.4 AM Peak (2hr) Public Transport Passenger Loads



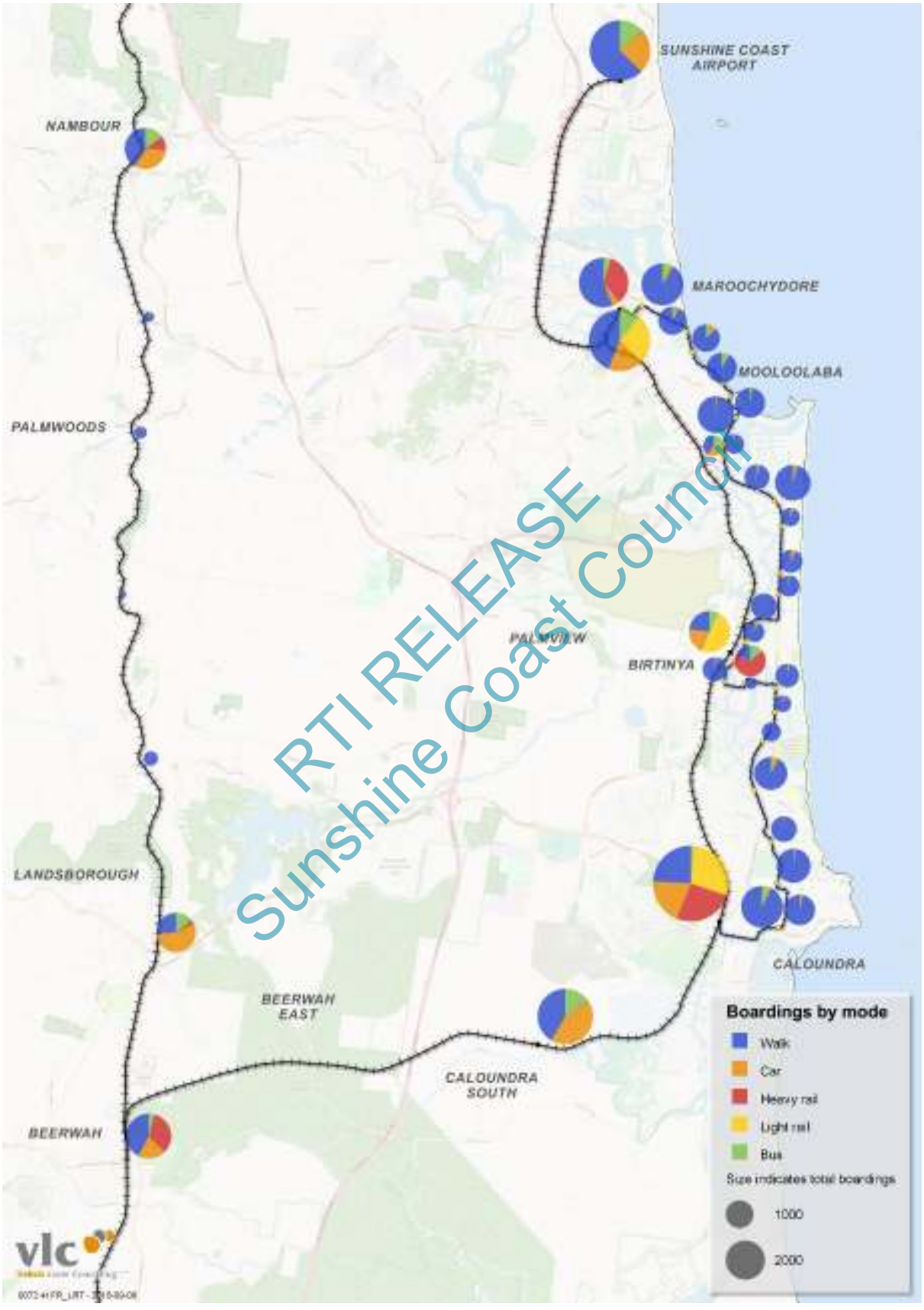
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6.5 Daily Public Transport Passenger Loads



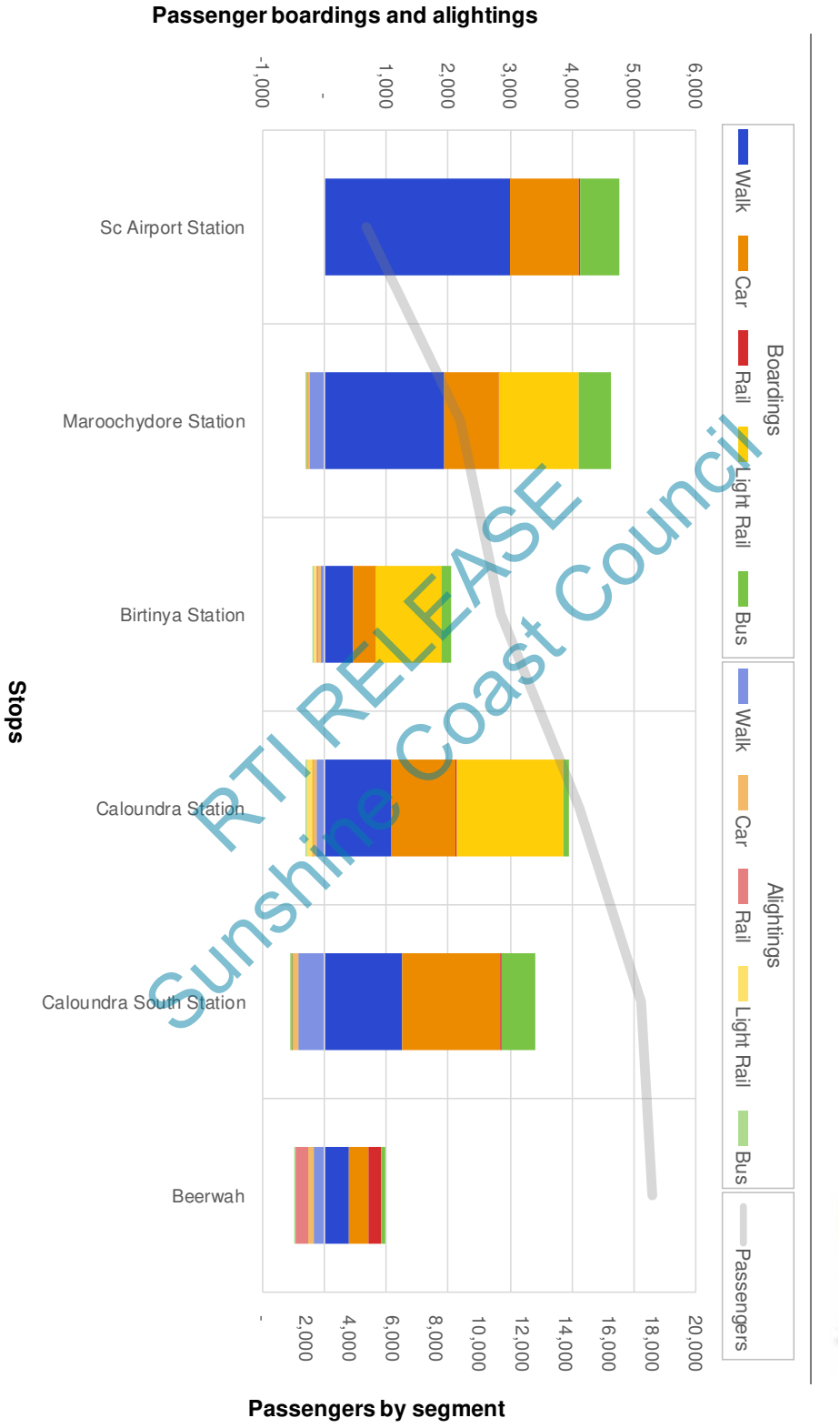
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6.6 Daily Station Access by Mode



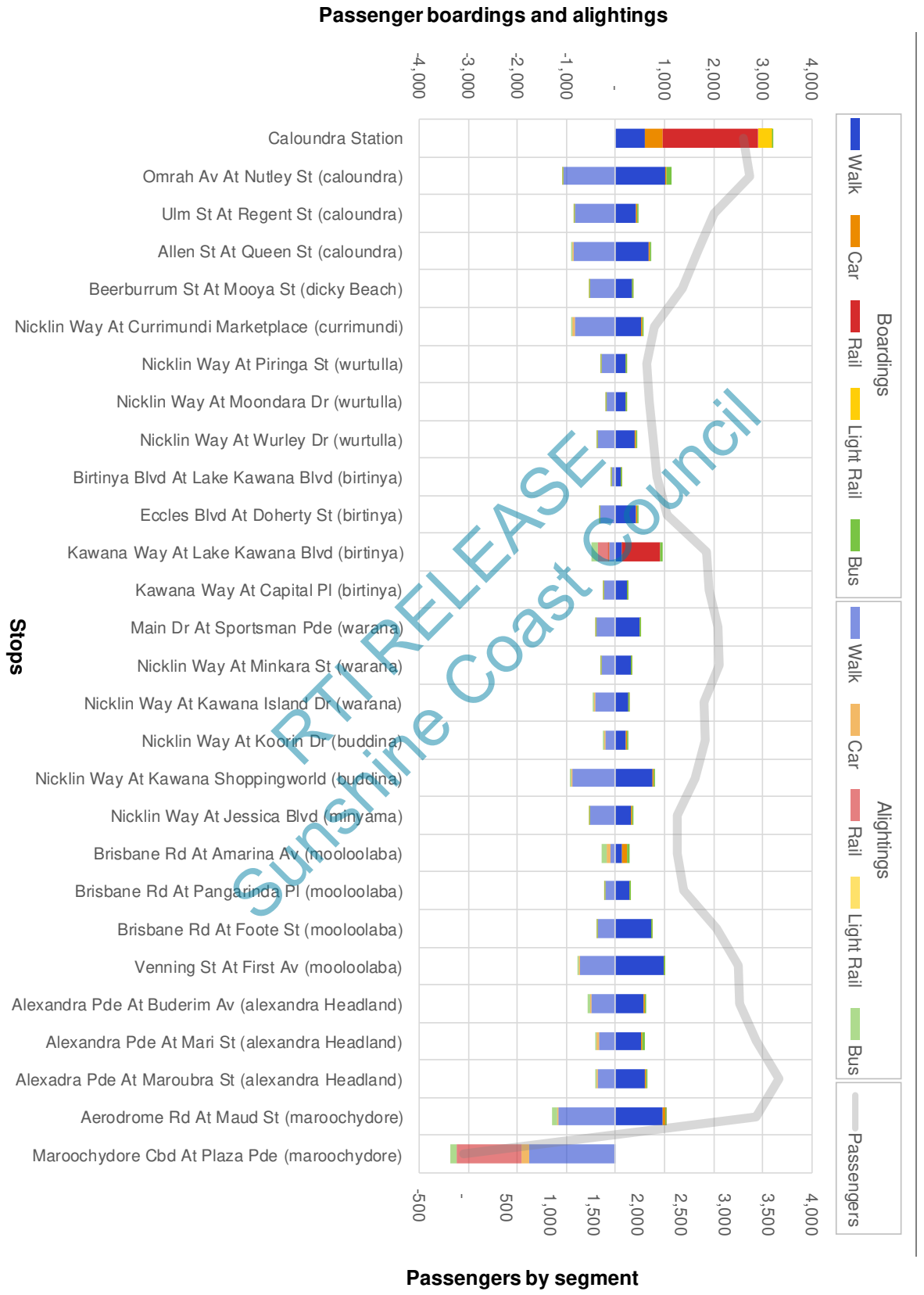
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6.7 Maroochydore to Brisbane – North Coast Connect (South Bound)



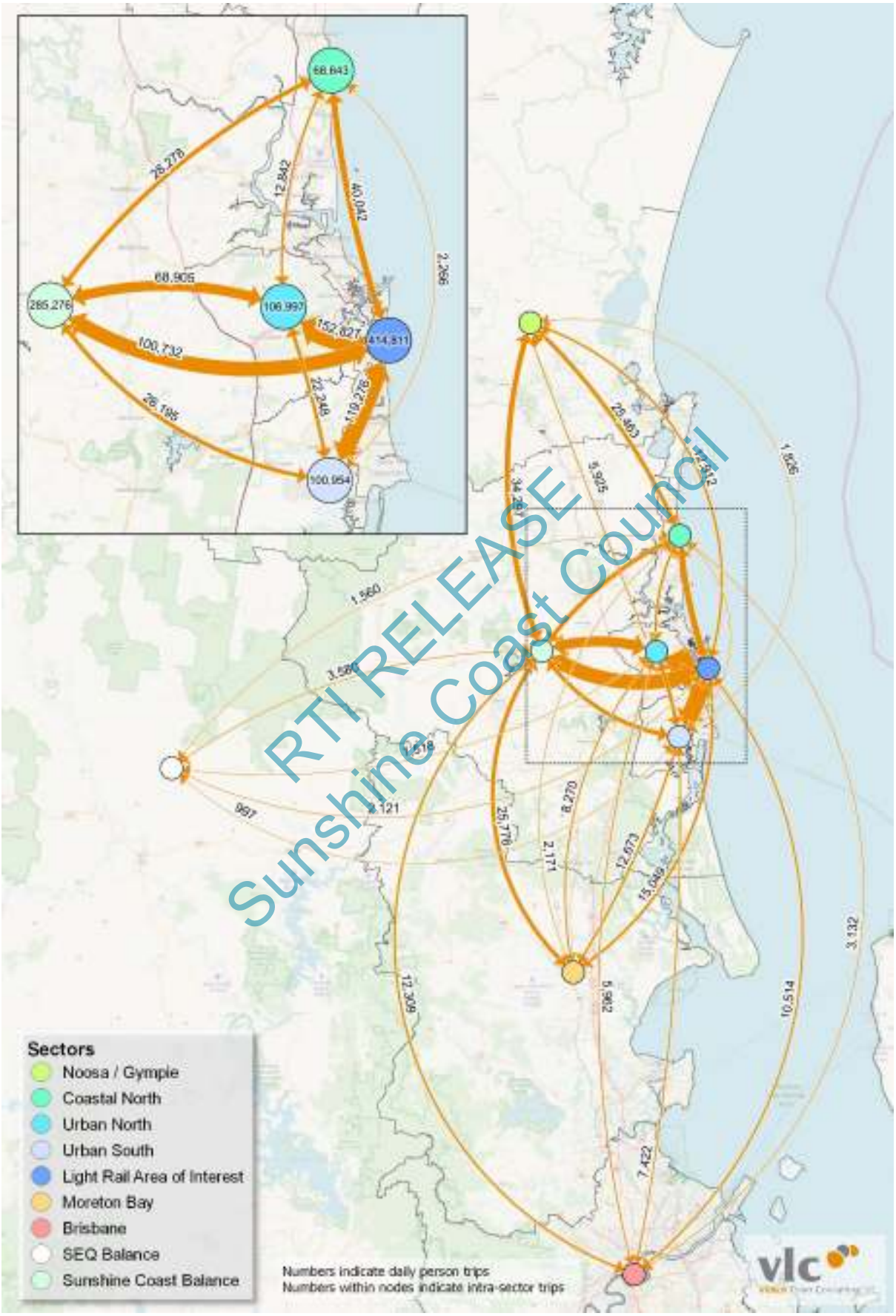
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6.8 Light Rail Utilisation (South Bound)



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6.9 Private Vehicle Trip Distribution



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6.10 Daily Vehicle Loads



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6.11 AM Peak Volume to Capacity



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Prepared for

SUNSHINE COAST COUNCIL

Model results - Project case demographics (Volume 4)

Sunshine Coast demographics and preliminary modelling

September, 2018

Sunshine Coast Demographics and Preliminary Modelling

Model Results Base – Project Case Demographics (Volume 4)

18-027

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Date	Revision	Prepared By	Checked By	Approved By	Description
24/09/2018	A	Andrew O'Brien, Brandon Peij	Mark Iliffe	Gavin Nicholls	Final Draft
08/01/2019	B	BP	Mark Iliffe	Gavin Nicholls	Reissue with corrected V/C plots for all scenarios

Volume 4- Project Case Demographics

Preliminary modelling results

Modelled Scenarios:

Modelled Network	Scenario Reference	VLC Model Variant
Reference Case Network	1P	65
CAMCOS	2P	68
North Coast Connect	3P	73
Sunshine Coast Light Rail	4P	66
Sunshine Coast Light Rail and CAMCOS	5P	70
Sunshine Coast Light Rail and North Coast Connect	6P	74
Light Rail (Full A)	7P	75
Light Rail (Full B)	8P	76
Full CAMCOS (A)	9P	77

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3. North Coast Connect (Scenario 3P) 26
4. Sunshine Coast Light Rail (Scenario 4P) 36
5. Sunshine Coast Light Rail and CAMCOS (Scenario 5P) 46
6. Sunshine Coast Light Rail and North Coast Connect (Scenario 6P) 57
7. Light Rail (Full A) (Scenario 7P) 68
8. Light Rail (Full B) (Scenario 8P) 79
9. Full CAMCOS (A) (Scenario 9P) 90

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1. Reference Case (Scenario 1P)

The reference case scenario provides a baseline for comparing against subsequent scenario modelling and uses the reference case road and public transport networks discussed above Figure 1. shows the public transport network used, while rail service frequencies are show in Table 1.

Figure 1: Reference Case PT Network



Table 1: Reference Case Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	Beerwah Landsborough Mooloolah Eudlo Palmwoods Woombye Nambour	4	1	4

1.1 Mode Share

The mode share of person trips generated from sectors within the Sunshine coast is presented in Table 2. At the LGA level, car is the dominant mode (76.6%) with walking & cycling accounting for the second highest share of all trips (21.8%). Public transport mode share is low at 1.6% of all trips.

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Table 2: Person Trip mode share by macro sector of origin

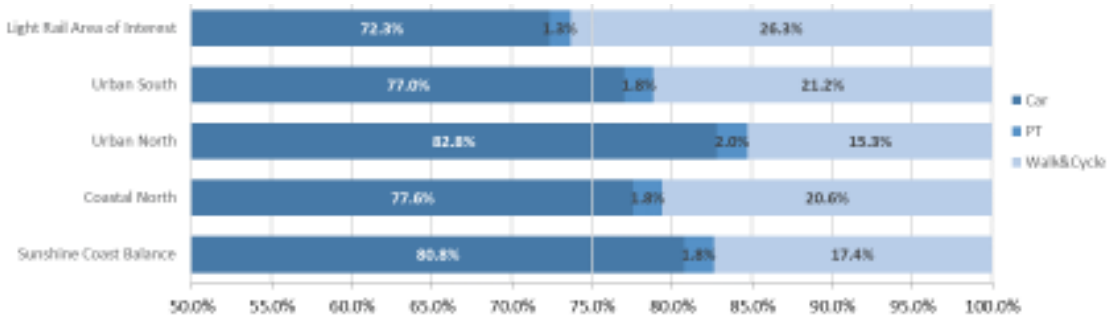
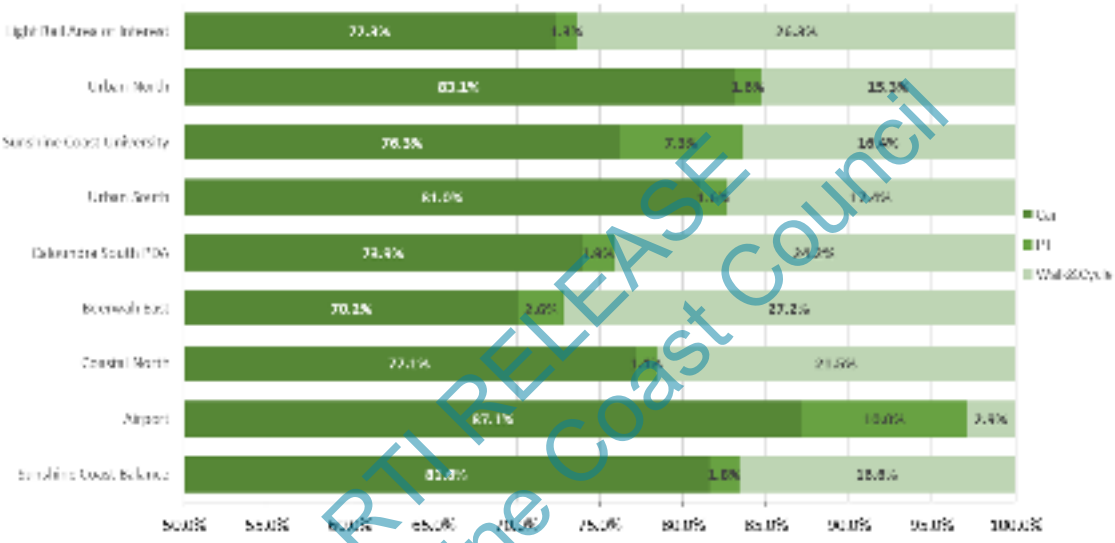


Table 3 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast Local Government Area

Table 3: Person Trip mode share by detailed sector of origin

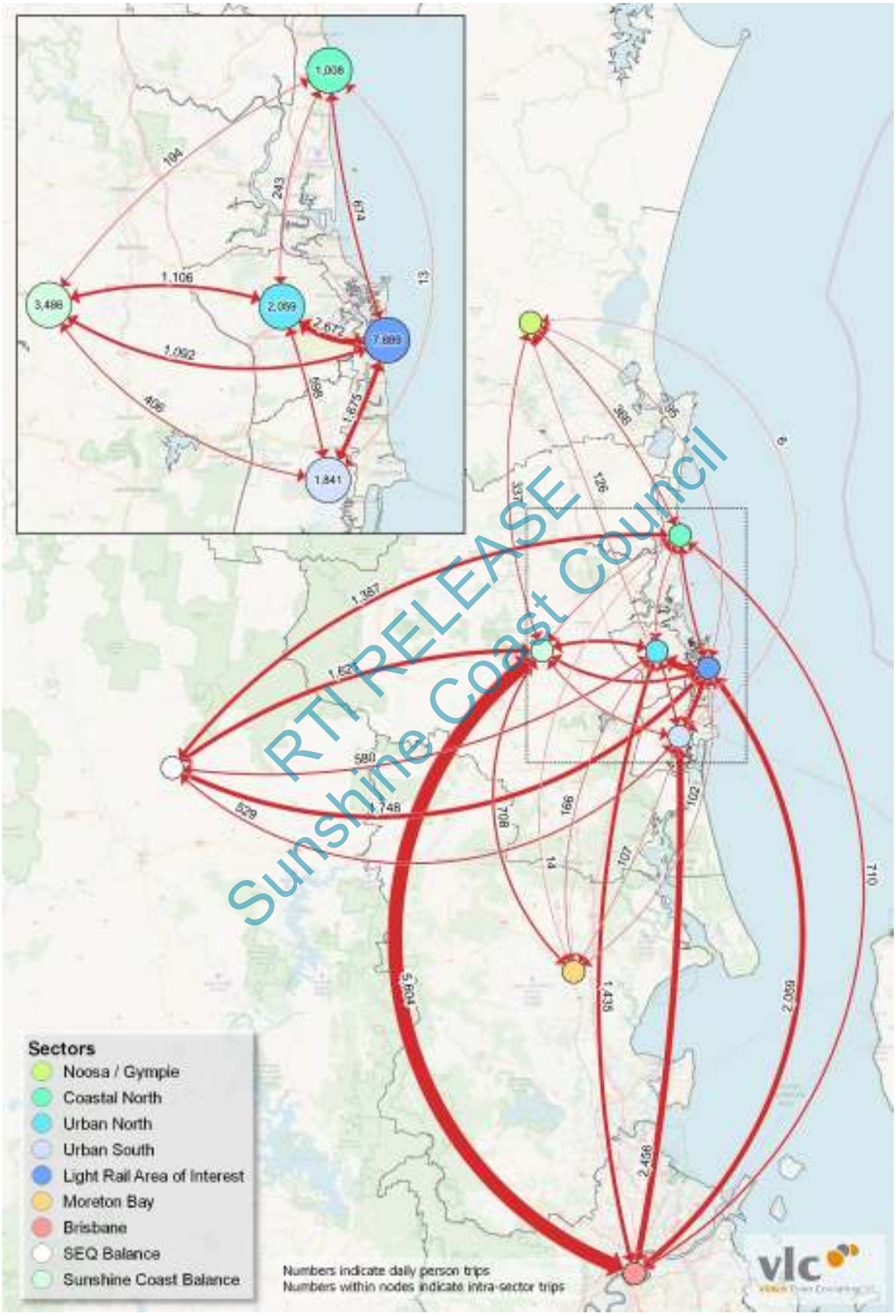


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1.2 Sunshine Coast Trip Self Containment

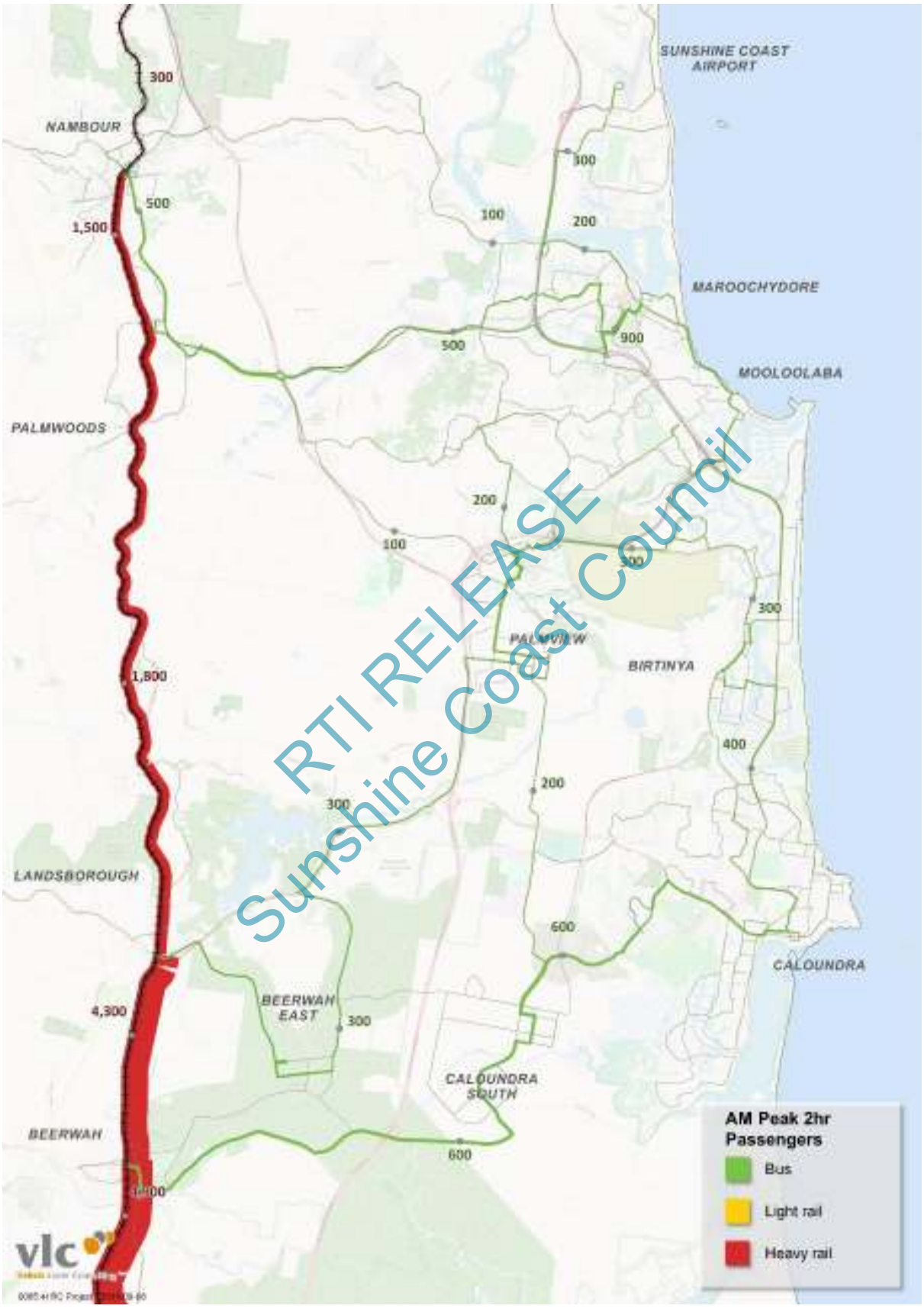
Reference case modelling shows that the Sunshine Coast community makes 2,172,000 trips per day. Of these trips, 94.8% will be satisfied by destinations within the LGA; 1.9% leave for Noosa/Gympie, 1.5% go to Moreton Bay and 1.4% are destined for Brisbane.

1.3 Public Transport Trip Distribution



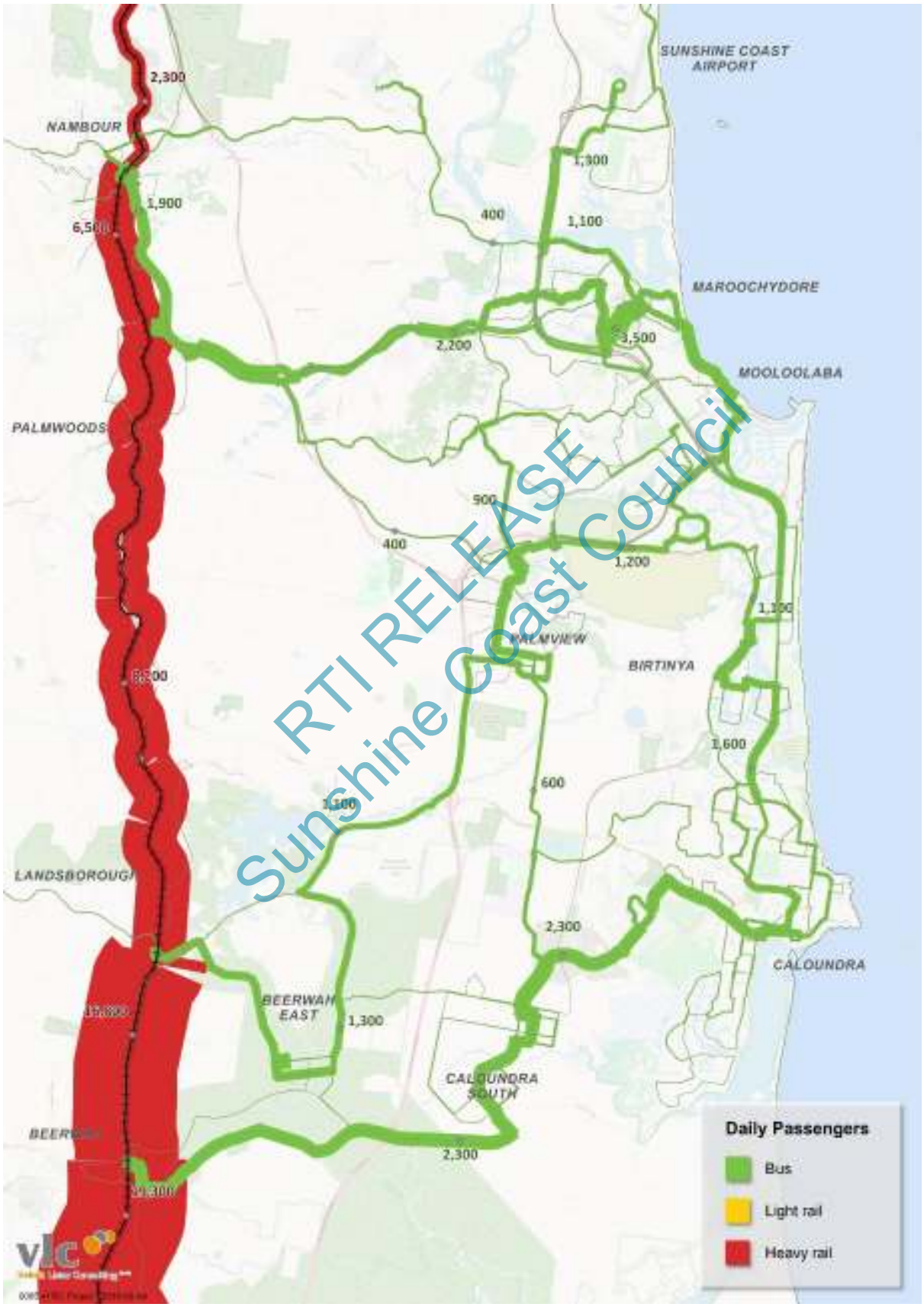
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1.4 AM (2hr) Public Transport Passenger Loads



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1.5 Daily Public Transport Passenger Loads



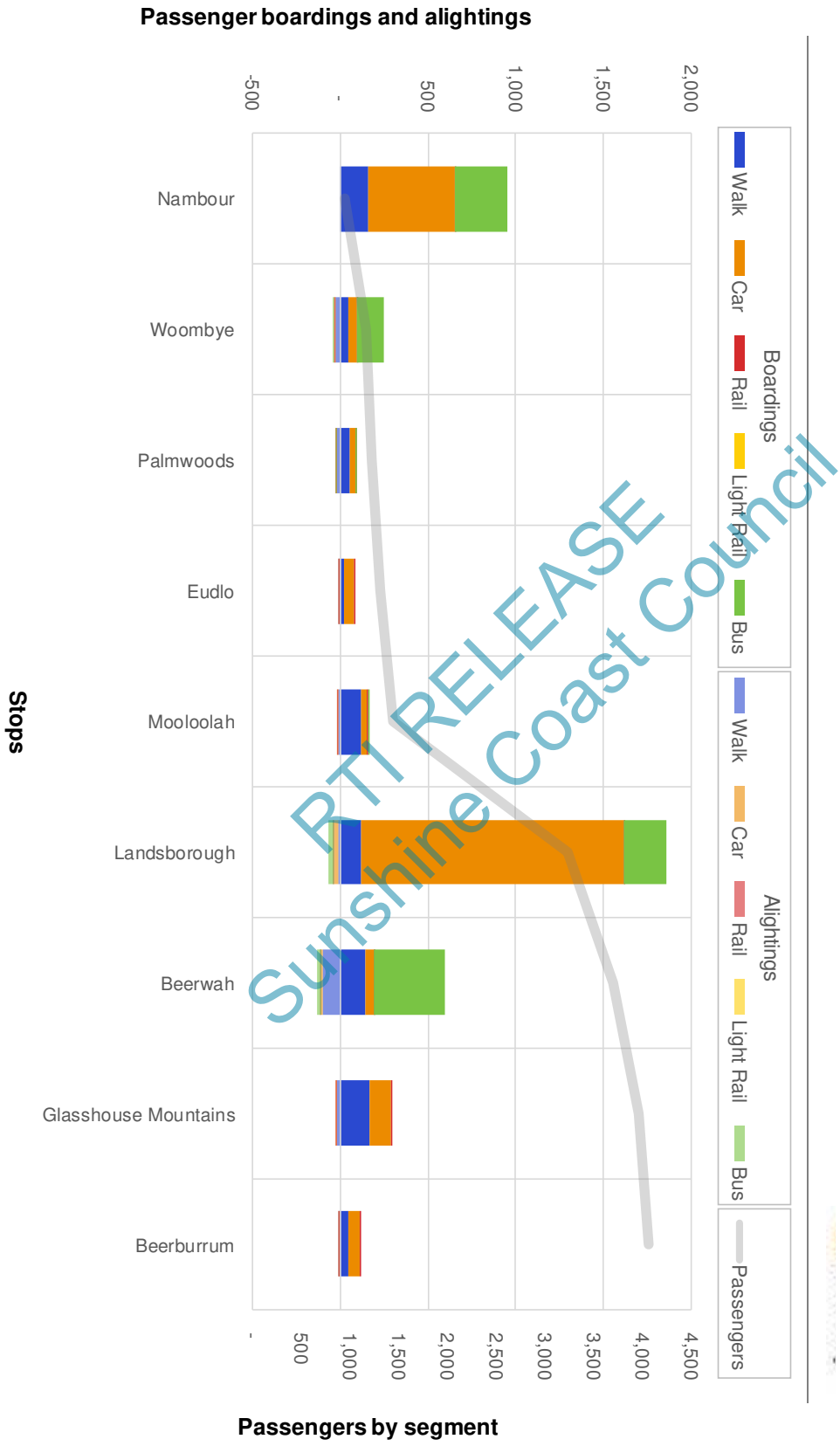
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1.6 Daily Station Access by Mode



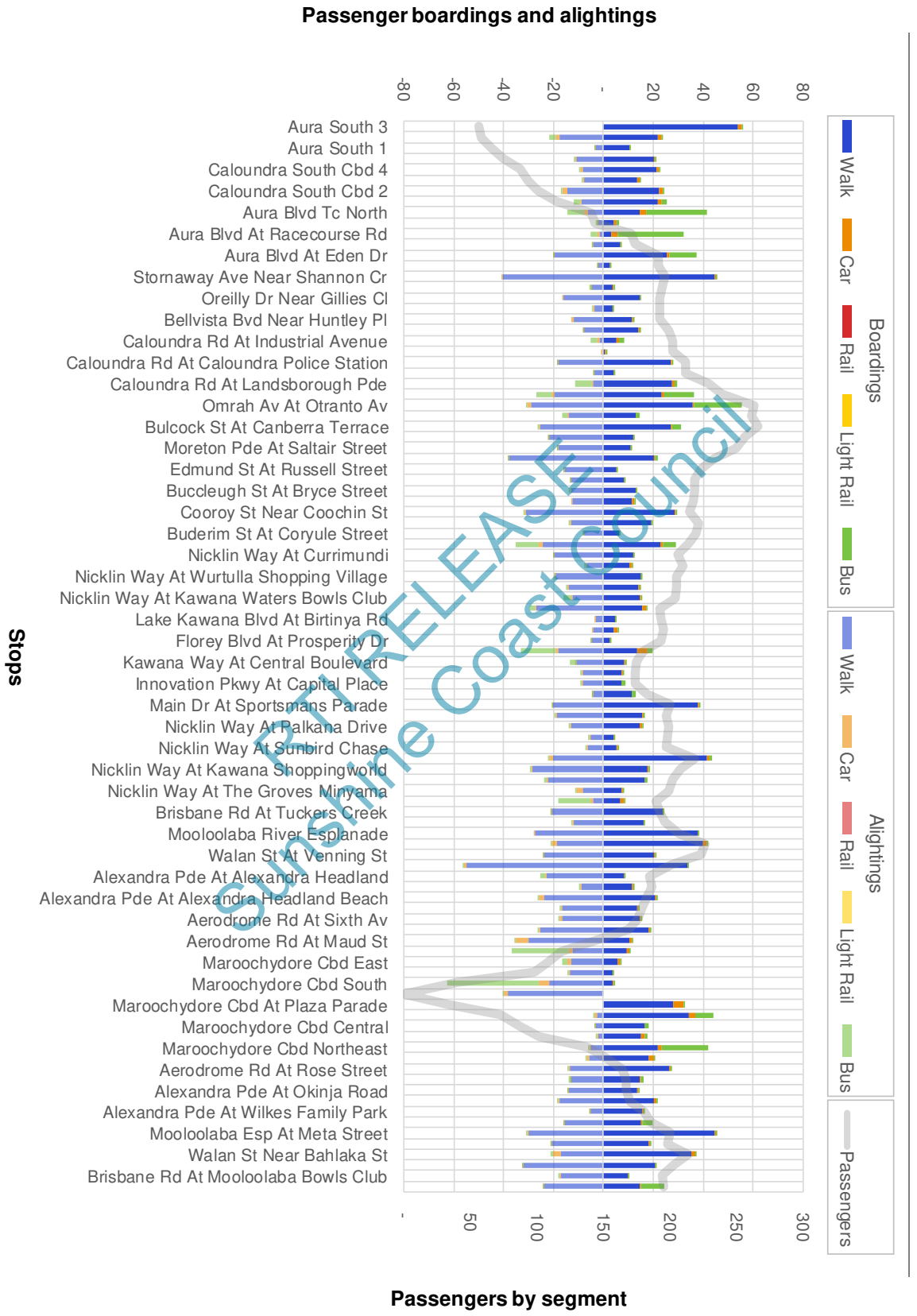
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1.7 North Coast Rail Line Utilisation



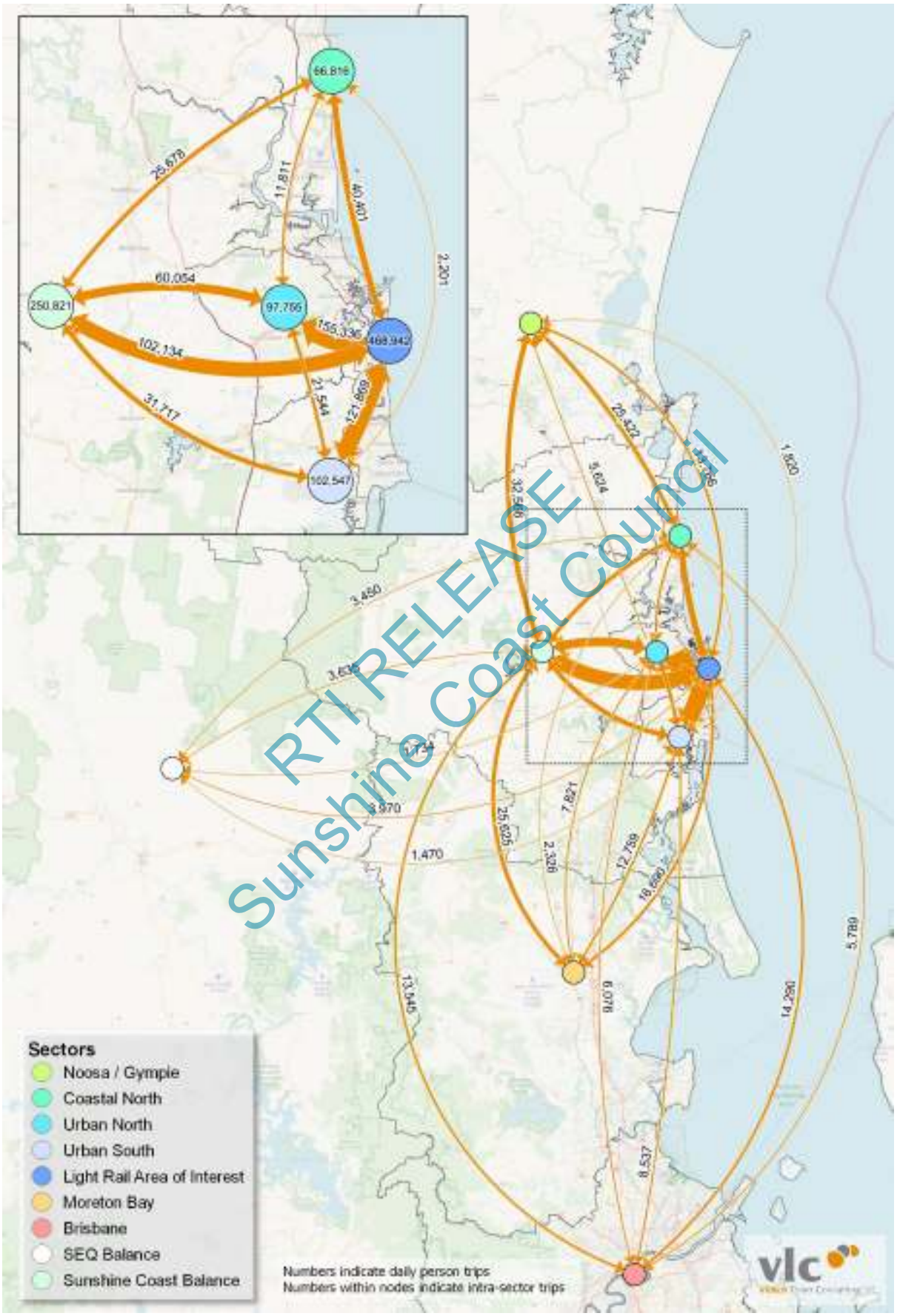
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1.8 600 Bus Route Utilisation



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1.9 Private Vehicle Trip Distribution



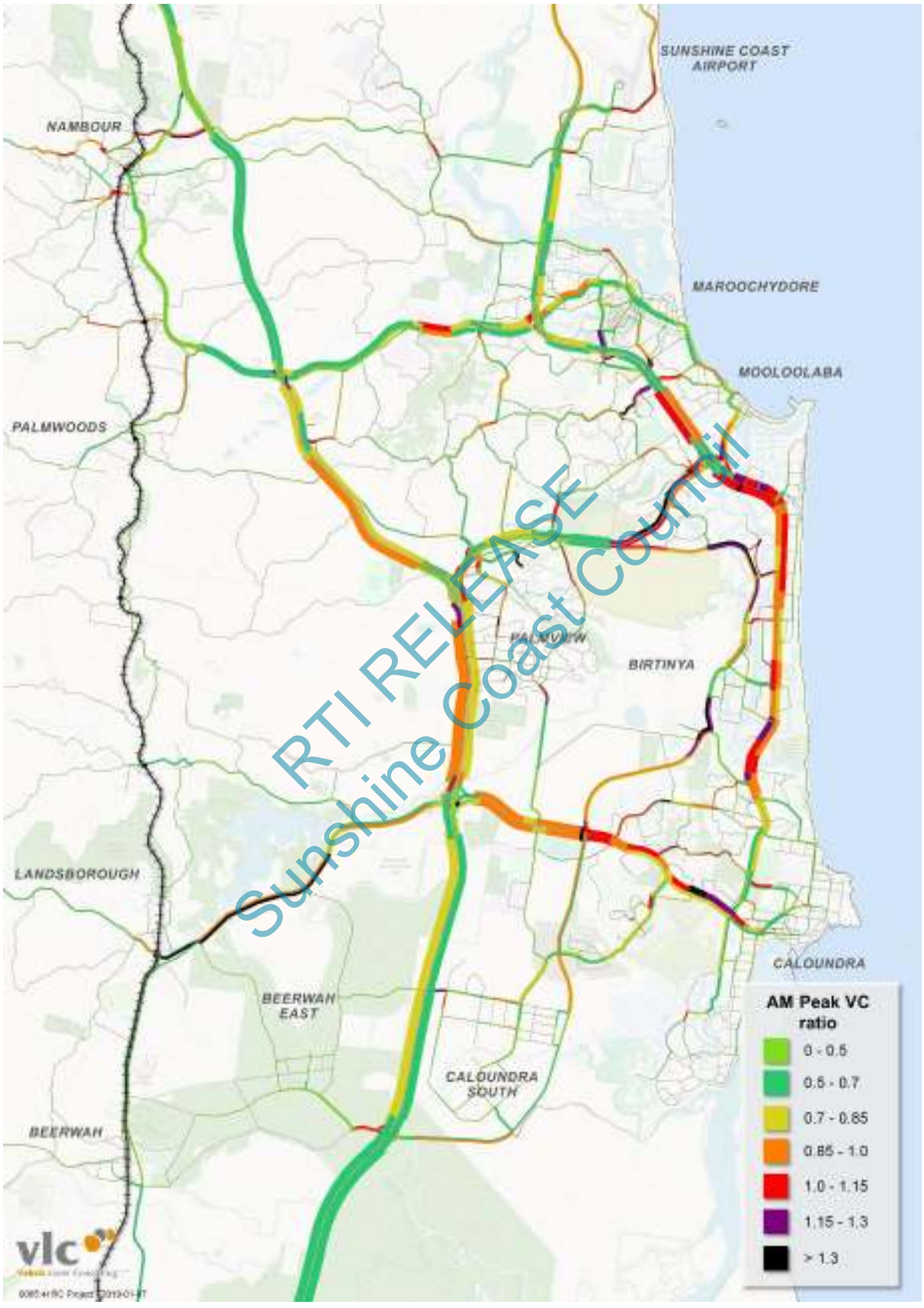
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1.10 Daily Vehicle Loads



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1.11 AM Peak Volume to Capacity Ratio



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2. CAMCOS (Scenario 2P)

The with CAMCOS network includes the CAMCOS rail line and amendments to the reference case bus routes that enable passengers to interchange at CAMCOS stations. Figure 2 shows the modelled PT network including the CAMCOS Rail line and its stations; new bus stops for interchanges, and routes that have been amended to facilitate network integration. Table 4 shows rail service frequencies.

Figure 2: With CAMCOS PT Network (2B)



Table 4: CAMCOS Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	As per Reference Case	3	1	3
CAMCOS Corridor (Standard Train)	Beerwah Beerwah East Caloundra South Pelican Waters Caloundra Aroona Creekside Kawana Parrearra Mountain Creek Maroochydore Kuluin Pacific Paradise SC Airport	3	2	3

2.1 Mode Share

The mode share of person trips generated from sectors within the Sunshine coast is presented in Table 5. At the LGA level, car is the dominant mode (76.2%) with walking & cycling accounting for the second highest share of all trips (21.7%). Public transport mode share is low at 2.2% of all trips.

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Table 5: Person Trip mode share by macro sector of origin

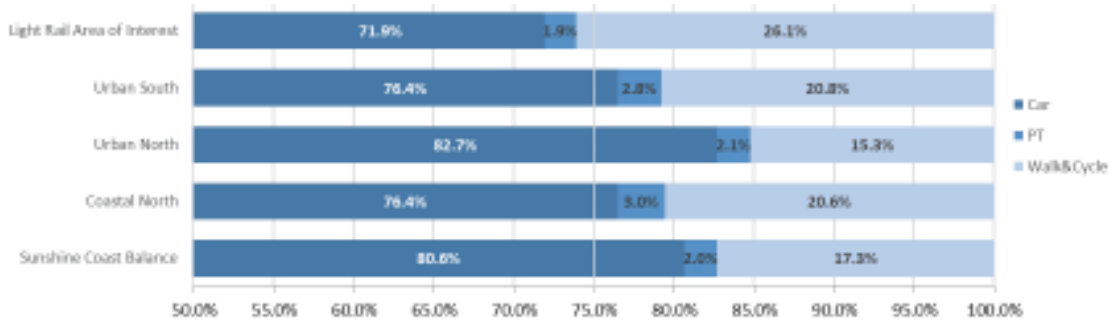
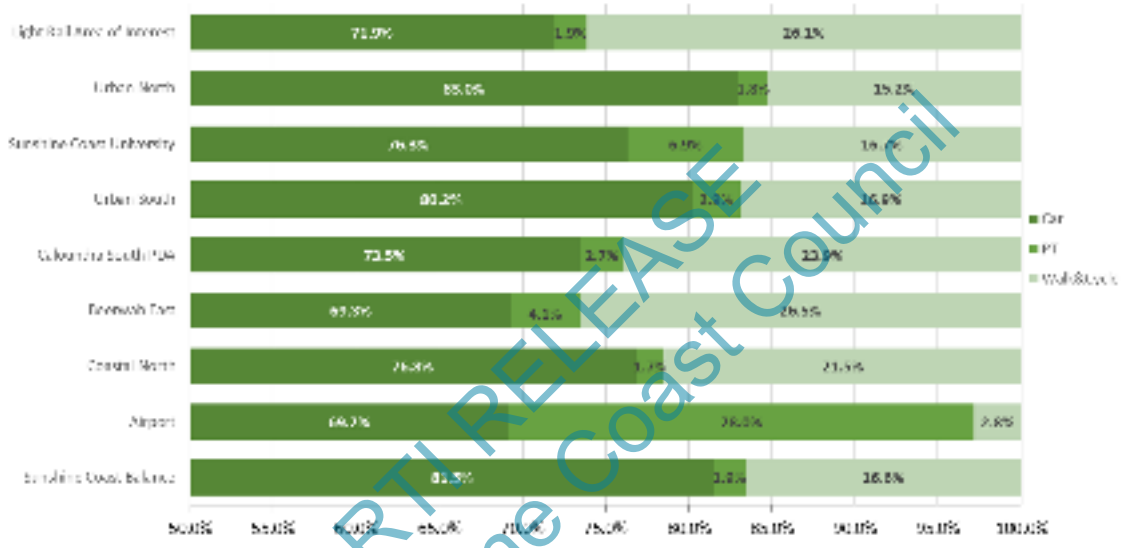


Table 6 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast Local Government Area.

*Table 6: Person Trip mode share by **detailed** sector of origin*

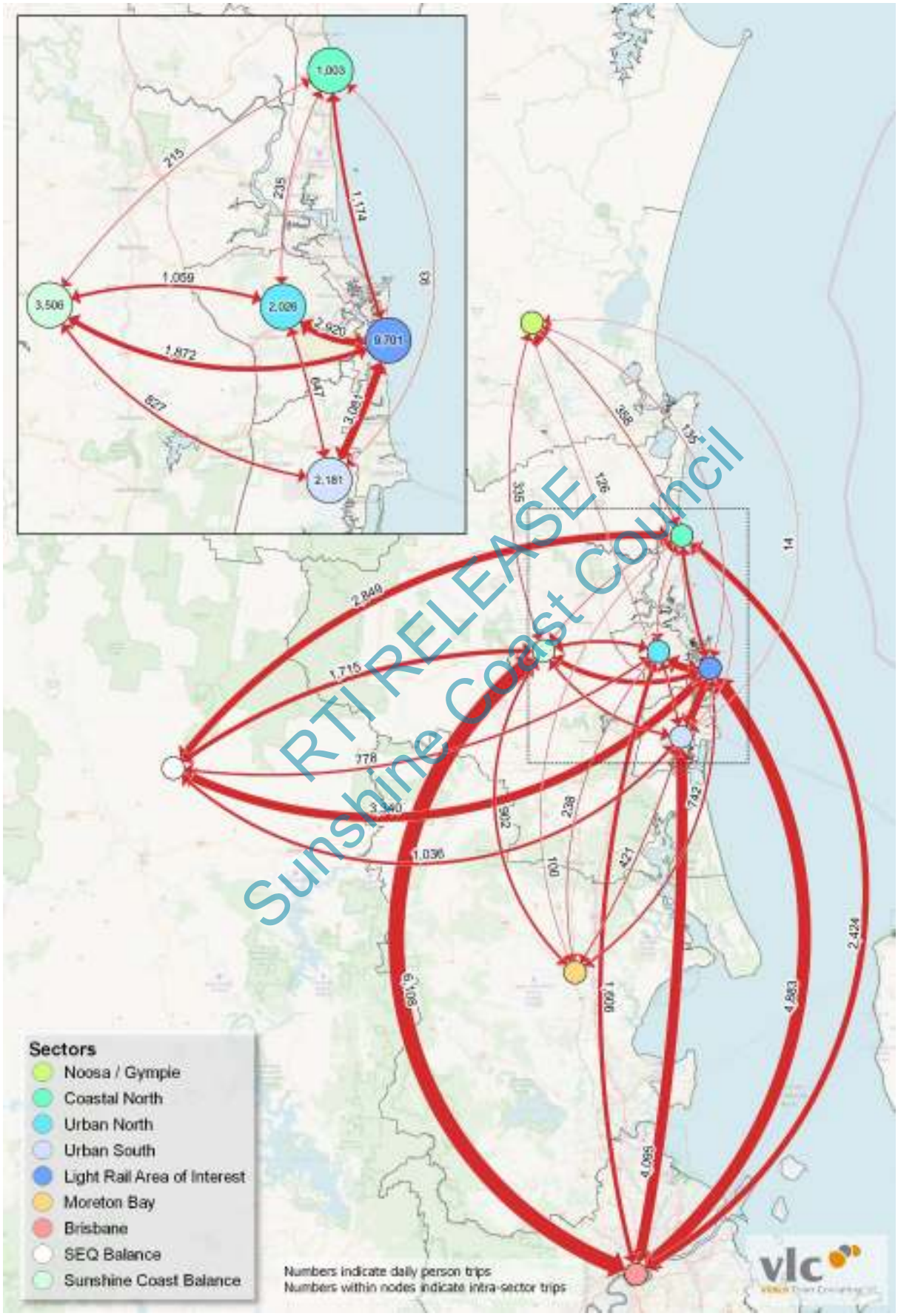


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2.2 Sunshine Coast Trip Self Containment

The with CAMCOS modelling shows that the Sunshine Coast community makes 2,171,900 trips per day. Of these trips, 94.7% will be satisfied by destinations within the LGA; 1.9% leave for Noosa/Gympie, 1.6% go to Moreton Bay and 1.4% are destined for Brisbane.

2.3 Public Transport Trip Distribution

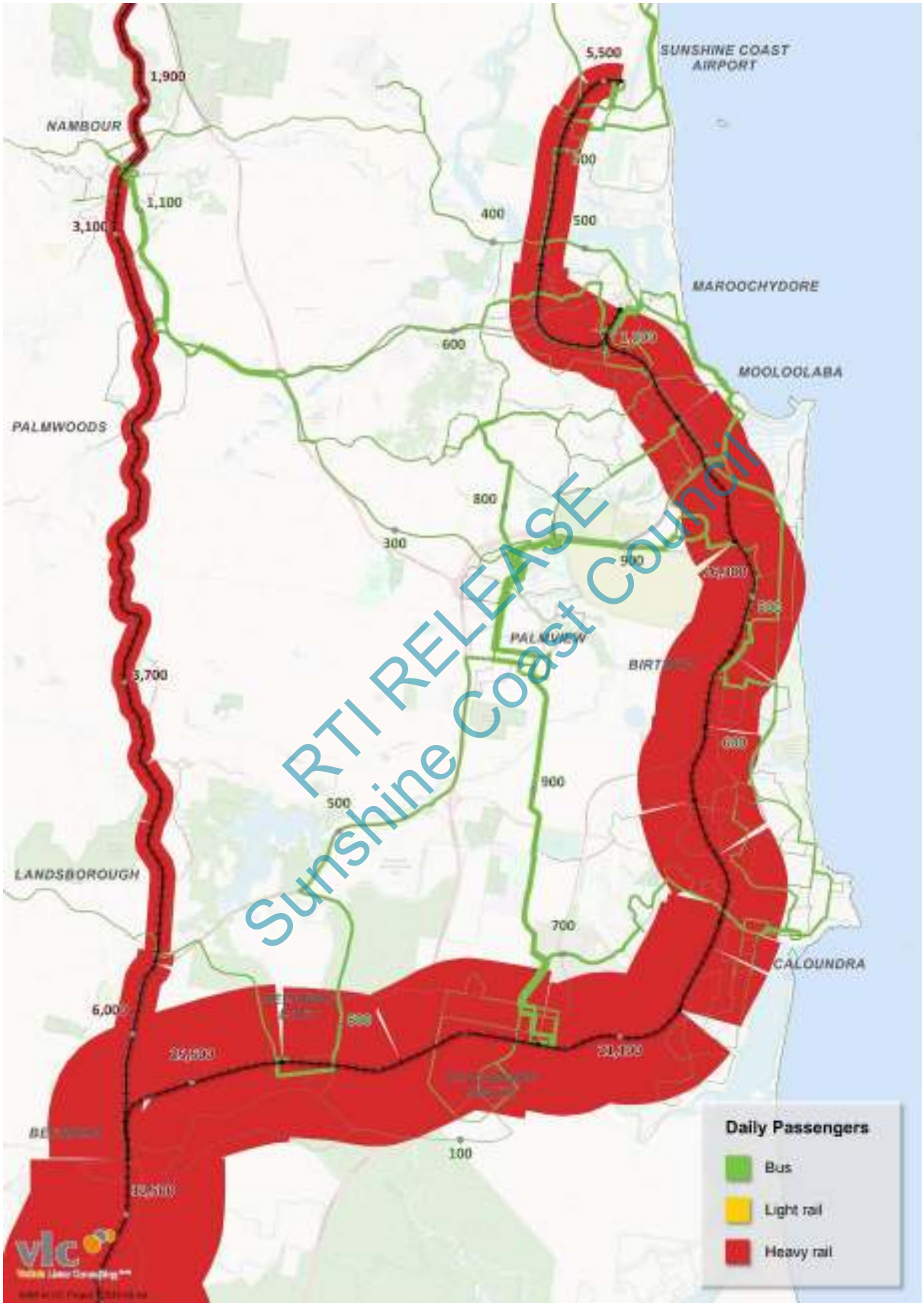


2.4 AM (2hr) Public Transport Passenger Loads



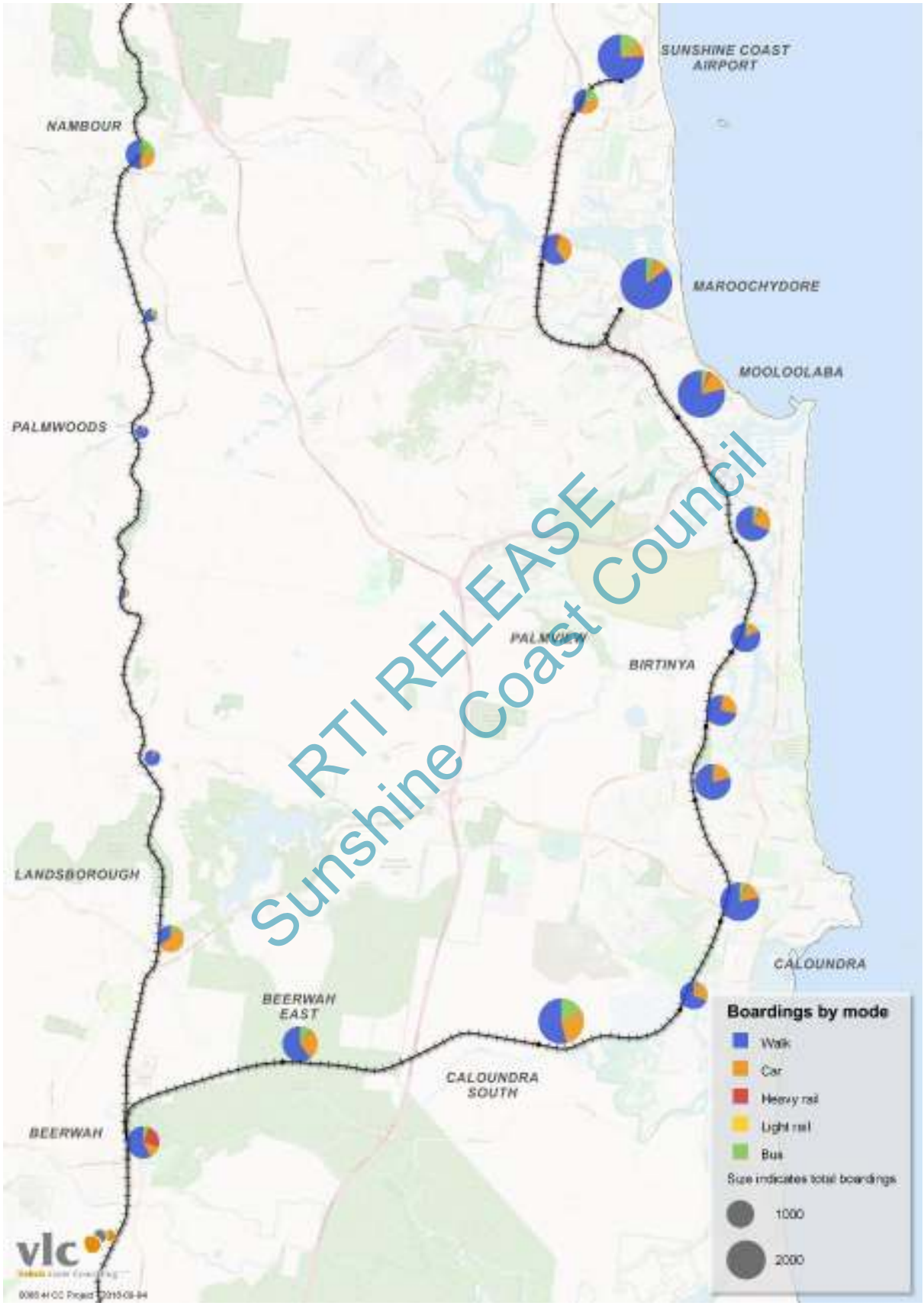
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2.5 Daily Public Transport Passenger Loads



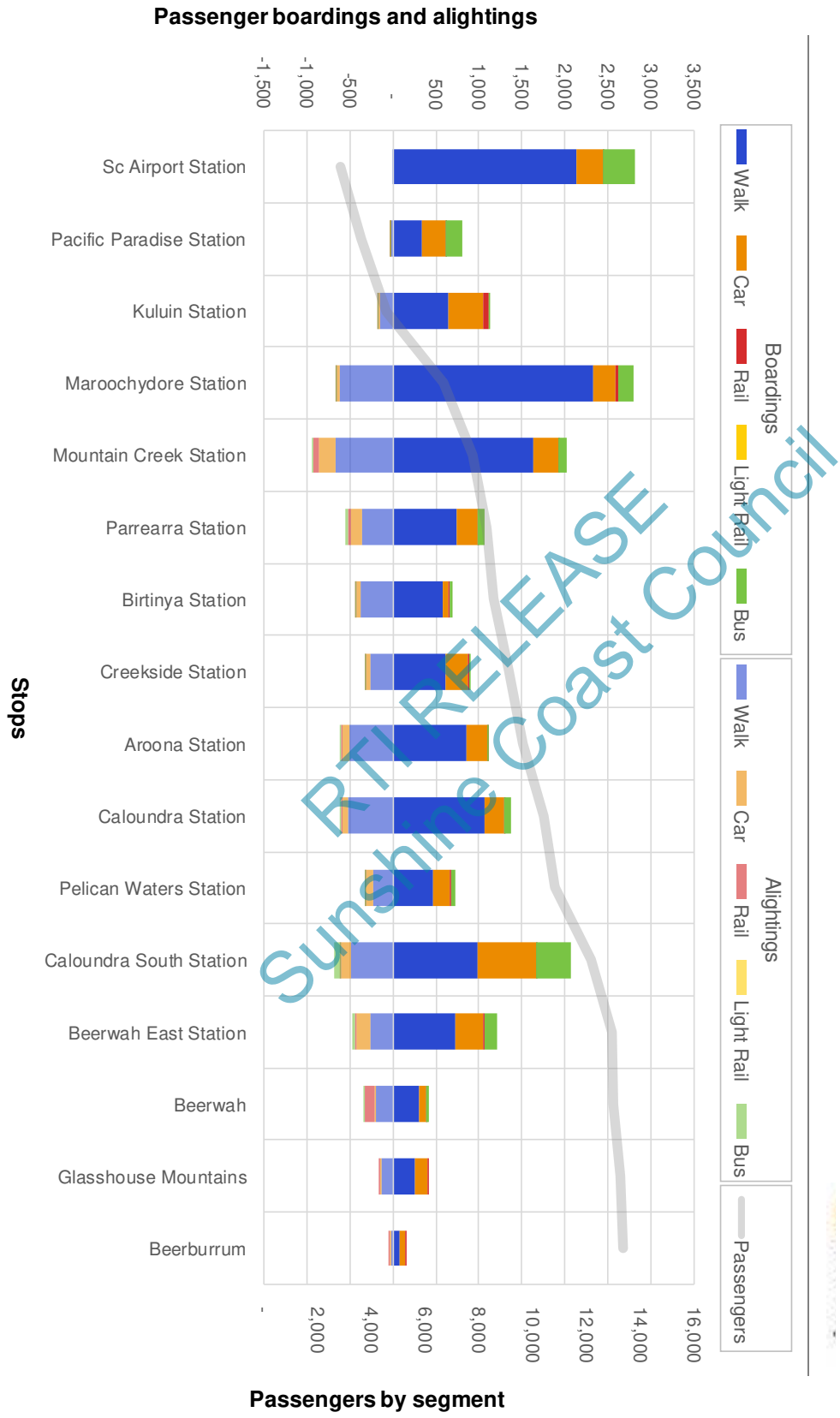
RTI RELEASE
Sunshine Coast Council

2.6 Daily Station Access by Mode



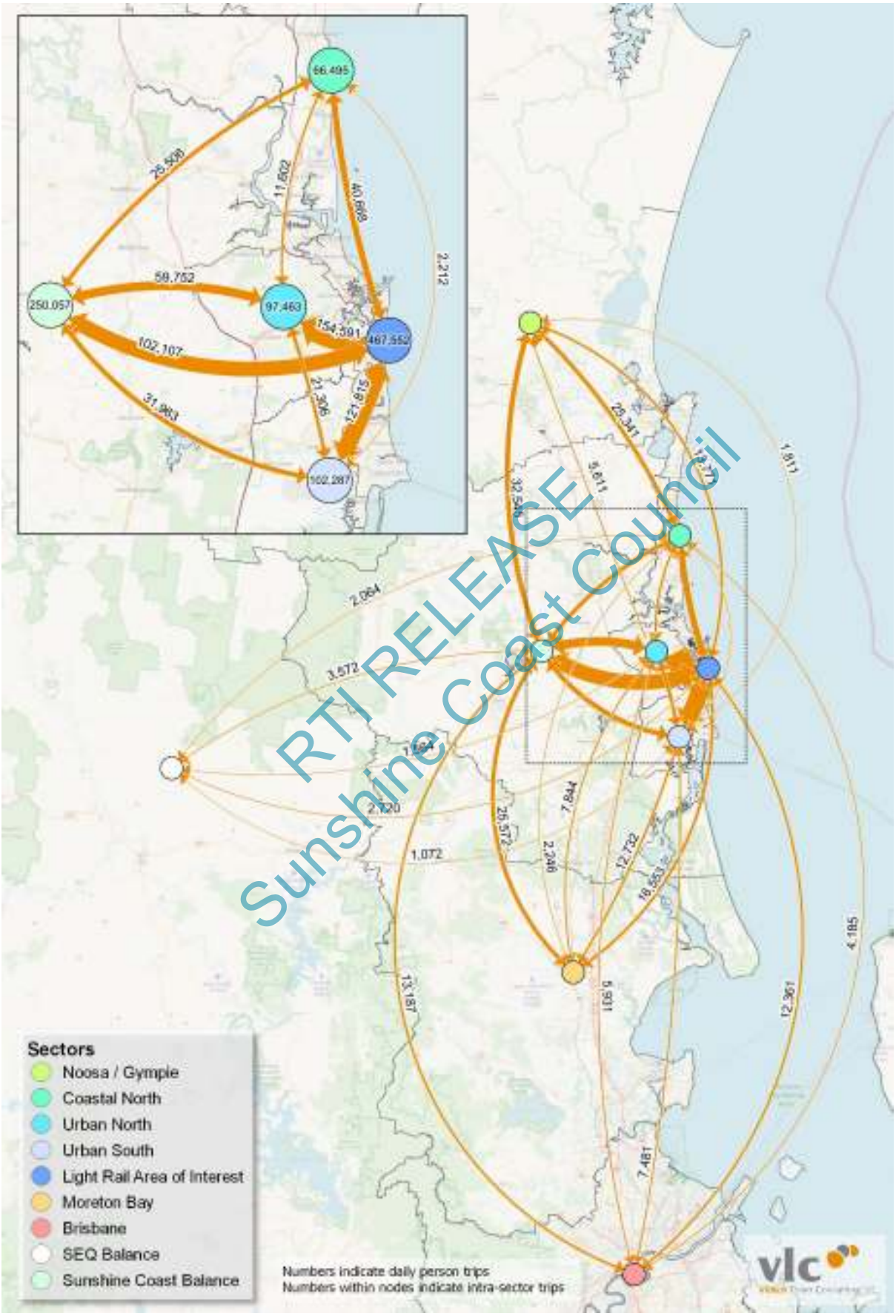
RTI RELEASE
Sunshine Coast Council

2.7 CAMCOS Utilisation (Southbound)



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2.8 Private Vehicle Trip Distribution



RTI RELEASE
Sunshine Coast Council

2.9 Daily Vehicle Loads



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2.10 AM Peak Volume to Capacity



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3. North Coast Connect (Scenario 3P)

The with North Coast Connect scenario includes faster rail services from Brisbane to Nambour and Maroochydore. Amendments to the reference case bus routes have been made to facilitate passenger interchange at the North Coast Connect stations. Figure 3 shows the modelled PT network including the North Coast Connect Rail line and its stations; new bus stops for interchanges, and routes that have been amended to facilitate network integration.

Table 7 shows rail service frequencies.

Figure 3: With North Coast Connect PT Network



Table 7: North Coast Connect Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	As per Reference Case	2	1	2
Nambour Line (Fast Train – 45 minutes to Brisbane)	Beerwah Landsborough Nambour	2	1	2
CAMCOS Corridor (Fast Train – 45 minutes to Brisbane)	Beerwah Caloundra South Caloundra Kawana Maroochydore SC Airport	2	2	2

3.1 Mode Share

The mode share of person trips generated from sectors within the Sunshine coast is presented in Table 8. At the LGA level, car is the dominant mode (76.1%) with walking & cycling accounting for the second highest share of all trips (21.7%). Public transport mode share is low at (2.2%) of all trips.

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Table 8: Person trip mode share by macro sector of origin

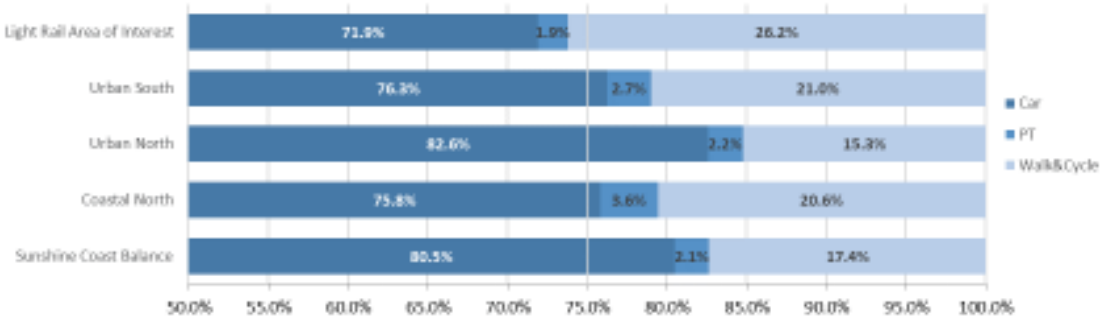
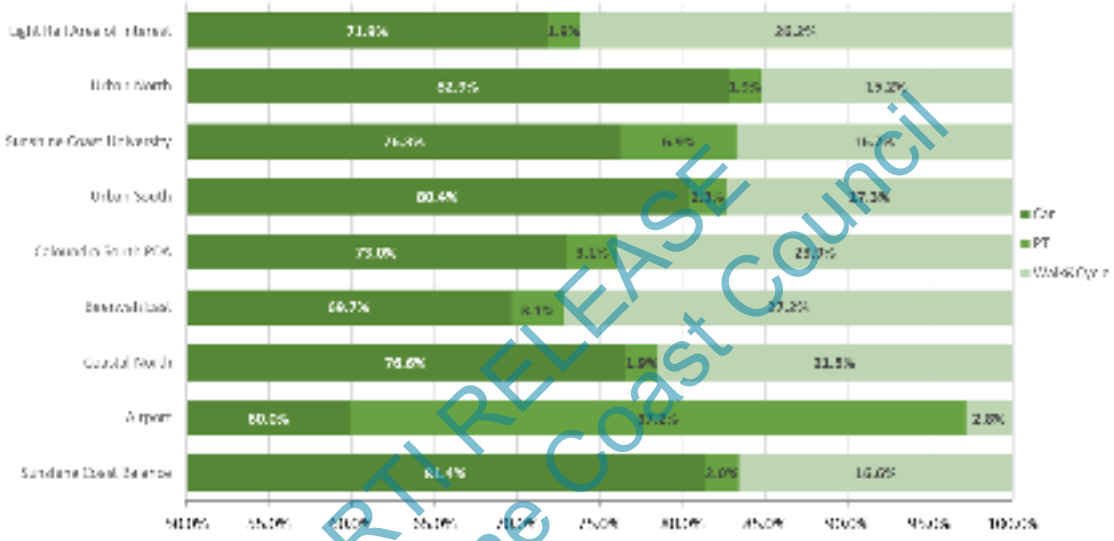


Table 9 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast.

Table 9: Person trip mode share by detailed sector of origin

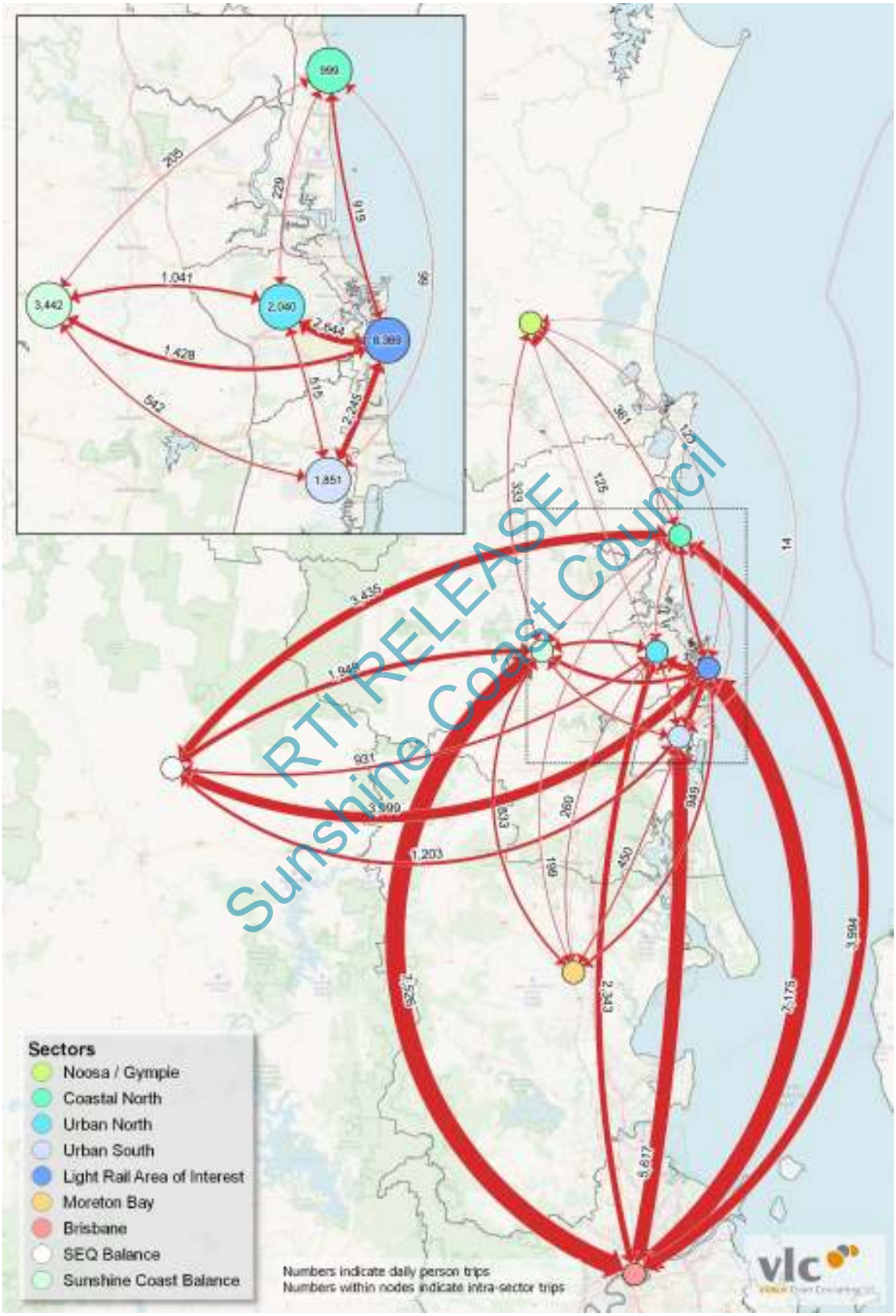


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3.2 Sunshine Coast Trip Self Containment

With North Coast Connect modelling shows that the Sunshine Coast community makes 2,170,100 trips per day. Of these trips, 94.6% will be satisfied by destinations within the LGA; 1.8% leave for Noosa/Gympie, 1.5% go to Moreton Bay and 1.5% are destined for Brisbane.

3.3 Public Transport Trip Distribution



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3.4 AM (2hr) Public Transport Passenger Loads



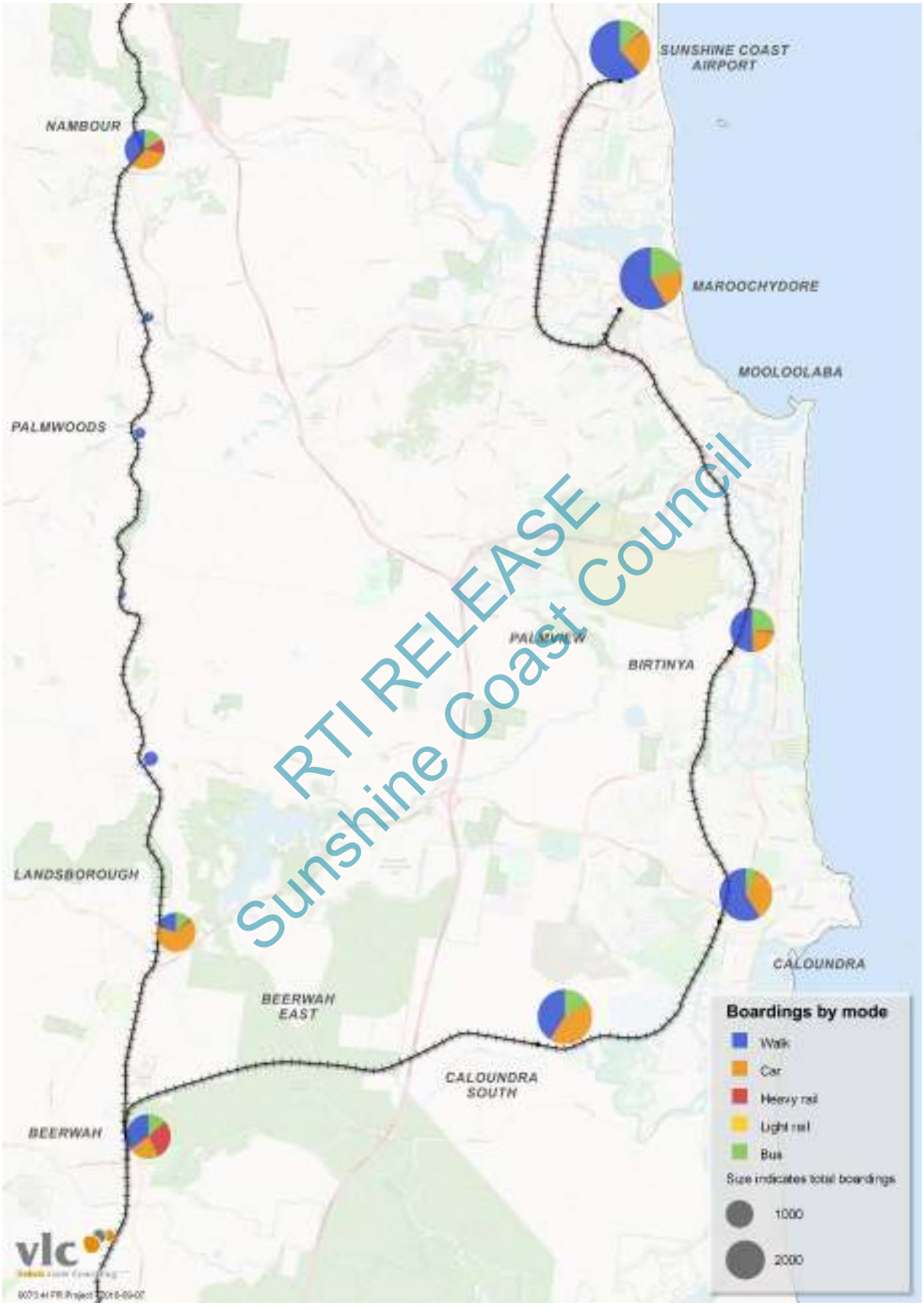
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3.5 Daily Public Transport Passenger Loads



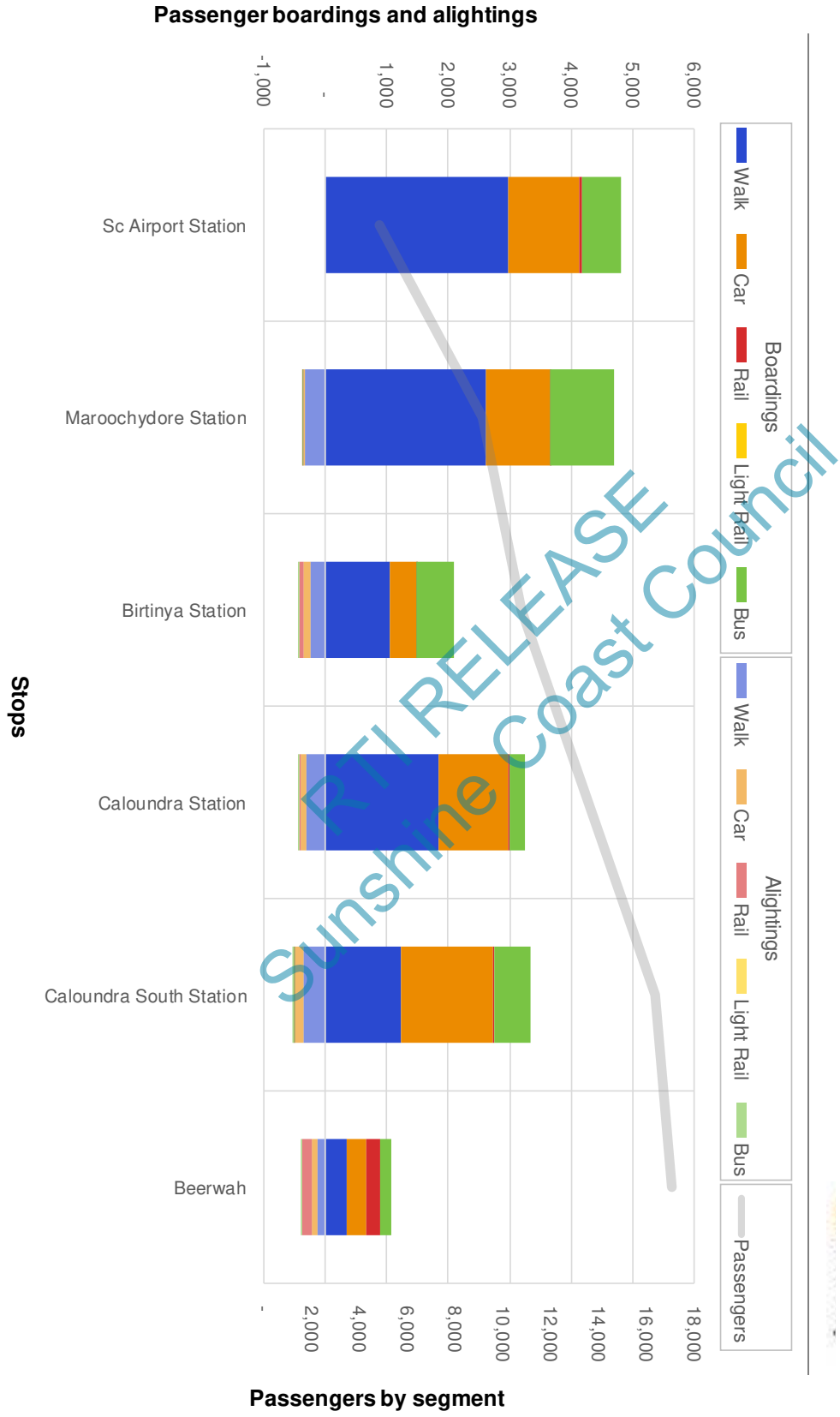
RTI RELEASE
Sunshine Coast Council

3.6 Daily Station Access by Mode



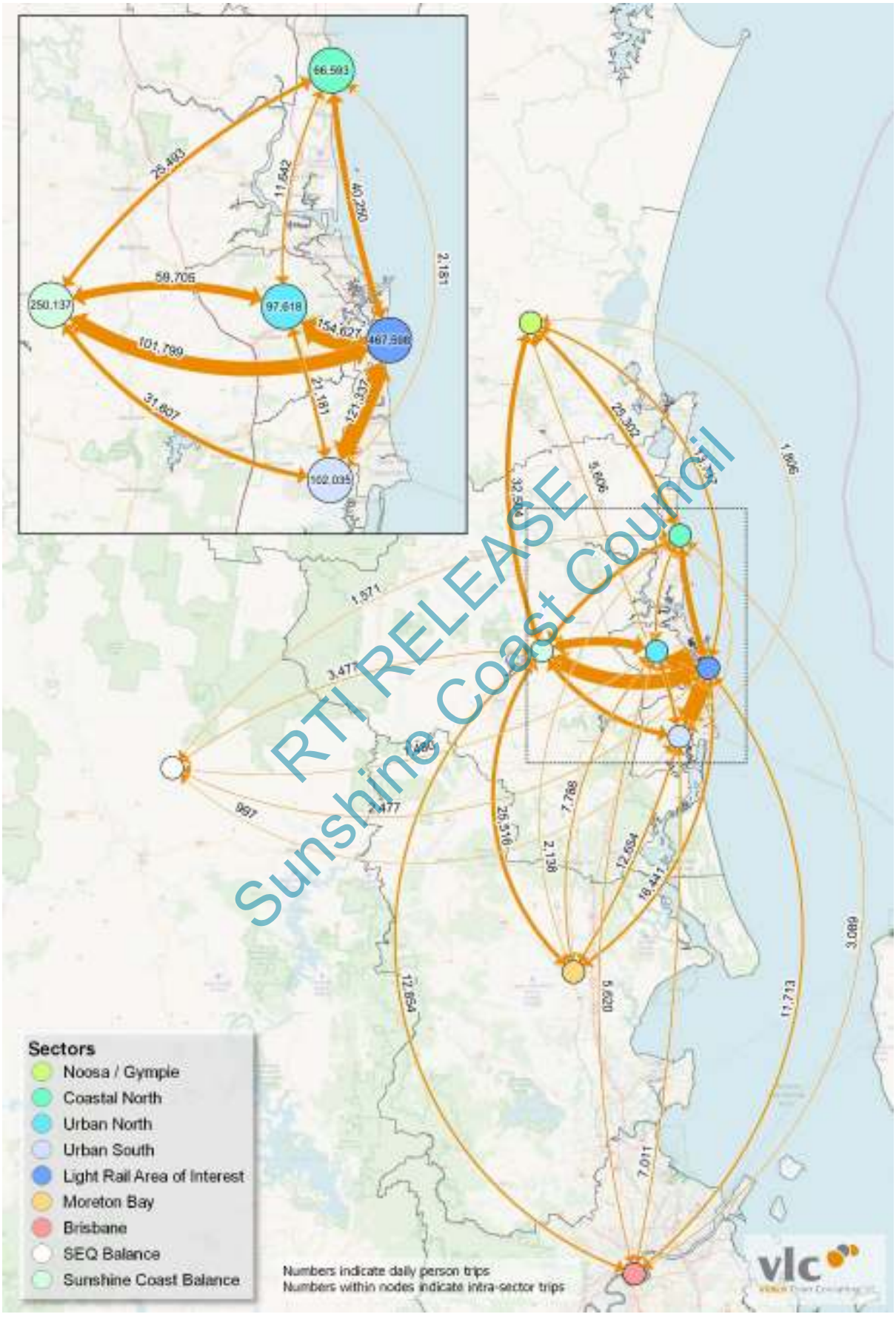
RTI RELEASE
Sunshine Coast Council

3.7 Maroochydore to Brisbane - North Coast Connect



RTI RELEASE
Sunshine Coast Council

3.8 Private Vehicle Trip Distribution



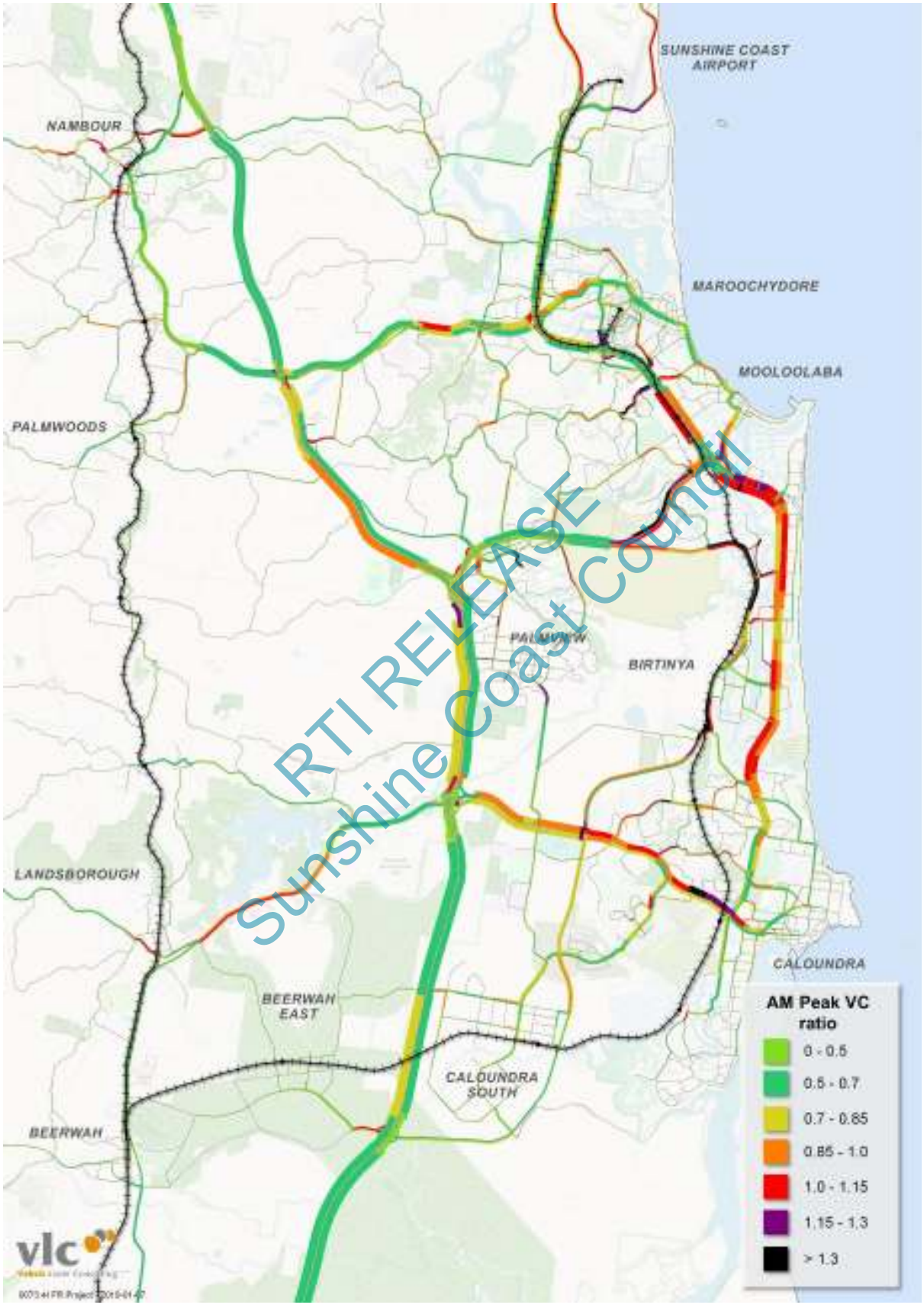
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3.9 Daily Vehicle loads



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3.10 AM Peak Volume to Capacity



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Sunshine Coast Council



4. Sunshine Coast Light Rail (Scenario 4P)

The Sunshine Coast Light Rail scenario includes light rail connection from Caloundra to Maroochydore. Amendments to reference case bus routes have been made to facilitate passenger interchange at light rail stations. Figure 4 shows the modelled PT network including Sunshine Coast Light Rail and its stations; new bus stops for interchanges, and bus routes that have been amended to facilitate network integration.

Table 10 shows rail frequencies.

Table 10: Light Rail Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	As per Reference Case	4	1	4
Light Rail Caloundra to Maroochy-dore	Nutley St Regent St Queen St Mooya St Currimundi Marketplace Piringa St Moondara Dr Wurley Dr Lake Kawana Blvd Doherty St Lake Kawana Blvd Capital Pl Sportsman Pde Minkara St Kawana Island Dr Koorin Dr Kawana Shoppingworld Jessica Blvd Amarina Av Pangarinda Pl Foote St First Av Buderim Av Mari St Maroubra St Maud St Plaza Pde	8	8	8

Figure 4: Light Rail PT Network



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4.1 Mode Share

The mode share of person trips generated from sectors within the Sunshine coast is presented in Table 11. At the LGA level, car is the dominant mode (76%) with walking & cycling accounting for the second highest share of all trips (21.6%). Public transport accounts for 2.4% of all trips.

Table 11: Person trip mode share by macro sector of origin

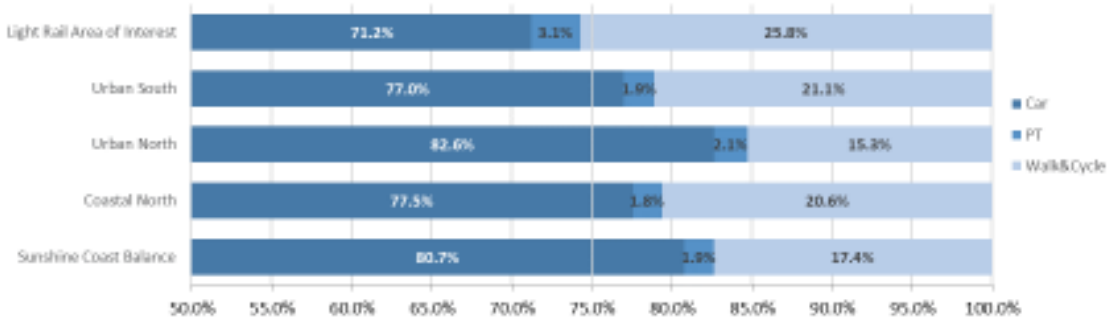
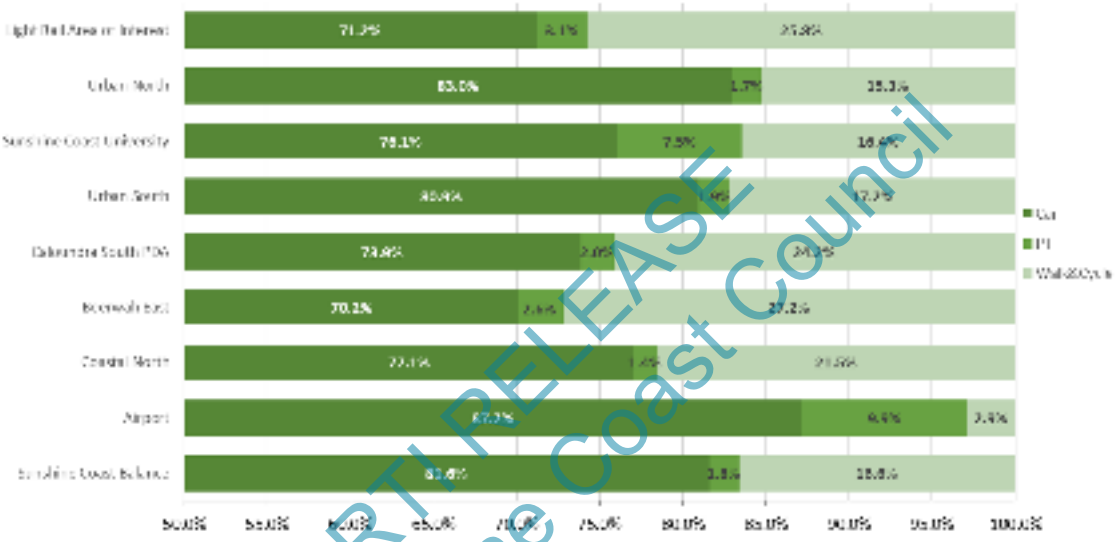


Table 12 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast.

Table 12: Person trip mode share by detailed sector of origin

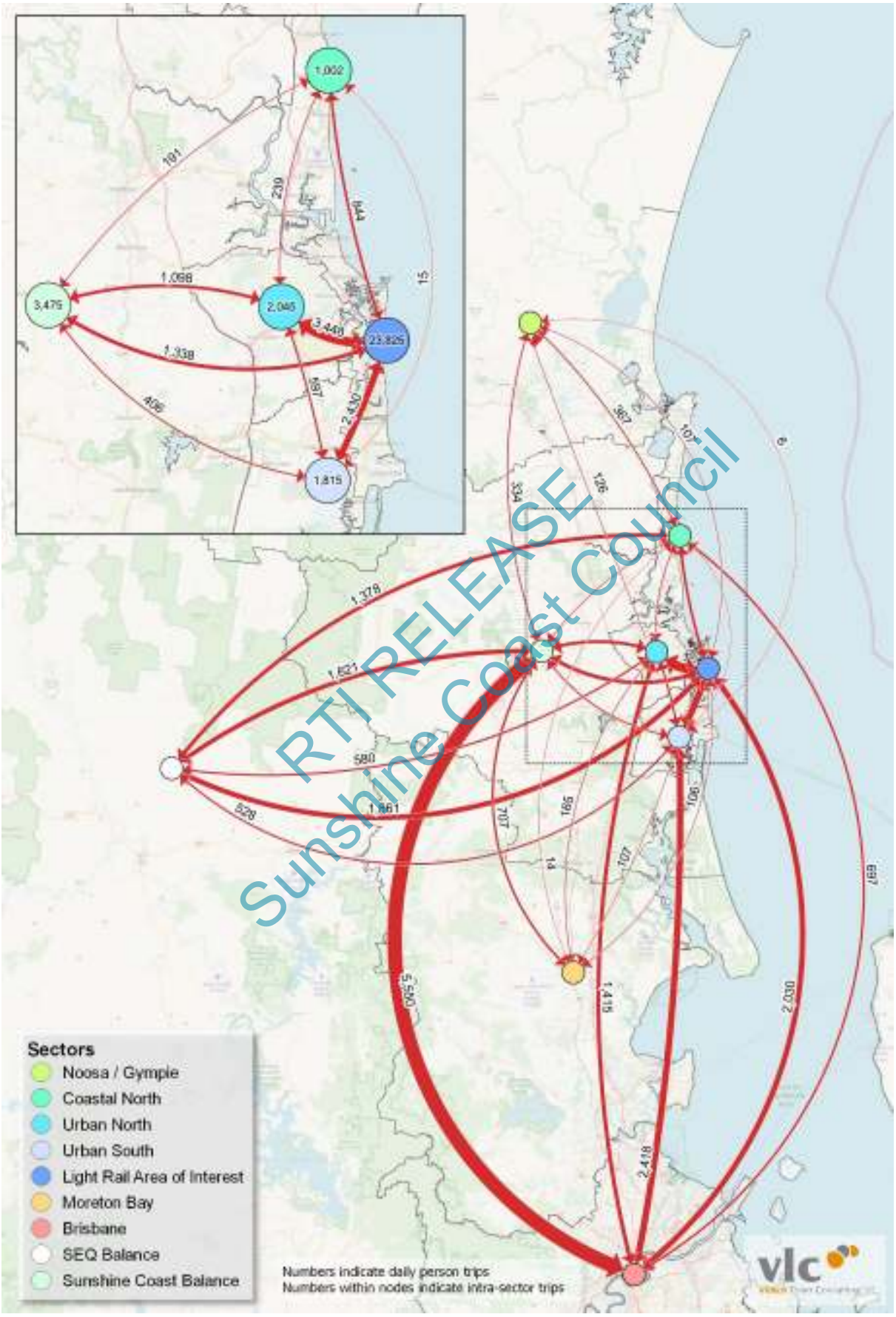


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4.2 Sunshine Coast Trip Self Containment

With Light Rail modelling shows that the Sunshine Coast community makes 2,172,200 trips per day. 94.8% of these trips will be satisfied by destinations within the LGA; 1.9 % are destined for Noosa/Gympie, 1.5% to Moreton Bay and 1.4% to Brisbane.

4.3 Public Transport Trip Distribution



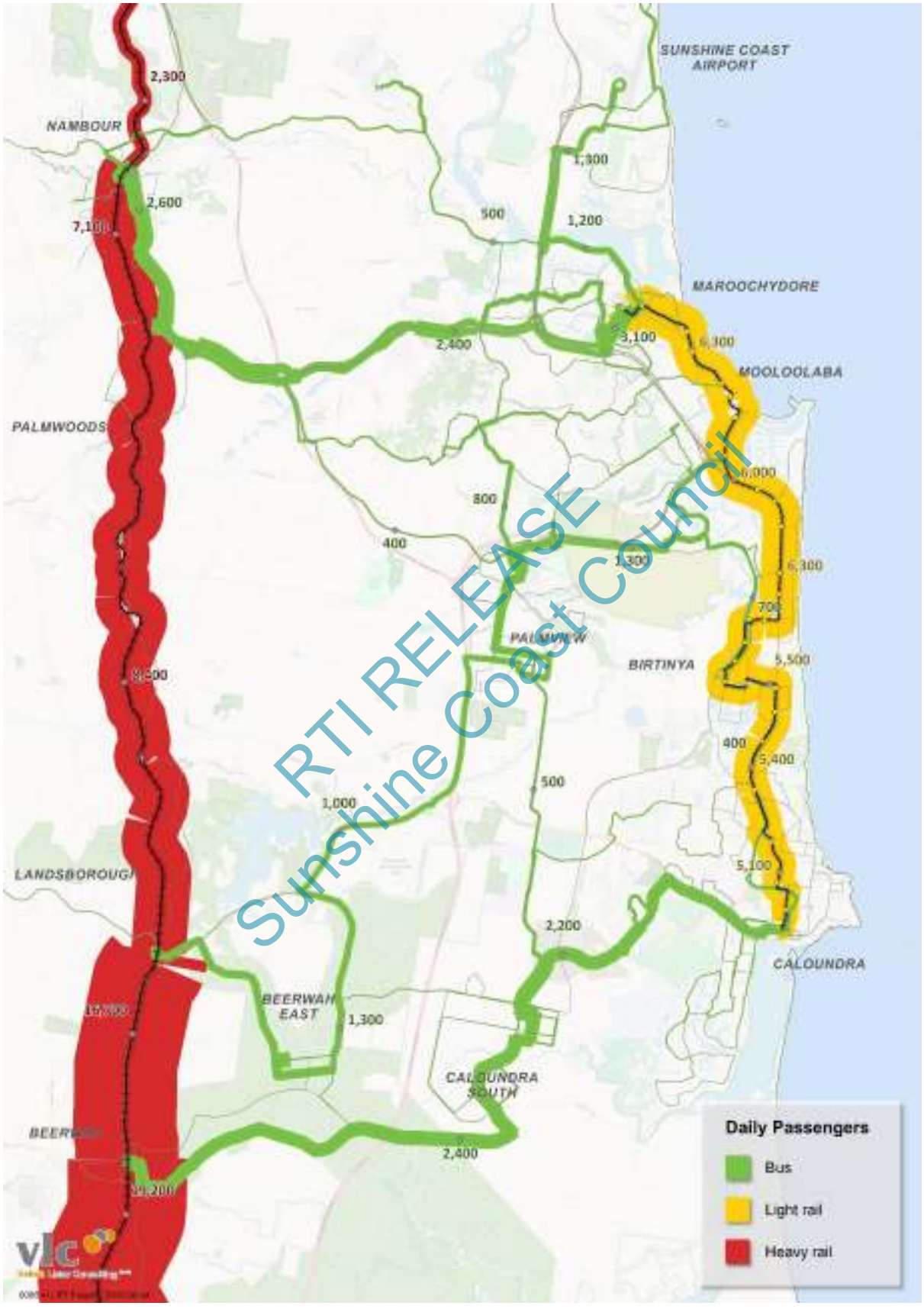
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4.4 AM (2hr) Public Transport Passenger Loads



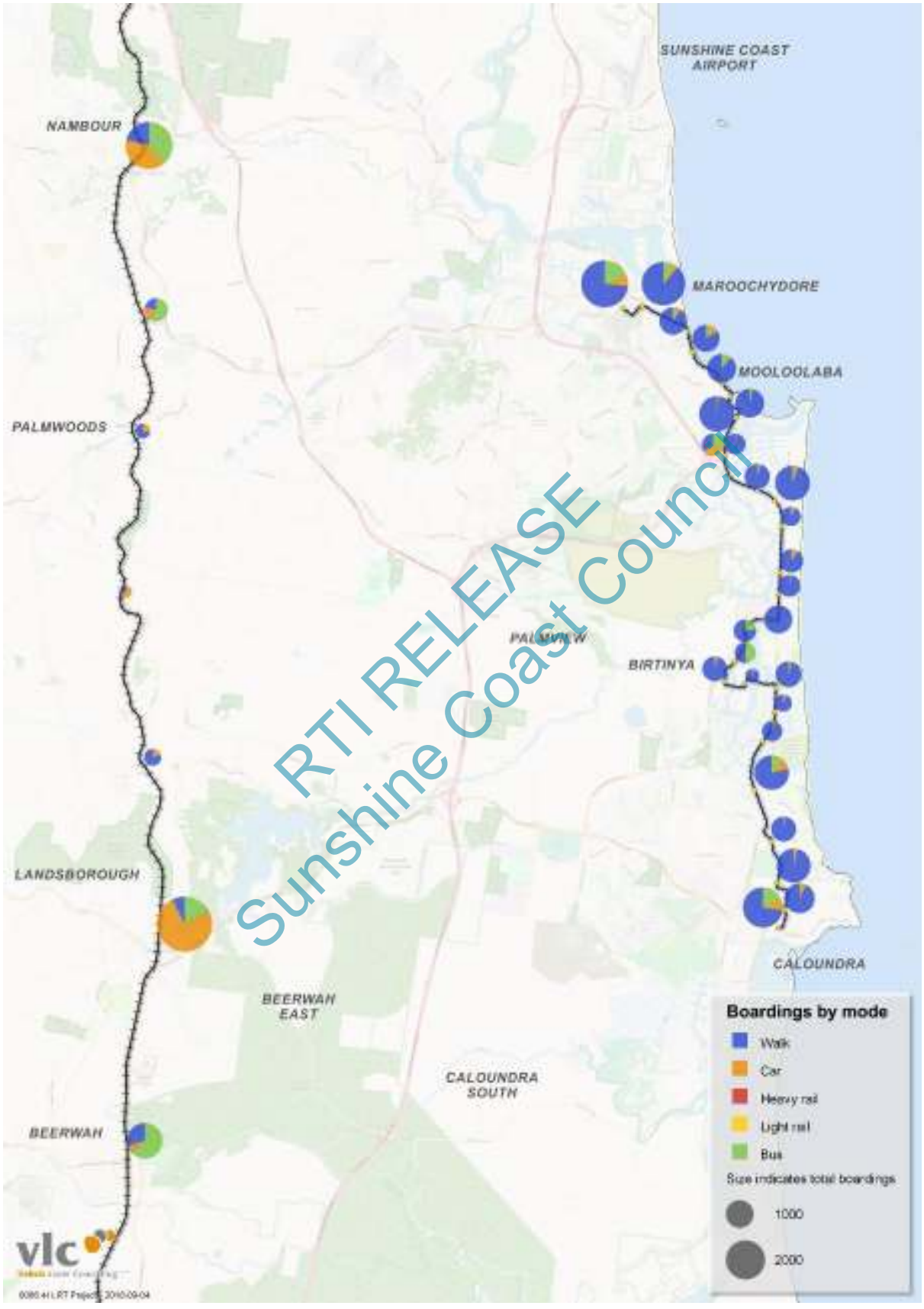
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4.5 Daily Public Transport Passenger Loads



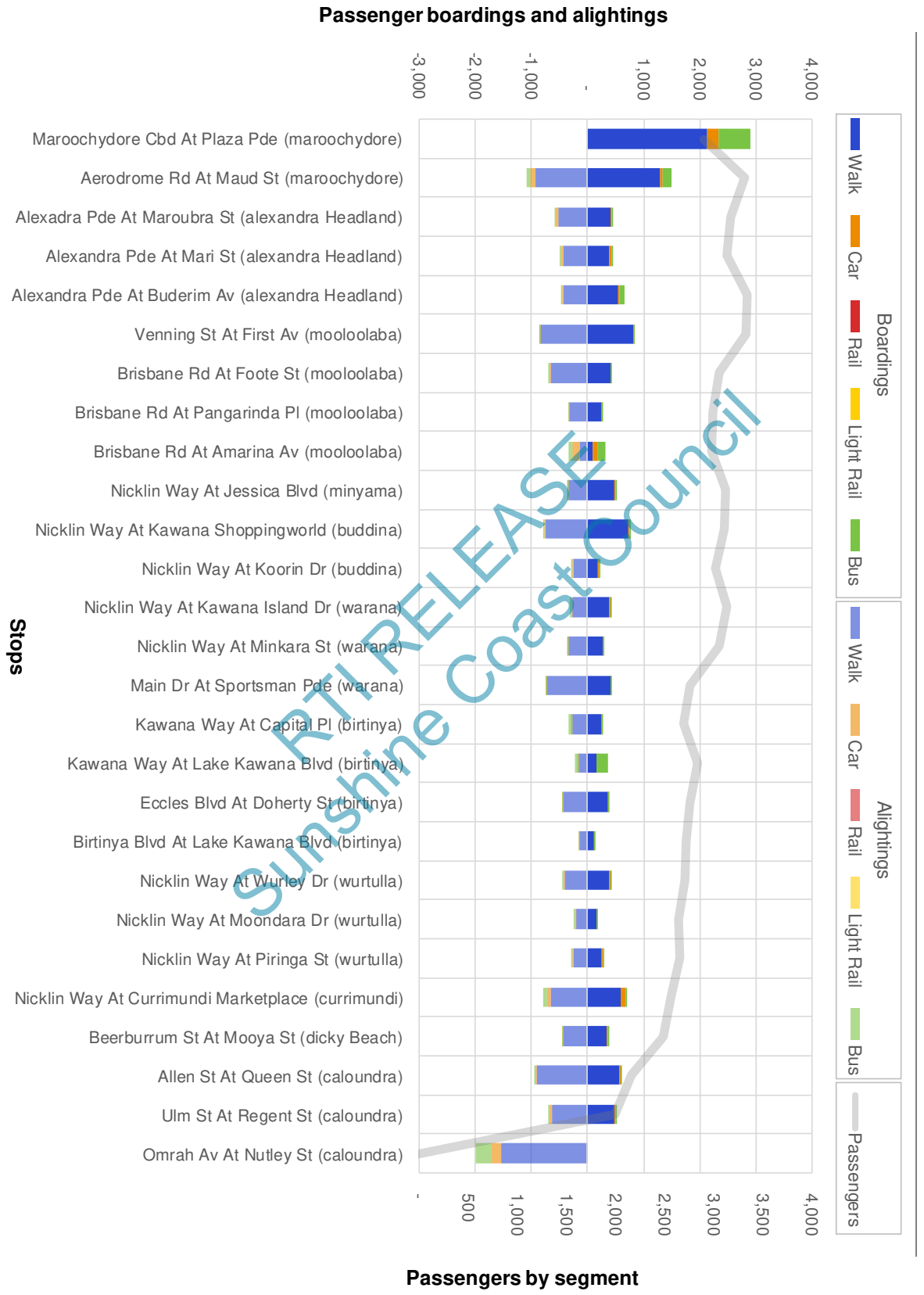
RTI RELEASE
Sunshine Coast Council

4.6 Daily Station Access by Mode



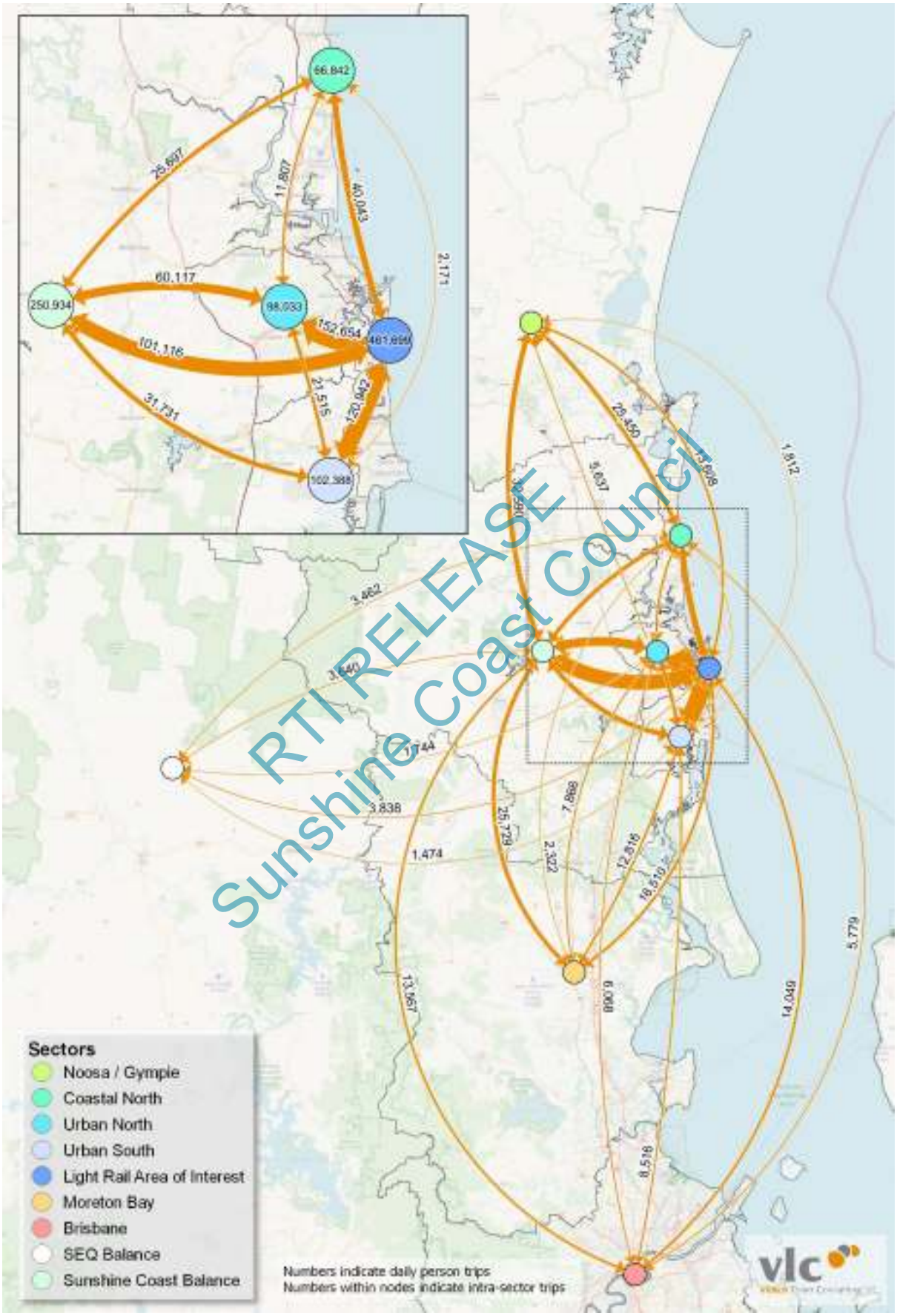
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Sunshine Coast Council

4.7 Light Rail Utilisation (Southbound)



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4.8 Private Vehicle Trip Distribution

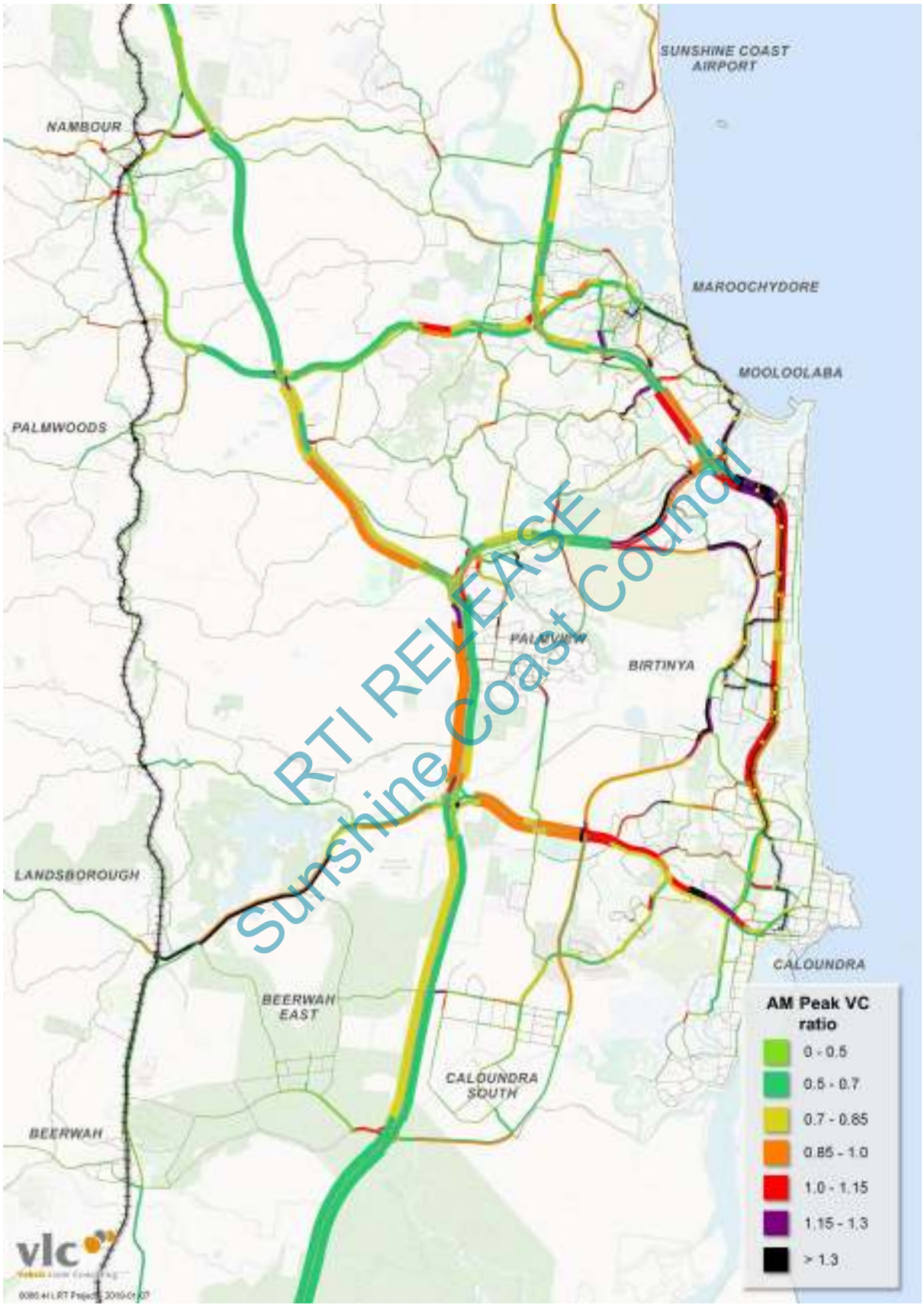


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4.9 Daily Vehicle Loads



4.10 AM Peak Volume to Capacity



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5. Sunshine Coast Light Rail and CAMCOS (Scenario 5P)

The Sunshine Coast Light Rail and CAMCOS scenario includes both Rail elements of scenario 2B and 4B. In this scenario light rail has been extended west to connect with CAMCOS Rail. The bus network changes have been carried forward to facilitate integration across modes, network changes and rail alignments are presented in Figure 5. Table 13 shows both light and heavy rail service frequencies.

Figure 5: With Light Rail and CAMCOS



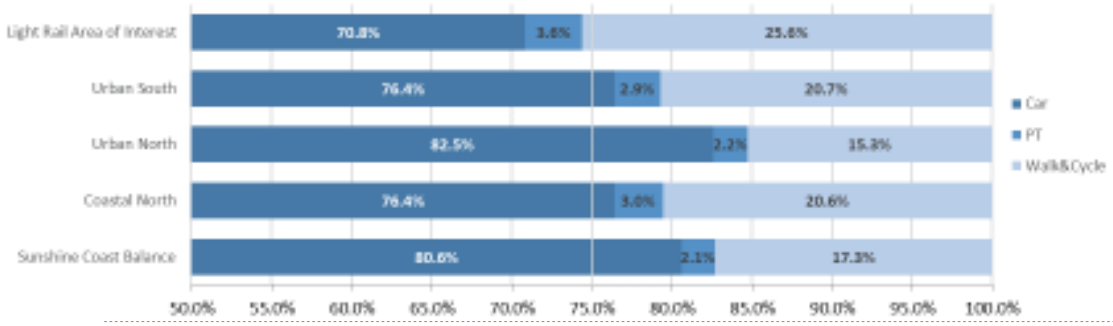
Table 13: Light Rail with CAMCOS Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	As per Reference Case	3	1	3
CAMCOS Corridor (Standard Train)	As per CAMCOS scenario (2P)	3	2	3
Light Rail Caloundra to Maroochy-dore	As per Sunshine Coast Light Rail scenario (4P)	8	8	8

5.1 Mode Share

The mode share of person trips generated from sectors within the Sunshine coast is presented in Table 14. At the LGA level, car is the dominant mode (75.6%) with walking & cycling accounting for the second highest share of all trips (21.5%). Public transport accounts for approximately 2.9% of all trips.

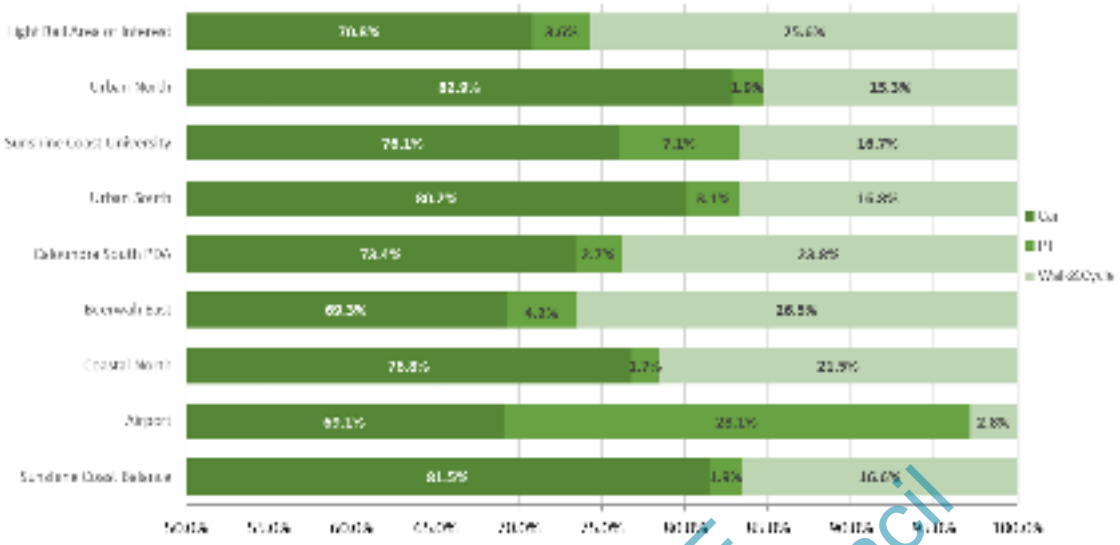
Table 14: Person trip mode share by macro sector of origin



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Table 15 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast.

Table 15: Person trips mode share by detailed sector of origin

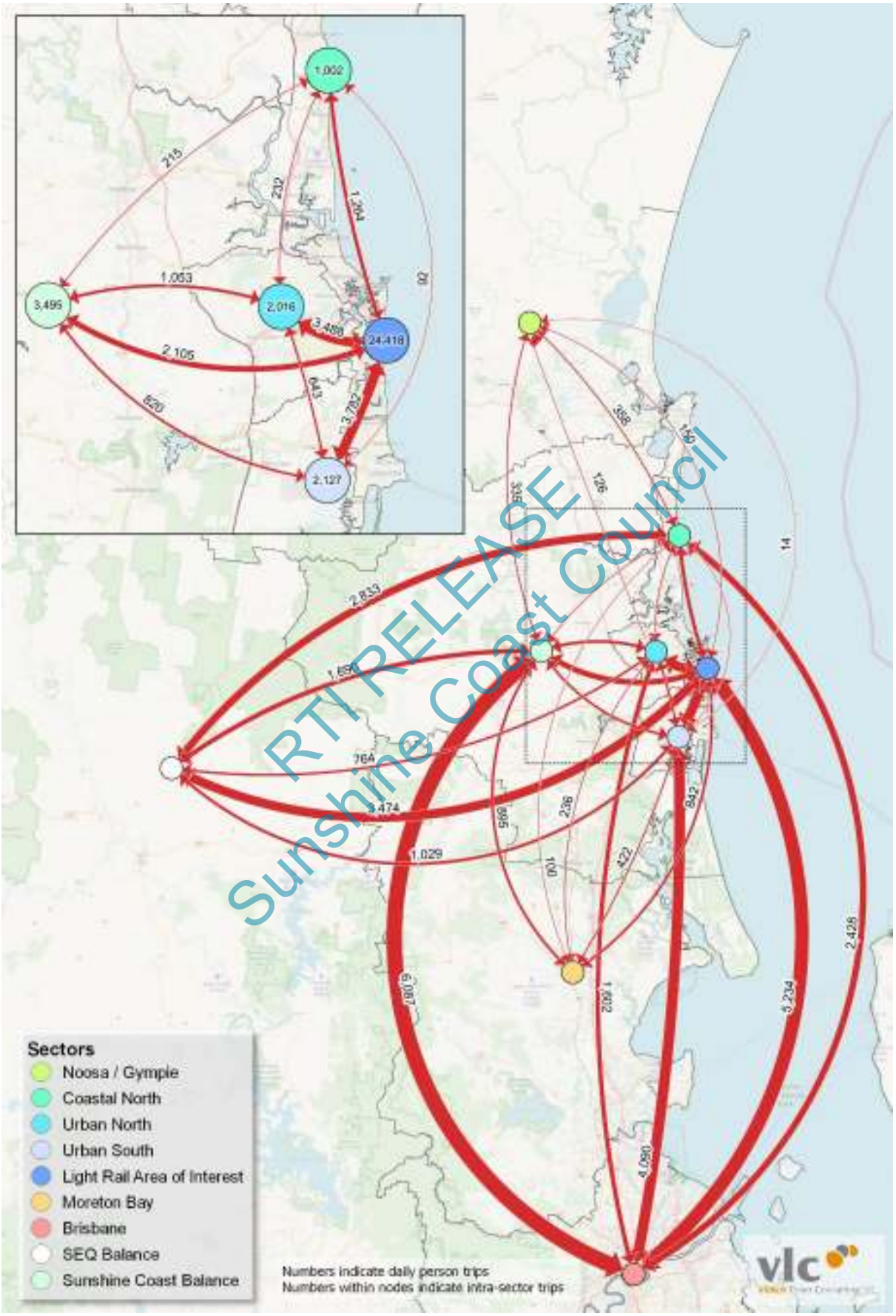


5.2 Sunshine Coast Self Containment

With Light Rail and CAMCOS modelling shows that the Sunshine Coast community makes 2,172,000 trips per day. 94.7% of these trips will be satisfied by destinations within the LGA; 1.8% are destined for Noosa/Gympie, 1.5% to Moreton Bay and 1.4% to Brisbane.

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5.3 Public Transport Trip Distribution

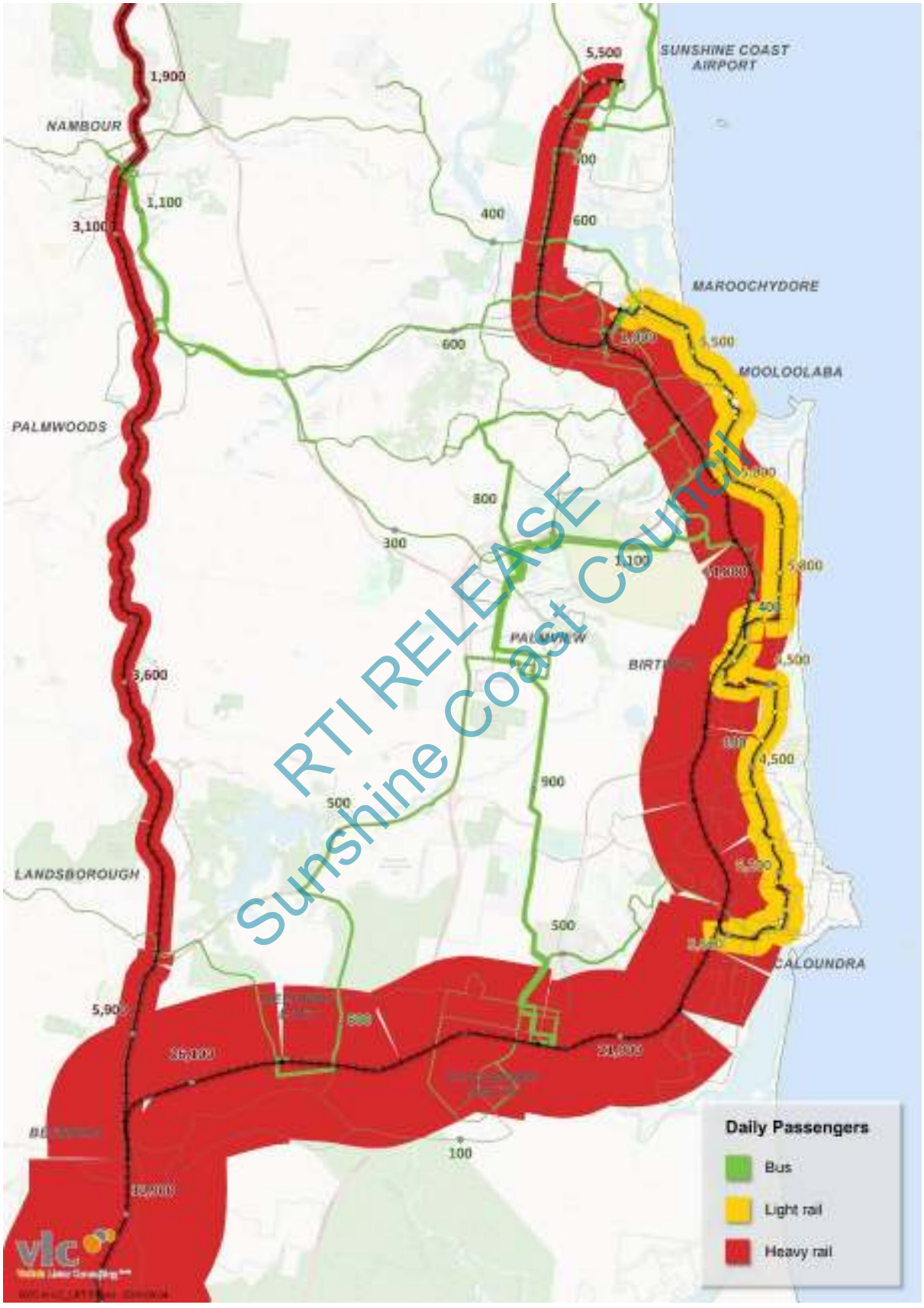


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5.4 AM (2hr) Public Transport Passenger Loads

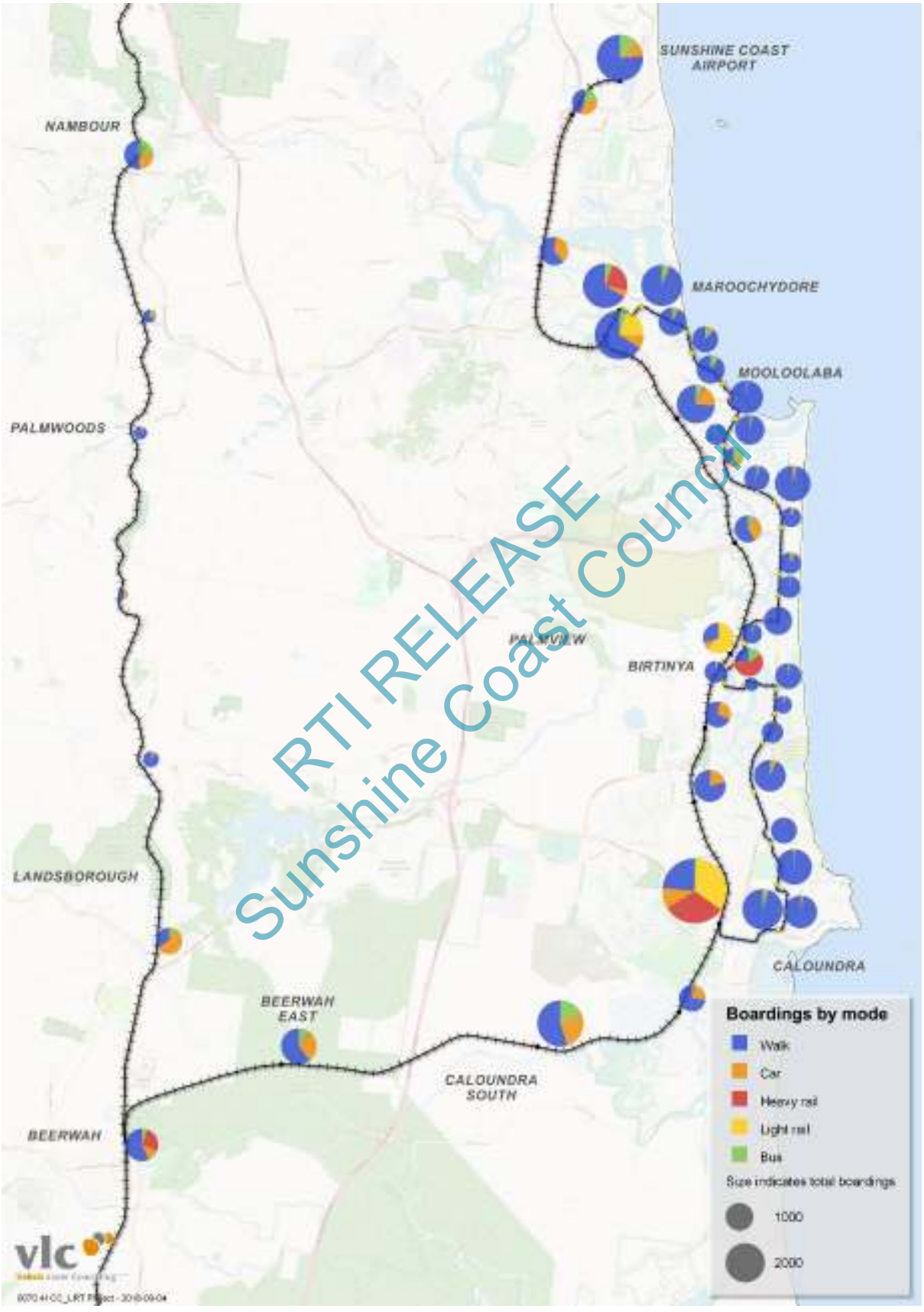


5.5 Daily Public Transport Passenger Loads



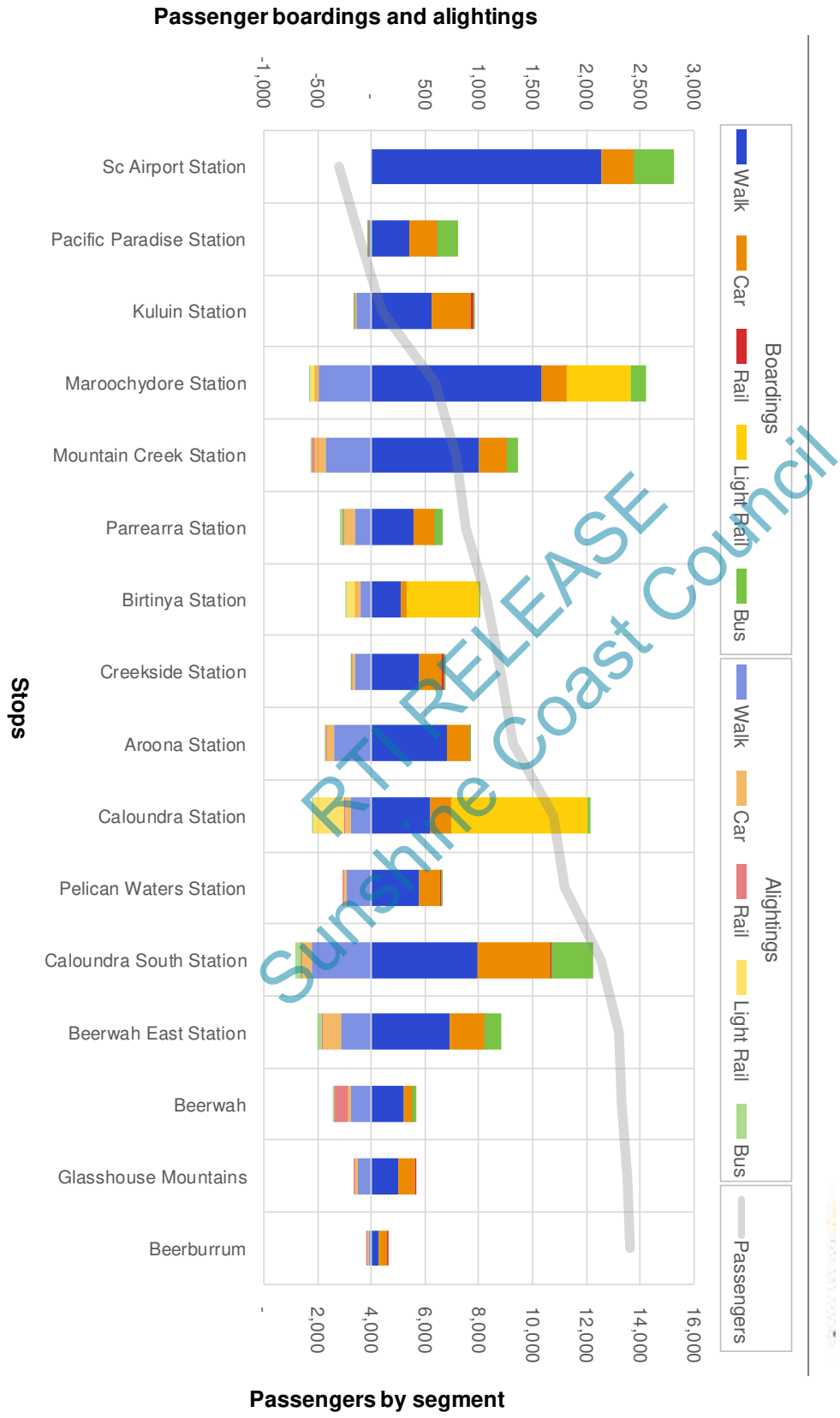
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5.6 Daily Station Access by Mode



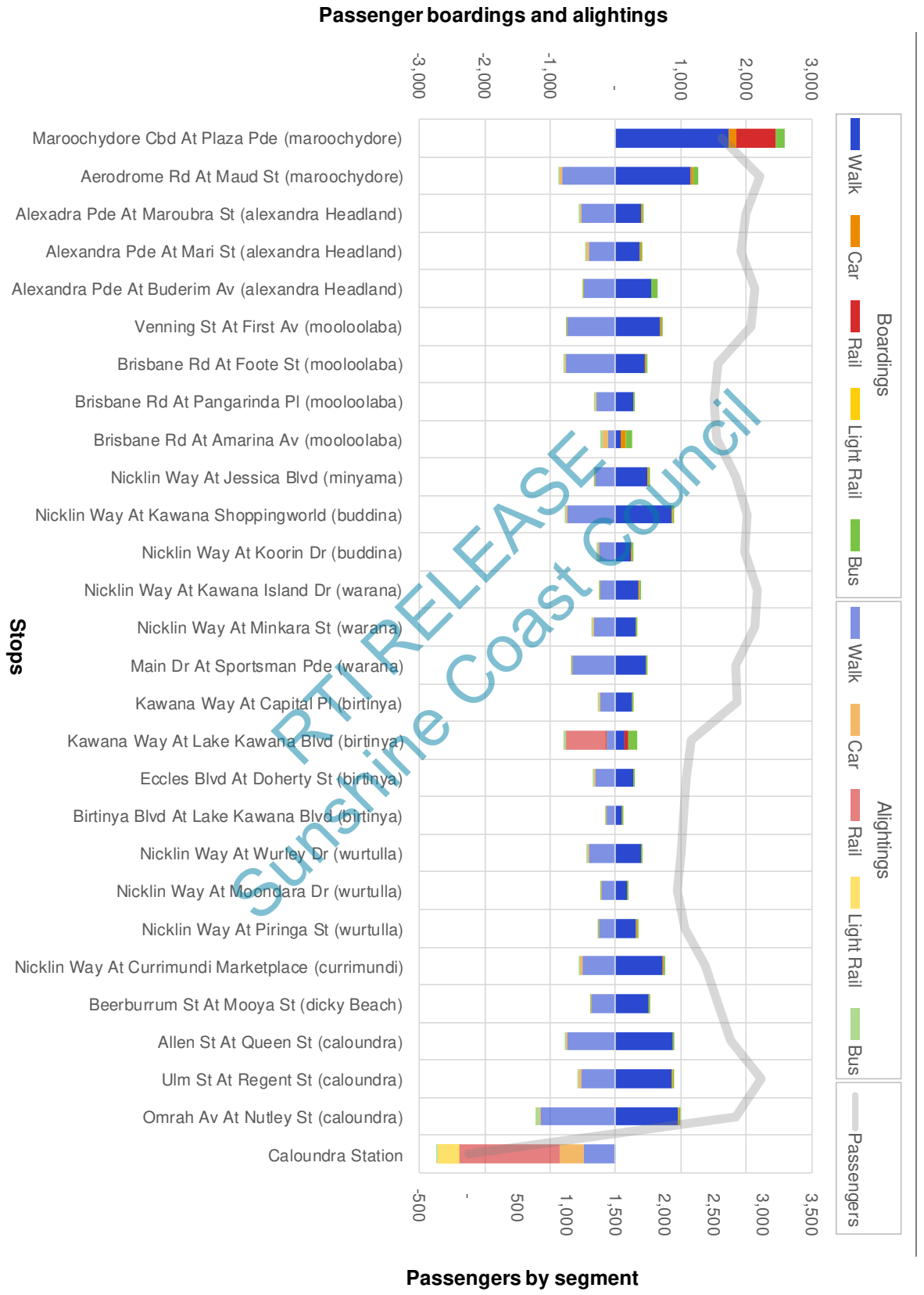
RTI RELEASE
Sunshine Coast Council

5.7 CAMCOS Utilisation (Southbound)



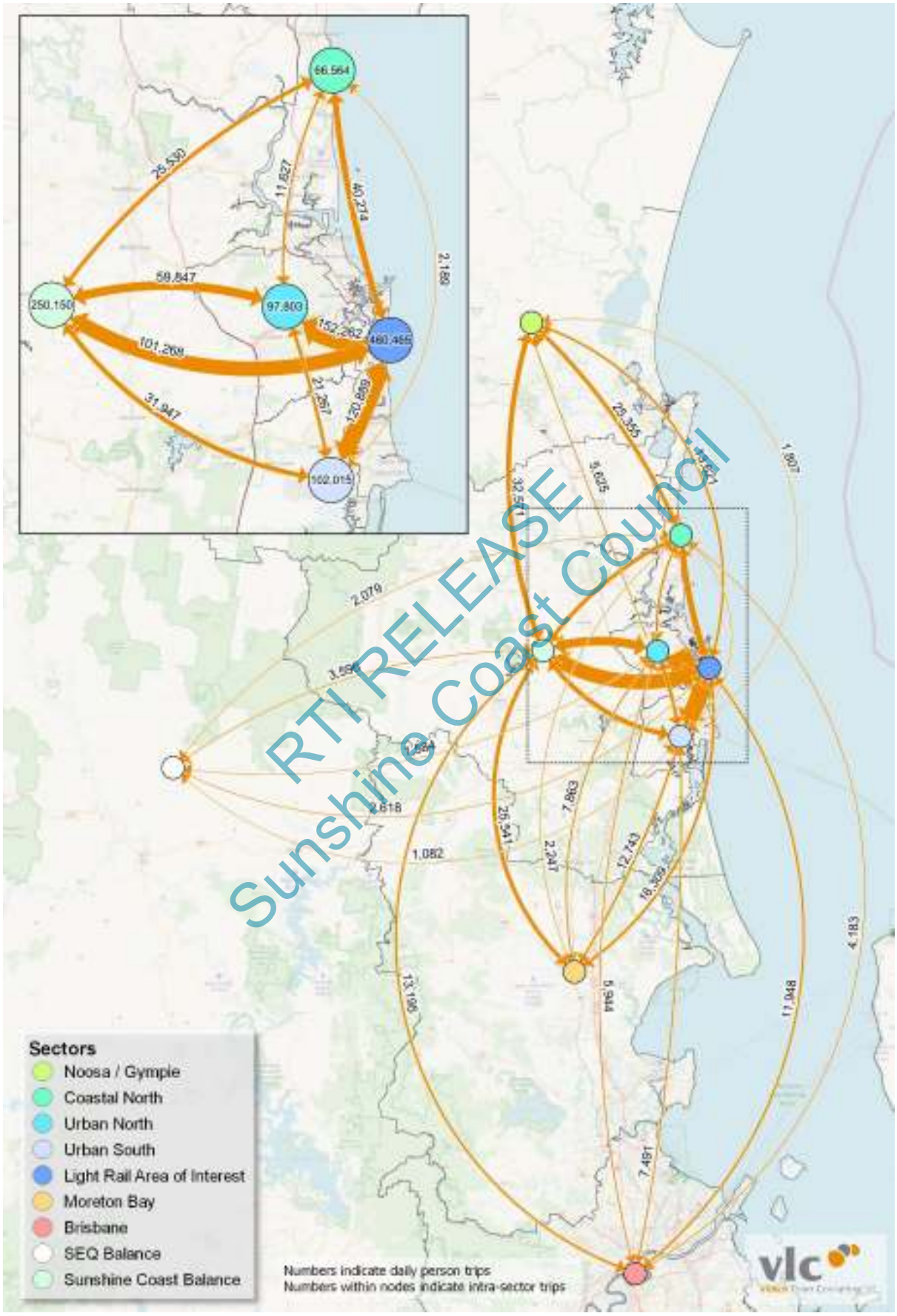
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5.8 Light Rail Utilisation (Southbound)



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5.9 Private Vehicle Trip Distribution



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5.10 Daily Vehicle Loads



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5.11 AM Peak Volume to Capacity



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6. Sunshine Coast Light Rail and North Coast Connect (Scenario 6P)

The Sunshine Coast Light Rail and North Coast Connect scenario includes both Rail elements of scenario 3B and 4B. In this scenario light rail has been extended west to connect with North Coast Connect Rail. The bus network changes have been carried forward to facilitate integration across modes, network changes and rail alignments are presented in Figure 6. Table 16 shows both light and heavy rail service frequencies.

Figure 6:Light Rail and Coast Connect PT Network



Table 16: Light Rail with North Coast Connect Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	As per Reference Case	2	1	2
Nambour Line (Fast Train – 45 minutes to Brisbane)	As per North Coast Connect scenario (3P)	2	1	2
CAMCOS Corridor (Fast Train – 45 minutes to Brisbane)	As per North Coast Connect scenario (3P)	2	2	2
Light Rail Caloundra to Maroochy-dore	As per Sunshine Coast Light Rail scenario (4P)	8	8	8

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6.1 Mode Share

The mode share of person trips generated from macro sectors within the Sunshine Coast is presented in Table 17. At the LGA level, car is the dominant mode (75.5%) with Walking accounting for the second highest share of all trips (21.5%). Public transport accounts for approximately 3.1% of all trips.

Table 17: Mode Share (person trips) by macro sector of origin

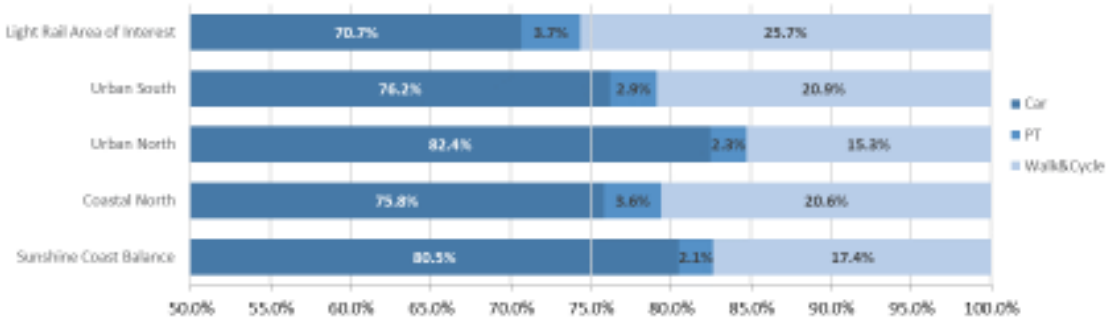
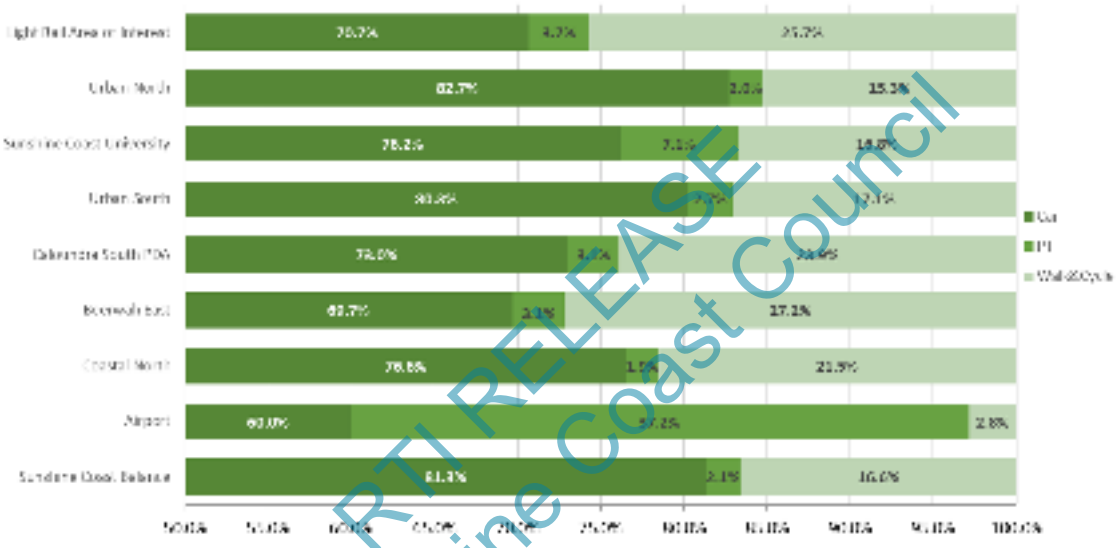


Table 18 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast

Table 18: Mode share (person trips) by detailed sector of origin

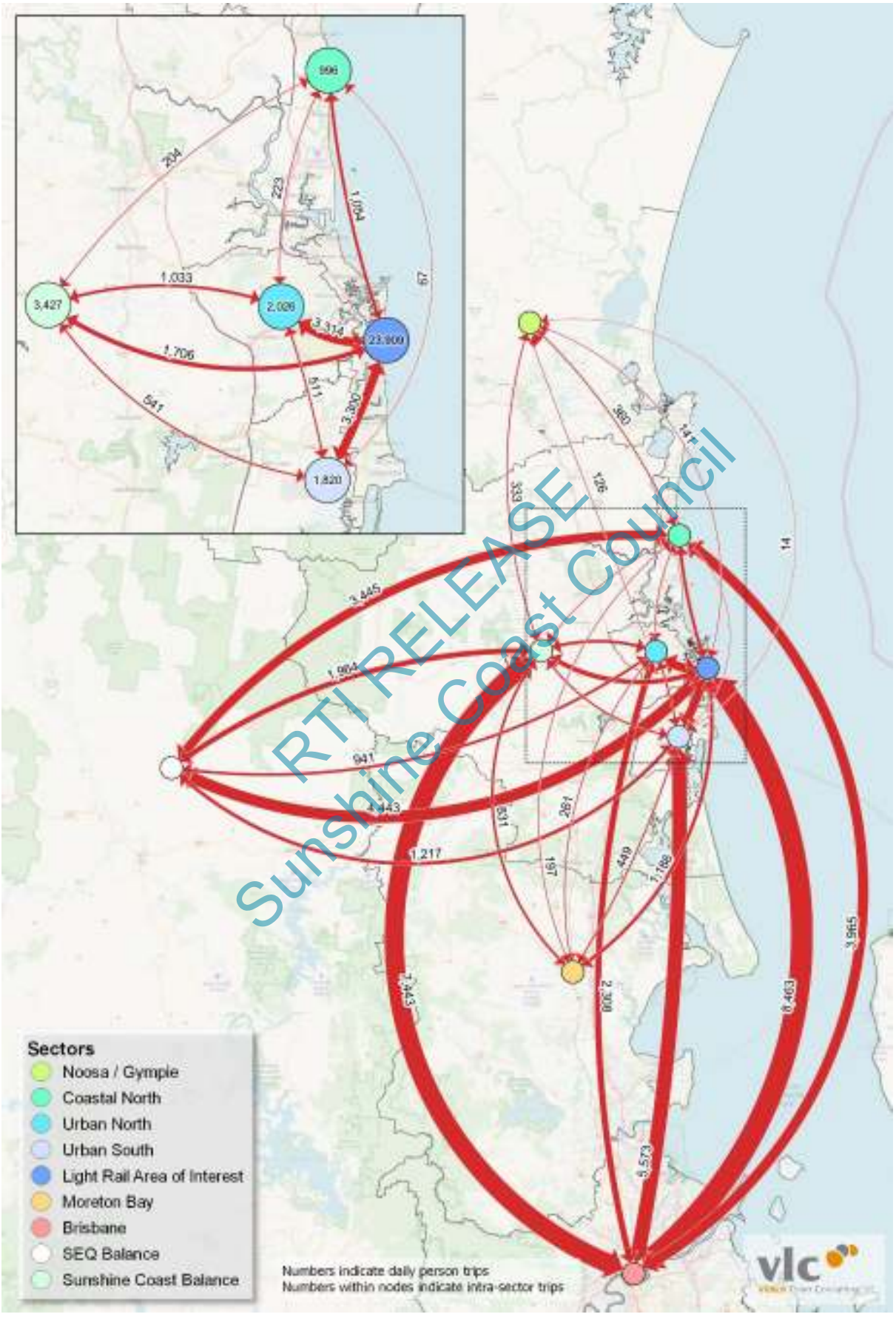


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6.2 Sunshine Coast Trip Self Containment

With Light Rail and North Coast Connect modelling shows that the Sunshine Coast community makes 2,170,300 trips per day. 94.5% of these trips will be satisfied by destinations within the LGA; 1.8% are destined for Noosa/Gympie, 1.6% to Moreton Bay and 1.5% to Brisbane.

6.3 Public Transport Trip Distribution

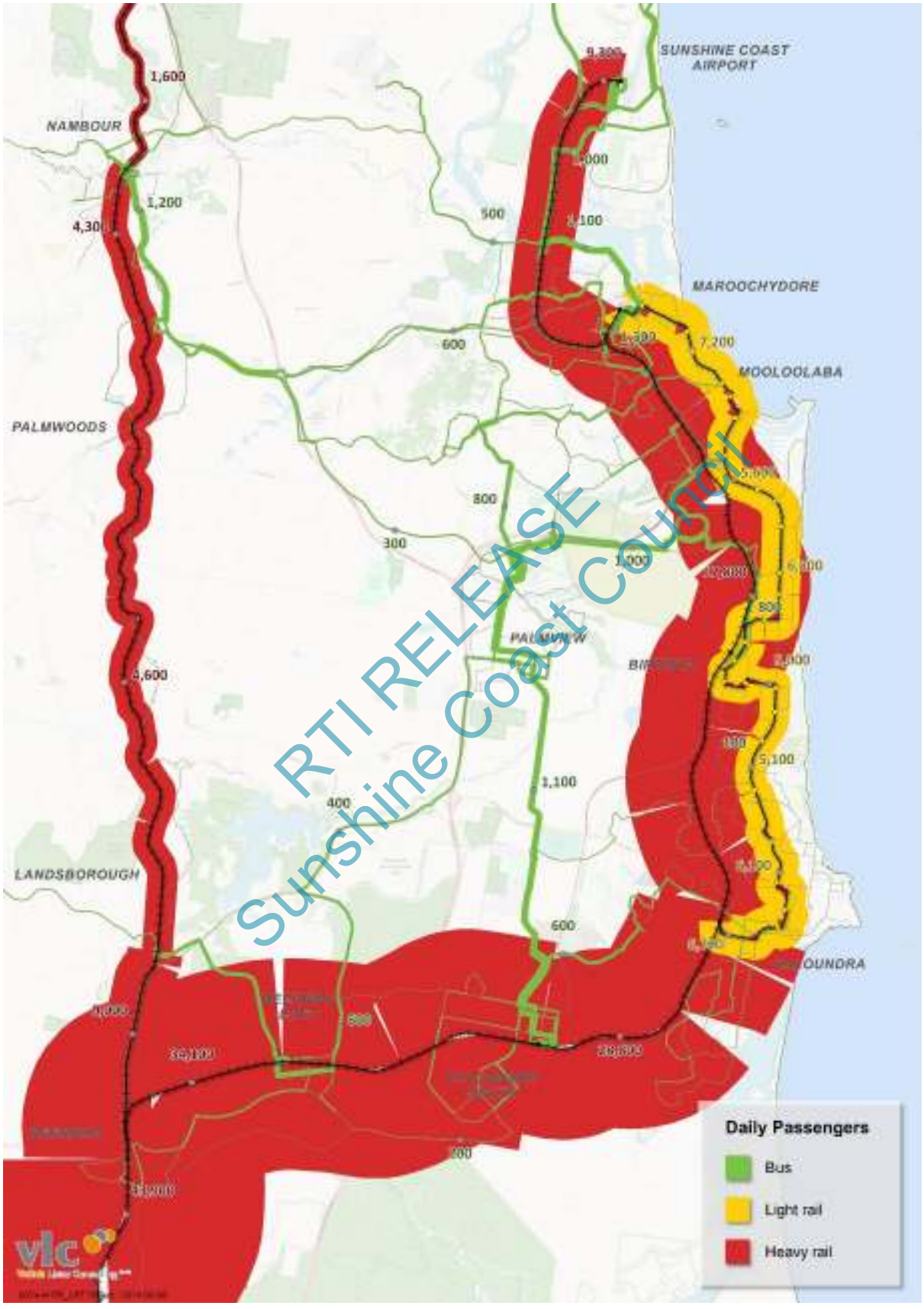


6.4 AM (2hr) Public Transport Passenger Loads



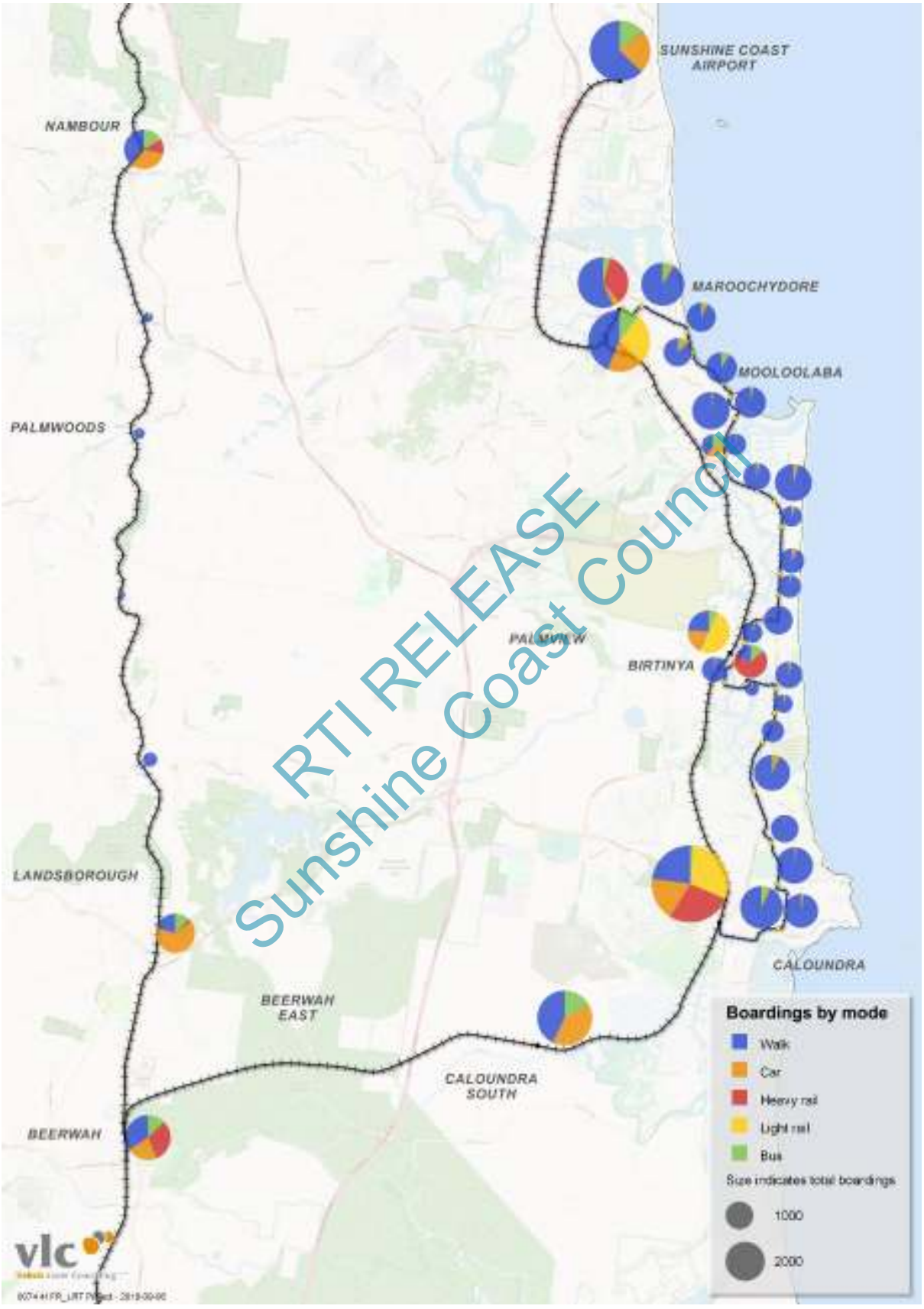
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6.5 Daily Public Transport Passenger Loads



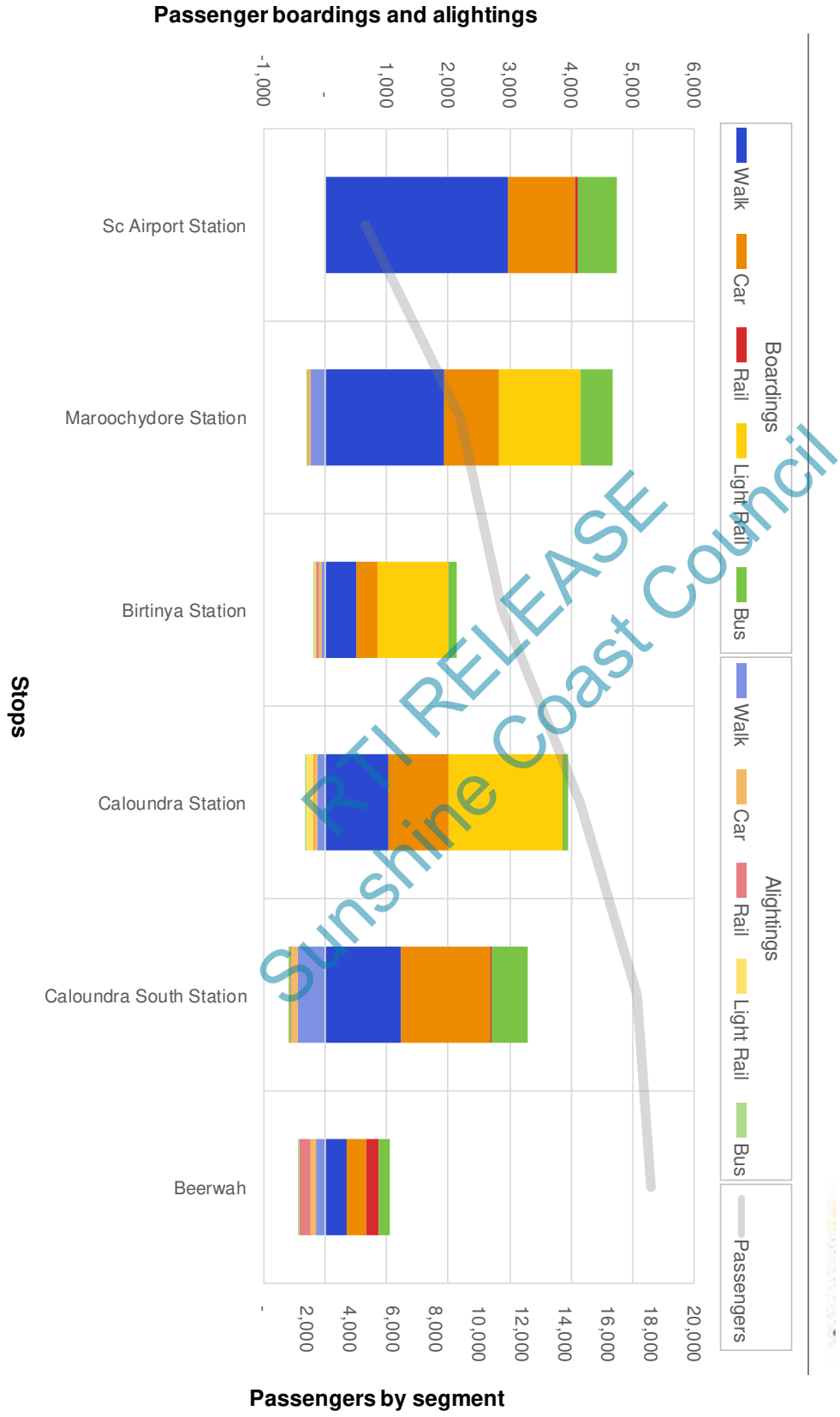
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Sunshine Coast Council

6.6 Daily Station Access by Mode



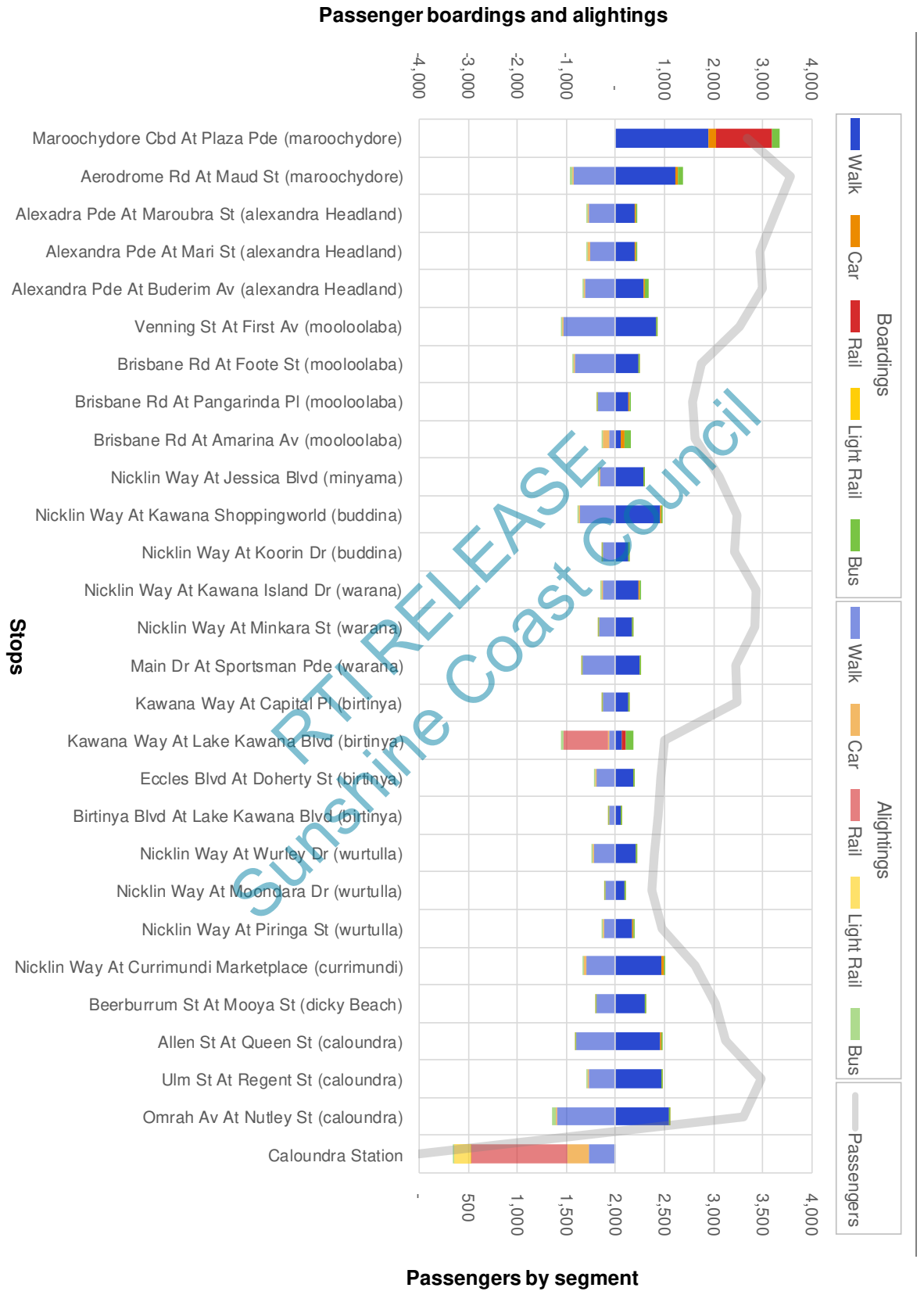
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Sunshine Coast Council

6.7 Maroochydore to Brisbane – North Coast Connect



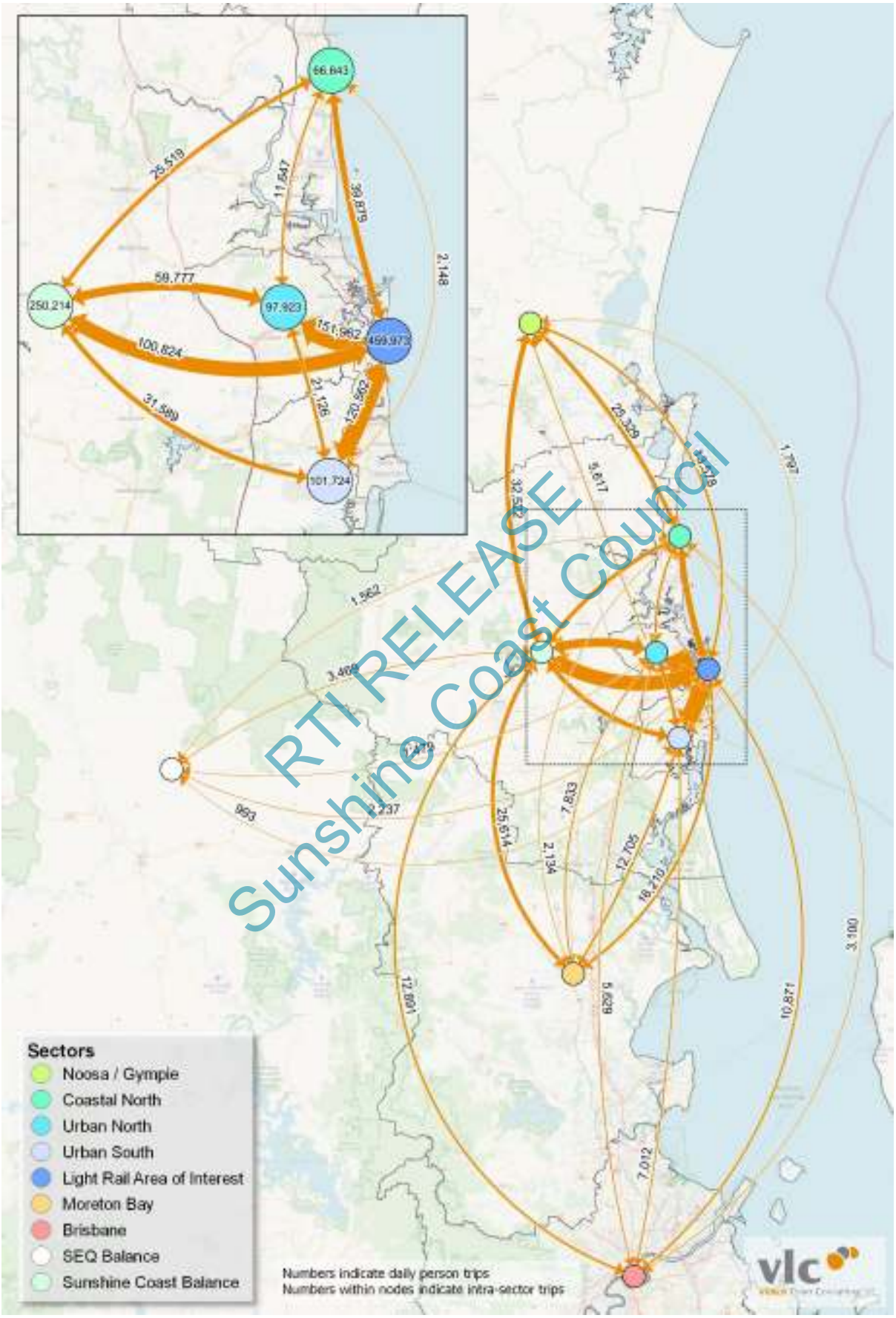
RTI RELEASE
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6.8 Light Rail Utilisation (Southbound)



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6.9 Private Vehicle Trip Distribution



RTI RELEASE
Sunshine Coast Council

6.10 Daily Vehicle Loads



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6.11 AM Peak Volume to Capacity



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7. Light Rail (Full A) (Scenario 7P)

The Light Rail (Full A) scenario uses the reference case heavy rail network, with a light rail service running from Beerwah to Maroochydore and from Caloundra to Maroochydore. Light rail uses the CAMCOS alignment between Beerwah/Caloundra and Kawana Waters, then uses an urban alignment between Kawana Waters and Maroochydore, via Mooloolaba. Amendments to reference case bus routes have been made to facilitate passenger interchange at light rail stations. Figure 7 shows the modelled PT network. Table 19 shows both light and heavy rail service frequencies.

Table 19: Light Rail (Full A) Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	As per Reference Case	4	1	4
Light Rail Caloundra to Maroochydore	Nutley St North St Caloundra West Aroona Creekside Doherty St Birtinya Sportsman Pde Minkara St Kawana Island Dr Koorin Dr Kawana Shoppingworld Jessica Blvd Amarina Av Pangarinda Pl Foote St First Av Buderim Av Mari St Maroubra St Maud St Plaza Pde	4	4	4
Light Rail Beerwah to Maroochydore	Beerwah Australia Zoo Beerwah East West Beerwah East East Caloundra South Western Caloundra South Middle Caloundra South CBD Pelican Waters Caloundra West .. As Per Above … Plaza Pde	4	4	4

Figure 7: Light Rail (Full A) PT Network



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7.1 Mode Share

The mode share of person trips generated from macro sectors within the Sunshine Coast is presented in Table 20. At the LGA level, car is the dominant mode (76.0%) with Walking accounting for the second highest share of all trips (21.5%). Public transport accounts for approximately 2.5% of all trips.

Table 20: Mode Share (person trips) by macro sector of origin

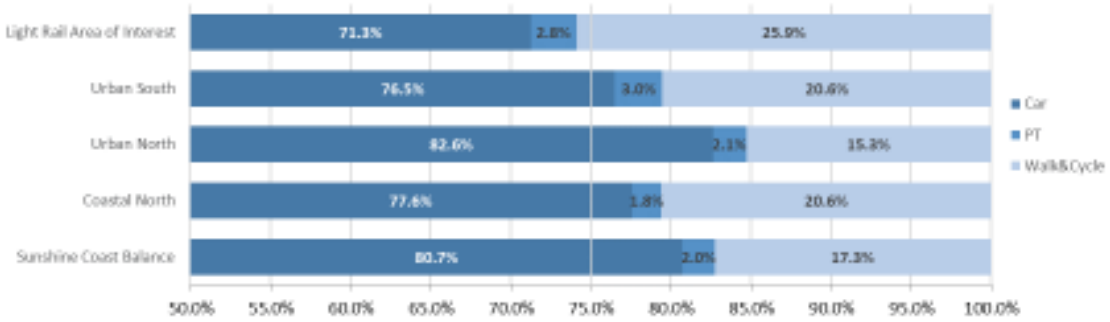


Table 21 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast

Table 21: Mode share (person trips) by detailed sector of origin

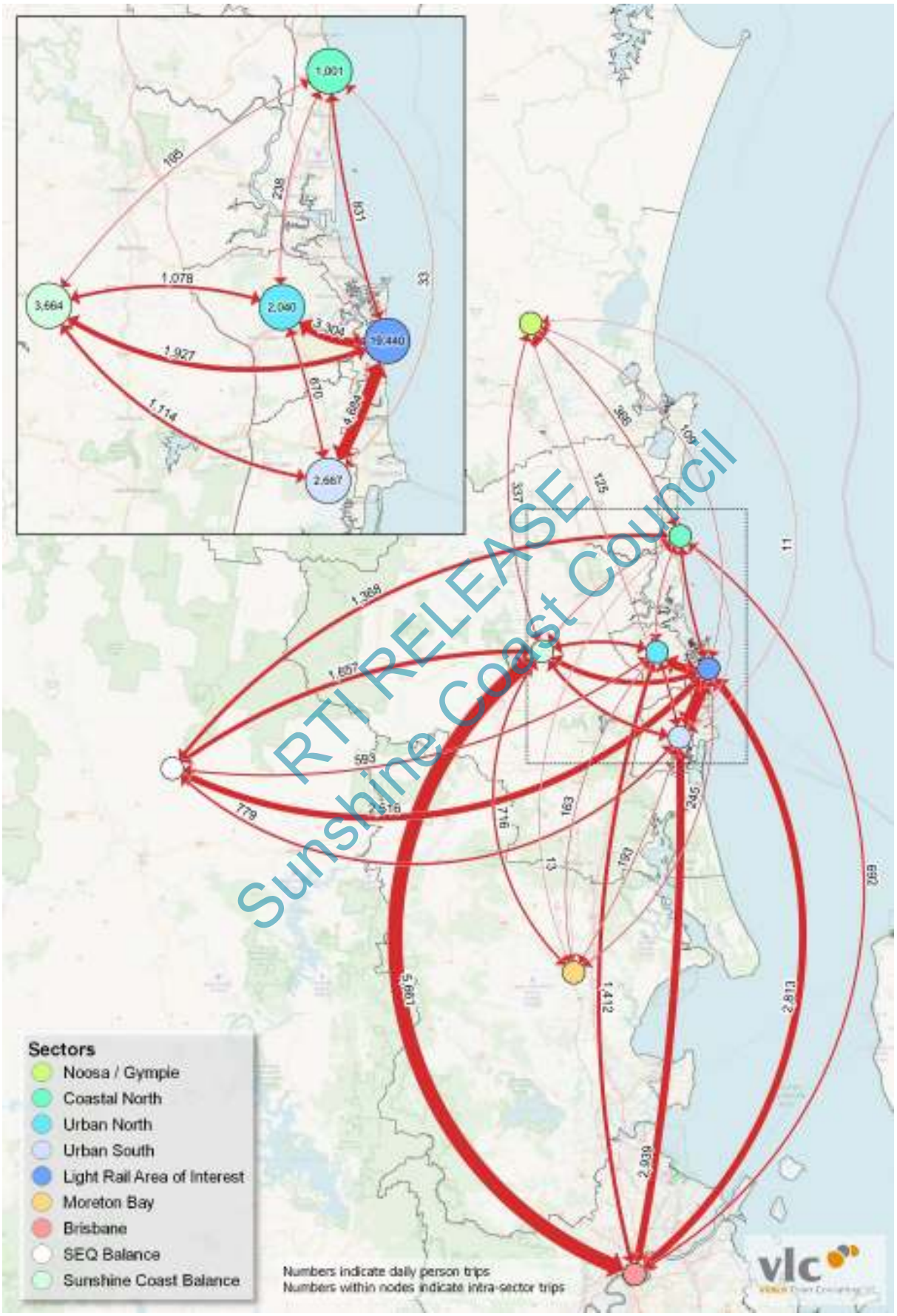


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7.2 Sunshine Coast Trip Self Containment

Light Rail (Full A) modelling shows that the Sunshine Coast community makes 2,174,200 trips per day. 94.8% of these trips will be satisfied by destinations within the LGA; 1.8% are destined for Noosa/Gympie, 1.5% to Moreton Bay and 1.4% to Brisbane.

7.3 Public Transport Trip Distribution



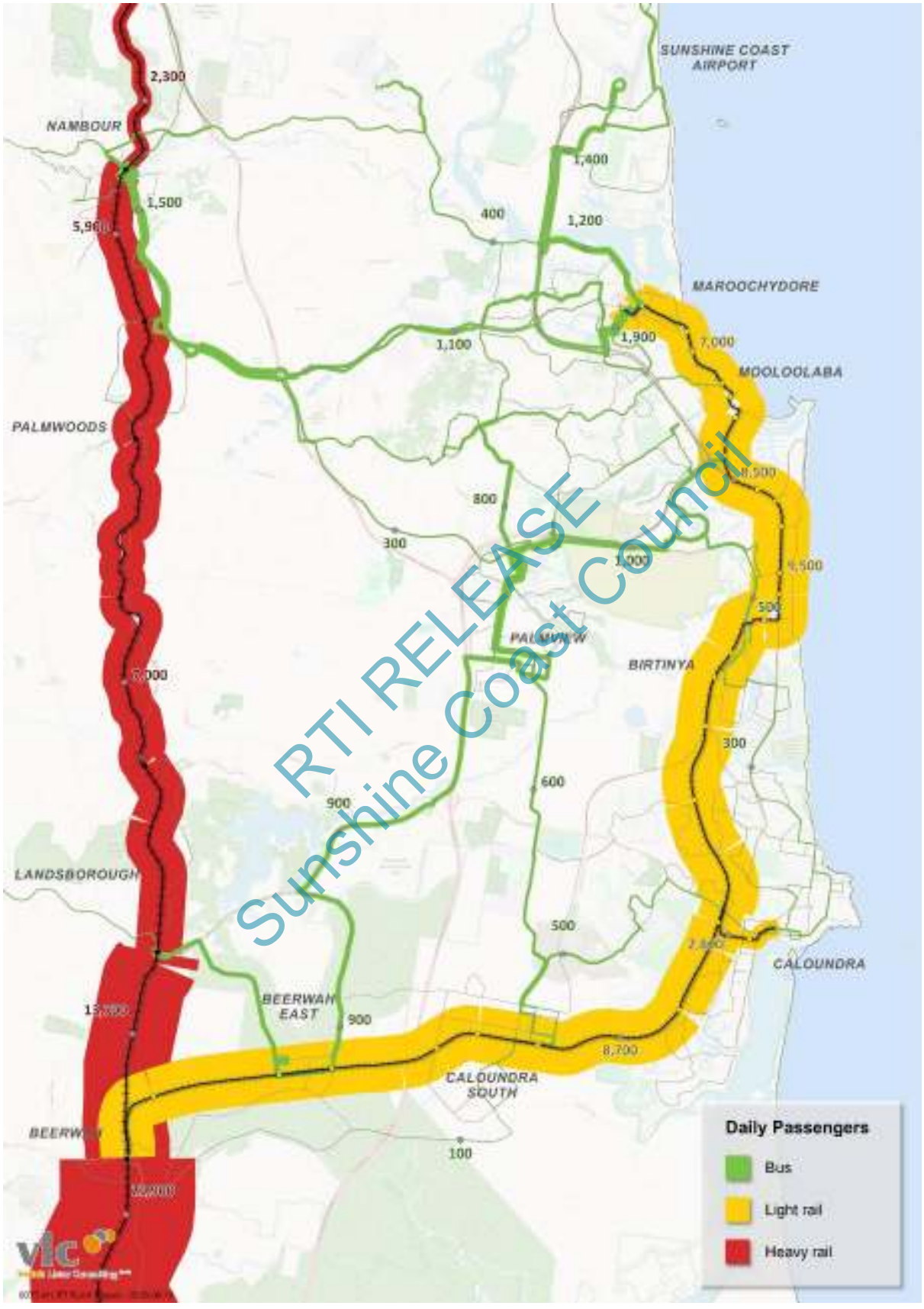
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7.4 AM (2hr) Public Transport Passenger Loads



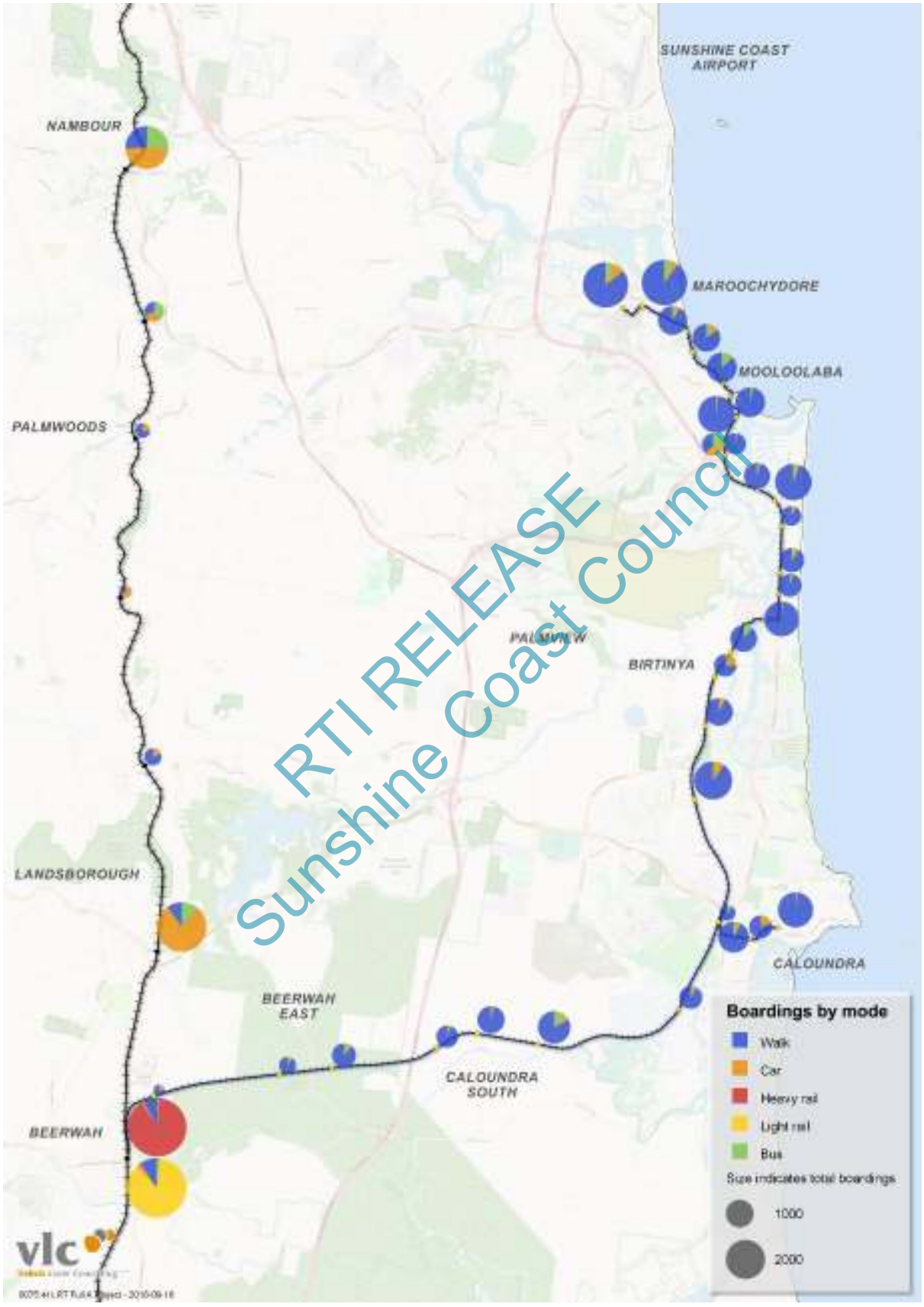
RTI RELEASE
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7.5 Daily Public Transport Passenger Loads



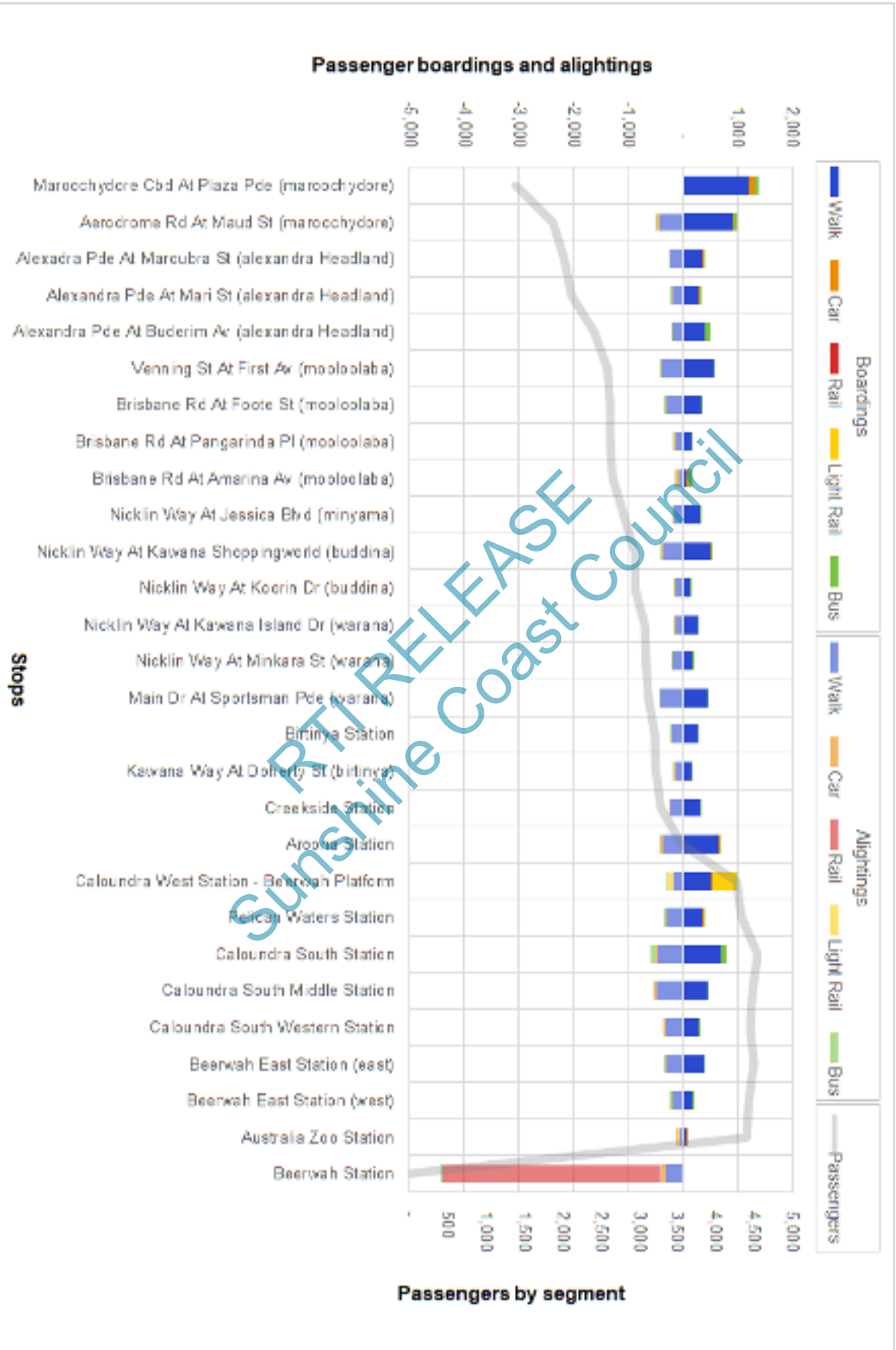
RTI RELEASE
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7.6 Daily Station Access by Mode



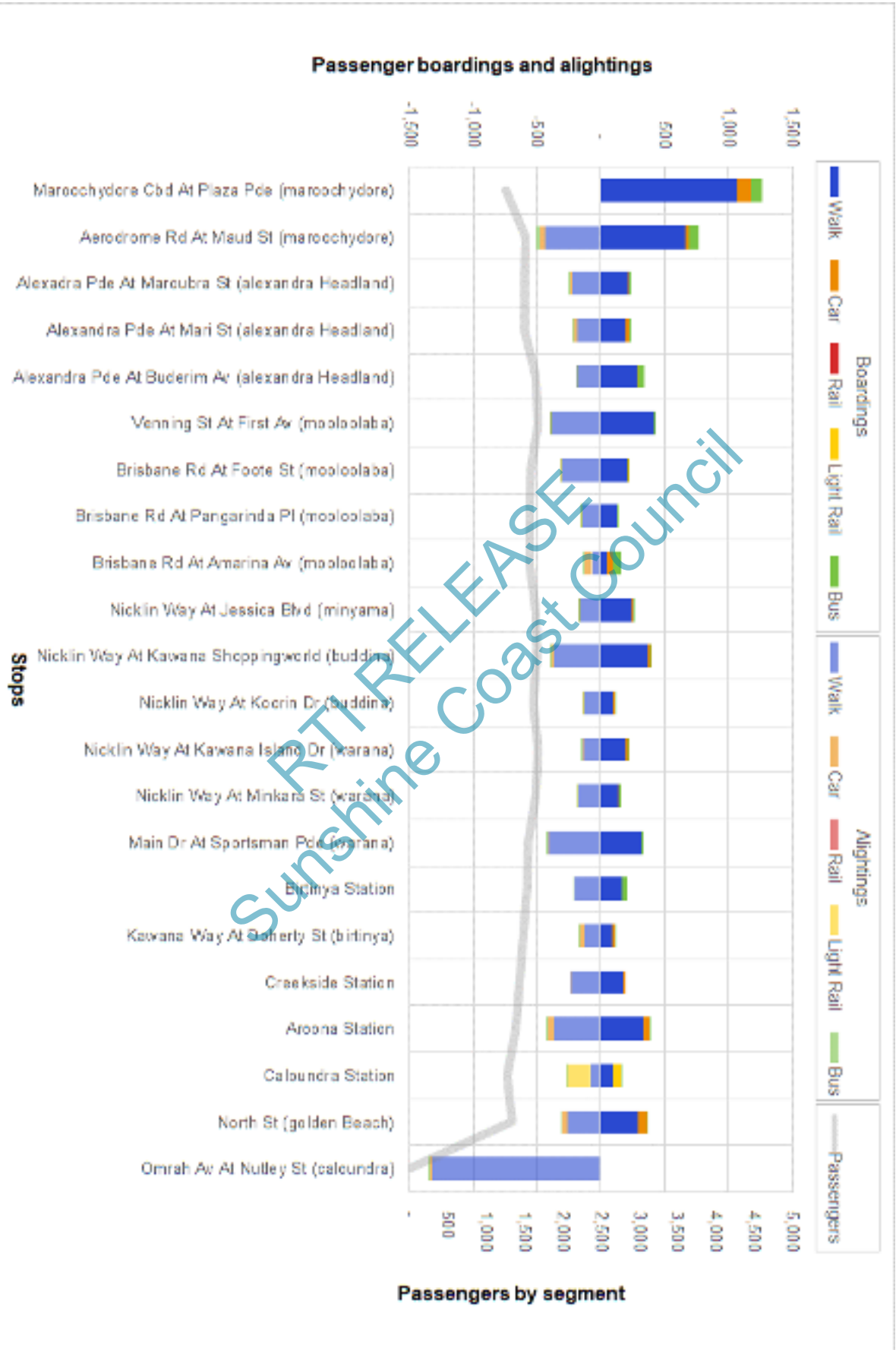
RTI RELEASE
Sunshine Coast Council

7.7 Light Rail Utilisation – Maroochydore to Beerwah



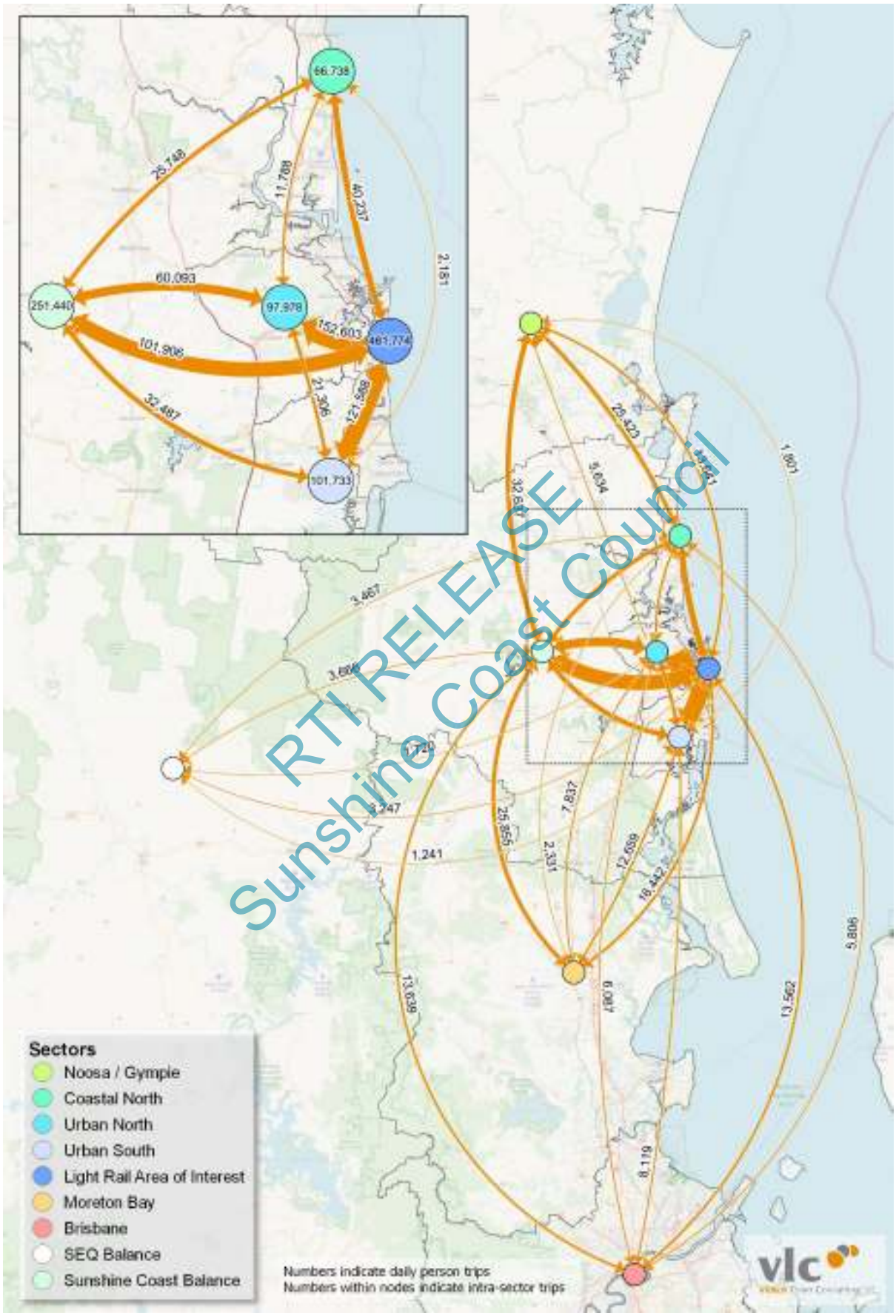
RTI RELEASE
Sunshine Coast Council

7.8 Light Rail Utilisation – Maroochydore to Caloundra



RTI RELEASE
Sunshine Coast Council

7.9 Private Vehicle Trip Distribution



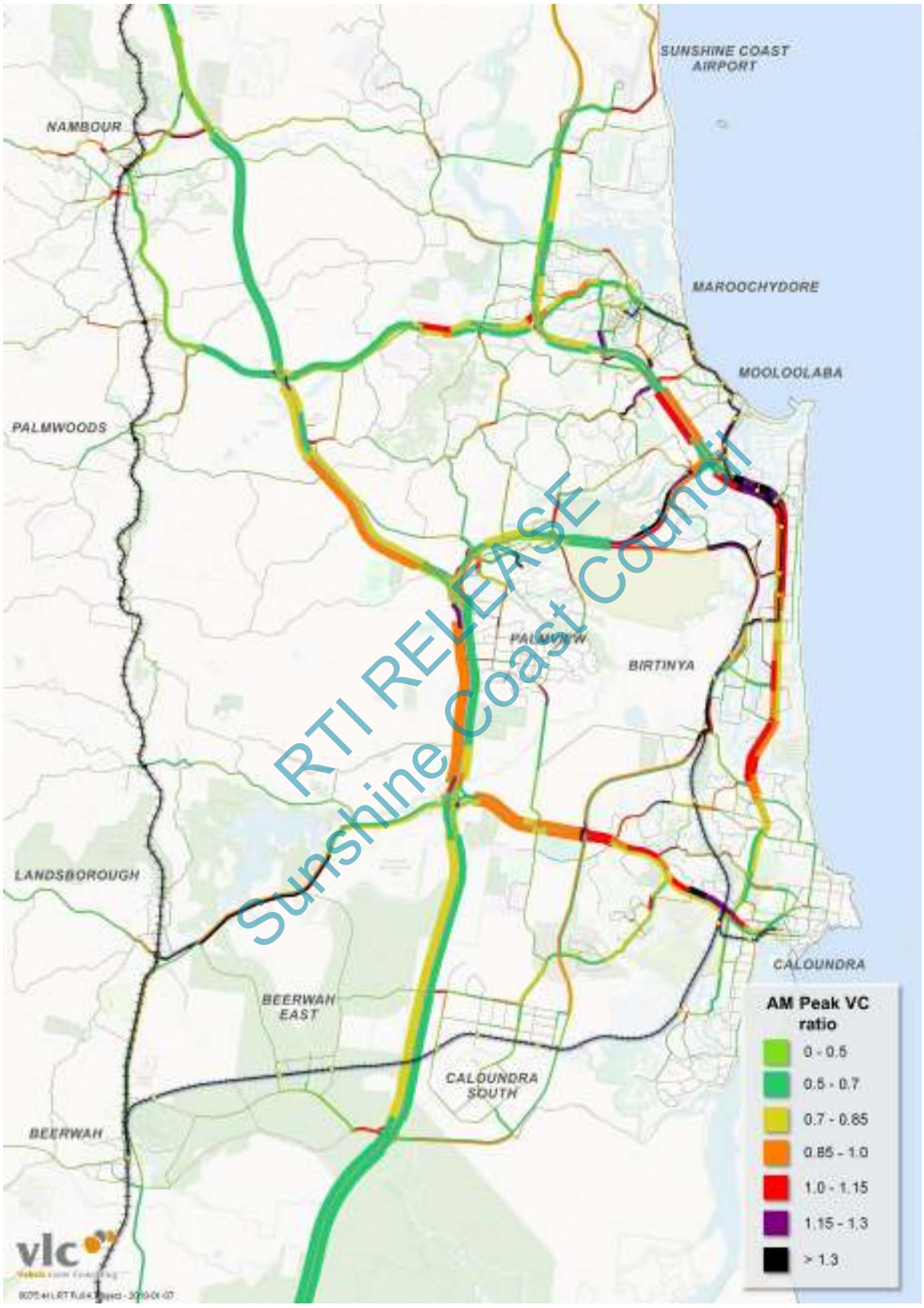
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7.10 Daily Vehicle Loads



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7.11 AM Peak Volume to Capacity



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8. Light Rail (Full B) (Scenario 8P)

The Light Rail (Full B) scenario uses the reference case heavy rail network, with a light rail service running from Beerwah to Caloundra West and from Caloundra to Maroochydore. Light rail uses the CAMCOS alignment between Beerwah and Caloundra West, and between Caloundra and Kawana Waters, then uses an urban alignment between Kawana Waters and Maroochydore, via Mooloolaba. This scenario differs from Light Rail (Full A) (Scenario 7P) by requiring passengers travelling from Beerwah or Caloundra South to interchange at Caloundra West to access destinations north of Caloundra. Amendments to reference case bus routes have been made to facilitate passenger interchange at light rail stations. Figure 8 shows the modelled PT network. Table 22 shows both light and heavy rail service frequencies.

Table 22: Light Rail (Full B) Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	As per Reference Case	4	1	4
Light Rail Caloundra to Maroochydore	As Per Light Rail (Full A) Scenario (7P)	8	8	8
Light Rail Beerwah to Caloundra West	Beerwah Australia Zoo Beerwah East West Beerwah East East Caloundra South Western Caloundra South Middle Caloundra South CBD Pelican Waters Caloundra West	8	8	8

Figure 8: Full Rail (Full B) PT Network



8.1 Mode Share

The mode share of person trips generated from macro sectors within the Sunshine Coast is presented in Table 23. At the LGA level, car is the dominant mode (76.0%) with Walking accounting for the second highest share of all trips (21.5%). Public transport accounts for approximately 2.5% of all trips.

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Table 23: Mode Share (person trips) by macro sector of origin

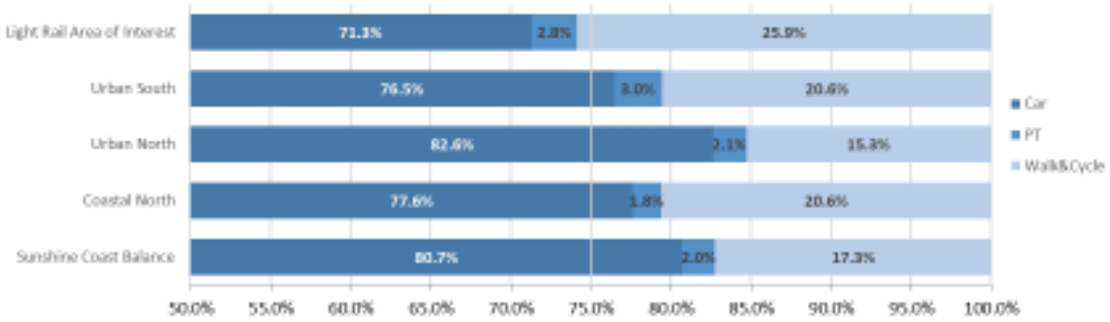


Table 24 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast

Table 24: Mode share (person trips) by detailed sector of origin

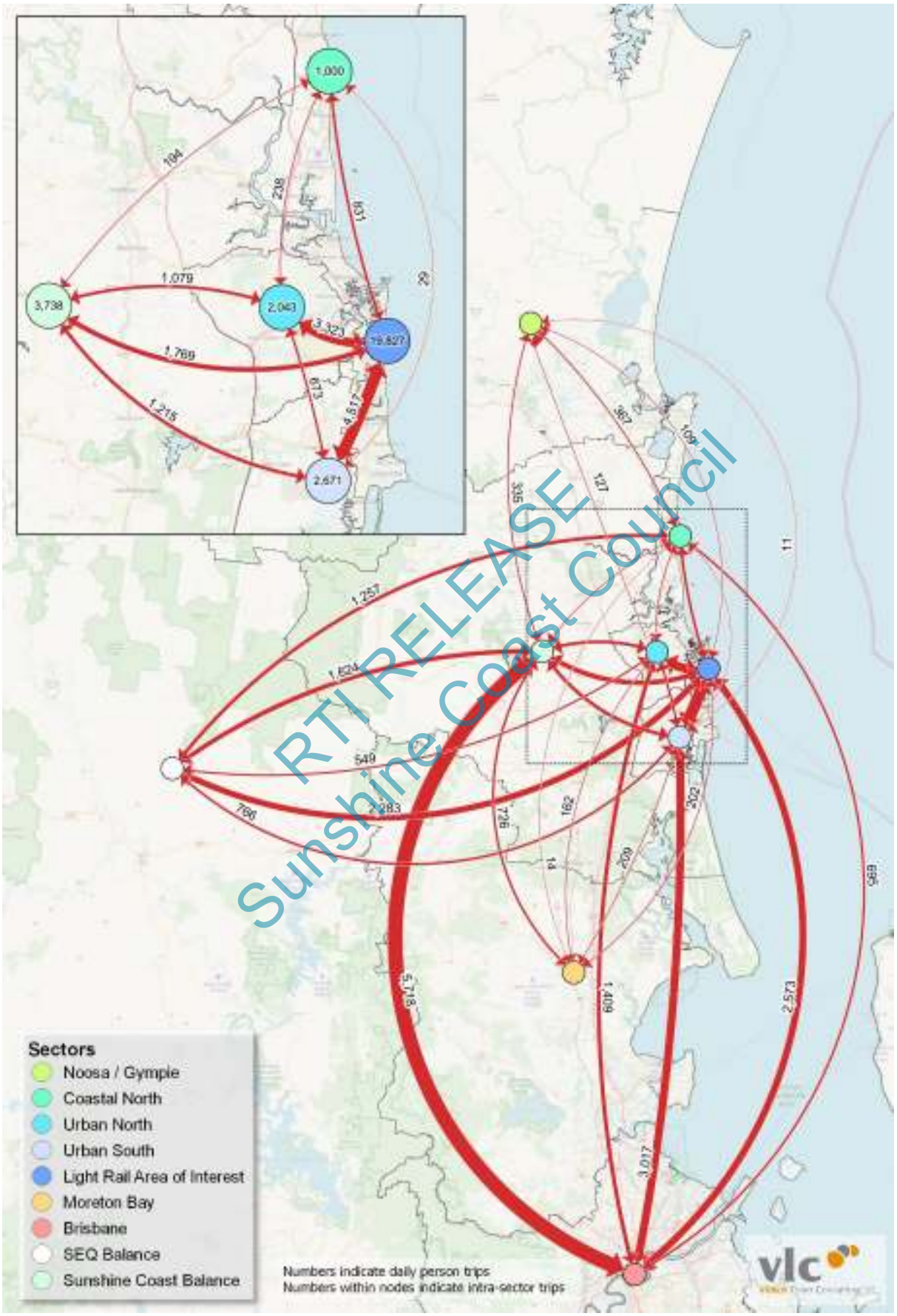


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8.2 Sunshine Coast Trip Self Containment

Light Rail (Full B) modelling shows that the Sunshine Coast community makes 2,174,200 trips per day. 94.8% of these trips will be satisfied by destinations within the LGA; 1.8% are destined for Noosa/Gympie, 1.5% to Moreton Bay and 1.4% to Brisbane.

8.3 Public Transport Trip Distribution

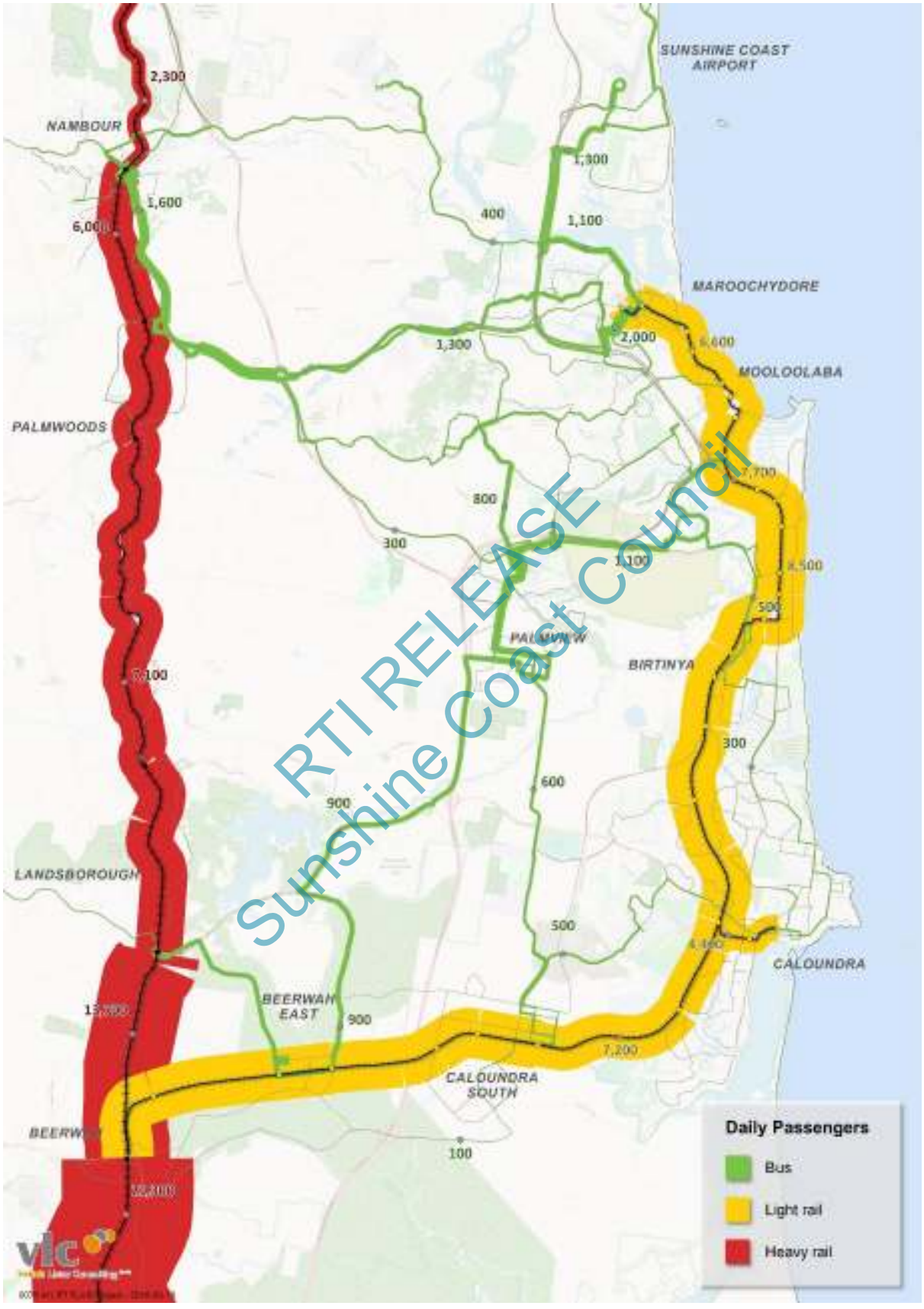


8.4 AM (2hr) Public Transport Passenger Loads



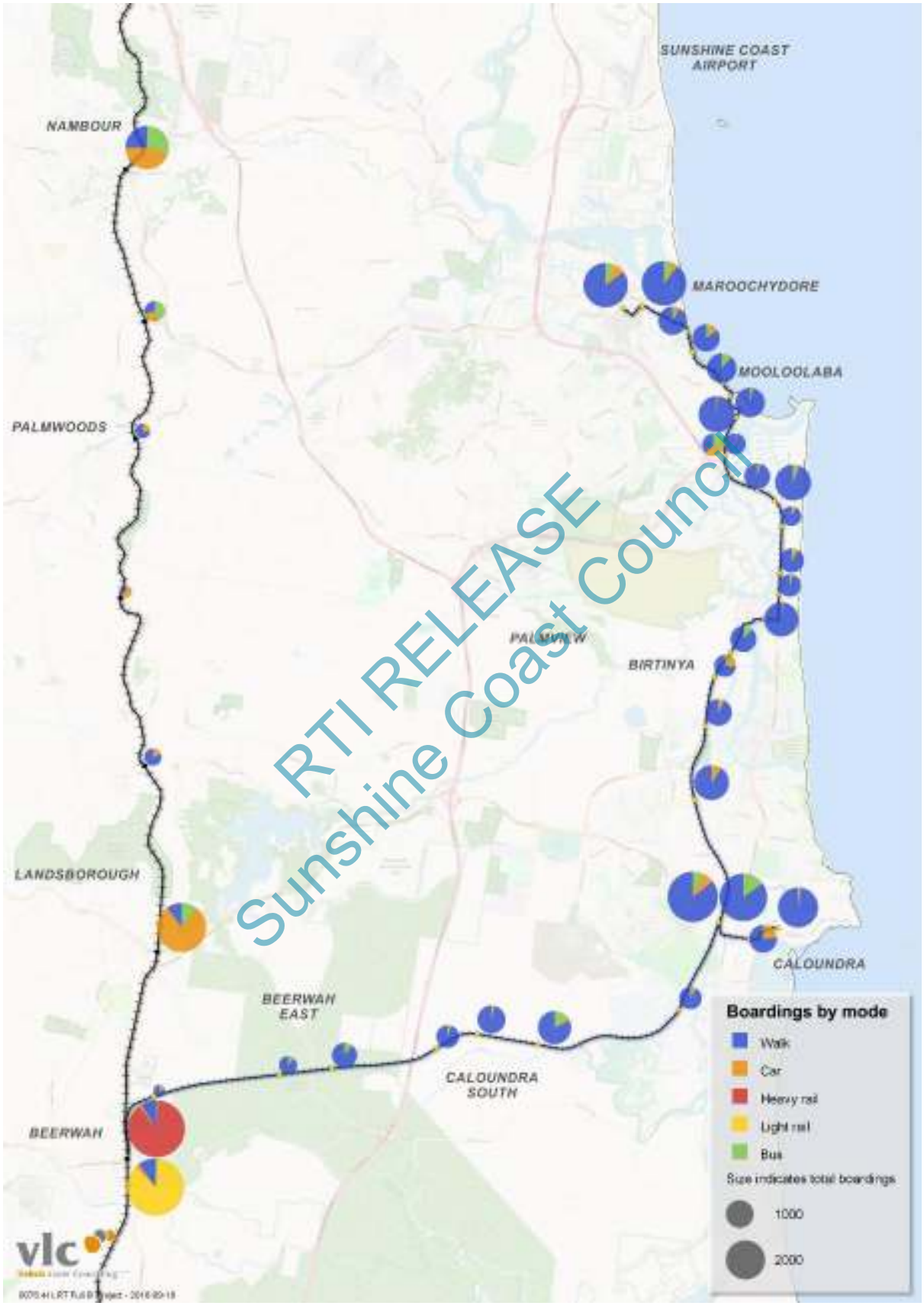
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8.5 Daily Public Transport Passenger Loads



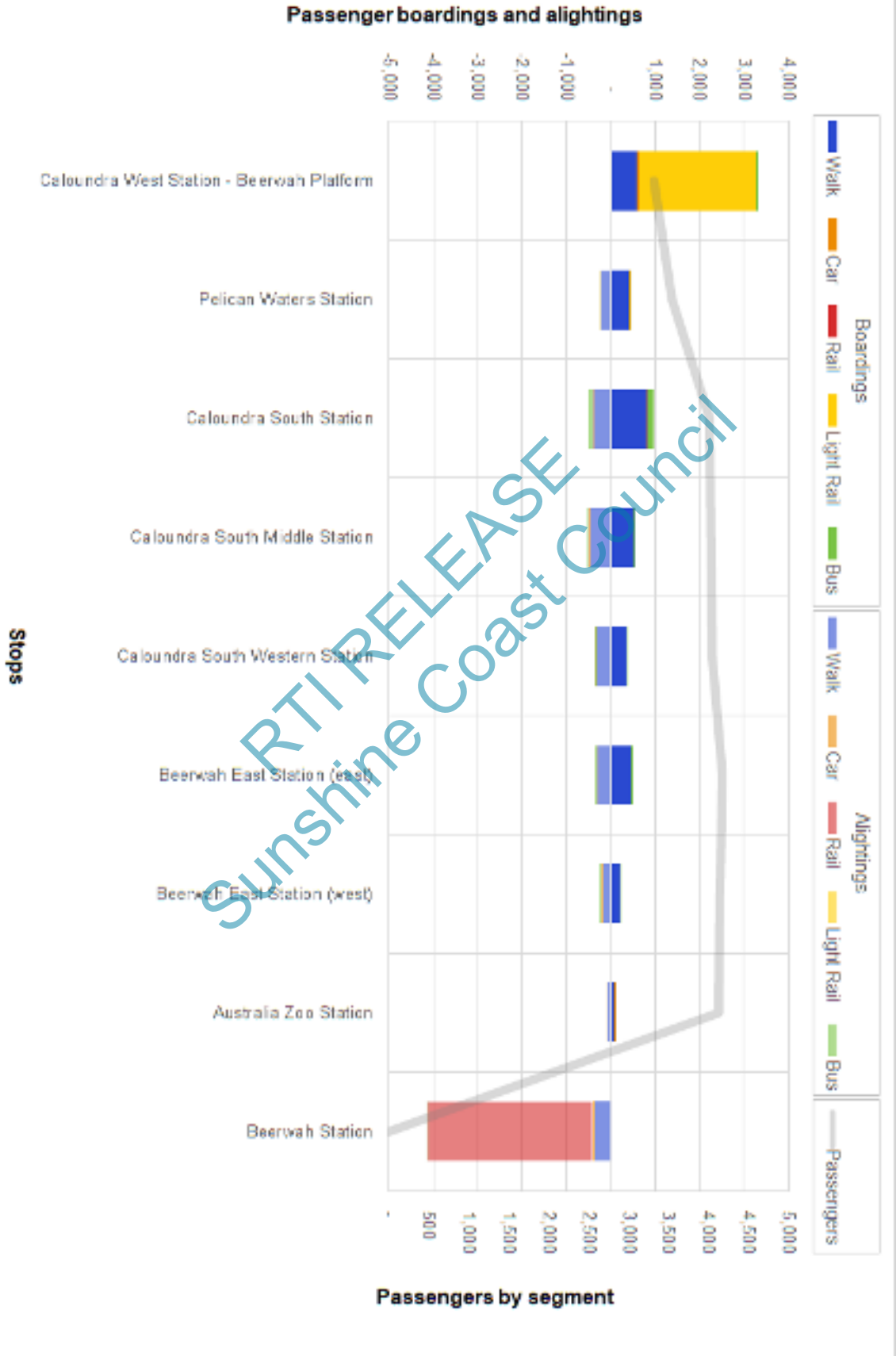
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8.6 Daily Station Access by Mode



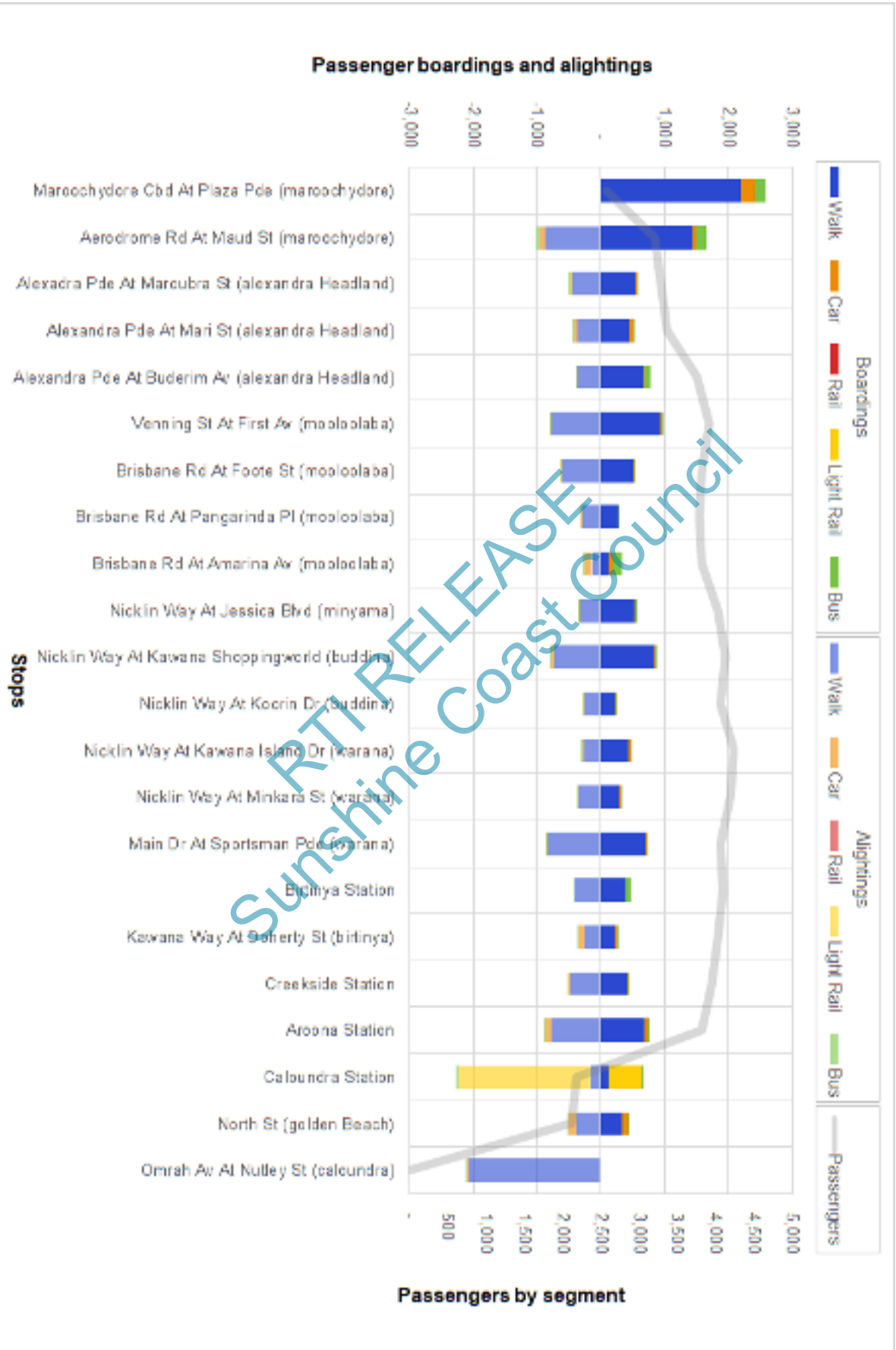
RTI RELEASE
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8.7 Light Rail Utilisation – Caloundra West to Beerwah



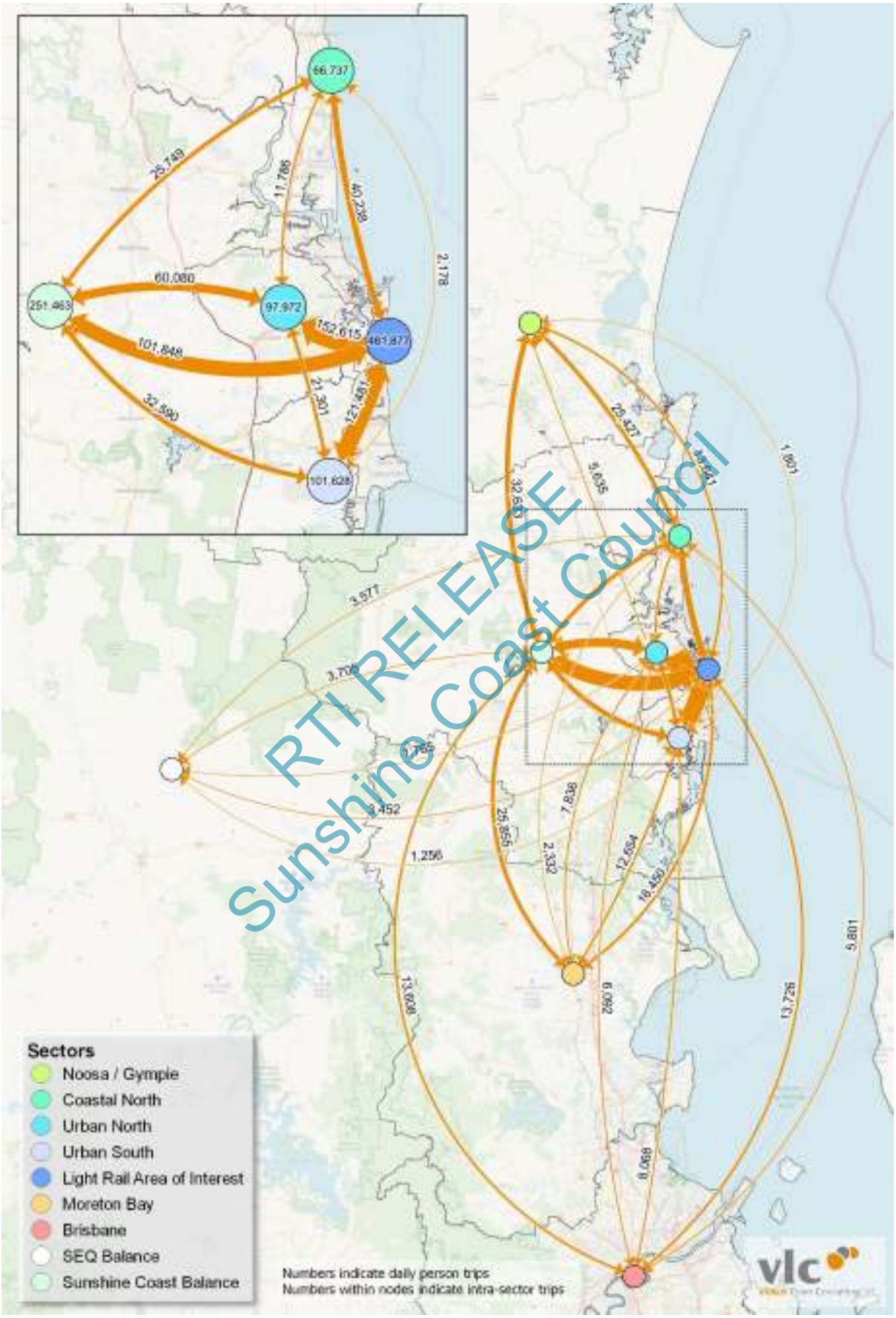
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8.8 Light Rail Utilisation – Maroochydore to Caloundra



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8.9 Private Vehicle Trip Distribution



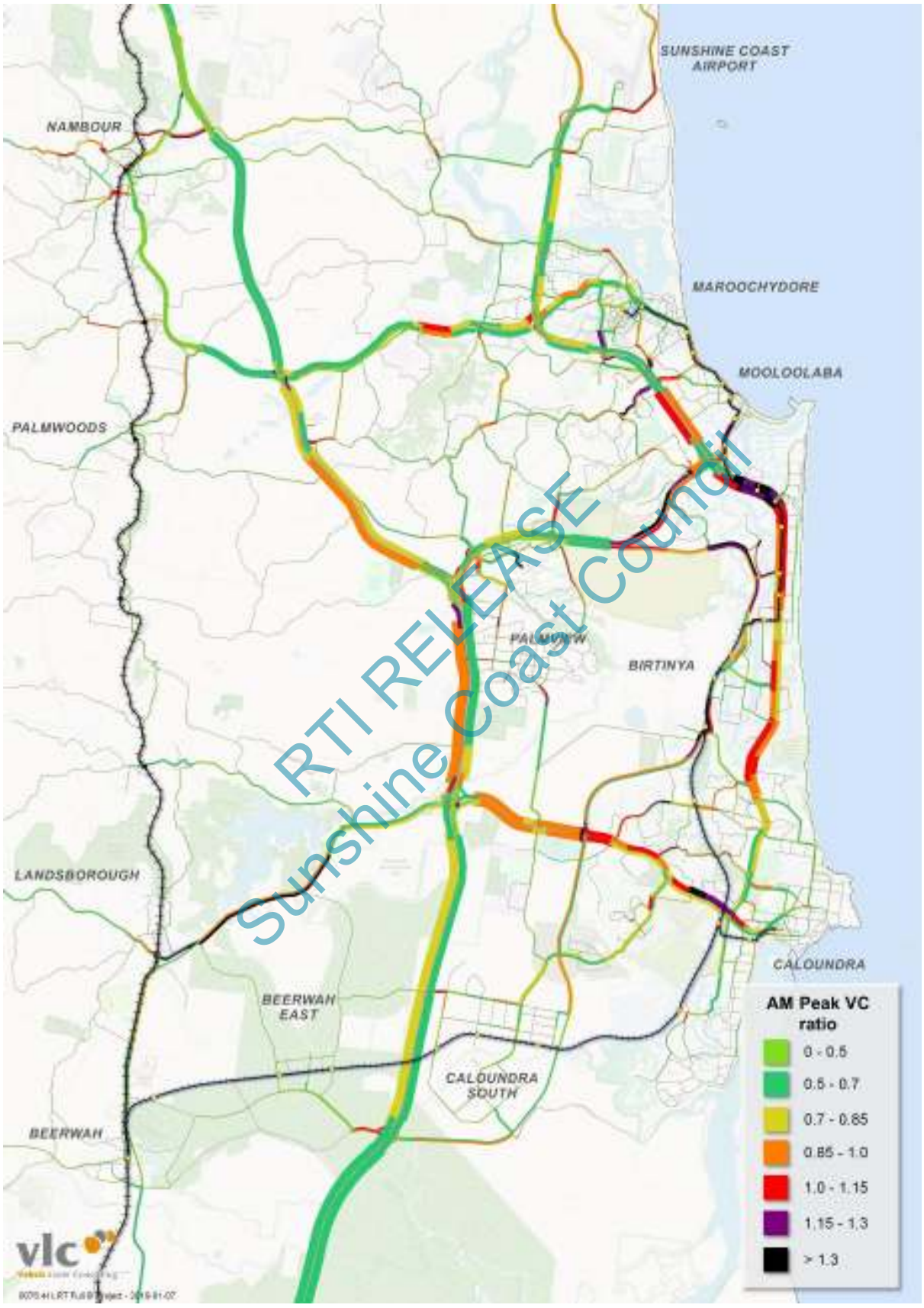
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8.10 Daily Vehicle Loads



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8.11 AM Peak Volume to Capacity



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9. Full CAMCOS (A) (Scenario 9P)

The Full CAMCOS (A) scenario uses the reference case heavy rail network, with a light rail service running from Beerwah to Maroochydore and from Caloundra to Maroochydore. Light rail uses the CAMCOS alignment between Beerwah/Caloundra and Maroochydore. Amendments to reference case bus routes have been made to facilitate passenger interchange at light rail stations. Figure 9 shows the modelled PT network. Table 25 shows both light and heavy rail service frequencies.

Table 25: Full CAMCOS (A) Service Assumptions

Rail Lines	Stops in Sunshine Coast	Frequency		
		AM	MD	PM
Nambour Line (Standard Train)	As per Reference Case	4	1	4
Light Rail Caloundra to Maroochydore	Nutley St North St Caloundra West Aroona Creekside Doherty St Birtinya Parrearra Mountain Creek Wises Rd Dalton Dr Maroochydore	4	4	4
Light Rail Beerwah to Maroochydore	Beerwah Australia Zoo Beerwah East West Beerwah East East Caloundra South Western Caloundra South Middle Caloundra South CBD Pelican Waters Caloundra West .. As Per Above … Plaza Pde	4	4	4

Figure 9: Full CAMCOS (A) PT Network



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9.1 Mode Share

The mode share of person trips generated from macro sectors within the Sunshine Coast is presented in Table 26. At the LGA level, car is the dominant mode (76.1%) with Walking accounting for the second highest share of all trips (21.7%). Public transport accounts for approximately 2.2% of all trips.

Table 26: Mode Share (person trips) by macro sector of origin

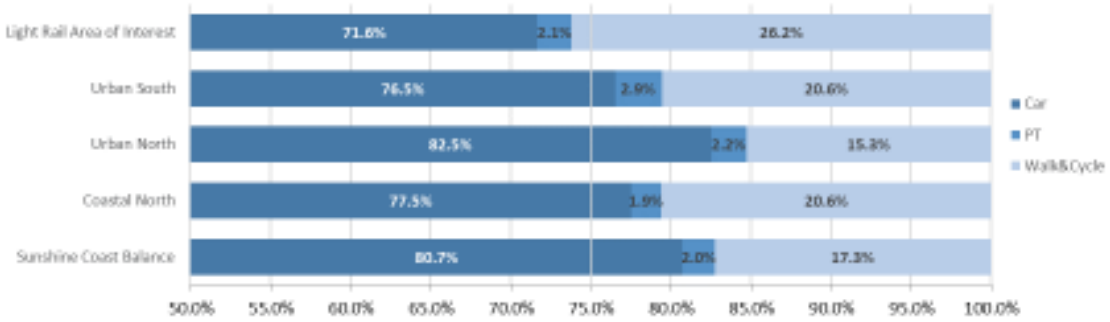
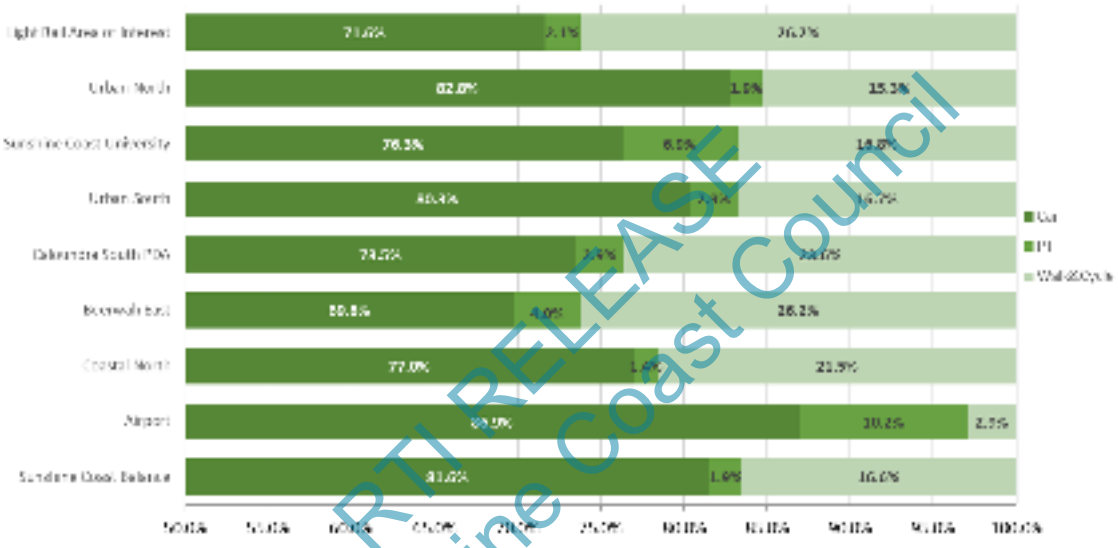


Table 27 shows the mode share of trips that originate in the various detailed sectors of the Sunshine Coast

Table 27: Mode share (person trips) by detailed sector of origin

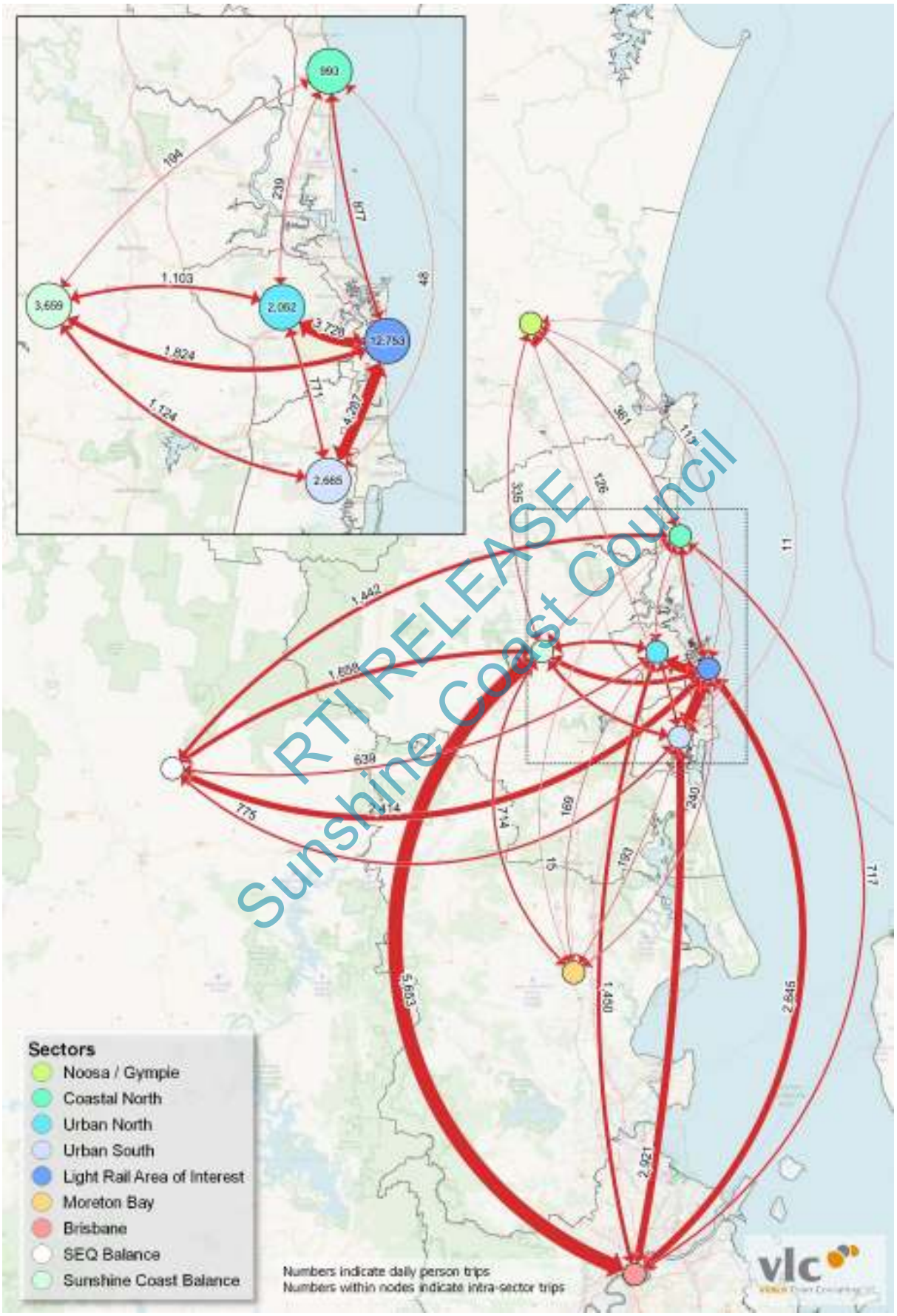


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9.2 Sunshine Coast Trip Self Containment

Full CAMCOS (A) modelling shows that the Sunshine Coast community makes 2,174,200 trips per day. 94.8% of these trips will be satisfied by destinations within the LGA; 1.9% are destined for Noosa/Gympie, 1.5% to Moreton Bay and 1.4% to Brisbane.

9.3 Public Transport Trip Distribution



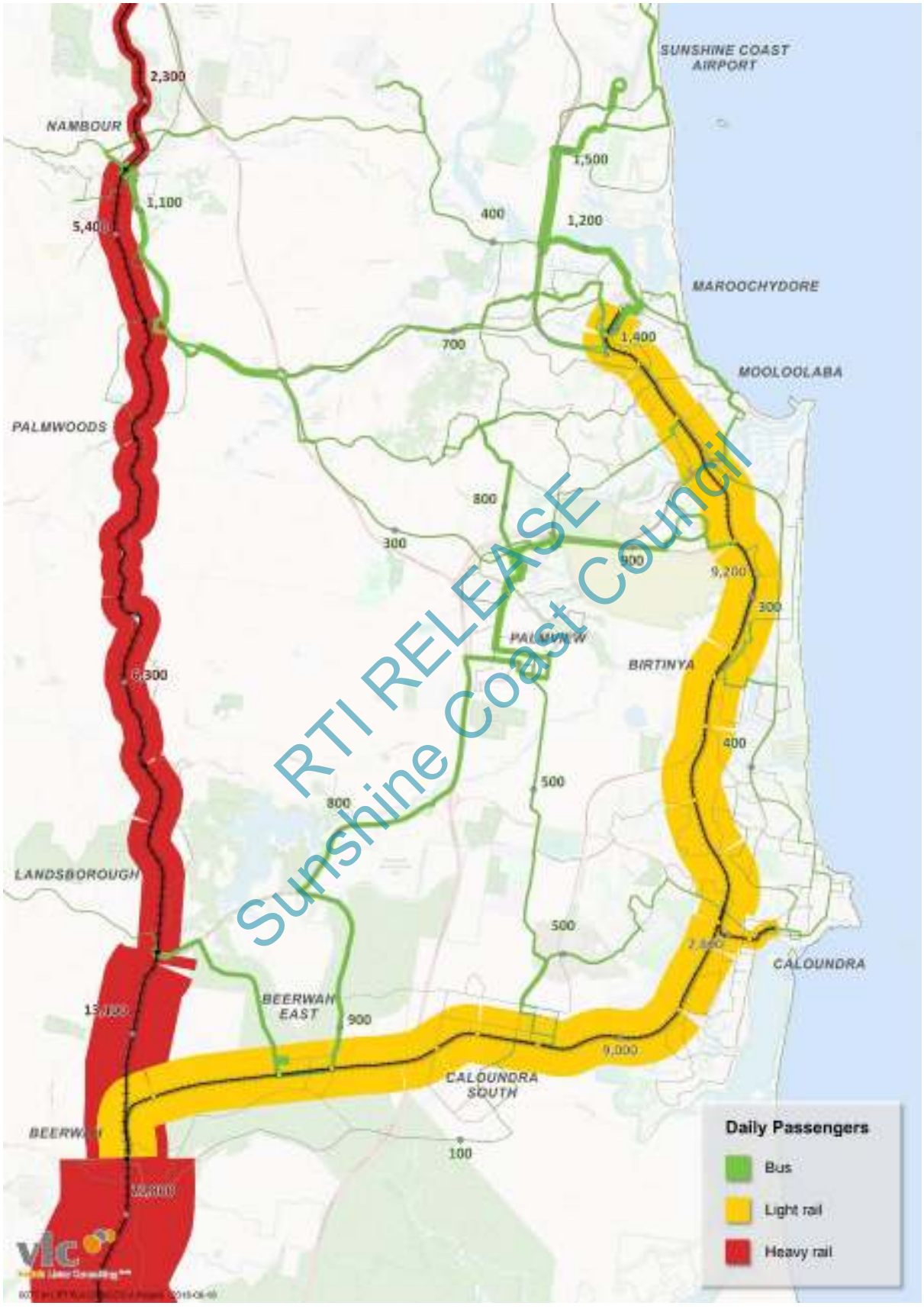
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9.4 AM (2hr) Public Transport Passenger Loads



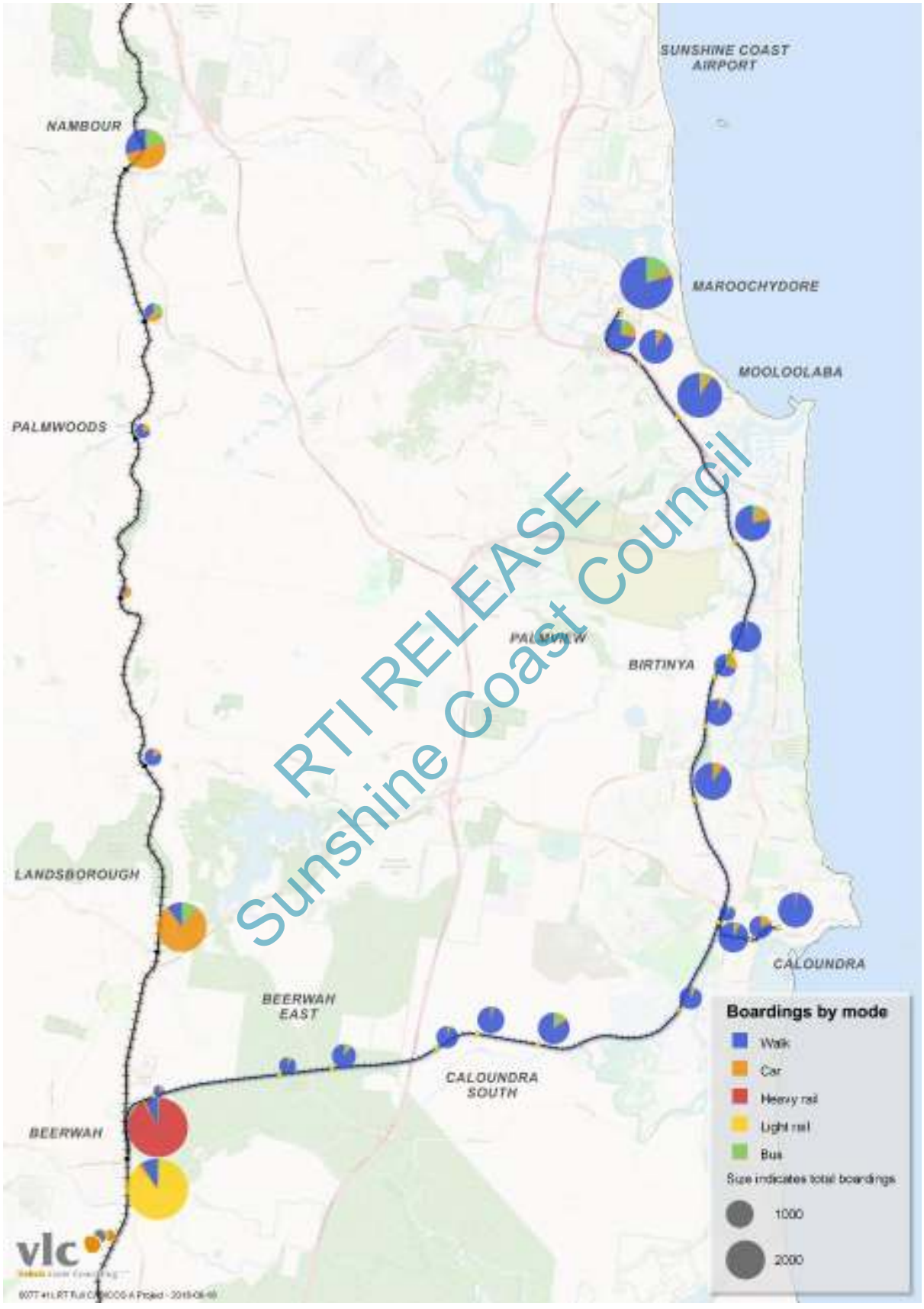
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9.5 Daily Public Transport Passenger Loads



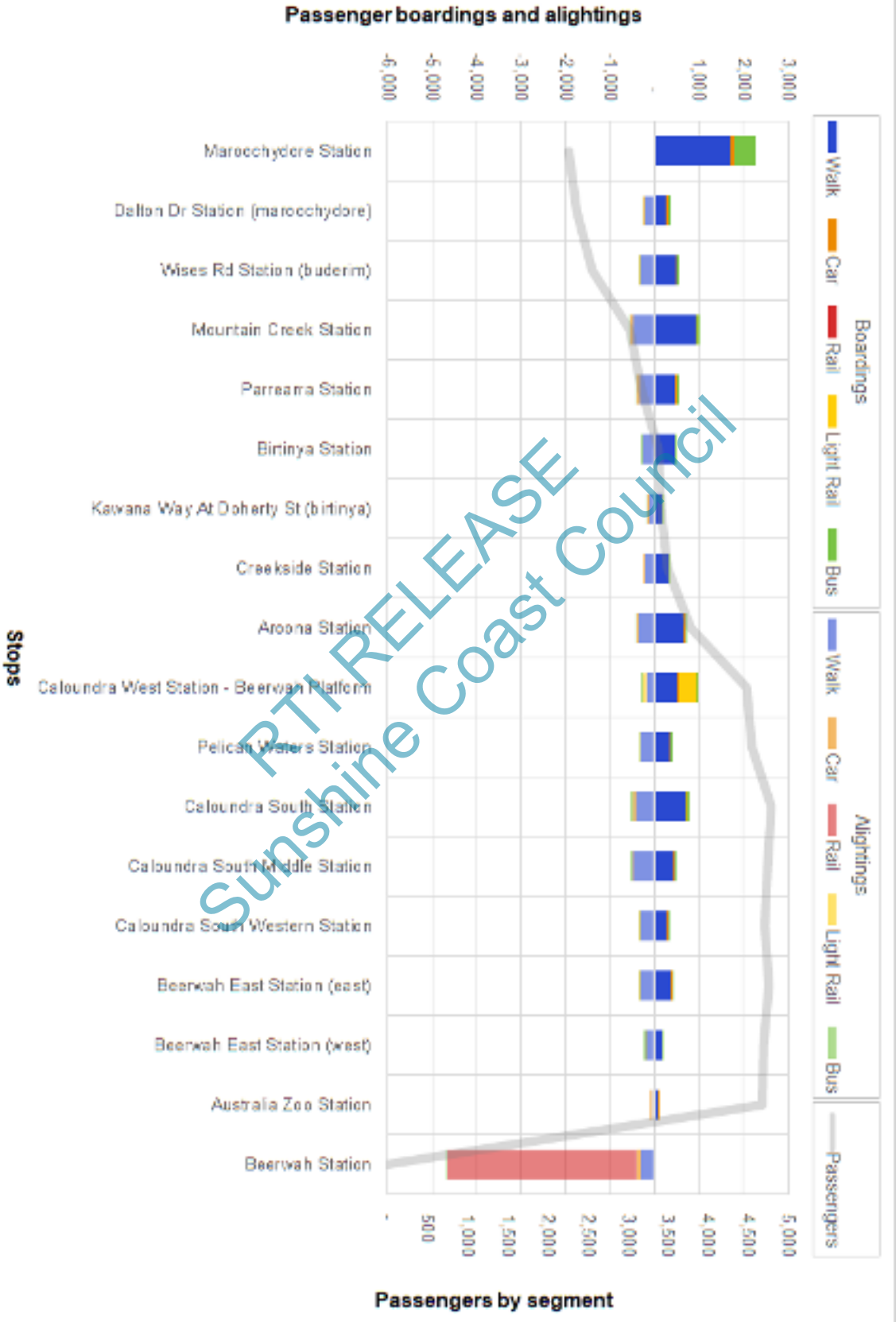
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9.6 Daily Station Access by Mode



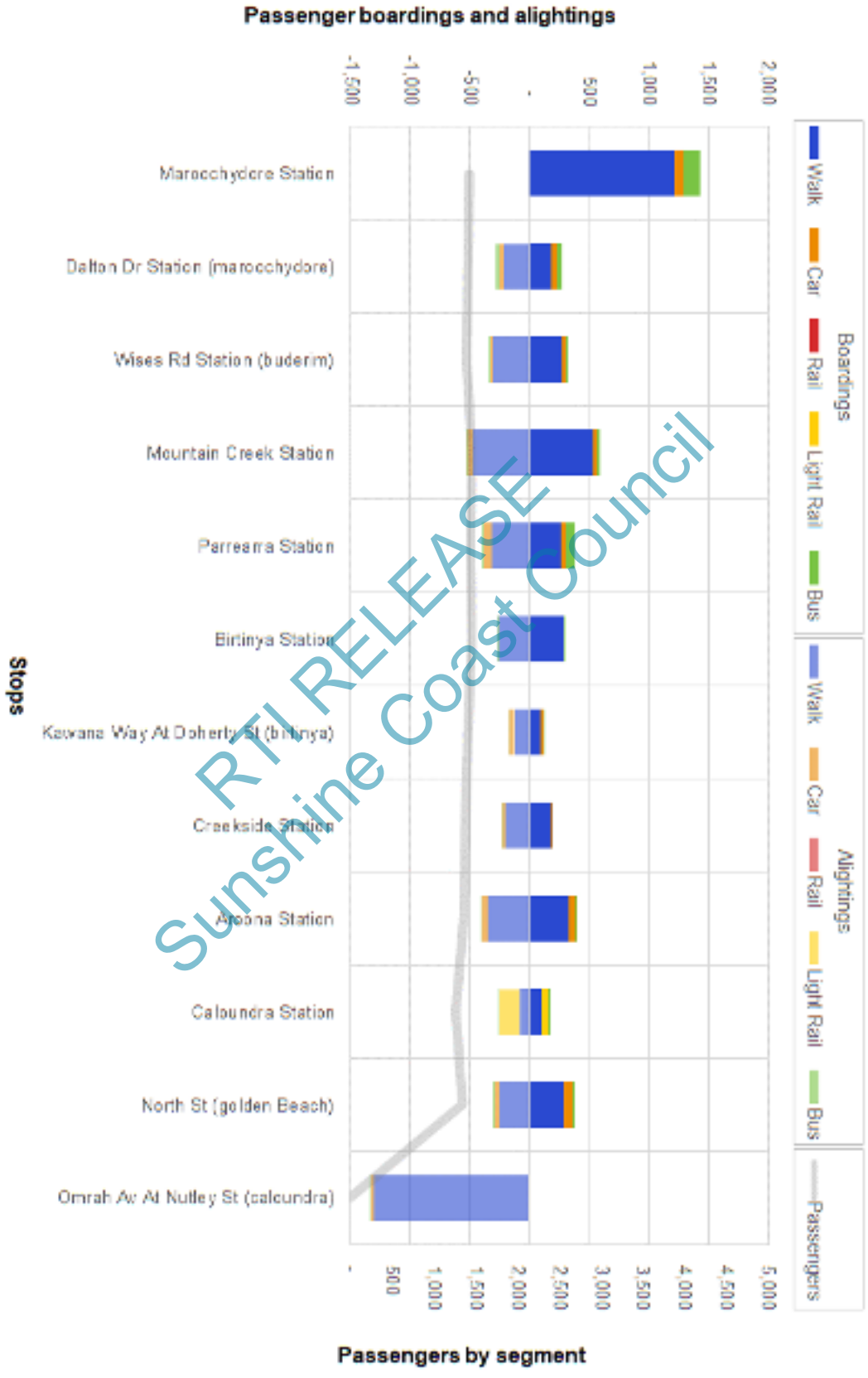
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9.7 Light Rail Utilisation – Maroochydore to Beerwah



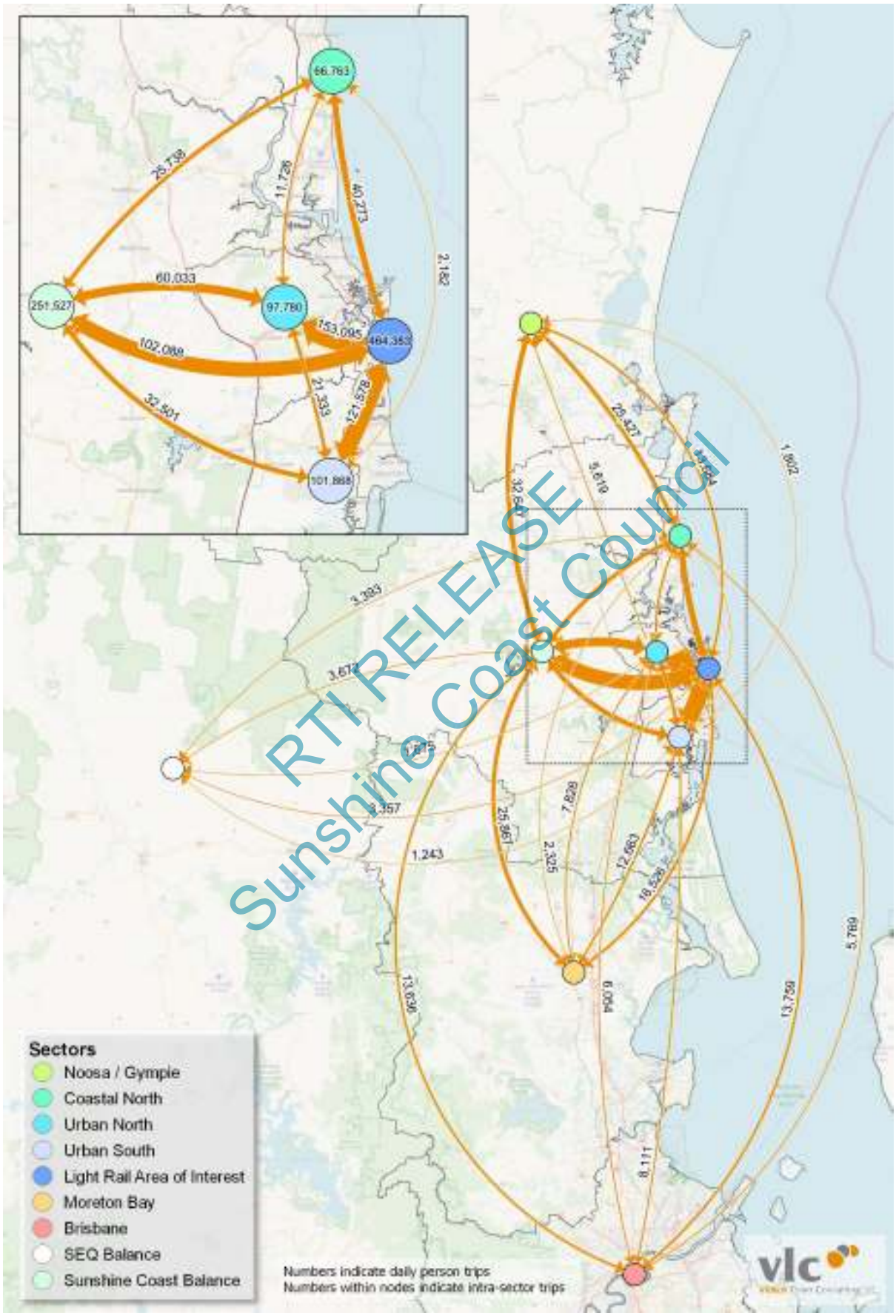
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9.8 Light Rail Utilisation – Maroochydore to Caloundra



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9.9 Private Vehicle Trip Distribution

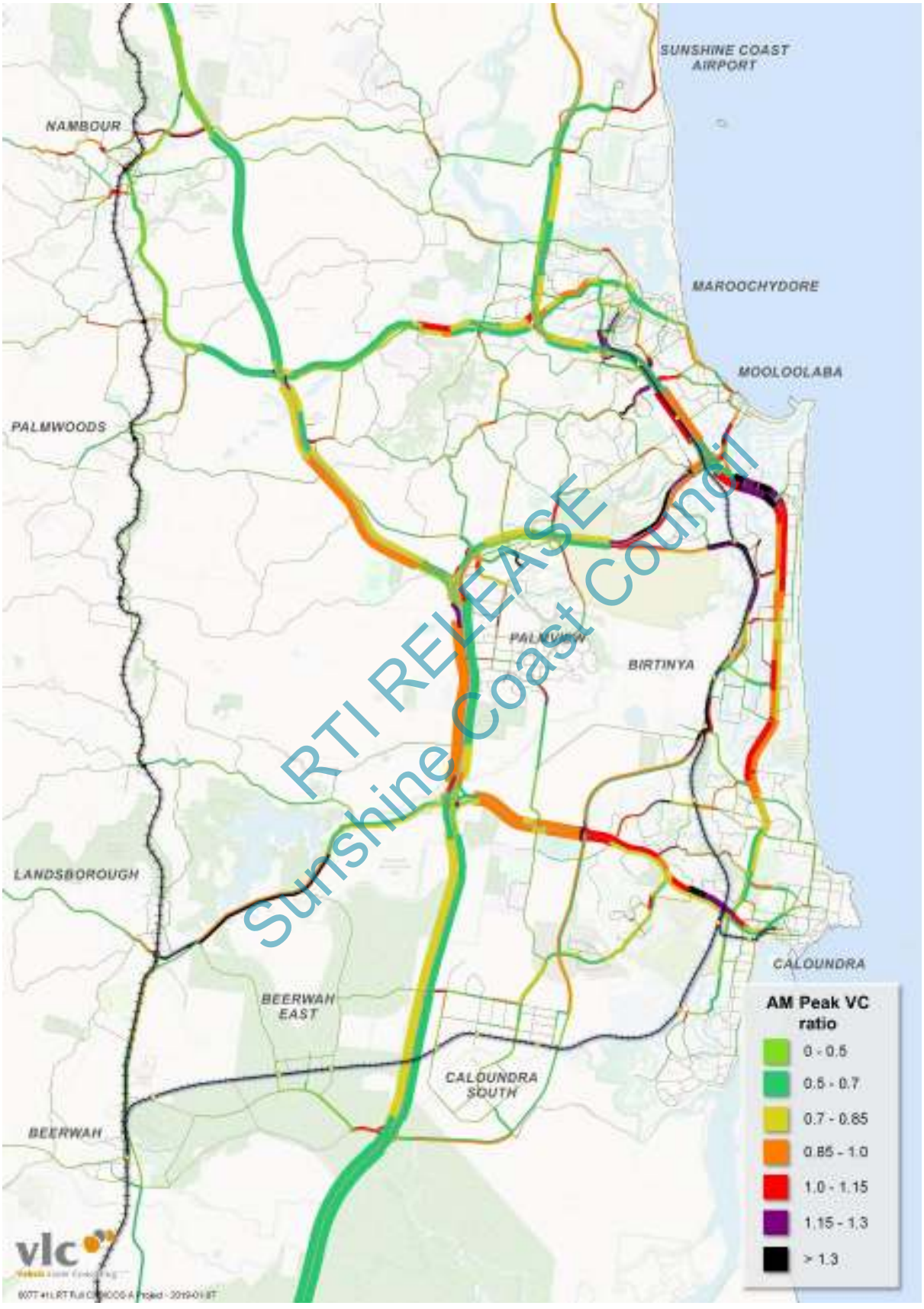


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9.10 Daily Vehicle Loads



9.11 AM Peak Volume to Capacity



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Prepared for

SUNSHINE COAST COUNCIL

Sectorised matrices - Base case demographics (Volume 5)

Sunshine Coast demographics and preliminary modelling

September, 2018

Sectorised Matrices- Base Case Demographics

(Volume 5)

Modelled Scenarios:

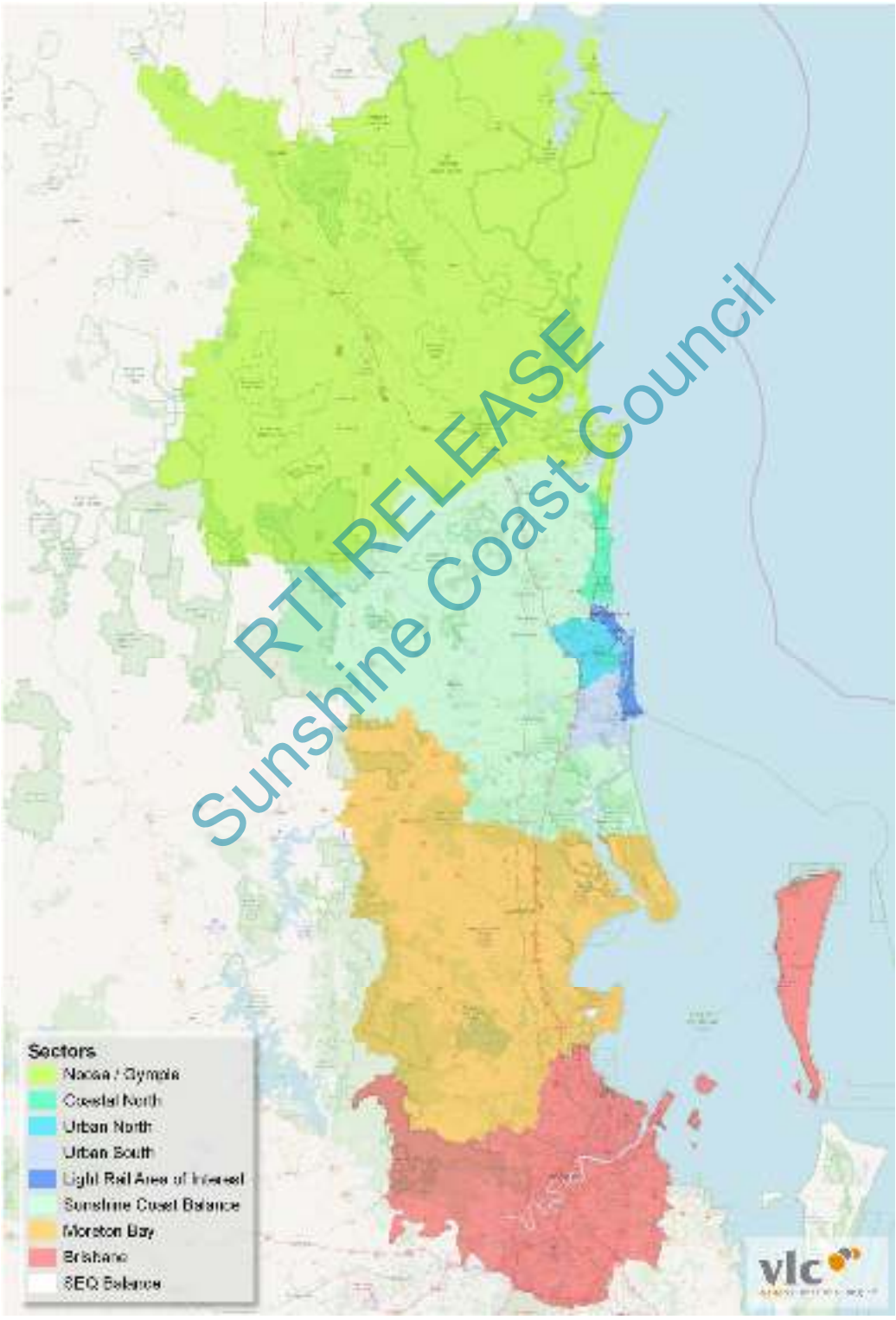
Modelled Network	Scenario Reference	VLC Model Variant
Reference Case Network	1B	59
CAMCOS	2B	62
North Coast Connect	3B	71
Sunshine Coast Light Rail	4B	60
Sunshine Coast Light Rail and CAMCOS	5B	64
Sunshine Coast Light Rail and North Coast Connect	6B	72

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The Sector System

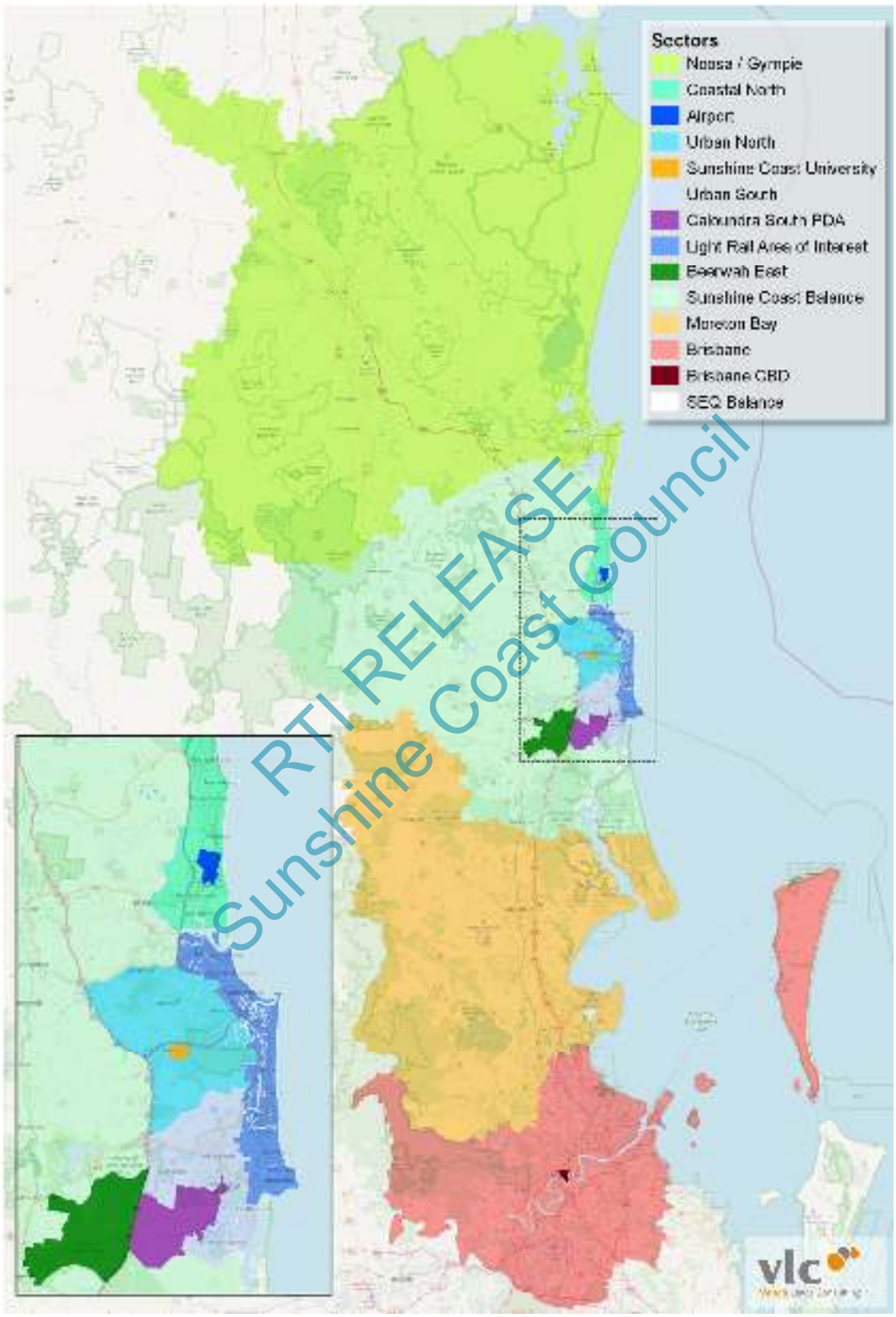
Sectorised matrices are used to analyse and communicate mode share, self-containment and distribution of trips from the model. The following matrices contain trip numbers to, from and between sectors by different transport modes. Two sector systems have been used to report model results. The Macro Sector System is comprised of 9 geographical areas and is shown in Figure 1. The Detailed Sector System is comprised of 14 geographical areas and is shown Figure 2.

Figure 1: Macro Sector System



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Figure 2: Detailed Sector System



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Scenario 1B - Base Case Demographics - Reference Case Network - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	422,388	78,080	60,290	20,332	51,030	6,552	7,792	6,922	1,925	655,312
Urban North	78,055	106,827	11,363	6,503	34,619	2,963	4,166	3,222	895	248,613
Urban South	60,276	11,355	101,788	1,158	13,172	928	6,426	4,613	775	200,492
Coastal North	20,323	6,493	1,159	68,790	14,206	12,771	1,182	2,915	1,736	129,574
Sunshine Coast Balance	51,010	34,598	13,169	14,208	285,860	17,160	12,922	6,448	1,870	437,245
Noosa / Gympie	6,550	2,965	925	12,776	17,170	412,301	975	2,435	6,782	462,879
Moreton Bay	7,791	4,157	6,422	1,182	12,945	973	1,670,143	262,583	13,953	1,980,149
Brisbane	6,906	3,210	4,605	2,926	6,471	2,441	263,481	4,678,968	658,400	5,627,407
SEQ Balance	1,884	886	751	1,780	1,891	6,867	13,571	655,431	10,100,764	10,783,824
Total	655,184	248,570	200,472	129,653	437,363	462,955	1,980,659	5,623,537	10,787,100	20,525,494

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.3%	93.9%	94.0%	98.3%	96.7%	99.3%	99.4%	87.5%	70.1%	72.6%
Urban North	93.9%	71.0%	97.2%	98.1%	96.9%	97.9%	97.7%	80.2%	74.0%	82.8%
Urban South	94.0%	97.2%	65.3%	99.5%	99.1%	99.7%	99.3%	78.6%	76.6%	77.0%
Coastal North	98.3%	98.0%	99.4%	66.6%	98.1%	97.3%	99.4%	88.8%	71.6%	78.0%
Sunshine Coast Balance	96.6%	96.8%	99.0%	98.1%	75.2%	98.9%	97.1%	70.9%	69.2%	81.2%
Noosa / Gympie	99.3%	97.9%	99.7%	97.4%	98.9%	79.1%	98.3%	92.3%	85.9%	80.7%
Moreton Bay	99.4%	97.5%	99.2%	99.4%	97.3%	98.2%	82.7%	85.9%	82.4%	83.3%
Brisbane	87.3%	79.9%	78.5%	89.2%	71.2%	92.5%	86.2%	65.1%	84.0%	67.7%
SEQ Balance	68.6%	73.3%	74.2%	73.4%	69.9%	87.0%	80.2%	83.6%	88.5%	88.2%
Total To Sector	72.6%	82.8%	77.0%	78.0%	81.2%	80.7%	83.4%	67.6%	88.2%	80.0%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	7,231	1,304	827	340	538	45	48	987	822	12,142
Urban North	1,311	2,207	307	127	586	63	98	796	315	5,811
Urban South	841	311	1,871	6	124	3	47	1,254	236	4,693
Coastal North	346	135	7	1,018	113	186	7	366	690	2,868
Sunshine Coast Balance	557	612	131	109	3,784	182	379	2,640	831	9,224
Noosa / Gympie	47	63	3	182	173	3,639	17	204	669	4,998
Moreton Bay	50	107	51	7	361	18	35,366	41,453	2,978	80,391
Brisbane	1,005	807	1,263	355	2,612	199	40,568	591,586	123,472	761,866
SEQ Balance	861	323	262	646	812	581	3,358	126,398	161,126	294,367
Total	12,249	5,870	4,722	2,789	9,102	4,915	79,889	765,684	291,139	1,176,359

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.1%	1.6%	1.3%	1.6%	1.0%	0.7%	0.6%	12.5%	29.9%	1.3%
Urban North	1.6%	1.5%	2.6%	1.9%	1.6%	2.1%	2.3%	19.8%	26.0%	1.9%
Urban South	1.3%	2.7%	1.2%	0.5%	0.9%	0.3%	0.7%	21.4%	23.4%	1.8%
Coastal North	1.7%	2.0%	0.6%	1.0%	0.8%	1.4%	0.6%	11.2%	28.4%	1.7%
Sunshine Coast Balance	1.1%	1.7%	1.0%	0.8%	1.0%	1.0%	2.9%	29.1%	30.7%	1.7%
Noosa / Gympie	0.7%	2.1%	0.3%	1.4%	1.0%	0.7%	1.7%	7.7%	8.5%	0.9%
Moreton Bay	0.6%	2.5%	0.8%	0.6%	2.7%	1.8%	1.8%	13.6%	17.6%	3.4%
Brisbane	12.7%	20.1%	21.5%	10.8%	28.8%	7.5%	13.3%	8.2%	15.7%	9.2%
SEQ Balance	31.4%	26.7%	25.8%	26.6%	30.0%	7.4%	19.8%	16.1%	1.4%	2.4%
Total To Sector	1.4%	2.0%	1.8%	1.7%	1.7%	0.9%	3.4%	9.2%	2.4%	4.6%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	226,936	3,762	3,023	2	1,226	-	-	-	-	234,950
Urban North	3,778	41,466	18	0	536	-	-	-	-	45,798
Urban South	3,026	19	52,260	-	1	-	-	-	-	55,306
Coastal North	2	0	-	33,417	159	164	-	-	-	33,742
Sunshine Coast Balance	1,225	535	1	160	90,302	15	0	-	0	92,238
Noosa / Gympie	-	-	-	164	15	105,184	-	-	445	105,808
Moreton Bay	-	-	-	-	0	-	313,984	1,774	0	315,759
Brisbane	-	-	-	-	-	-	1,763	1,921,658	2,257	1,925,677
SEQ Balance	-	-	-	-	0	449	-	2,300	1,149,649	1,152,398
Total	234,967	45,783	55,303	33,743	92,239	105,812	315,747	1,925,731	1,152,351	3,961,676

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.6%	4.5%	4.7%	0.0%	2.3%	-	-	-	-	26.0%
Urban North	4.5%	27.6%	0.2%	0.0%	1.5%	-	-	-	-	15.3%
Urban South	4.7%	0.2%	33.5%	-	0.0%	-	-	-	-	21.2%
Coastal North	0.0%	0.0%	-	32.4%	1.1%	1.3%	-	-	-	20.3%
Sunshine Coast Balance	2.3%	1.5%	0.0%	1.1%	23.8%	0.1%	0.0%	-	0.0%	17.1%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	5.6%	18.4%
Moreton Bay	-	-	-	-	0.0%	-	15.5%	0.6%	0.0%	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.2%
SEQ Balance	-	-	-	-	0.0%	5.7%	-	0.3%	10.1%	9.4%
Total To Sector	26.0%	15.2%	21.2%	20.3%	17.1%	18.4%	13.3%	23.2%	9.4%	15.4%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	656,556	83,146	64,140	20,674	52,794	6,597	7,840	7,910	2,747	902,404
Urban North	83,144	150,500	11,687	6,630	35,742	3,026	4,264	4,018	1,210	300,222
Urban South	64,143	11,684	155,920	1,164	13,296	931	6,474	5,867	1,012	260,490
Coastal North	20,671	6,629	1,165	103,224	14,477	13,122	1,189	3,282	2,425	166,184
Sunshine Coast Balance	52,792	35,745	13,300	14,476	379,946	17,356	13,302	9,089	2,701	538,707
Noosa / Gympie	6,596	3,029	928	13,122	17,358	521,124	992	2,639	7,897	573,685
Moreton Bay	7,841	4,264	6,474	1,188	13,306	990	2,019,493	305,810	16,931	2,376,298
Brisbane	7,911	4,017	5,868	3,281	9,082	2,640	305,812	7,192,211	784,128	8,314,950
SEQ Balance	2,746	1,208	1,013	2,426	2,703	7,896	16,930	784,129	11,411,539	12,230,589
Total	902,400	300,223	260,497	166,185	538,705	573,682	2,376,296	8,314,952	12,230,590	25,663,529

RTI RELEASE
Sunshine Coast Council

Scenario 2B - Base Case Demographics - With CAMCOS - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	421,230	77,676	60,239	20,295	50,950	6,532	7,690	5,946	1,249	651,808
Urban North	77,674	106,534	11,233	6,411	34,496	2,960	4,156	3,162	798	247,426
Urban South	60,234	11,223	101,543	1,159	13,237	921	6,381	3,966	527	199,192
Coastal North	20,284	6,404	1,160	68,616	14,133	12,744	1,133	2,079	962	127,514
Sunshine Coast Balance	50,928	34,474	13,226	14,135	285,311	17,160	12,898	6,399	1,829	436,359
Noosa / Gympie	6,531	2,958	920	12,747	17,165	412,268	972	2,432	6,749	462,741
Moreton Bay	7,697	4,142	6,376	1,131	12,911	972	1,670,194	263,144	13,950	1,980,517
Brisbane	5,969	3,132	3,959	2,104	6,419	2,434	264,099	4,679,330	658,433	5,625,878
SEQ Balance	1,311	805	539	1,061	1,872	6,839	13,664	655,715	10,100,946	10,782,752
Total	651,857	247,347	199,195	127,660	436,494	462,828	1,981,187	5,622,172	10,785,443	20,514,186

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.2%	93.7%	93.1%	97.2%	96.2%	99.0%	95.6%	71.1%	42.9%	72.2%
Urban North	93.7%	71.0%	97.0%	98.1%	96.9%	97.9%	97.2%	78.3%	65.6%	82.7%
Urban South	93.1%	96.9%	65.4%	96.0%	98.0%	99.2%	96.7%	63.7%	49.2%	76.3%
Coastal North	97.1%	98.0%	96.0%	66.6%	98.1%	97.4%	95.7%	62.3%	39.0%	76.8%
Sunshine Coast Balance	96.2%	96.8%	97.9%	98.1%	75.2%	98.9%	96.8%	70.3%	67.5%	81.1%
Noosa / Gympie	99.0%	97.9%	99.2%	97.4%	98.9%	79.1%	98.3%	92.0%	85.5%	80.7%
Moreton Bay	95.6%	96.9%	96.6%	95.5%	96.9%	98.1%	82.7%	86.1%	82.3%	83.3%
Brisbane	71.4%	77.6%	63.6%	63.0%	70.6%	92.2%	86.4%	65.1%	84.0%	67.7%
SEQ Balance	45.0%	66.1%	50.3%	43.1%	69.1%	86.6%	80.6%	83.6%	88.5%	88.2%
Total To Sector	72.2%	82.7%	76.3%	76.9%	81.1%	80.7%	83.4%	67.6%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	8,914	1,446	1,518	586	800	64	358	2,415	1,664	17,764
Urban North	1,434	2,174	330	122	571	63	121	874	419	6,108
Urban South	1,527	340	2,224	48	272	7	215	2,261	545	7,438
Coastal North	597	130	48	1,017	117	181	51	1,259	1,503	4,903
Sunshine Coast Balance	824	595	284	113	3,750	182	428	2,698	879	9,753
Noosa / Gympie	66	63	7	178	171	3,635	17	210	700	5,049
Moreton Bay	353	133	222	53	414	19	35,008	40,794	3,000	79,996
Brisbane	2,392	904	2,269	1,235	2,678	207	39,849	591,181	123,237	763,952
SEQ Balance	1,602	413	533	1,403	835	607	3,287	125,913	160,640	295,233
Total	17,709	6,198	7,434	4,756	9,608	4,965	79,334	767,605	292,586	1,190,196

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.4%	1.7%	2.3%	2.8%	1.5%	1.0%	4.4%	28.9%	57.1%	2.0%
Urban North	1.7%	1.4%	2.8%	1.9%	1.6%	2.1%	2.8%	21.7%	34.4%	2.0%
Urban South	2.4%	2.9%	1.4%	4.0%	2.0%	0.8%	3.3%	36.3%	50.8%	2.8%
Coastal North	2.9%	2.0%	4.0%	1.0%	0.8%	1.4%	4.3%	37.7%	61.0%	3.0%
Sunshine Coast Balance	1.6%	1.7%	2.1%	0.8%	1.0%	1.0%	3.2%	29.7%	32.4%	1.8%
Noosa / Gympie	1.0%	2.1%	0.8%	1.4%	1.0%	0.7%	1.7%	8.0%	8.9%	0.9%
Moreton Bay	4.4%	3.1%	3.4%	4.5%	3.1%	1.9%	1.7%	13.3%	17.7%	3.4%
Brisbane	28.6%	22.4%	36.4%	37.0%	29.4%	7.8%	13.0%	8.2%	15.7%	9.2%
SEQ Balance	55.0%	33.9%	49.7%	56.9%	30.8%	7.7%	19.4%	16.1%	1.4%	2.4%
Total To Sector	2.0%	2.1%	2.8%	2.9%	1.8%	0.9%	3.3%	9.2%	2.4%	4.6%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	225,726	3,739	2,952	2	1,205	-	-	-	-	233,624
Urban North	3,755	41,293	15	1	533	-	-	-	-	45,595
Urban South	2,953	16	51,492	-	1	-	-	-	-	54,462
Coastal North	2	0	-	33,361	159	163	-	-	-	33,686
Sunshine Coast Balance	1,205	533	1	159	90,139	14	0	-	0	92,051
Noosa / Gympie	-	-	-	164	14	105,182	-	-	445	105,805
Moreton Bay	-	-	-	-	0	-	313,900	1,773	-	315,674
Brisbane	-	-	-	-	-	-	1,762	1,921,509	2,254	1,925,525
SEQ Balance	-	-	-	-	0	449	-	2,297	1,149,979	1,152,725
Total	233,641	45,581	54,460	33,686	92,052	105,808	315,662	1,925,579	1,152,678	3,959,146

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.4%	4.5%	4.6%	0.0%	2.3%	-	-	-	-	25.9%
Urban North	4.5%	27.5%	0.1%	0.0%	1.5%	-	-	-	-	15.2%
Urban South	4.6%	0.1%	33.2%	-	0.0%	-	-	-	-	20.9%
Coastal North	0.0%	0.0%	-	32.4%	1.1%	1.2%	-	-	-	20.3%
Sunshine Coast Balance	2.3%	1.5%	0.0%	1.1%	23.8%	0.1%	0.0%	-	0.0%	17.1%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	5.6%	18.4%
Moreton Bay	-	-	-	-	0.0%	-	15.5%	0.6%	-	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.2%
SEQ Balance	-	-	-	-	0.0%	5.7%	-	0.3%	10.1%	9.4%
Total To Sector	25.9%	15.2%	20.9%	20.3%	17.1%	18.4%	13.3%	23.2%	9.4%	15.4%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	655,871	82,860	64,709	20,883	52,956	6,596	8,048	8,361	2,913	903,196
Urban North	82,862	150,001	11,578	6,534	35,600	3,023	4,277	4,036	1,218	299,128
Urban South	64,713	11,579	155,259	1,207	13,510	928	6,597	6,227	1,072	261,092
Coastal North	20,882	6,534	1,208	102,994	14,409	13,089	1,184	3,338	2,465	166,103
Sunshine Coast Balance	52,957	35,602	13,510	14,407	379,199	17,356	13,326	9,098	2,708	538,163
Noosa / Gympie	6,597	3,021	927	13,089	17,350	521,085	989	2,642	7,894	573,595
Moreton Bay	8,050	4,276	6,598	1,185	13,325	991	2,019,103	305,711	16,949	2,376,186
Brisbane	8,361	4,036	6,228	3,339	9,098	2,641	305,710	7,192,020	783,923	8,315,355
SEQ Balance	2,914	1,218	1,072	2,465	2,708	7,894	16,950	783,925	11,411,565	12,230,710
Total	903,207	299,127	261,089	166,102	538,154	573,601	2,376,183	8,315,357	12,230,708	25,663,529

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Scenario 3B - Base Case Demographics - With North Coast Connect - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	421,160	77,734	59,984	20,259	50,872	6,540	7,672	5,625	1,130	650,976
Urban North	77,716	106,679	11,161	6,411	34,441	2,957	4,146	2,995	751	247,256
Urban South	59,974	11,151	101,264	1,147	13,111	916	6,355	3,698	492	198,109
Coastal North	20,257	6,404	1,147	68,571	14,104	12,710	1,087	1,539	725	126,545
Sunshine Coast Balance	50,857	34,414	13,103	14,108	285,155	17,130	12,878	6,112	1,751	435,507
Noosa / Gympie	6,537	2,954	917	12,715	17,139	412,202	971	2,381	6,702	462,519
Moreton Bay	7,675	4,128	6,347	1,086	12,903	971	1,669,325	262,525	13,878	1,978,838
Brisbane	5,682	2,959	3,718	1,580	6,192	2,385	263,572	4,679,592	658,277	5,623,957
SEQ Balance	1,203	763	510	831	1,815	6,790	13,619	655,792	10,100,587	10,781,910
Total	651,061	247,187	198,151	126,708	435,731	462,599	1,979,625	5,620,259	10,784,294	20,505,616

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.3%	93.9%	93.6%	97.8%	96.4%	99.1%	94.5%	61.6%	36.4%	72.1%
Urban North	93.9%	71.0%	97.6%	98.2%	96.9%	97.9%	96.9%	70.4%	59.9%	82.6%
Urban South	93.6%	97.5%	65.4%	97.2%	98.5%	99.3%	96.6%	54.8%	44.1%	76.1%
Coastal North	97.8%	98.1%	97.2%	66.6%	98.1%	97.3%	91.6%	43.0%	28.9%	76.2%
Sunshine Coast Balance	96.3%	96.9%	98.4%	98.1%	75.2%	98.9%	96.6%	63.1%	62.7%	80.9%
Noosa / Gympie	99.1%	97.9%	99.3%	97.4%	98.9%	79.1%	97.7%	89.0%	84.8%	80.6%
Moreton Bay	94.5%	96.5%	96.5%	91.4%	96.8%	97.6%	82.7%	85.7%	81.9%	83.3%
Brisbane	62.3%	69.6%	55.1%	44.1%	63.9%	89.1%	86.1%	65.1%	84.0%	67.6%
SEQ Balance	38.7%	60.8%	45.6%	33.1%	64.9%	86.0%	80.4%	83.7%	88.5%	88.2%
Total To Sector	72.2%	82.6%	76.1%	76.3%	81.0%	80.7%	83.3%	67.6%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	7,659	1,298	1,107	461	696	58	449	3,503	1,975	17,204
Urban North	1,301	2,187	263	119	554	63	134	1,261	503	6,386
Urban South	1,117	269	1,878	33	202	7	222	3,049	625	7,402
Coastal North	463	127	33	1,012	117	183	100	2,040	1,787	5,861
Sunshine Coast Balance	712	577	208	113	3,758	183	448	3,573	1,043	10,616
Noosa / Gympie	60	64	6	180	174	3,633	23	296	753	5,188
Moreton Bay	444	150	230	102	424	24	35,014	41,940	3,069	81,398
Brisbane	3,444	1,295	3,031	1,999	3,493	292	40,906	590,567	123,216	768,243
SEQ Balance	1,904	492	607	1,681	979	661	3,328	125,657	161,140	296,449
Total	17,104	6,458	7,363	5,700	10,397	5,104	80,624	771,887	294,110	1,198,748

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.2%	1.6%	1.7%	2.2%	1.3%	0.9%	5.5%	38.4%	63.6%	1.9%
Urban North	1.6%	1.5%	2.3%	1.8%	1.6%	2.1%	3.1%	29.6%	40.1%	2.1%
Urban South	1.7%	2.3%	1.2%	2.8%	1.5%	0.7%	3.4%	45.2%	55.9%	2.8%
Coastal North	2.2%	1.9%	2.8%	1.0%	0.8%	1.4%	8.4%	57.0%	71.1%	3.5%
Sunshine Coast Balance	1.3%	1.6%	1.6%	0.8%	1.0%	1.1%	3.4%	36.9%	37.3%	2.0%
Noosa / Gympie	0.9%	2.1%	0.7%	1.4%	1.0%	0.7%	2.3%	11.0%	9.5%	0.9%
Moreton Bay	5.5%	3.5%	3.5%	8.6%	3.2%	2.4%	1.7%	13.7%	18.1%	3.4%
Brisbane	37.7%	30.4%	44.9%	55.9%	36.1%	10.9%	13.4%	8.2%	15.7%	9.2%
SEQ Balance	61.3%	39.2%	54.4%	66.9%	35.0%	8.4%	19.6%	16.0%	1.4%	2.4%
Total To Sector	1.9%	2.2%	2.8%	3.4%	1.9%	0.9%	3.4%	9.3%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	226,127	3,739	2,988	2	1,220	-	-	-	-	234,076
Urban North	3,751	41,329	15	0	532	-	-	-	-	45,627
Urban South	2,988	15	51,809	-	1	-	-	-	-	54,813
Coastal North	2	0	-	33,327	159	163	-	-	-	33,652
Sunshine Coast Balance	1,219	533	1	159	90,087	14	0	-	1	92,013
Noosa / Gympie	-	-	-	164	14	105,164	-	-	445	105,786
Moreton Bay	-	-	-	-	0	-	313,631	1,769	-	315,401
Brisbane	-	-	-	-	-	-	1,759	1,921,267	2,256	1,925,281
SEQ Balance	-	-	-	-	0	449	0	2,301	1,149,767	1,152,517
Total	234,086	45,616	54,813	33,652	92,013	105,790	315,390	1,925,337	1,152,467	3,959,165

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.5%	4.5%	4.7%	0.0%	2.3%	-	-	-	-	25.9%
Urban North	4.5%	27.5%	0.1%	0.0%	1.5%	-	-	-	-	15.2%
Urban South	4.7%	0.1%	33.4%	-	0.0%	-	-	-	-	21.1%
Coastal North	0.0%	0.0%	-	32.4%	1.1%	1.3%	-	-	-	20.3%
Sunshine Coast Balance	2.3%	1.5%	0.0%	1.1%	23.8%	0.1%	0.0%	-	0.0%	17.1%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	5.6%	18.4%
Moreton Bay	-	-	-	-	0.0%	-	15.5%	0.6%	-	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.1%
SEQ Balance	-	-	-	-	0.0%	5.7%	0.0%	0.3%	10.1%	9.4%
Total To Sector	25.9%	15.2%	21.1%	20.3%	17.1%	18.4%	13.3%	23.1%	9.4%	15.4%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	654,947	82,771	64,079	20,721	52,787	6,598	8,120	9,128	3,105	902,256
Urban North	82,768	150,195	11,439	6,530	35,527	3,020	4,280	4,256	1,254	299,270
Urban South	64,079	11,435	154,951	1,180	13,314	922	6,578	6,747	1,117	260,323
Coastal North	20,721	6,531	1,180	102,910	14,380	13,056	1,187	3,579	2,512	166,057
Sunshine Coast Balance	52,788	35,525	13,312	14,380	379,000	17,327	13,327	9,684	2,794	538,136
Noosa / Gympie	6,596	3,018	924	13,059	17,327	520,999	994	2,677	7,900	573,493
Moreton Bay	8,119	4,278	6,577	1,188	13,327	995	2,017,971	306,235	16,947	2,375,637
Brisbane	9,126	4,254	6,749	3,580	9,684	2,677	306,236	7,191,426	783,749	8,317,482
SEQ Balance	3,107	1,255	1,117	2,512	2,795	7,899	16,947	783,751	11,411,494	12,230,876
Total	902,251	299,262	260,328	166,061	538,142	573,494	2,375,639	8,317,483	12,230,872	25,663,530

RTI RELEASE
Sunshine Coast Council

Scenario 4B - Base Case Demographics - With Sunshine Coast Light Rail - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	416,440	76,750	59,877	20,098	50,513	6,469	7,660	6,817	1,861	646,485
Urban North	76,749	107,108	11,337	6,509	34,650	2,971	4,163	3,221	892	247,599
Urban South	59,855	11,334	101,630	1,147	13,175	923	6,415	4,611	775	199,866
Coastal North	20,098	6,500	1,147	68,844	14,234	12,792	1,181	2,914	1,741	129,451
Sunshine Coast Balance	50,506	34,620	13,170	14,236	286,004	17,174	12,926	6,446	1,872	436,954
Noosa / Gympie	6,468	2,971	923	12,794	17,183	412,335	973	2,435	6,785	462,868
Moreton Bay	7,658	4,157	6,414	1,180	12,945	974	1,670,404	262,628	13,964	1,980,324
Brisbane	6,805	3,209	4,602	2,924	6,473	2,440	263,561	4,678,906	658,666	5,627,586
SEQ Balance	1,837	884	751	1,782	1,896	6,866	13,599	655,880	10,099,635	10,783,129
Total	646,416	247,533	199,851	129,514	437,073	462,943	1,980,883	5,623,857	10,786,191	20,514,262

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.1%	93.4%	93.6%	97.9%	96.4%	99.2%	99.3%	87.4%	68.2%	71.5%
Urban North	93.4%	71.0%	97.2%	98.1%	96.9%	97.9%	97.7%	80.3%	74.0%	82.7%
Urban South	93.6%	97.2%	65.4%	99.4%	99.1%	99.7%	99.3%	78.7%	76.7%	76.9%
Coastal North	97.9%	98.0%	99.3%	66.7%	98.1%	97.3%	99.5%	88.9%	71.7%	77.9%
Sunshine Coast Balance	96.4%	96.8%	99.0%	98.2%	75.2%	98.9%	97.1%	71.1%	69.3%	81.1%
Noosa / Gympie	99.2%	97.9%	99.7%	97.4%	98.9%	79.1%	98.3%	92.3%	86.0%	80.7%
Moreton Bay	99.3%	97.5%	99.2%	99.4%	97.3%	98.3%	82.7%	85.9%	82.4%	83.3%
Brisbane	87.2%	80.0%	78.6%	89.2%	71.4%	92.5%	86.2%	65.1%	83.9%	67.7%
SEQ Balance	67.3%	73.3%	74.3%	73.5%	70.1%	87.0%	80.2%	83.6%	88.5%	88.2%
Total To Sector	71.5%	82.6%	76.9%	78.0%	81.2%	80.7%	83.4%	67.6%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	21,032	1,681	1,180	422	659	51	51	985	867	26,927
Urban North	1,670	2,194	305	124	582	63	98	791	313	6,140
Urban South	1,199	309	1,840	7	125	3	48	1,247	236	5,014
Coastal North	423	132	8	1,015	109	185	6	363	686	2,927
Sunshine Coast Balance	666	608	131	107	3,773	183	379	2,624	831	9,301
Noosa / Gympie	52	64	3	183	171	3,640	16	203	664	4,996
Moreton Bay	53	107	51	7	359	17	35,374	41,346	2,984	80,300
Brisbane	996	803	1,255	353	2,594	198	40,428	591,737	123,709	762,074
SEQ Balance	893	321	260	644	809	578	3,350	126,451	161,298	294,604
Total	26,983	6,220	5,032	2,862	9,181	4,920	79,752	765,746	291,588	1,192,284

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	3.2%	2.0%	1.8%	2.1%	1.3%	0.8%	0.7%	12.6%	31.8%	3.0%
Urban North	2.0%	1.5%	2.6%	1.9%	1.6%	2.1%	2.3%	19.7%	26.0%	2.0%
Urban South	1.9%	2.7%	1.2%	0.6%	0.9%	0.3%	0.7%	21.3%	23.3%	1.9%
Coastal North	2.1%	2.0%	0.7%	1.0%	0.8%	1.4%	0.5%	11.1%	28.3%	1.8%
Sunshine Coast Balance	1.3%	1.7%	1.0%	0.7%	1.0%	1.1%	2.9%	28.9%	30.7%	1.7%
Noosa / Gympie	0.8%	2.1%	0.3%	1.4%	1.0%	0.7%	1.7%	7.7%	8.4%	0.9%
Moreton Bay	0.7%	2.5%	0.8%	0.6%	2.7%	1.7%	1.8%	13.5%	17.6%	3.4%
Brisbane	12.8%	20.0%	21.4%	10.8%	28.6%	7.5%	13.2%	8.2%	15.8%	9.2%
SEQ Balance	32.7%	26.7%	25.7%	26.5%	29.9%	7.3%	19.8%	16.1%	1.4%	2.4%
Total To Sector	3.0%	2.1%	1.9%	1.7%	1.7%	0.9%	3.4%	9.2%	2.4%	4.6%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	222,844	3,708	2,917	2	1,223	-	-	-	-	230,695
Urban North	3,723	41,495	18	0	536	-	-	-	-	45,772
Urban South	2,918	19	52,038	-	1	-	-	-	-	54,975
Coastal North	2	0	-	33,431	160	164	-	-	-	33,757
Sunshine Coast Balance	1,223	536	1	160	90,321	15	0	-	0	92,255
Noosa / Gympie	-	-	-	164	14	105,189	-	-	445	105,813
Moreton Bay	-	-	-	-	0	-	314,004	1,773	-	315,777
Brisbane	-	-	-	-	-	-	1,761	1,921,351	2,254	1,925,366
SEQ Balance	-	-	-	-	0	449	0	2,296	1,149,829	1,152,574
Total	230,709	45,758	54,974	33,757	92,255	105,816	315,765	1,925,420	1,152,528	3,956,984

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.7%	4.5%	4.6%	0.0%	2.3%	-	-	-	-	25.5%
Urban North	4.5%	27.5%	0.2%	0.0%	1.5%	-	-	-	-	15.3%
Urban South	4.6%	0.2%	33.5%	-	0.0%	-	-	-	-	21.2%
Coastal North	0.0%	0.0%	-	32.4%	1.1%	1.2%	-	-	-	20.3%
Sunshine Coast Balance	2.3%	1.5%	0.0%	1.1%	23.8%	0.1%	0.0%	-	0.0%	17.1%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	5.6%	18.4%
Moreton Bay	-	-	-	-	0.0%	-	15.5%	0.6%	-	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.2%
SEQ Balance	-	-	-	-	0.0%	5.7%	0.0%	0.3%	10.1%	9.4%
Total To Sector	25.5%	15.3%	21.2%	20.3%	17.1%	18.4%	13.3%	23.2%	9.4%	15.4%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	660,317	82,139	63,974	20,521	52,395	6,520	7,711	7,801	2,729	904,107
Urban North	82,142	150,798	11,659	6,633	35,767	3,034	4,261	4,012	1,205	299,511
Urban South	63,972	11,662	155,508	1,155	13,300	926	6,463	5,858	1,011	259,855
Coastal North	20,523	6,632	1,155	103,290	14,503	13,141	1,188	3,277	2,427	166,135
Sunshine Coast Balance	52,394	35,764	13,302	14,502	380,098	17,372	13,306	9,070	2,703	538,510
Noosa / Gympie	6,520	3,035	926	13,141	17,369	521,164	990	2,638	7,894	573,677
Moreton Bay	7,711	4,264	6,465	1,188	13,304	992	2,019,782	305,747	16,948	2,376,401
Brisbane	7,801	4,013	5,857	3,277	9,067	2,638	305,751	7,191,994	784,629	8,315,026
SEQ Balance	2,730	1,205	1,010	2,426	2,706	7,893	16,949	784,626	11,410,762	12,230,308
Total	904,109	299,512	259,856	166,133	538,509	573,679	2,376,399	8,315,024	12,230,308	25,663,529

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Sunshine Coast Council

Scenario 5B - Base Case Demographics - With Light Rail and CAMCOS - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	415,220	76,551	59,839	20,221	50,553	6,479	7,589	5,752	1,192	643,396
Urban North	76,547	106,889	11,211	6,411	34,542	2,965	4,167	3,163	803	246,699
Urban South	59,830	11,197	101,281	1,149	13,229	916	6,392	3,965	526	198,485
Coastal North	20,209	6,403	1,148	68,588	14,139	12,754	1,135	2,079	963	127,418
Sunshine Coast Balance	50,533	34,513	13,217	14,141	285,398	17,161	12,902	6,391	1,831	436,087
Noosa / Gympie	6,475	2,963	919	12,758	17,173	412,286	972	2,430	6,740	462,717
Moreton Bay	7,591	4,156	6,384	1,133	12,920	972	1,670,417	263,080	13,940	1,980,592
Brisbane	5,780	3,136	3,959	2,110	6,436	2,434	264,050	4,679,340	657,922	5,625,167
SEQ Balance	1,286	829	551	1,090	1,902	6,861	13,780	656,694	10,101,058	10,784,050
Total	643,471	246,637	198,509	127,602	436,291	462,829	1,981,403	5,622,894	10,784,976	20,504,611

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.0%	93.4%	92.7%	97.0%	96.0%	98.9%	95.0%	69.1%	40.7%	71.1%
Urban North	93.4%	71.1%	97.0%	98.1%	96.9%	97.9%	97.2%	78.4%	65.7%	82.6%
Urban South	92.7%	97.0%	65.5%	96.0%	98.0%	99.2%	96.7%	63.8%	49.0%	76.2%
Coastal North	96.9%	98.0%	96.0%	66.6%	98.1%	97.4%	95.7%	62.3%	39.1%	76.8%
Sunshine Coast Balance	96.0%	96.8%	97.9%	98.1%	75.2%	98.9%	96.8%	70.4%	67.5%	81.1%
Noosa / Gympie	98.9%	97.9%	99.2%	97.4%	98.9%	79.1%	98.3%	92.1%	85.4%	80.7%
Moreton Bay	95.0%	96.9%	96.7%	95.6%	96.9%	98.2%	82.7%	86.1%	82.3%	83.3%
Brisbane	69.4%	77.8%	63.7%	63.2%	70.9%	92.2%	86.4%	65.1%	83.9%	67.6%
SEQ Balance	43.9%	67.7%	51.4%	44.2%	70.2%	87.0%	81.3%	83.8%	88.5%	88.2%
Total To Sector	71.1%	82.6%	76.3%	76.9%	81.1%	80.7%	83.4%	67.6%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	21,608	1,713	1,848	628	898	71	398	2,576	1,736	31,476
Urban North	1,697	2,167	327	120	567	63	121	869	419	6,351
Urban South	1,855	336	2,169	48	268	7	217	2,251	547	7,699
Coastal North	643	128	48	1,016	116	181	51	1,256	1,503	4,942
Sunshine Coast Balance	921	591	281	112	3,738	182	429	2,693	882	9,829
Noosa / Gympie	72	63	7	179	172	3,635	17	209	703	5,058
Moreton Bay	398	133	221	52	410	18	34,998	40,702	3,003	79,936
Brisbane	2,551	896	2,255	1,227	2,648	205	39,746	591,373	123,774	764,674
SEQ Balance	1,643	395	522	1,375	809	581	3,164	124,956	160,564	294,008
Total	31,388	6,422	7,678	4,758	9,625	4,943	79,141	766,886	293,131	1,203,972

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	3.3%	2.1%	2.9%	3.0%	1.7%	1.1%	5.0%	30.9%	59.3%	3.5%
Urban North	2.1%	1.4%	2.8%	1.8%	1.6%	2.1%	2.8%	21.6%	34.3%	2.1%
Urban South	2.9%	2.9%	1.4%	4.0%	2.0%	0.8%	3.3%	36.2%	51.0%	3.0%
Coastal North	3.1%	2.0%	4.0%	1.0%	0.8%	1.4%	4.3%	37.7%	60.9%	3.0%
Sunshine Coast Balance	1.7%	1.7%	2.1%	0.8%	1.0%	1.0%	3.2%	29.6%	32.5%	1.8%
Noosa / Gympie	1.1%	2.1%	0.8%	1.4%	1.0%	0.7%	1.7%	7.9%	8.9%	0.9%
Moreton Bay	5.0%	3.1%	3.3%	4.4%	3.1%	1.8%	1.7%	13.3%	17.7%	3.4%
Brisbane	30.6%	22.2%	36.3%	36.8%	29.1%	7.8%	13.0%	8.2%	15.8%	9.2%
SEQ Balance	56.1%	32.3%	48.6%	55.8%	29.8%	7.4%	18.7%	15.9%	1.4%	2.4%
Total To Sector	3.5%	2.2%	2.9%	2.9%	1.8%	0.9%	3.3%	9.2%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	222,176	3,708	2,878	2	1,207	-	-	-	-	229,972
Urban North	3,725	41,354	15	0	533	-	-	-	-	45,627
Urban South	2,882	16	51,237	-	1	-	-	-	-	54,135
Coastal North	2	0	-	33,332	159	163	-	-	-	33,656
Sunshine Coast Balance	1,205	534	1	159	90,153	14	0	-	0	92,067
Noosa / Gympie	-	-	-	164	14	105,174	-	-	445	105,797
Moreton Bay	-	-	-	-	0	-	313,937	1,773	-	315,710
Brisbane	-	-	-	-	-	-	1,762	1,921,368	2,253	1,925,382
SEQ Balance	-	-	-	-	0	449	-	2,298	1,149,851	1,152,599
Total	229,990	45,612	54,131	33,657	92,068	105,800	315,699	1,925,439	1,152,549	3,954,946

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.7%	4.5%	4.5%	0.0%	2.3%	-	-	-	-	25.4%
Urban North	4.5%	27.5%	0.1%	0.0%	1.5%	-	-	-	-	15.3%
Urban South	4.5%	0.1%	33.1%	-	0.0%	-	-	-	-	20.8%
Coastal North	0.0%	0.0%	-	32.4%	1.1%	1.2%	-	-	-	20.3%
Sunshine Coast Balance	2.3%	1.5%	0.0%	1.1%	23.8%	0.1%	0.0%	-	0.0%	17.1%
Noosa / Gympie	-	-	-	1.2%	0.1%	20.2%	-	-	-	5.6%
Moreton Bay	-	-	-	-	0.0%	-	15.5%	0.6%	-	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.2%
SEQ Balance	-	-	-	-	0.0%	5.7%	-	0.3%	10.1%	9.4%
Total To Sector	25.4%	15.3%	20.8%	20.3%	17.1%	18.4%	13.3%	23.2%	9.4%	15.4%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	659,004	81,971	64,566	20,851	52,657	6,550	7,987	8,328	2,928	904,844
Urban North	81,969	150,410	11,553	6,532	35,642	3,028	4,288	4,032	1,223	298,678
Urban South	64,567	11,549	154,687	1,198	13,498	923	6,608	6,215	1,073	260,319
Coastal North	20,853	6,531	1,196	102,936	14,414	13,099	1,186	3,335	2,466	166,015
Sunshine Coast Balance	52,659	35,638	13,498	14,413	379,289	17,358	13,331	9,083	2,714	537,983
Noosa / Gympie	6,547	3,026	926	13,100	17,359	521,095	990	2,640	7,889	573,572
Moreton Bay	7,989	4,288	6,606	1,185	13,330	990	2,019,352	305,555	16,943	2,376,238
Brisbane	8,331	4,032	6,214	3,337	9,084	2,640	305,557	7,192,081	783,948	8,315,223
SEQ Balance	2,928	1,224	1,073	2,465	2,711	7,890	16,944	783,949	11,411,473	12,230,657
Total	904,848	298,671	260,318	166,017	537,984	573,572	2,376,243	8,315,219	12,230,657	25,663,530

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Scenario 6B - Base Case Demographics - With Light Rail and North Coast Connect - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	414,811	76,416	59,644	20,022	50,375	6,456	7,525	5,211	1,021	641,482
Urban North	76,411	106,997	11,129	6,425	34,464	2,964	4,142	2,997	753	246,282
Urban South	59,632	11,118	100,954	1,132	13,101	913	6,341	3,699	490	197,380
Coastal North	20,020	6,417	1,134	68,643	14,137	12,732	1,087	1,547	728	126,445
Sunshine Coast Balance	50,357	34,441	13,094	14,141	285,276	17,143	12,875	6,108	1,756	435,191
Noosa / Gympie	6,455	2,961	913	12,730	17,154	412,235	970	2,382	6,700	462,502
Moreton Bay	7,524	4,127	6,333	1,085	12,901	970	1,669,565	262,561	13,916	1,978,981
Brisbane	5,303	2,965	3,723	1,585	6,201	2,386	263,600	4,679,670	658,781	5,624,214
SEQ Balance	1,100	765	507	832	1,824	6,790	13,657	656,352	10,099,901	10,781,727
Total	641,613	246,208	197,430	126,595	435,434	462,588	1,979,762	5,620,528	10,784,046	20,494,203

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.0%	93.5%	93.0%	97.5%	96.1%	99.0%	93.2%	55.8%	32.0%	71.0%
Urban North	93.5%	71.1%	97.6%	98.2%	97.0%	97.9%	96.9%	70.6%	60.1%	82.5%
Urban South	93.0%	97.5%	65.4%	97.1%	98.5%	99.2%	96.6%	54.9%	43.9%	76.0%
Coastal North	97.4%	98.1%	97.2%	66.6%	98.1%	97.4%	91.6%	43.2%	29.0%	76.2%
Sunshine Coast Balance	96.1%	96.9%	98.4%	98.1%	75.2%	98.9%	96.6%	63.2%	62.8%	80.9%
Noosa / Gympie	98.9%	97.9%	99.3%	97.4%	98.9%	79.1%	97.8%	89.1%	84.9%	80.6%
Moreton Bay	93.2%	96.5%	96.5%	91.5%	96.8%	97.6%	82.7%	85.8%	82.0%	83.3%
Brisbane	56.7%	69.8%	55.2%	44.3%	64.2%	89.2%	86.1%	65.1%	84.0%	67.6%
SEQ Balance	34.5%	61.1%	45.4%	33.1%	65.2%	86.0%	80.5%	83.7%	88.5%	88.2%
Total To Sector	71.0%	82.5%	76.0%	76.3%	80.9%	80.7%	83.3%	67.6%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	21,139	1,619	1,604	521	823	67	550	4,136	2,173	32,632
Urban North	1,610	2,176	260	116	549	63	133	1,249	500	6,657
Urban South	1,615	266	1,847	34	203	7	222	3,041	626	7,860
Coastal North	525	124	33	1,008	116	183	100	2,031	1,783	5,902
Sunshine Coast Balance	842	574	209	113	3,741	182	449	3,556	1,041	10,707
Noosa / Gympie	69	63	7	180	171	3,635	22	292	751	5,190
Moreton Bay	550	149	231	101	420	24	34,998	41,825	3,047	81,346
Brisbane	4,045	1,283	3,018	1,994	3,463	290	40,793	590,502	123,176	768,564
SEQ Balance	2,092	487	609	1,679	973	658	3,306	125,566	161,010	296,379
Total	32,487	6,740	7,817	5,746	10,459	5,109	80,573	772,198	294,107	1,215,237

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	3.2%	2.0%	2.5%	2.5%	1.6%	1.0%	6.8%	44.2%	68.0%	3.6%
Urban North	2.0%	1.4%	2.3%	1.8%	1.5%	2.1%	3.1%	29.4%	39.9%	2.2%
Urban South	2.5%	2.3%	1.2%	2.9%	1.5%	0.8%	3.4%	45.1%	56.1%	3.0%
Coastal North	2.6%	1.9%	2.8%	1.0%	0.8%	1.4%	8.4%	56.8%	71.0%	3.6%
Sunshine Coast Balance	1.6%	1.6%	1.6%	0.8%	1.0%	1.1%	3.4%	36.8%	37.2%	2.0%
Noosa / Gympie	1.1%	2.1%	0.7%	1.4%	1.0%	0.7%	2.2%	10.9%	9.5%	0.9%
Moreton Bay	6.8%	3.5%	3.5%	8.5%	3.2%	2.4%	1.7%	13.7%	18.0%	3.4%
Brisbane	43.3%	30.2%	44.8%	55.7%	35.8%	10.8%	13.3%	8.2%	15.7%	9.2%
SEQ Balance	65.5%	38.9%	54.6%	66.9%	34.8%	8.3%	19.5%	16.0%	1.4%	2.4%
Total To Sector	3.6%	2.3%	3.0%	3.5%	1.9%	0.9%	3.4%	9.3%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	222,036	3,684	2,890	2	1,219	-	-	-	-	229,831
Urban North	3,697	41,369	15	0	533	-	-	-	-	45,615
Urban South	2,891	16	51,463	-	1	-	-	-	-	54,370
Coastal North	2	1	-	33,352	159	163	-	-	-	33,677
Sunshine Coast Balance	1,216	534	1	159	90,089	14	0	-	0	92,013
Noosa / Gympie	-	-	-	164	14	105,166	-	-	445	105,789
Moreton Bay	-	-	-	-	0	-	313,609	1,768	-	315,377
Brisbane	-	-	-	-	-	-	1,757	1,920,933	2,255	1,924,945
SEQ Balance	-	-	-	-	0	449	-	2,296	1,149,727	1,152,473
Total	229,842	45,603	54,369	33,677	92,016	105,792	315,366	1,924,997	1,152,427	3,954,089

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.7%	4.5%	4.5%	0.0%	2.3%	-	-	-	-	25.4%
Urban North	4.5%	27.5%	0.1%	0.0%	1.5%	-	-	-	-	15.3%
Urban South	4.5%	0.1%	33.4%	-	0.0%	-	-	-	-	20.9%
Coastal North	0.0%	0.0%	-	32.4%	1.1%	1.2%	-	-	-	20.3%
Sunshine Coast Balance	2.3%	1.5%	0.0%	1.1%	23.8%	0.1%	0.0%	-	0.0%	17.1%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	5.6%	18.4%
Moreton Bay	-	-	-	-	0.0%	-	15.5%	0.6%	-	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.1%
SEQ Balance	-	-	-	-	0.0%	5.7%	-	0.3%	10.1%	9.4%
Total To Sector	25.4%	15.3%	20.9%	20.3%	17.1%	18.4%	13.3%	23.1%	9.4%	15.4%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	657,986	81,719	64,138	20,545	52,417	6,523	8,075	9,347	3,194	903,945
Urban North	81,718	150,542	11,404	6,541	35,546	3,027	4,276	4,247	1,253	298,553
Urban South	64,137	11,400	154,263	1,166	13,305	919	6,562	6,740	1,116	259,610
Coastal North	20,547	6,542	1,167	103,003	14,412	13,079	1,186	3,578	2,511	166,023
Sunshine Coast Balance	52,415	35,549	13,303	14,413	379,106	17,339	13,324	9,665	2,797	537,911
Noosa / Gympie	6,524	3,024	920	13,074	17,339	521,037	993	2,674	7,896	573,481
Moreton Bay	8,074	4,276	6,564	1,186	13,322	994	2,018,171	306,154	16,963	2,375,704
Brisbane	9,349	4,248	6,741	3,579	9,664	2,675	306,150	7,191,105	784,212	8,317,723
SEQ Balance	3,192	1,252	1,116	2,511	2,797	7,896	16,963	784,214	11,410,638	12,230,579
Total	903,942	298,551	259,616	166,018	537,909	573,489	2,375,701	8,317,723	12,230,580	25,663,529

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Detailed Sectors

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Scenario 1B - Base Case Demographics - Reference Case Network - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	422,388	74,792	2,935	43,194	17,093	145	19,351	981	51,240	6,552	7,792	106	6,817	1,925	655,312
Urban North	74,769	96,180	4,609	5,869	4,339	48	5,621	368	32,663	2,543	3,659	55	3,099	625	234,448
Sunshine Coast University	2,933	4,605	725	590	509	1	409	7	1,917	388	484	1	70	269	12,909
Urban South	43,180	5,869	587	34,021	8,834	35	664	77	6,090	525	1,989	37	1,646	382	103,935
Caloundra South PDA	17,094	4,336	509	8,832	50,089	56	359	58	7,050	403	4,436	82	2,848	393	96,543
Beerwah East	145	48	1	35	56	24	16	0	217	14	95	1	37	14	704
Coastal North	19,343	5,615	406	664	359	17	67,069	826	13,701	12,448	669	24	1,283	385	122,808
Airport	981	368	7	77	57	0	825	69	586	323	513	201	1,407	1,350	6,766
Sunshine Coast Balance	51,221	32,648	1,911	6,090	7,047	217	13,702	586	286,094	17,177	12,851	91	6,318	1,857	437,810
Noosa / Gympie	6,550	2,545	388	524	401	13	12,452	323	17,188	412,301	975	21	2,414	6,782	462,879
Moreton Bay	7,791	3,656	479	1,988	4,433	95	669	513	12,873	973	1,670,143	5,736	256,847	13,953	1,980,148
Brisbane CBD	106	54	1	37	82	1	24	203	95	21	5,931	12,593	120,333	15,171	154,654
Brisbane	6,799	3,088	70	1,645	2,840	36	1,284	1,415	6,337	2,420	257,550	116,845	4,429,197	643,229	5,472,753
SEQ Balance	1,884	615	270	368	383	14	400	1,380	1,878	6,867	13,571	14,671	640,760	10,100,764	10,783,824
Total	655,184	234,418	12,898	103,935	96,523	702	122,846	6,807	437,930	462,955	1,980,659	150,462	5,473,075	10,787,100	20,525,494

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.3%	94.1%	88.1%	92.4%	98.3%	99.8%	98.3%	99.4%	96.7%	99.3%	99.4%	22.7%	91.6%	70.1%	72.6%
Urban North	94.1%	71.5%	66.4%	99.0%	98.6%	99.6%	98.9%	99.7%	97.2%	99.7%	99.2%	15.4%	86.4%	70.6%	83.1%
Sunshine Coast University	88.0%	66.3%	53.0%	85.4%	82.9%	87.1%	86.2%	99.6%	89.6%	87.5%	87.7%	64.2%	85.7%	82.9%	76.0%
Urban South	92.4%	99.0%	85.1%	62.0%	88.8%	99.8%	99.5%	99.8%	99.3%	99.8%	99.3%	18.1%	86.3%	77.1%	79.8%
Caloundra South PDA	98.3%	98.6%	82.8%	88.8%	61.7%	99.7%	99.3%	99.7%	98.8%	99.6%	99.3%	19.1%	85.6%	76.2%	74.1%
Beerwah East	99.8%	99.8%	85.4%	99.7%	99.6%	65.6%	100.0%	100.0%	84.9%	99.3%	99.3%	33.3%	90.2%	78.4%	91.8%
Coastal North	98.3%	98.9%	85.4%	99.5%	99.3%	99.9%	66.3%	85.1%	98.1%	97.3%	99.2%	22.6%	90.8%	73.8%	77.5%
Airport	99.3%	99.6%	99.8%	99.7%	99.6%	100.0%	85.0%	47.0%	99.6%	99.7%	99.7%	82.3%	92.6%	71.0%	87.7%
Sunshine Coast Balance	96.6%	97.1%	89.4%	99.3%	98.7%	84.9%	98.1%	99.6%	75.3%	98.9%	97.1%	10.0%	77.7%	69.2%	81.2%
Noosa / Gympie	99.3%	99.7%	87.4%	99.8%	99.5%	99.7%	97.3%	99.8%	98.9%	79.1%	98.3%	29.6%	94.0%	85.9%	80.7%
Moreton Bay	99.4%	99.1%	86.7%	99.2%	99.2%	99.1%	99.2%	99.7%	97.3%	98.2%	82.7%	25.5%	90.7%	82.4%	83.3%
Brisbane CBD	22.8%	15.2%	67.6%	18.4%	19.1%	33.1%	23.3%	82.9%	10.5%	29.3%	26.4%	3.4%	33.0%	25.0%	18.8%
Brisbane	91.3%	86.1%	85.7%	86.2%	85.4%	88.6%	90.9%	93.2%	78.0%	94.2%	90.9%	32.1%	72.7%	88.9%	73.0%
SEQ Balance	68.6%	69.6%	83.1%	74.2%	74.1%	78.9%	76.5%	72.5%	69.9%	87.0%	80.2%	24.2%	88.6%	88.5%	88.2%
Total To Sector	72.6%	83.1%	76.0%	79.8%	74.1%	91.7%	77.5%	88.3%	81.2%	80.7%	83.4%	18.3%	73.1%	88.2%	80.0%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	7,231	980	327	583	244	0	333	6	534	45	48	360	627	822	12,142
Urban North	985	1,698	256	54	60	0	60	1	379	8	30	300	486	260	4,577
Sunshine Coast University	328	258	2	91	102	0	66	0	204	56	68	0	12	56	1,242
Urban South	595	53	93	472	170	0	3	0	40	1	14	166	262	114	1,983
Caloundra South PDA	246	62	102	169	1,060	0	3	0	84	2	33	348	478	123	2,709
Beerwah East	0	0	0	0	0	-	-	-	1	0	1	2	4	4	13
Coastal North	339	64	69	4	3	0	1,005	6	112	185	5	81	130	137	2,140
Airport	7	1	0	0	0	-	7	0	2	1	2	43	112	553	728
Sunshine Coast Balance	554	399	209	42	88	1	107	1	3,782	182	379	816	1,816	826	9,203
Noosa / Gympie	47	8	56	1	2	0	181	1	173	3,639	17	50	155	669	4,998
Moreton Bay	50	34	73	15	36	1	5	2	360	18	35,366	16,754	24,699	2,978	80,391
Brisbane CBD	361	300	0	166	348	2	80	42	813	50	16,560	9,417	130,378	45,499	204,017
Brisbane	644	497	12	264	486	5	129	104	1,790	149	24,008	133,960	317,830	77,972	557,849
SEQ Balance	861	268	55	128	134	4	123	524	808	581	3,358	46,000	80,398	161,126	294,367
Total	12,249	4,623	1,256	1,988	2,734	13	2,102	687	9,081	4,915	79,889	208,298	557,386	291,139	1,176,359

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.1%	1.2%	9.8%	1.2%	1.4%	0.2%	1.7%	0.6%	1.0%	0.7%	0.6%	77.3%	8.4%	29.9%	1.3%
Urban North	1.2%	1.3%	3.7%	0.9%	1.4%	0.4%	1.1%	0.3%	1.1%	0.3%	0.8%	84.6%	13.6%	29.4%	1.6%
Sunshine Coast University	9.9%	3.7%	0.2%	13.2%	16.6%	12.9%	13.8%	0.4%	9.5%	12.5%	12.3%	35.8%	14.3%	17.1%	7.3%
Urban South	1.3%	0.9%	13.5%	0.9%	1.7%	0.2%	0.5%	0.2%	0.7%	0.2%	0.7%	81.9%	13.7%	22.9%	1.5%
Caloundra South PDA	1.4%	1.4%	16.7%	1.7%	1.3%	0.3%	0.7%	0.3%	1.2%	0.4%	0.7%	80.9%	14.4%	23.8%	2.1%
Beerwah East	0.2%	0.2%	14.6%	0.3%	0.4%	-	-	-	0.5%	0.7%	0.7%	66.7%	9.8%	21.6%	1.7%
Coastal North	1.7%	1.1%	14.6%	0.5%	0.7%	0.1%	1.0%	0.6%	0.8%	1.4%	0.8%	77.4%	9.2%	26.2%	1.4%
Airport	0.7%	0.4%	0.2%	0.3%	0.4%	-	0.7%	0.0%	0.3%	0.3%	0.3%	17.7%	7.4%	29.0%	9.4%
Sunshine Coast Balance	1.0%	1.2%	9.8%	0.7%	1.2%	0.4%	0.8%	0.2%	1.0%	1.0%	2.9%	90.0%	22.3%	30.8%	1.7%
Noosa / Gympie	0.7%	0.3%	12.6%	0.2%	0.5%	0.3%	1.4%	0.2%	1.0%	0.7%	1.7%	70.4%	6.0%	8.5%	0.9%
Moreton Bay	0.6%	0.9%	13.3%	0.8%	0.8%	0.9%	0.8%	0.3%	2.7%	1.8%	1.8%	74.5%	8.7%	17.6%	3.4%
Brisbane CBD	77.2%	84.8%	32.4%	81.6%	80.9%	66.9%	76.7%	17.1%	89.5%	70.7%	73.6%	2.5%	35.8%	75.0%	24.8%
Brisbane	8.7%	13.9%	14.3%	13.8%	14.6%	11.4%	9.1%	6.8%	22.0%	5.8%	8.5%	36.8%	5.2%	10.8%	7.4%
SEQ Balance	31.4%	30.4%	16.9%	25.8%	25.9%	21.1%	23.5%	27.5%	30.1%	7.4%	19.8%	75.8%	11.1%	1.4%	2.4%
Total To Sector	1.4%	1.6%	7.4%	1.5%	2.1%	1.8%	1.3%	8.9%	1.7%	0.9%	3.4%	25.3%	7.4%	2.4%	4.6%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	226,936	3,695	70	2,974	50	-	2	0	1,223	-	-	-	-	-	234,950
Urban North	3,710	36,589	2,079	5	1	-	0	0	570	-	-	-	-	-	42,954
Sunshine Coast University	72	2,081	642	9	3	-	0	-	18	-	-	-	-	-	2,825
Urban South	2,975	5	10	20,383	945	-	-	-	0	-	-	-	-	-	24,318
Caloundra South PDA	51	1	3	946	29,984	-	-	-	2	-	-	-	-	-	30,986
Beerwah East	-	-	-	-	0	13	-	-	37	-	-	-	-	-	50
Coastal North	2	0	0	-	-	-	33,061	138	158	164	-	-	-	-	33,525
Airport	0	0	-	-	-	-	138	78	1	0	-	-	-	-	217
Sunshine Coast Balance	1,221	570	18	0	2	37	159	1	90,184	15	0	-	-	0	92,208
Noosa / Gympie	-	-	-	-	-	-	164	-	15	105,184	-	-	-	445	105,808
Moreton Bay	-	-	-	-	-	-	-	-	0	-	313,984	4	1,770	0	315,759
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,528	113,716	0	464,247
Brisbane	-	-	-	-	-	-	-	-	-	-	1,759	113,623	1,343,792	2,257	1,461,430
SEQ Balance	-	-	-	-	-	-	-	-	0	449	-	0	2,300	1,149,649	1,152,398
Total	234,967	42,942	2,822	24,317	30,985	50	33,525	218	92,208	105,812	315,747	464,154	1,461,577	1,152,351	3,961,676

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.6%	4.7%	2.1%	6.4%	0.3%	-	0.0%	0.0%	2.3%	-	-	-	-	-	26.0%
Urban North	4.7%	27.2%	29.9%	0.1%	0.0%	-	0.0%	0.0%	1.7%	-	-	-	-	-	15.2%
Sunshine Coast University	2.1%	30.0%	46.9%	1.4%	0.5%	-	0.0%	-	0.8%	-	-	-	-	-	16.6%
Urban South	6.4%	0.1%	1.4%	37.1%	9.5%	-	-	-	0.0%	-	-	-	-	-	18.7%
Caloundra South PDA	0.3%	0.0%	0.5%	9.5%	37.0%	-	-	-	0.0%	-	-	-	-	-	23.8%
Beerwah East	-	-	-	-	0.0%	34.4%	-	-	14.6%	-	-	-	-	-	6.5%
Coastal North	0.0%	0.0%	0.0%	-	-	-	32.7%	14.3%	1.1%	1.3%	-	-	-	-	21.2%
Airport	0.0%	0.0%	-	-	-	-	14.3%	53.0%	0.1%	0.0%	-	-	-	-	2.8%
Sunshine Coast Balance	2.3%	1.7%	0.9%	0.0%	0.0%	14.6%	1.1%	0.1%	23.7%	0.1%	0.0%	-	-	0.0%	17.1%
Noosa / Gympie	-	-	-	-	-	-	1.3%	-	0.1%	20.2%	-	-	-	5.6%	18.4%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.5%	0.0%	0.6%	0.0%	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.4%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	-	0.0%	0.3%	10.1%	9.4%
Total To Sector	26.0%	15.2%	16.6%	18.7%	23.8%	6.5%	21.2%	2.8%	17.1%	18.4%	13.3%	56.4%	19.5%	9.4%	15.4%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	656,556	79,468	3,333	46,750	17,388	145	19,686	988	52,997	6,597	7,840	465	7,444	2,747	902,404
Urban North	79,464	134,467	6,944	5,928	4,400	48	5,681	369	33,613	2,551	3,689	355	3,585	885	281,979
Sunshine Coast University	3,333	6,944	1,369	691	614	1	475	7	2,139	444	552	1	81	325	16,976
Urban South	46,750	5,926	690	54,876	9,949	35	667	77	6,130	526	2,003	203	1,907	496	130,236
Caloundra South PDA	17,390	4,399	614	9,946	81,134	56	361	58	7,136	405	4,470	430	3,325	516	130,239
Beerwah East	145	48	1	35	56	37	16	0	256	14	96	3	41	18	767
Coastal North	19,683	5,679	475	668	362	17	101,135	971	13,970	12,798	674	105	1,413	522	158,472
Airport	988	369	7	78	58	0	971	147	589	324	515	245	1,519	1,903	7,712
Sunshine Coast Balance	52,997	33,617	2,138	6,132	7,137	256	13,969	588	380,059	17,374	13,230	907	8,134	2,684	539,222
Noosa / Gympie	6,596	2,553	444	525	403	13	12,798	324	17,376	521,124	992	70	2,568	7,897	573,685
Moreton Bay	7,841	3,690	552	2,004	4,469	96	674	514	13,233	990	2,019,493	22,493	283,317	16,931	2,376,298
Brisbane CBD	467	354	1	203	430	3	104	245	908	71	22,495	372,538	364,427	60,670	822,917
Brisbane	7,443	3,585	81	1,908	3,326	40	1,413	1,519	8,127	2,569	283,317	364,428	6,090,819	723,457	7,492,032
SEQ Balance	2,746	883	325	496	516	18	522	1,904	2,686	7,896	16,930	60,671	723,458	11,411,539	12,230,589
Total	902,400	281,982	16,976	130,240	130,242	766	158,474	7,711	539,219	573,682	2,376,296	822,914	7,492,038	12,230,590	25,663,529

RTI RELEASE Sunshine Coast Council

Scenario 2B - Base Case Demographics - With CAMCOS - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	421,230	74,554	2,774	43,155	17,081	145	19,325	970	51,156	6,532	7,690	42	5,904	1,249	651,808
Urban North	74,551	95,891	4,604	5,894	4,321	48	5,577	362	32,571	2,544	3,645	42	3,052	529	233,630
Sunshine Coast University	2,773	4,605	726	496	467	1	367	7	1,886	384	489	1	70	268	12,540
Urban South	43,146	5,891	490	33,962	8,911	35	676	74	6,137	522	1,967	14	1,396	230	103,452
Caloundra South PDA	17,084	4,321	467	8,905	49,752	56	355	54	7,068	398	4,414	32	2,523	297	95,726
Beerwah East	144	48	1	35	56	24	16	0	216	14	95	1	35	13	698
Coastal North	19,313	5,574	364	676	356	16	66,924	813	13,636	12,427	656	11	1,177	258	122,201
Airport	970	362	6	74	55	0	811	68	577	317	477	56	835	705	5,313
Sunshine Coast Balance	51,137	32,557	1,878	6,130	7,064	216	13,639	577	285,548	17,178	12,827	85	6,277	1,817	436,930
Noosa / Gympie	6,531	2,543	383	521	398	14	12,430	317	17,183	412,268	972	20	2,412	6,749	462,741
Moreton Bay	7,697	3,640	480	1,965	4,410	94	654	477	12,840	972	1,670,194	5,784	257,360	13,950	1,980,517
Brisbane CBD	41	39	1	14	32	1	11	57	88	20	6,011	12,593	120,405	15,269	154,583
Brisbane	5,928	3,024	70	1,395	2,517	35	1,171	865	6,294	2,414	258,088	116,879	4,429,454	643,164	5,471,295
SEQ Balance	1,311	536	267	236	303	14	274	788	1,860	6,839	13,664	14,695	641,020	10,100,946	10,782,752
Total	651,857	233,586	12,511	103,458	95,724	698	122,232	5,428	437,060	462,828	1,981,187	150,254	5,471,918	10,785,443	20,514,186

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.2%	93.9%	89.2%	91.6%	97.0%	99.1%	97.2%	96.8%	96.2%	99.0%	95.6%	6.9%	76.1%	42.9%	72.2%
Urban North	93.9%	71.6%	66.5%	98.2%	98.3%	99.6%	98.9%	98.7%	97.2%	99.7%	98.8%	11.6%	84.9%	59.5%	83.0%
Sunshine Coast University	89.2%	66.6%	53.1%	85.9%	84.8%	85.4%	86.7%	99.7%	89.9%	87.5%	86.4%	58.3%	84.3%	81.8%	76.1%
Urban South	91.6%	98.2%	84.8%	62.2%	88.1%	98.8%	96.0%	94.6%	98.1%	99.3%	96.0%	5.5%	69.2%	43.7%	79.0%
Caloundra South PDA	97.0%	98.3%	84.7%	88.0%	61.9%	99.3%	96.7%	94.0%	97.9%	99.1%	97.1%	6.3%	73.3%	54.4%	73.5%
Beerwah East	99.2%	99.6%	87.5%	99.0%	99.3%	65.7%	99.3%	100.0%	84.9%	99.4%	98.9%	22.8%	85.4%	72.1%	91.1%
Coastal North	97.1%	98.8%	85.9%	95.9%	96.7%	99.5%	66.3%	84.5%	98.1%	97.3%	97.1%	8.8%	81.4%	48.2%	77.2%
Airport	96.9%	98.6%	99.8%	94.9%	94.0%	100.0%	84.4%	46.8%	98.7%	99.6%	93.8%	22.8%	54.9%	36.5%	68.8%
Sunshine Coast Balance	96.2%	97.1%	89.6%	98.0%	97.8%	85.0%	98.1%	98.7%	75.3%	98.9%	96.8%	9.3%	77.2%	67.5%	81.1%
Noosa / Gympie	99.0%	99.7%	87.4%	99.3%	99.1%	99.7%	97.3%	99.6%	98.9%	79.1%	98.3%	27.8%	93.9%	85.5%	80.7%
Moreton Bay	95.6%	98.7%	84.9%	95.8%	97.0%	98.9%	96.9%	93.6%	96.9%	98.1%	82.7%	25.7%	90.9%	82.3%	83.3%
Brisbane CBD	6.7%	10.9%	61.0%	5.4%	6.3%	24.4%	9.0%	23.1%	9.6%	27.7%	26.7%	3.4%	33.0%	25.2%	18.8%
Brisbane	76.4%	84.1%	83.6%	69.2%	73.1%	85.1%	80.9%	56.9%	77.4%	94.0%	91.1%	32.1%	72.7%	88.9%	73.0%
SEQ Balance	45.0%	60.3%	81.6%	44.7%	55.6%	73.9%	51.3%	40.8%	69.1%	86.6%	80.6%	24.2%	88.6%	88.5%	88.2%
Total To Sector	72.2%	83.0%	76.0%	79.0%	73.5%	91.1%	77.2%	70.2%	81.1%	80.7%	83.4%	18.3%	73.0%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	8,914	1,175	274	1,042	476	1	554	32	795	64	358	565	1,850	1,664	17,764
Urban North	1,164	1,670	253	101	73	0	61	5	374	8	43	320	543	360	4,976
Sunshine Coast University	273	254	2	75	82	0	56	0	194	55	77	1	13	60	1,141
Urban South	1,050	102	81	660	268	0	28	4	119	4	83	249	620	297	3,565
Caloundra South PDA	477	75	82	272	1,023	0	12	3	152	3	133	472	920	248	3,872
Beerwah East	1	0	0	0	0	-	0	-	2	0	1	3	6	5	19
Coastal North	565	65	59	29	12	0	990	13	111	180	20	114	269	276	2,704
Airport	31	5	0	4	4	-	14	0	7	1	32	191	685	1,226	2,199
Sunshine Coast Balance	819	392	200	128	155	2	107	7	3,747	182	427	835	1,853	873	9,725
Noosa / Gympie	66	8	55	3	4	0	177	1	171	3,635	17	52	158	700	5,049
Moreton Bay	353	48	85	87	135	1	21	33	413	19	35,008	16,700	24,094	3,000	79,996
Brisbane CBD	566	322	0	248	472	2	114	190	831	52	16,472	9,413	130,237	45,357	204,278
Brisbane	1,826	570	14	621	927	6	276	654	1,835	155	23,377	133,858	317,673	77,880	559,674
SEQ Balance	1,602	354	60	291	242	5	260	1,143	830	607	3,287	45,932	79,981	160,640	295,233
Total	17,709	5,042	1,166	3,561	3,873	18	2,669	2,087	9,581	4,965	79,334	208,703	558,902	292,586	1,190,196

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.4%	1.5%	8.8%	2.2%	2.7%	0.9%	2.8%	3.2%	1.5%	1.0%	4.4%	93.1%	23.9%	57.1%	2.0%
Urban North	1.5%	1.2%	3.7%	1.7%	1.7%	0.4%	1.1%	1.3%	1.1%	0.3%	1.2%	88.4%	15.1%	40.5%	1.8%
Sunshine Coast University	8.8%	3.7%	0.2%	12.9%	14.8%	13.5%	13.2%	0.3%	9.2%	12.5%	13.6%	41.7%	15.7%	18.2%	6.9%
Urban South	2.2%	1.7%	13.9%	1.2%	2.7%	1.2%	4.0%	5.4%	1.9%	0.7%	4.0%	94.5%	30.8%	56.3%	2.7%
Caloundra South PDA	2.7%	1.7%	14.9%	2.7%	1.3%	0.7%	3.3%	6.0%	2.1%	0.9%	2.9%	93.7%	26.7%	45.6%	3.0%
Beerwah East	0.8%	0.4%	12.5%	1.0%	0.7%	-	0.7%	-	0.6%	0.6%	1.1%	77.2%	14.6%	27.9%	2.4%
Coastal North	2.8%	1.2%	14.1%	4.1%	3.3%	0.5%	1.0%	1.4%	0.8%	1.4%	2.9%	91.2%	18.6%	51.8%	1.7%
Airport	3.1%	1.4%	0.2%	5.1%	6.0%	-	1.4%	0.3%	1.1%	0.4%	6.2%	77.2%	45.1%	63.5%	28.5%
Sunshine Coast Balance	1.5%	1.2%	9.5%	2.0%	2.1%	0.6%	0.8%	1.2%	1.0%	1.0%	3.2%	90.7%	22.8%	32.4%	1.8%
Noosa / Gympie	1.0%	0.3%	12.6%	0.7%	0.9%	0.3%	1.4%	0.4%	1.0%	0.7%	1.7%	72.2%	6.1%	8.9%	0.9%
Moreton Bay	4.4%	1.3%	15.1%	4.2%	3.0%	1.1%	3.1%	6.4%	3.1%	1.9%	1.7%	74.3%	8.5%	17.7%	3.4%
Brisbane CBD	93.3%	89.1%	39.0%	94.6%	93.7%	75.6%	91.0%	76.9%	90.4%	72.3%	73.3%	2.5%	35.7%	74.8%	24.8%
Brisbane	23.6%	15.9%	16.4%	30.8%	26.9%	14.9%	19.1%	43.1%	22.6%	6.0%	8.3%	36.7%	5.2%	10.8%	7.5%
SEQ Balance	55.0%	39.7%	18.4%	55.3%	44.4%	26.1%	48.7%	59.2%	30.8%	7.7%	19.4%	75.8%	11.1%	1.4%	2.4%
Total To Sector	2.0%	1.8%	7.1%	2.7%	3.0%	2.4%	1.7%	27.0%	1.8%	0.9%	3.3%	25.4%	7.5%	2.4%	4.6%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	225,726	3,679	63	2,904	48	-	2	0	1,203	-	-	-	-	-	233,624
Urban North	3,694	36,456	2,062	5	1	0	0	0	568	-	-	-	-	-	42,787
Sunshine Coast University	64	2,060	639	7	2	0	0	-	17	-	-	-	-	-	2,790
Urban South	2,905	5	7	20,014	937	-	-	-	0	-	-	-	-	-	23,868
Caloundra South PDA	48	1	2	939	29,601	-	-	-	2	-	-	-	-	-	30,593
Beerwah East	-	-	-	-	0	13	-	-	37	-	-	-	-	-	50
Coastal North	2	0	0	-	-	-	33,011	136	159	163	-	-	-	-	33,472
Airport	0	0	-	-	-	-	136	77	1	0	-	-	-	-	214
Sunshine Coast Balance	1,202	568	18	0	2	37	158	1	90,022	14	0	-	-	0	92,022
Noosa / Gympie	-	-	-	-	-	-	164	0	14	105,182	-	-	-	445	105,805
Moreton Bay	-	-	-	-	-	-	-	-	0	-	313,900	3	1,770	-	315,674
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,524	113,708	0	464,235
Brisbane	-	-	-	-	-	-	-	-	-	-	1,758	113,610	1,343,667	2,254	1,461,289
SEQ Balance	-	-	-	-	-	-	-	-	0	449	-	0	2,297	1,149,979	1,152,725
Total	233,641	42,770	2,791	23,867	30,591	49	33,472	214	92,023	105,808	315,662	464,137	1,461,442	1,152,678	3,959,146

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.4%	4.6%	2.0%	6.2%	0.3%	-	0.0%	0.0%	2.3%	-	-	-	-	-	25.9%
Urban North	4.7%	27.2%	29.8%	0.1%	0.0%	0.0%	0.0%	0.0%	1.7%	-	-	-	-	-	15.2%
Sunshine Coast University	2.1%	29.8%	46.7%	1.2%	0.4%	1.0%	0.0%	-	0.8%	-	-	-	-	-	16.9%
Urban South	6.2%	0.1%	1.3%	36.6%	9.3%	-	-	-	0.0%	-	-	-	-	-	18.2%
Caloundra South PDA	0.3%	0.0%	0.5%	9.3%	36.8%	-	-	-	0.0%	-	-	-	-	-	23.5%
Beerwah East	-	-	-	-	0.0%	34.3%	-	-	14.5%	-	-	-	-	-	6.5%
Coastal North	0.0%	0.0%	0.0%	-	-	-	32.7%	14.2%	1.1%	1.3%	-	-	-	-	21.1%
Airport	0.0%	0.0%	-	-	-	-	14.2%	52.9%	0.2%	0.0%	-	-	-	-	2.8%
Sunshine Coast Balance	2.3%	1.7%	0.8%	0.0%	0.0%	14.4%	1.1%	0.1%	23.7%	0.1%	0.0%	-	-	0.0%	17.1%
Noosa / Gympie	-	-	-	-	-	-	1.3%	0.0%	0.1%	20.2%	-	-	-	5.6%	18.4%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.5%	0.0%	0.6%	-	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.4%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	-	0.0%	0.3%	10.1%	9.4%
Total To Sector	25.9%	15.2%	17.0%	18.2%	23.5%	6.4%	21.1%	2.8%	17.1%	18.4%	13.3%	56.4%	19.5%	9.4%	15.4%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	655,871	79,409	3,111	47,100	17,606	146	19,881	1,002	53,154	6,596	8,048	607	7,754	2,913	903,196
Urban North	79,408	134,018	6,919	5,999	4,395	48	5,639	367	33,514	2,552	3,688	362	3,595	889	281,393
Sunshine Coast University	3,110	6,918	1,368	577	551	1	424	7	2,097	439	566	1	83	328	16,470
Urban South	47,101	5,999	578	54,636	10,116	35	704	78	6,257	526	2,049	263	2,017	527	130,885
Caloundra South PDA	17,609	4,396	552	10,115	80,376	56	368	57	7,222	402	4,546	503	3,444	545	130,191
Beerwah East	146	48	1	35	56	37	16	0	254	14	96	3	41	18	767
Coastal North	19,881	5,640	423	704	368	16	100,925	962	13,905	12,771	676	125	1,446	534	158,376
Airport	1,002	367	7	78	58	0	961	145	585	318	508	248	1,519	1,931	7,727
Sunshine Coast Balance	53,158	33,517	2,095	6,258	7,221	254	13,904	585	379,317	17,374	13,254	920	8,129	2,690	538,677
Noosa / Gympie	6,597	2,551	439	525	402	14	12,771	318	17,369	521,085	989	72	2,570	7,894	573,595
Moreton Bay	8,050	3,688	565	2,052	4,545	96	675	510	13,253	991	2,019,103	22,487	283,224	16,949	2,376,186
Brisbane CBD	607	362	1	263	504	3	125	248	920	72	22,486	372,530	364,349	60,627	823,096
Brisbane	7,754	3,594	83	2,016	3,444	42	1,447	1,519	8,129	2,569	283,223	364,347	6,090,793	723,297	7,492,258
SEQ Balance	2,914	890	327	527	545	18	533	1,931	2,690	7,894	16,950	60,626	723,298	11,411,565	12,230,710
Total	903,207	281,398	16,468	130,887	130,187	766	158,373	7,730	538,664	573,601	2,376,183	823,095	7,492,262	12,230,708	25,663,529

RTI RELEASE Sunshine Coast Council

Scenario 3B - Base Case Demographics - With North Coast Connect - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	421,160	74,604	2,777	43,006	16,975	144	19,297	962	51,084	6,540	7,672	29	5,596	1,130	650,976
Urban North	74,588	96,052	4,596	5,852	4,307	47	5,587	358	32,568	2,542	3,646	23	2,900	483	233,550
Sunshine Coast University	2,777	4,596	727	515	432	1	362	7	1,835	384	477	1	72	266	12,451
Urban South	42,997	5,850	513	33,912	8,797	35	662	73	6,059	521	1,971	12	1,392	232	103,024
Caloundra South PDA	16,974	4,304	432	8,795	49,746	56	360	52	7,019	395	4,383	19	2,275	261	95,071
Beerwah East	144	48	1	35	56	24	16	0	216	13	94	0	33	12	693
Coastal North	19,294	5,583	360	662	360	16	66,893	806	13,615	12,401	654	7	1,060	216	121,926
Airport	962	358	7	73	53	0	805	67	570	309	433	13	460	508	4,619
Sunshine Coast Balance	51,068	32,548	1,829	6,055	7,016	216	13,619	569	285,390	17,148	12,808	60	6,017	1,740	436,083
Noosa / Gympie	6,537	2,540	383	522	395	13	12,406	310	17,157	412,202	971	17	2,364	6,702	462,519
Moreton Bay	7,675	3,636	469	1,967	4,379	94	653	433	12,833	971	1,669,325	5,615	256,910	13,878	1,978,838
Brisbane CBD	28	22	1	12	19	0	7	13	64	16	5,830	12,598	120,313	15,219	154,141
Brisbane	5,654	2,867	71	1,396	2,290	32	1,065	495	6,095	2,368	257,742	116,823	4,429,859	643,059	5,469,816
SEQ Balance	1,203	496	266	238	271	13	235	596	1,804	6,790	13,619	14,651	641,141	10,100,587	10,781,910
Total	651,061	233,503	12,429	103,041	95,097	691	121,967	4,741	436,308	462,599	1,979,625	149,868	5,470,391	10,784,294	20,505,616

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.3%	94.1%	89.4%	92.3%	97.1%	99.3%	97.8%	97.0%	96.4%	99.1%	94.5%	3.2%	68.1%	36.4%	72.1%
Urban North	94.0%	71.5%	66.7%	99.0%	98.4%	99.7%	98.9%	99.0%	97.2%	99.7%	98.5%	5.1%	78.2%	53.1%	82.9%
Sunshine Coast University	89.3%	66.7%	53.1%	87.0%	86.3%	88.0%	87.0%	99.5%	90.5%	87.4%	85.6%	40.7%	76.7%	77.8%	76.2%
Urban South	92.3%	98.9%	86.6%	62.0%	88.6%	99.1%	98.5%	96.7%	99.0%	99.6%	97.1%	3.6%	66.9%	43.4%	79.2%
Caloundra South PDA	97.1%	98.3%	86.2%	88.6%	61.9%	99.4%	95.9%	90.8%	98.0%	98.9%	96.4%	2.8%	62.5%	44.7%	73.0%
Beerwah East	99.1%	99.5%	85.9%	99.4%	99.4%	65.6%	99.1%	100.0%	85.0%	99.7%	98.7%	11.6%	78.1%	64.9%	90.4%
Coastal North	97.8%	98.8%	86.2%	98.5%	96.1%	99.3%	66.3%	85.0%	98.1%	97.3%	95.0%	3.2%	67.6%	38.5%	77.0%
Airport	97.1%	99.0%	100.0%	96.6%	91.0%	100.0%	85.0%	46.8%	98.8%	99.6%	86.8%	5.0%	29.9%	26.1%	59.8%
Sunshine Coast Balance	96.4%	97.1%	90.2%	99.0%	97.9%	85.0%	98.1%	98.8%	75.3%	98.9%	96.6%	5.1%	71.2%	62.7%	81.0%
Noosa / Gympie	99.1%	99.7%	87.2%	99.6%	99.0%	99.5%	97.3%	99.7%	98.9%	79.1%	97.7%	19.6%	91.3%	84.8%	80.6%
Moreton Bay	94.5%	98.3%	84.1%	96.9%	96.3%	99.0%	94.7%	86.8%	96.8%	97.6%	82.7%	24.5%	90.7%	81.9%	83.3%
Brisbane CBD	3.1%	4.8%	40.2%	3.6%	2.7%	10.6%	3.2%	5.1%	5.4%	19.1%	25.4%	3.4%	33.1%	25.2%	18.7%
Brisbane	68.9%	77.4%	75.8%	67.1%	62.8%	77.5%	68.0%	32.1%	72.1%	91.4%	91.0%	32.1%	72.7%	88.9%	73.0%
SEQ Balance	38.7%	54.3%	77.8%	44.7%	46.5%	67.7%	41.8%	30.6%	65.0%	86.0%	80.4%	24.2%	88.6%	88.5%	88.2%
Total To Sector	72.2%	82.9%	76.0%	79.2%	73.0%	90.5%	77.0%	61.4%	81.0%	80.7%	83.3%	18.2%	73.0%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	7,659	1,032	269	655	452	1	431	30	692	58	449	885	2,618	1,975	17,204
Urban North	1,034	1,694	247	57	69	0	62	3	374	8	54	437	806	428	5,273
Sunshine Coast University	270	250	2	70	67	0	54	0	177	55	80	1	22	76	1,124
Urban South	665	58	72	470	188	0	10	2	58	2	59	320	688	303	2,896
Caloundra South PDA	453	71	67	187	1,033	0	15	5	144	5	163	673	1,368	322	4,506
Beerwah East	1	0	0	0	0	-	0	-	1	0	1	3	9	7	24
Coastal North	434	66	57	10	15	0	997	7	111	182	34	205	508	346	2,972
Airport	28	4	-	3	5	-	7	0	6	1	66	246	1,080	1,442	2,889
Sunshine Coast Balance	708	392	182	61	147	1	108	6	3,755	183	447	1,118	2,438	1,035	10,583
Noosa / Gympie	60	8	56	2	4	0	179	1	174	3,633	23	70	226	753	5,188
Moreton Bay	444	61	88	62	168	1	36	66	423	24	35,014	17,344	24,596	3,069	81,398
Brisbane CBD	886	438	1	321	673	3	206	246	1,116	70	17,125	9,435	130,004	45,215	205,738
Brisbane	2,558	839	23	683	1,354	9	502	1,046	2,359	222	23,781	133,589	317,540	78,001	562,505
SEQ Balance	1,904	417	76	295	312	6	327	1,354	972	661	3,328	45,784	79,873	161,140	296,449
Total	17,104	5,329	1,141	2,875	4,487	23	2,934	2,767	10,363	5,104	80,624	210,111	561,775	294,110	1,198,748

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.2%	1.3%	8.7%	1.4%	2.6%	0.7%	2.2%	3.0%	1.3%	0.9%	5.5%	96.8%	31.9%	63.6%	1.9%
Urban North	1.3%	1.3%	3.6%	1.0%	1.6%	0.3%	1.1%	1.0%	1.1%	0.3%	1.5%	94.9%	21.8%	46.9%	1.9%
Sunshine Coast University	8.7%	3.6%	0.2%	11.8%	13.3%	12.0%	13.0%	0.5%	8.7%	12.6%	14.4%	59.3%	23.3%	22.2%	6.9%
Urban South	1.4%	1.0%	12.1%	0.9%	1.9%	0.9%	1.5%	3.3%	1.0%	0.4%	2.9%	96.4%	33.1%	56.6%	2.2%
Caloundra South PDA	2.6%	1.6%	13.4%	1.9%	1.3%	0.6%	4.1%	9.2%	2.0%	1.1%	3.6%	97.2%	37.5%	55.3%	3.5%
Beerwah East	0.9%	0.5%	13.0%	0.6%	0.6%	-	0.9%	-	0.6%	0.3%	1.3%	88.4%	21.9%	35.1%	3.1%
Coastal North	2.2%	1.2%	13.7%	1.5%	3.9%	0.7%	1.0%	0.8%	0.8%	1.4%	5.0%	96.8%	32.4%	61.5%	1.9%
Airport	2.8%	1.0%	-	3.4%	9.0%	-	0.8%	0.2%	1.0%	0.4%	13.2%	95.0%	70.1%	73.9%	37.4%
Sunshine Coast Balance	1.3%	1.2%	9.0%	1.0%	2.0%	0.6%	0.8%	1.0%	1.0%	1.1%	3.4%	94.9%	28.8%	37.3%	2.0%
Noosa / Gympie	0.9%	0.3%	12.8%	0.4%	1.0%	0.5%	1.4%	0.3%	1.0%	0.7%	2.3%	80.4%	8.7%	9.5%	0.9%
Moreton Bay	5.5%	1.7%	15.9%	3.1%	3.7%	1.0%	5.3%	13.2%	3.2%	2.4%	1.7%	75.5%	8.7%	18.1%	3.4%
Brisbane CBD	96.9%	95.2%	59.8%	96.4%	97.3%	89.4%	96.8%	94.9%	94.6%	80.9%	74.6%	2.5%	35.7%	74.8%	25.0%
Brisbane	31.1%	22.6%	24.2%	32.9%	37.2%	22.5%	32.0%	67.9%	27.9%	8.6%	8.4%	36.7%	5.2%	10.8%	7.5%
SEQ Balance	61.3%	45.7%	22.2%	55.3%	53.5%	32.3%	58.2%	69.4%	35.0%	8.4%	19.6%	75.8%	11.0%	1.4%	2.4%
Total To Sector	1.9%	1.9%	7.0%	2.2%	3.4%	3.0%	1.9%	35.8%	1.9%	0.9%	3.4%	25.5%	7.5%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	226,127	3,680	61	2,940	48	-	2	0	1,217	-	-	-	-	-	234,076
Urban North	3,693	36,526	2,046	5	1	-	0	-	568	-	-	-	-	-	42,839
Sunshine Coast University	62	2,043	639	7	2	-	0	-	17	-	-	-	-	-	2,770
Urban South	2,940	5	8	20,308	939	-	-	-	0	-	-	-	-	-	24,200
Caloundra South PDA	48	1	2	940	29,619	-	-	-	2	-	-	-	-	-	30,612
Beerwah East	-	-	0	-	-	13	-	-	37	-	-	-	-	-	49
Coastal North	2	0	0	-	-	-	32,981	135	158	163	-	-	-	-	33,440
Airport	0	0	-	-	-	-	134	76	1	-	-	-	-	-	212
Sunshine Coast Balance	1,215	569	17	0	2	37	158	1	89,971	14	0	-	-	1	91,984
Noosa / Gympie	-	-	-	-	-	-	164	-	14	105,164	-	-	-	445	105,786
Moreton Bay	-	-	-	-	-	-	-	-	0	-	313,631	3	1,766	-	315,401
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,494	113,637	0	464,135
Brisbane	-	-	-	-	-	-	-	-	-	-	1,755	113,540	1,343,595	2,256	1,461,146
SEQ Balance	-	-	-	-	-	-	-	-	0	449	0	0	2,301	1,149,767	1,152,517
Total	234,086	42,823	2,773	24,201	30,610	49	33,440	212	91,984	105,790	315,390	464,038	1,461,299	1,152,467	3,959,165

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.5%	4.6%	2.0%	6.3%	0.3%	-	0.0%	0.0%	2.3%	-	-	-	-	-	25.9%
Urban North	4.7%	27.2%	29.7%	0.1%	0.0%	-	0.0%	-	1.7%	-	-	-	-	-	15.2%
Sunshine Coast University	2.0%	29.7%	46.7%	1.2%	0.4%	-	0.0%	-	0.8%	-	-	-	-	-	16.9%
Urban South	6.3%	0.1%	1.3%	37.1%	9.5%	-	-	-	0.0%	-	-	-	-	-	18.6%
Caloundra South PDA	0.3%	0.0%	0.4%	9.5%	36.8%	-	-	-	0.0%	-	-	-	-	-	23.5%
Beerwah East	-	-	1.1%	-	-	34.4%	-	-	14.4%	-	-	-	-	-	6.4%
Coastal North	0.0%	0.0%	0.0%	-	-	-	32.7%	14.2%	1.1%	1.3%	-	-	-	-	21.1%
Airport	0.0%	0.0%	-	-	-	-	14.2%	53.0%	0.1%	-	-	-	-	-	2.7%
Sunshine Coast Balance	2.3%	1.7%	0.8%	0.0%	0.0%	14.4%	1.1%	0.1%	23.7%	0.1%	0.0%	-	-	0.0%	17.1%
Noosa / Gympie	-	-	-	-	-	-	1.3%	-	0.1%	20.2%	-	-	-	5.6%	18.4%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.5%	0.0%	0.6%	-	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.3%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.3%	10.1%	9.4%
Total To Sector	25.9%	15.2%	17.0%	18.6%	23.5%	6.5%	21.1%	2.7%	17.1%	18.4%	13.3%	56.3%	19.5%	9.4%	15.4%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	654,947	79,316	3,108	46,601	17,475	145	19,730	991	52,993	6,598	8,120	914	8,214	3,105	902,256
Urban North	79,314	134,272	6,889	5,914	4,377	47	5,649	361	33,510	2,549	3,700	461	3,706	911	281,662
Sunshine Coast University	3,108	6,889	1,368	592	501	1	416	7	2,029	439	557	1	94	342	16,345
Urban South	46,602	5,913	592	54,691	9,924	35	672	75	6,117	523	2,030	332	2,080	534	130,119
Caloundra South PDA	17,474	4,377	501	9,923	80,398	56	375	58	7,165	399	4,546	692	3,642	583	130,189
Beerwah East	145	48	1	35	56	37	17	0	254	13	96	4	42	19	766
Coastal North	19,731	5,649	417	672	374	17	100,871	948	13,883	12,746	688	212	1,567	562	158,338
Airport	991	361	7	76	58	0	947	144	577	310	499	259	1,540	1,950	7,719
Sunshine Coast Balance	52,992	33,508	2,028	6,116	7,165	254	13,885	575	379,116	17,345	13,255	1,179	8,455	2,776	538,649
Noosa / Gympie	6,596	2,548	439	524	399	13	12,748	311	17,345	520,999	994	87	2,590	7,900	573,493
Moreton Bay	8,119	3,698	558	2,029	4,547	95	689	499	13,256	995	2,017,971	22,963	283,272	16,947	2,375,637
Brisbane CBD	914	460	1	333	692	4	213	259	1,180	86	22,958	372,527	363,954	60,434	824,014
Brisbane	8,212	3,706	94	2,079	3,644	42	1,567	1,541	8,455	2,591	283,278	363,953	6,090,993	723,315	7,493,467
SEQ Balance	3,107	912	342	534	583	19	562	1,950	2,777	7,899	16,947	60,435	723,315	11,411,494	12,230,876
Total	902,251	281,656	16,343	130,118	130,194	764	158,342	7,719	538,656	573,494	2,375,639	824,018	7,493,465	12,230,872	25,663,530

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Scenario 4B - Base Case Demographics - With Sunshine Coast Light Rail - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	416,440	73,552	2,852	42,924	16,950	144	19,127	971	50,718	6,469	7,660	100	6,717	1,861	646,485
Urban North	73,546	96,424	4,625	5,844	4,339	49	5,627	369	32,692	2,550	3,655	55	3,098	622	233,496
Sunshine Coast University	2,857	4,621	727	587	510	1	409	7	1,918	389	485	1	70	268	12,849
Urban South	42,907	5,847	585	33,900	8,818	35	653	77	6,089	522	1,985	36	1,646	383	103,483
Caloundra South PDA	16,945	4,337	510	8,819	50,079	56	360	57	7,054	401	4,429	83	2,846	392	96,369
Beerwah East	143	49	1	35	56	25	17	0	218	14	95	1	37	14	704
Coastal North	19,129	5,621	405	653	360	17	67,117	829	13,727	12,468	668	23	1,283	387	122,684
Airport	970	369	7	77	58	0	829	70	588	324	514	201	1,407	1,354	6,766
Sunshine Coast Balance	50,711	32,668	1,912	6,089	7,050	218	13,730	587	286,240	17,192	12,855	92	6,314	1,859	437,518
Noosa / Gympie	6,468	2,552	387	522	401	14	12,470	324	17,201	412,335	973	21	2,414	6,785	462,868
Moreton Bay	7,658	3,655	478	1,986	4,427	95	667	513	12,875	974	1,670,404	5,748	256,880	13,964	1,980,324
Brisbane CBD	102	55	1	37	83	1	24	203	96	21	5,971	12,593	120,380	15,153	154,720
Brisbane	6,703	3,086	70	1,644	2,837	36	1,282	1,415	6,338	2,419	257,590	116,937	4,428,996	643,513	5,472,866
SEQ Balance	1,837	615	268	369	382	14	401	1,382	1,883	6,866	13,599	14,626	641,253	10,099,635	10,783,129
Total	646,416	233,451	12,827	103,485	96,351	703	122,712	6,803	437,638	462,943	1,980,883	150,518	5,473,340	10,786,191	20,514,262

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.1%	93.7%	87.0%	91.9%	98.1%	99.7%	97.9%	99.2%	96.4%	99.2%	99.3%	22.1%	91.4%	68.2%	71.5%
Urban North	93.7%	71.6%	66.5%	99.0%	98.6%	99.8%	99.0%	99.7%	97.2%	99.7%	99.2%	15.3%	86.6%	70.6%	83.0%
Sunshine Coast University	87.1%	66.4%	53.0%	85.5%	82.9%	83.5%	86.4%	100.0%	89.7%	87.5%	87.7%	59.9%	85.9%	82.9%	75.9%
Urban South	91.9%	99.0%	85.1%	62.1%	88.9%	99.7%	99.3%	99.8%	99.3%	99.8%	99.3%	17.8%	86.4%	77.2%	79.7%
Caloundra South PDA	98.1%	98.6%	82.9%	88.9%	61.8%	99.8%	99.3%	99.7%	98.8%	99.5%	99.3%	19.3%	85.7%	76.2%	74.1%
Beerwah East	99.7%	99.7%	82.3%	99.8%	99.6%	65.6%	99.9%	100.0%	84.9%	99.9%	99.4%	33.2%	90.0%	78.7%	91.7%
Coastal North	97.9%	98.9%	85.6%	99.3%	99.2%	99.9%	66.3%	85.1%	98.1%	97.3%	99.3%	22.2%	91.0%	73.9%	77.4%
Airport	99.1%	99.7%	99.9%	99.8%	99.5%	100.0%	85.0%	46.9%	99.6%	99.7%	99.7%	82.4%	92.7%	71.1%	87.8%
Sunshine Coast Balance	96.4%	97.1%	89.4%	99.3%	98.7%	84.9%	98.1%	99.6%	75.3%	98.9%	97.1%	10.1%	77.8%	69.2%	81.2%
Noosa / Gympie	99.2%	99.7%	87.4%	99.8%	99.5%	100.0%	97.3%	99.7%	98.9%	79.1%	98.3%	29.6%	94.0%	86.0%	80.7%
Moreton Bay	99.3%	99.1%	86.7%	99.2%	99.2%	99.4%	99.2%	99.7%	97.3%	98.3%	82.7%	25.5%	90.7%	82.4%	83.3%
Brisbane CBD	22.4%	15.4%	70.8%	18.4%	19.2%	31.8%	23.2%	83.0%	10.6%	29.7%	26.5%	3.4%	33.0%	25.0%	18.8%
Brisbane	91.2%	86.2%	85.4%	86.3%	85.5%	88.7%	90.9%	93.2%	78.1%	94.2%	90.9%	32.1%	72.7%	88.9%	73.0%
SEQ Balance	67.3%	69.8%	82.8%	74.5%	74.1%	78.0%	76.7%	72.6%	70.1%	87.0%	80.2%	24.2%	88.6%	88.5%	88.2%
Total To Sector	71.5%	83.0%	75.7%	79.7%	74.1%	91.7%	77.5%	88.3%	81.2%	80.7%	83.4%	18.3%	73.1%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	21,032	1,324	361	896	284	0	414	8	654	51	51	353	631	867	26,927
Urban North	1,318	1,685	256	53	59	0	59	1	375	8	30	301	480	259	4,884
Sunshine Coast University	355	257	2	90	102	0	64	-	203	55	68	1	11	55	1,265
Urban South	912	54	92	458	166	0	5	0	42	1	15	167	258	113	2,282
Caloundra South PDA	287	61	102	164	1,053	0	2	0	83	2	33	348	473	122	2,732
Beerwah East	0	0	0	0	0	0	0	-	1	0	1	2	4	4	13
Coastal North	414	62	68	4	3	0	1,002	7	108	184	5	81	127	136	2,202
Airport	9	1	0	0	0	-	7	0	1	1	2	43	111	549	725
Sunshine Coast Balance	662	396	209	42	88	1	105	2	3,770	183	379	816	1,800	826	9,280
Noosa / Gympie	52	8	56	1	2	-	182	1	171	3,640	16	50	154	664	4,996
Moreton Bay	53	34	74	15	36	1	5	2	359	17	35,374	16,766	24,580	2,984	80,300
Brisbane CBD	353	300	0	165	348	2	80	42	812	50	16,542	9,419	130,439	45,365	203,916
Brisbane	644	493	12	260	481	5	128	103	1,774	149	23,886	133,988	317,891	78,344	558,158
SEQ Balance	893	266	56	126	133	4	122	522	805	578	3,350	45,887	80,564	161,298	294,604
Total	26,983	4,941	1,289	2,276	2,755	14	2,174	687	9,159	4,920	79,752	208,222	557,524	291,588	1,192,283

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	3.2%	1.7%	11.0%	1.9%	1.6%	0.3%	2.1%	0.8%	1.2%	0.8%	0.7%	77.9%	8.6%	31.8%	3.0%
Urban North	1.7%	1.3%	3.7%	0.9%	1.3%	0.2%	1.0%	0.3%	1.1%	0.3%	0.8%	84.7%	13.4%	29.4%	1.7%
Sunshine Coast University	10.8%	3.7%	0.2%	13.1%	16.6%	16.5%	13.5%	-	9.5%	12.5%	12.3%	40.1%	14.1%	17.1%	7.5%
Urban South	2.0%	0.9%	13.5%	0.8%	1.7%	0.3%	0.7%	0.2%	0.7%	0.2%	0.7%	82.2%	13.6%	22.8%	1.8%
Caloundra South PDA	1.7%	1.4%	16.6%	1.7%	1.3%	0.2%	0.7%	0.3%	1.2%	0.5%	0.7%	80.7%	14.3%	23.8%	2.1%
Beerwah East	0.3%	0.3%	15.6%	0.2%	0.4%	0.0%	0.1%	-	0.5%	0.1%	0.6%	66.8%	10.0%	21.3%	1.7%
Coastal North	2.1%	1.1%	14.4%	0.7%	0.8%	0.1%	1.0%	0.7%	0.8%	1.4%	0.7%	77.8%	9.0%	26.1%	1.4%
Airport	0.9%	0.3%	0.1%	0.2%	0.5%	-	0.7%	0.1%	0.2%	0.3%	0.3%	17.6%	7.3%	28.9%	9.4%
Sunshine Coast Balance	1.3%	1.2%	9.8%	0.7%	1.2%	0.5%	0.8%	0.3%	1.0%	1.1%	2.9%	89.9%	22.2%	30.8%	1.7%
Noosa / Gympie	0.8%	0.3%	12.6%	0.2%	0.5%	-	1.4%	0.3%	1.0%	0.7%	1.7%	70.4%	6.0%	8.4%	0.9%
Moreton Bay	0.7%	0.9%	13.3%	0.8%	0.8%	0.6%	0.8%	0.3%	2.7%	1.7%	1.8%	74.5%	8.7%	17.6%	3.4%
Brisbane CBD	77.6%	84.6%	29.2%	81.6%	80.8%	68.2%	76.8%	17.0%	89.4%	70.3%	73.5%	2.5%	35.8%	75.0%	24.8%
Brisbane	8.8%	13.8%	14.6%	13.7%	14.5%	11.3%	9.1%	6.8%	21.9%	5.8%	8.4%	36.8%	5.2%	10.8%	7.4%
SEQ Balance	32.7%	30.2%	17.2%	25.5%	25.9%	22.0%	23.3%	27.4%	29.9%	7.3%	19.8%	75.8%	11.1%	1.4%	2.4%
Total To Sector	3.0%	1.8%	7.6%	1.8%	2.1%	1.8%	1.4%	8.9%	1.7%	0.9%	3.4%	25.3%	7.4%	2.4%	4.6%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	222,844	3,647	65	2,869	48	-	2	0	1,220	-	-	-	-	-	230,695
Urban North	3,659	36,617	2,079	5	1	-	0	0	571	-	-	-	-	-	42,932
Sunshine Coast University	67	2,081	643	9	3	-	0	-	18	-	-	-	-	-	2,821
Urban South	2,869	5	10	20,205	940	-	-	-	0	-	-	-	-	-	24,029
Caloundra South PDA	48	1	3	941	29,950	0	-	-	2	-	-	-	-	-	30,945
Beerwah East	-	-	0	-	-	13	-	-	37	-	-	-	-	-	50
Coastal North	2	0	0	-	-	-	33,075	139	159	164	-	-	-	-	33,539
Airport	0	0	-	-	-	-	139	78	1	0	-	-	-	-	218
Sunshine Coast Balance	1,219	571	18	0	2	37	159	1	90,203	15	0	-	-	0	92,225
Noosa / Gympie	-	-	-	-	-	-	164	-	14	105,189	-	-	-	445	105,813
Moreton Bay	-	-	-	-	-	-	-	-	0	-	314,004	4	1,769	-	315,777
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,502	113,703	0	464,209
Brisbane	-	-	-	-	-	-	-	-	-	-	1,758	113,600	1,343,547	2,253	1,461,158
SEQ Balance	-	-	-	-	-	-	-	-	0	449	0	0	2,296	1,149,829	1,152,574
Total	230,709	42,921	2,818	24,030	30,943	50	33,539	218	92,225	105,816	315,765	464,105	1,461,315	1,152,528	3,956,984

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.7%	4.6%	2.0%	6.1%	0.3%	-	0.0%	0.0%	2.3%	-	-	-	-	-	25.5%
Urban North	4.7%	27.2%	29.9%	0.1%	0.0%	-	0.0%	0.0%	1.7%	-	-	-	-	-	15.3%
Sunshine Coast University	2.0%	29.9%	46.8%	1.4%	0.5%	-	0.0%	-	0.8%	-	-	-	-	-	16.7%
Urban South	6.1%	0.1%	1.4%	37.0%	9.5%	-	-	-	0.0%	-	-	-	-	-	18.5%
Caloundra South PDA	0.3%	0.0%	0.5%	9.5%	36.9%	0.0%	-	-	0.0%	-	-	-	-	-	23.8%
Beerwah East	-	-	2.1%	-	-	34.3%	-	-	14.6%	-	-	-	-	-	6.6%
Coastal North	0.0%	0.0%	0.0%	-	-	-	32.7%	14.2%	1.1%	1.3%	-	-	-	-	21.2%
Airport	0.0%	0.0%	-	-	-	-	14.2%	53.0%	0.1%	0.0%	-	-	-	-	2.8%
Sunshine Coast Balance	2.3%	1.7%	0.9%	0.0%	0.0%	14.6%	1.1%	0.1%	23.7%	0.1%	0.0%	-	-	0.0%	17.1%
Noosa / Gympie	-	-	-	-	-	-	1.3%	-	0.1%	20.2%	-	-	-	5.6%	18.4%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.5%	0.0%	0.6%	-	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.4%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	0.0%	0.0%	0.3%	10.1%	9.4%
Total To Sector	25.5%	15.3%	16.6%	18.5%	23.8%	6.6%	21.2%	2.8%	17.1%	18.4%	13.3%	56.4%	19.5%	9.4%	15.4%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	660,317	78,523	3,278	46,690	17,282	145	19,543	978	52,591	6,520	7,711	453	7,348	2,729	904,107
Urban North	78,524	134,726	6,960	5,903	4,399	49	5,686	370	33,638	2,558	3,686	356	3,578	881	281,312
Sunshine Coast University	3,279	6,959	1,373	687	615	1	473	7	2,139	444	552	1	81	324	16,935
Urban South	46,688	5,905	687	54,562	9,924	35	658	77	6,131	523	2,000	203	1,904	497	129,794
Caloundra South PDA	17,281	4,399	615	9,924	81,082	56	362	57	7,139	403	4,462	432	3,319	514	130,046
Beerwah East	144	49	1	35	56	38	17	0	256	14	96	3	41	18	767
Coastal North	19,544	5,683	473	657	363	17	101,193	974	13,994	12,816	672	105	1,410	523	158,425
Airport	979	370	7	77	58	0	974	148	591	325	515	244	1,518	1,904	7,710
Sunshine Coast Balance	52,592	33,635	2,139	6,131	7,140	256	13,994	590	380,213	17,390	13,234	907	8,114	2,686	539,023
Noosa / Gympie	6,520	2,560	443	522	403	14	12,816	325	17,387	521,164	990	70	2,568	7,894	573,677
Moreton Bay	7,711	3,688	552	2,001	4,462	95	673	515	13,234	992	2,019,782	22,518	283,229	16,948	2,376,401
Brisbane CBD	455	355	1	203	431	3	104	244	908	71	22,516	372,513	364,523	60,519	822,845
Brisbane	7,346	3,579	81	1,904	3,319	41	1,411	1,518	8,111	2,568	283,234	364,525	6,090,433	724,110	7,492,181
SEQ Balance	2,730	881	324	495	515	18	522	1,904	2,688	7,893	16,949	60,514	724,113	11,410,762	12,230,308
Total	904,109	281,313	16,934	129,791	130,050	767	158,425	7,708	539,022	573,679	2,376,399	822,844	7,492,179	12,230,308	25,663,529

RTI RELEASE Sunshine Coast Council

Scenario 5B - Base Case Demographics - With Light Rail and CAMCOS - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	415,220	73,502	2,703	42,833	17,004	142	19,257	964	50,759	6,479	7,589	36	5,715	1,192	643,396
Urban North	73,496	96,205	4,622	5,868	4,324	49	5,577	362	32,613	2,549	3,654	41	3,053	531	232,944
Sunshine Coast University	2,705	4,622	730	497	468	1	367	7	1,889	384	490	1	70	271	12,502
Urban South	42,831	5,864	490	33,796	8,884	35	664	73	6,129	518	1,971	14	1,395	230	102,894
Caloundra South PDA	16,996	4,321	468	8,881	49,707	56	357	55	7,069	398	4,420	32	2,523	296	95,578
Beerwah East	143	48	1	35	56	25	17	0	217	13	95	1	35	13	698
Coastal North	19,245	5,573	364	663	357	17	66,896	812	13,642	12,437	658	11	1,174	258	122,107
Airport	964	362	7	73	55	0	812	68	578	317	477	57	837	705	5,310
Sunshine Coast Balance	50,739	32,593	1,881	6,121	7,065	216	13,644	578	285,634	17,180	12,832	84	6,270	1,819	436,655
Noosa / Gympie	6,475	2,547	384	520	399	14	12,440	317	17,191	412,286	972	20	2,410	6,740	462,717
Moreton Bay	7,591	3,651	481	1,966	4,418	94	656	477	12,850	972	1,670,417	5,783	257,296	13,940	1,980,592
Brisbane CBD	36	40	1	14	32	1	12	58	90	20	6,007	12,594	120,402	15,207	154,513
Brisbane	5,745	3,027	70	1,394	2,518	35	1,172	869	6,309	2,414	258,042	116,887	4,429,457	642,715	5,470,654
SEQ Balance	1,286	556	271	242	309	14	283	807	1,890	6,861	13,780	14,712	641,982	10,101,058	10,784,050
Total	643,471	232,912	12,472	102,902	95,594	697	122,155	5,447	436,860	462,829	1,981,403	150,274	5,472,619	10,784,977	20,504,611

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.0%	93.6%	88.2%	91.2%	96.6%	99.0%	97.0%	96.4%	96.0%	98.9%	95.0%	5.9%	74.1%	40.7%	71.1%
Urban North	93.5%	71.6%	66.6%	98.3%	98.4%	99.8%	98.9%	98.7%	97.2%	99.7%	98.8%	11.4%	85.0%	59.6%	82.9%
Sunshine Coast University	88.3%	66.6%	53.1%	85.9%	84.8%	87.5%	86.9%	99.5%	90.0%	87.5%	86.4%	59.5%	84.3%	81.9%	76.0%
Urban South	91.2%	98.3%	84.8%	62.3%	88.2%	99.0%	96.0%	94.2%	98.1%	99.4%	95.9%	5.4%	69.4%	43.5%	79.0%
Caloundra South PDA	96.6%	98.3%	84.7%	88.1%	61.9%	99.2%	96.6%	93.8%	97.9%	99.1%	97.1%	6.3%	73.4%	54.4%	73.5%
Beerwah East	98.9%	99.6%	87.0%	98.9%	99.4%	65.8%	99.4%	100.0%	85.0%	99.6%	98.8%	22.5%	85.3%	71.9%	91.0%
Coastal North	96.9%	98.9%	86.1%	95.9%	96.8%	99.6%	66.3%	84.5%	98.1%	97.3%	97.1%	9.1%	81.3%	48.3%	77.1%
Airport	96.4%	98.6%	99.8%	94.7%	94.1%	100.0%	84.5%	46.8%	98.7%	99.6%	93.8%	23.0%	55.1%	36.5%	68.7%
Sunshine Coast Balance	96.0%	97.1%	89.6%	98.0%	97.8%	85.0%	98.1%	98.8%	75.3%	98.9%	96.8%	9.1%	77.3%	67.5%	81.1%
Noosa / Gympie	98.9%	99.7%	87.4%	99.3%	99.1%	99.6%	97.3%	99.6%	98.9%	79.1%	98.3%	28.0%	93.9%	85.4%	80.7%
Moreton Bay	95.0%	98.7%	84.9%	95.8%	97.0%	99.0%	97.1%	93.7%	96.9%	98.2%	82.7%	25.7%	90.9%	82.3%	83.3%
Brisbane CBD	5.9%	11.0%	65.6%	5.4%	6.3%	25.4%	9.3%	23.3%	9.8%	27.8%	26.7%	3.4%	33.0%	25.1%	18.8%
Brisbane	74.4%	84.3%	84.1%	69.3%	73.3%	85.3%	81.1%	57.2%	77.7%	94.0%	91.2%	32.1%	72.7%	88.9%	73.0%
SEQ Balance	43.9%	62.4%	81.8%	45.8%	56.7%	74.9%	53.1%	41.8%	70.2%	87.0%	81.3%	24.3%	88.8%	88.5%	88.2%
Total To Sector	71.1%	82.9%	75.8%	79.0%	73.5%	91.2%	77.2%	70.5%	81.1%	80.7%	83.4%	18.3%	73.0%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	21,608	1,416	300	1,305	544	1	592	36	892	71	398	576	2,001	1,736	31,476
Urban North	1,404	1,663	253	99	71	0	60	5	371	8	43	319	540	360	5,197
Sunshine Coast University	296	254	2	75	82	0	55	0	194	55	77	0	13	60	1,164
Urban South	1,306	99	80	629	262	0	28	5	118	3	84	249	616	299	3,779
Caloundra South PDA	549	74	82	265	1,014	0	13	4	150	4	133	471	914	249	3,920
Beerwah East	2	0	0	0	0	-	0	-	1	0	1	3	6	5	19
Coastal North	607	64	59	29	12	0	990	13	109	180	20	113	270	277	2,741
Airport	35	5	0	4	3	-	13	0	7	1	31	191	682	1,227	2,200
Sunshine Coast Balance	916	387	200	126	154	1	106	6	3,736	182	428	836	1,846	876	9,801
Noosa / Gympie	72	8	55	4	4	0	178	1	172	3,635	17	52	158	703	5,058
Moreton Bay	398	47	86	86	135	1	20	32	410	18	34,998	16,675	24,027	3,003	79,936
Brisbane CBD	578	321	0	248	471	2	113	190	829	51	16,453	9,414	130,285	45,401	204,357
Brisbane	1,973	564	13	617	918	6	273	651	1,807	154	23,292	133,898	317,776	78,373	560,317
SEQ Balance	1,643	336	60	286	236	5	250	1,125	803	581	3,164	45,895	79,061	160,564	294,008
Total	31,388	5,240	1,192	3,773	3,904	18	2,692	2,067	9,598	4,943	79,141	208,692	558,194	293,131	1,203,972

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	3.3%	1.8%	9.8%	2.8%	3.1%	1.0%	3.0%	3.6%	1.7%	1.1%	5.0%	94.1%	25.9%	59.3%	3.5%
Urban North	1.8%	1.2%	3.6%	1.7%	1.6%	0.2%	1.1%	1.3%	1.1%	0.3%	1.2%	88.6%	15.0%	40.4%	1.8%
Sunshine Coast University	9.7%	3.7%	0.2%	12.9%	14.8%	12.5%	13.1%	0.5%	9.2%	12.5%	13.6%	40.5%	15.7%	18.1%	7.1%
Urban South	2.8%	1.7%	13.9%	1.2%	2.6%	1.0%	4.0%	5.8%	1.9%	0.6%	4.1%	94.6%	30.6%	56.5%	2.9%
Caloundra South PDA	3.1%	1.7%	14.9%	2.6%	1.3%	0.8%	3.4%	6.2%	2.1%	0.9%	2.9%	93.7%	26.6%	45.6%	3.0%
Beerwah East	1.1%	0.4%	13.0%	1.1%	0.6%	-	0.6%	-	0.6%	0.4%	1.2%	77.5%	14.7%	28.1%	2.5%
Coastal North	3.1%	1.1%	13.8%	4.1%	3.2%	0.4%	1.0%	1.4%	0.8%	1.4%	2.9%	90.9%	18.7%	51.7%	1.7%
Airport	3.5%	1.4%	0.2%	5.3%	5.9%	-	1.4%	0.2%	1.1%	0.4%	6.2%	77.0%	44.9%	63.5%	28.5%
Sunshine Coast Balance	1.7%	1.2%	9.5%	2.0%	2.1%	0.6%	0.8%	1.0%	1.0%	1.0%	3.2%	90.9%	22.7%	32.5%	1.8%
Noosa / Gympie	1.1%	0.3%	12.6%	0.7%	0.9%	0.4%	1.4%	0.4%	1.0%	0.7%	1.7%	72.0%	6.1%	8.9%	0.9%
Moreton Bay	5.0%	1.3%	15.1%	4.2%	3.0%	1.0%	2.9%	6.3%	3.1%	1.8%	1.7%	74.2%	8.5%	17.7%	3.4%
Brisbane CBD	94.1%	89.0%	34.4%	94.6%	93.7%	74.6%	90.7%	76.7%	90.2%	72.2%	73.2%	2.5%	35.8%	74.9%	24.8%
Brisbane	25.6%	15.7%	15.9%	30.7%	26.7%	14.7%	18.9%	42.8%	22.3%	6.0%	8.2%	36.7%	5.2%	10.8%	7.5%
SEQ Balance	56.1%	37.6%	18.2%	54.2%	43.3%	25.1%	46.9%	58.2%	29.8%	7.4%	18.7%	75.7%	10.9%	1.4%	2.4%
Total To Sector	3.5%	1.9%	7.2%	2.9%	3.0%	2.4%	1.7%	26.7%	1.8%	0.9%	3.3%	25.4%	7.5%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	222,176	3,651	60	2,831	48	-	2	0	1,204	-	-	-	-	-	229,972
Urban North	3,667	36,509	2,065	5	1	-	0	0	570	-	-	-	-	-	42,817
Sunshine Coast University	62	2,062	642	7	2	-	0	-	17	-	-	-	-	-	2,792
Urban South	2,834	5	7	19,844	929	-	-	-	0	-	-	-	-	-	23,620
Caloundra South PDA	48	1	3	931	29,530	-	-	-	2	-	-	-	-	-	30,514
Beerwah East	-	-	-	-	0	13	-	-	37	-	-	-	-	-	50
Coastal North	2	0	0	-	-	-	32,983	136	158	163	-	-	-	-	33,442
Airport	0	0	-	-	-	-	136	77	1	-	-	-	-	-	214
Sunshine Coast Balance	1,202	570	18	0	2	37	158	1	90,036	14	0	-	-	0	92,038
Noosa / Gympie	-	-	-	-	-	-	164	0	14	105,174	-	-	-	-	105,797
Moreton Bay	-	-	-	-	-	-	-	-	0	-	313,937	3	1,769	-	315,710
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,522	113,675	0	464,201
Brisbane	-	-	-	-	-	-	-	-	-	-	1,758	113,574	1,343,597	2,252	1,461,181
SEQ Balance	-	-	-	-	-	-	-	-	0	449	-	0	2,298	1,149,851	1,152,599
Total	229,990	42,798	2,794	23,618	30,512	50	33,444	213	92,040	105,800	315,699	464,099	1,461,340	1,152,549	3,954,946

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.7%	4.6%	2.0%	6.0%	0.3%	-	0.0%	0.0%	2.3%	-	-	-	-	-	25.4%
Urban North	4.7%	27.2%	29.8%	0.1%	0.0%	-	0.0%	0.0%	1.7%	-	-	-	-	-	15.2%
Sunshine Coast University	2.0%	29.7%	46.7%	1.2%	0.4%	-	0.0%	-	0.8%	-	-	-	-	-	17.0%
Urban South	6.0%	0.1%	1.2%	36.6%	9.2%	-	-	-	0.0%	-	-	-	-	-	18.1%
Caloundra South PDA	0.3%	0.0%	0.5%	9.2%	36.8%	-	-	-	0.0%	-	-	-	-	-	23.5%
Beerwah East	-	-	-	-	0.0%	34.2%	-	-	14.5%	-	-	-	-	-	6.5%
Coastal North	0.0%	0.0%	0.0%	-	-	-	32.7%	14.1%	1.1%	1.3%	-	-	-	-	21.1%
Airport	0.0%	0.0%	-	-	-	-	14.2%	53.0%	0.2%	-	-	-	-	-	2.8%
Sunshine Coast Balance	2.3%	1.7%	0.8%	0.0%	0.0%	14.5%	1.1%	0.1%	23.7%	0.1%	0.0%	-	-	0.0%	17.1%
Noosa / Gympie	-	-	-	-	-	-	1.3%	0.0%	0.1%	20.2%	-	-	-	5.6%	18.4%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.5%	0.0%	0.6%	-	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.4%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	-	0.0%	0.3%	10.1%	9.4%
Total To Sector	25.4%	15.2%	17.0%	18.1%	23.5%	6.5%	21.1%	2.8%	17.1%	18.4%	13.3%	56.4%	19.5%	9.4%	15.4%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	659,004	78,569	3,063	46,969	17,595	144	19,851	1,000	52,856	6,550	7,987	612	7,716	2,928	904,844
Urban North	78,567	134,377	6,940	5,973	4,396	49	5,638	367	33,553	2,557	3,697	360	3,593	891	280,958
Sunshine Coast University	3,063	6,939	1,373	578	552	1	423	7	2,100	439	568	1	83	331	16,458
Urban South	46,972	5,969	577	54,269	10,075	35	692	78	6,247	521	2,055	264	2,011	528	130,293
Caloundra South PDA	17,593	4,395	552	10,077	80,251	56	370	58	7,221	402	4,552	503	3,437	545	130,011
Beerwah East	144	49	1	35	56	37	17	0	255	14	96	3	41	18	767
Coastal North	19,854	5,637	423	692	369	17	100,869	961	13,909	12,780	677	125	1,444	535	158,291
Airport	999	367	7	77	58	0	961	145	585	318	508	248	1,519	1,932	7,724
Sunshine Coast Balance	52,856	33,550	2,099	6,247	7,220	254	13,909	585	379,406	17,376	13,260	920	8,115	2,696	538,493
Noosa / Gympie	6,547	2,555	440	523	403	14	12,782	319	17,377	521,095	990	72	2,568	7,889	573,572
Moreton Bay	7,989	3,698	567	2,052	4,552	95	676	509	13,260	990	2,019,352	22,462	283,093	16,943	2,376,238
Brisbane CBD	613	361	1	262	503	3	124	248	920	71	22,464	372,530	364,362	60,608	823,071
Brisbane	7,718	3,591	83	2,011	3,436	42	1,446	1,519	8,116	2,569	283,093	364,359	6,090,829	723,340	7,492,151
SEQ Balance	2,928	892	332	528	545	18	533	1,932	2,694	7,890	16,948	60,607	723,342	11,411,473	12,230,657
Total	904,848	280,949	16,458	130,294	130,010	765	158,290	7,727	538,498	573,572	2,376,243	823,066	7,492,153	12,230,657	25,663,529

RTI RELEASE Sunshine Coast Council

Scenario 6B - Base Case Demographics - With Light Rail and North Coast Connect - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	414,811	73,390	2,682	42,749	16,892	142	19,075	948	50,581	6,456	7,525	24	5,187	1,021	641,482
Urban North	73,382	96,328	4,612	5,823	4,306	48	5,600	358	32,589	2,548	3,642	24	2,902	487	232,648
Sunshine Coast University	2,683	4,615	730	514	433	1	362	7	1,837	384	477	1	72	265	12,380
Urban South	42,743	5,818	511	33,719	8,767	35	649	72	6,055	518	1,965	12	1,389	231	102,481
Caloundra South PDA	16,886	4,303	433	8,766	49,689	56	358	53	7,014	395	4,375	19	2,279	259	94,885
Beerwah East	142	48	1	35	56	24	17	0	216	14	95	0	33	12	692
Coastal North	19,071	5,596	358	649	359	16	66,960	807	13,647	12,423	653	7	1,064	217	121,828
Airport	949	359	7	72	53	0	808	68	571	309	434	13	462	511	4,617
Sunshine Coast Balance	50,564	32,571	1,831	6,051	7,011	216	13,650	572	285,517	17,161	12,805	61	6,014	1,745	435,766
Noosa / Gympie	6,455	2,547	383	519	395	13	12,421	310	17,172	412,235	970	17	2,365	6,700	462,502
Moreton Bay	7,524	3,636	469	1,962	4,370	94	652	433	12,831	970	1,669,565	5,620	256,941	13,916	1,978,981
Brisbane CBD	25	22	1	12	19	0	7	13	65	16	5,812	12,597	120,386	15,173	154,148
Brisbane	5,279	2,872	72	1,394	2,297	33	1,068	497	6,103	2,369	257,789	116,912	4,429,775	643,608	5,470,066
SEQ Balance	1,100	498	265	237	270	13	235	597	1,813	6,790	13,657	14,660	641,692	10,099,901	10,781,727
Total	641,613	232,602	12,353	102,501	94,916	691	121,860	4,735	436,009	462,588	1,979,762	149,968	5,470,560	10,784,046	20,494,203

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.0%	93.7%	88.6%	91.6%	96.6%	98.6%	97.5%	96.2%	96.1%	99.0%	93.2%	2.4%	62.3%	32.0%	71.0%
Urban North	93.7%	71.6%	66.8%	99.0%	98.4%	99.6%	98.9%	99.1%	97.2%	99.7%	98.6%	5.1%	78.5%	53.4%	82.8%
Sunshine Coast University	88.7%	66.8%	53.2%	87.0%	86.4%	86.0%	87.3%	99.4%	90.5%	87.5%	85.6%	42.0%	76.8%	77.7%	76.0%
Urban South	91.6%	98.9%	86.6%	62.2%	88.7%	99.3%	98.4%	96.5%	99.0%	99.5%	97.0%	3.6%	66.8%	43.1%	79.1%
Caloundra South PDA	96.6%	98.4%	86.3%	88.7%	61.9%	99.5%	95.9%	90.7%	98.0%	98.9%	96.5%	2.8%	62.7%	44.7%	73.0%
Beerwah East	98.5%	99.6%	92.0%	99.4%	99.1%	65.6%	99.3%	100.0%	85.0%	99.5%	98.7%	12.3%	78.5%	64.8%	90.3%
Coastal North	97.5%	98.9%	86.4%	98.4%	96.2%	99.0%	66.3%	85.1%	98.1%	97.3%	95.1%	3.3%	67.9%	38.6%	77.0%
Airport	96.3%	99.0%	99.8%	96.5%	90.8%	100.0%	85.0%	46.8%	98.8%	99.6%	86.9%	5.1%	30.0%	26.2%	59.8%
Sunshine Coast Balance	96.1%	97.1%	90.2%	99.0%	97.9%	85.0%	98.1%	98.8%	75.3%	98.9%	96.6%	5.2%	71.3%	62.8%	80.9%
Noosa / Gympie	98.9%	99.7%	87.4%	99.6%	98.9%	99.5%	97.3%	99.6%	98.9%	79.1%	97.8%	20.0%	91.4%	84.9%	80.6%
Moreton Bay	93.2%	98.4%	84.1%	96.8%	96.3%	98.8%	94.8%	86.9%	96.8%	97.6%	82.7%	24.5%	90.7%	82.0%	83.3%
Brisbane CBD	2.4%	4.7%	41.5%	3.6%	2.8%	10.8%	3.3%	5.1%	5.5%	19.1%	25.3%	3.4%	33.1%	25.2%	18.7%
Brisbane	63.3%	77.6%	76.3%	67.1%	63.2%	77.9%	68.1%	32.3%	72.4%	91.5%	91.0%	32.1%	72.7%	88.9%	73.0%
SEQ Balance	34.5%	54.7%	77.9%	44.2%	46.6%	67.8%	41.8%	30.6%	65.2%	86.0%	80.5%	24.3%	88.6%	88.5%	88.2%
Total To Sector	71.0%	82.8%	75.9%	79.1%	73.0%	90.3%	77.0%	61.4%	81.0%	80.7%	83.3%	18.2%	73.0%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	21,139	1,335	288	1,060	544	2	484	37	818	67	550	991	3,145	2,173	32,632
Urban North	1,329	1,682	248	56	67	0	60	3	370	8	53	435	796	425	5,533
Sunshine Coast University	284	250	2	69	67	0	53	0	177	55	80	1	22	76	1,135
Urban South	1,065	58	71	459	183	0	11	3	60	2	61	322	690	305	3,290
Caloundra South PDA	550	70	67	183	1,023	0	15	5	143	4	161	673	1,355	321	4,569
Beerwah East	2	0	0	0	0	0	0	-	1	0	1	3	9	7	25
Coastal North	489	63	56	10	14	0	993	7	110	182	34	205	502	344	3,012
Airport	36	4	0	3	5	-	7	0	6	1	66	246	1,077	1,439	2,890
Sunshine Coast Balance	836	388	182	62	146	2	107	6	3,738	182	448	1,117	2,423	1,034	10,672
Noosa / Gympie	69	8	55	2	5	0	179	1	171	3,635	22	69	223	751	5,190
Moreton Bay	550	60	88	65	166	1	36	65	419	24	34,998	17,351	24,474	3,047	81,346
Brisbane CBD	991	437	1	323	673	3	206	246	1,113	70	17,157	9,433	130,035	45,097	205,784
Brisbane	3,054	828	22	685	1,337	9	499	1,043	2,332	220	23,636	133,598	317,436	78,080	562,780
SEQ Balance	2,092	412	75	299	310	6	327	1,353	966	658	3,306	45,609	79,957	161,010	296,379
Total	32,487	5,595	1,157	3,276	4,540	25	2,976	2,770	10,424	5,109	80,573	210,054	562,144	294,107	1,215,237

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	3.2%	1.7%	9.5%	2.3%	3.1%	1.4%	2.5%	3.8%	1.6%	1.0%	6.8%	97.6%	37.7%	68.0%	3.6%
Urban North	1.7%	1.2%	3.6%	1.0%	1.5%	0.4%	1.1%	0.9%	1.1%	0.3%	1.4%	94.9%	21.5%	46.6%	2.0%
Sunshine Coast University	9.4%	3.6%	0.2%	11.8%	13.3%	12.8%	12.7%	0.6%	8.7%	12.5%	14.4%	58.0%	23.2%	22.3%	7.0%
Urban South	2.3%	1.0%	12.1%	0.8%	1.8%	0.7%	1.6%	3.5%	1.0%	0.5%	3.0%	96.4%	33.2%	56.9%	2.5%
Caloundra South PDA	3.1%	1.6%	13.3%	1.8%	1.3%	0.5%	4.1%	9.3%	2.0%	1.1%	3.5%	97.2%	37.3%	55.3%	3.5%
Beerwah East	1.5%	0.4%	6.8%	0.6%	0.8%	0.0%	0.7%	-	0.6%	0.5%	1.3%	87.7%	21.5%	35.2%	3.2%
Coastal North	2.5%	1.1%	13.6%	1.6%	3.8%	1.0%	1.0%	0.7%	0.8%	1.4%	4.9%	96.7%	32.1%	61.4%	1.9%
Airport	3.7%	1.0%	0.2%	3.5%	9.2%	-	0.8%	0.2%	1.0%	0.4%	13.1%	94.9%	70.0%	73.8%	37.4%
Sunshine Coast Balance	1.6%	1.2%	9.0%	1.0%	2.0%	0.6%	0.8%	1.0%	1.0%	1.0%	3.4%	94.8%	28.7%	37.2%	2.0%
Noosa / Gympie	1.1%	0.3%	12.6%	0.4%	1.1%	0.5%	1.4%	0.4%	1.0%	0.7%	2.2%	80.0%	8.6%	9.5%	0.9%
Moreton Bay	6.8%	1.6%	15.9%	3.2%	3.7%	1.2%	5.2%	13.1%	3.2%	2.4%	1.7%	75.5%	8.6%	18.0%	3.4%
Brisbane CBD	97.6%	95.3%	58.5%	96.4%	97.2%	89.2%	96.7%	94.9%	94.5%	80.9%	74.7%	2.5%	35.7%	74.8%	25.0%
Brisbane	36.7%	22.4%	23.7%	32.9%	36.8%	22.1%	31.9%	67.7%	27.6%	8.5%	8.3%	36.7%	5.2%	10.8%	7.5%
SEQ Balance	65.5%	45.3%	22.1%	55.8%	53.4%	32.2%	58.2%	69.4%	34.8%	8.3%	19.5%	75.7%	11.0%	1.4%	2.4%
Total To Sector	3.6%	2.0%	7.1%	2.5%	3.5%	3.2%	1.9%	35.9%	1.9%	0.9%	3.4%	25.5%	7.5%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	222,036	3,632	56	2,844	47	-	2	0	1,215	-	-	-	-	-	229,831
Urban North	3,644	36,562	2,047	5	1	-	0	0	570	-	-	-	-	-	42,829
Sunshine Coast University	57	2,043	641	7	2	0	0	-	17	-	-	-	-	-	2,767
Urban South	2,844	5	8	20,064	931	-	-	-	0	-	-	-	-	-	23,852
Caloundra South PDA	47	1	2	933	29,532	-	-	-	2	-	-	-	-	-	30,517
Beerwah East	-	-	0	-	0	13	-	-	37	-	-	-	-	-	49
Coastal North	2	0	0	-	-	-	33,006	134	158	163	-	-	-	-	33,464
Airport	0	0	-	-	-	-	135	77	1	-	-	-	-	-	212
Sunshine Coast Balance	1,213	570	17	0	2	37	158	1	89,973	14	0	-	-	0	91,984
Noosa / Gympie	-	-	-	-	-	-	164	-	14	105,166	-	-	-	445	105,789
Moreton Bay	-	-	-	-	-	-	-	-	0	-	313,609	3	1,765	-	315,377
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,466	113,608	0	464,077
Brisbane	-	-	-	-	-	-	-	-	-	-	1,754	113,523	1,343,337	2,254	1,460,868
SEQ Balance	-	-	-	-	-	-	-	-	0	449	-	0	2,296	1,149,727	1,152,473
Total	229,842	42,814	2,770	23,853	30,514	49	33,465	212	91,987	105,792	315,366	463,992	1,461,005	1,152,427	3,954,089

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.7%	4.6%	1.9%	6.1%	0.3%	-	0.0%	0.0%	2.3%	-	-	-	-	-	25.4%
Urban North	4.7%	27.2%	29.6%	0.1%	0.0%	-	0.0%	0.0%	1.7%	-	-	-	-	-	15.2%
Sunshine Coast University	1.9%	29.6%	46.7%	1.2%	0.4%	1.2%	0.0%	-	0.8%	-	-	-	-	-	17.0%
Urban South	6.1%	0.1%	1.3%	37.0%	9.4%	-	-	-	0.0%	-	-	-	-	-	18.4%
Caloundra South PDA	0.3%	0.0%	0.4%	9.4%	36.8%	-	-	-	0.0%	-	-	-	-	-	23.5%
Beerwah East	-	-	1.1%	-	0.0%	34.4%	-	-	14.4%	-	-	-	-	-	6.4%
Coastal North	0.0%	0.0%	0.1%	-	-	-	32.7%	14.2%	1.1%	1.3%	-	-	-	-	21.1%
Airport	0.0%	0.0%	-	-	-	-	14.2%	53.0%	0.1%	-	-	-	-	-	2.8%
Sunshine Coast Balance	2.3%	1.7%	0.8%	0.0%	0.0%	14.4%	1.1%	0.2%	23.7%	0.1%	0.0%	-	-	0.0%	17.1%
Noosa / Gympie	-	-	-	-	-	-	1.3%	-	0.1%	20.2%	-	-	-	5.6%	18.4%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.5%	0.0%	0.6%	-	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.3%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	-	0.0%	0.3%	10.1%	9.4%
Total To Sector	25.4%	15.2%	17.0%	18.4%	23.5%	6.4%	21.1%	2.7%	17.1%	18.4%	13.3%	56.3%	19.5%	9.4%	15.4%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	657,986	78,356	3,026	46,652	17,483	144	19,560	985	52,613	6,523	8,075	1,015	8,832	3,194	903,945
Urban North	78,355	134,573	6,907	5,884	4,374	48	5,660	362	33,528	2,556	3,695	459	3,698	911	281,010
Sunshine Coast University	3,024	6,908	1,373	590	502	1	415	7	2,030	438	557	1	94	341	16,282
Urban South	46,651	5,881	590	54,242	9,880	36	659	75	6,115	520	2,026	334	2,079	535	129,623
Caloundra South PDA	17,483	4,374	502	9,882	80,243	56	374	58	7,159	399	4,535	692	3,634	580	129,971
Beerwah East	144	48	1	35	56	37	17	0	254	14	96	4	42	19	766
Coastal North	19,562	5,659	415	660	374	17	100,959	949	13,915	12,768	687	212	1,567	561	158,304
Airport	985	363	7	75	58	0	950	145	578	310	499	259	1,540	1,950	7,719
Sunshine Coast Balance	52,612	33,529	2,030	6,113	7,159	254	13,915	579	379,228	17,358	13,253	1,178	8,436	2,779	538,422
Noosa / Gympie	6,524	2,555	438	521	399	13	12,763	311	17,357	521,037	993	86	2,588	7,896	573,481
Moreton Bay	8,074	3,696	557	2,027	4,536	95	688	499	13,251	994	2,018,171	22,975	283,179	16,963	2,375,704
Brisbane CBD	1,016	459	1	335	692	4	212	259	1,178	86	22,972	372,496	364,029	60,270	824,009
Brisbane	8,333	3,700	94	2,078	3,635	42	1,567	1,540	8,435	2,589	283,179	364,033	6,090,547	723,942	7,493,714
SEQ Balance	3,192	910	340	535	580	19	561	1,950	2,779	7,896	16,963	60,269	723,945	11,410,638	12,230,579
Total	903,942	281,010	16,280	129,630	129,971	765	158,301	7,717	538,420	573,489	2,375,701	824,014	7,493,709	12,230,580	25,663,529

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Prepared for

SUNSHINE COAST COUNCIL

Sectorised scenarios - Project case demographics (Volume 6)

Sunshine Coast demographics and preliminary modelling

September, 2018

Sunshine Coast demographics and preliminary modelling

Sectorised Matrices – Project Case Demographics (Volume 6)

18-027

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Date	Revision	Prepared By	Checked By	Approved By	Description
28/09/2018	A	Mark Iliffe	G. Nicholls	G. Nicholls	Final Draft

Sectorised Matrices- Project Case Demographics

(Volume 6)

Modelled Scenarios:

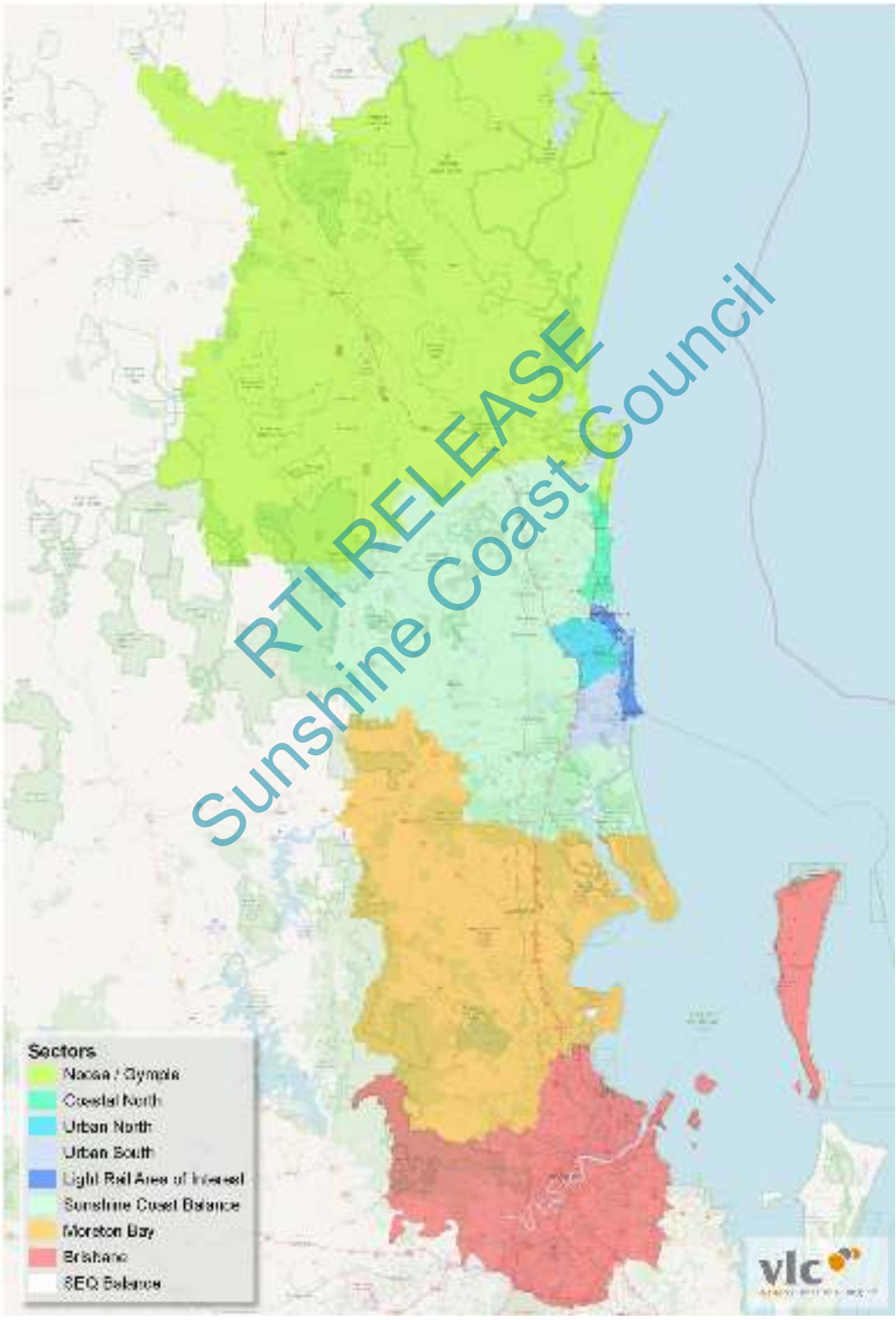
Modelled Network	Scenario Reference	VLC Model Variant
Reference Case Network	1P	65
CAMCOS	2P	68
North Coast Connect	3P	73
Sunshine Coast Light Rail	4P	66
Sunshine Coast Light Rail and CAMCOS	5P	70
Sunshine Coast Light Rail and North Coast Connect	6P	74
Light Rail (Full A)	7P	75
Light Rail (Full B)	8P	76
Full CAMCOS (A)	9P	77

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The Sector System

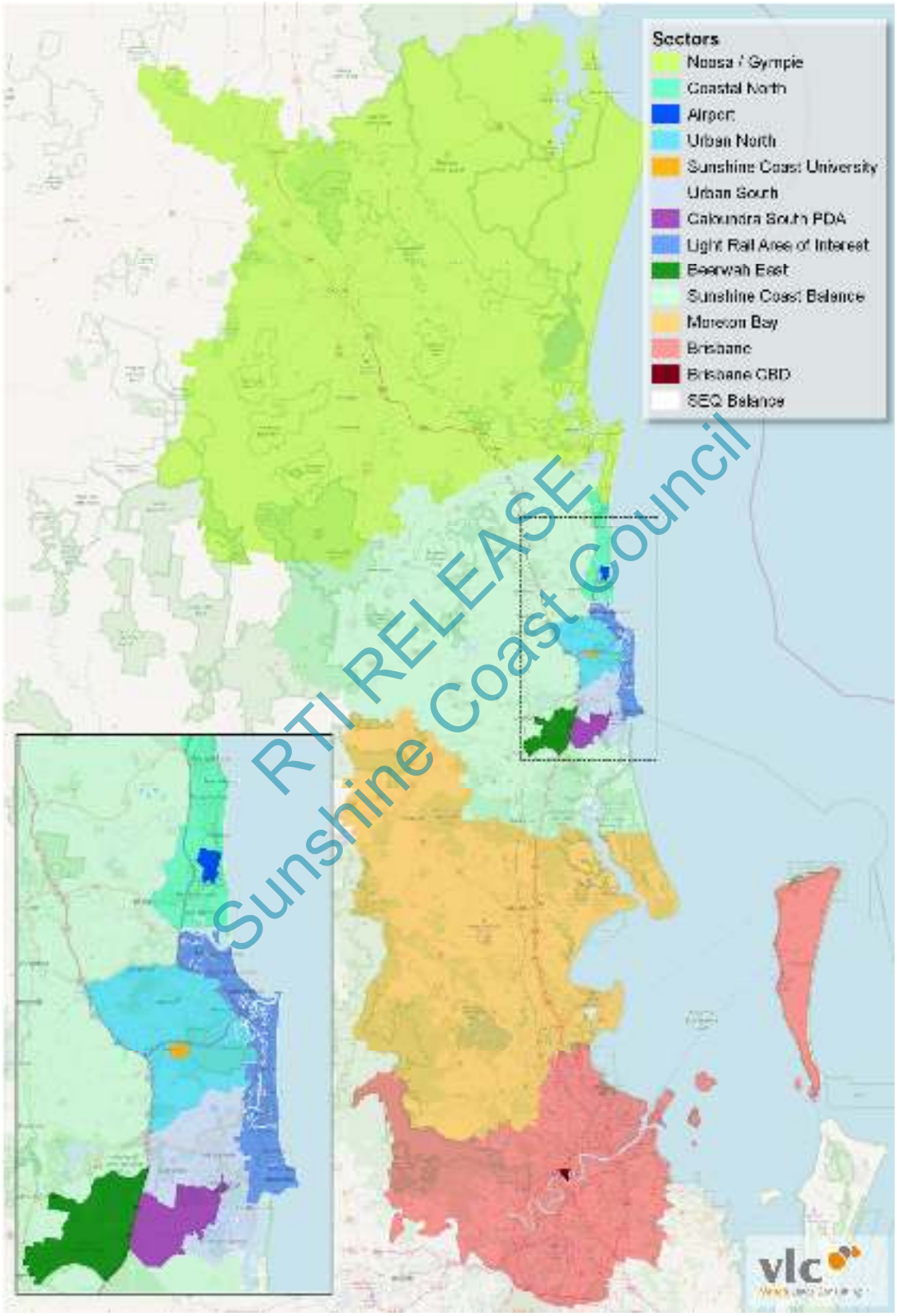
Sectorised matrices are used to analyse and communicate mode share, self-containment and distribution of trips from the model. The following matrices contain trip numbers to, from and between sectors by different transport modes. Two sector systems have been used to report model results. The Macro Sector System is comprised of 9 geographical areas and is shown in Figure 1. The Detailed Sector System is comprised of 14 geographical areas and is shown Figure 2.

Figure 1: Macro Sector System



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Figure 2: Detailed Sector System



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Scenario 1P - Project Case Demographics - Reference Case Network - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	468,942	77,677	60,942	20,204	51,074	6,884	8,346	7,154	1,977	703,200
Urban North	77,659	97,755	10,774	5,909	30,039	2,812	3,914	3,044	863	232,769
Urban South	60,927	10,769	102,547	1,101	15,862	910	6,382	4,277	741	203,517
Coastal North	20,197	5,902	1,100	66,816	12,837	12,709	1,163	2,891	1,677	125,293
Sunshine Coast Balance	51,060	30,014	15,855	12,840	250,821	16,277	12,803	6,762	1,800	398,231
Noosa / Gympie	6,882	2,812	910	12,713	16,288	413,083	977	2,436	6,776	462,878
Moreton Bay	8,344	3,907	6,377	1,163	12,823	976	1,669,800	262,576	13,893	1,979,858
Brisbane	7,136	3,032	4,259	2,898	6,784	2,441	263,532	4,678,598	658,381	5,627,061
SEQ Balance	1,992	871	729	1,773	1,835	6,878	13,609	655,673	10,099,769	10,783,129
Total	703,139	232,740	203,493	125,417	398,365	462,968	1,980,526	5,623,411	10,785,877	20,515,936

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.7%	94.0%	94.2%	98.4%	97.0%	99.3%	99.4%	87.5%	69.1%	72.3%
Urban North	94.0%	70.5%	97.2%	98.0%	96.8%	97.8%	98.0%	81.0%	74.6%	82.8%
Urban South	94.2%	97.1%	65.1%	99.4%	98.6%	99.7%	99.2%	77.8%	74.0%	77.0%
Coastal North	98.3%	97.9%	99.4%	66.3%	98.1%	97.3%	99.4%	88.9%	69.4%	77.6%
Sunshine Coast Balance	97.0%	96.7%	98.6%	98.1%	74.1%	98.9%	97.3%	70.6%	68.5%	80.8%
Noosa / Gympie	99.3%	97.8%	99.7%	97.3%	98.9%	79.1%	98.4%	92.3%	85.7%	80.7%
Moreton Bay	99.4%	97.8%	99.1%	99.4%	97.4%	98.2%	82.7%	85.9%	81.9%	83.3%
Brisbane	87.3%	80.8%	77.5%	89.2%	70.9%	92.4%	86.2%	65.1%	83.9%	67.7%
SEQ Balance	69.7%	75.2%	73.1%	73.3%	69.8%	87.0%	80.2%	83.6%	88.5%	88.2%
Total To Sector	72.3%	82.8%	77.0%	77.7%	80.8%	80.7%	83.4%	67.6%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	7,889	1,333	831	334	538	46	50	1,021	882	12,924
Urban North	1,339	2,059	297	119	541	63	80	713	293	5,503
Urban South	844	302	1,841	7	200	3	52	1,218	260	4,726
Coastal North	340	124	7	1,008	98	184	7	359	740	2,869
Sunshine Coast Balance	554	565	207	96	3,486	173	362	2,814	828	9,084
Noosa / Gympie	49	63	3	182	164	3,644	16	204	684	5,010
Moreton Bay	52	86	56	7	347	18	35,364	41,476	3,074	80,479
Brisbane	1,038	722	1,238	351	2,790	200	40,532	591,486	123,945	762,303
SEQ Balance	866	287	269	646	793	580	3,360	126,608	161,062	294,470
Total	12,971	5,541	4,748	2,750	8,955	4,911	79,821	765,900	291,770	1,177,367

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.1%	1.6%	1.3%	1.6%	1.0%	0.7%	0.6%	12.5%	30.9%	1.3%
Urban North	1.6%	1.5%	2.7%	2.0%	1.7%	2.2%	2.0%	19.0%	25.4%	2.0%
Urban South	1.3%	2.7%	1.2%	0.6%	1.2%	0.3%	0.8%	22.2%	26.0%	1.8%
Coastal North	1.7%	2.1%	0.6%	1.0%	0.8%	1.4%	0.6%	11.1%	30.6%	1.8%
Sunshine Coast Balance	1.1%	1.8%	1.3%	0.7%	1.0%	1.0%	2.7%	29.4%	31.5%	1.8%
Noosa / Gympie	0.7%	2.2%	0.3%	1.4%	1.0%	0.7%	1.6%	7.7%	8.7%	0.9%
Moreton Bay	0.6%	2.2%	0.9%	0.6%	2.6%	1.8%	1.8%	13.6%	18.1%	3.4%
Brisbane	12.7%	19.2%	22.5%	10.8%	29.1%	7.6%	13.3%	8.2%	15.8%	9.2%
SEQ Balance	30.3%	24.8%	26.9%	26.7%	30.2%	7.3%	19.8%	16.1%	1.4%	2.4%
Total To Sector	1.3%	2.0%	1.8%	1.7%	1.8%	0.9%	3.4%	9.2%	2.4%	4.6%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	248,264	3,616	2,912	2	1,027	-	-	-	-	255,821
Urban North	3,632	38,859	17	0	453	-	-	-	-	42,962
Urban South	2,913	19	53,025	-	19	-	-	-	-	55,976
Coastal North	2	0	-	33,004	156	165	-	-	-	33,327
Sunshine Coast Balance	1,025	453	19	155	84,101	14	0	-	0	85,767
Noosa / Gympie	-	-	-	165	14	105,302	-	-	447	105,929
Moreton Bay	-	-	-	-	0	-	313,983	1,772	0	315,755
Brisbane	-	-	-	-	-	-	1,761	1,921,640	2,251	1,925,653
SEQ Balance	-	-	-	-	0	451	-	2,295	1,150,147	1,152,894
Total	255,835	42,947	55,973	33,327	85,771	105,932	315,744	1,925,708	1,152,846	3,974,084

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.2%	4.4%	4.5%	0.0%	2.0%	-	-	-	-	26.3%
Urban North	4.4%	28.0%	0.2%	0.0%	1.5%	-	-	-	-	15.3%
Urban South	4.5%	0.2%	33.7%	-	0.1%	-	-	-	-	21.2%
Coastal North	0.0%	0.0%	-	32.7%	1.2%	1.3%	-	-	-	20.6%
Sunshine Coast Balance	1.9%	1.5%	0.1%	1.2%	24.9%	0.1%	0.0%	-	0.0%	17.4%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	0.0%	-	15.6%	0.6%	0.0%	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.2%
SEQ Balance	-	-	-	-	0.0%	5.7%	-	0.3%	10.1%	9.4%
Total To Sector	26.3%	15.3%	21.2%	20.6%	17.4%	18.5%	13.3%	23.2%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	725,094	82,626	64,685	20,539	52,639	6,930	8,396	8,175	2,860	971,945
Urban North	82,630	138,673	11,088	6,027	31,033	2,874	3,994	3,758	1,157	281,235
Urban South	64,685	11,090	157,413	1,108	16,081	912	6,434	5,495	1,000	264,218
Coastal North	20,539	6,027	1,107	100,829	13,091	13,058	1,170	3,250	2,418	161,488
Sunshine Coast Balance	52,639	31,032	16,080	13,092	338,408	16,464	13,164	9,576	2,628	493,082
Noosa / Gympie	6,931	2,875	913	13,061	16,467	522,029	993	2,640	7,908	573,817
Moreton Bay	8,396	3,993	6,433	1,170	13,169	993	2,019,147	305,824	16,967	2,376,091
Brisbane	8,174	3,754	5,497	3,249	9,573	2,641	305,826	7,191,724	784,578	8,315,016
SEQ Balance	2,858	1,157	998	2,419	2,629	7,909	16,968	784,577	11,410,978	12,230,493
Total	971,945	281,228	264,215	161,494	493,091	573,811	2,376,091	8,315,019	12,230,494	25,667,387

RTI RELEASE Sunshine Coast Council

Scenario 2P - Project Case Demographics - With CAMCOS - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	467,552	77,299	60,913	20,341	51,062	6,886	8,274	6,167	1,334	699,828
Urban North	77,292	97,463	10,657	5,805	29,887	2,804	3,926	2,976	783	231,591
Urban South	60,903	10,649	102,287	1,106	15,987	905	6,368	3,748	533	202,485
Coastal North	20,328	5,797	1,106	66,495	12,752	12,670	1,123	2,075	983	123,329
Sunshine Coast Balance	51,045	29,866	15,977	12,754	250,057	16,267	12,780	6,581	1,772	397,099
Noosa / Gympie	6,885	2,807	906	12,671	16,278	413,042	978	2,433	6,774	462,773
Moreton Bay	8,279	3,919	6,364	1,123	12,792	976	1,670,298	262,963	14,064	1,980,778
Brisbane	6,193	2,955	3,733	2,110	6,606	2,436	263,935	4,679,001	659,189	5,626,158
SEQ Balance	1,386	781	539	1,081	1,800	6,854	13,699	656,379	10,100,378	10,782,898
Total	699,863	231,536	202,480	123,486	397,220	462,839	1,981,381	5,622,321	10,785,811	20,506,937

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.6%	93.9%	93.3%	97.2%	96.4%	99.0%	95.7%	71.5%	44.0%	71.9%
Urban North	93.9%	70.5%	97.0%	98.1%	96.9%	97.8%	97.2%	79.0%	66.9%	82.7%
Urban South	93.3%	96.9%	65.3%	96.0%	97.4%	99.2%	96.9%	64.7%	50.6%	76.4%
Coastal North	97.2%	98.0%	95.9%	66.2%	98.0%	97.3%	95.8%	62.8%	40.0%	76.4%
Sunshine Coast Balance	96.3%	96.8%	97.3%	98.0%	74.1%	98.9%	96.5%	68.2%	67.0%	80.6%
Noosa / Gympie	99.0%	97.8%	99.2%	97.4%	98.9%	79.1%	98.2%	92.1%	85.7%	80.7%
Moreton Bay	95.7%	97.0%	96.8%	95.7%	96.6%	98.2%	82.7%	86.1%	82.9%	83.4%
Brisbane	71.8%	78.4%	64.5%	63.9%	68.5%	92.2%	86.5%	65.1%	84.0%	67.7%
SEQ Balance	45.8%	66.7%	51.1%	44.0%	68.0%	86.7%	80.8%	83.7%	88.5%	88.2%
Total To Sector	71.9%	82.6%	76.4%	76.5%	80.7%	80.7%	83.4%	67.6%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	9,701	1,465	1,536	582	924	67	374	2,453	1,697	18,800
Urban North	1,455	2,026	318	114	521	62	115	792	388	5,791
Urban South	1,545	329	2,181	46	409	7	207	2,042	521	7,287
Coastal North	592	121	47	1,003	110	180	50	1,230	1,473	4,805
Sunshine Coast Balance	947	538	417	105	3,506	172	458	3,068	871	10,082
Noosa / Gympie	68	63	7	178	163	3,641	18	208	683	5,029
Moreton Bay	368	123	214	50	444	18	35,007	40,540	2,898	79,661
Brisbane	2,430	814	2,053	1,194	3,040	206	39,578	591,181	122,917	763,413
SEQ Balance	1,642	390	516	1,376	845	600	3,264	125,681	160,533	294,846
Total	18,749	5,869	7,289	4,648	9,962	4,953	79,069	767,194	291,979	1,189,713

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.3%	1.8%	2.4%	2.8%	1.7%	1.0%	4.3%	28.5%	56.0%	1.9%
Urban North	1.8%	1.5%	2.9%	1.9%	1.7%	2.2%	2.8%	21.0%	33.1%	2.1%
Urban South	2.4%	3.0%	1.4%	4.0%	2.5%	0.8%	3.1%	35.3%	49.4%	2.8%
Coastal North	2.8%	2.0%	4.1%	1.0%	0.8%	1.4%	4.2%	37.2%	60.0%	3.0%
Sunshine Coast Balance	1.8%	1.7%	2.5%	0.8%	1.0%	1.0%	3.5%	31.8%	32.9%	2.0%
Noosa / Gympie	1.0%	2.2%	0.8%	1.4%	1.0%	0.7%	1.8%	7.9%	8.6%	0.9%
Moreton Bay	4.3%	3.0%	3.2%	4.3%	3.4%	1.8%	1.7%	13.3%	17.1%	3.4%
Brisbane	28.2%	21.6%	35.5%	36.1%	31.5%	7.8%	13.0%	8.2%	15.7%	9.2%
SEQ Balance	54.2%	33.3%	48.9%	56.0%	31.9%	7.6%	19.2%	16.0%	1.4%	2.4%
Total To Sector	1.9%	2.1%	2.8%	2.9%	2.0%	0.9%	3.3%	9.2%	2.4%	4.6%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	246,895	3,591	2,845	2	1,010	-	-	-	-	254,342
Urban North	3,607	38,683	15	0	451	-	-	-	-	42,755
Urban South	2,846	16	52,255	-	19	-	-	-	-	55,136
Coastal North	2	0	-	32,876	154	165	-	-	-	33,197
Sunshine Coast Balance	1,008	451	18	155	83,688	14	0	-	0	85,336
Noosa / Gympie	-	-	-	165	14	105,279	-	-	448	105,905
Moreton Bay	-	-	-	-	0	-	314,005	1,773	-	315,778
Brisbane	-	-	-	-	-	-	1,762	1,921,552	2,256	1,925,570
SEQ Balance	-	-	-	-	0	451	-	2,298	1,149,967	1,152,717
Total	254,358	42,741	55,133	33,198	85,336	105,909	315,767	1,925,623	1,152,671	3,970,737

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.1%	4.4%	4.4%	0.0%	1.9%	-	-	-	-	26.1%
Urban North	4.4%	28.0%	0.1%	0.0%	1.5%	-	-	-	-	15.3%
Urban South	4.4%	0.1%	33.3%	-	0.1%	-	-	-	-	20.8%
Coastal North	0.0%	0.0%	-	32.8%	1.2%	1.3%	-	-	-	20.6%
Sunshine Coast Balance	1.9%	1.5%	0.1%	1.2%	24.8%	0.1%	0.0%	-	0.0%	17.3%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	0.0%	-	15.6%	0.6%	-	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.2%
SEQ Balance	-	-	-	-	0.0%	5.7%	-	0.3%	10.1%	9.4%
Total To Sector	26.1%	15.3%	20.8%	20.6%	17.3%	18.5%	13.3%	23.2%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	724,148	82,356	65,294	20,924	52,996	6,952	8,648	8,620	3,031	972,970
Urban North	82,353	138,172	10,990	5,919	30,858	2,866	4,040	3,768	1,171	280,137
Urban South	65,294	10,993	156,723	1,152	16,415	912	6,575	5,790	1,054	264,908
Coastal North	20,921	5,918	1,153	100,374	13,016	13,015	1,173	3,305	2,456	161,331
Sunshine Coast Balance	53,000	30,855	16,412	13,015	337,252	16,453	13,238	9,648	2,643	492,517
Noosa / Gympie	6,954	2,870	913	13,013	16,455	521,961	996	2,641	7,905	573,707
Moreton Bay	8,648	4,041	6,578	1,173	13,236	994	2,019,309	305,276	16,962	2,376,216
Brisbane	8,623	3,769	5,786	3,305	9,646	2,642	305,274	7,191,734	784,362	8,315,141
SEQ Balance	3,029	1,171	1,054	2,457	2,645	7,905	16,963	784,358	11,410,878	12,230,461
Total	972,970	280,146	264,903	161,333	492,518	573,701	2,376,216	8,315,139	12,230,462	25,667,388

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Scenario 3P - Project Case Demographics - With North Coast Connect - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	467,598	77,322	60,677	20,129	50,906	6,870	8,219	5,829	1,187	698,736
Urban North	77,305	97,618	10,594	5,824	29,865	2,803	3,900	2,826	727	231,462
Urban South	60,660	10,587	102,035	1,090	15,808	904	6,331	3,499	485	201,399
Coastal North	20,121	5,818	1,091	66,593	12,747	12,649	1,069	1,525	724	122,338
Sunshine Coast Balance	50,893	29,841	15,799	12,746	250,137	16,246	12,747	6,383	1,695	396,488
Noosa / Gympie	6,867	2,803	902	12,653	16,258	412,986	974	2,381	6,715	462,538
Moreton Bay	8,222	3,886	6,323	1,068	12,769	972	1,668,990	262,476	13,902	1,978,610
Brisbane	5,884	2,794	3,513	1,564	6,471	2,384	263,518	4,679,379	658,619	5,624,126
SEQ Balance	1,289	753	512	847	1,782	6,822	13,755	656,687	10,100,106	10,782,553
Total	698,841	231,422	201,446	122,514	396,742	462,636	1,979,503	5,620,985	10,784,161	20,498,249

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.6%	94.0%	93.8%	97.8%	96.7%	99.1%	94.5%	61.7%	36.7%	71.9%
Urban North	94.0%	70.5%	97.5%	98.1%	96.9%	97.8%	96.9%	71.0%	60.3%	82.6%
Urban South	93.8%	97.4%	65.2%	97.1%	98.2%	99.2%	96.6%	55.4%	44.1%	76.3%
Coastal North	97.8%	98.0%	97.1%	66.3%	98.0%	97.3%	91.5%	43.1%	28.9%	75.8%
Sunshine Coast Balance	96.7%	96.8%	98.2%	98.0%	74.1%	98.9%	96.8%	62.6%	62.5%	80.5%
Noosa / Gympie	99.1%	97.8%	99.2%	97.4%	98.9%	79.1%	97.7%	88.9%	84.9%	80.6%
Moreton Bay	94.6%	96.6%	96.5%	91.4%	96.9%	97.6%	82.7%	85.7%	81.9%	83.3%
Brisbane	62.3%	70.2%	55.6%	44.2%	63.5%	89.1%	86.1%	65.1%	84.0%	67.6%
SEQ Balance	39.8%	62.4%	46.6%	33.8%	65.7%	86.2%	81.0%	83.7%	88.5%	88.2%
Total To Sector	71.9%	82.6%	76.3%	75.9%	80.5%	80.7%	83.3%	67.6%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	8,369	1,321	1,115	459	705	60	476	3,617	2,048	18,170
Urban North	1,323	2,040	253	111	510	62	125	1,156	478	6,059
Urban South	1,130	262	1,851	33	268	7	221	2,815	615	7,201
Coastal North	461	118	32	999	104	182	99	2,017	1,778	5,790
Sunshine Coast Balance	723	531	274	102	3,442	171	427	3,806	1,017	10,494
Noosa / Gympie	62	63	7	179	162	3,641	23	296	749	5,182
Moreton Bay	473	136	229	100	406	24	35,018	41,987	3,082	81,456
Brisbane	3,558	1,187	2,802	1,977	3,720	293	40,954	590,296	123,323	768,110
SEQ Balance	1,951	453	587	1,657	932	638	3,230	125,213	160,622	295,282
Total	18,050	6,111	7,151	5,617	10,248	5,079	80,572	771,203	293,713	1,197,744

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.2%	1.6%	1.7%	2.2%	1.3%	0.9%	5.5%	38.3%	63.3%	1.9%
Urban North	1.6%	1.5%	2.3%	1.9%	1.7%	2.2%	3.1%	29.0%	39.7%	2.2%
Urban South	1.7%	2.4%	1.2%	2.9%	1.7%	0.8%	3.4%	44.6%	55.9%	2.7%
Coastal North	2.2%	2.0%	2.9%	1.0%	0.8%	1.4%	8.5%	56.9%	71.1%	3.6%
Sunshine Coast Balance	1.4%	1.7%	1.7%	0.8%	1.0%	1.0%	3.2%	37.4%	37.5%	2.1%
Noosa / Gympie	0.9%	2.2%	0.8%	1.4%	1.0%	0.7%	2.3%	11.1%	9.5%	0.9%
Moreton Bay	5.4%	3.4%	3.5%	8.6%	3.1%	2.4%	1.7%	13.7%	18.1%	3.4%
Brisbane	37.7%	29.8%	44.4%	55.8%	36.5%	10.9%	13.4%	8.2%	15.7%	9.2%
SEQ Balance	60.2%	37.6%	53.4%	66.2%	34.3%	8.1%	19.0%	16.0%	1.4%	2.4%
Total To Sector	1.9%	2.2%	2.7%	3.5%	2.1%	0.9%	3.4%	9.3%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	247,394	3,589	2,878	2	1,022	-	-	-	-	254,885
Urban North	3,601	38,733	15	0	451	-	-	-	-	42,800
Urban South	2,881	15	52,576	-	18	-	-	-	-	55,491
Coastal North	2	0	-	32,913	155	164	-	-	-	33,234
Sunshine Coast Balance	1,020	451	18	154	83,896	14	0	-	0	85,554
Noosa / Gympie	-	-	-	165	14	105,280	-	-	447	105,906
Moreton Bay	-	-	-	-	0	-	313,581	1,768	0	315,349
Brisbane	-	-	-	-	-	-	1,758	1,921,243	2,252	1,925,253
SEQ Balance	-	-	-	-	0	451	-	2,295	1,150,173	1,152,920
Total	254,899	42,789	55,487	33,235	85,556	105,909	315,339	1,925,307	1,152,873	3,971,394

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.2%	4.4%	4.5%	0.0%	1.9%	-	-	-	-	26.2%
Urban North	4.4%	28.0%	0.1%	0.0%	1.5%	-	-	-	-	15.3%
Urban South	4.5%	0.1%	33.6%	-	0.1%	-	-	-	-	21.0%
Coastal North	0.0%	0.0%	-	32.7%	1.2%	1.3%	-	-	-	20.6%
Sunshine Coast Balance	1.9%	1.5%	0.1%	1.2%	24.9%	0.1%	0.0%	-	0.0%	17.4%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	0.0%	-	15.5%	0.6%	0.0%	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.1%
SEQ Balance	-	-	-	-	0.0%	5.7%	-	0.3%	10.1%	9.4%
Total To Sector	26.2%	15.3%	21.0%	20.6%	17.4%	18.5%	13.3%	23.1%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	723,361	82,232	64,670	20,589	52,632	6,930	8,695	9,446	3,236	971,792
Urban North	82,229	138,392	10,862	5,936	30,825	2,865	4,025	3,982	1,205	280,321
Urban South	64,672	10,864	156,463	1,123	16,093	911	6,552	6,313	1,100	264,091
Coastal North	20,584	5,936	1,123	100,506	13,005	12,996	1,168	3,542	2,503	161,363
Sunshine Coast Balance	52,636	30,822	16,091	13,002	337,475	16,431	13,174	10,190	2,713	492,536
Noosa / Gympie	6,930	2,866	909	12,996	16,434	521,907	997	2,677	7,911	573,627
Moreton Bay	8,695	4,022	6,552	1,168	13,175	996	2,017,589	306,232	16,985	2,375,414
Brisbane	9,443	3,982	6,314	3,542	10,191	2,677	306,229	7,190,918	784,193	8,317,489
SEQ Balance	3,240	1,206	1,100	2,503	2,714	7,911	16,984	784,196	11,410,901	12,230,754
Total	971,789	280,322	264,084	161,365	492,545	573,624	2,375,414	8,317,495	12,230,747	25,667,387

RTI RELEASE Sunshine Coast Council

Scenario 4P - Project Case Demographics - With Sunshine Coast Light Rail - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	461,699	76,330	60,483	20,018	50,560	6,806	8,255	7,029	1,903	693,083
Urban North	76,323	98,033	10,759	5,907	30,071	2,819	3,936	3,040	868	231,756
Urban South	60,459	10,756	102,388	1,087	15,869	906	6,411	4,269	741	202,885
Coastal North	20,025	5,900	1,085	66,842	12,846	12,723	1,161	2,886	1,683	125,151
Sunshine Coast Balance	50,556	30,046	15,862	12,850	250,934	16,289	12,856	6,769	1,801	397,964
Noosa / Gympie	6,802	2,818	906	12,726	16,300	413,109	978	2,434	6,776	462,851
Moreton Bay	8,255	3,930	6,406	1,161	12,873	977	1,670,214	262,578	13,899	1,980,293
Brisbane	7,021	3,028	4,247	2,894	6,798	2,439	263,526	4,678,994	657,692	5,626,639
SEQ Balance	1,934	876	733	1,779	1,839	6,877	13,622	655,562	10,100,378	10,783,600
Total	693,075	231,717	202,869	125,265	398,090	462,946	1,980,959	5,623,560	10,785,741	20,504,222

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.3%	93.5%	93.8%	97.9%	96.8%	99.2%	99.4%	87.4%	66.8%	71.2%
Urban North	93.5%	70.5%	97.2%	98.1%	96.8%	97.8%	98.0%	81.2%	74.7%	82.6%
Urban South	93.8%	97.1%	65.2%	99.3%	98.6%	99.7%	99.2%	78.1%	74.1%	77.0%
Coastal North	97.9%	98.0%	99.3%	66.3%	98.1%	97.3%	99.4%	89.1%	69.5%	77.5%
Sunshine Coast Balance	96.8%	96.7%	98.6%	98.1%	74.1%	98.9%	97.3%	70.8%	68.4%	80.7%
Noosa / Gympie	99.2%	97.8%	99.7%	97.3%	98.9%	79.1%	98.3%	92.3%	85.7%	80.7%
Moreton Bay	99.4%	97.9%	99.1%	99.4%	97.4%	98.2%	82.7%	85.9%	81.8%	83.3%
Brisbane	87.3%	81.0%	77.7%	89.4%	71.1%	92.5%	86.2%	65.1%	83.9%	67.7%
SEQ Balance	67.9%	75.4%	73.2%	73.5%	69.9%	87.0%	80.2%	83.6%	88.5%	88.2%
Total To Sector	71.2%	82.6%	77.0%	77.6%	80.8%	80.7%	83.4%	67.6%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	23,825	1,730	1,204	424	663	53	52	1,010	946	29,909
Urban North	1,718	2,045	296	116	538	63	79	703	294	5,852
Urban South	1,226	300	1,815	7	199	3	51	1,200	259	5,060
Coastal North	420	123	7	1,002	97	186	7	353	737	2,931
Sunshine Coast Balance	675	560	207	94	3,475	172	363	2,788	830	9,164
Noosa / Gympie	54	63	3	182	162	3,646	17	203	682	5,011
Moreton Bay	53	86	55	7	345	17	35,375	41,187	3,085	80,211
Brisbane	1,021	712	1,218	344	2,761	198	40,251	591,678	124,171	762,354
SEQ Balance	914	286	269	641	791	578	3,362	126,258	160,988	294,087
Total	29,906	5,907	5,076	2,816	9,031	4,916	79,557	765,380	291,992	1,194,580

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	3.3%	2.1%	1.9%	2.1%	1.3%	0.8%	0.6%	12.6%	33.2%	3.1%
Urban North	2.1%	1.5%	2.7%	1.9%	1.7%	2.2%	2.0%	18.8%	25.3%	2.1%
Urban South	1.9%	2.7%	1.2%	0.7%	1.2%	0.3%	0.8%	21.9%	25.9%	1.9%
Coastal North	2.1%	2.0%	0.7%	1.0%	0.7%	1.4%	0.6%	10.9%	30.5%	1.8%
Sunshine Coast Balance	1.3%	1.8%	1.3%	0.7%	1.0%	1.0%	2.7%	29.2%	31.5%	1.9%
Noosa / Gympie	0.8%	2.2%	0.3%	1.4%	1.0%	0.7%	1.7%	7.7%	8.6%	0.9%
Moreton Bay	0.6%	2.1%	0.9%	0.6%	2.6%	1.8%	1.8%	13.5%	18.2%	3.4%
Brisbane	12.7%	19.0%	22.3%	10.6%	28.9%	7.5%	13.2%	8.2%	15.8%	9.2%
SEQ Balance	32.1%	24.6%	26.8%	26.5%	30.1%	7.3%	19.8%	16.1%	1.4%	2.4%
Total To Sector	3.1%	2.1%	1.9%	1.7%	1.8%	0.9%	3.3%	9.2%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	243,427	3,559	2,800	2	1,026	-	-	-	-	250,814
Urban North	3,575	38,885	18	0	454	-	-	-	-	42,931
Urban South	2,802	19	52,797	-	19	-	-	-	-	55,636
Coastal North	2	0	-	33,005	156	165	-	-	-	33,327
Sunshine Coast Balance	1,022	455	19	155	84,111	14	0	-	0	85,777
Noosa / Gympie	-	-	-	165	14	105,307	-	-	447	105,933
Moreton Bay	-	-	-	-	0	-	314,005	1,774	0	315,779
Brisbane	-	-	-	-	-	-	1,762	1,921,518	2,258	1,925,537
SEQ Balance	-	-	-	-	0	451	-	2,298	1,150,098	1,152,848
Total	250,827	42,917	55,634	33,327	85,780	105,937	315,767	1,925,590	1,152,804	3,968,584

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.4%	4.4%	4.3%	0.0%	2.0%	-	-	-	-	25.8%
Urban North	4.4%	28.0%	0.2%	0.0%	1.5%	-	-	-	-	15.3%
Urban South	4.3%	0.2%	33.6%	-	0.1%	-	-	-	-	21.1%
Coastal North	0.0%	0.0%	-	32.7%	1.2%	1.3%	-	-	-	20.6%
Sunshine Coast Balance	2.0%	1.5%	0.1%	1.2%	24.8%	0.1%	0.0%	-	0.0%	17.4%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	0.0%	-	15.5%	0.6%	0.0%	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.2%
SEQ Balance	-	-	-	-	0.0%	5.7%	-	0.3%	10.1%	9.4%
Total To Sector	25.8%	15.3%	21.1%	20.6%	17.4%	18.5%	13.3%	23.2%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	728,951	81,620	64,488	20,444	52,249	6,859	8,307	8,038	2,850	973,806
Urban North	81,616	138,963	11,073	6,024	31,062	2,881	4,015	3,742	1,162	280,539
Urban South	64,487	11,075	157,001	1,094	16,087	909	6,462	5,469	999	263,582
Coastal North	20,447	6,023	1,092	100,849	13,099	13,074	1,167	3,239	2,420	161,410
Sunshine Coast Balance	52,253	31,061	16,088	13,100	338,520	16,476	13,219	9,558	2,631	492,905
Noosa / Gympie	6,856	2,881	910	13,073	16,477	522,062	995	2,637	7,905	573,795
Moreton Bay	8,309	4,016	6,461	1,168	13,218	994	2,019,595	305,538	16,984	2,376,283
Brisbane	8,041	3,741	5,466	3,238	9,559	2,637	305,540	7,192,190	784,120	8,314,531
SEQ Balance	2,849	1,162	1,002	2,420	2,630	7,907	16,984	784,118	11,411,464	12,230,535
Total	973,809	280,541	263,579	161,408	492,901	573,799	2,376,283	8,314,530	12,230,537	25,667,387

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Scenario 5P - Project Case Demographics - With Light Rail and CAMCOS - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	460,465	76,133	60,453	20,144	50,644	6,811	8,154	5,963	1,273	690,039
Urban North	76,129	97,803	10,638	5,817	29,934	2,814	3,936	2,985	788	230,843
Urban South	60,436	10,629	102,015	1,094	15,979	904	6,375	3,752	535	201,719
Coastal North	20,130	5,810	1,095	66,564	12,763	12,678	1,124	2,075	986	123,225
Sunshine Coast Balance	50,624	29,914	15,968	12,767	250,150	16,281	12,765	6,585	1,775	396,827
Noosa / Gympie	6,810	2,811	903	12,677	16,290	413,063	980	2,433	6,774	462,741
Moreton Bay	8,156	3,926	6,368	1,123	12,776	976	1,670,053	263,192	14,080	1,980,650
Brisbane	5,986	2,959	3,739	2,108	6,610	2,436	264,125	4,679,267	659,034	5,626,264
SEQ Balance	1,345	797	547	1,093	1,821	6,875	13,801	656,765	10,099,996	10,783,038
Total	690,079	230,782	201,727	123,387	396,966	462,838	1,981,311	5,623,015	10,785,242	20,495,346

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.3%	93.5%	92.9%	97.0%	96.1%	98.9%	95.1%	69.4%	41.8%	70.8%
Urban North	93.5%	70.6%	97.0%	98.1%	96.9%	97.8%	97.2%	79.1%	67.1%	82.5%
Urban South	92.8%	96.9%	65.3%	96.0%	97.4%	99.2%	96.8%	64.8%	50.7%	76.4%
Coastal North	96.9%	98.0%	95.9%	66.3%	98.0%	97.4%	95.8%	62.8%	40.1%	76.4%
Sunshine Coast Balance	96.1%	96.8%	97.4%	98.0%	74.2%	98.9%	96.6%	68.3%	67.2%	80.6%
Noosa / Gympie	98.9%	97.8%	99.2%	97.4%	98.9%	79.1%	98.2%	92.1%	85.7%	80.7%
Moreton Bay	95.1%	97.0%	96.8%	95.7%	96.7%	98.1%	82.7%	86.2%	83.0%	83.4%
Brisbane	69.7%	78.4%	64.6%	63.8%	68.6%	92.2%	86.5%	65.1%	84.0%	67.7%
SEQ Balance	44.1%	67.8%	51.8%	44.5%	68.9%	87.0%	81.4%	83.8%	88.5%	88.2%
Total To Sector	70.8%	82.5%	76.4%	76.5%	80.6%	80.7%	83.4%	67.6%	88.2%	79.8%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	24,418	1,750	1,885	626	1,040	74	421	2,629	1,773	34,616
Urban North	1,737	2,016	318	112	516	62	114	789	386	6,050
Urban South	1,897	325	2,127	46	405	7	208	2,038	520	7,573
Coastal North	638	120	46	1,002	110	180	49	1,230	1,470	4,845
Sunshine Coast Balance	1,064	537	415	105	3,495	172	454	3,057	867	10,167
Noosa / Gympie	77	64	7	178	163	3,639	18	208	683	5,036
Moreton Bay	422	122	214	50	441	19	34,996	40,526	2,881	79,670
Brisbane	2,605	814	2,052	1,198	3,030	206	39,599	591,411	122,896	763,809
SEQ Balance	1,701	378	509	1,363	823	581	3,160	125,122	160,511	294,146
Total	34,559	6,126	7,573	4,680	10,023	4,939	79,018	767,010	291,986	1,205,914

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	3.4%	2.1%	2.9%	3.0%	2.0%	1.1%	4.9%	30.6%	58.2%	3.6%
Urban North	2.1%	1.5%	2.9%	1.9%	1.7%	2.2%	2.8%	20.9%	32.9%	2.2%
Urban South	2.9%	3.0%	1.4%	4.0%	2.5%	0.8%	3.2%	35.2%	49.3%	2.9%
Coastal North	3.1%	2.0%	4.1%	1.0%	0.8%	1.4%	4.2%	37.2%	59.9%	3.0%
Sunshine Coast Balance	2.0%	1.7%	2.5%	0.8%	1.0%	1.0%	3.4%	31.7%	32.8%	2.1%
Noosa / Gympie	1.1%	2.2%	0.8%	1.4%	1.0%	0.7%	1.8%	7.9%	8.6%	0.9%
Moreton Bay	4.9%	3.0%	3.2%	4.3%	3.3%	1.9%	1.7%	13.3%	17.0%	3.4%
Brisbane	30.3%	21.6%	35.4%	36.2%	31.4%	7.8%	13.0%	8.2%	15.7%	9.2%
SEQ Balance	55.9%	32.2%	48.2%	55.5%	31.1%	7.3%	18.6%	16.0%	1.4%	2.4%
Total To Sector	3.5%	2.2%	2.9%	2.9%	2.0%	0.9%	3.3%	9.2%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	242,604	3,561	2,764	2	1,010	-	-	-	-	249,941
Urban North	3,576	38,739	15	0	452	-	-	-	-	42,782
Urban South	2,765	15	51,997	-	19	-	-	-	-	54,797
Coastal North	2	0	-	32,894	155	164	-	-	-	33,215
Sunshine Coast Balance	1,008	453	18	155	83,684	14	0	-	0	85,333
Noosa / Gympie	-	-	-	165	14	105,291	-	-	448	105,918
Moreton Bay	-	-	-	-	0	-	313,967	1,773	-	315,740
Brisbane	-	-	-	-	-	-	1,762	1,921,276	2,254	1,925,291
SEQ Balance	-	-	-	-	1	451	-	2,297	1,150,359	1,153,107
Total	249,956	42,768	54,794	33,216	85,335	105,921	315,730	1,925,345	1,153,061	3,966,125

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.3%	4.4%	4.2%	0.0%	1.9%	-	-	-	-	25.6%
Urban North	4.4%	28.0%	0.1%	0.0%	1.5%	-	-	-	-	15.3%
Urban South	4.2%	0.1%	33.3%	-	0.1%	-	-	-	-	20.7%
Coastal North	0.0%	0.0%	-	32.7%	1.2%	1.3%	-	-	-	20.6%
Sunshine Coast Balance	1.9%	1.5%	0.1%	1.2%	24.8%	0.1%	0.0%	-	0.0%	17.3%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	0.0%	-	15.6%	0.6%	-	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.2%
SEQ Balance	-	-	-	-	0.0%	5.7%	-	0.3%	10.1%	9.4%
Total To Sector	25.6%	15.3%	20.7%	20.6%	17.3%	18.5%	13.3%	23.2%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	727,487	81,444	65,101	20,772	52,694	6,885	8,574	8,592	3,046	974,596
Urban North	81,442	138,558	10,971	5,929	30,902	2,876	4,050	3,773	1,174	279,675
Urban South	65,098	10,969	156,140	1,140	16,403	911	6,583	5,790	1,055	264,089
Coastal North	20,770	5,931	1,141	100,460	13,028	13,023	1,173	3,304	2,456	161,286
Sunshine Coast Balance	52,697	30,903	16,401	13,027	337,329	16,467	13,219	9,642	2,642	492,327
Noosa / Gympie	6,886	2,875	911	13,020	16,467	521,994	998	2,641	7,905	573,695
Moreton Bay	8,577	4,048	6,582	1,173	13,217	995	2,019,016	305,491	16,961	2,376,060
Brisbane	8,590	3,773	5,790	3,306	9,640	2,641	305,486	7,191,953	784,184	8,315,364
SEQ Balance	3,045	1,174	1,056	2,456	2,644	7,906	16,961	784,184	11,410,866	12,230,293
Total	974,594	279,676	264,094	161,284	492,324	573,698	2,376,059	8,315,370	12,230,289	25,667,386

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Scenario 6P - Project Case Demographics - With Light Rail and North Coast Connect - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	459,973	75,982	60,290	19,941	50,420	6,790	8,106	5,391	1,078	687,971
Urban North	75,980	97,923	10,567	5,827	29,900	2,809	3,922	2,830	735	230,493
Urban South	60,272	10,559	101,724	1,073	15,796	899	6,356	3,500	489	200,668
Coastal North	19,939	5,821	1,075	66,643	12,758	12,663	1,068	1,531	729	122,226
Sunshine Coast Balance	50,404	29,876	15,793	12,761	250,214	16,258	12,797	6,403	1,702	396,208
Noosa / Gympie	6,788	2,808	899	12,666	16,264	413,008	974	2,383	6,712	462,502
Moreton Bay	8,103	3,911	6,349	1,066	12,816	973	1,669,256	262,586	13,934	1,978,997
Brisbane	5,480	2,799	3,512	1,569	6,488	2,386	263,590	4,679,662	658,155	5,623,642
SEQ Balance	1,159	744	505	833	1,768	6,802	13,678	655,583	10,100,754	10,781,826
Total	688,099	230,424	200,713	122,379	396,423	462,589	1,979,748	5,619,868	10,784,288	20,484,532

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.3%	93.6%	93.2%	97.4%	96.4%	99.0%	93.2%	55.8%	32.3%	70.7%
Urban North	93.6%	70.6%	97.5%	98.2%	96.9%	97.8%	96.9%	71.3%	60.7%	82.4%
Urban South	93.2%	97.5%	65.3%	97.0%	98.2%	99.2%	96.7%	55.6%	44.2%	76.2%
Coastal North	97.4%	98.1%	97.0%	66.3%	98.0%	97.3%	91.6%	43.3%	29.1%	75.8%
Sunshine Coast Balance	96.4%	96.8%	98.2%	98.0%	74.1%	98.9%	96.8%	63.0%	62.6%	80.5%
Noosa / Gympie	99.0%	97.8%	99.3%	97.4%	98.9%	79.1%	97.7%	89.1%	84.9%	80.6%
Moreton Bay	93.2%	96.6%	96.5%	91.4%	96.9%	97.6%	82.7%	85.8%	82.0%	83.3%
Brisbane	56.7%	70.5%	55.8%	44.4%	63.8%	89.2%	86.2%	65.1%	84.0%	67.6%
SEQ Balance	34.7%	61.5%	45.7%	33.3%	65.1%	86.0%	80.5%	83.7%	88.5%	88.2%
Total To Sector	70.7%	82.4%	76.2%	75.9%	80.5%	80.6%	83.3%	67.6%	88.2%	79.8%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	23,909	1,663	1,644	526	844	70	590	4,277	2,263	35,785
Urban North	1,651	2,026	253	108	507	63	125	1,138	475	6,346
Urban South	1,656	258	1,820	34	267	7	220	2,794	617	7,672
Coastal North	528	115	33	996	103	181	98	2,002	1,775	5,831
Sunshine Coast Balance	862	525	274	101	3,427	171	426	3,764	1,015	10,566
Noosa / Gympie	72	63	7	179	161	3,641	23	291	749	5,187
Moreton Bay	596	136	229	100	405	24	35,007	41,570	3,065	81,131
Brisbane	4,187	1,170	2,779	1,963	3,679	288	40,574	590,530	123,287	768,456
SEQ Balance	2,180	466	600	1,671	949	655	3,320	125,816	160,492	296,148
Total	35,640	6,422	7,639	5,677	10,342	5,100	80,383	772,182	293,737	1,217,122

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	3.3%	2.0%	2.5%	2.6%	1.6%	1.0%	6.8%	44.2%	67.7%	3.7%
Urban North	2.0%	1.5%	2.3%	1.8%	1.6%	2.2%	3.1%	28.7%	39.3%	2.3%
Urban South	2.6%	2.4%	1.2%	3.0%	1.7%	0.8%	3.3%	44.4%	55.8%	2.9%
Coastal North	2.6%	1.9%	3.0%	1.0%	0.8%	1.4%	8.4%	56.7%	70.9%	3.6%
Sunshine Coast Balance	1.6%	1.7%	1.7%	0.8%	1.0%	1.0%	3.2%	37.0%	37.4%	2.1%
Noosa / Gympie	1.0%	2.2%	0.7%	1.4%	1.0%	0.7%	2.3%	10.9%	9.5%	0.9%
Moreton Bay	6.8%	3.4%	3.5%	8.6%	3.1%	2.4%	1.7%	13.6%	18.0%	3.4%
Brisbane	43.3%	29.5%	44.2%	55.6%	36.2%	10.8%	13.3%	8.2%	15.7%	9.2%
SEQ Balance	65.3%	38.5%	54.3%	66.7%	34.9%	8.3%	19.5%	16.1%	1.4%	2.4%
Total To Sector	3.7%	2.3%	2.9%	3.5%	2.1%	0.9%	3.4%	9.3%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	242,549	3,535	2,774	2	1,021	-	-	-	-	249,880
Urban North	3,546	38,768	15	0	453	-	-	-	-	42,782
Urban South	2,774	16	52,230	-	18	-	-	-	-	55,038
Coastal North	2	0	-	32,924	155	164	-	-	-	33,245
Sunshine Coast Balance	1,018	452	18	155	83,894	14	0	-	0	85,551
Noosa / Gympie	-	-	-	165	14	105,284	-	-	447	105,910
Moreton Bay	-	-	-	-	0	-	313,667	1,768	-	315,436
Brisbane	-	-	-	-	-	-	1,757	1,921,073	2,257	1,925,087
SEQ Balance	-	-	-	-	1	451	-	2,298	1,150,054	1,152,804
Total	249,889	42,771	55,037	33,246	85,554	105,913	315,424	1,925,140	1,152,759	3,965,733

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.4%	4.4%	4.3%	0.0%	2.0%	-	-	-	-	25.7%
Urban North	4.4%	27.9%	0.1%	0.0%	1.5%	-	-	-	-	15.3%
Urban South	4.3%	0.1%	33.5%	-	0.1%	-	-	-	-	20.9%
Coastal North	0.0%	0.0%	-	32.7%	1.2%	1.3%	-	-	-	20.6%
Sunshine Coast Balance	1.9%	1.5%	0.1%	1.2%	24.9%	0.1%	0.0%	-	0.0%	17.4%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	0.0%	-	15.5%	0.6%	-	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.1%
SEQ Balance	-	-	-	-	0.0%	5.7%	-	0.3%	10.1%	9.4%
Total To Sector	25.7%	15.3%	20.9%	20.6%	17.4%	18.5%	13.3%	23.1%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	726,430	81,180	64,709	20,468	52,284	6,860	8,697	9,668	3,341	973,636
Urban North	81,178	138,717	10,835	5,935	30,860	2,872	4,047	3,968	1,210	279,621
Urban South	64,702	10,833	155,774	1,107	16,082	906	6,576	6,293	1,105	263,379
Coastal North	20,468	5,936	1,108	100,563	13,016	13,009	1,165	3,533	2,504	161,302
Sunshine Coast Balance	52,284	30,853	16,084	13,017	337,535	16,444	13,223	10,167	2,717	492,325
Noosa / Gympie	6,860	2,871	905	13,009	16,439	521,933	997	2,674	7,909	573,599
Moreton Bay	8,699	4,047	6,578	1,166	13,221	997	2,017,931	305,924	16,999	2,375,564
Brisbane	9,667	3,969	6,291	3,532	10,166	2,675	305,921	7,191,265	783,699	8,317,184
SEQ Balance	3,339	1,210	1,105	2,504	2,717	7,907	16,998	783,697	11,411,300	12,230,777
Total	973,628	279,617	263,389	161,302	492,320	573,602	2,375,555	8,317,189	12,230,784	25,667,386

RTI RELEASE Sunshine Coast Council

Scenario LRT CAMCOS A - Project Case Demographics - With Light Rail from Beerwah to Maroochydore via Mooloolaba and Caloundra to Maroochydore via Mooloolaba - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	461,774	76,307	60,798	20,118	50,958	6,821	8,222	6,781	1,596	693,375
Urban North	76,296	97,978	10,659	5,899	30,057	2,816	3,921	3,049	857	231,532
Urban South	60,790	10,647	101,733	1,090	16,249	901	6,330	4,064	618	202,422
Coastal North	20,119	5,889	1,091	66,738	12,873	12,710	1,166	2,899	1,683	125,169
Sunshine Coast Balance	50,948	30,037	16,238	12,875	251,440	16,313	12,919	6,806	1,812	399,387
Noosa / Gympie	6,820	2,818	901	12,712	16,324	413,075	978	2,439	6,780	462,846
Moreton Bay	8,220	3,916	6,328	1,165	12,937	977	1,669,835	262,715	13,887	1,979,980
Brisbane	6,781	3,038	4,055	2,907	6,833	2,444	263,690	4,679,389	657,611	5,626,748
SEQ Balance	1,651	862	623	1,784	1,854	6,883	13,615	655,491	10,100,161	10,782,924
Total	693,399	231,493	202,425	125,288	399,525	462,940	1,980,676	5,623,632	10,785,005	20,504,384

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.6%	93.6%	92.2%	98.0%	96.3%	99.2%	98.5%	82.8%	55.4%	71.3%
Urban North	93.6%	70.6%	96.8%	98.1%	96.8%	97.8%	98.0%	81.3%	74.1%	82.6%
Urban South	92.2%	96.8%	65.2%	98.5%	96.6%	99.4%	98.5%	73.5%	61.2%	76.5%
Coastal North	98.0%	98.0%	98.5%	66.3%	98.1%	97.3%	99.5%	89.2%	69.6%	77.6%
Sunshine Coast Balance	96.2%	96.8%	96.5%	98.1%	74.2%	98.9%	97.2%	70.5%	68.1%	80.7%
Noosa / Gympie	99.2%	97.8%	99.4%	97.4%	98.9%	79.1%	98.3%	92.4%	85.7%	80.7%
Moreton Bay	98.5%	97.9%	98.5%	99.4%	97.4%	98.3%	82.7%	85.9%	81.9%	83.3%
Brisbane	82.8%	81.0%	73.3%	89.5%	70.8%	92.6%	86.3%	65.1%	83.9%	67.7%
SEQ Balance	57.3%	74.7%	61.6%	73.8%	69.6%	87.0%	80.3%	83.6%	88.5%	88.2%
Total To Sector	71.3%	82.6%	76.5%	77.6%	80.7%	80.7%	83.4%	67.6%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	19,440	1,653	2,339	417	957	54	121	1,407	1,284	27,673
Urban North	1,651	2,040	331	115	529	62	78	701	300	5,809
Urban South	2,345	339	2,667	16	553	6	94	1,465	392	7,878
Coastal North	414	122	17	1,001	98	185	6	350	734	2,928
Sunshine Coast Balance	970	549	560	97	3,664	173	367	2,845	849	10,075
Noosa / Gympie	55	63	5	181	164	3,645	17	200	683	5,012
Moreton Bay	123	85	99	7	349	17	35,328	41,208	3,062	80,277
Brisbane	1,406	711	1,474	342	2,816	195	40,246	591,678	123,994	762,862
SEQ Balance	1,232	292	388	634	808	575	3,334	126,068	161,379	294,709
Total	27,637	5,855	7,881	2,810	9,938	4,911	79,592	765,922	292,676	1,197,222

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	2.7%	2.0%	3.5%	2.0%	1.8%	0.8%	1.5%	17.2%	44.6%	2.8%
Urban North	2.0%	1.5%	3.0%	1.9%	1.7%	2.2%	2.0%	18.7%	25.9%	2.1%
Urban South	3.6%	3.1%	1.7%	1.5%	3.3%	0.6%	1.5%	26.5%	38.8%	3.0%
Coastal North	2.0%	2.0%	1.5%	1.0%	0.7%	1.4%	0.5%	10.8%	30.4%	1.8%
Sunshine Coast Balance	1.8%	1.8%	3.3%	0.7%	1.1%	1.0%	2.8%	29.5%	31.9%	2.0%
Noosa / Gympie	0.8%	2.2%	0.6%	1.4%	1.0%	0.7%	1.7%	7.6%	8.6%	0.9%
Moreton Bay	1.5%	2.1%	1.5%	0.6%	2.6%	1.7%	1.7%	13.5%	18.1%	3.4%
Brisbane	17.2%	19.0%	26.7%	10.5%	29.2%	7.4%	13.2%	8.2%	15.8%	9.2%
SEQ Balance	42.7%	25.3%	38.4%	26.2%	30.3%	7.3%	19.7%	16.1%	1.4%	2.4%
Total To Sector	2.8%	2.1%	3.0%	1.7%	2.0%	0.9%	3.3%	9.2%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	244,569	3,555	2,801	2	1,024	-	-	-	-	251,951
Urban North	3,568	38,849	16	0	454	-	-	-	-	42,887
Urban South	2,800	17	51,560	-	20	-	-	-	-	54,397
Coastal North	2	1	-	32,954	156	165	-	-	-	33,276
Sunshine Coast Balance	1,023	454	20	155	83,811	14	0	-	0	85,479
Noosa / Gympie	-	-	-	165	14	105,298	-	-	447	105,925
Moreton Bay	-	-	-	-	0	-	313,984	1,773	-	315,757
Brisbane	-	-	-	-	-	-	1,762	1,921,392	2,254	1,925,408
SEQ Balance	-	-	-	-	0	451	-	2,298	1,149,977	1,152,727
Total	251,961	42,876	54,397	33,276	85,480	105,928	315,746	1,925,463	1,152,679	3,967,807

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.7%	4.4%	4.2%	0.0%	1.9%	-	-	-	-	25.9%
Urban North	4.4%	28.0%	0.1%	0.0%	1.5%	-	-	-	-	15.3%
Urban South	4.2%	0.2%	33.1%	-	0.1%	-	-	-	-	20.6%
Coastal North	0.0%	0.0%	-	32.7%	1.2%	1.3%	-	-	-	20.6%
Sunshine Coast Balance	1.9%	1.5%	0.1%	1.2%	24.7%	0.1%	0.0%	-	0.0%	17.3%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	-	5.7%
Moreton Bay	-	-	-	-	0.0%	-	15.6%	0.6%	-	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.2%
SEQ Balance	-	-	-	-	0.0%	5.7%	-	0.3%	10.1%	9.4%
Total To Sector	25.9%	15.3%	20.6%	20.6%	17.3%	18.5%	13.3%	23.2%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	725,783	81,515	65,938	20,536	52,939	6,875	8,343	8,188	2,880	972,999
Urban North	81,515	138,868	11,006	6,015	31,040	2,878	3,999	3,749	1,158	280,228
Urban South	65,935	11,003	155,960	1,106	16,822	906	6,425	5,529	1,010	264,696
Coastal North	20,534	6,012	1,108	100,692	13,127	13,060	1,172	3,249	2,417	161,373
Sunshine Coast Balance	52,942	31,040	16,819	13,127	338,916	16,500	13,286	9,651	2,661	494,940
Noosa / Gympie	6,875	2,881	906	13,058	16,502	522,018	994	2,639	7,910	573,783
Moreton Bay	8,343	4,001	6,427	1,172	13,285	993	2,019,147	305,697	16,948	2,376,014
Brisbane	8,187	3,749	5,529	3,249	9,649	2,639	305,698	7,192,458	783,859	8,315,018
SEQ Balance	2,883	1,155	1,010	2,418	2,663	7,909	16,949	783,857	11,411,517	12,230,360
Total	972,997	280,224	264,703	161,374	494,943	573,780	2,376,014	8,315,017	12,230,361	25,669,413

RTI RELEASE
Sunshine Coast Council

Scenario LRT CAMCOS B - Project Case Demographics - With Light Rail from Beerwah to Caloundra and Caloundra to Maroochydore via Mooloolaba - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	461,877	76,314	60,749	20,118	50,931	6,822	8,225	6,869	1,705	693,610
Urban North	76,301	97,972	10,655	5,897	30,051	2,817	3,921	3,051	878	231,545
Urban South	60,731	10,645	101,628	1,089	16,298	901	6,328	4,040	625	202,286
Coastal North	20,120	5,889	1,089	66,737	12,874	12,712	1,166	2,895	1,737	125,219
Sunshine Coast Balance	50,917	30,029	16,292	12,875	251,463	16,311	12,918	6,789	1,831	399,425
Noosa / Gympie	6,819	2,818	900	12,715	16,322	413,078	977	2,439	6,794	462,862
Moreton Bay	8,225	3,915	6,326	1,166	12,936	976	1,669,884	262,785	13,980	1,980,191
Brisbane	6,857	3,041	4,028	2,906	6,820	2,443	263,674	4,679,325	657,898	5,626,991
SEQ Balance	1,746	887	631	1,840	1,873	6,906	13,721	656,147	10,100,331	10,784,083
Total	693,593	231,509	202,299	125,343	399,569	462,965	1,980,815	5,624,340	10,785,780	20,506,213

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.6%	93.6%	92.3%	98.0%	96.4%	99.2%	98.8%	84.3%	59.5%	71.3%
Urban North	93.6%	70.6%	96.8%	98.1%	96.8%	97.8%	98.1%	81.3%	76.0%	82.6%
Urban South	92.3%	96.7%	65.2%	98.7%	96.3%	99.4%	98.4%	72.9%	61.8%	76.5%
Coastal North	98.0%	98.0%	98.6%	66.3%	98.1%	97.3%	99.4%	89.1%	71.9%	77.6%
Sunshine Coast Balance	96.4%	96.8%	96.3%	98.1%	74.2%	98.9%	97.2%	70.3%	68.7%	80.7%
Noosa / Gympie	99.2%	97.8%	99.4%	97.3%	98.9%	79.1%	98.4%	92.4%	85.9%	80.7%
Moreton Bay	98.8%	97.9%	98.4%	99.4%	97.3%	98.3%	82.7%	86.0%	82.5%	83.3%
Brisbane	84.1%	81.1%	72.7%	89.5%	70.6%	92.6%	86.3%	65.1%	83.9%	67.7%
SEQ Balance	60.9%	76.6%	62.4%	76.1%	70.3%	87.3%	81.0%	83.7%	88.5%	88.2%
Total To Sector	71.3%	82.6%	76.5%	77.7%	80.7%	80.7%	83.4%	67.6%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	19,827	1,663	2,249	415	877	54	101	1,279	1,162	27,628
Urban North	1,660	2,043	331	116	529	63	78	700	278	5,796
Urban South	2,267	342	2,671	15	604	5	103	1,504	386	7,897
Coastal North	417	122	15	1,000	98	185	7	353	680	2,877
Sunshine Coast Balance	891	550	611	95	3,738	172	372	2,875	833	10,136
Noosa / Gympie	55	64	5	182	163	3,644	16	200	667	4,997
Moreton Bay	102	85	106	7	355	17	35,324	41,142	2,969	80,107
Brisbane	1,294	709	1,513	342	2,843	196	40,265	591,755	123,706	762,623
SEQ Balance	1,120	271	380	577	791	552	3,228	125,413	161,230	293,563
Total	27,633	5,848	7,882	2,749	9,998	4,888	79,493	765,220	291,911	1,195,623

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	2.7%	2.0%	3.4%	2.0%	1.7%	0.8%	1.2%	15.7%	40.5%	2.8%
Urban North	2.0%	1.5%	3.0%	1.9%	1.7%	2.2%	1.9%	18.7%	24.0%	2.1%
Urban South	3.4%	3.1%	1.7%	1.3%	3.6%	0.6%	1.6%	27.1%	38.2%	3.0%
Coastal North	2.0%	2.0%	1.4%	1.0%	0.7%	1.4%	0.6%	10.9%	28.1%	1.8%
Sunshine Coast Balance	1.7%	1.8%	3.6%	0.7%	1.1%	1.0%	2.8%	29.7%	31.3%	2.0%
Noosa / Gympie	0.8%	2.2%	0.6%	1.4%	1.0%	0.7%	1.6%	7.6%	8.4%	0.9%
Moreton Bay	1.2%	2.1%	1.6%	0.6%	2.7%	1.7%	1.7%	13.5%	17.5%	3.4%
Brisbane	15.9%	18.9%	27.3%	10.5%	29.4%	7.4%	13.2%	8.2%	15.8%	9.2%
SEQ Balance	39.1%	23.4%	37.6%	23.9%	29.7%	7.0%	19.0%	16.0%	1.4%	2.4%
Total To Sector	2.8%	2.1%	3.0%	1.7%	2.0%	0.9%	3.3%	9.2%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	244,428	3,554	2,800	2	1,025	-	-	-	-	251,809
Urban North	3,568	38,848	17	0	453	-	-	-	-	42,886
Urban South	2,799	17	51,566	-	20	-	-	-	-	54,403
Coastal North	2	0	-	32,953	155	165	-	-	-	33,276
Sunshine Coast Balance	1,022	454	21	155	83,777	14	0	-	0	85,444
Noosa / Gympie	-	-	-	165	14	105,297	-	-	448	105,924
Moreton Bay	-	-	-	-	0	-	313,941	1,773	-	315,714
Brisbane	-	-	-	-	-	-	1,762	1,921,387	2,254	1,925,403
SEQ Balance	-	-	-	-	0	451	-	2,299	1,149,969	1,152,720
Total	251,819	42,875	54,403	33,275	85,445	105,927	315,703	1,925,459	1,152,671	3,967,577

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.7%	4.4%	4.3%	0.0%	1.9%	-	-	-	-	25.9%
Urban North	4.4%	28.0%	0.2%	0.0%	1.5%	-	-	-	-	15.3%
Urban South	4.3%	0.2%	33.1%	-	0.1%	-	-	-	-	20.6%
Coastal North	0.0%	0.0%	-	32.7%	1.2%	1.3%	-	-	-	20.6%
Sunshine Coast Balance	1.9%	1.5%	0.1%	1.2%	24.7%	0.1%	0.0%	-	0.0%	17.3%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	0.0%	-	15.5%	0.6%	-	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.2%
SEQ Balance	-	-	-	-	0.0%	5.7%	-	0.3%	10.1%	9.4%
Total To Sector	25.9%	15.3%	20.6%	20.6%	17.3%	18.5%	13.3%	23.2%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	726,131	81,532	65,799	20,535	52,833	6,875	8,326	8,148	2,868	973,046
Urban North	81,529	138,864	11,003	6,013	31,033	2,880	3,999	3,750	1,156	280,227
Urban South	65,798	11,004	155,865	1,104	16,922	907	6,431	5,544	1,011	264,587
Coastal North	20,538	6,011	1,104	100,690	13,128	13,062	1,173	3,248	2,417	161,372
Sunshine Coast Balance	52,830	31,033	16,924	13,125	338,977	16,497	13,290	9,664	2,665	495,004
Noosa / Gympie	6,875	2,882	905	13,062	16,500	522,019	993	2,639	7,909	573,782
Moreton Bay	8,326	3,999	6,432	1,173	13,291	993	2,019,148	305,700	16,949	2,376,012
Brisbane	8,151	3,750	5,541	3,248	9,662	2,639	305,701	7,192,467	783,858	8,315,018
SEQ Balance	2,867	1,157	1,012	2,417	2,665	7,909	16,950	783,859	11,411,530	12,230,366
Total	973,045	280,232	264,584	161,367	495,012	573,781	2,376,011	8,315,019	12,230,362	25,669,413

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Scenario LRT CAMCOS A - Project Case Demographics - With Light Rail from Beerwah to Maroochydore and Caloundra to Maroochydore - Sectorised (Macro) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	464,383	76,559	60,789	20,142	51,050	6,843	8,264	6,879	1,655	696,564
Urban North	76,536	97,780	10,671	5,867	30,026	2,810	3,916	3,031	833	231,470
Urban South	60,788	10,663	101,868	1,091	16,253	901	6,334	4,062	620	202,579
Coastal North	20,132	5,859	1,091	66,763	12,869	12,712	1,162	2,884	1,656	125,127
Sunshine Coast Balance	51,039	30,007	16,248	12,869	251,527	16,319	12,924	6,805	1,815	399,554
Noosa / Gympie	6,841	2,809	901	12,715	16,328	413,086	978	2,439	6,773	462,869
Moreton Bay	8,261	3,910	6,329	1,163	12,943	977	1,670,093	262,583	13,899	1,980,156
Brisbane	6,880	3,023	4,049	2,885	6,831	2,444	263,557	4,679,219	657,438	5,626,326
SEQ Balance	1,702	842	624	1,738	1,856	6,875	13,635	655,513	10,101,260	10,784,046
Total	696,562	231,451	202,569	125,232	399,682	462,967	1,980,863	5,623,416	10,785,948	20,508,690

Car Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.1%	93.2%	92.5%	97.9%	96.4%	99.2%	98.6%	83.9%	57.3%	71.6%
Urban North	93.2%	70.6%	96.4%	98.1%	96.8%	97.8%	98.0%	80.8%	72.0%	82.5%
Urban South	92.5%	96.3%	65.2%	97.8%	96.6%	99.4%	98.5%	73.6%	61.4%	76.5%
Coastal North	97.8%	97.9%	97.8%	66.3%	98.1%	97.3%	99.4%	88.9%	68.5%	77.5%
Sunshine Coast Balance	96.3%	96.7%	96.5%	98.1%	74.2%	98.9%	97.2%	70.6%	68.1%	80.7%
Noosa / Gympie	99.2%	97.8%	99.3%	97.4%	98.9%	79.1%	98.4%	92.4%	85.7%	80.7%
Moreton Bay	98.6%	97.8%	98.5%	99.4%	97.4%	98.3%	82.7%	85.9%	82.0%	83.3%
Brisbane	83.9%	80.6%	73.4%	89.0%	70.8%	92.6%	86.3%	65.1%	83.9%	67.7%
SEQ Balance	59.0%	72.7%	61.8%	71.9%	69.6%	87.0%	80.4%	83.7%	88.5%	88.2%
Total To Sector	71.6%	82.5%	76.5%	77.6%	80.7%	80.7%	83.4%	67.6%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	12,753	1,861	2,142	435	907	56	119	1,322	1,231	20,825
Urban North	1,867	2,052	382	115	540	63	81	721	323	6,144
Urban South	2,145	389	2,665	24	558	5	95	1,455	390	7,727
Coastal North	443	123	24	993	98	182	7	360	762	2,993
Sunshine Coast Balance	918	562	565	96	3,659	172	366	2,839	849	10,026
Noosa / Gympie	57	63	6	179	163	3,644	16	200	683	5,012
Moreton Bay	120	88	99	7	349	17	35,323	41,178	3,057	80,239
Brisbane	1,324	729	1,466	357	2,814	194	40,216	591,502	123,856	762,459
SEQ Balance	1,182	316	385	680	809	576	3,323	125,734	161,056	294,063
Total	20,809	6,184	7,734	2,886	9,897	4,911	79,546	765,311	292,209	1,189,487

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.8%	2.3%	3.3%	2.1%	1.7%	0.8%	1.4%	16.1%	42.7%	2.1%
Urban North	2.3%	1.5%	3.5%	1.9%	1.7%	2.2%	2.0%	19.2%	28.0%	2.2%
Urban South	3.3%	3.5%	1.7%	2.2%	3.3%	0.6%	1.5%	26.4%	38.6%	2.9%
Coastal North	2.2%	2.1%	2.2%	1.0%	0.7%	1.4%	0.6%	11.1%	31.5%	1.9%
Sunshine Coast Balance	1.7%	1.8%	3.4%	0.7%	1.1%	1.0%	2.8%	29.4%	31.9%	2.0%
Noosa / Gympie	0.8%	2.2%	0.7%	1.4%	1.0%	0.7%	1.6%	7.6%	8.6%	0.9%
Moreton Bay	1.4%	2.2%	1.5%	0.6%	2.6%	1.7%	1.7%	13.5%	18.0%	3.4%
Brisbane	16.1%	19.4%	26.6%	11.0%	29.2%	7.4%	13.2%	8.2%	15.8%	9.2%
SEQ Balance	41.0%	27.3%	38.2%	28.1%	30.3%	7.3%	19.6%	16.0%	1.4%	2.4%
Total To Sector	2.1%	2.2%	2.9%	1.8%	2.0%	0.9%	3.3%	9.2%	2.4%	4.6%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	247,295	3,742	2,815	2	1,025	-	-	-	-	254,879
Urban North	3,758	38,745	16	0	453	-	-	-	-	42,973
Urban South	2,814	16	51,658	-	19	-	-	-	-	54,508
Coastal North	2	0	-	32,989	156	164	-	-	-	33,311
Sunshine Coast Balance	1,022	454	20	155	83,848	14	0	-	0	85,513
Noosa / Gympie	-	-	-	165	14	105,296	-	-	447	105,923
Moreton Bay	-	-	-	-	0	-	313,980	1,773	-	315,753
Brisbane	-	-	-	-	-	-	1,762	1,921,636	2,254	1,925,652
SEQ Balance	-	-	-	-	0	451	0	2,296	1,149,976	1,152,724
Total	254,891	42,957	54,509	33,311	85,516	105,926	315,743	1,925,705	1,152,678	3,971,235

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.1%	4.6%	4.3%	0.0%	1.9%	-	-	-	-	26.2%
Urban North	4.6%	28.0%	0.1%	0.0%	1.5%	-	-	-	-	15.3%
Urban South	4.3%	0.1%	33.1%	-	0.1%	-	-	-	-	20.6%
Coastal North	0.0%	0.0%	-	32.7%	1.2%	1.3%	-	-	-	20.6%
Sunshine Coast Balance	1.9%	1.5%	0.1%	1.2%	24.7%	0.1%	0.0%	-	0.0%	17.3%
Noosa / Gympie	-	-	-	1.3%	0.1%	20.2%	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	0.0%	-	15.5%	0.6%	-	13.3%
Brisbane	-	-	-	-	-	-	0.6%	26.7%	0.3%	23.2%
SEQ Balance	-	-	-	-	0.0%	5.7%	0.0%	0.3%	10.1%	9.4%
Total To Sector	26.2%	15.3%	20.6%	20.6%	17.3%	18.5%	13.3%	23.2%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Urban South	Coastal North	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	724,431	82,162	65,747	20,578	52,981	6,899	8,383	8,201	2,887	972,268
Urban North	82,161	138,577	11,068	5,983	31,019	2,873	3,997	3,752	1,156	280,587
Urban South	65,748	11,068	156,191	1,115	16,831	907	6,428	5,517	1,009	264,813
Coastal North	20,576	5,983	1,115	100,744	13,122	13,059	1,169	3,244	2,417	161,430
Sunshine Coast Balance	52,978	31,023	16,833	13,120	339,035	16,506	13,290	9,644	2,665	495,094
Noosa / Gympie	6,898	2,872	907	13,058	16,505	522,026	994	2,639	7,903	573,803
Moreton Bay	8,382	3,998	6,428	1,170	13,292	994	2,019,396	305,534	16,956	2,376,149
Brisbane	8,204	3,752	5,515	3,242	9,645	2,639	305,535	7,192,358	783,548	8,314,437
SEQ Balance	2,884	1,158	1,009	2,418	2,666	7,903	16,958	783,543	11,412,292	12,230,832
Total	972,262	280,593	264,812	161,429	495,095	573,804	2,376,152	8,314,432	12,230,834	25,669,412

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Detailed Sectors

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Scenario 1P - Project Case Demographics - Reference Case Network - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	468,942	74,218	3,164	42,352	18,588	2,306	19,173	1,030	49,067	6,884	8,346	110	7,044	1,977	703,200
Urban North	74,202	87,569	4,451	5,023	4,650	940	5,071	353	27,197	2,392	3,418	52	2,924	595	218,840
Sunshine Coast University	3,161	4,443	733	536	520	162	396	7	1,743	392	476	1	70	267	12,907
Urban South	42,338	5,024	533	27,170	8,527	539	596	73	4,779	480	1,783	33	1,518	346	93,738
Caloundra South PDA	18,587	4,649	519	8,526	58,314	3,345	374	58	7,247	430	4,598	69	2,657	395	109,768
Beerwah East	2,305	939	161	539	3,344	9,749	103	14	4,852	115	1,541	16	800	106	24,583
Coastal North	19,167	5,067	394	595	373	104	65,086	830	12,251	12,383	650	23	1,260	369	118,552
Airport	1,030	353	7	73	58	14	829	72	549	326	513	201	1,406	1,308	6,741
Sunshine Coast Balance	49,052	27,181	1,738	4,776	7,244	4,849	12,255	549	231,927	16,190	11,283	86	5,857	1,695	374,680
Noosa / Gympie	6,882	2,393	391	480	430	115	12,387	327	16,201	413,083	977	21	2,415	6,776	462,878
Moreton Bay	8,344	3,415	472	1,782	4,594	1,540	649	513	11,303	976	1,669,800	5,722	256,854	13,893	1,979,858
Brisbane CBD	111	52	1	33	67	17	23	202	90	21	5,967	12,592	120,400	15,219	154,796
Brisbane	7,025	2,912	70	1,518	2,640	800	1,259	1,413	5,874	2,421	257,565	116,889	4,428,716	643,162	5,472,264
SEQ Balance	1,992	602	268	339	390	108	394	1,379	1,729	6,878	13,609	14,642	641,031	10,099,769	10,783,129
Total	703,139	218,817	12,900	93,743	109,739	24,588	118,596	6,821	374,810	462,968	1,980,526	150,457	5,472,953	10,785,877	20,515,935

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.7%	94.3%	87.9%	92.5%	98.4%	99.0%	98.3%	99.4%	97.0%	99.3%	99.4%	22.9%	91.6%	69.1%	72.3%
Urban North	94.2%	71.1%	66.3%	99.0%	98.7%	98.2%	98.9%	99.6%	97.2%	99.7%	99.2%	16.1%	87.1%	70.9%	83.1%
Sunshine Coast University	87.8%	66.2%	53.0%	85.2%	82.9%	78.5%	86.4%	99.9%	90.4%	87.5%	90.0%	69.0%	88.5%	84.1%	76.3%
Urban South	92.5%	99.0%	84.8%	61.9%	89.2%	98.4%	99.4%	99.8%	99.2%	99.8%	99.2%	17.9%	86.3%	74.1%	81.0%
Caloundra South PDA	98.3%	98.6%	82.8%	89.2%	61.8%	97.6%	99.3%	99.5%	98.7%	99.6%	99.2%	17.1%	84.4%	74.0%	73.9%
Beerwah East	99.0%	98.2%	78.0%	98.3%	97.6%	50.3%	99.4%	99.9%	97.0%	99.4%	98.3%	10.0%	76.2%	65.9%	70.2%
Coastal North	98.3%	98.9%	85.9%	99.4%	99.3%	99.4%	65.9%	84.8%	98.0%	97.3%	99.2%	22.6%	90.9%	71.7%	77.1%
Airport	99.3%	99.6%	99.7%	99.8%	99.6%	99.8%	84.8%	46.9%	99.6%	99.7%	99.7%	82.3%	92.6%	68.7%	87.1%
Sunshine Coast Balance	96.9%	97.1%	90.2%	99.2%	98.7%	96.9%	98.0%	99.6%	74.9%	98.9%	97.1%	10.2%	77.9%	68.7%	81.6%
Noosa / Gympie	99.3%	99.7%	87.5%	99.8%	99.6%	99.5%	97.3%	99.7%	98.9%	79.1%	98.4%	29.5%	94.0%	85.7%	80.7%
Moreton Bay	99.4%	99.2%	89.2%	99.2%	99.1%	98.3%	99.2%	99.7%	97.3%	98.2%	82.7%	25.4%	90.7%	81.9%	83.3%
Brisbane CBD	23.0%	16.0%	75.8%	18.2%	16.7%	10.6%	23.0%	82.8%	10.6%	29.4%	26.5%	3.4%	33.0%	25.1%	18.8%
Brisbane	91.3%	86.8%	88.8%	86.2%	83.8%	76.3%	90.9%	93.1%	78.2%	94.2%	90.9%	32.1%	72.7%	88.9%	73.0%
SEQ Balance	69.7%	71.7%	84.2%	72.8%	73.3%	66.7%	76.4%	72.5%	70.1%	87.0%	80.2%	24.1%	88.6%	88.5%	88.2%
Total To Sector	72.3%	83.1%	76.2%	81.0%	73.9%	70.2%	77.1%	88.2%	81.6%	80.7%	83.4%	18.3%	73.1%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	7,889	978	359	574	256	24	327	7	510	46	50	371	650	882	12,924
Urban North	982	1,575	243	48	61	17	55	1	308	7	27	273	433	244	4,275
Sunshine Coast University	360	245	2	84	104	44	62	0	168	56	53	0	9	50	1,237
Urban South	587	48	86	392	159	9	3	0	38	1	14	150	241	121	1,849
Caloundra South PDA	257	64	105	159	1,131	63	3	0	90	2	38	335	492	139	2,876
Beerwah East	23	17	45	9	64	181	1	0	103	1	26	146	250	55	921
Coastal North	333	58	65	4	3	1	994	7	96	183	5	79	125	145	2,098
Airport	7	1	0	0	0	0	7	0	1	1	2	43	112	595	770
Sunshine Coast Balance	528	327	172	40	93	104	94	1	3,098	172	336	756	1,660	773	8,154
Noosa / Gympie	49	7	56	1	2	1	181	1	163	3,644	16	50	154	684	5,010
Moreton Bay	52	29	57	15	41	27	5	2	319	18	35,364	16,795	24,681	3,074	80,479
Brisbane CBD	371	273	0	150	336	145	78	42	752	50	16,551	9,417	130,368	45,493	204,027
Brisbane	667	442	9	243	509	248	127	105	1,642	150	23,981	133,961	317,740	78,452	558,275
SEQ Balance	866	237	50	127	142	54	122	524	738	580	3,360	46,070	80,539	161,062	294,470
Total	12,971	4,301	1,249	1,846	2,902	917	2,059	690	8,028	4,911	79,821	208,447	557,454	291,770	1,177,367

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.1%	1.2%	10.0%	1.3%	1.4%	1.0%	1.7%	0.6%	1.0%	0.7%	0.6%	77.1%	8.4%	30.9%	1.3%
Urban North	1.2%	1.3%	3.6%	0.9%	1.3%	1.8%	1.1%	0.4%	1.1%	0.3%	0.8%	83.9%	12.9%	29.1%	1.6%
Sunshine Coast University	10.0%	3.6%	0.2%	13.3%	16.6%	21.5%	13.5%	0.1%	8.7%	12.5%	10.0%	31.0%	11.5%	15.9%	7.3%
Urban South	1.3%	0.9%	13.7%	0.9%	1.7%	1.6%	0.6%	0.2%	0.8%	0.2%	0.8%	82.1%	13.7%	25.9%	1.6%
Caloundra South PDA	1.4%	1.3%	16.7%	1.7%	1.2%	1.8%	0.7%	0.5%	1.2%	0.4%	0.8%	82.9%	15.6%	26.0%	1.9%
Beerwah East	1.0%	1.8%	21.9%	1.7%	1.9%	0.9%	0.6%	0.1%	2.1%	0.6%	1.7%	90.0%	23.8%	34.1%	2.6%
Coastal North	1.7%	1.1%	14.1%	0.6%	0.7%	0.6%	1.0%	0.7%	0.8%	1.4%	0.8%	77.4%	9.1%	28.3%	1.4%
Airport	0.7%	0.4%	0.3%	0.2%	0.4%	0.2%	0.7%	0.0%	0.2%	0.3%	0.3%	17.7%	7.4%	31.3%	10.0%
Sunshine Coast Balance	1.0%	1.2%	8.9%	0.8%	1.3%	2.1%	0.8%	0.2%	1.0%	1.1%	2.9%	89.8%	22.1%	31.3%	1.8%
Noosa / Gympie	0.7%	0.3%	12.5%	0.2%	0.4%	0.5%	1.4%	0.3%	1.0%	0.7%	1.6%	70.5%	6.0%	8.7%	0.9%
Moreton Bay	0.6%	0.8%	10.8%	0.8%	0.9%	1.7%	0.8%	0.3%	2.7%	1.8%	1.8%	74.6%	8.7%	18.1%	3.4%
Brisbane CBD	77.0%	84.0%	24.2%	81.8%	83.3%	89.4%	77.0%	17.2%	89.4%	70.6%	73.5%	2.5%	35.8%	74.9%	24.8%
Brisbane	8.7%	13.2%	11.2%	13.8%	16.2%	23.7%	9.1%	6.9%	21.8%	5.8%	8.5%	36.8%	5.2%	10.8%	7.5%
SEQ Balance	30.3%	28.3%	15.8%	27.2%	26.7%	33.3%	23.6%	27.5%	29.9%	7.3%	19.8%	75.9%	11.1%	1.4%	2.4%
Total To Sector	1.3%	1.6%	7.4%	1.6%	2.0%	2.6%	1.3%	8.9%	1.7%	0.9%	3.4%	25.3%	7.4%	2.4%	4.6%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	248,264	3,543	78	2,857	55	0	2	0	1,023	-	-	-	-	-	255,821
Urban North	3,557	34,105	2,022	4	1	0	0	0	483	-	-	-	-	-	40,173
Sunshine Coast University	79	2,027	648	9	3	0	0	-	17	-	-	-	-	-	2,782
Urban South	2,858	5	10	16,337	875	0	-	-	0	-	-	-	-	-	20,086
Caloundra South PDA	55	1	3	877	34,933	18	-	-	2	-	-	-	-	-	35,889
Beerwah East	0	0	0	0	17	9,458	-	-	50	-	-	-	-	-	9,526
Coastal North	2	0	0	-	-	-	32,639	142	155	165	-	-	-	-	33,103
Airport	0	0	-	-	-	-	142	82	1	-	-	-	-	-	224
Sunshine Coast Balance	1,020	482	17	0	2	50	155	1	74,508	14	0	-	-	0	76,249
Noosa / Gympie	-	-	-	-	-	-	165	-	14	105,302	-	-	-	447	105,929
Moreton Bay	-	-	-	-	-	-	-	-	0	-	313,983	3	1,769	0	315,755
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,502	113,711	0	464,216
Brisbane	-	-	-	-	-	-	-	-	-	-	1,757	113,625	1,343,803	2,251	1,461,436
SEQ Balance	-	-	-	-	-	-	-	-	0	451	-	0	2,295	1,150,147	1,152,894
Total	255,835	40,163	2,777	20,086	35,887	9,527	33,103	224	76,253	105,932	315,744	464,130	1,461,577	1,152,846	3,974,084

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.2%	4.5%	2.2%	6.2%	0.3%	0.0%	0.0%	0.0%	2.0%	-	-	-	-	-	26.3%
Urban North	4.5%	27.7%	30.1%	0.1%	0.0%	0.0%	0.0%	0.0%	1.7%	-	-	-	-	-	15.3%
Sunshine Coast University	2.2%	30.2%	46.8%	1.4%	0.5%	0.1%	0.0%	-	0.9%	-	-	-	-	-	16.4%
Urban South	6.2%	0.1%	1.5%	37.2%	9.2%	0.0%	-	-	0.0%	-	-	-	-	-	17.4%
Caloundra South PDA	0.3%	0.0%	0.5%	9.2%	37.0%	0.5%	-	-	0.0%	-	-	-	-	-	24.2%
Beerwah East	0.0%	0.0%	0.1%	0.0%	0.5%	48.8%	-	-	1.0%	-	-	-	-	-	27.2%
Coastal North	0.0%	0.0%	0.0%	-	-	-	33.1%	14.5%	1.2%	1.3%	-	-	-	-	21.5%
Airport	0.0%	0.0%	-	-	-	-	14.5%	53.0%	0.2%	-	-	-	-	-	2.9%
Sunshine Coast Balance	2.0%	1.7%	0.9%	0.0%	0.0%	1.0%	1.2%	0.2%	24.1%	0.1%	0.0%	-	-	0.0%	16.6%
Noosa / Gympie	-	-	-	-	-	-	1.3%	-	0.1%	20.2%	-	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.6%	0.0%	0.6%	0.0%	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.4%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	-	0.0%	0.3%	10.1%	9.4%
Total To Sector	26.3%	15.3%	16.4%	17.4%	24.2%	27.2%	21.5%	2.9%	16.6%	18.5%	13.3%	56.4%	19.5%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	725,094	78,739	3,601	45,784	18,899	2,329	19,502	1,037	50,599	6,930	8,396	481	7,694	2,860	971,945
Urban North	78,742	123,249	6,715	5,075	4,713	957	5,126	354	27,989	2,399	3,445	326	3,357	839	263,288
Sunshine Coast University	3,600	6,714	1,383	629	627	206	459	7	1,928	448	529	1	79	317	16,927
Urban South	45,784	5,076	629	43,899	9,561	548	600	73	4,817	481	1,797	183	1,759	467	115,673
Caloundra South PDA	18,899	4,714	626	9,563	94,378	3,426	377	59	7,339	432	4,636	404	3,149	534	148,533
Beerwah East	2,329	956	206	548	3,426	19,388	104	14	5,004	116	1,567	163	1,050	161	35,030
Coastal North	19,502	5,125	459	599	376	104	98,719	979	12,503	12,731	655	101	1,386	514	153,753
Airport	1,037	355	7	73	59	14	978	154	552	327	515	244	1,518	1,903	7,736
Sunshine Coast Balance	50,600	27,990	1,927	4,816	7,339	5,003	12,503	551	309,534	16,376	11,618	841	7,517	2,468	459,084
Noosa / Gympie	6,931	2,401	447	481	431	116	12,733	328	16,379	522,029	993	71	2,569	7,908	573,817
Moreton Bay	8,396	3,444	529	1,796	4,635	1,568	655	515	11,622	993	2,019,147	22,521	283,303	16,967	2,376,091
Brisbane CBD	481	325	1	183	403	163	101	244	842	71	22,522	372,511	364,479	60,713	823,040
Brisbane	7,692	3,354	79	1,761	3,149	1,049	1,386	1,518	7,516	2,570	283,304	364,475	6,090,259	723,866	7,491,976
SEQ Balance	2,858	839	318	466	532	161	516	1,903	2,468	7,909	16,968	60,712	723,865	11,410,978	12,230,493
Total	971,945	263,281	16,927	115,674	148,528	35,032	153,758	7,736	459,092	573,811	2,376,091	823,034	7,491,984	12,230,494	25,667,386

RTI RELEASE Sunshine Coast Council

Scenario 2P - Project Case Demographics - With CAMCOS - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	467,552	74,010	2,995	42,307	18,603	2,304	19,316	1,025	49,054	6,886	8,274	44	6,124	1,334	699,828
Urban North	74,005	87,285	4,442	5,044	4,637	930	5,013	348	27,119	2,389	3,414	39	2,868	516	218,049
Sunshine Coast University	2,992	4,441	734	452	480	130	356	7	1,713	387	491	1	71	266	12,522
Urban South	42,301	5,044	446	27,121	8,610	553	606	69	4,819	476	1,768	13	1,293	220	93,340
Caloundra South PDA	18,600	4,636	480	8,604	57,941	3,386	374	56	7,276	428	4,599	31	2,410	313	109,134
Beerwah East	2,304	929	130	553	3,386	9,601	102	13	4,838	113	1,526	7	673	84	24,258
Coastal North	19,302	5,010	353	606	374	102	64,804	811	12,177	12,350	645	11	1,162	261	117,969
Airport	1,025	347	7	70	56	13	810	70	540	319	478	58	844	722	5,360
Sunshine Coast Balance	49,037	27,103	1,708	4,811	7,275	4,836	12,180	539	231,337	16,182	11,276	78	5,820	1,690	373,872
Noosa / Gympie	6,885	2,391	387	477	429	112	12,352	319	16,194	413,042	978	20	2,413	6,774	462,773
Moreton Bay	8,279	3,412	486	1,767	4,596	1,527	644	478	11,286	976	1,670,298	5,772	257,191	14,064	1,980,778
Brisbane CBD	43	37	1	13	31	7	11	60	82	20	6,004	12,595	120,356	15,254	154,514
Brisbane	6,150	2,849	71	1,292	2,396	680	1,158	881	5,835	2,416	257,931	116,906	4,429,144	643,935	5,471,644
SEQ Balance	1,386	513	267	222	317	87	275	806	1,714	6,854	13,699	14,707	641,672	10,100,378	10,782,898
Total	699,863	218,006	12,506	93,338	109,131	24,269	118,003	5,483	373,985	462,839	1,981,381	150,282	5,472,039	10,785,811	20,506,937

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.6%	94.0%	89.0%	91.7%	97.1%	94.2%	97.2%	96.8%	96.5%	99.0%	95.7%	7.1%	76.5%	44.0%	71.9%
Urban North	94.0%	71.1%	66.4%	98.1%	98.4%	97.7%	98.9%	98.8%	97.2%	99.7%	98.8%	11.9%	85.3%	61.0%	83.0%
Sunshine Coast University	89.0%	66.4%	53.1%	85.7%	84.7%	82.3%	87.0%	99.6%	90.7%	87.5%	86.8%	59.5%	84.7%	81.9%	76.3%
Urban South	91.7%	98.1%	84.6%	62.1%	88.4%	94.1%	95.8%	94.3%	97.9%	99.3%	96.0%	5.5%	69.9%	44.5%	80.2%
Caloundra South PDA	97.1%	98.3%	84.6%	88.4%	61.9%	96.3%	96.8%	94.3%	97.9%	99.0%	97.2%	6.9%	74.2%	56.0%	73.5%
Beerwah East	94.2%	97.7%	81.9%	94.1%	96.3%	50.5%	96.0%	88.3%	96.3%	98.8%	94.9%	3.5%	61.1%	48.1%	69.3%
Coastal North	97.2%	98.8%	86.3%	95.7%	96.8%	95.8%	65.9%	84.3%	98.0%	97.3%	97.2%	9.3%	81.8%	49.6%	76.8%
Airport	96.8%	98.7%	99.6%	94.7%	94.3%	88.1%	84.2%	46.7%	98.7%	99.6%	94.0%	23.4%	55.6%	37.4%	69.2%
Sunshine Coast Balance	96.5%	97.1%	90.5%	97.7%	97.9%	96.2%	98.0%	98.7%	74.9%	98.9%	96.8%	9.3%	77.6%	68.4%	81.5%
Noosa / Gympie	99.0%	99.7%	87.4%	99.4%	99.1%	98.7%	97.3%	99.6%	98.9%	79.1%	98.2%	28.1%	93.9%	85.7%	80.7%
Moreton Bay	95.7%	98.7%	86.0%	95.8%	97.1%	95.0%	97.1%	94.0%	96.9%	98.2%	82.7%	25.9%	90.9%	82.9%	83.4%
Brisbane CBD	7.0%	11.3%	62.8%	5.6%	6.8%	3.7%	9.4%	24.1%	9.7%	27.8%	26.9%	3.4%	33.0%	25.2%	18.8%
Brisbane	76.8%	84.7%	85.2%	70.0%	73.8%	61.7%	81.6%	58.0%	77.8%	94.0%	91.2%	32.1%	72.7%	89.0%	73.0%
SEQ Balance	45.8%	60.6%	82.4%	44.9%	56.5%	50.1%	52.3%	41.7%	69.3%	86.7%	80.8%	24.3%	88.7%	88.5%	88.2%
Total To Sector	71.9%	83.0%	76.2%	80.2%	73.5%	69.3%	76.8%	70.7%	81.6%	80.7%	83.4%	18.3%	73.0%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	9,701	1,170	300	1,034	502	143	548	34	777	67	374	573	1,880	1,697	18,800
Urban North	1,159	1,550	239	91	74	21	56	4	308	7	40	289	493	330	4,662
Sunshine Coast University	300	241	2	69	84	28	53	0	160	55	75	0	13	59	1,140
Urban South	1,039	93	74	555	258	34	26	4	105	3	74	220	556	274	3,316
Caloundra South PDA	506	77	85	262	1,106	114	13	3	156	4	133	426	840	246	3,971
Beerwah East	143	22	29	35	114	171	4	2	138	1	81	192	428	90	1,450
Coastal North	558	60	56	27	12	5	976	13	97	179	19	108	258	265	2,634
Airport	33	5	0	4	3	2	13	0	6	1	31	189	675	1,208	2,171
Sunshine Coast Balance	801	321	164	111	157	140	93	6	3,058	170	377	763	1,682	780	8,623
Noosa / Gympie	68	8	56	3	4	1	176	1	162	3,641	18	51	157	683	5,029
Moreton Bay	368	43	79	77	137	80	20	31	363	18	35,007	16,531	24,009	2,898	79,661
Brisbane CBD	573	292	0	220	427	191	108	187	758	52	16,299	9,415	130,315	45,352	204,190
Brisbane	1,856	513	12	555	852	421	262	638	1,667	155	23,278	133,868	317,582	77,564	559,223
SEQ Balance	1,642	334	57	272	244	86	251	1,125	757	600	3,264	45,900	79,781	160,533	294,846
Total	18,749	4,727	1,153	3,313	3,976	1,439	2,599	2,049	8,513	4,953	79,069	208,527	558,668	291,979	1,189,713

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.3%	1.5%	8.9%	2.2%	2.6%	5.8%	2.8%	3.2%	1.5%	1.0%	4.3%	92.9%	23.5%	56.0%	1.9%
Urban North	1.5%	1.3%	3.6%	1.8%	1.6%	2.3%	1.1%	1.2%	1.1%	0.3%	1.2%	88.1%	14.7%	39.0%	1.8%
Sunshine Coast University	8.9%	3.6%	0.2%	13.1%	14.9%	17.7%	13.0%	0.4%	8.5%	12.5%	13.2%	40.5%	15.3%	18.1%	6.9%
Urban South	2.3%	1.8%	14.1%	1.3%	2.7%	5.8%	4.2%	5.7%	2.1%	0.7%	4.0%	94.5%	30.1%	55.5%	2.9%
Caloundra South PDA	2.6%	1.6%	15.0%	2.7%	1.2%	3.2%	3.2%	5.7%	2.1%	1.0%	2.8%	93.1%	25.8%	44.0%	2.7%
Beerwah East	5.8%	2.3%	18.1%	5.9%	3.3%	0.9%	4.0%	11.7%	2.7%	1.2%	5.1%	96.5%	38.9%	51.9%	4.1%
Coastal North	2.8%	1.2%	13.6%	4.3%	3.2%	4.2%	1.0%	1.3%	0.8%	1.4%	2.8%	90.7%	18.2%	50.4%	1.7%
Airport	3.2%	1.3%	0.4%	5.3%	5.7%	11.9%	1.4%	0.3%	1.2%	0.4%	6.0%	76.6%	44.4%	62.6%	28.0%
Sunshine Coast Balance	1.6%	1.1%	8.7%	2.3%	2.1%	2.8%	0.7%	1.2%	1.0%	1.0%	3.2%	90.7%	22.4%	31.6%	1.9%
Noosa / Gympie	1.0%	0.3%	12.6%	0.6%	0.9%	1.3%	1.4%	0.4%	1.0%	0.7%	1.8%	71.9%	6.1%	8.6%	0.9%
Moreton Bay	4.3%	1.3%	14.0%	4.2%	2.9%	5.0%	2.9%	6.0%	3.1%	1.8%	1.7%	74.1%	8.5%	17.1%	3.4%
Brisbane CBD	93.0%	88.7%	37.2%	94.4%	93.2%	96.3%	90.6%	75.9%	90.3%	72.2%	73.1%	2.5%	35.8%	74.8%	24.8%
Brisbane	23.2%	15.3%	14.8%	30.0%	26.2%	38.3%	18.4%	42.0%	22.2%	6.0%	8.2%	36.7%	5.2%	10.7%	7.5%
SEQ Balance	54.2%	39.4%	17.6%	55.1%	43.5%	49.9%	47.7%	58.3%	30.6%	7.6%	19.2%	75.7%	11.0%	1.4%	2.4%
Total To Sector	1.9%	1.8%	7.0%	2.8%	2.7%	4.1%	1.7%	26.4%	1.9%	0.9%	3.3%	25.3%	7.5%	2.4%	4.6%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	246,895	3,526	70	2,791	54	0	2	0	1,005	-	-	-	-	-	254,342
Urban North	3,541	33,971	2,005	5	1	0	0	0	482	-	-	-	-	-	40,004
Sunshine Coast University	71	2,004	645	6	2	0	0	-	16	-	-	-	-	-	2,744
Urban South	2,792	5	7	16,001	868	0	-	-	0	-	-	-	-	-	19,673
Caloundra South PDA	54	1	3	869	34,516	18	-	-	2	-	-	-	-	-	35,462
Beerwah East	0	0	0	0	17	9,222	-	-	48	-	-	-	-	-	9,288
Coastal North	2	0	0	-	-	-	32,520	139	153	165	-	-	-	-	32,978
Airport	0	0	-	-	-	-	139	79	1	0	-	-	-	-	219
Sunshine Coast Balance	1,003	481	16	0	2	48	154	1	74,335	14	0	-	-	0	76,056
Noosa / Gympie	-	-	-	-	-	-	165	0	14	105,279	-	-	-	448	105,905
Moreton Bay	-	-	-	-	-	-	-	-	0	-	314,005	4	1,769	-	315,778
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,568	113,676	0	464,248
Brisbane	-	-	-	-	-	-	-	-	-	-	1,758	113,578	1,343,729	2,256	1,461,322
SEQ Balance	-	-	-	-	-	-	-	-	0	451	-	0	2,298	1,149,967	1,152,717
Total	254,358	39,988	2,745	19,672	35,460	9,288	32,979	219	76,057	105,909	315,767	464,150	1,461,473	1,152,671	3,970,737

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.1%	4.5%	2.1%	6.0%	0.3%	0.0%	0.0%	0.0%	2.0%	-	-	-	-	-	26.1%
Urban North	4.5%	27.7%	30.0%	0.1%	0.0%	0.0%	0.0%	0.0%	1.7%	-	-	-	-	-	15.2%
Sunshine Coast University	2.1%	30.0%	46.7%	1.2%	0.4%	0.1%	0.0%	-	0.8%	-	-	-	-	-	16.7%
Urban South	6.1%	0.1%	1.3%	36.6%	8.9%	0.0%	-	-	0.0%	-	-	-	-	-	16.9%
Caloundra South PDA	0.3%	0.0%	0.4%	8.9%	36.9%	0.5%	-	-	0.0%	-	-	-	-	-	23.9%
Beerwah East	0.0%	0.0%	0.1%	0.0%	0.5%	48.6%	-	-	1.0%	-	-	-	-	-	26.5%
Coastal North	0.0%	0.0%	0.0%	-	-	-	33.1%	14.4%	1.2%	1.3%	-	-	-	-	21.5%
Airport	0.0%	0.0%	-	-	-	-	14.4%	53.0%	0.1%	0.0%	-	-	-	-	2.8%
Sunshine Coast Balance	2.0%	1.7%	0.9%	0.0%	0.0%	1.0%	1.2%	0.1%	24.1%	0.1%	0.0%	-	-	0.0%	16.6%
Noosa / Gympie	-	-	-	-	-	-	1.3%	0.0%	0.1%	20.2%	-	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.6%	0.0%	0.6%	-	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.4%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	-	0.0%	0.3%	10.1%	9.4%
Total To Sector	26.1%	15.2%	16.7%	16.9%	23.9%	26.5%	21.5%	2.8%	16.6%	18.5%	13.3%	56.4%	19.5%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	724,148	78,706	3,364	46,132	19,160	2,447	19,865	1,059	50,837	6,952	8,648	616	8,004	3,031	972,970
Urban North	78,706	122,805	6,686	5,140	4,712	951	5,070	352	27,909	2,396	3,454	328	3,361	846	262,715
Sunshine Coast University	3,362	6,686	1,381	527	567	158	410	7	1,889	443	566	1	83	325	16,406
Urban South	46,132	5,142	527	43,677	9,736	587	633	74	4,924	480	1,843	233	1,849	494	116,329
Caloundra South PDA	19,160	4,714	567	9,734	93,563	3,517	387	59	7,434	432	4,732	458	3,249	560	148,567
Beerwah East	2,447	951	158	588	3,517	18,994	107	15	5,024	115	1,607	199	1,102	173	34,996
Coastal North	19,863	5,070	409	633	386	107	98,299	962	12,428	12,694	664	120	1,419	526	153,581
Airport	1,059	352	7	74	59	15	963	150	547	321	509	247	1,519	1,930	7,750
Sunshine Coast Balance	50,841	27,905	1,888	4,922	7,434	5,025	12,427	546	308,730	16,366	11,653	842	7,501	2,470	458,550
Noosa / Gympie	6,954	2,398	443	480	433	114	12,693	320	16,370	521,961	996	71	2,569	7,905	573,707
Moreton Bay	8,648	3,455	566	1,844	4,733	1,608	664	509	11,649	994	2,019,309	22,306	282,969	16,962	2,376,216
Brisbane CBD	617	329	1	233	458	198	119	247	840	72	22,307	372,578	364,347	60,607	822,952
Brisbane	8,007	3,362	83	1,847	3,248	1,101	1,420	1,519	7,502	2,570	282,967	364,352	6,090,455	723,755	7,492,188
SEQ Balance	3,029	846	325	493	561	173	527	1,931	2,472	7,905	16,963	60,607	723,751	11,410,878	12,230,461
Total	972,970	262,721	16,405	116,323	148,567	34,996	153,582	7,751	458,555	573,701	2,376,216	822,959	7,492,179	12,230,462	25,667,387

RTI RELEASE Sunshine Coast Council

Scenario 3P - Project Case Demographics - With North Coast Connect - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	467,598	74,037	2,989	42,170	18,504	2,287	19,119	1,010	48,917	6,870	8,219	32	5,797	1,187	698,736
Urban North	74,020	87,452	4,435	5,009	4,630	934	5,041	344	27,119	2,388	3,405	22	2,734	462	217,996
Sunshine Coast University	2,989	4,436	735	468	444	149	351	7	1,667	387	475	1	72	265	12,445
Urban South	42,161	5,008	466	27,082	8,503	536	594	69	4,752	478	1,767	11	1,288	215	92,930
Caloundra South PDA	18,497	4,626	443	8,501	57,940	3,331	373	54	7,235	426	4,564	19	2,180	270	108,458
Beerwah East	2,288	935	148	536	3,329	9,732	103	14	4,815	114	1,529	8	738	93	24,381
Coastal North	19,111	5,039	348	594	374	102	64,907	808	12,178	12,337	636	7	1,042	213	117,695
Airport	1,010	344	7	69	54	14	808	70	533	312	434	13	463	512	4,643
Sunshine Coast Balance	48,903	27,100	1,665	4,751	7,230	4,813	12,177	533	231,329	16,160	11,239	56	5,579	1,603	373,139
Noosa / Gympie	6,867	2,388	387	477	426	114	12,341	311	16,171	412,986	974	18	2,363	6,715	462,538
Moreton Bay	8,222	3,396	471	1,763	4,559	1,530	635	433	11,260	972	1,668,990	5,610	256,867	13,902	1,978,610
Brisbane CBD	31	21	1	11	19	9	6	13	60	16	5,807	12,596	120,431	15,230	154,252
Brisbane	5,854	2,703	72	1,292	2,190	752	1,049	496	5,649	2,367	257,711	116,896	4,429,455	643,388	5,469,874
SEQ Balance	1,289	485	267	226	286	101	237	610	1,682	6,822	13,755	14,660	642,028	10,100,106	10,782,553
Total	698,841	217,968	12,433	92,949	108,487	24,404	117,741	4,772	373,369	462,636	1,979,503	149,947	5,471,038	10,784,161	20,498,248

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.6%	94.2%	89.2%	92.4%	97.3%	98.3%	97.8%	97.0%	96.7%	99.1%	94.5%	3.3%	68.2%	36.7%	71.9%
Urban North	94.2%	71.1%	66.6%	98.9%	98.5%	98.2%	98.9%	98.9%	97.2%	99.7%	98.6%	5.2%	78.7%	53.3%	82.9%
Sunshine Coast University	89.1%	66.6%	53.2%	86.8%	86.3%	79.9%	87.2%	99.7%	91.1%	87.5%	86.2%	40.3%	77.3%	78.2%	76.3%
Urban South	92.4%	98.9%	86.3%	61.9%	89.0%	98.3%	98.4%	96.6%	98.9%	99.6%	97.0%	3.6%	67.4%	43.0%	80.4%
Caloundra South PDA	97.2%	98.4%	86.1%	89.0%	61.9%	97.7%	95.9%	91.1%	98.0%	98.9%	96.5%	2.9%	63.1%	45.0%	73.0%
Beerwah East	98.3%	98.2%	79.5%	98.2%	97.6%	50.3%	98.6%	96.4%	97.0%	99.3%	97.8%	3.9%	68.1%	56.0%	69.7%
Coastal North	97.8%	98.8%	86.4%	98.4%	96.0%	98.7%	65.9%	84.8%	98.0%	97.3%	95.0%	3.2%	67.8%	38.5%	76.6%
Airport	97.1%	99.0%	99.7%	96.7%	91.5%	95.6%	84.8%	46.8%	98.8%	99.6%	87.0%	5.1%	30.1%	26.2%	60.0%
Sunshine Coast Balance	96.6%	97.1%	90.9%	98.9%	98.0%	97.0%	98.0%	98.8%	74.9%	98.9%	96.6%	5.2%	71.5%	62.9%	81.4%
Noosa / Gympie	99.1%	99.7%	87.4%	99.5%	98.9%	99.4%	97.3%	99.6%	98.9%	79.1%	97.7%	20.3%	91.2%	84.9%	80.6%
Moreton Bay	94.6%	98.4%	85.4%	96.9%	96.4%	97.9%	94.8%	86.9%	96.8%	97.6%	82.7%	24.4%	90.7%	81.9%	83.3%
Brisbane CBD	3.3%	4.9%	44.7%	3.6%	3.0%	4.4%	3.1%	5.2%	5.5%	18.9%	25.3%	3.4%	33.1%	25.2%	18.7%
Brisbane	68.9%	77.8%	77.4%	67.5%	63.4%	69.5%	68.2%	32.2%	72.3%	91.4%	91.0%	32.1%	72.7%	88.9%	73.0%
SEQ Balance	39.8%	56.0%	78.7%	45.3%	47.6%	60.6%	42.9%	31.3%	66.0%	86.2%	81.0%	24.2%	88.7%	88.5%	88.2%
Total To Sector	71.9%	82.9%	76.3%	80.4%	73.1%	69.8%	76.6%	61.6%	81.4%	80.7%	83.3%	18.2%	73.0%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	8,369	1,028	296	647	468	41	428	31	661	60	476	910	2,707	2,048	18,170
Urban North	1,031	1,573	234	51	70	18	56	4	306	7	48	400	739	405	4,941
Sunshine Coast University	296	237	2	64	69	37	51	0	147	55	76	1	21	74	1,130
Urban South	657	52	67	391	178	9	10	2	51	2	54	288	624	285	2,669
Caloundra South PDA	473	74	70	178	1,104	63	16	5	144	5	167	626	1,276	330	4,532
Beerwah East	39	18	38	10	64	180	1	0	99	1	34	195	345	73	1,098
Coastal North	431	60	55	10	16	1	984	7	96	181	34	200	494	340	2,908
Airport	30	4	0	2	5	1	7	0	6	1	65	246	1,077	1,438	2,882
Sunshine Coast Balance	680	322	150	53	147	100	94	6	3,063	170	394	1,032	2,229	944	9,385
Noosa / Gympie	62	7	56	2	5	1	178	1	161	3,641	23	69	227	749	5,182
Moreton Bay	473	55	80	57	172	32	35	66	374	24	35,018	17,369	24,618	3,082	81,456
Brisbane CBD	912	401	1	288	626	195	200	246	1,030	70	17,170	9,433	129,957	45,248	205,777
Brisbane	2,646	769	21	621	1,267	331	488	1,043	2,160	223	23,784	133,583	317,322	78,075	562,332
SEQ Balance	1,951	382	72	273	314	66	316	1,340	865	638	3,230	45,820	79,393	160,622	295,282
Total	18,050	4,982	1,141	2,647	4,503	1,074	2,864	2,752	9,162	5,079	80,572	210,172	561,031	293,713	1,197,744

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.2%	1.3%	8.8%	1.4%	2.5%	1.7%	2.2%	3.0%	1.3%	0.9%	5.5%	96.7%	31.8%	63.3%	1.9%
Urban North	1.3%	1.3%	3.5%	1.0%	1.5%	1.8%	1.1%	1.1%	1.1%	0.3%	1.4%	94.8%	21.3%	46.7%	1.9%
Sunshine Coast University	8.8%	3.6%	0.2%	11.9%	13.3%	20.0%	12.7%	0.3%	8.0%	12.5%	13.8%	59.7%	22.7%	21.8%	6.9%
Urban South	1.4%	1.0%	12.3%	0.9%	1.9%	1.7%	1.6%	3.4%	1.1%	0.4%	3.0%	96.4%	32.6%	57.0%	2.3%
Caloundra South PDA	2.5%	1.6%	13.5%	1.9%	1.2%	1.8%	4.1%	8.9%	2.0%	1.1%	3.5%	97.1%	36.9%	55.0%	3.1%
Beerwah East	1.7%	1.8%	20.5%	1.8%	1.9%	0.9%	1.4%	3.6%	2.0%	0.7%	2.2%	96.1%	31.9%	44.0%	3.1%
Coastal North	2.2%	1.2%	13.5%	1.6%	4.0%	1.3%	1.0%	0.8%	0.8%	1.4%	5.0%	96.8%	32.2%	61.5%	1.9%
Airport	2.9%	1.0%	0.3%	3.3%	8.5%	4.4%	0.8%	0.2%	1.0%	0.4%	13.0%	94.9%	69.9%	73.8%	37.2%
Sunshine Coast Balance	1.3%	1.2%	8.2%	1.1%	2.0%	2.0%	0.8%	1.1%	1.0%	1.0%	3.4%	94.8%	28.5%	37.0%	2.0%
Noosa / Gympie	0.9%	0.3%	12.6%	0.5%	1.1%	0.6%	1.4%	0.4%	1.0%	0.7%	2.3%	79.7%	8.8%	9.5%	0.9%
Moreton Bay	5.4%	1.6%	14.6%	3.1%	3.6%	2.1%	5.2%	13.1%	3.2%	2.4%	1.7%	75.6%	8.7%	18.1%	3.4%
Brisbane CBD	96.7%	95.1%	55.3%	96.4%	97.0%	95.6%	96.9%	94.8%	94.5%	81.1%	74.7%	2.5%	35.7%	74.8%	25.0%
Brisbane	31.1%	22.2%	22.6%	32.5%	36.6%	30.5%	31.8%	67.8%	27.7%	8.6%	8.4%	36.7%	5.2%	10.8%	7.5%
SEQ Balance	60.2%	44.0%	21.3%	54.7%	52.4%	39.4%	57.1%	68.7%	34.0%	8.1%	19.0%	75.8%	11.0%	1.4%	2.4%
Total To Sector	1.9%	1.9%	7.0%	2.3%	3.0%	3.1%	1.9%	35.5%	2.0%	0.9%	3.4%	25.5%	7.5%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	247,394	3,527	68	2,824	54	0	2	0	1,016	-	-	-	-	-	254,885
Urban North	3,538	34,048	1,992	5	1	0	0	0	482	-	-	-	-	-	40,066
Sunshine Coast University	68	1,989	646	7	2	0	0	-	15	-	-	-	-	-	2,728
Urban South	2,827	4	8	16,272	871	0	-	-	0	-	-	-	-	-	19,982
Caloundra South PDA	54	1	2	871	34,561	17	-	-	2	-	-	-	-	-	35,508
Beerwah East	0	0	0	0	17	9,436	-	-	49	-	-	-	-	-	9,502
Coastal North	2	0	0	-	-	-	32,558	138	154	164	-	-	-	-	33,016
Airport	0	0	-	-	-	-	138	80	1	0	-	-	-	-	218
Sunshine Coast Balance	1,015	481	16	0	2	49	154	1	74,328	14	0	-	-	0	76,060
Noosa / Gympie	-	-	-	-	-	-	165	-	14	105,280	-	-	-	447	105,906
Moreton Bay	-	-	-	-	-	-	-	-	0	-	313,581	4	1,764	0	315,349
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,470	113,626	0	464,099
Brisbane	-	-	-	-	-	-	-	-	-	-	1,754	113,532	1,343,616	2,252	1,461,154
SEQ Balance	-	-	-	-	-	-	-	-	0	451	-	0	2,295	1,150,173	1,152,920
Total	254,899	40,051	2,731	19,979	35,508	9,502	33,016	219	76,061	105,909	315,339	464,005	1,461,302	1,152,873	3,971,394

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.2%	4.5%	2.0%	6.2%	0.3%	0.0%	0.0%	0.0%	2.0%	-	-	-	-	-	26.2%
Urban North	4.5%	27.7%	29.9%	0.1%	0.0%	0.0%	0.0%	0.0%	1.7%	-	-	-	-	-	15.2%
Sunshine Coast University	2.0%	29.9%	46.7%	1.3%	0.4%	0.1%	0.0%	-	0.8%	-	-	-	-	-	16.7%
Urban South	6.2%	0.1%	1.4%	37.2%	9.1%	0.0%	-	-	0.0%	-	-	-	-	-	17.3%
Caloundra South PDA	0.3%	0.0%	0.4%	9.1%	36.9%	0.5%	-	-	0.0%	-	-	-	-	-	23.9%
Beerwah East	0.0%	0.0%	0.1%	0.0%	0.5%	48.8%	-	-	1.0%	-	-	-	-	-	27.2%
Coastal North	0.0%	0.0%	0.0%	-	-	-	33.1%	14.5%	1.2%	1.3%	-	-	-	-	21.5%
Airport	0.0%	0.0%	-	-	-	-	14.4%	53.0%	0.1%	0.0%	-	-	-	-	2.8%
Sunshine Coast Balance	2.0%	1.7%	0.9%	0.0%	0.0%	1.0%	1.2%	0.2%	24.1%	0.1%	0.0%	-	-	0.0%	16.6%
Noosa / Gympie	-	-	-	-	-	-	1.3%	-	0.1%	20.2%	-	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.5%	0.0%	0.6%	0.0%	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.3%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	-	0.0%	0.3%	10.1%	9.4%
Total To Sector	26.2%	15.2%	16.7%	17.3%	23.9%	27.2%	21.5%	2.8%	16.6%	18.5%	13.3%	56.3%	19.5%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	723,361	78,592	3,353	45,641	19,026	2,327	19,549	1,041	50,594	6,930	8,695	942	8,504	3,236	971,792
Urban North	78,588	123,073	6,661	5,065	4,701	952	5,098	348	27,907	2,395	3,454	422	3,472	867	263,002
Sunshine Coast University	3,353	6,662	1,383	539	514	186	402	7	1,829	443	551	1	93	338	16,302
Urban South	45,645	5,064	540	43,744	9,552	546	604	71	4,803	480	1,821	299	1,912	500	115,581
Caloundra South PDA	19,024	4,701	515	9,550	93,605	3,411	389	59	7,381	431	4,730	645	3,456	600	148,498
Beerwah East	2,327	952	187	546	3,410	19,348	104	14	4,962	115	1,563	203	1,084	166	34,982
Coastal North	19,544	5,098	403	604	389	104	98,449	954	12,429	12,682	669	206	1,537	553	153,620
Airport	1,040	348	7	71	59	14	953	150	540	313	499	259	1,540	1,950	7,743
Sunshine Coast Balance	50,599	27,903	1,830	4,804	7,379	4,962	12,425	540	308,720	16,344	11,632	1,088	7,808	2,547	458,583
Noosa / Gympie	6,930	2,395	443	479	430	114	12,684	313	16,347	521,907	997	87	2,591	7,911	573,627
Moreton Bay	8,695	3,451	551	1,820	4,731	1,562	670	499	11,633	996	2,017,589	22,982	283,249	16,985	2,375,414
Brisbane CBD	943	422	1	299	645	204	206	259	1,089	86	22,981	372,499	364,015	60,478	824,128
Brisbane	8,500	3,472	93	1,913	3,457	1,082	1,537	1,539	7,809	2,590	283,249	364,011	6,090,393	723,715	7,493,361
SEQ Balance	3,240	867	339	500	600	167	553	1,950	2,547	7,911	16,984	60,479	723,716	11,410,901	12,230,754
Total	971,789	263,001	16,305	115,574	148,498	34,980	153,622	7,744	458,592	573,624	2,375,414	824,125	7,493,371	12,230,747	25,667,387

RTI RELEASE Sunshine Coast Council

Scenario 4P - Project Case Demographics - With Sunshine Coast Light Rail - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	461,699	72,971	3,069	42,072	18,409	2,277	18,998	1,020	48,575	6,806	8,255	102	6,927	1,903	693,083
Urban North	72,958	87,809	4,466	5,003	4,655	943	5,068	355	27,227	2,398	3,436	51	2,920	598	217,888
Sunshine Coast University	3,076	4,460	736	534	521	162	396	7	1,744	393	480	1	70	270	12,849
Urban South	42,052	5,006	532	27,052	8,510	539	585	72	4,776	477	1,790	32	1,516	345	93,283
Caloundra South PDA	18,405	4,654	520	8,510	58,305	3,346	370	59	7,256	429	4,620	68	2,653	396	109,591
Beerwah East	2,277	942	161	539	3,345	9,754	102	14	4,856	115	1,542	17	800	105	24,569
Coastal North	19,006	5,066	392	585	369	102	65,105	833	12,261	12,396	647	23	1,256	370	118,410
Airport	1,020	354	7	73	58	14	832	72	550	327	514	201	1,406	1,313	6,741
Sunshine Coast Balance	48,571	27,210	1,739	4,774	7,252	4,853	12,265	551	232,027	16,203	11,335	84	5,867	1,696	374,426
Noosa / Gympie	6,802	2,398	392	477	430	115	12,400	327	16,214	413,109	978	22	2,413	6,776	462,851
Moreton Bay	8,255	3,434	476	1,789	4,616	1,542	646	514	11,352	977	1,670,214	5,692	256,886	13,899	1,980,293
Brisbane CBD	103	52	1	33	66	17	23	202	89	21	5,916	12,594	120,431	15,201	154,749
Brisbane	6,917	2,909	69	1,511	2,636	802	1,255	1,414	5,888	2,419	257,610	116,883	4,429,087	642,491	5,471,890
SEQ Balance	1,934	605	270	340	392	107	394	1,385	1,732	6,877	13,622	14,686	640,876	10,100,378	10,783,600
Total	693,075	217,869	12,829	93,292	109,566	24,574	118,440	6,825	374,546	462,946	1,980,959	150,454	5,473,106	10,785,741	20,504,222

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.3%	93.8%	86.7%	92.0%	98.1%	98.6%	97.9%	99.2%	96.7%	99.2%	99.4%	22.2%	91.4%	66.8%	71.2%
Urban North	93.8%	71.1%	66.4%	99.0%	98.7%	98.3%	98.9%	99.7%	97.2%	99.7%	99.3%	16.1%	87.2%	71.0%	83.0%
Sunshine Coast University	86.9%	66.3%	53.0%	85.3%	83.0%	78.5%	86.6%	99.9%	90.5%	87.6%	90.0%	70.0%	88.5%	84.3%	76.1%
Urban South	92.0%	99.0%	84.8%	62.1%	89.3%	98.4%	99.2%	99.8%	99.2%	99.8%	99.2%	17.8%	86.4%	74.0%	80.9%
Caloundra South PDA	98.1%	98.7%	82.8%	89.2%	61.8%	97.6%	99.3%	99.7%	98.8%	99.6%	99.2%	17.2%	84.5%	74.1%	73.9%
Beerwah East	98.6%	98.2%	78.0%	98.3%	97.6%	50.3%	99.6%	99.9%	97.0%	99.3%	98.3%	10.3%	76.4%	65.7%	70.2%
Coastal North	97.9%	98.9%	85.7%	99.3%	99.3%	99.5%	65.9%	84.9%	98.0%	97.3%	99.2%	23.1%	91.1%	71.8%	77.1%
Airport	99.1%	99.7%	100.0%	99.7%	99.7%	99.4%	84.8%	46.9%	99.5%	99.7%	99.7%	82.5%	92.7%	68.9%	87.2%
Sunshine Coast Balance	96.7%	97.1%	90.3%	99.2%	98.7%	96.9%	98.0%	99.6%	74.9%	98.9%	97.1%	10.1%	78.0%	68.6%	81.6%
Noosa / Gympie	99.2%	99.7%	87.5%	99.8%	99.5%	99.4%	97.3%	99.7%	98.9%	79.1%	98.3%	30.7%	94.0%	85.7%	80.7%
Moreton Bay	99.4%	99.2%	89.1%	99.2%	99.1%	98.3%	99.2%	99.7%	97.3%	98.2%	82.7%	25.5%	90.7%	81.8%	83.3%
Brisbane CBD	22.6%	16.2%	76.1%	18.3%	16.8%	10.8%	23.4%	83.0%	10.7%	29.7%	26.5%	3.4%	33.0%	25.0%	18.8%
Brisbane	91.2%	86.9%	88.0%	86.3%	83.9%	76.5%	91.1%	93.2%	78.3%	94.2%	91.0%	32.1%	72.7%	88.8%	73.0%
SEQ Balance	67.9%	71.9%	84.3%	72.8%	73.5%	66.9%	76.5%	72.7%	70.2%	87.0%	80.2%	24.2%	88.6%	88.5%	88.2%
Total To Sector	71.2%	83.0%	75.9%	81.0%	73.9%	70.2%	77.1%	88.2%	81.6%	80.7%	83.4%	18.3%	73.1%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	23,825	1,335	400	903	301	32	416	8	627	53	52	356	653	946	29,909
Urban North	1,330	1,563	242	48	61	16	54	1	306	7	26	267	428	245	4,594
Sunshine Coast University	392	244	2	83	104	44	61	0	167	56	53	0	9	50	1,267
Urban South	921	48	85	381	155	8	4	0	38	1	14	148	238	121	2,163
Caloundra South PDA	305	62	105	155	1,123	63	2	0	89	2	38	327	488	138	2,897
Beerwah East	33	17	45	9	65	181	0	0	101	1	26	143	247	55	923
Coastal North	411	57	65	4	3	1	988	6	95	185	5	76	123	145	2,164
Airport	9	1	-	0	0	0	7	0	2	1	2	43	111	592	768
Sunshine Coast Balance	638	324	171	40	93	105	93	1	3,089	171	337	745	1,651	774	8,232
Noosa / Gympie	54	7	56	1	2	1	181	1	162	3,646	17	49	154	682	5,011
Moreton Bay	53	28	58	15	40	26	5	2	318	17	35,375	16,611	24,577	3,085	80,211
Brisbane CBD	354	267	0	146	328	142	76	41	740	49	16,384	9,418	130,389	45,504	203,841
Brisbane	667	438	9	239	505	246	123	104	1,630	148	23,867	134,022	317,849	78,667	558,514
SEQ Balance	914	236	50	127	141	53	121	520	736	578	3,362	46,021	80,237	160,988	294,087
Total	29,906	4,627	1,290	2,153	2,922	919	2,131	686	8,102	4,916	79,557	208,226	557,154	291,992	1,194,580

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	3.3%	1.7%	11.3%	2.0%	1.6%	1.4%	2.1%	0.8%	1.2%	0.8%	0.6%	77.8%	8.6%	33.2%	3.1%
Urban North	1.7%	1.3%	3.6%	0.9%	1.3%	1.7%	1.0%	0.3%	1.1%	0.3%	0.7%	83.9%	12.8%	29.0%	1.7%
Sunshine Coast University	11.1%	3.6%	0.2%	13.3%	16.6%	21.4%	13.4%	0.1%	8.7%	12.4%	10.0%	30.0%	11.5%	15.7%	7.5%
Urban South	2.0%	0.9%	13.6%	0.9%	1.6%	1.5%	0.8%	0.2%	0.8%	0.2%	0.8%	82.2%	13.6%	26.0%	1.9%
Caloundra South PDA	1.6%	1.3%	16.7%	1.6%	1.2%	1.8%	0.7%	0.3%	1.2%	0.4%	0.8%	82.8%	15.5%	25.9%	2.0%
Beerwah East	1.4%	1.8%	21.9%	1.7%	1.9%	0.9%	0.4%	0.1%	2.0%	0.7%	1.7%	89.7%	23.6%	34.3%	2.6%
Coastal North	2.1%	1.1%	14.2%	0.7%	0.7%	0.5%	1.0%	0.7%	0.8%	1.4%	0.8%	76.9%	8.9%	28.2%	1.4%
Airport	0.9%	0.3%	-	0.3%	0.3%	0.6%	0.7%	0.1%	0.3%	0.3%	0.3%	17.5%	7.3%	31.1%	9.9%
Sunshine Coast Balance	1.3%	1.2%	8.9%	0.8%	1.3%	2.1%	0.7%	0.3%	1.0%	1.0%	2.9%	89.9%	22.0%	31.3%	1.8%
Noosa / Gympie	0.8%	0.3%	12.5%	0.2%	0.5%	0.6%	1.4%	0.3%	1.0%	0.7%	1.7%	69.3%	6.0%	8.6%	0.9%
Moreton Bay	0.6%	0.8%	10.9%	0.8%	0.9%	1.7%	0.8%	0.3%	2.7%	1.8%	1.8%	74.5%	8.7%	18.2%	3.4%
Brisbane CBD	77.4%	83.8%	23.9%	81.7%	83.2%	89.2%	76.6%	17.0%	89.3%	70.3%	73.5%	2.5%	35.8%	75.0%	24.8%
Brisbane	8.8%	13.1%	12.0%	13.7%	16.1%	23.5%	8.9%	6.8%	21.7%	5.8%	8.4%	36.8%	5.2%	10.9%	7.5%
SEQ Balance	32.1%	28.1%	15.7%	27.2%	26.5%	33.1%	23.5%	27.3%	29.8%	7.3%	19.8%	75.8%	11.1%	1.4%	2.4%
Total To Sector	3.1%	1.8%	7.6%	1.9%	2.0%	2.6%	1.4%	8.9%	1.8%	0.9%	3.3%	25.3%	7.4%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	243,427	3,493	71	2,746	54	0	2	0	1,021	-	-	-	-	-	250,814
Urban North	3,506	34,127	2,023	5	1	0	0	0	485	-	-	-	-	-	40,146
Sunshine Coast University	73	2,027	649	9	3	0	0	-	17	-	-	-	-	-	2,778
Urban South	2,748	5	9	16,161	869	0	-	-	0	-	-	-	-	-	19,793
Caloundra South PDA	54	1	3	871	34,894	18	-	-	2	-	-	-	-	-	35,843
Beerwah East	0	0	0	0	18	9,460	-	-	49	-	-	-	-	-	9,528
Coastal North	2	0	0	-	-	-	32,639	142	155	165	-	-	-	-	33,103
Airport	0	0	-	-	-	-	142	82	1	0	-	-	-	-	225
Sunshine Coast Balance	1,017	484	17	0	2	50	154	1	74,517	14	0	-	-	0	76,257
Noosa / Gympie	-	-	-	-	-	-	165	-	14	105,307	-	-	-	447	105,933
Moreton Bay	-	-	-	-	-	-	-	-	0	-	314,005	3	1,770	0	315,779
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,526	113,688	0	464,218
Brisbane	-	-	-	-	-	-	-	-	-	-	1,758	113,601	1,343,703	2,258	1,461,320
SEQ Balance	-	-	-	-	-	-	-	-	0	451	-	0	2,298	1,150,098	1,152,848
Total	250,827	40,137	2,773	19,793	35,840	9,528	33,103	225	76,261	105,937	315,767	464,131	1,461,459	1,152,804	3,968,584

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.4%	4.5%	2.0%	6.0%	0.3%	0.0%	0.0%	0.0%	2.0%	-	-	-	-	-	25.8%
Urban North	4.5%	27.6%	30.1%	0.1%	0.0%	0.0%	0.0%	0.0%	1.7%	-	-	-	-	-	15.3%
Sunshine Coast University	2.1%	30.1%	46.8%	1.4%	0.5%	0.1%	0.0%	-	0.9%	-	-	-	-	-	16.4%
Urban South	6.0%	0.1%	1.5%	37.1%	9.1%	0.1%	-	-	0.0%	-	-	-	-	-	17.2%
Caloundra South PDA	0.3%	0.0%	0.5%	9.1%	37.0%	0.5%	-	-	0.0%	-	-	-	-	-	24.2%
Beerwah East	0.0%	0.0%	0.1%	0.0%	0.5%	48.8%	-	-	1.0%	-	-	-	-	-	27.2%
Coastal North	0.0%	0.0%	0.0%	-	-	-	33.1%	14.5%	1.2%	1.3%	-	-	-	-	21.5%
Airport	0.0%	0.0%	-	-	-	-	14.5%	53.0%	0.2%	0.0%	-	-	-	-	2.9%
Sunshine Coast Balance	2.0%	1.7%	0.9%	0.0%	0.0%	1.0%	1.2%	0.2%	24.1%	0.1%	0.0%	-	-	0.0%	16.6%
Noosa / Gympie	-	-	-	-	-	-	1.3%	-	0.1%	20.2%	-	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.5%	0.0%	0.6%	0.0%	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.4%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	-	0.0%	0.3%	10.1%	9.4%
Total To Sector	25.8%	15.3%	16.4%	17.2%	24.2%	27.2%	21.5%	2.9%	16.6%	18.5%	13.3%	56.4%	19.5%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	728,951	77,799	3,541	45,721	18,765	2,309	19,415	1,029	50,222	6,859	8,307	458	7,681	2,850	973,806
Urban North	77,794	123,499	6,730	5,056	4,717	959	5,122	356	28,018	2,405	3,461	319	3,349	842	262,628
Sunshine Coast University	3,542	6,731	1,387	626	628	207	457	7	1,928	448	533	1	79	320	16,894
Urban South	45,720	5,058	626	43,595	9,535	548	590	73	4,814	478	1,804	179	1,753	466	115,239
Caloundra South PDA	18,764	4,717	628	9,536	94,322	3,427	373	59	7,348	431	4,658	395	3,141	534	148,331
Beerwah East	2,310	959	207	548	3,428	19,394	103	14	5,006	115	1,568	160	1,047	160	35,020
Coastal North	19,418	5,123	457	589	371	103	98,732	981	12,511	12,746	652	99	1,379	515	153,676
Airport	1,029	355	7	73	58	14	981	154	552	328	516	243	1,517	1,905	7,734
Sunshine Coast Balance	50,226	28,018	1,927	4,814	7,347	5,007	12,512	553	309,633	16,388	11,672	829	7,518	2,471	458,915
Noosa / Gympie	6,856	2,405	448	478	432	116	12,746	328	16,390	522,062	995	71	2,566	7,905	573,795
Moreton Bay	8,309	3,462	534	1,804	4,656	1,568	652	516	11,671	994	2,019,595	22,306	283,233	16,984	2,376,283
Brisbane CBD	457	319	1	179	394	160	99	243	829	70	22,304	372,539	364,507	60,704	822,807
Brisbane	7,584	3,347	79	1,751	3,141	1,048	1,378	1,517	7,518	2,567	283,235	364,505	6,090,639	723,416	7,491,724
SEQ Balance	2,849	841	320	468	534	161	515	1,905	2,469	7,907	16,984	60,708	723,411	11,411,464	12,230,535
Total	973,809	262,633	16,892	115,238	148,329	35,021	153,673	7,735	458,909	573,799	2,376,283	822,810	7,491,719	12,230,536	25,667,386

RTI RELEASE Sunshine Coast Council

Scenario 5P - Project Case Demographics - With Light Rail and CAMCOS - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	460,465	72,926	2,917	41,958	18,493	2,285	19,132	1,012	48,651	6,811	8,154	38	5,925	1,273	690,039
Urban North	72,919	87,583	4,461	5,022	4,639	929	5,025	348	27,162	2,398	3,424	39	2,877	519	217,346
Sunshine Coast University	2,922	4,460	737	452	481	130	356	7	1,715	388	492	1	70	268	12,479
Urban South	41,951	5,022	447	26,957	8,580	552	596	69	4,813	475	1,771	13	1,293	220	92,759
Caloundra South PDA	18,482	4,636	480	8,576	57,892	3,383	373	56	7,278	429	4,604	32	2,414	316	108,949
Beerwah East	2,282	930	130	551	3,383	9,596	102	13	4,835	113	1,525	7	674	84	24,227
Coastal North	19,117	5,022	353	596	374	102	64,866	814	12,188	12,358	646	11	1,162	262	117,871
Airport	1,013	348	7	69	56	13	813	70	540	320	478	58	844	724	5,355
Sunshine Coast Balance	48,633	27,147	1,710	4,808	7,273	4,833	12,192	541	231,444	16,196	11,260	79	5,822	1,692	373,630
Noosa / Gympie	6,810	2,396	387	474	430	112	12,357	320	16,206	413,063	980	20	2,412	6,774	462,741
Moreton Bay	8,156	3,419	487	1,767	4,600	1,527	645	478	11,271	976	1,670,053	5,782	257,410	14,080	1,980,650
Brisbane CBD	38	37	1	13	31	7	11	59	82	20	5,992	12,594	120,400	15,230	154,515
Brisbane	5,948	2,852	71	1,294	2,401	681	1,159	878	5,838	2,416	258,132	116,931	4,429,342	643,805	5,471,748
SEQ Balance	1,345	527	269	226	321	88	280	813	1,734	6,875	13,801	14,693	642,072	10,099,996	10,783,039
Total	690,079	217,306	12,455	92,762	108,954	24,240	117,908	5,480	373,757	462,838	1,981,311	150,297	5,472,718	10,785,241	20,495,346

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.3%	93.7%	87.9%	91.3%	96.7%	93.4%	97.0%	96.4%	96.3%	98.9%	95.1%	6.1%	74.3%	41.8%	70.8%
Urban North	93.7%	71.1%	66.5%	98.1%	98.4%	97.7%	98.9%	98.7%	97.2%	99.7%	98.9%	12.0%	85.5%	61.3%	82.9%
Sunshine Coast University	88.0%	66.5%	53.2%	85.7%	84.8%	82.2%	87.1%	99.4%	90.7%	87.6%	86.8%	68.7%	84.7%	82.0%	76.1%
Urban South	91.3%	98.2%	84.7%	62.2%	88.5%	94.3%	95.9%	94.5%	97.9%	99.4%	96.0%	5.5%	69.9%	44.4%	80.2%
Caloundra South PDA	96.6%	98.4%	84.6%	88.5%	62.0%	96.3%	96.8%	93.8%	97.9%	99.0%	97.2%	7.0%	74.3%	56.3%	73.4%
Beerwah East	93.3%	97.7%	82.0%	94.1%	96.3%	50.6%	95.9%	88.5%	96.3%	98.8%	94.9%	3.6%	61.2%	48.2%	69.3%
Coastal North	96.9%	98.8%	86.3%	95.8%	96.7%	95.9%	65.9%	84.2%	98.0%	97.3%	97.2%	9.5%	81.8%	49.8%	76.8%
Airport	96.4%	98.6%	99.6%	94.5%	94.5%	88.5%	84.2%	46.8%	98.7%	99.6%	94.0%	23.4%	55.6%	37.5%	69.1%
Sunshine Coast Balance	96.2%	97.1%	90.4%	97.8%	97.9%	96.3%	98.0%	98.7%	74.9%	98.9%	96.8%	9.4%	77.6%	68.5%	81.5%
Noosa / Gympie	98.9%	99.7%	87.4%	99.3%	99.1%	98.7%	97.3%	99.6%	98.9%	79.1%	98.2%	28.5%	93.9%	85.7%	80.7%
Moreton Bay	95.1%	98.8%	86.0%	95.8%	97.1%	95.0%	97.1%	93.9%	96.9%	98.1%	82.7%	25.9%	90.9%	83.0%	83.4%
Brisbane CBD	6.1%	11.3%	65.1%	5.5%	6.8%	3.7%	9.4%	24.0%	9.7%	27.9%	26.9%	3.4%	33.0%	25.1%	18.8%
Brisbane	74.6%	84.8%	84.9%	69.9%	73.9%	61.8%	81.6%	57.8%	77.9%	94.0%	91.2%	32.1%	72.7%	89.0%	73.0%
SEQ Balance	44.1%	62.2%	82.3%	45.7%	57.2%	50.6%	53.3%	42.1%	70.2%	87.0%	81.4%	24.2%	88.7%	88.5%	88.2%
Total To Sector	70.8%	82.9%	76.0%	80.2%	73.4%	69.3%	76.8%	70.7%	81.5%	80.7%	83.4%	18.3%	73.0%	88.2%	79.8%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	24,418	1,422	334	1,305	580	162	588	38	874	74	421	584	2,045	1,773	34,616
Urban North	1,412	1,540	239	90	75	21	55	4	303	7	39	288	490	328	4,893
Sunshine Coast University	329	241	2	69	84	28	53	0	160	55	75	0	13	59	1,168
Urban South	1,309	90	74	526	251	33	26	4	104	3	75	220	556	275	3,545
Caloundra South PDA	588	76	85	255	1,095	113	12	4	155	4	133	425	837	245	4,028
Beerwah East	164	22	28	34	113	170	4	2	136	1	81	191	427	90	1,465
Coastal North	601	59	56	26	13	4	975	13	97	179	18	107	258	264	2,671
Airport	37	5	0	4	3	2	14	0	6	1	31	189	675	1,206	2,174
Sunshine Coast Balance	896	318	165	109	158	138	93	6	3,051	171	373	761	1,676	776	8,692
Noosa / Gympie	77	8	56	3	4	1	176	1	162	3,639	18	50	158	683	5,036
Moreton Bay	422	43	79	78	136	80	19	31	361	19	34,996	16,524	24,003	2,881	79,670
Brisbane CBD	585	291	0	219	427	191	109	188	756	51	16,313	9,415	130,364	45,365	204,273
Brisbane	2,020	513	13	556	850	421	261	641	1,660	154	23,286	133,931	317,701	77,531	559,537
SEQ Balance	1,701	321	58	269	240	86	245	1,118	736	581	3,160	45,900	79,222	160,511	294,146
Total	34,559	4,948	1,189	3,544	4,029	1,451	2,630	2,050	8,561	4,939	79,018	208,586	558,424	291,986	1,205,914

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	3.4%	1.8%	10.1%	2.8%	3.0%	6.6%	3.0%	3.6%	1.7%	1.1%	4.9%	93.9%	25.7%	58.2%	3.6%
Urban North	1.8%	1.3%	3.6%	1.8%	1.6%	2.3%	1.1%	1.3%	1.1%	0.3%	1.1%	88.0%	14.5%	38.7%	1.9%
Sunshine Coast University	9.9%	3.6%	0.2%	13.1%	14.8%	17.7%	12.9%	0.6%	8.5%	12.4%	13.2%	31.3%	15.3%	18.0%	7.1%
Urban South	2.8%	1.8%	14.1%	1.2%	2.6%	5.7%	4.1%	5.5%	2.1%	0.6%	4.0%	94.5%	30.1%	55.6%	3.1%
Caloundra South PDA	3.1%	1.6%	15.0%	2.6%	1.2%	3.2%	3.2%	6.2%	2.1%	1.0%	2.8%	93.0%	25.7%	43.7%	2.7%
Beerwah East	6.7%	2.3%	17.9%	5.9%	3.2%	0.9%	4.1%	11.5%	2.7%	1.2%	5.1%	96.4%	38.8%	51.8%	4.2%
Coastal North	3.0%	1.2%	13.7%	4.2%	3.3%	4.1%	1.0%	1.4%	0.8%	1.4%	2.8%	90.5%	18.2%	50.2%	1.7%
Airport	3.6%	1.4%	0.4%	5.5%	5.5%	11.5%	1.4%	0.3%	1.2%	0.4%	6.0%	76.6%	44.4%	62.5%	28.1%
Sunshine Coast Balance	1.8%	1.1%	8.7%	2.2%	2.1%	2.8%	0.8%	1.1%	1.0%	1.0%	3.2%	90.6%	22.4%	31.4%	1.9%
Noosa / Gympie	1.1%	0.3%	12.6%	0.7%	0.9%	1.3%	1.4%	0.4%	1.0%	0.7%	1.8%	71.5%	6.1%	8.6%	0.9%
Moreton Bay	4.9%	1.2%	14.0%	4.2%	2.9%	5.0%	2.9%	6.1%	3.1%	1.9%	1.7%	74.1%	8.5%	17.0%	3.4%
Brisbane CBD	93.9%	88.7%	34.9%	94.5%	93.2%	96.3%	90.6%	76.0%	90.3%	72.1%	73.1%	2.5%	35.8%	74.9%	24.8%
Brisbane	25.4%	15.2%	15.1%	30.1%	26.1%	38.2%	18.4%	42.2%	22.1%	6.0%	8.2%	36.7%	5.2%	10.7%	7.5%
SEQ Balance	55.9%	37.8%	17.7%	54.3%	42.8%	49.4%	46.7%	57.9%	29.8%	7.3%	18.6%	75.8%	10.9%	1.4%	2.4%
Total To Sector	3.5%	1.9%	7.3%	3.1%	2.7%	4.2%	1.7%	26.5%	1.9%	0.9%	3.3%	25.3%	7.5%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	242,604	3,499	67	2,711	53	0	2	0	1,005	-	-	-	-	-	249,941
Urban North	3,513	34,019	2,008	5	1	0	0	0	483	-	-	-	-	-	40,029
Sunshine Coast University	68	2,006	647	6	2	0	0	-	16	-	-	-	-	-	2,745
Urban South	2,712	5	7	15,836	859	0	-	-	0	-	-	-	-	-	19,420
Caloundra South PDA	53	1	3	862	34,438	17	-	-	2	-	-	-	-	-	35,376
Beerwah East	0	0	0	0	17	9,207	-	-	48	-	-	-	-	-	9,273
Coastal North	2	0	0	-	-	-	32,536	139	154	164	-	-	-	-	32,996
Airport	0	0	-	-	-	-	139	80	1	0	-	-	-	-	220
Sunshine Coast Balance	1,003	483	16	0	2	48	154	1	74,346	14	0	-	-	0	76,067
Noosa / Gympie	-	-	-	-	-	-	165	-	14	105,291	-	-	-	448	105,918
Moreton Bay	-	-	-	-	-	-	-	-	0	-	313,967	4	1,769	-	315,740
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,502	113,704	0	464,210
Brisbane	-	-	-	-	-	-	-	-	-	-	1,758	113,605	1,343,464	2,254	1,461,081
SEQ Balance	-	-	-	-	-	-	-	-	1	451	-	0	2,297	1,150,359	1,153,107
Total	249,956	40,013	2,747	19,420	35,373	9,273	32,996	220	76,071	105,921	315,730	464,111	1,461,235	1,153,061	3,966,125

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.3%	4.5%	2.0%	5.9%	0.3%	0.0%	0.0%	0.0%	2.0%	-	-	-	-	-	25.6%
Urban North	4.5%	27.6%	29.9%	0.1%	0.0%	0.0%	0.0%	0.0%	1.7%	-	-	-	-	-	15.3%
Sunshine Coast University	2.0%	29.9%	46.7%	1.2%	0.4%	0.1%	0.0%	-	0.8%	-	-	-	-	-	16.7%
Urban South	5.9%	0.1%	1.3%	36.6%	8.9%	0.0%	-	-	0.0%	-	-	-	-	-	16.8%
Caloundra South PDA	0.3%	0.0%	0.5%	8.9%	36.9%	0.5%	-	-	0.0%	-	-	-	-	-	23.8%
Beerwah East	0.0%	0.0%	0.1%	0.0%	0.5%	48.5%	-	-	1.0%	-	-	-	-	-	26.5%
Coastal North	0.0%	0.0%	0.0%	-	-	-	33.1%	14.4%	1.2%	1.3%	-	-	-	-	21.5%
Airport	0.0%	0.0%	-	-	-	-	14.4%	53.0%	0.2%	0.0%	-	-	-	-	2.8%
Sunshine Coast Balance	2.0%	1.7%	0.9%	0.0%	0.0%	1.0%	1.2%	0.1%	24.1%	0.1%	0.0%	-	-	0.0%	16.6%
Noosa / Gympie	-	-	-	-	-	-	1.3%	-	0.1%	20.2%	-	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.6%	0.0%	0.6%	-	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.4%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	-	0.0%	0.3%	10.1%	9.4%
Total To Sector	25.6%	15.3%	16.8%	16.8%	23.8%	26.5%	21.5%	2.8%	16.6%	18.5%	13.3%	56.4%	19.5%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	727,487	77,846	3,318	45,973	19,126	2,447	19,721	1,050	50,530	6,885	8,574	622	7,970	3,046	974,596
Urban North	77,845	123,143	6,708	5,117	4,715	951	5,080	353	27,949	2,405	3,463	328	3,367	847	262,268
Sunshine Coast University	3,319	6,706	1,386	528	568	158	409	7	1,891	443	567	1	83	327	16,392
Urban South	45,971	5,117	528	43,320	9,691	586	622	73	4,917	478	1,845	233	1,849	494	115,723
Caloundra South PDA	19,124	4,713	567	9,692	93,425	3,513	386	60	7,435	433	4,737	457	3,251	561	148,354
Beerwah East	2,446	952	158	586	3,514	18,974	107	15	5,019	114	1,607	198	1,102	174	34,965
Coastal North	19,719	5,081	409	622	387	107	98,377	967	12,440	12,701	664	119	1,420	526	153,537
Airport	1,051	353	7	73	59	15	966	151	548	321	509	247	1,519	1,931	7,749
Sunshine Coast Balance	50,532	27,948	1,892	4,917	7,433	5,019	12,439	548	308,841	16,380	11,633	840	7,498	2,468	458,389
Noosa / Gympie	6,886	2,404	443	477	434	114	12,698	321	16,381	521,994	998	70	2,570	7,905	573,695
Moreton Bay	8,577	3,462	566	1,845	4,737	1,607	664	509	11,632	995	2,019,016	22,309	283,182	16,961	2,376,060
Brisbane CBD	623	328	1	232	458	198	120	247	838	71	22,309	372,511	364,468	60,594	822,998
Brisbane	7,968	3,365	83	1,850	3,250	1,102	1,420	1,519	7,498	2,570	283,176	364,467	6,090,508	723,590	7,492,366
SEQ Balance	3,045	848	326	495	561	174	525	1,931	2,471	7,906	16,961	60,593	723,591	11,410,866	12,230,293
Total	974,594	262,268	16,392	115,725	148,356	34,964	153,534	7,749	458,388	573,698	2,376,059	822,993	7,492,377	12,230,289	25,667,386

RTI RELEASE Sunshine Coast Council

Scenario 6P - Project Case Demographics - With Light Rail and North Coast Connect - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	459,973	72,809	2,884	41,895	18,393	2,258	18,943	997	48,453	6,790	8,106	26	5,365	1,078	687,971
Urban North	72,805	87,714	4,454	4,982	4,629	938	5,044	344	27,148	2,394	3,423	22	2,737	467	217,101
Sunshine Coast University	2,887	4,455	738	467	445	149	351	7	1,670	388	478	1	72	267	12,374
Urban South	41,886	4,980	465	26,901	8,471	536	582	68	4,741	474	1,772	11	1,285	215	92,386
Caloundra South PDA	18,384	4,627	443	8,467	57,875	3,332	370	54	7,234	425	4,583	19	2,184	273	108,271
Beerwah East	2,259	937	149	536	3,330	9,737	102	14	4,816	114	1,531	8	740	93	24,364
Coastal North	18,940	5,041	348	582	371	102	64,951	811	12,190	12,351	633	7	1,043	215	117,583
Airport	998	344	7	68	54	14	810	71	534	312	435	13	468	514	4,643
Sunshine Coast Balance	48,436	27,128	1,666	4,741	7,233	4,813	12,192	534	231,406	16,172	11,287	57	5,598	1,609	372,872
Noosa / Gympie	6,788	2,394	387	473	425	113	12,353	313	16,178	413,008	974	17	2,366	6,712	462,502
Moreton Bay	8,103	3,416	474	1,769	4,580	1,531	632	435	11,307	973	1,669,256	5,612	256,975	13,934	1,978,997
Brisbane CBD	26	21	1	11	19	9	7	14	59	16	5,812	12,598	120,391	15,236	154,219
Brisbane	5,454	2,707	73	1,287	2,194	754	1,049	500	5,664	2,370	257,778	116,884	4,429,790	642,918	5,469,423
SEQ Balance	1,159	475	268	221	284	99	232	601	1,669	6,802	13,678	14,687	640,895	10,100,754	10,781,826
Total	688,099	217,049	12,356	92,400	108,303	24,384	117,618	4,761	373,069	462,589	1,979,748	149,962	5,469,907	10,784,288	20,484,532

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.3%	93.8%	88.4%	91.7%	96.7%	97.9%	97.5%	96.2%	96.4%	99.0%	93.2%	2.4%	62.2%	32.3%	70.7%
Urban North	93.8%	71.1%	66.7%	98.9%	98.5%	98.2%	98.9%	99.0%	97.2%	99.7%	98.6%	5.4%	79.0%	53.7%	82.7%
Sunshine Coast University	88.5%	66.7%	53.2%	86.8%	86.3%	80.0%	87.4%	99.6%	91.2%	87.6%	86.2%	42.0%	77.4%	78.3%	76.2%
Urban South	91.7%	98.9%	86.3%	62.1%	89.1%	98.3%	98.3%	96.0%	98.9%	99.6%	97.0%	3.7%	67.2%	42.8%	80.3%
Caloundra South PDA	96.6%	98.4%	86.1%	89.1%	61.9%	97.7%	96.0%	91.1%	98.0%	98.9%	96.5%	3.0%	63.4%	45.4%	73.0%
Beerwah East	98.0%	98.2%	79.6%	98.2%	97.6%	50.3%	98.6%	96.8%	97.0%	99.3%	97.9%	4.0%	68.4%	56.3%	69.7%
Coastal North	97.5%	98.9%	86.6%	98.3%	96.1%	98.7%	65.9%	84.8%	98.0%	97.3%	95.0%	3.2%	68.2%	38.8%	76.6%
Airport	96.3%	99.1%	99.7%	96.3%	91.4%	95.6%	84.8%	46.9%	98.8%	99.6%	87.1%	5.2%	30.4%	26.4%	60.0%
Sunshine Coast Balance	96.4%	97.1%	91.0%	98.9%	98.0%	97.0%	98.0%	98.8%	74.9%	98.9%	96.6%	5.3%	71.7%	63.1%	81.3%
Noosa / Gympie	99.0%	99.7%	87.4%	99.6%	98.9%	99.3%	97.3%	99.7%	98.9%	79.1%	97.7%	20.1%	91.4%	84.9%	80.6%
Moreton Bay	93.2%	98.4%	85.5%	96.8%	96.4%	97.9%	94.8%	87.0%	96.8%	97.6%	82.7%	24.7%	90.8%	82.0%	83.3%
Brisbane CBD	2.5%	5.0%	41.1%	3.6%	3.0%	4.3%	3.2%	5.2%	5.5%	19.2%	25.5%	3.4%	33.1%	25.2%	18.7%
Brisbane	63.3%	78.1%	77.5%	67.4%	63.7%	69.7%	68.6%	32.5%	72.6%	91.5%	91.0%	32.1%	72.7%	88.9%	73.0%
SEQ Balance	34.7%	54.7%	78.6%	43.9%	47.1%	60.0%	41.9%	30.8%	65.4%	86.0%	80.5%	24.3%	88.6%	88.5%	88.2%
Total To Sector	70.7%	82.7%	76.1%	80.3%	73.0%	69.7%	76.6%	61.5%	81.4%	80.6%	83.3%	18.2%	73.0%	88.2%	79.8%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	23,909	1,349	318	1,067	578	48	486	40	791	70	590	1,018	3,259	2,263	35,785
Urban North	1,341	1,559	234	51	69	17	54	3	304	8	48	394	728	402	5,212
Sunshine Coast University	314	237	2	64	69	37	50	0	146	55	76	1	21	74	1,147
Urban South	1,071	51	66	381	173	9	10	3	51	2	55	287	626	287	3,073
Caloundra South PDA	585	72	69	174	1,092	63	15	5	144	5	165	617	1,263	329	4,599
Beerwah East	47	17	38	10	64	180	1	0	98	1	33	192	341	73	1,096
Coastal North	490	58	54	10	15	1	981	7	95	180	33	198	487	339	2,949
Airport	38	3	0	3	5	1	7	0	5	1	64	246	1,072	1,436	2,882
Sunshine Coast Balance	811	319	149	53	147	101	94	5	3,048	171	393	1,019	2,207	942	9,458
Noosa / Gympie	72	7	56	2	5	1	178	1	161	3,641	23	69	223	749	5,187
Moreton Bay	596	55	81	58	171	32	35	65	373	24	35,007	17,146	24,424	3,065	81,131
Brisbane CBD	1,018	395	1	288	618	192	198	245	1,015	69	16,946	9,433	130,028	45,219	205,665
Brisbane	3,169	758	21	623	1,250	328	481	1,039	2,140	219	23,628	133,627	317,442	78,068	562,791
SEQ Balance	2,180	393	73	281	319	66	321	1,349	882	655	3,320	45,768	80,049	160,492	296,148
Total	35,640	5,273	1,162	3,065	4,574	1,075	2,913	2,764	9,254	5,100	80,383	210,014	562,168	293,737	1,217,122

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	3.3%	1.7%	9.7%	2.3%	3.0%	2.1%	2.5%	3.8%	1.6%	1.0%	6.8%	97.6%	37.8%	67.7%	3.7%
Urban North	1.7%	1.3%	3.5%	1.0%	1.5%	1.8%	1.1%	1.0%	1.1%	0.3%	1.4%	94.6%	21.0%	46.3%	2.0%
Sunshine Coast University	9.6%	3.5%	0.2%	11.9%	13.3%	19.9%	12.5%	0.4%	8.0%	12.4%	13.8%	58.0%	22.6%	21.7%	7.1%
Urban South	2.3%	1.0%	12.3%	0.9%	1.8%	1.6%	1.7%	4.0%	1.1%	0.4%	3.0%	96.3%	32.8%	57.2%	2.7%
Caloundra South PDA	3.1%	1.5%	13.5%	1.8%	1.2%	1.8%	4.0%	8.9%	2.0%	1.1%	3.5%	97.0%	36.6%	54.6%	3.1%
Beerwah East	2.0%	1.8%	20.4%	1.8%	1.9%	0.9%	1.4%	3.2%	2.0%	0.7%	2.1%	96.0%	31.6%	43.7%	3.1%
Coastal North	2.5%	1.1%	13.3%	1.7%	3.9%	1.3%	1.0%	0.8%	0.8%	1.4%	5.0%	96.8%	31.8%	61.2%	1.9%
Airport	3.7%	0.9%	0.3%	3.7%	8.6%	4.4%	0.8%	0.2%	1.0%	0.4%	12.9%	94.8%	69.6%	73.6%	37.2%
Sunshine Coast Balance	1.6%	1.1%	8.1%	1.1%	2.0%	2.0%	0.8%	1.0%	1.0%	1.0%	3.4%	94.7%	28.3%	36.9%	2.1%
Noosa / Gympie	1.0%	0.3%	12.6%	0.4%	1.1%	0.7%	1.4%	0.3%	1.0%	0.7%	2.3%	79.9%	8.6%	9.5%	0.9%
Moreton Bay	6.8%	1.6%	14.5%	3.2%	3.6%	2.1%	5.2%	13.0%	3.2%	2.4%	1.7%	75.3%	8.6%	18.0%	3.4%
Brisbane CBD	97.5%	95.0%	58.9%	96.4%	97.0%	95.7%	96.8%	94.8%	94.5%	80.8%	74.4%	2.5%	35.7%	74.8%	25.0%
Brisbane	36.7%	21.9%	22.5%	32.6%	36.3%	30.3%	31.4%	67.5%	27.4%	8.5%	8.3%	36.7%	5.2%	10.8%	7.5%
SEQ Balance	65.3%	45.3%	21.4%	56.1%	52.9%	40.0%	58.1%	69.2%	34.6%	8.3%	19.5%	75.7%	11.1%	1.4%	2.4%
Total To Sector	3.7%	2.0%	7.2%	2.7%	3.1%	3.1%	1.9%	35.7%	2.0%	0.9%	3.4%	25.5%	7.5%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	242,549	3,478	61	2,721	53	0	2	0	1,016	-	-	-	-	-	249,880
Urban North	3,489	34,080	1,993	5	1	0	0	0	484	-	-	-	-	-	40,051
Sunshine Coast University	63	1,990	647	7	2	0	0	-	16	-	-	-	-	-	2,724
Urban South	2,721	5	8	16,040	861	0	-	-	0	-	-	-	-	-	19,635
Caloundra South PDA	53	1	2	863	34,465	17	-	-	2	-	-	-	-	-	35,402
Beerwah East	0	0	0	0	17	9,437	-	-	49	-	-	-	-	-	9,503
Coastal North	2	0	0	-	-	-	32,569	138	154	164	-	-	-	-	33,027
Airport	0	-	-	-	-	-	138	80	1	-	-	-	-	-	219
Sunshine Coast Balance	1,013	483	16	0	2	49	154	1	74,324	14	0	-	-	0	76,056
Noosa / Gympie	-	-	-	-	-	-	165	0	14	105,284	-	-	-	447	105,910
Moreton Bay	-	-	-	-	-	-	-	-	0	-	313,667	4	1,765	-	315,436
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,489	113,591	0	464,084
Brisbane	-	-	-	-	-	-	-	-	-	-	1,753	113,504	1,343,488	2,257	1,461,003
SEQ Balance	-	-	-	-	-	-	-	-	1	451	-	0	2,298	1,150,054	1,152,804
Total	249,889	40,037	2,727	19,636	35,401	9,503	33,028	219	76,059	105,913	315,424	463,997	1,461,142	1,152,759	3,965,733

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.4%	4.5%	1.9%	6.0%	0.3%	0.0%	0.0%	0.0%	2.0%	-	-	-	-	-	25.7%
Urban North	4.5%	27.6%	29.8%	0.1%	0.0%	0.0%	0.0%	0.0%	1.7%	-	-	-	-	-	15.3%
Sunshine Coast University	1.9%	29.8%	46.6%	1.3%	0.4%	0.1%	0.0%	-	0.9%	-	-	-	-	-	16.8%
Urban South	6.0%	0.1%	1.4%	37.0%	9.1%	0.0%	-	-	0.0%	-	-	-	-	-	17.1%
Caloundra South PDA	0.3%	0.0%	0.4%	9.1%	36.9%	0.5%	-	-	0.0%	-	-	-	-	-	23.9%
Beerwah East	0.0%	0.0%	0.0%	0.0%	0.5%	48.8%	-	-	1.0%	-	-	-	-	-	27.2%
Coastal North	0.0%	0.0%	0.0%	-	-	-	33.1%	14.4%	1.2%	1.3%	-	-	-	-	21.5%
Airport	0.0%	-	-	-	-	-	14.4%	53.0%	0.2%	-	-	-	-	-	2.8%
Sunshine Coast Balance	2.0%	1.7%	0.9%	0.0%	0.0%	1.0%	1.2%	0.2%	24.1%	0.1%	0.0%	-	-	0.0%	16.6%
Noosa / Gympie	-	-	-	-	-	-	1.3%	0.0%	0.1%	20.2%	-	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.5%	0.0%	0.6%	-	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.3%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	-	0.0%	0.3%	10.1%	9.4%
Total To Sector	25.7%	15.3%	16.8%	17.1%	23.9%	27.2%	21.5%	2.8%	16.6%	18.5%	13.3%	56.3%	19.5%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	726,430	77,637	3,263	45,683	19,024	2,306	19,431	1,037	50,260	6,860	8,697	1,043	8,624	3,341	973,636
Urban North	77,635	123,352	6,682	5,038	4,700	955	5,098	348	27,935	2,401	3,472	416	3,464	868	262,363
Sunshine Coast University	3,263	6,682	1,387	538	516	187	401	7	1,831	443	555	1	93	341	16,245
Urban South	45,679	5,036	538	43,322	9,505	545	592	71	4,793	476	1,827	298	1,911	503	115,094
Caloundra South PDA	19,021	4,701	515	9,504	93,432	3,411	385	59	7,380	430	4,749	636	3,447	603	148,273
Beerwah East	2,306	954	187	546	3,411	19,353	103	14	4,963	115	1,564	200	1,081	166	34,963
Coastal North	19,432	5,099	402	592	386	103	98,501	956	12,439	12,695	666	205	1,530	554	153,559
Airport	1,037	348	7	71	59	14	956	150	540	314	499	259	1,539	1,950	7,743
Sunshine Coast Balance	50,261	27,930	1,831	4,794	7,381	4,963	12,441	541	308,778	16,357	11,680	1,076	7,804	2,551	458,387
Noosa / Gympie	6,860	2,401	443	475	430	114	12,695	314	16,352	521,933	997	86	2,588	7,909	573,599
Moreton Bay	8,699	3,472	555	1,827	4,751	1,563	667	500	11,680	997	2,017,931	22,761	283,163	16,999	2,375,564
Brisbane CBD	1,044	416	1	298	637	200	205	259	1,074	86	22,761	372,521	364,010	60,455	823,968
Brisbane	8,623	3,464	94	1,911	3,444	1,082	1,530	1,539	7,804	2,589	283,159	364,015	6,090,720	723,243	7,493,217
SEQ Balance	3,339	868	341	502	603	166	553	1,950	2,552	7,907	16,998	60,455	723,242	11,411,300	12,230,777
Total	973,628	262,359	16,245	115,100	148,277	34,962	153,558	7,744	458,382	573,602	2,375,555	823,973	7,493,218	12,230,784	25,667,387

RTI RELEASE Sunshine Coast Council

Scenario LRT Full A - Project Case Demographics - With Light Rail from Beerwah to Maroochydore via Mooloolaba and Caloundra to Maroochydore via Mooloolaba - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	461,774	72,979	3,037	42,212	18,583	2,281	19,093	1,025	48,970	6,821	8,222	76	6,705	1,596	693,375
Urban North	72,967	87,750	4,467	5,008	4,617	925	5,062	353	27,262	2,396	3,424	52	2,928	589	217,801
Sunshine Coast University	3,039	4,463	736	491	499	141	395	7	1,732	392	477	1	70	267	12,712
Urban South	42,215	5,007	487	26,957	8,649	557	588	72	4,883	474	1,770	24	1,449	273	93,404
Caloundra South PDA	18,573	4,613	497	8,643	57,473	3,480	372	59	7,376	427	4,560	52	2,537	345	109,007
Beerwah East	2,281	926	141	555	3,481	9,522	101	14	4,924	112	1,519	13	755	97	24,441
Coastal North	19,094	5,056	392	588	373	101	65,008	829	12,290	12,384	652	23	1,265	370	118,425
Airport	1,025	354	7	72	58	14	829	72	549	327	514	202	1,409	1,313	6,744
Sunshine Coast Balance	48,960	27,248	1,727	4,876	7,373	4,919	12,292	549	232,632	16,228	11,420	88	5,948	1,716	375,976
Noosa / Gympie	6,820	2,398	392	474	427	113	12,387	326	16,239	413,075	978	21	2,418	6,780	462,846
Moreton Bay	8,220	3,423	473	1,769	4,558	1,519	652	514	11,439	977	1,669,835	5,702	257,013	13,887	1,979,980
Brisbane CBD	78	52	1	25	53	13	24	203	92	21	5,931	12,591	120,450	15,185	154,720
Brisbane	6,703	2,918	70	1,449	2,528	758	1,263	1,417	5,968	2,423	257,759	116,940	4,429,408	642,425	5,472,028
SEQ Balance	1,651	595	267	274	349	100	394	1,390	1,755	6,883	13,615	14,676	640,816	10,100,161	10,782,924
Total	693,399	217,781	12,694	93,394	109,020	24,444	118,458	6,830	376,111	462,940	1,980,676	150,460	5,473,172	10,785,005	20,504,384

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.6%	93.8%	87.6%	90.8%	95.5%	92.5%	97.9%	99.1%	96.5%	99.2%	98.5%	15.3%	87.2%	55.4%	71.3%
Urban North	93.8%	71.1%	66.4%	98.4%	98.5%	98.1%	99.0%	99.7%	97.2%	99.7%	99.2%	16.4%	87.3%	70.1%	83.0%
Sunshine Coast University	87.7%	66.3%	53.1%	83.8%	83.2%	80.7%	86.6%	99.9%	90.4%	87.6%	90.1%	66.4%	88.8%	84.3%	76.1%
Urban South	90.8%	98.4%	83.0%	62.2%	87.7%	92.8%	98.2%	99.6%	98.0%	99.5%	98.5%	12.8%	82.0%	58.1%	80.3%
Caloundra South PDA	95.5%	98.5%	82.9%	87.7%	61.9%	94.1%	98.8%	99.4%	97.2%	99.2%	98.5%	12.6%	80.4%	63.9%	73.5%
Beerwah East	92.4%	98.1%	80.4%	92.7%	94.2%	50.5%	98.8%	99.0%	95.7%	99.2%	97.6%	7.8%	72.3%	60.0%	69.8%
Coastal North	97.9%	98.9%	85.8%	98.1%	98.7%	98.8%	65.9%	84.8%	98.0%	97.3%	99.3%	22.7%	91.3%	72.1%	77.1%
Airport	99.1%	99.7%	99.7%	99.5%	99.3%	99.2%	84.8%	47.0%	99.6%	99.7%	99.7%	82.6%	92.8%	69.0%	87.2%
Sunshine Coast Balance	96.5%	97.1%	90.2%	97.9%	97.2%	95.6%	98.0%	99.6%	75.0%	98.9%	97.2%	10.4%	78.4%	68.6%	81.6%
Noosa / Gympie	99.2%	99.7%	87.4%	99.6%	99.2%	99.1%	97.3%	99.7%	98.9%	79.1%	98.3%	30.0%	94.1%	85.7%	80.7%
Moreton Bay	98.5%	99.2%	89.2%	98.4%	98.5%	97.5%	99.2%	99.7%	97.4%	98.3%	82.7%	25.5%	90.7%	81.9%	83.3%
Brisbane CBD	15.8%	16.2%	69.7%	13.2%	12.7%	8.0%	23.7%	83.2%	10.9%	30.0%	26.5%	3.4%	33.0%	25.0%	18.8%
Brisbane	87.2%	87.1%	88.4%	82.1%	80.1%	72.6%	91.1%	93.3%	78.6%	94.3%	91.0%	32.1%	72.7%	88.8%	73.0%
SEQ Balance	57.3%	71.0%	84.3%	58.2%	64.6%	61.6%	76.6%	73.0%	70.2%	87.0%	80.3%	24.2%	88.6%	88.5%	88.2%
Total To Sector	71.3%	83.0%	76.0%	80.3%	73.5%	69.8%	77.1%	88.3%	81.6%	80.7%	83.4%	18.3%	73.1%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	19,440	1,298	359	1,522	817	186	408	9	768	54	121	420	987	1,284	27,673
Urban North	1,299	1,557	242	79	67	18	53	1	307	7	26	268	426	251	4,602
Sunshine Coast University	356	245	2	87	98	34	61	0	167	55	52	0	9	50	1,217
Urban South	1,520	79	91	587	340	43	11	0	101	2	27	165	317	197	3,480
Caloundra South PDA	825	70	100	344	1,396	198	5	0	212	4	67	363	620	195	4,398
Beerwah East	187	18	34	44	197	220	1	0	171	1	38	154	290	65	1,420
Coastal North	405	56	65	11	5	1	987	7	96	184	5	78	121	143	2,163
Airport	9	1	0	0	0	0	7	0	1	1	2	42	109	590	765
Sunshine Coast Balance	779	322	172	106	214	174	94	2	3,099	172	330	757	1,643	783	8,645
Noosa / Gympie	55	7	56	2	3	1	180	1	163	3,645	17	49	151	683	5,012
Moreton Bay	123	28	57	28	70	39	5	2	310	17	35,328	16,680	24,529	3,062	80,277
Brisbane CBD	418	270	0	165	363	153	77	41	752	49	16,449	9,416	130,401	45,534	204,088
Brisbane	988	434	9	317	629	286	123	102	1,622	146	23,797	134,005	317,856	78,460	558,774
SEQ Balance	1,232	243	50	196	191	62	121	514	745	575	3,334	46,047	80,021	161,379	294,709
Total	27,637	4,627	1,238	3,489	4,391	1,415	2,132	678	8,514	4,911	79,592	208,444	557,478	292,676	1,197,222

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	2.7%	1.7%	10.4%	3.3%	4.2%	7.5%	2.1%	0.8%	1.5%	0.8%	1.5%	84.7%	12.8%	44.6%	2.8%
Urban North	1.7%	1.3%	3.6%	1.5%	1.4%	1.9%	1.0%	0.3%	1.1%	0.3%	0.8%	83.6%	12.7%	29.9%	1.8%
Sunshine Coast University	10.3%	3.6%	0.2%	14.9%	16.3%	19.2%	13.3%	0.1%	8.7%	12.4%	9.9%	33.6%	11.2%	15.7%	7.3%
Urban South	3.3%	1.5%	15.6%	1.4%	3.5%	7.1%	1.8%	0.4%	2.0%	0.5%	1.5%	87.2%	18.0%	41.9%	3.0%
Caloundra South PDA	4.2%	1.5%	16.6%	3.5%	1.5%	5.4%	1.2%	0.6%	2.8%	0.8%	1.5%	87.4%	19.6%	36.1%	3.0%
Beerwah East	7.6%	1.9%	19.5%	7.3%	5.3%	1.2%	1.2%	1.0%	3.3%	0.8%	2.4%	92.2%	27.7%	40.0%	4.1%
Coastal North	2.1%	1.1%	14.2%	1.9%	1.3%	1.2%	1.0%	0.7%	0.8%	1.4%	0.7%	77.3%	8.7%	27.9%	1.4%
Airport	0.9%	0.3%	0.3%	0.5%	0.7%	0.8%	0.7%	0.0%	0.3%	0.3%	0.3%	17.4%	7.2%	31.0%	9.9%
Sunshine Coast Balance	1.5%	1.1%	9.0%	2.1%	2.8%	3.4%	0.7%	0.3%	1.0%	1.0%	2.8%	89.6%	21.6%	31.3%	1.9%
Noosa / Gympie	0.8%	0.3%	12.6%	0.4%	0.8%	0.9%	1.4%	0.3%	1.0%	0.7%	1.7%	70.0%	5.9%	8.6%	0.9%
Moreton Bay	1.5%	0.8%	10.8%	1.6%	1.5%	2.5%	0.8%	0.3%	2.6%	1.7%	1.7%	74.5%	8.7%	18.1%	3.4%
Brisbane CBD	84.2%	83.8%	30.3%	86.8%	87.3%	92.0%	76.3%	16.8%	89.1%	70.0%	73.5%	2.5%	35.8%	75.0%	24.8%
Brisbane	12.8%	12.9%	11.6%	17.9%	19.9%	27.4%	8.9%	6.7%	21.4%	5.7%	8.4%	36.8%	5.2%	10.8%	7.5%
SEQ Balance	42.7%	29.0%	15.7%	41.8%	35.4%	38.4%	23.4%	27.0%	29.8%	7.3%	19.7%	75.8%	11.1%	1.4%	2.4%
Total To Sector	2.8%	1.8%	7.4%	3.0%	3.0%	4.0%	1.4%	8.8%	1.8%	0.9%	3.3%	25.3%	7.4%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	244,569	3,489	70	2,746	55	0	2	0	1,020	-	-	-	-	-	251,951
Urban North	3,501	34,102	2,019	5	1	0	0	0	484	-	-	-	-	-	40,113
Sunshine Coast University	71	2,021	648	8	3	0	0	-	17	-	-	-	-	-	2,768
Urban South	2,744	4	8	15,782	868	0	-	-	0	-	-	-	-	-	19,407
Caloundra South PDA	55	1	3	868	34,040	19	-	-	2	-	-	-	-	-	34,988
Beerwah East	0	0	0	0	19	9,103	-	-	51	-	-	-	-	-	9,178
Coastal North	2	0	0	-	-	-	32,589	142	155	165	-	-	-	-	33,053
Airport	0	0	-	-	-	-	142	81	1	-	-	-	-	-	224
Sunshine Coast Balance	1,018	484	17	0	2	51	154	1	74,571	14	0	-	-	0	76,313
Noosa / Gympie	-	-	-	-	-	-	165	-	14	105,298	-	-	-	447	105,925
Moreton Bay	-	-	-	-	-	-	-	-	0	-	313,984	4	1,770	-	315,757
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,459	113,687	0	464,150
Brisbane	-	-	-	-	-	-	-	-	-	-	1,758	113,598	1,343,648	2,254	1,461,258
SEQ Balance	-	-	-	-	-	-	-	-	0	451	-	0	2,298	1,149,977	1,152,727
Total	251,961	40,103	2,765	19,409	34,987	9,174	33,052	224	76,315	105,928	315,746	464,060	1,461,402	1,152,679	3,967,807

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.7%	4.5%	2.0%	5.9%	0.3%	0.0%	0.0%	0.0%	2.0%	-	-	-	-	-	25.9%
Urban North	4.5%	27.6%	30.0%	0.1%	0.0%	0.0%	0.0%	0.0%	1.7%	-	-	-	-	-	15.3%
Sunshine Coast University	2.1%	30.0%	46.7%	1.3%	0.4%	0.1%	0.0%	-	0.9%	-	-	-	-	-	16.6%
Urban South	5.9%	0.1%	1.4%	36.4%	8.8%	0.0%	-	-	0.0%	-	-	-	-	-	16.7%
Caloundra South PDA	0.3%	0.0%	0.5%	8.8%	36.6%	0.5%	-	-	0.0%	-	-	-	-	-	23.6%
Beerwah East	0.0%	0.0%	0.1%	0.0%	0.5%	48.3%	-	-	1.0%	-	-	-	-	-	26.2%
Coastal North	0.0%	0.0%	0.0%	-	-	-	33.1%	14.5%	1.2%	1.3%	-	-	-	-	21.5%
Airport	0.0%	0.0%	-	-	-	-	14.5%	53.0%	0.2%	-	-	-	-	-	2.9%
Sunshine Coast Balance	2.0%	1.7%	0.9%	0.0%	0.0%	1.0%	1.2%	0.2%	24.0%	0.1%	0.0%	-	-	0.0%	16.6%
Noosa / Gympie	-	-	-	-	-	-	1.3%	-	0.1%	20.2%	-	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.6%	0.0%	0.6%	-	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.4%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	-	0.0%	0.3%	10.1%	9.4%
Total To Sector	25.9%	15.3%	16.6%	16.7%	23.6%	26.2%	21.5%	2.9%	16.6%	18.5%	13.3%	56.4%	19.5%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	725,783	77,767	3,466	46,481	19,455	2,467	19,502	1,034	50,757	6,875	8,343	496	7,692	2,880	972,999
Urban North	77,767	123,409	6,728	5,092	4,685	943	5,115	355	28,054	2,403	3,450	321	3,354	841	262,516
Sunshine Coast University	3,466	6,729	1,386	586	599	175	456	7	1,916	447	530	1	79	317	16,696
Urban South	46,479	5,089	586	43,327	9,857	600	599	72	4,984	476	1,797	189	1,767	470	116,291
Caloundra South PDA	19,453	4,684	600	9,855	92,909	3,697	376	59	7,590	430	4,627	415	3,157	539	148,393
Beerwah East	2,468	944	175	599	3,697	18,846	102	14	5,146	113	1,557	167	1,045	162	35,035
Coastal North	19,500	5,113	457	599	378	102	98,584	977	12,540	12,733	657	100	1,386	514	153,640
Airport	1,034	355	7	72	59	14	978	153	551	328	515	244	1,519	1,903	7,733
Sunshine Coast Balance	50,758	28,054	1,916	4,982	7,589	5,144	12,540	551	310,302	16,415	11,750	844	7,590	2,499	460,934
Noosa / Gympie	6,875	2,405	448	476	430	114	12,732	327	16,415	522,018	994	70	2,569	7,910	573,783
Moreton Bay	8,343	3,451	530	1,798	4,628	1,557	657	515	11,750	993	2,019,147	22,385	283,311	16,948	2,376,014
Brisbane CBD	496	322	1	190	416	167	101	244	844	70	22,384	372,466	364,538	60,720	822,958
Brisbane	7,691	3,352	79	1,766	3,157	1,044	1,386	1,519	7,590	2,569	283,314	364,543	6,090,911	723,140	7,492,060
SEQ Balance	2,883	838	317	470	540	163	514	1,904	2,500	7,909	16,949	60,723	723,135	11,411,517	12,230,360
Total	972,997	262,511	16,697	116,292	148,398	35,032	153,642	7,732	460,940	573,780	2,376,014	822,964	7,492,052	12,230,361	25,669,412

RTI RELEASE Sunshine Coast Council

Scenario LRT Full B - Project Case Demographics - With Light Rail from Beerwah to Caloundra and Caloundra to Maroochydore via Mooloolaba - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	461,877	72,985	3,038	42,216	18,531	2,267	19,095	1,023	48,956	6,822	8,225	83	6,786	1,705	693,610
Urban North	72,972	87,743	4,468	5,007	4,613	924	5,059	354	27,261	2,397	3,424	52	2,930	611	217,815
Sunshine Coast University	3,038	4,463	736	494	498	140	395	7	1,732	392	478	1	70	267	12,711
Urban South	42,210	5,005	490	26,902	8,603	552	588	72	4,862	475	1,769	24	1,448	280	93,279
Caloundra South PDA	18,519	4,612	496	8,598	57,516	3,520	372	58	7,410	427	4,559	50	2,517	345	108,996
Beerwah East	2,265	924	139	551	3,519	9,506	101	14	4,948	113	1,519	12	745	97	24,451
Coastal North	19,096	5,056	392	587	372	101	65,007	829	12,291	12,385	652	23	1,261	381	118,433
Airport	1,024	354	7	72	58	14	829	72	549	327	514	202	1,409	1,356	6,786
Sunshine Coast Balance	48,944	27,242	1,728	4,860	7,409	4,942	12,292	549	232,625	16,226	11,421	88	5,942	1,736	376,003
Noosa / Gympie	6,819	2,398	392	473	427	113	12,388	327	16,238	413,078	977	21	2,418	6,794	462,862
Moreton Bay	8,225	3,423	472	1,768	4,557	1,519	651	514	11,438	976	1,669,884	5,734	257,051	13,980	1,980,191
Brisbane CBD	84	53	1	25	50	13	24	203	91	21	5,933	12,590	120,428	15,205	154,720
Brisbane	6,773	2,920	70	1,447	2,506	749	1,262	1,416	5,965	2,422	257,742	116,908	4,429,398	642,693	5,472,271
SEQ Balance	1,746	619	267	282	349	100	407	1,434	1,774	6,906	13,721	14,674	641,473	10,100,331	10,784,083
Total	693,593	217,796	12,695	93,281	109,008	24,459	118,470	6,872	376,139	462,965	1,980,815	150,462	5,473,877	10,785,780	20,506,212

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	63.6%	93.8%	87.6%	90.8%	96.1%	94.1%	97.9%	99.1%	96.5%	99.2%	98.8%	17.1%	88.5%	59.5%	71.3%
Urban North	93.8%	71.1%	66.4%	98.4%	98.6%	98.1%	99.0%	99.7%	97.2%	99.7%	99.3%	16.3%	87.4%	72.8%	83.0%
Sunshine Coast University	87.6%	66.3%	53.1%	83.4%	83.1%	80.8%	86.6%	99.9%	90.4%	87.6%	90.2%	71.3%	88.6%	84.2%	76.1%
Urban South	90.7%	98.4%	82.6%	62.2%	88.0%	93.2%	98.2%	99.6%	98.1%	99.6%	98.5%	12.9%	82.1%	59.7%	80.3%
Caloundra South PDA	96.1%	98.5%	82.7%	87.9%	61.8%	93.4%	99.0%	99.8%	96.8%	99.2%	98.4%	11.8%	79.4%	63.7%	73.4%
Beerwah East	94.0%	98.2%	80.4%	93.1%	93.4%	50.5%	99.1%	99.5%	95.3%	99.0%	97.2%	7.1%	70.8%	59.1%	69.7%
Coastal North	97.9%	98.9%	85.8%	98.2%	99.1%	99.0%	65.9%	84.9%	98.0%	97.3%	99.2%	23.0%	91.1%	74.1%	77.1%
Airport	99.1%	99.7%	100.0%	99.6%	99.4%	99.3%	84.8%	46.9%	99.5%	99.7%	99.7%	82.6%	92.8%	71.3%	87.8%
Sunshine Coast Balance	96.5%	97.1%	90.1%	98.0%	96.8%	95.2%	98.0%	99.6%	75.0%	98.9%	97.2%	10.4%	78.3%	69.4%	81.6%
Noosa / Gympie	99.2%	99.7%	87.5%	99.6%	99.2%	99.0%	97.3%	99.7%	98.9%	79.1%	98.4%	30.1%	94.1%	85.9%	80.7%
Moreton Bay	98.8%	99.2%	89.3%	98.5%	98.3%	97.2%	99.2%	99.6%	97.3%	98.3%	82.7%	25.6%	90.7%	82.5%	83.3%
Brisbane CBD	17.3%	16.4%	75.6%	13.2%	11.9%	7.4%	23.8%	83.2%	10.8%	29.9%	26.5%	3.4%	33.0%	25.0%	18.8%
Brisbane	88.3%	87.1%	88.5%	82.0%	79.1%	71.2%	91.1%	93.3%	78.6%	94.3%	91.0%	32.1%	72.7%	88.9%	73.0%
SEQ Balance	60.9%	73.6%	84.2%	60.0%	64.5%	61.1%	79.1%	75.3%	70.9%	87.3%	81.0%	24.2%	88.7%	88.5%	88.2%
Total To Sector	71.3%	83.0%	76.0%	80.3%	73.4%	69.7%	77.1%	88.9%	81.6%	80.7%	83.4%	18.3%	73.1%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	19,827	1,308	360	1,558	691	143	406	9	730	54	101	400	879	1,162	27,628
Urban North	1,306	1,560	243	77	65	18	53	1	306	7	26	270	423	229	4,583
Sunshine Coast University	358	244	2	90	99	33	61	0	168	56	52	0	9	50	1,223
Urban South	1,565	79	94	548	313	40	10	0	93	2	27	164	316	189	3,442
Caloundra South PDA	702	68	101	316	1,494	230	4	0	241	4	76	372	651	197	4,455
Beerwah East	144	17	34	40	229	238	1	0	192	1	43	159	308	67	1,473
Coastal North	407	56	65	11	4	1	987	6	96	184	5	78	123	133	2,155
Airport	10	1	-	0	0	0	7	0	2	1	2	42	110	547	722
Sunshine Coast Balance	743	323	172	97	244	195	93	1	3,113	171	329	758	1,649	766	8,654
Noosa / Gympie	55	8	56	2	3	1	181	1	162	3,644	16	50	151	667	4,997
Moreton Bay	102	28	57	28	78	44	5	2	311	17	35,324	16,648	24,494	2,969	80,107
Brisbane CBD	401	269	0	164	371	158	77	41	752	50	16,448	9,415	130,423	45,516	204,085
Brisbane	893	433	9	317	661	303	123	102	1,627	146	23,817	134,028	317,888	78,191	558,538
SEQ Balance	1,120	221	50	188	192	64	107	470	727	552	3,228	46,047	79,366	161,230	293,563
Total	27,633	4,615	1,243	3,436	4,445	1,468	2,116	633	8,520	4,888	79,493	208,431	556,789	291,911	1,195,623

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	2.7%	1.7%	10.4%	3.3%	3.6%	5.9%	2.1%	0.9%	1.4%	0.8%	1.2%	82.9%	11.5%	40.5%	2.8%
Urban North	1.7%	1.3%	3.6%	1.5%	1.4%	1.9%	1.0%	0.3%	1.1%	0.3%	0.7%	83.7%	12.6%	27.2%	1.7%
Sunshine Coast University	10.3%	3.6%	0.2%	15.2%	16.5%	19.1%	13.4%	0.1%	8.8%	12.4%	9.8%	28.7%	11.4%	15.8%	7.3%
Urban South	3.4%	1.6%	15.9%	1.3%	3.2%	6.7%	1.8%	0.4%	1.9%	0.4%	1.5%	87.1%	17.9%	40.3%	3.0%
Caloundra South PDA	3.6%	1.4%	16.8%	3.2%	1.6%	6.1%	1.0%	0.2%	3.1%	0.8%	1.6%	88.2%	20.6%	36.3%	3.0%
Beerwah East	6.0%	1.8%	19.5%	6.8%	6.1%	1.3%	0.9%	0.5%	3.7%	1.0%	2.8%	92.9%	29.2%	40.9%	4.2%
Coastal North	2.1%	1.1%	14.2%	1.8%	0.9%	1.0%	1.0%	0.6%	0.8%	1.4%	0.8%	77.0%	8.9%	25.9%	1.4%
Airport	0.9%	0.3%	-	0.4%	0.6%	0.7%	0.7%	0.1%	0.3%	0.3%	0.3%	17.4%	7.2%	28.7%	9.3%
Sunshine Coast Balance	1.5%	1.2%	9.0%	2.0%	3.2%	3.8%	0.7%	0.3%	1.0%	1.0%	2.8%	89.6%	21.7%	30.6%	1.9%
Noosa / Gympie	0.8%	0.3%	12.5%	0.4%	0.8%	1.0%	1.4%	0.3%	1.0%	0.7%	1.6%	69.9%	5.9%	8.4%	0.9%
Moreton Bay	1.2%	0.8%	10.7%	1.5%	1.7%	2.8%	0.8%	0.4%	2.6%	1.7%	1.7%	74.4%	8.6%	17.5%	3.4%
Brisbane CBD	82.7%	83.6%	24.4%	86.8%	88.1%	92.6%	76.2%	16.8%	89.2%	70.1%	73.5%	2.5%	35.8%	75.0%	24.8%
Brisbane	11.7%	12.9%	11.5%	18.0%	20.9%	28.8%	8.9%	6.7%	21.4%	5.7%	8.4%	36.8%	5.2%	10.8%	7.5%
SEQ Balance	39.1%	26.4%	15.8%	40.0%	35.5%	38.9%	20.9%	24.7%	29.1%	7.0%	19.0%	75.8%	11.0%	1.4%	2.4%
Total To Sector	2.8%	1.8%	7.4%	3.0%	3.0%	4.2%	1.4%	8.2%	1.8%	0.9%	3.3%	25.3%	7.4%	2.4%	4.7%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	244,428	3,489	70	2,745	55	0	2	0	1,020	-	-	-	-	-	251,809
Urban North	3,501	34,101	2,019	5	1	0	0	-	483	-	-	-	-	-	40,111
Sunshine Coast University	72	2,021	648	8	3	0	0	-	16	-	-	-	-	-	2,769
Urban South	2,744	5	9	15,779	865	0	-	-	0	-	-	-	-	-	19,402
Caloundra South PDA	56	1	3	866	34,053	19	-	-	2	-	-	-	-	-	35,000
Beerwah East	0	-	0	0	19	9,077	-	-	51	-	-	-	-	-	9,148
Coastal North	2	0	0	-	-	-	32,589	141	154	165	-	-	-	-	33,052
Airport	0	0	-	-	-	-	141	81	1	-	-	-	-	-	224
Sunshine Coast Balance	1,017	484	17	0	2	51	154	1	74,562	14	0	-	-	0	76,303
Noosa / Gympie	-	-	-	-	-	-	165	-	14	105,297	-	-	-	448	105,924
Moreton Bay	-	-	-	-	-	-	-	-	0	-	313,941	4	1,769	-	315,714
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,459	113,688	0	464,151
Brisbane	-	-	-	-	-	-	-	-	-	-	1,758	113,597	1,343,643	2,254	1,461,252
SEQ Balance	-	-	-	-	-	-	-	-	0	451	-	0	2,299	1,149,969	1,152,720
Total	251,819	40,101	2,766	19,403	34,999	9,148	33,052	223	76,305	105,927	315,703	464,060	1,461,399	1,152,671	3,967,577

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	33.7%	4.5%	2.0%	5.9%	0.3%	0.0%	0.0%	0.0%	2.0%	-	-	-	-	-	25.9%
Urban North	4.5%	27.6%	30.0%	0.1%	0.0%	0.0%	0.0%	-	1.7%	-	-	-	-	-	15.3%
Sunshine Coast University	2.1%	30.0%	46.7%	1.3%	0.4%	0.1%	0.0%	-	0.9%	-	-	-	-	-	16.6%
Urban South	5.9%	0.1%	1.4%	36.5%	8.8%	0.0%	-	-	0.0%	-	-	-	-	-	16.7%
Caloundra South PDA	0.3%	0.0%	0.5%	8.9%	36.6%	0.5%	-	-	0.0%	-	-	-	-	-	23.6%
Beerwah East	0.0%	-	0.1%	0.0%	0.5%	48.2%	-	-	1.0%	-	-	-	-	-	26.1%
Coastal North	0.0%	0.0%	0.0%	-	-	-	33.1%	14.5%	1.2%	1.3%	-	-	-	-	21.5%
Airport	0.0%	0.0%	-	-	-	-	14.5%	53.0%	0.2%	-	-	-	-	-	2.9%
Sunshine Coast Balance	2.0%	1.7%	0.9%	0.0%	0.0%	1.0%	1.2%	0.2%	24.0%	0.1%	0.0%	-	-	0.0%	16.6%
Noosa / Gympie	-	-	-	-	-	-	1.3%	-	0.1%	20.2%	-	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.5%	0.0%	0.6%	-	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.4%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	-	0.0%	0.3%	10.1%	9.4%
Total To Sector	25.9%	15.3%	16.6%	16.7%	23.6%	26.1%	21.5%	2.9%	16.6%	18.5%	13.3%	56.4%	19.5%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	726,131	77,781	3,469	46,519	19,277	2,410	19,503	1,032	50,707	6,875	8,326	483	7,666	2,868	973,046
Urban North	77,779	123,404	6,729	5,088	4,680	942	5,113	355	28,050	2,405	3,449	322	3,353	839	262,509
Sunshine Coast University	3,469	6,729	1,386	592	599	173	457	7	1,917	448	530	1	79	317	16,703
Urban South	46,519	5,089	593	43,229	9,781	592	598	72	4,956	476	1,796	189	1,764	470	116,123
Caloundra South PDA	19,276	4,681	599	9,780	93,063	3,769	375	58	7,653	430	4,635	422	3,168	541	148,451
Beerwah East	2,409	941	173	591	3,768	18,822	102	14	5,190	114	1,562	171	1,052	163	35,072
Coastal North	19,504	5,112	457	598	375	102	98,583	977	12,541	12,734	657	101	1,384	514	153,640
Airport	1,034	355	7	72	59	14	977	153	552	328	515	244	1,519	1,903	7,732
Sunshine Coast Balance	50,705	28,049	1,917	4,957	7,655	5,188	12,539	551	310,300	16,411	11,749	845	7,591	2,502	460,960
Noosa / Gympie	6,875	2,405	448	475	430	114	12,734	328	16,414	522,019	993	71	2,568	7,909	573,782
Moreton Bay	8,326	3,451	529	1,796	4,635	1,563	657	516	11,749	993	2,019,148	22,386	283,315	16,949	2,376,012
Brisbane CBD	484	322	1	189	422	171	101	244	844	71	22,384	372,465	364,539	60,720	822,956
Brisbane	7,666	3,353	79	1,764	3,167	1,052	1,385	1,518	7,592	2,569	283,316	364,533	6,090,930	723,138	7,492,061
SEQ Balance	2,867	840	317	470	541	164	514	1,903	2,502	7,909	16,950	60,721	723,138	11,411,530	12,230,365
Total	973,045	262,512	16,705	116,120	148,452	35,075	153,638	7,729	460,965	573,781	2,376,011	822,954	7,492,065	12,230,362	25,669,413

RTI RELEASE Sunshine Coast Council

Scenario LRT CAMCOS A - Project Case Demographics - With Light Rail from Beerwah to Maroochydore and Caloundra to Maroochydore - Sectorised (Detailed) Daily Person Trips & Mode Share

Peson Car Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	464,383	73,319	2,947	42,220	18,567	2,289	19,117	1,025	49,056	6,843	8,264	85	6,795	1,655	696,564
Urban North	73,296	87,558	4,462	5,041	4,625	926	5,050	353	27,245	2,393	3,420	52	2,912	565	217,897
Sunshine Coast University	2,947	4,461	738	469	493	137	376	7	1,722	389	477	1	70	267	12,553
Urban South	42,222	5,043	464	27,036	8,655	556	590	72	4,885	474	1,772	24	1,448	275	93,515
Caloundra South PDA	18,564	4,622	491	8,648	57,518	3,481	371	58	7,378	428	4,561	53	2,536	345	109,053
Beerwah East	2,290	928	136	556	3,482	9,528	101	14	4,924	113	1,520	13	755	98	24,457
Coastal North	19,107	5,046	372	589	372	101	65,031	830	12,284	12,385	648	23	1,257	356	118,402
Airport	1,025	353	7	72	58	14	830	72	550	327	514	200	1,404	1,299	6,725
Sunshine Coast Balance	49,043	27,230	1,718	4,881	7,376	4,921	12,286	549	232,709	16,235	11,425	89	5,945	1,719	376,128
Noosa / Gympie	6,841	2,392	389	474	426	113	12,388	327	16,243	413,086	978	21	2,418	6,773	462,869
Moreton Bay	8,261	3,418	471	1,771	4,558	1,519	649	514	11,444	977	1,670,093	5,728	256,855	13,899	1,980,156
Brisbane CBD	86	51	1	25	53	14	23	200	93	21	5,968	12,594	120,393	15,171	154,692
Brisbane	6,794	2,904	70	1,447	2,524	757	1,255	1,408	5,965	2,423	257,588	116,920	4,429,313	642,267	5,471,633
SEQ Balance	1,702	574	267	275	348	101	377	1,361	1,757	6,875	13,635	14,686	640,827	10,101,260	10,784,045
Total	696,562	217,899	12,533	93,504	109,054	24,457	118,443	6,789	376,255	462,967	1,980,863	150,488	5,472,928	10,785,948	20,508,690

Car Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	64.1%	93.3%	88.7%	91.0%	95.9%	92.8%	97.8%	99.2%	96.6%	99.2%	98.6%	17.1%	88.2%	57.3%	71.6%
Urban North	93.3%	71.1%	66.5%	97.6%	98.1%	97.3%	98.9%	99.7%	97.1%	99.7%	99.2%	15.8%	86.9%	67.3%	82.8%
Sunshine Coast University	88.7%	66.4%	53.1%	84.3%	83.6%	81.4%	87.1%	99.7%	90.5%	87.7%	90.2%	70.8%	88.8%	84.3%	76.3%
Urban South	91.0%	97.6%	83.4%	62.2%	87.8%	92.8%	97.4%	99.3%	97.9%	99.6%	98.5%	13.0%	82.3%	58.3%	80.3%
Caloundra South PDA	95.9%	98.1%	83.3%	87.7%	61.9%	94.2%	98.1%	98.9%	97.2%	99.2%	98.5%	12.7%	80.5%	64.1%	73.5%
Beerwah East	92.9%	97.4%	81.1%	92.6%	94.2%	50.5%	98.1%	98.6%	95.7%	99.1%	97.5%	7.7%	72.4%	60.2%	69.8%
Coastal North	97.8%	98.8%	86.1%	97.4%	98.2%	97.9%	65.9%	84.8%	98.0%	97.3%	99.2%	22.6%	91.0%	69.3%	77.0%
Airport	99.1%	99.6%	100.0%	99.1%	99.1%	98.6%	84.8%	46.9%	99.6%	99.7%	99.7%	81.9%	92.5%	68.3%	86.9%
Sunshine Coast Balance	96.5%	97.1%	90.3%	97.8%	97.2%	95.6%	98.0%	99.6%	75.0%	98.9%	97.2%	10.5%	78.4%	68.7%	81.6%
Noosa / Gympie	99.2%	99.7%	87.5%	99.5%	99.1%	99.0%	97.3%	99.8%	98.9%	79.1%	98.4%	30.2%	94.1%	85.7%	80.7%
Moreton Bay	98.6%	99.1%	89.3%	98.4%	98.5%	97.5%	99.2%	99.6%	97.4%	98.3%	82.7%	25.5%	90.7%	82.0%	83.3%
Brisbane CBD	17.4%	15.7%	74.3%	13.2%	12.6%	8.3%	23.1%	81.7%	10.9%	29.9%	26.6%	3.4%	33.0%	25.0%	18.8%
Brisbane	88.1%	86.6%	88.4%	82.2%	80.2%	72.6%	90.9%	92.8%	78.7%	94.4%	91.0%	32.1%	72.7%	88.8%	73.0%
SEQ Balance	59.0%	68.2%	84.3%	58.5%	64.7%	61.7%	73.3%	71.5%	70.2%	87.0%	80.4%	24.2%	88.6%	88.5%	88.2%
Total To Sector	71.6%	82.8%	76.2%	80.3%	73.5%	69.8%	77.1%	87.8%	81.6%	80.7%	83.4%	18.3%	73.1%	88.2%	79.9%

Public Transport Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	12,753	1,559	306	1,411	731	177	426	9	725	56	119	411	910	1,231	20,825
Urban North	1,566	1,574	240	119	88	25	58	1	316	8	29	275	440	274	5,014
Sunshine Coast University	304	241	2	80	94	31	56	0	164	55	52	0	9	50	1,139
Urban South	1,411	118	85	592	336	43	16	1	106	2	27	164	312	196	3,409
Caloundra South PDA	734	90	96	340	1,397	196	7	1	213	3	68	364	614	193	4,317
Beerwah East	175	25	32	44	196	220	2	0	171	1	38	154	287	65	1,410
Coastal North	434	62	60	16	7	2	979	7	95	181	5	78	124	157	2,207
Airport	9	1	-	1	1	0	7	0	2	1	2	44	114	604	785
Sunshine Coast Balance	739	335	168	111	214	175	93	1	3,094	171	327	760	1,635	784	8,607
Noosa / Gympie	57	8	56	2	4	1	178	1	162	3,644	16	49	151	683	5,012
Moreton Bay	120	32	56	28	70	39	6	2	310	17	35,323	16,745	24,433	3,057	80,239
Brisbane CBD	410	274	0	164	364	154	77	45	757	50	16,502	9,418	130,368	45,393	203,977
Brisbane	914	448	9	313	624	285	125	110	1,616	145	23,714	133,947	317,770	78,463	558,482
SEQ Balance	1,182	267	50	195	190	62	137	543	746	576	3,323	45,878	79,856	161,056	294,063
Total	20,809	5,034	1,160	3,417	4,316	1,411	2,167	720	8,476	4,911	79,546	208,288	557,023	292,209	1,189,487

Public Transport Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	1.8%	2.0%	9.2%	3.0%	3.8%	7.2%	2.2%	0.8%	1.4%	0.8%	1.4%	82.9%	11.8%	42.7%	2.1%
Urban North	2.0%	1.3%	3.6%	2.3%	1.9%	2.7%	1.1%	0.3%	1.1%	0.3%	0.8%	84.2%	13.1%	32.7%	1.9%
Sunshine Coast University	9.2%	3.6%	0.2%	14.5%	16.0%	18.5%	12.9%	0.3%	8.6%	12.3%	9.8%	29.2%	11.2%	15.7%	6.9%
Urban South	3.0%	2.3%	15.3%	1.4%	3.4%	7.2%	2.6%	0.7%	2.1%	0.4%	1.5%	87.0%	17.7%	41.7%	2.9%
Caloundra South PDA	3.8%	1.9%	16.3%	3.5%	1.5%	5.3%	1.9%	1.1%	2.8%	0.8%	1.5%	87.3%	19.5%	35.9%	2.9%
Beerwah East	7.1%	2.6%	18.8%	7.3%	5.3%	1.2%	1.9%	1.4%	3.3%	0.9%	2.5%	92.3%	27.6%	39.8%	4.0%
Coastal North	2.2%	1.2%	13.8%	2.6%	1.8%	2.1%	1.0%	0.7%	0.8%	1.4%	0.8%	77.4%	9.0%	30.7%	1.4%
Airport	0.9%	0.4%	-	0.9%	0.9%	1.4%	0.7%	0.1%	0.3%	0.3%	0.3%	18.1%	7.5%	31.7%	10.2%
Sunshine Coast Balance	1.5%	1.2%	8.8%	2.2%	2.8%	3.4%	0.7%	0.3%	1.0%	1.0%	2.8%	89.5%	21.6%	31.3%	1.9%
Noosa / Gympie	0.8%	0.3%	12.5%	0.5%	0.9%	1.0%	1.4%	0.2%	1.0%	0.7%	1.6%	69.8%	5.9%	8.6%	0.9%
Moreton Bay	1.4%	0.9%	10.7%	1.6%	1.5%	2.5%	0.8%	0.4%	2.6%	1.7%	1.7%	74.5%	8.6%	18.0%	3.4%
Brisbane CBD	82.6%	84.3%	25.7%	86.8%	87.4%	91.7%	76.9%	18.3%	89.1%	70.1%	73.4%	2.5%	35.8%	74.9%	24.8%
Brisbane	11.9%	13.4%	11.6%	17.8%	19.8%	27.4%	9.1%	7.2%	21.3%	5.6%	8.4%	36.8%	5.2%	10.9%	7.5%
SEQ Balance	41.0%	31.8%	15.7%	41.5%	35.3%	38.3%	26.7%	28.5%	29.8%	7.3%	19.6%	75.8%	11.0%	1.4%	2.4%
Total To Sector	2.1%	1.5%	7.0%	2.9%	2.9%	4.0%	1.4%	9.3%	1.8%	0.9%	3.3%	25.3%	7.4%	2.4%	4.6%

Walking and Cycling Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	247,295	3,677	70	2,763	53	0	2	0	1,020	-	-	-	-	-	254,879
Urban North	3,692	34,012	2,013	5	1	0	0	-	484	-	-	-	-	-	40,207
Sunshine Coast University	71	2,012	649	7	3	0	0	-	16	-	-	-	-	-	2,758
Urban South	2,761	5	7	15,842	867	0	-	-	0	-	-	-	-	-	19,483
Caloundra South PDA	53	1	3	867	34,080	18	-	-	2	-	-	-	-	-	35,024
Beerwah East	0	0	0	0	18	9,110	-	-	51	-	-	-	-	-	9,180
Coastal North	2	0	0	-	-	-	32,623	142	155	164	-	-	-	-	33,087
Airport	0	0	-	-	-	-	142	81	1	-	-	-	-	-	224
Sunshine Coast Balance	1,017	484	17	0	2	51	154	1	74,601	14	0	-	-	0	76,342
Noosa / Gympie	-	-	-	-	-	-	165	-	14	105,296	-	-	-	447	105,923
Moreton Bay	-	-	-	-	-	-	-	-	0	-	313,980	3	1,769	-	315,753
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	4	350,530	113,700	0	464,234
Brisbane	-	-	-	-	-	-	-	-	-	-	1,758	113,599	1,343,807	2,254	1,461,418
SEQ Balance	-	-	-	-	-	-	-	-	0	451	0	0	2,296	1,149,976	1,152,724
Total	254,891	40,192	2,758	19,485	35,023	9,179	33,086	225	76,345	105,926	315,743	464,132	1,461,572	1,152,678	3,971,235

Walking and Cycling Mode Share

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total From Sector
Light Rail Area of Interest	34.1%	4.7%	2.1%	6.0%	0.3%	0.0%	0.0%	0.0%	2.0%	-	-	-	-	-	26.2%
Urban North	4.7%	27.6%	30.0%	0.1%	0.0%	0.0%	0.0%	-	1.7%	-	-	-	-	-	15.3%
Sunshine Coast University	2.1%	30.0%	46.7%	1.2%	0.4%	0.1%	0.0%	-	0.9%	-	-	-	-	-	16.8%
Urban South	6.0%	0.1%	1.3%	36.4%	8.8%	0.0%	-	-	0.0%	-	-	-	-	-	16.7%
Caloundra South PDA	0.3%	0.0%	0.5%	8.8%	36.6%	0.5%	-	-	0.0%	-	-	-	-	-	23.6%
Beerwah East	0.0%	0.0%	0.1%	0.0%	0.5%	48.3%	-	-	1.0%	-	-	-	-	-	26.2%
Coastal North	0.0%	0.0%	0.0%	-	-	-	33.1%	14.5%	1.2%	1.3%	-	-	-	-	21.5%
Airport	0.0%	0.0%	-	-	-	-	14.5%	53.0%	0.2%	-	-	-	-	-	2.9%
Sunshine Coast Balance	2.0%	1.7%	0.9%	0.0%	0.0%	1.0%	1.2%	0.2%	24.0%	0.1%	0.0%	-	-	0.0%	16.6%
Noosa / Gympie	-	-	-	-	-	-	1.3%	-	0.1%	20.2%	-	-	-	5.7%	18.5%
Moreton Bay	-	-	-	-	-	-	-	-	0.0%	-	15.5%	0.0%	0.6%	-	13.3%
Brisbane CBD	-	-	-	-	-	-	-	-	-	-	0.0%	94.1%	31.2%	0.0%	56.4%
Brisbane	-	-	-	-	-	-	-	-	-	-	0.6%	31.2%	22.1%	0.3%	19.5%
SEQ Balance	-	-	-	-	-	-	-	-	0.0%	5.7%	0.0%	0.0%	0.3%	10.1%	9.4%
Total To Sector	26.2%	15.3%	16.8%	16.7%	23.6%	26.2%	21.5%	2.9%	16.6%	18.5%	13.3%	56.4%	19.5%	9.4%	15.5%

Total Trips

	Light Rail Area of Interest	Urban North	Sunshine Coast University	Urban South	Caloundra South PDA	Beerwah East	Coastal North	Airport	Sunshine Coast Balance	Noosa / Gympie	Moreton Bay	Brisbane CBD	Brisbane	SEQ Balance	Total
Light Rail Area of Interest	724,431	78,555	3,322	46,393	19,351	2,466	19,545	1,034	50,802	6,899	8,383	496	7,705	2,887	972,268
Urban North	78,554	123,145	6,715	5,166	4,714	952	5,109	354	28,045	2,400	3,449	326	3,352	839	263,119
Sunshine Coast University	3,323	6,715	1,389	556	589	168	431	7	1,902	444	529	1	79	317	16,450
Urban South	46,395	5,165	557	43,470	9,857	600	606	72	4,991	476	1,799	189	1,761	471	116,406
Caloundra South PDA	19,351	4,713	589	9,856	92,995	3,695	378	59	7,593	431	4,629	417	3,150	538	148,395
Beerwah East	2,465	952	168	601	3,696	18,857	103	14	5,146	114	1,558	167	1,042	162	35,047
Coastal North	19,542	5,109	432	605	378	103	98,633	979	12,534	12,731	654	101	1,381	514	153,696
Airport	1,034	355	7	73	59	14	979	154	552	328	516	244	1,518	1,904	7,734
Sunshine Coast Balance	50,800	28,049	1,903	4,992	7,592	5,147	12,533	551	310,404	16,420	11,753	849	7,580	2,503	461,077
Noosa / Gympie	6,898	2,400	445	476	430	114	12,731	328	16,419	522,026	994	70	2,569	7,903	573,803
Moreton Bay	8,382	3,450	528	1,799	4,628	1,558	654	516	11,755	994	2,019,396	22,476	283,058	16,956	2,376,149
Brisbane CBD	496	326	1	189	417	168	101	244	849	71	22,474	372,541	364,461	60,565	822,903
Brisbane	7,708	3,352	79	1,760	3,148	1,042	1,380	1,517	7,581	2,568	283,060	364,466	6,090,890	722,984	7,491,534
SEQ Balance	2,884	841	317	471	539	163	514	1,904	2,503	7,903	16,958	60,564	722,979	11,412,292	12,230,832
Total	972,262	263,126	16,451	116,406	148,394	35,047	153,696	7,733	461,076	573,804	2,376,152	822,908	7,491,523	12,230,834	25,669,412

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Prepared for

SUNSHINE COAST COUNCIL

Model validation report (Volume 7)

Sunshine Coast demographics and preliminary modelling

September, 2018

Sunshine Coast Demographics and Preliminary Modelling

Model Validation Report (Volume 7)

Project No. 18-027

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Date	Revision	Prepared By	Checked By	Approved By	Description
24/09/2018	A	M. Jagersma	G. Hunter		First Draft
28/09/2018	B	A. O'Brien	M. Iliffe	G. Nicholls	Final Draft

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1. Introduction

1.1 Purpose of this report

Veitch Lister Consulting have been engaged by Sunshine Coast Council to undertake preliminary modelling for a number of public transport scenarios to understand their impacts on trips to, from and within the Sunshine Coast region. The modelling undertaken by Veitch Lister Consulting is preliminary modelling that sits within the context of the Sunshine Coast light rail project and will inform further development of a mass transit strategy for the Sunshine Coast.

The Sunshine Coast Demographics and Preliminary Modelling has had 2 key objectives:

1. Prepare a new model zone system and develop two 2041 demographic scenarios for use in transport modelling; and
2. Model a series of transport network scenarios relating to rail investment with a focus on understanding levels of self-containment and external trip end patterns.

A prerequisite step in developing any transport model is to prepare and validate a 'base year' model. The purpose of this validation report is to demonstrate that the model (both the parameters and processes used) replicates travel demand recorded in the 'base year' period (2016) to an acceptable level of accuracy.

This validation report outlines results from the 2016 *Zenith model of SEQ for Sunshine Coast* and demonstrates that it meets nationally recognised acceptance criteria for models that do not employ matrix estimation. The model is considered well validated against observed traffic and public transport data.

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2. Base Year model specification

2.1 Zenith model of SEQ for Sunshine Coast

The *Zenith model of SEQ for Sunshine Coast* is an adapted version of the Zenith model of SEQ for use in the Sunshine Coast. Within the broader study area this model is consistent with government models' zoning systems in order to provide full compatibility and easy transferability of data. Section 2.2 discusses the zone system in more detail.

The Zenith model represents average weekday traffic outside of school holidays. It is an advanced implementation of the established four step modelling process. The model is fully multi-modal, and includes active travel modes, as well as multiple modes of access to the transit system (walking, car). A more in-depth overview of the Zenith model is provided in Appendix D.

2.2 Zone system

The Sunshine Coast Zenith zone system (SCZ) has been developed to concord with existing model zone systems and standard geographies. SCZ is the most detailed of all zone systems for the Sunshine Coast and provides comprehensive concordance with the following geographic boundaries:

- Sunshine Coast Integrated Multi-Modal Model (SCIMMM) Zone Systems;
- South East Queensland Strategic Transport Multi-Modal Model (SEQSTM-MM);
- Australian Statistical Geography Standard (ASGS) 2016 Statistical Area 1 (SA1); and
- ASGS 2016 Statistical Area 2 (SA2).

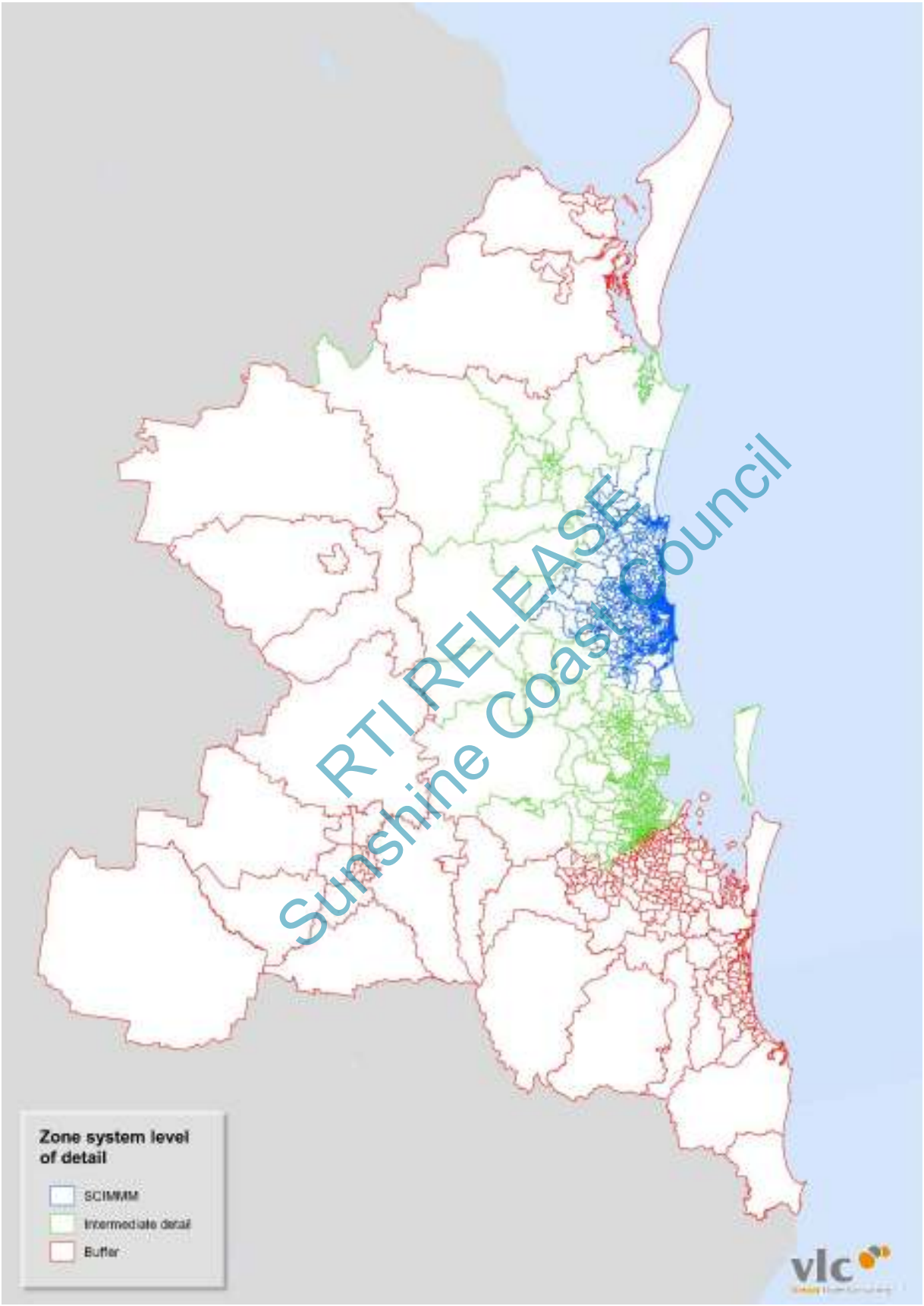
The SCIMM area consists of 1,496 travel zones within the Sunshine Coast Council area, it covers 646 SA1s and can be aggregated up to any of the above listed geographies.

Covering the rest of the region a Buffer area (Intermediate detail) and Balance area (Coarse zones) zone system was created. The Buffer area is broadly consistent with the SEQ-STM Level 2 zone system. The Balance area is consistent with SA2 boundaries.

Figure 2-1 shows the geographical extent and detail of the Sunshine Coast zone system. Additional information regarding the zone system and demographics is provided in Volume 2.

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Figure 2-1 South East Queensland model zone system



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3. Approach to model validation

This section of the report documents the approach to model validation. Model validation is the process of independently assessing the model's ability to replicate observed travel behaviours by, whenever possible, using data which has not been used to develop, estimate or calibrate the model.

3.1 Observed data sources

The extent to which a model can be compared to observed travel behaviours is related to the type and volume of suitable observed travel data available.

Data for SEQ has been sourced as listed in Table 3-1.

Table 3-1 Validation data sources

Data	Source
2015 and 2016 traffic counts	Department of Transport and Main Roads – Policy, Planning & Investment Division
2016 Public transport stop data for rail, light rail and ferry	Department of Transport and Main Roads – TransLink Division
2016 Public transport route data for bus	

The observed data for 2016 public transport trips was derived directly from the automatic ticketing system (GoCard), which represents almost the complete set of transit users and reliably covers rail, tram and ferry on a stop-to-stop level, and buses on a route-basis

The method of comparing the modelled and observed boardings or entries is similar to the approach taken for traffic.

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3.2 Validation criteria

Validation criteria specify the acceptable ranges of differences between the model and observed data.

3.2.1 Validation criteria specified by Sunshine Coast council

The following criteria were initially proposed by the Sunshine Coast Council. This section provides the rational behind not adopting these criteria.

Table 3-2 Validation criteria as supplied by Sunshine Coast Council

Criteria and Measures for time periods : AM Peak and PM Peak	Acceptability Guideline
Assigned Flows compared with observed flows	
1) Actual flows	
i) modelled within 15% of observed flows 700 – 2,700 vph	> 85% of cases
ii) modelled within 100 vph for observed flows < 700 vph	> 85% of cases
iii) modelled within 400 vph for observed flows > 2,700 vph	> 85% of cases
iv) Total screenline/cutline volume to be within 5%	> 85% of cases
2) GEH Statistics:	
i) Individual link volume: GEH < 5	> 85% of cases
ii) Individual turn volume: GEH <5	> 85% of cases
iii) individual link and turn volume : GEH <10	All cases
iv) screenline volume totals: GEH <4	All screenlines/cutlines
3) Coefficient of Determination (R2):	
i) individual links R^2 >0.85	All cases
ii) screenline/cutline R^2 >0.95	All cases
4) Percentage root mean square error (RMSE):	
i) RMSE < 30%	Entire Network

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The criteria as specified by the Sunshine Coast Council can be considered 'strict' and only achievable by using matrix estimation. This is confirmed by guidance from the Roads and Maritime Services Modelling Guidelines (RMS, 2013) which state the same criteria in Table 10.3 in said document. The RMS guidelines confirm the use of matrix estimation as an acceptable method to adjust the model to the counts: "Calibration for traffic models can involve adjustment of the demand matrices to match traffic counts (matrix estimation)" (Section 10.3.1, page 83).

The Zenith model does not employ the use of matrix estimation. This is further explained in Section 3.2.2.

3.2.2 Matrix estimation

We believe that when considering using demand matrix adjustment techniques such as matrix estimation the forecasting and predictive abilities of the model need to be carefully considered. The choice between the two alternative philosophies to adjust or not depends in part on professional judgements about the trade-offs between the risk of 'over fitting' with matrix estimation versus the ability of the unadjusted demand model to acceptably reproduce base year demands.

In our view, if the model is able to reach an acceptable level of accuracy without matrix estimation, and the reasons for divergences are investigated and understood (e.g. imperfect count data), then this is preferable to fitting a model to observed data. New Zealand's guidance supports this: "An imperfect trip matrix, i.e. one that potentially reaches lower levels of observed count data calibration

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and or validation, can be useful in a forecasting model if the reasons for the limitations in the matrix are understood" (NZTA, 2014). The UK guidance broadly supports this view when assessing the fitness of a model for a given modelling task: "A model that meets the specified validation standards may not be fit for particular purposes and, conversely, a model that fails to meet to some degree the validation standards may be usable for certain applications" (UK DfT, 2014, TAG Unit M3.1).

Furthermore, by not undertaking matrix estimation, the absolute demand modelling retains the full behavioural responsiveness from the model to be applied in the future scenarios. This responsiveness can be critical in a range of situations, such as introducing a new transport mode (like Light Rail), or expanding population and transport services into a part of the urban area that was previously undeveloped (such as Caloundra South and Beerwah East).

3.2.3 Validation criteria for non-matrix estimated models

In general, when calibrating and validating Zenith models, VLC does not employ matrix estimation to directly fit demand matrices to the observed data (Section 3.2.2). We therefore propose to validate the Zenith assignment model to a set of criteria that is based on a 'non-matrix estimated approach'.

To this effect, VLC has reviewed a large number of national and jurisdictional guidelines and propose the following list of validation tests that will give confidence in the performance of the model, yet do not demand an unrealistic strictness for the type of modelling we will do with Zenith. For the highway validation, we propose a range of tests consistent with relevant guidelines. These tests (as listed in Table 3-3) will ensure that modelled link volumes and screenlines are in line with observations and that these volumes are the result of an adequately converged user equilibrium.

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Table 3-3 Validation criteria for non-matrix estimated models (traffic)

Test	Metric	Target	Consistent with:
Individual link flow (traffic counts)	**%RMSE**	Combined / all counts %RMSE should be 30% or lower, for: 1) AM peak 2) PM peak 3) Daily total	RMS, 2013 ATAP, 2016 NZTA, 2014 VicRoads, 2012
	GEH	1) 50 per cent of individual link volumes to have a GEH ≤ 5 2) 80 per cent of individual link volumes to have a GEH ≤ 10	VicRoads, 2012
	Scatter plot	Slope of best-fit regression line between 0.9 and 1.1; and R^2 greater than or equal to 0.85, for individual traffic counts for: AM/PM peaks and daily total	VicRoads, 2012 RMS, 2013
Screenline Flow	**% Difference**	Within bounds of a specified function* that narrows at high volumes, for screenlines (by direction) for: AM/PM peaks and daily	VicRoads, 2012 ATAP, 2016
	Scatter plot	Slope of best-fit regression line between 0.9 and 1.1; and R^2 greater than or equal to 0.95, for screenlines (by direction) for: AM/PM peaks and daily	-
Assignment Convergence	**Delta (%Gap)**	<0.1%	UK, TAG,2014 Stricter than: RMS, 2013 ATAP, 2016 VicRoads, 2012
	% links with flow change <P%	95% of links should have a flow change of <5% for 2 consecutive iterations	VicRoads, 2012

* The specified functions are: for 2-hour peaks, *maximum % difference* = $\pm 50V^{0.3953}$; and for daily volumes, *maximum % difference* = $\pm 80.145V^{0.3953}$, where V is the total screenline volume (VicRoads, 2012).

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Many of the guidelines reviewed implicitly assume that matrix estimation will be undertaken and that matrices will be applied to a local study area (e.g. RMS, 2013). One advantage of an absolute model like Zenith is that it retains full integration between the demand model that generates matrices and the assignment model that is predicting PT patronage or toll road demand. Zenith is able to achieve higher levels of precision if required in a given study area without resorting to matrix estimation.

The strictness of validation tests relevant for this kind of application of Zenith are therefore logically somewhere between those applied during the urban-area-wide validation (described above) and the validation of local-study-area microsimulation models (where the matrices are adjusted once they are decoupled from the demand model). In the case of highway validation, our additional proposed study-area-level validation criteria (see Table 3-4) align with some of the (non-matrix-estimation-based) guidelines reviewed.

Table 3-4 Additional metrics for Zenith model validation in the study area (highway)

Test	Metric	Target	Consistent with:
Individual link flows (traffic counts)	**GEH**	1) 50 per cent of individual link volumes to have a GEH ≤ 5 2) 80 per cent of individual link volumes to have a GEH ≤ 10	VicRoads, 2012
	Scatter plot	Slope of best-fit regression line between 0.9 and 1.1; and R^2 greater than or equal to 0.9, for individual traffic counts for AM/PM peaks and daily	VicRoads, 2012 RMS, 2013

For the public transport validation the scarce guidance available has been used where possible – along with consultation with modelling experts – to inform the appropriate public transport validation criteria (Table 3-5). This criteria is seen as appropriate in the context of this project.

Table 3-5 Validation criteria for non-matrix estimated models (public transport)

Test	Metric	Target
Total boardings / entries by transit mode	**% Difference**	Daily passengers: +/- 10% for train +/- 15% for bus
Boardings / entries by station	**% Difference**	**Rail** Major stations (daily average > 5000 pax) +/- 25% All other stations and modes: professional judgement
	Scatter plot	**Rail** Slope of best-fit regression line between 0.9 and 1.1; and R^2 greater than or equal to 0.85, for individual stations for: daily total

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3.2.4 Scope of validation criteria

All criteria as listed in Table 3-3, Table 3-4, and Table 3-5 are applied to the Sunshine Coast area in the *Zenith Model of SEQ for Sunshine Coast*. The performance of the model against these criteria is discussed in Chapter 4.

For the wider SEQ region however, given the lower level of zone system detail (see Section 2.2), a subset of these criteria has been selected. These criteria focus on screenlines to assess cross-regional travel, and rail entries to stations to assess long distance / mass transit services. The model performance against these criteria is discussed in Chapter 5.

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4. Sunshine Coast validation

This Section discusses the validation of the Zenith model of South East Queensland for the Sunshine Coast.

4.1.1 Approach to validation

The validation of traffic in the Sunshine Coast is based on a set of 152 counts sites that were selected for their level of consistency, both in terms of trend and neighbouring count sites. Full details of the locations is provided in Appendix A. Detailed validation statistics for these 152 sites are provided in Appendix B.

The validation for public transport focusses on the North Coast Line for rail and bus routes within the Sunshine Coast LGA. The observed data for 2016 public transport trips was derived directly from the automatic ticketing system (Go Card), which represents almost the complete set of transit users and reliably covers rail on a stop-to-stop level, and buses on a route-basis.

4.1.2 Validation summary

Table 4-1 shows the traffic validation summary for traffic in the Sunshine Coast area.

Table 4-1 Traffic assignment validation summary, Sunshine Coast

Test	Metric	Target	AM peak	PM peak	Daily
Individual link flow (traffic counts)	%RMSE	Combined / all counts %RMSE should be 30% or lower, for: AM/PM and daily	24% ✓	24% ✓	21% ✓
	GEH	1) 50 per cent of individual link volumes to have a GEH ≤ 5	56% ✓	59% ✓	60% ✓
		2) 80 per cent of individual link volumes to have a GEH ≤ 10	85% ✓	88% ✓	90% ✓
	Scatter plot	Slope of best-fit regression line between 0.9 and 1.1	0.96 ✓	1.01 ✓	1.05 ✓
		R^2 greater than or equal to 0.9, for: AM/PM and daily	0.91 ✓	0.92 ✓	0.94 ✓
Screenline Flow	% Difference	Within bounds of a specified function* that narrows at high volumes, for screenlines (by direction) for: AM/PM and daily	Figure 4-4 ●	Figure 4-5 ✓	Figure 4-3 ✓
	Scatter plot	Slope of best-fit regression line between 0.9 and 1.1	0.92 ✓	1.02 ✓	1.02 ✓
		R^2 greater than or equal to 0.95, for: AM/PM and daily	0.96 ✓	0.98 ✓	0.99 ✓

* The specified functions are: for 2-hour peaks, *maximum % difference* = $\pm 50V^{0.3953}$; and for daily volumes, *maximum % difference* = $\pm 80.145V^{0.3953}$, where V is the total screenline volume (VicRoads, 2012)

All traffic validation targets are met. The only exception is the screenline percentage difference in the morning peak which shows deviation for the screenline inbound to Noosa where the model is just outside the boundary for this criterion (Figure 4-4).

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For public transport, the method of comparing the modelled and observed boardings or entries is similar to the approach taken for traffic. Table 4-2 shows the validation summary for public transport.

Table 4-2 Public transport assignment validation summary, Sunshine Coast

Measure	Target	Daily
% Difference	Daily passengers: +/- 10% for train +/- 15% for bus	-3% ✔ +14% ✔
Scatter plot (Rail station entries)	Slope between 0.9 and 1.1	1.05 ✔
	R^2 greater than or equal to 0.95	0.95 ✔

The model meets all validation criteria for public transport in the Sunshine Coast.

The following sections provide more detailed information regarding the traffic and public transport validation in the Sunshine Coast.

4.1.3 Traffic screenlines

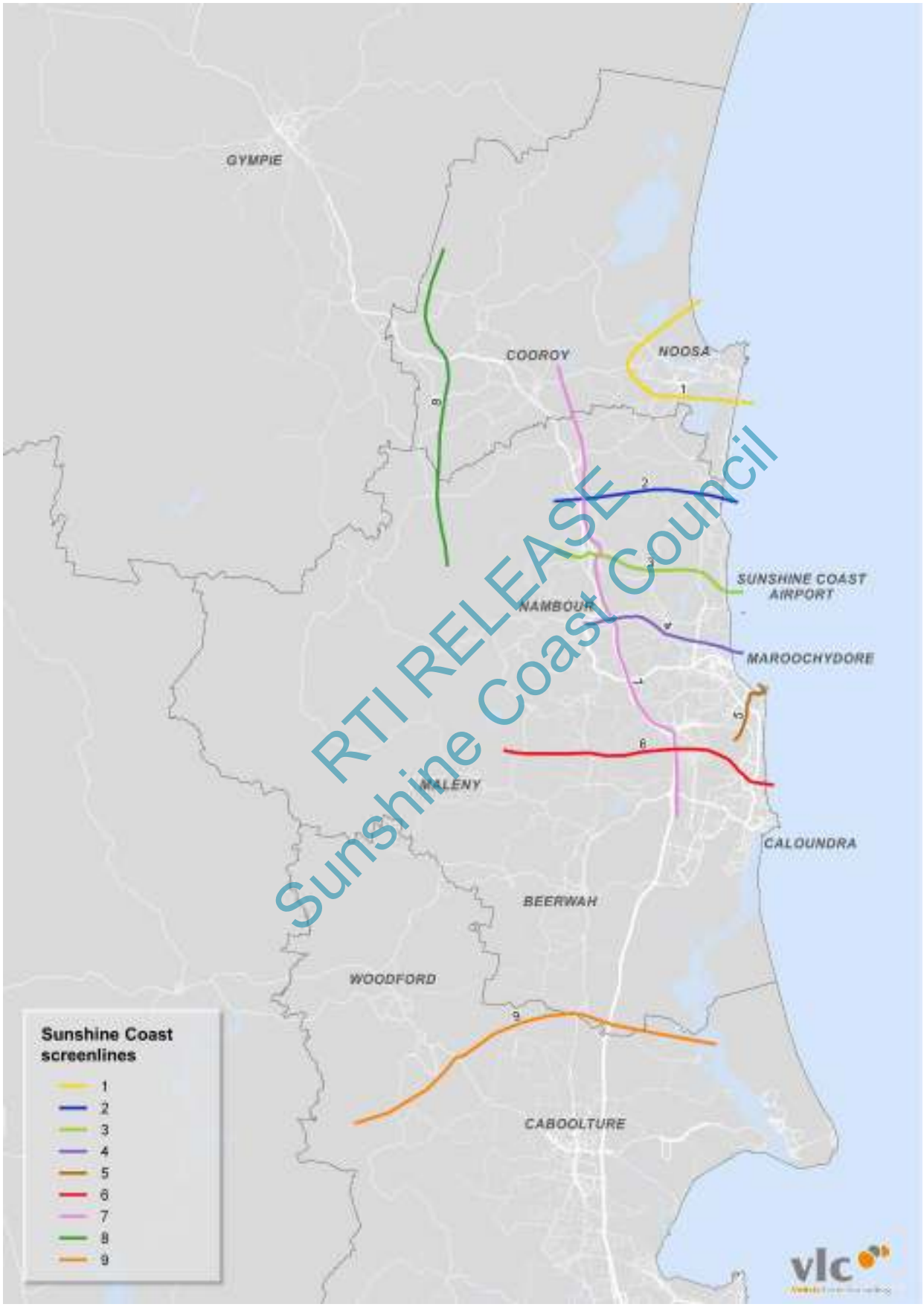
Nine screenlines have been defined by the Department of Transport and Main Roads in the Sunshine Coast LGA which have been used in this validation. Figure 4-1 shows the location of each screenline. In terms of directionality, “Inbound” is considered “towards Maroochydore”, apart from Screenline 1 for which inbound direction is considered “towards Noosa”.

Figure 4-2 shows detailed screenline validation charts. Each screenline is presented by direction for both two-hour peaks and daily total. The model generally shows good correlation with the screenline counts as demonstrated by the slopes and r-squares which are all within the validation criteria. However, whilst the slopes for the evening peak and daily total are close to unity, the morning peak is low at a slope of 0.92.

Figure 4-3, Figure 4-4, and Figure 4-5 show the percentage difference of each screenline in comparison with a specified function that narrows at high volumes. As demonstrated in these charts all screenlines are within the specified bounds apart from the inbound screenline to Noosa in the AM peak. This inbound screenline is slightly lower than the specified bounds. Given that the location of this deviation is well north of the study area and only impacts on trips in the morning peak it was deemed an acceptable deviation.

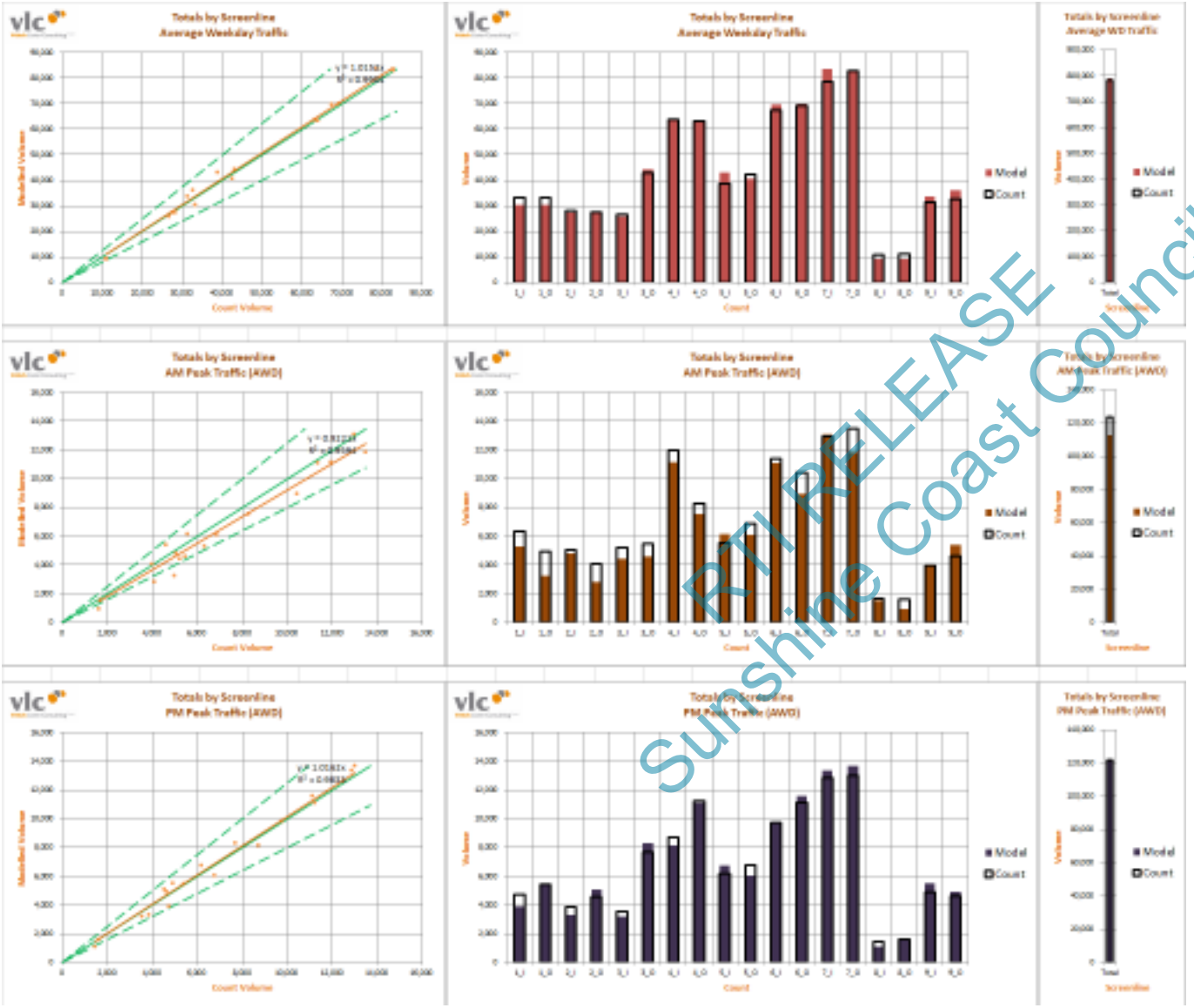
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Figure 4-1 Sunshine Coast screenline locations



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Figure 4-2 Detailed screenline results (observed vs. modelled)



Note 'I' or 'Inbound' refers to:

- towards Noosa (SL 1)
- towards Maroochydore (SL 2 - 9)

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Figure 4-3 Daily maximum desirable deviation, screenlines (observed vs. modelled)

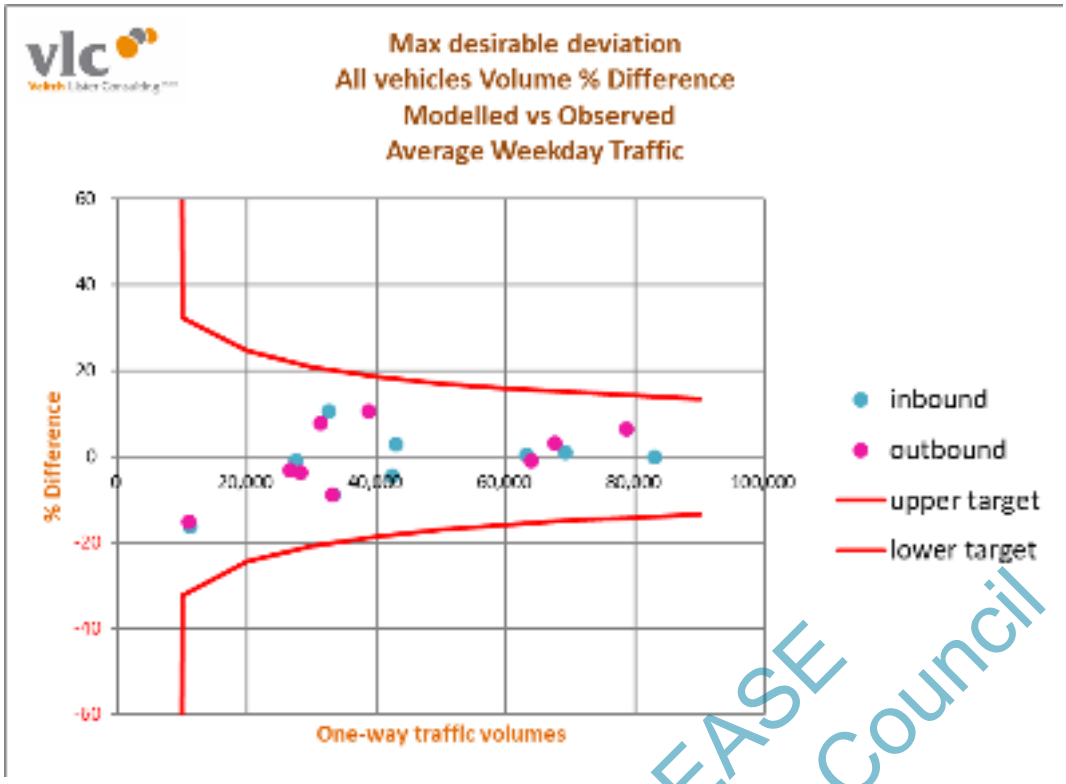
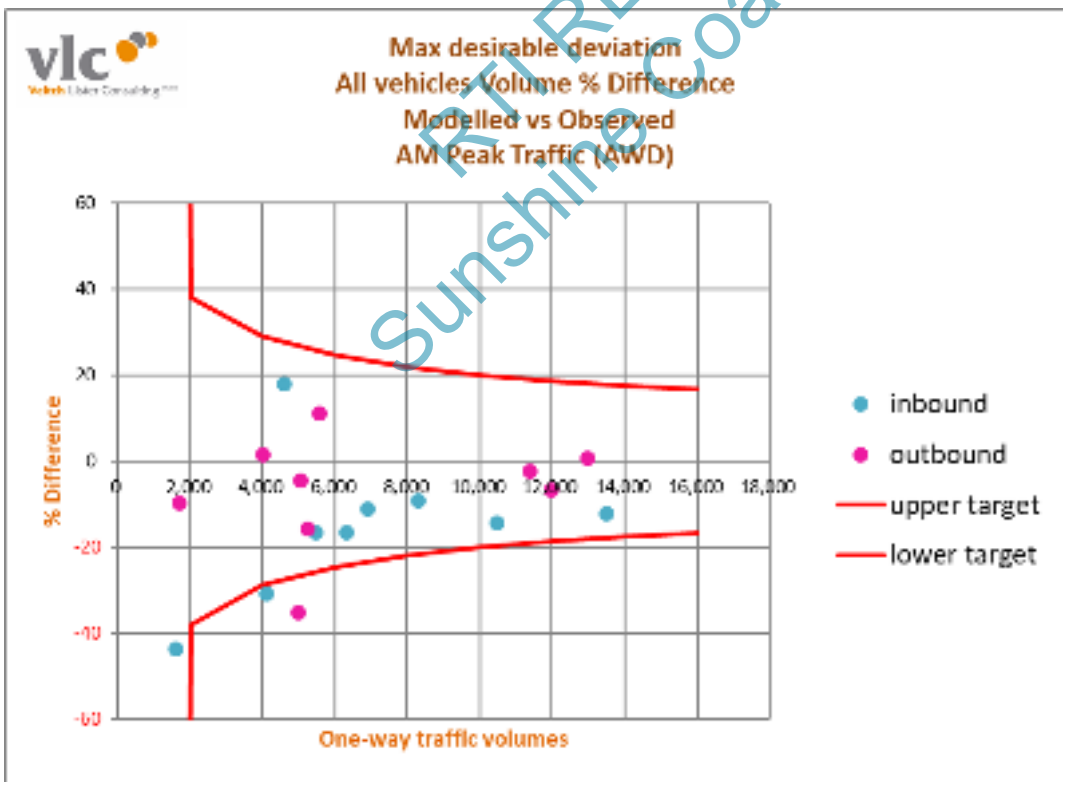
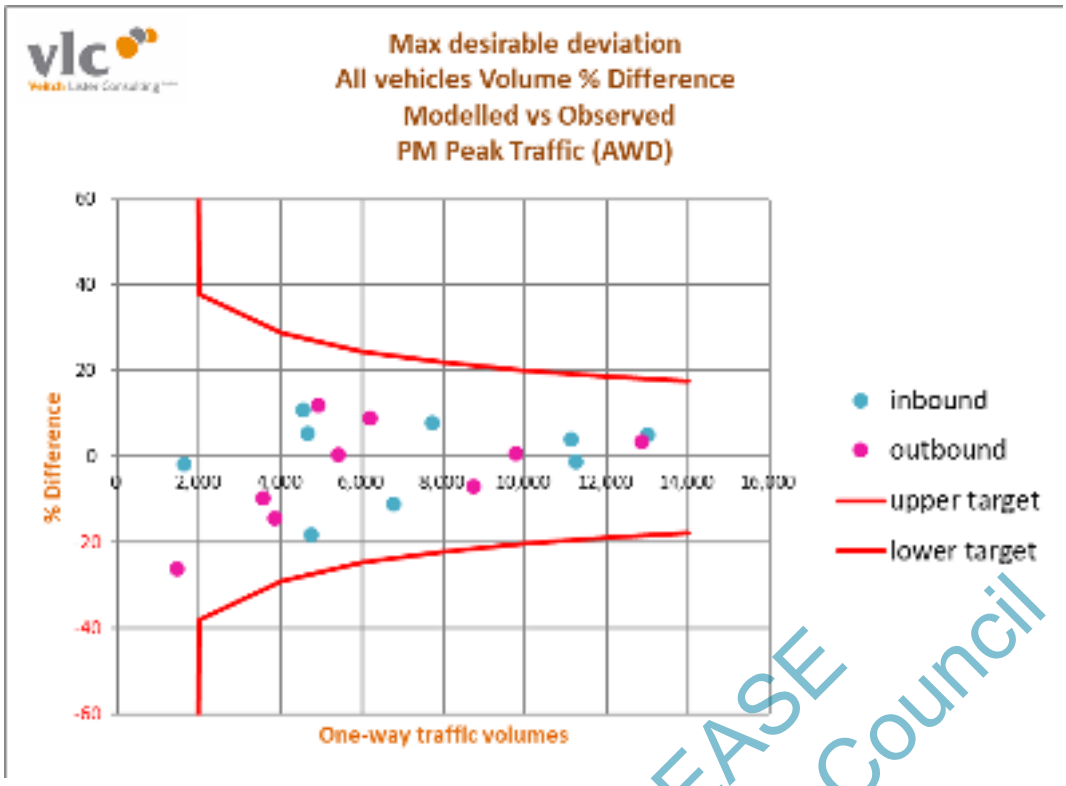


Figure 4-4 AM peak maximum desirable deviation, screenlines (observed vs. modelled)



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Figure 4-5 PM peak maximum desirable deviation, screenlines (observed vs. modelled)



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4.1.4 Traffic individual counts

Modelled traffic has been validated against the observed counts for all individual traffic count locations across the day (Figure 4-6), as well as in the AM peak (Figure 4-7) and PM peak (Figure 4-8).

For this comparison, the validation is measured by plotting the points of modelled volumes against observed traffic counts and calculating the slope of the straight line that the plotted points infer and the R^2. If the modelled volumes exactly matched the observed counts, the slope of the line would be 1, and the R^2 would be 1. The aim is to achieve a gradient of between 0.9 and 1.1 and an R^2 greater than 0.9.

The model is reasonably representing observed traffic volumes and is meeting all validation criteria for individual counts in the study area. The model is showing slightly higher volumes than reported in the traffic count data, with gradients of 1.01 and 1.05 in the afternoon peak and across the day respectively and R^2 values of 0.92 and 0.94 respectively. The morning peak shows lower volumes than observed with a slope of 0.96 and an R^2 of 0.91.

Figure 4-6 Daily traffic volumes, individual counts (observed vs. modelled)

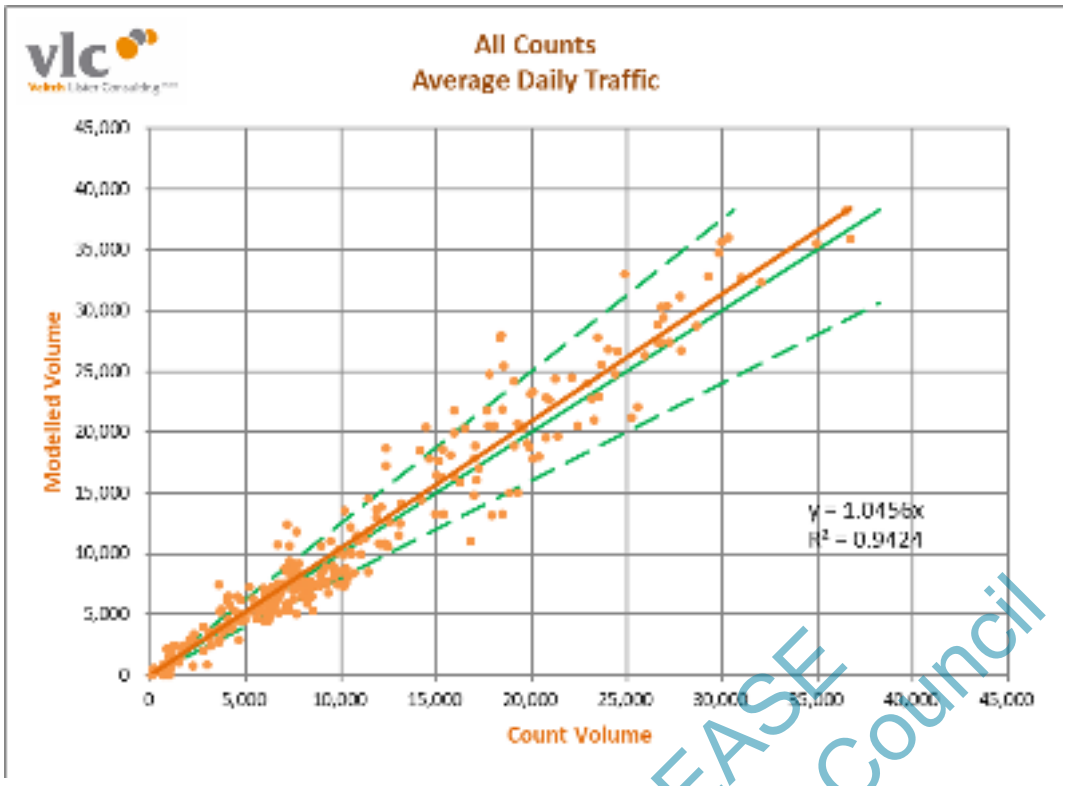
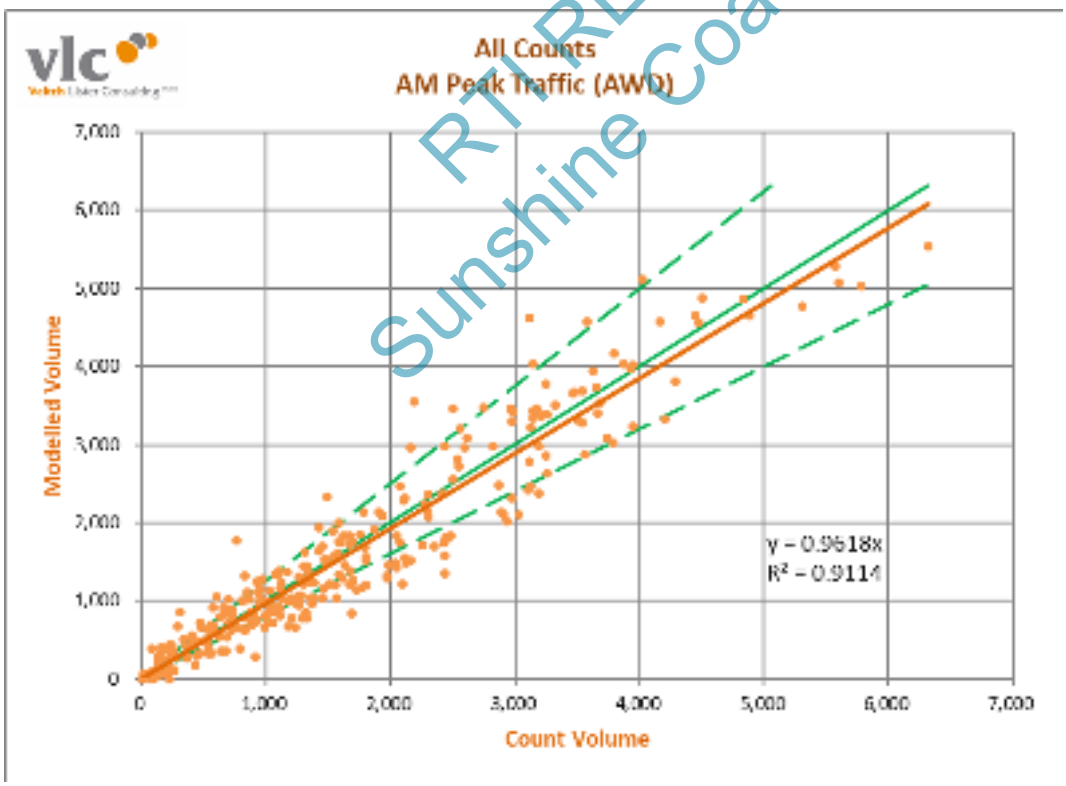
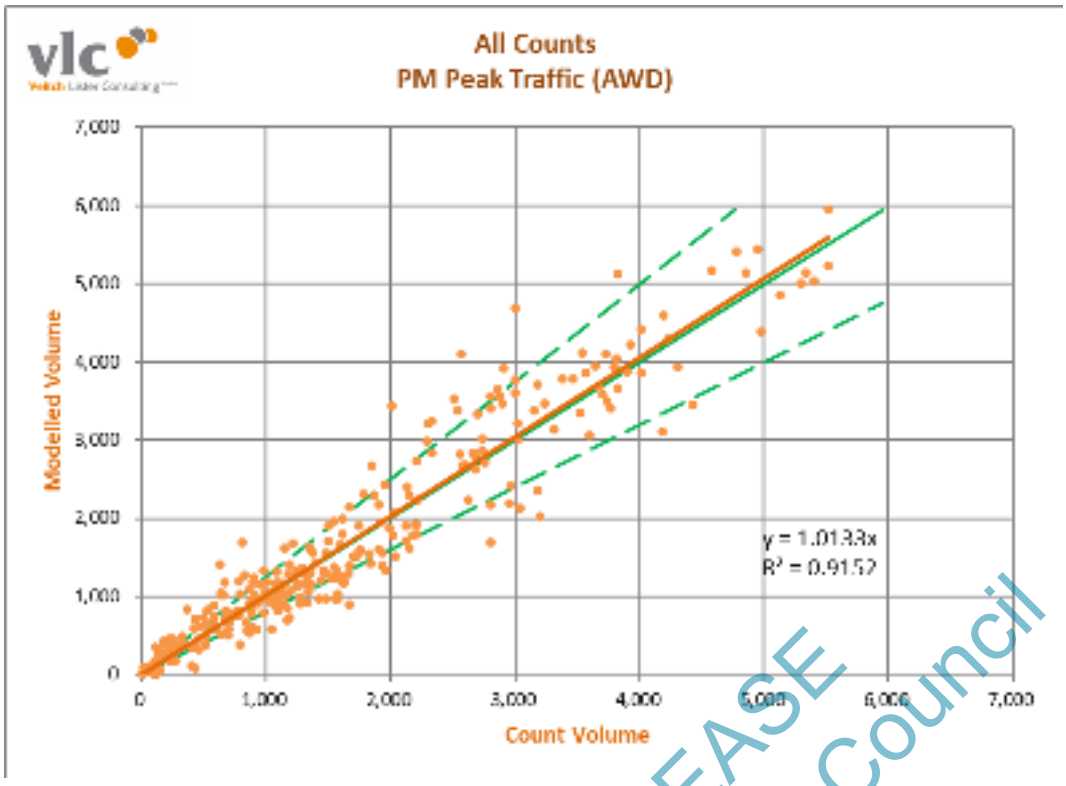


Figure 4-7 AM Peak traffic volumes, individual counts (observed vs. modelled)



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Figure 4-8 PM Peak traffic volumes, individual counts (observed vs. modelled)



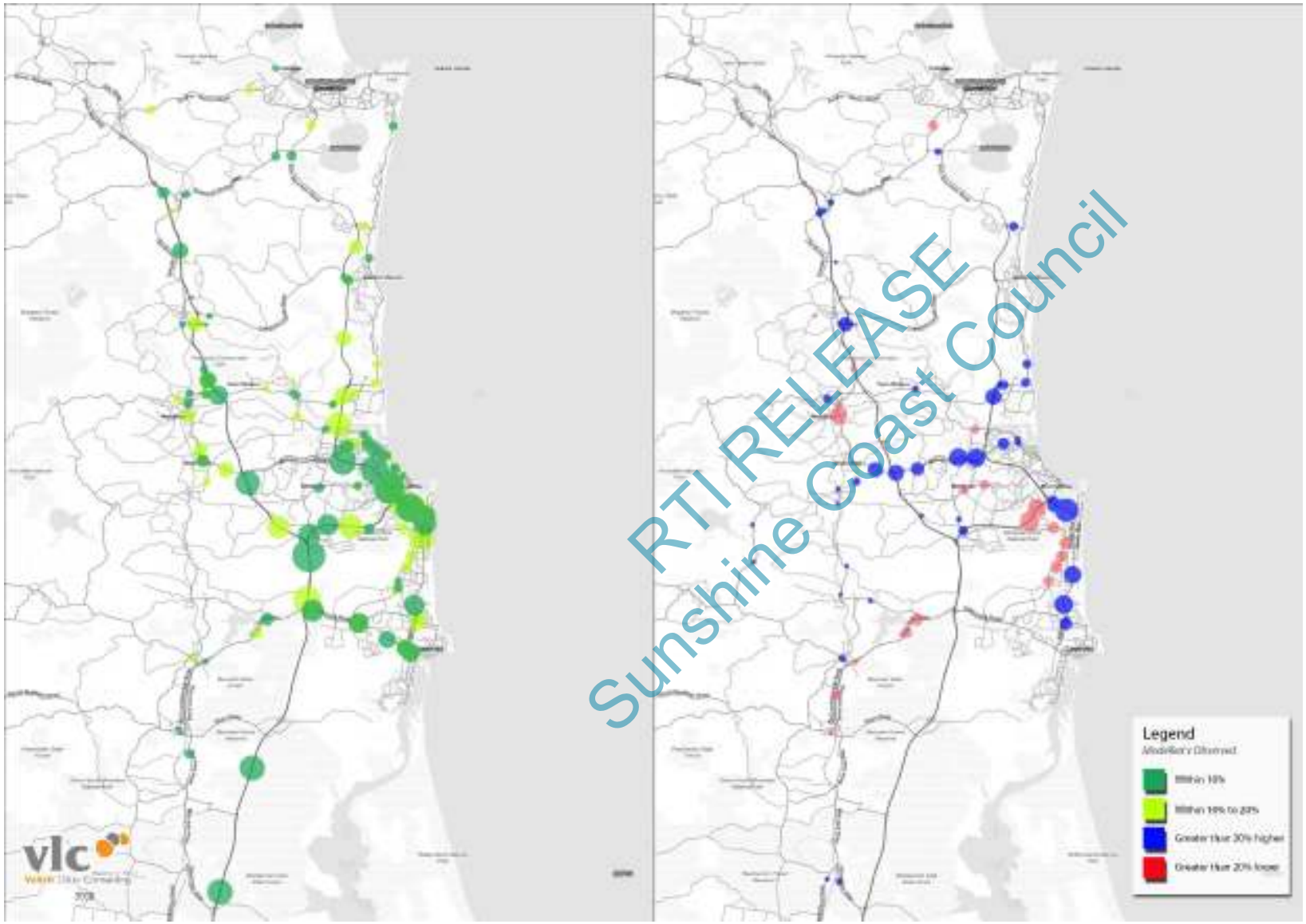
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Figure 4-9 shows the spatial location of daily traffic validation in the Sunshine Coast. This provides an indication of where the model closely representing observed traffic flows, and where the model may be over or underestimating traffic demand.

The sub-image on the left of the figure shows sites where the model deviates by less than +/- 10% from the daily count (the size of the 'dot' reflects the size of the counted volume). The sub-image on the right shows sites where the model deviates by more than +/- 20% from the daily count.

In particular Maroochydore Road and Kawana Way show deviations in comparison to the counts. This can in part be attributed to route choice effects, not all Sunshine Coast drivers appear to choose the quickest route. In the case of Kawana Way, Screenline 6 which crosses this location, shows good correlation to the counts and which provides confidence in the north-south demands through this area.

Figure 4-9 Sunshine Coast traffic validation, total daily



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4.1.5 Rail validation

Figure 4-10 compares station entries for the North Coast Line. Caboolture has been included as well as some overlap in car access to stations exists. The figure shows that the model closely matches total station entries for these lines overall (-3%). Key stations such as Nambour and Landsborough are within -18% and +5% respectively. The figure also shows a selection of Brisbane inner city stations. For these stations the model is 2% low (-1,000 daily passenger entries).

Figure 4-10 Rail validation, daily station entries

Rail Validation

North Coast Line, daily, 2016

NCL Stations	Passengers			
	Observed	Modelled	Difference	
Gympie North	28	15	-13	-46%
Traveston	-	3	+3	-
Cooran	2	15	+13	+674%
Pomona	6	23	+17	+289%
Cooroy				
Eumundi	5	12	+7	+132%
Yandina				
Gympie North Line subtotal	**41**	**68**	**27**	**+66%**
Nambour	304	250	-54	-18%
Woombye	52	97	+45	+87%
Palmwoods	58	68	+10	+17%
Eudlo	28	31	+3	+10%
Mooloolah	45	92	+47	+105%
Landsborough	614	645	+31	+5%
Beerwah	156	264	+108	+69%
Glasshouse Mtns	94	128	+34	+36%
Beerburrum	29	45	+16	+55%
Elimbah	49	38	-11	-23%
Nambour Line subtotal	**1,429**	**1,659**	**+230**	**+16%**
Caboolture	2,057	1,696	-361	-18%
Total	**3,527**	**3,424**	**-103**	**-3%**

Inner City Stations	Passengers			
	Observed	Modelled	Difference	
Roma Street	11,437	10,168	-1,269	-11%
Central	36,755	37,093	+338	+1%
Fortitude Valley	10,066	8,733	-1,333	-13%
Bowen Hills	2,587	3,785	+1,198	+46%
Total	**60,845**	**59,779**	**-1,066**	**-2%**

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4.1.6 Bus validation

Figure 4-11 compares modelled and observed bus route passengers. This shows that the model is validated, albeit slightly high (14%) relative to observed data. The difference is mainly attributable to higher than observed passenger demand for local Maroochydore and Caloundra buses as is demonstrated in the "Aggregates" section of this figure. The model overestimates demand by just over 1,000 passengers a day for these specific services (+43%).

Figure 4-11 Sunshine Coast bus validation, daily passengers by route

Bus routes validation
Daily, 2016

Route		Passengers			
		Observed	Modelled	Difference	
600	Caloundra to Maroochydore via Mooloolaba & Kawana	2,708	2,555	-153	-6%
602	Caloundra to Maroochydore via Mountain Creek	326	489	+163	+50%
603	Bellvista to Corbould Park	240	505	+265	+111%
605	Caloundra to Landsborough	295	172	-123	-42%
607	Caloundra to University via SCUH & Kawana	313	435	+122	+39%
609	Pelican Waters to Caloundra	182	256	+74	+41%
612	Nambour to Maroochydore via Bli Bli	308	358	+50	+16%
614	Kawana to Maroochydore via Mountain Creek	350	774	+424	+121%
615	Maroochydore to Landsborough via University	791	708	-83	-10%
616	Maroochydore to University via Alexandra Headland	834	858	+24	+3%
617	Maroochydore to Sippy Downs via University	292	409	+117	+40%
618	Sippy Downs to Kawana via University	369	545	+176	+48%
619	Kawana to Maroochydore via Alexandra Headland	123	80	-43	-35%
620	Noosa Heads to Maroochydore via Peregian Beach	1,434	1,383	-51	-4%
622	Maroochydore to Noosa Junction via Airport & Cooroy	465	716	+251	+54%
630	Noosa to Nambour via Eumundi	48	57	+9	+19%
631	Noosa to Nambour via Cooroy & Eumundi	373	390	+17	+5%
636	Nambour to University via Buderim	194	442	+248	+128%
649	Caboolture station to Nambour station (railbus)	282	160	-122	-43%
Total		9,927	11,294	+1,367	+14%

Aggregates	Passengers			
	Observed	Modelled	Difference	
East-West buses North via Cooroy/Eumundi-Noosa Rd (630, 631, 632)	421	447	+26	+6%
East-West buses North via Nambour Connection Rd (610, 612, 636)	502	800	+298	+59%
East-West buses South via Steve Irwin Way (605, 615, 649)	1,368	1,040	-328	-24%
Subtotal East-West	2,291	2,287	-4	0%
North South Coastal buses Maroochydore Caloundra (600, 602, 607, 611)	3,347	3,479	+132	+4%
North South Coastal buses Maroochydore Nambour (620, 622)	1,899	2,100	+201	+11%
Subtotal North-South	5,246	5,579	+333	+6%
Other Maroochydore buses (614, 616, 617, 618, 619)	1,968	2,666	+698	+35%
Other Caloundra buses (603, 609)	422	762	+340	+81%
Total	9,927	11,294	+1,367	+14%

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5. SEQ-wide validation

This section discusses the SEQ-wide validation of the model and focuses primarily on screenlines to assess cross-regional travel, and rail entries to stations to assess long distance / mass transit services.

5.1.1 Traffic Screenlines

In the SEQ region 58 screenlines have been defined by the Department of Transport and Main Roads. Figure 5-1 shows the screenline locations in the wider region (ex Gold Coast). The data for these screenlines were collected in April and May in 2016 by TMR's Model Data Unit.

On a regional level traffic has been validated against the following criteria:

- observed counts for all screenline locations across the day (Figure 5-2), in the AM peak (Figure 5-3) and the PM peak (Figure 5-4); and
- within bounds of a specified function that narrows at high volumes, for screenlines (by direction) across the day (Figure 5-5), in the AM peak (Figure 5-6) and the PM peak (Figure 5-7).

Table 5-1 shows the SEQ-wide traffic validation summary.

Table 5-1 Traffic assignment validation summary, SEQ-wide

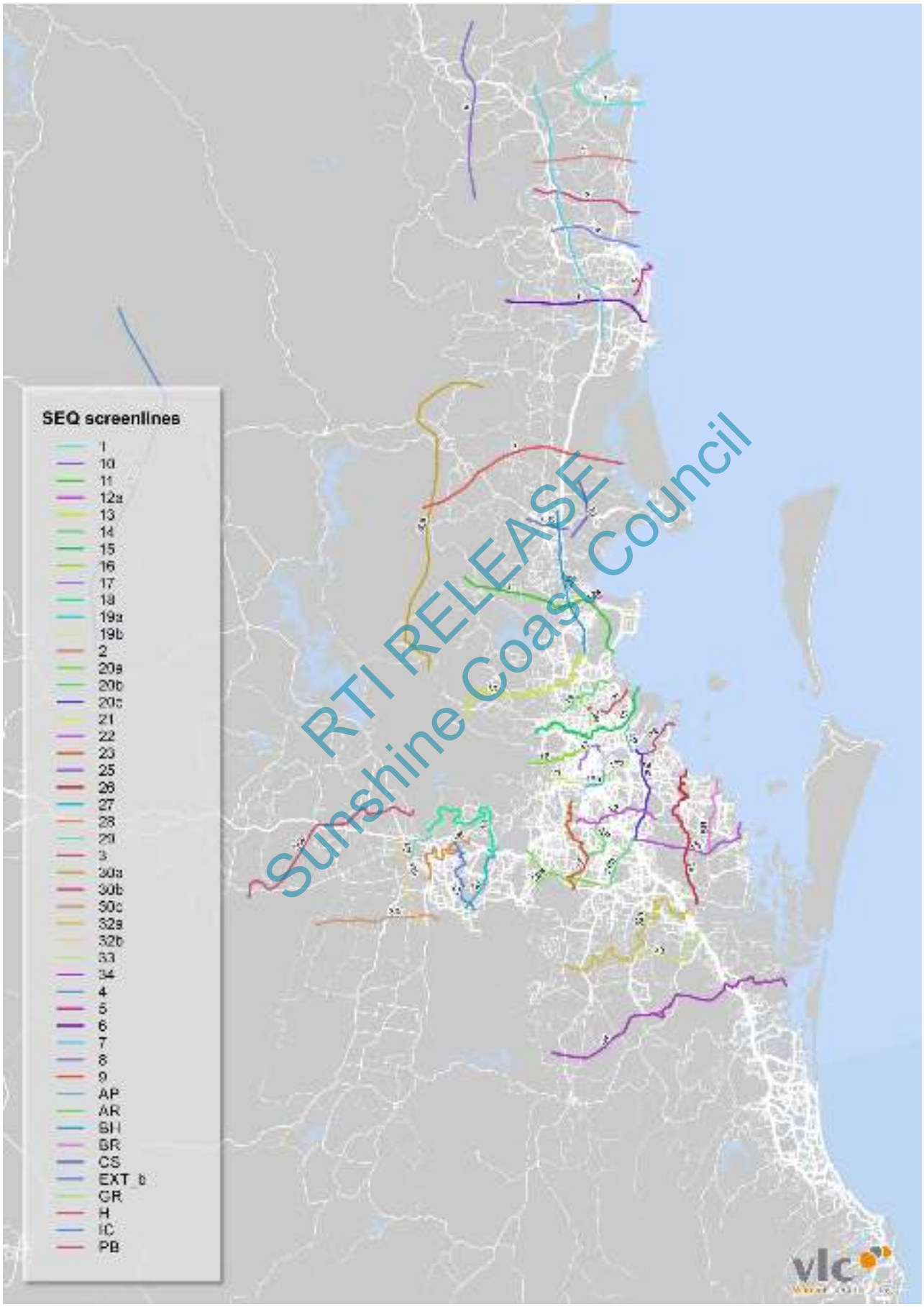
Measure	Target	AM peak	PM peak	Daily
% Difference	Within bounds of a specified function* that narrows at high volumes, for screenlines (by direction) for: AM/PM peaks and daily	Figure 5-6 ●	Figure 5-7 ●	Figure 5-5 ●
Scatter plot	Slope between 0.9 and 1.1	1.055 ✔	1.046 ✔	1.025 ✔
	R2 greater than or equal to 0.95	0.98 ✔	0.98 ✔	0.99 ✔

* The specified functions are: for 2-hour peaks, *maximum % difference* = $\pm 50V^{0.3953}$; and for daily volumes, *maximum % difference* = $\pm 80.145V^{0.3953}$, where V is the total screenline volume (VicRoads, 2012)

Regarding the scatter plots, the validation is measured by plotting the points of modelled screenline volumes against observed traffic counts and calculating the slope of the straight line that the plotted points infer and the R^2. If the modelled volumes exactly matched the observed counts, the slope of the line would be 1, and the R^2 would be 1. The aim is to achieve a gradient of between 0.9 and 1.1 and an R^2 greater than 0.95. As shown in the scatter plots the model meets the criteria for all time periods.

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Figure 5-1 SEQ screenline locations



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Figure 5-2 Daily traffic volumes, screenlines (observed vs. modelled)

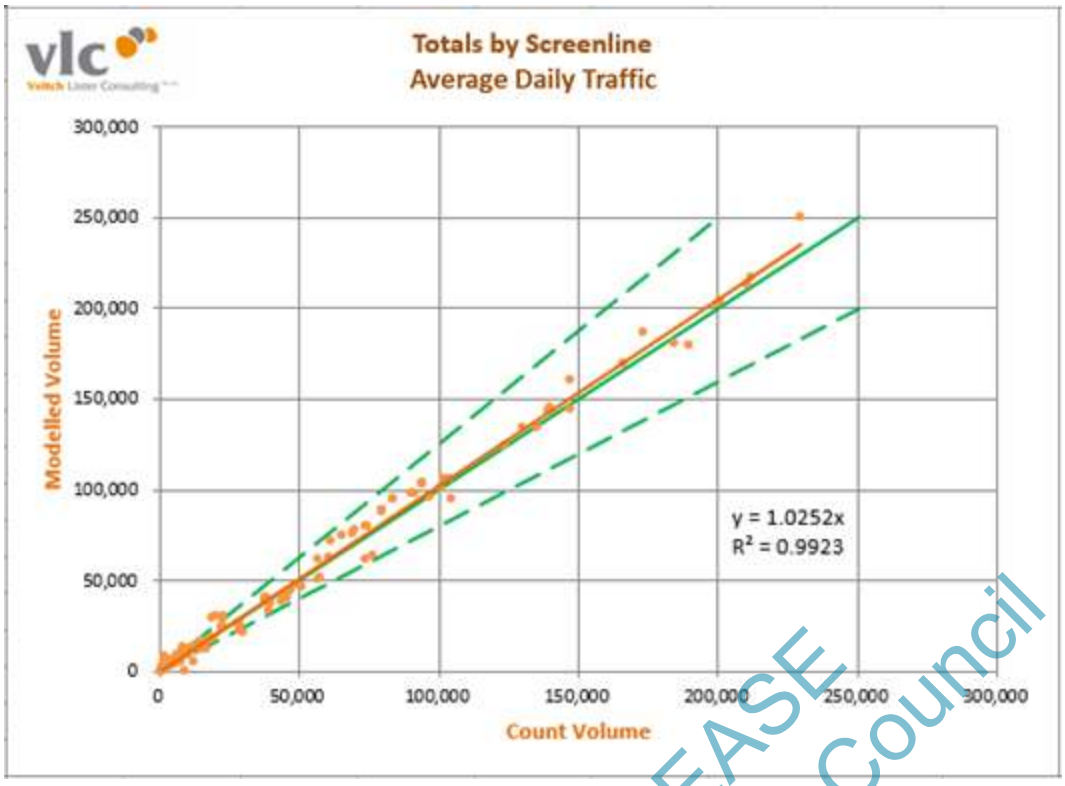
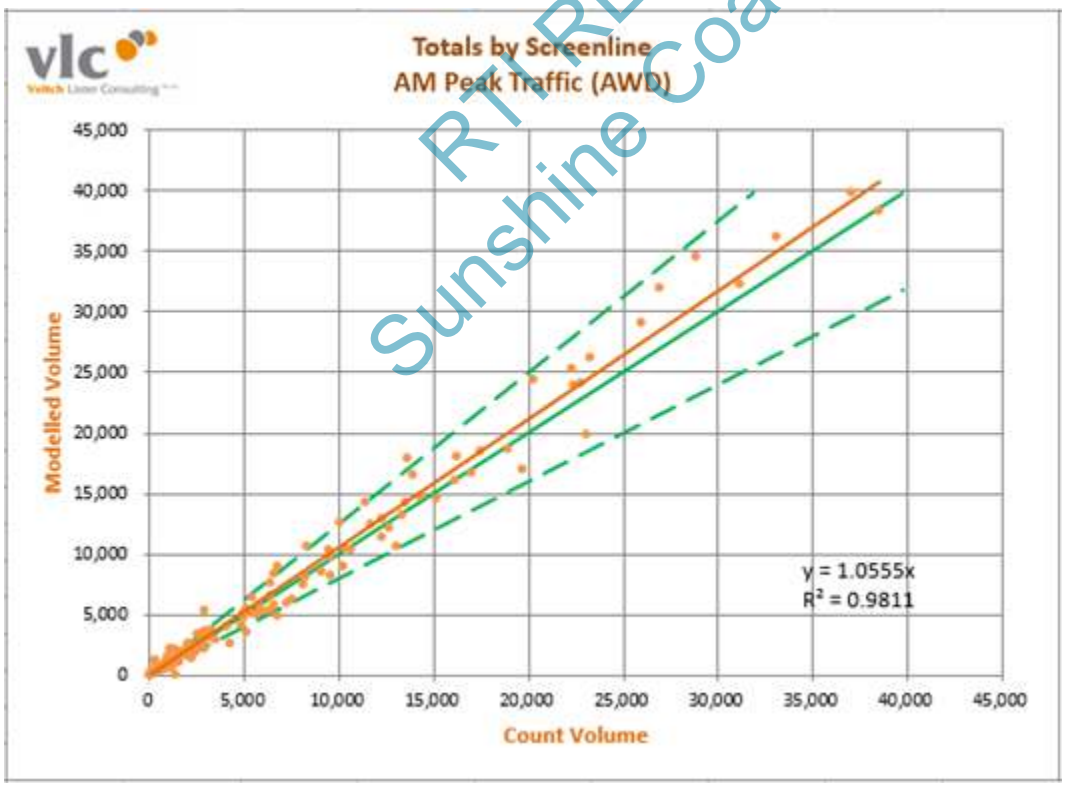


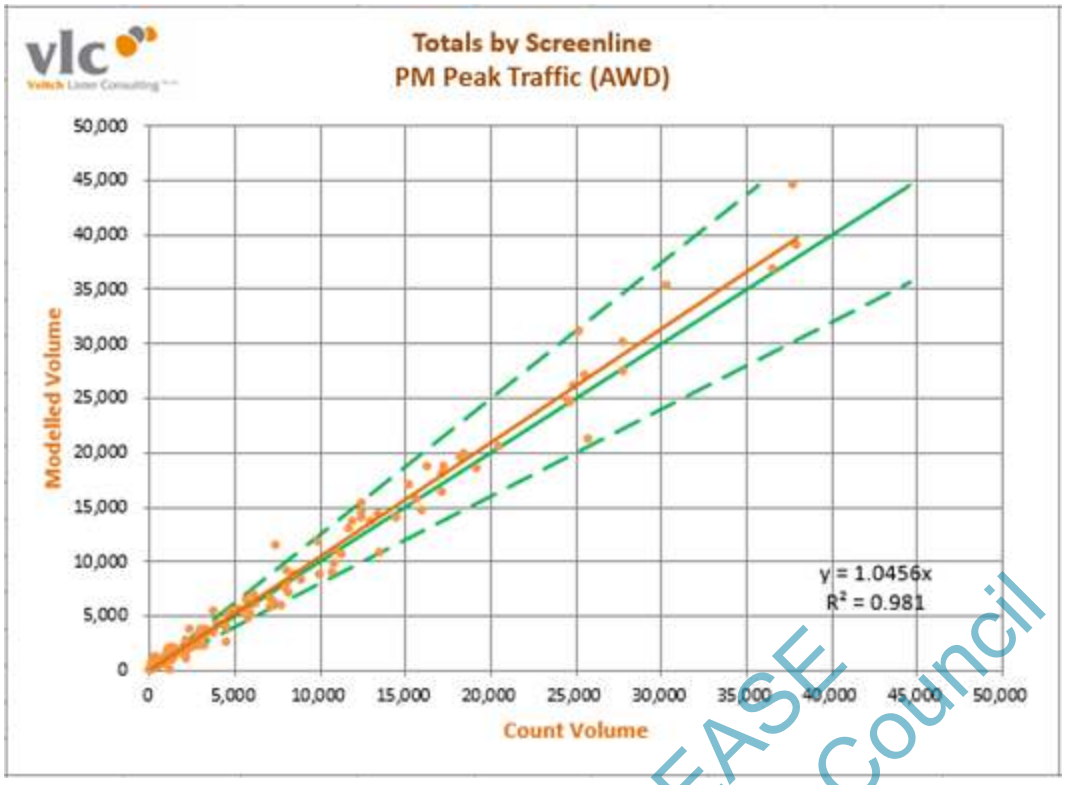
Figure 5-3 AM peak traffic volumes, screenlines (observed vs. modelled)



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Figure 5-4 PM peak traffic volumes, screenlines (observed vs. modelled)



The following three figures show the maximum desirable deviation relative to a function that narrows at higher volumes. This function is described as:

> For 2-hour peaks, *maximum % difference* = $\pm 50V^{0.3953}$; and for daily volumes, *maximum % difference* = $\pm 80.145V^{0.3953}$, where V is the total screenline volume (VicRoads, 2012)

The vast majority of the directional screenlines are within the upper and lower targets, especially when looking at daily volumes. Some bigger differences can be seen in both peaks. Three screenlines that are affected are in the direct area of interest are:

- **BH (Bruce Highway)** – The model overestimates East-West travel across the Bruce Highway screenline in the Moreton Bay Region in both the inbound and outbound direction in the morning peak. Travel on this screenline is well reflected in all other time periods; and
- **11 (Pine/Caboolture Border) & 13 (South Pine River)** – Demand towards Brisbane across the Pine River screenline is overestimated in the morning peak. This is mainly caused by traffic leaving the Caboolture and North Lakes areas; north of Caboolture the Bruce Highway is only 4% high relative to the counts indicating travel to and from the Sunshine Coast to Caboolture and Brisbane is reflected well in the model.

Other screenlines where the model is outside the validation targets are noted here. Although outside the limits, they should not have a material impact on the modelling for the Sunshine Coast. These are:

- 19a Dutton Park to Norman Creek/ Brisbane River;
- 19b Dutton Park to Bulimba;
- 20a South Logan Motorway;
- 22 Granard Road - Kessels Road.

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Figure 5-5 Daily maximum desirable deviation, screenlines (observed vs. modelled)

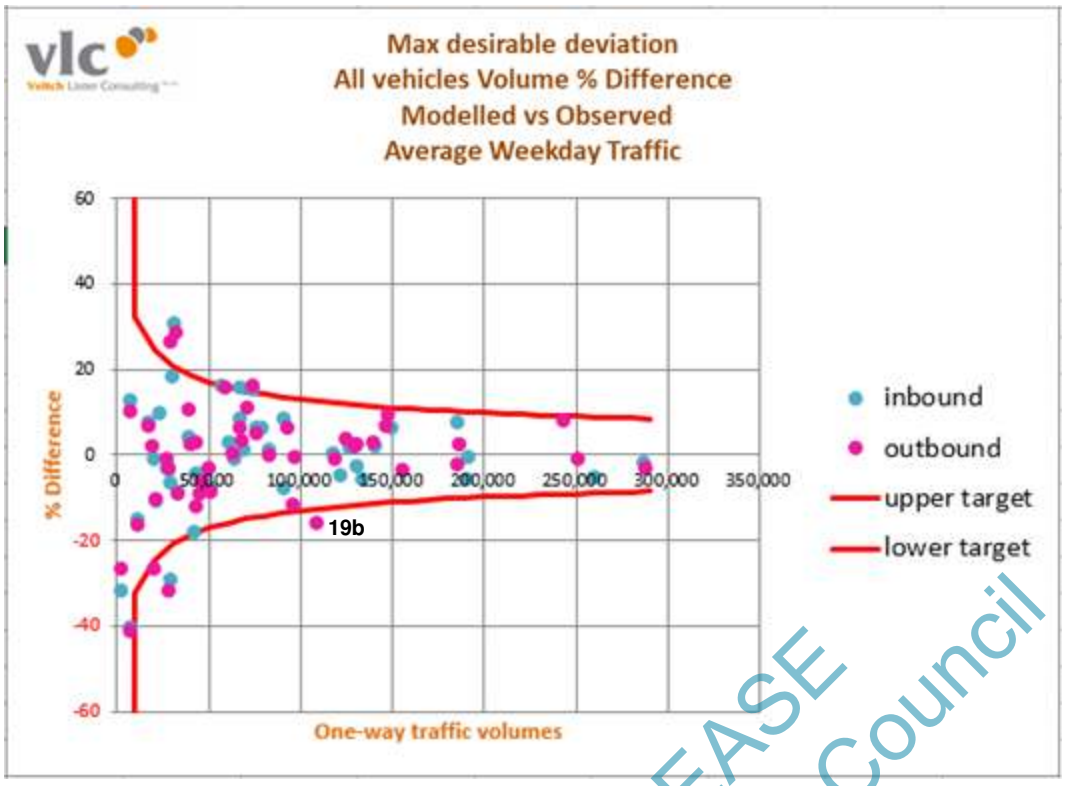
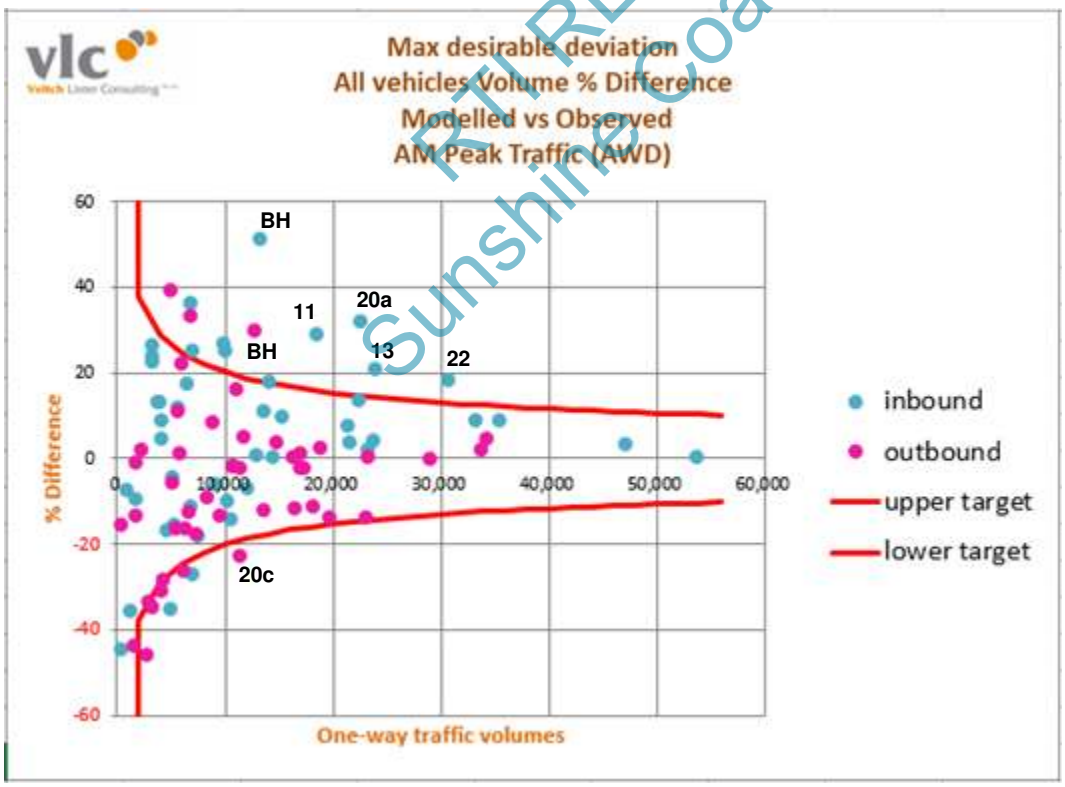


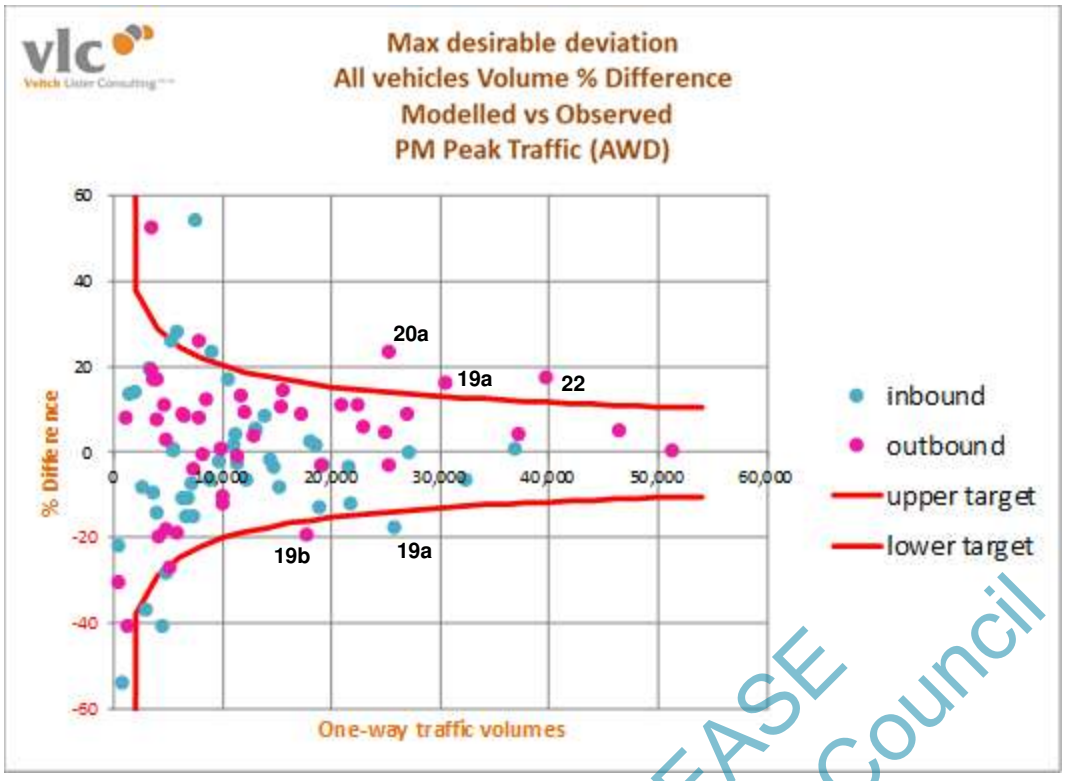
Figure 5-6 AM peak maximum desirable deviation, screenlines (observed vs. modelled)



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Figure 5-7 PM peak maximum desirable deviation, screenlines (observed vs. modelled)



5.1.2 Rail entries

Table 5-2 compares SEQ-wide modelled rail station entries. This shows that the model closely matches total station entries across the day (just 2% higher than observed).

Table 5-2 Public transport assignment validation summary, SEQ-wide

Measure	Target	Daily
% Difference	Daily passengers: +/- 10% for train	+2% ✔
Scatter plot	Slope between 0.9 and 1.1	0.96 ✔
	R^2 greater than or equal to 0.95	0.98 ✔

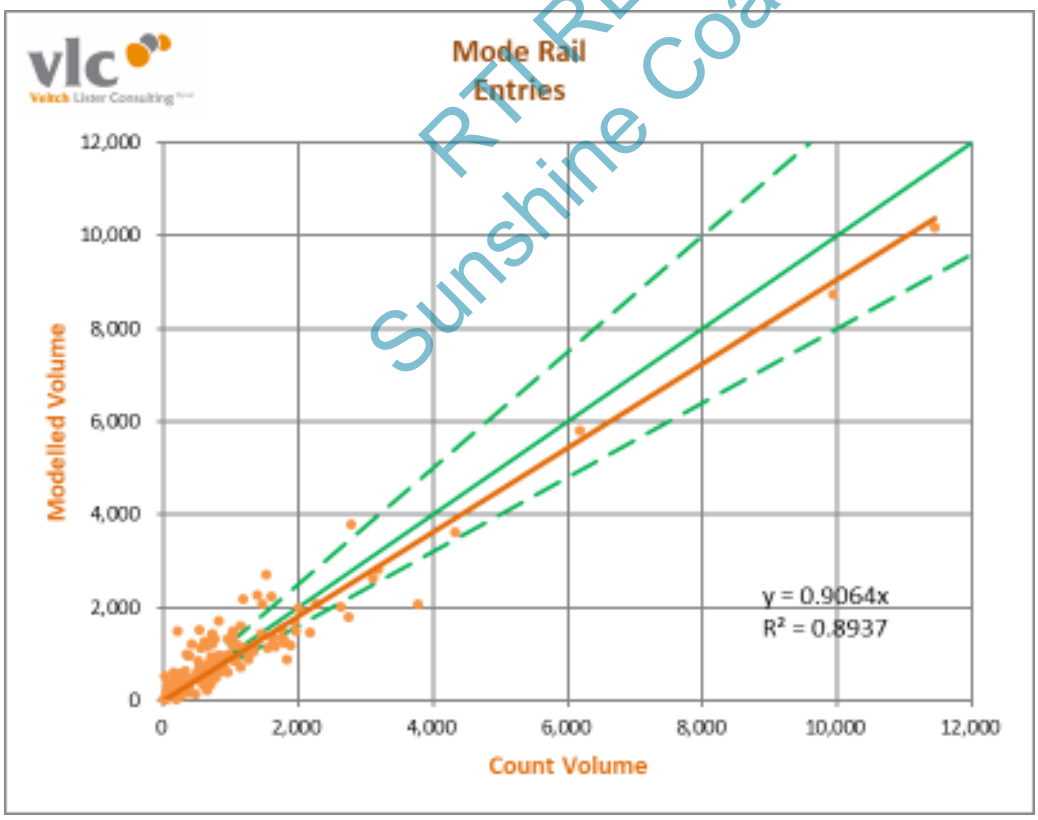
Figure 5-8 provides more detailed validation at entries at specific rail stations. With the slope at 0.96 and R^2 and gradient at 0.98, the model is validating well for this metric, although it should be noted that passenger volumes at Central Station validate very well, which has an overriding positive impact on the validation due to the dominance of Central Station as the most popular station on the network. When excluding Central Station, these values deteriorate to a gradient of 0.91 and an R^2 of 0.89 (Figure 5-9), which still complies with the criteria in Table 3-5.

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Figure 5-8 Daily rail station entries (observed vs. modelled) – including Central



Figure 5-9 Daily rail station entries (observed vs. modelled) – excluding Central



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6. Journey to Work validation

One of the focus areas of the Sunshine Coast Demographics and Preliminary Modelling study is an assessment of changes to self-containment of the Sunshine Coast and changes to external trips as a result of implementation of certain transit systems. Whilst traffic screenlines provide a good indication of the level of modelled accuracy of sector to sector travel, another validation source is the journey to work database.

The Australian Census of Population and Housing is the main source of data on the journey to work in Australia. The journey to work is captured in terms of an individual's location of usual residence, their location of workplace along with the method by which they commuted.

Each trip is recorded in the journey to work database in its entirety, even if the trip involved a stop (for example to drop off kids or go to the store on the way to work). In the Zenith travel model, a distinction is made between trips from home to work, and trips from home to work with a stop in-between. These latter trips would be recorded as, in the case of shopping, an outbound home to shopping trip, and a return work to shopping trip. Whilst it is the same thing, the current Zenith travel model does not link these trips (as tours) and therefore it does not construct the full set of home to work trips from the model. For this reason, percentages of total trips are used instead to compare modelled trips to census journey to work trips.

Table 6-1 shows the journey to work validation for workers originating from the Sunshine Coast to (selected) other LGAs. As the percentages in this table show, the model reflects journey to work patterns extremely well. The self-containment of the Sunshine Coast is approximately 86.1% in the journey to work data versus 87.8% in the model. Key regions such as Moreton Bay and Brisbane are accurately reflected as well at around 3.2% and 4.5% respectively.

Table 6-1 Journey to Work validation, Sunshine Coast

	From Sunshine Coast to			
	Sunshine Coast (R)	Moreton Bay (R)	Brisbane (C)	Other LGAs
Modelled work trips %	87.79%	3.20%	4.47%	4.54%
2016 Census JtW trips	86.10%	3.35%	4.82%	5.73%

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7. Model convergence

Convergence refers to iterative methods to reach an equilibrium state, at which stage more iterations will only result in slight change of modelling results and changes are within accepted limits defined by a user. The convergent feedback process can relate to either the convergence of a complete four-step demand model or within a traffic assignment model. This report deals with the iterations in the assignment only.

Run for an infinite number of iterations, the traffic assignment algorithm will eventually converge to a perfectly stable solution. However, with only a finite number of iterations at our disposal, it is important to monitor the level of convergence achieved.

The key metric used to monitor traffic assignment convergence is the relative changes of link costs between consecutive iterations, known as the relative gap, or RGAP. A relative gap of less than one per cent is generally considered to be acceptable, which is consistent with official guidance provided by organisations including VicRoads and RMS (NSW). The level of convergence achieved within the *Zenith model of SEQ for Sunshine Coast* is shown in Table 7-1.

Table 7-1 Traffic assignment convergence

Measure	Target	AM peak	PM peak	Daily
Epsilon (RGAP)	<0.01	0.00009 ✔	0.00010 ✔	0.00009 ✔
% links with flow change <P%	Flow change of <5% for 95% of links in consecutive iterations	100% ✔	100% ✔	100% ✔

The RGAP and percentage of links with a flow change of less than 5% indicate that the models converged satisfactorily.

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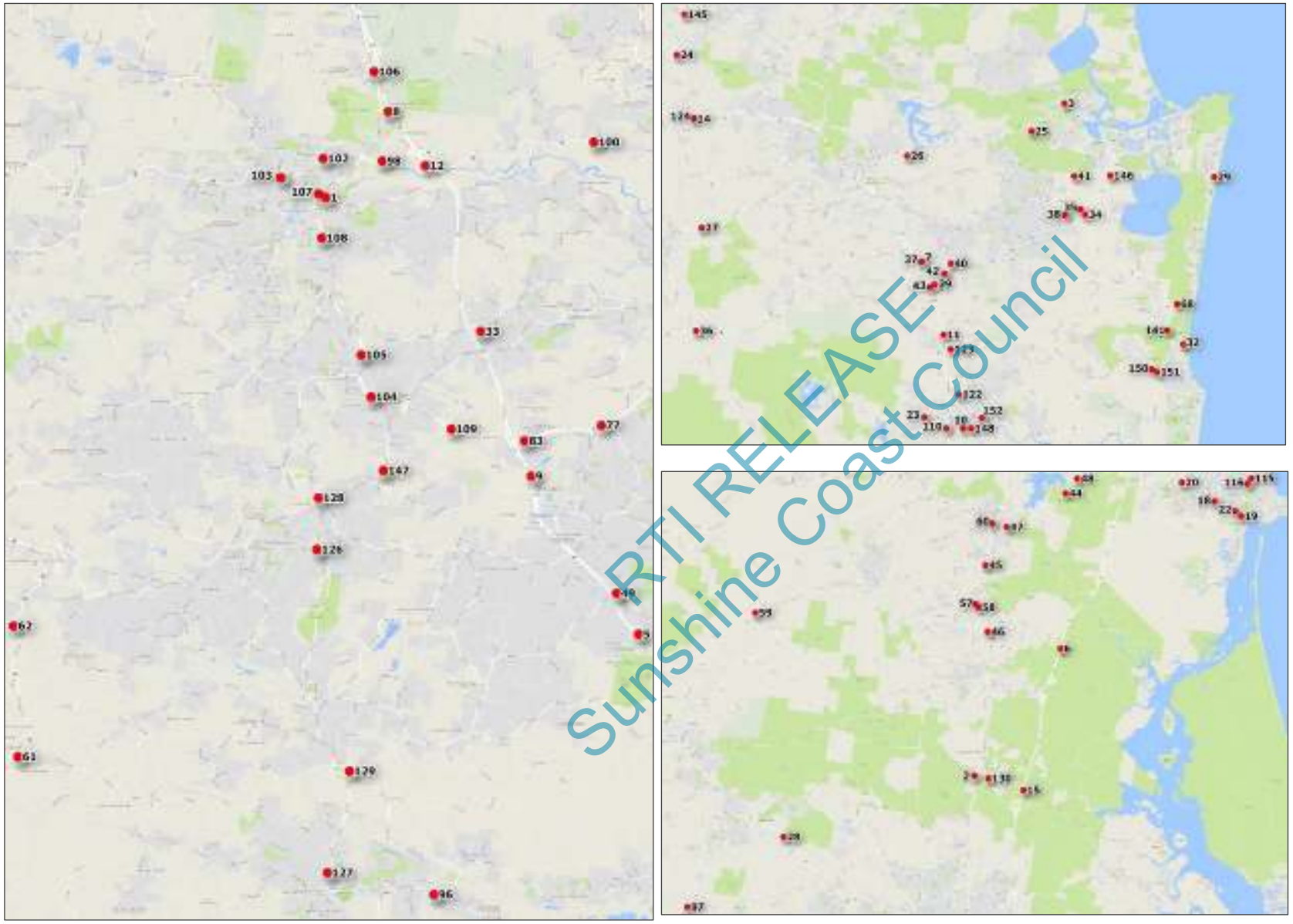
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Appendix A: Count locations Sunshine Coast

Appendix Figure 1 Location of Sunshine Coast counts used in validation



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Appendix Table 1 Description of Sunshine Coast counts used in validation

ID	Location
1	Ann Street (Petrie Creek)
2	Beerburrum Road (500M South Of Beerburrum - Woodford Road)
3	Boreen Point - Tewantin Road (North Of Yellow Wood Close, Just North Of Wooroi Creek)
4	Bruce Highway (10A - Btw Cal Rd And Glenview O'Bridge)
5	Bruce Highway (Brisbane - Gympie) (10A - 1Km South Of Mons Rd Interchange)
6	Bruce Highway (Brisbane - Gympie) (10A - 2.13Km North Of Johnstone Rd Int)
7	Bruce Highway (Brisbane - Gympie) (10A - 320M Sth Of Memorial Drv Overpass)
8	Bruce Highway (Brisbane - Gympie) (10A - 650M Sth Of Parklands Interchange)
9	Bruce Highway (Brisbane - Gympie) (10A - Abut A Eudlo Creek Bridge)
10	Bruce Highway (Brisbane - Gympie) (Wim Site Yandina Bypass)
11	Bruce Highway (North Of North Arm - Yandina Creek Overpass)
12	Bruce Highway (Petrie Creek)
13	Bruce Highway (South Of Sunshine Motorway)
14	Bruce Highway (West Of Pomona Connection Road)
15	Bruce Hwy (400M North Of Steve Irwin Way)
16	Caloundra - Mooloolaba Road (151 - South Of Woodlands Drive)
17	Caloundra - Mooloolaba Road (Rd 151 Btwn Kawana Way & Woodlands Bvd)
18	Caloundra Road (132 - 150M West Of Bellvista Blvd)
19	Caloundra Road (132 - 300M East Of Rd 153 R'Bt)
20	Caloundra Road (132 - West Of Of Parklands Bvd/Pierce Av)
21	Caloundra Road (East Of Bruce Highway)
22	Caloundra Road (West Of Nicklin Way R'Bt)
23	Coleman Farm Rd (South Maroochy River)
24	Coles Creek Road (West Of Jampot Creek Road)
25	Cooroy - Noosa Rd (Between Forest Dr And Griffith Avenue)
26	Cooroy - Noosa Road (East Of Pine Tree Drive)
27	Cooroy Belli Creek Rd (East Of Happy Jack Creek Road)
28	D'Aguilar Hwy (500M North Of J Lindsay Road)
29	David Low Way (At Burgess Ck)
30	David Low Way (Petrie Creek)
31	David Low Way (South Of Petrie Avenue (Marcoola))
32	David Low Way (Stumers Creek)
33	Diddillibah Rd (East Of Bruce Highway)
34	Emu Mountain Road (300M South Of Walter Hay Drive)
35	Emu Mountain Road (South Of Eumundi-Noosa Road)
36	Eumundi - Kenilworth Road (East Of Skyring Creek Road)
37	Eumundi - Kenilworth Road (West Of Rd 10A-Bruce Highway)
38	Eumundi - Noosa Road (140 - 250M West Of Emu Mountain Rd)
39	Eumundi - Noosa Road (150M East Of Bruce Hwy)
40	Eumundi - Noosa Road (East Of Rail Crossing (Eumundi))
41	Eumundi - Noosa Road (Just North Of Hollett Rd)
42	Eumundi - Noosa Road (North Of Napier Rd)
43	Eumundi - Noosa Road (On Highway Over Bridge)
44	Glasshouse Mountains Road (490 - 500M South Of Big Kart Track Entry)
45	Glasshouse Mountains Road (490 - 600M South Of Hardwood Rd Ptc)
46	Glasshouse Mountains Road (490 - Abut A Coochin Ck)
47	Glasshouse Mountains Road (490 - South Of Caloundra St/Forestry Rd)
48	Glasshouse Mountains Road (490 -300M Nth Of Mooloolah Connection Rd)
49	Ilkley Rd (East Of Bruce Highway)
50	Kawana Way (Mooloolah River)
51	Kawana Way (Sunshine Mtwy - Nicklin Way) (152 - Between Meter Linkway & Capital Pl)
52	Kawana Way (Sunshine Mtwy - Nicklin Way) (152 - North Of Lake Kawana Bvd)
53	Kawana Way (Sunshine Mtwy - Nicklin Way) (152 - South Of Sunshine Motorway 150A)
54	Kawana Way (Sunshine Mtwy - Nicklin Way) (152 Between Kawana Is Bvd & Premier Crt)
55	Kawana Way (Sunshine Mtwy - Nicklin Way) (152 Btwn Lake Kawana Bvd & Creekside Bvd)
56	Kawana Way (Sunshine Mtwy - Nicklin Way) (Between Jamacia Way & Kawana Island Bvd)
57	Kilcoy - Beerwah Road (492 - 50M East Of Blackbutt St)
58	Kilcoy - Beerwah Road (Between Peachester Road & Roberts Road)
59	Kilcoy Beerwah Road (South Of Commisioners Flat Road)
60	Landsborough - Maleny Road (494 - East Of Gympie St)
61	Maleny - Montville Road (Balmoral Lookout)
62	Maleny - Montville Road (North Of Balmoral Park Entrance)
63	Maroochydore - Mooloolaba Road (135 - Between Plaza Pde And First Av)
64	Maroochydore - Mooloolaba Road (Between Kingsford Smith Pde & Rose St)
65	Maroochydore - Mooloolaba Road (North Of Mooloolaba Rd (Rd 134))
66	Maroochydore - Mooloolaba Road (Rd 135 - Btwn Golf St And Cornmeal Pde)
67	Maroochydore - Mooloolaba Road (West Of Sixth Av)

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ID	Location
68	Maroochydore - Noosa Road (133 - 50M South Of Woodland Drive)
69	Maroochydore - Noosa Road (133 - Nth Of Ssmw/David Low Way Int)
70	Maroochydore - Noosa Road (133 - Ptc 320M North Of Runway Drive)
71	Maroochydore - Noosa Road (133 - South Of Ball St)
72	Maroochydore - Noosa Road (133 - West Of Runway Drive)
73	Maroochydore - Noosa Road (East Of Fishermans Rd)
74	Maroochydore - Noosa Road (Rd 133 - North Of Duporth Av)
75	Maroochydore - Noosa Road (Rd 133 - West Of Finland Road)
76	Maroochydore - Noosa Road (South Of Duporth Av)
77	Maroochydore Road (136 - West Of Pike/Hobbs Rd)
78	Maroochydore Road (136 - 500M West Of Sunshine Motorway)
79	Maroochydore Road (136 - Btwn Hume St & Main Rd)
80	Maroochydore Road (136 - East Of Hardware House)
81	Maroochydore Road (136 - Ped Xing Maroochydore High School)
82	Maroochydore Road (East Of Baden Powell St)
83	Maroochydore Road (East Of Bruce Highway)
84	Maroochydore Road (West Of Main/Jones Rd On/Off Ramps W/S)
85	Mooloolaba Road (134 - 100M East Of Syd Lingard Dr)
86	Mooloolaba Road (134 - 230M South Of Taylor Rd)
87	Mooloolaba Road (134 - 30M West Of Short Street)
88	Mooloolaba Road (134 - At Ssmw Over Bridge)
89	Mooloolaba Road (134 - South Of Kirby Crt)
90	Mooloolaba Road (134 - West Of Rd 135)
91	Mooloolaba Road (134 Btw Buderim Pines Dr & Deloraine Dr)
92	Mooloolaba Road (134 Btwn Golf Links Dr & Syd Lingard Dr)
93	Mooloolaba Road (East Of Ssmw)
94	Mooloolaba Road (Rd 134 - At Ped Xing Buderim School)
95	Mooloolaba Road (West Of Lindsay/Ballinger Rd)
96	Mooloolah Connection Road (4906 - Valley View Rise Rd)
97	Mt Mee - Woodford Rd (250M North Of Robinsons Road)
98	Nambour - Bli Bli Road (130 - 150M Of Crusher Park Dr East)
99	Nambour - Bli Bli Road (130 - Between School Rd & Rd 1305)
100	Nambour - Bli Bli Road (270M West Of Camp Flat Road)
101	Nambour - Bli Bli Road (Cane Train Bdg)
102	Nambour - Mapleton Road (496 - East Of Hospital Road)
103	Nambour - Mapleton Road (West Of Hospital Rd)
104	Nambour Connection Road (489 - 90M North Of Keil Mountain O'Pass)
105	Nambour Connection Road (Abut B Paynters Crk)
106	Nambour Connection Road (North Of Rd 130/Rd 496 Intersection)
107	Nambour Connection Road (Petrie Creek)
108	Nambour Connection Road (South Of Arundell Avenue)
109	Nambour Connection Road (West Of Rd 10A-Bruce Highway)
110	Nambour North Connection Road (South Maroochy River)
111	Nicklin Way (153 - 200M North Of Waterview Street)
112	Nicklin Way (153 - 30M North Of Erang St)
113	Nicklin Way (153 - 30M South Of Erang St)
114	Nicklin Way (153 - Abut B Parrearra Channel)
115	Nicklin Way (153 - North Of Beerburrum Street)
116	Nicklin Way (153 - South Of Beerburrum St)
117	Nicklin Way (153 - South Of Kensington Drive)
118	Nicklin Way (153 - South Of Lutana Street)
119	Nicklin Way (153 North Of Lutana Street)
120	Nicklin Way (Rd 153 - 50M South Of Wurley Drive)
121	Nicklin Way (South Of Mooloolah River, North Of Eden St)
122	Ninderry Rd (East Of Bruce Highway)
123	North Arm - Yandina Creek Rd (East Of Bruce Highway)
124	Old Bruce Highway (West Of Gardners Road)
125	Pacific Paradise Connection Road (East Of Sunshine Mway)
126	Palmwoods - Mooloolah Road (4981 - 300M North Of Bamboo Rd)
127	Palmwoods - Mooloolah Road (4981 - Abut B Mooloolah River)
128	Palmwoods - Mooloolah Road (4981 - South Of Woombye - Montville Rd)
129	Palmwoods - Mooloolah Road (At La Boundary Maroochy/Caloundra)
130	Steve Irwin Highway (600M South Of Beerburrum Road)
131	Sunshine Motorway (150A - Between Rd 134 & Stringybark Rd)
132	Sunshine Motorway (150A - East Of Kawana Way)
133	Sunshine Motorway (East Of Bruce Highway)
134	Sunshine Motorway (Maroochy River)
135	Sunshine Motorway (Mooloolaba - Peregian) (150B - Abut B Parrerra Channel)
136	Sunshine Motorway (Mooloolaba - Peregian) (150B - 740M North Of Maroochy Blvd)

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ID	Location
137	Sunshine Motorway (Mooloolaba - Peregian) (150B - Between Rd 150A And Rd 134)
138	Sunshine Motorway (Mooloolaba - Peregian) (150B - Btw Rd 134 And Maroochy Blvd)
139	Sunshine Motorway (Mooloolaba - Peregian) (150B - Ex Toll Plaza-Mooloolah River)
140	Sunshine Motorway (Mooloolaba - Peregian) (North Of Ssmw/David Low Way Int)
141	Sunshine Motorway (South Of Emu Mtn Rd)
142	Sunshine Motorway (Tanawha - Mooloolaba) (150A - 400M West Of Kawana Way Int)
143	Sunshine Motorway (Tanawha - Mooloolaba) (150A - East Of Karawatha Dr On/Off Ramps)
144	Sunshine Motorway (Tanawha - Mooloolaba) (150A - West Of Brisbane Rd)
145	Traveston Cooran Road (West Of Old Noosa Road)
146	Walter Hay Drive (Eenie Creek)
147	Woombye - Montville Road (At Palmwoods Cemetery)
148	Yandina - Bli Bli Road (East Of Bruce Highway)
149	Yandina - Bli Bli Road (West Of Samantha Dr East)
150	Yandina - Coolum Road (138 - 400M East Of Corbould Rd)
151	Yandina - Coolum Road (250M East Of Ssmw R'Bt)
152	Yandina - Coolum Road (East Of Bruce Highway)

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Appendix B: Detailed validation statistics for Sunshine Coast

Appendix Table 2 Detailed validation statistics for Sunshine Coast

ID	Dir	AM Peak				PM Peak				Daily Total			
		Count	Model	Diff	% Diff	Count	Model	Diff	% Diff	Count	Model	Diff	% Diff
1	SB	433	179	-254	-59%	432	79	-353	-82%	2,951	826	-2,125	-72%
	NB	199	65	-134	-68%	408	112	-296	-73%	2,232	729	-1,503	-67%
2	NB	236	306	70	30%	329	412	83	25%	1,756	2,126	370	21%
	SB	356	418	62	17%	262	385	123	47%	1,777	2,454	677	38%
3	NB	919	283	-636	-69%	371	838	467	126%	3,619	3,839	220	6%
	SB	311	862	551	177%	794	384	-410	-52%	3,649	3,829	180	5%
4	TG	4,833	4,867	34	1%	4,577	5,175	598	13%	29,834	34,713	4,879	16%
	TA	4,501	4,875	374	8%	4,780	5,413	633	13%	30,275	35,996	5,721	19%
5	TG	3,462	3,662	200	6%	3,007	3,602	595	20%	22,067	24,524	2,457	11%
	TA	3,472	3,674	202	6%	3,930	4,226	296	8%	23,985	26,780	2,795	12%
6	TA	3,868	4,037	169	4%	3,734	4,108	374	10%	26,930	29,448	2,518	9%
	TG	3,542	3,680	138	4%	4,014	4,412	398	10%	26,574	28,877	2,303	9%
7	TG	1,324	854	-470	-35%	1,503	1,903	400	27%	10,120	9,848	-272	-3%
	TA	1,541	1,894	353	23%	1,344	1,065	-279	-21%	10,477	10,141	-336	-3%
8	TG	2,304	2,081	-223	-10%	2,909	3,923	1,014	35%	17,722	20,462	2,740	15%
	TA	2,552	2,730	178	7%	2,214	1,923	-291	-13%	16,225	15,861	-364	-2%
9	TA	3,925	3,980	55	1%	4,303	3,930	-373	-9%	26,616	27,343	727	3%
	TG	4,292	3,800	-492	-11%	3,800	3,932	132	3%	25,893	26,288	395	2%
10	TA	2,188	3,551	1,363	62%	1,906	2,167	261	14%	14,129	18,497	4,368	31%
	TG	2,077	1,747	-330	-16%	2,508	3,534	1,026	41%	15,736	18,060	2,324	15%
11	NB	2,119	1,550	-569	-27%	2,329	3,239	910	39%	15,010	16,401	1,391	9%
	SB	2,615	3,083	468	18%	1,997	1,872	-125	-6%	15,884	16,350	466	3%
12	NB	2,980	2,314	-666	-22%	2,804	3,401	597	21%	19,058	18,876	-182	-1%
	SB	3,130	3,222	92	3%	2,964	2,411	-553	-19%	19,859	18,766	-1,093	-6%
13	SB	5,776	5,033	-743	-13%	5,519	5,951	432	8%	36,494	38,229	1,735	5%
	NB	5,572	5,277	-295	-5%	5,518	5,234	-284	-5%	36,733	35,879	-854	-2%
14	EB	1,030	1,125	95	9%	1,100	815	-285	-26%	7,899	7,364	-535	-7%
	WB	1,235	664	-571	-46%	1,113	1,095	-18	-2%	8,385	7,113	-1,272	-15%
15	NB	3,500	3,314	-186	-5%	4,227	4,301	74	2%	27,208	27,334	126	0%
	SB	3,629	3,945	316	9%	3,827	3,668	-159	-4%	26,798	27,388	590	2%
16	TG	1,385	1,034	-351	-25%	889	771	-118	-13%	6,161	5,437	-724	-12%
	TA	835	613	-222	-27%	898	915	17	2%	5,530	4,654	-876	-16%
17	TG	1,678	1,388	-290	-17%	1,057	917	-140	-13%	7,439	6,917	-522	-7%
	TA	1,115	812	-303	-27%	1,329	1,209	-120	-9%	7,474	6,135	-1,339	-18%
18	TA	2,447	1,794	-653	-27%	2,664	2,833	169	6%	17,073	16,049	-1,024	-6%
	TG	2,827	2,985	158	6%	2,630	2,228	-402	-15%	17,192	17,037	-155	-1%
19	TA	2,107	2,292	185	9%	2,542	3,385	843	33%	18,024	20,524	2,500	14%
	TG	3,213	3,367	154	5%	2,575	2,664	89	3%	19,270	20,702	1,432	7%
20	TG	3,257	2,630	-627	-19%	3,773	3,412	-361	-10%	20,714	19,507	-1,207	-6%
	TA	3,564	2,872	-692	-19%	2,687	2,618	-69	-3%	20,365	18,002	-2,363	-12%
21	EB	3,171	3,392	221	7%	3,574	3,864	290	8%	20,072	23,308	3,236	16%
	WB	3,743	3,086	-657	-18%	3,519	3,349	-170	-5%	23,257	20,967	-2,290	-10%
22	TG	2,436	2,978	542	22%	2,593	2,681	88	3%	17,026	18,842	1,816	11%
	TA	2,280	2,238	-42	-2%	2,557	2,816	259	10%	16,971	17,795	824	5%
23	NB	12	3	-9	-73%	8	3	-5	-68%	58	18	-40	-70%
	SB	6	3	-3	-56%	9	3	-6	-63%	57	19	-38	-67%
24	WB	23	80	57	248%	25	91	66	266%	134	547	413	308%
	EB	29	64	35	122%	16	103	87	544%	131	495	364	278%
25	WB	888	732	-156	-18%	1,093	1,044	-49	-4%	6,450	5,770	-680	-11%
	EB	1,180	1,008	-172	-15%	884	840	-44	-5%	6,229	5,576	-653	-10%
26	EB	1,067	870	-197	-18%	887	814	-73	-8%	6,098	5,067	-1,031	-17%
	WB	928	746	-182	-20%	1,049	952	-97	-9%	6,318	5,398	-920	-15%
	WB	18	36	18	99%	71	78	7	9%	289	384	95	33%

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ID	Dir	AM Peak				PM Peak				Daily Total			
		Count	Model	Diff	% Diff	Count	Model	Diff	% Diff	Count	Model	Diff	% Diff
27	EB	77	74	-3	-4%	23	29	6	28%	273	304	31	11%
28	SB	1,054	905	-149	-14%	703	503	-200	-29%	5,981	4,397	-1,584	-26%
	NB	790	396	-394	-50%	1,087	953	-134	-12%	6,145	4,438	-1,707	-28%
29	SB	889	697	-192	-22%	1,081	1,164	83	8%	6,552	7,181	629	10%
	NB	1,285	1,070	-215	-17%	883	873	-10	-1%	6,364	7,208	844	13%
30	SB	1,359	1,044	-315	-23%	838	675	-163	-20%	6,351	5,236	-1,115	-18%
	NB	821	641	-180	-22%	1,374	1,149	-225	-16%	7,145	5,767	-1,378	-19%
31	SB	1,574	1,608	34	2%	876	898	22	3%	7,502	8,401	899	12%
	NB	695	718	23	3%	1,505	1,706	201	13%	7,107	8,575	1,468	21%
32	NB	1,180	993	-187	-16%	979	1,003	24	2%	6,557	7,016	459	7%
	SB	875	860	-15	-2%	1,080	1,054	-26	-2%	6,598	6,841	243	4%
33	EB	69	34	-35	-50%	97	84	-13	-13%	486	355	-131	-27%
	WB	91	99	8	8%	62	35	-27	-43%	441	352	-89	-20%
34	TA	1,269	1,017	-252	-20%	1,448	1,213	-235	-16%	8,108	7,577	-531	-7%
	TG	1,779	1,171	-608	-34%	1,197	1,069	-128	-11%	8,365	7,688	-677	-8%
35	TG	726	737	11	2%	666	1,016	350	53%	4,025	6,483	2,458	61%
	TA	816	994	178	22%	583	880	297	51%	4,045	6,438	2,393	59%
36	EB	207	236	29	14%	92	107	15	16%	955	981	26	3%
	WB	119	79	-40	-33%	180	270	90	50%	977	992	15	2%
37	TG	167	93	-74	-44%	257	296	39	15%	1,436	1,078	-358	-25%
	TA	368	265	-103	-28%	126	118	-8	-6%	1,482	1,067	-415	-28%
38	TG	1,294	1,270	-24	-2%	1,006	1,036	30	3%	7,540	7,849	309	4%
	TA	1,035	902	-133	-13%	1,180	1,278	98	8%	7,325	7,787	462	6%
39	TA	111	111	0	0%	128	170	42	33%	765	908	143	19%
	TG	736	808	72	10%	784	1,197	413	53%	4,574	6,505	1,931	42%
40	EB	1,055	893	-162	-15%	956	1,154	198	21%	6,247	6,720	473	8%
	WB	1,026	998	-28	-3%	896	979	83	9%	6,000	6,467	467	8%
41	NB	1,726	1,135	-591	-34%	1,089	879	-210	-19%	8,452	6,439	-2,013	-24%
	SB	1,208	781	-427	-35%	1,323	1,163	-160	-12%	8,303	6,337	-1,966	-24%
42	TG	584	614	30	5%	647	1,018	371	57%	3,685	5,368	1,683	46%
	TA	715	892	177	25%	506	727	221	44%	3,635	5,189	1,554	43%
43	TG	871	1,029	158	18%	833	1,269	436	52%	5,141	7,289	2,148	42%
	TA	111	111	0	0%	128	170	42	33%	765	908	143	19%
44	TG	1,700	1,267	-433	-25%	1,465	1,328	-137	-9%	9,637	8,150	-1,487	-15%
	TA	1,257	1,007	-250	-20%	1,578	1,023	-555	-35%	9,314	6,733	-2,581	-28%
45	TG	991	663	-328	-33%	1,099	891	-208	-19%	6,704	5,130	-1,574	-23%
	TA	995	817	-178	-18%	891	615	-276	-31%	6,226	4,708	-1,518	-24%
46	TG	1,265	1,060	-205	-16%	1,007	1,176	169	17%	7,007	7,357	350	5%
	TA	937	1,108	171	18%	1,154	1,033	-121	-11%	6,874	7,067	193	3%
47	TA	565	333	-232	-41%	518	382	-136	-26%	3,540	2,697	-843	-24%
	TG	691	544	-147	-21%	646	517	-129	-20%	4,003	3,877	-126	-3%
48	TA	1,461	1,164	-297	-20%	1,941	1,396	-545	-28%	11,426	8,516	-2,910	-25%
	TG	2,255	1,712	-543	-24%	1,594	1,665	71	4%	11,980	10,842	-1,138	-9%
49	WB	264	125	-139	-53%	111	346	235	212%	976	1,496	520	53%
	EB	89	387	298	335%	229	167	-62	-27%	978	1,550	572	59%
50	WB	1,620	1,292	-328	-20%	2,045	1,514	-531	-26%	10,252	8,793	-1,459	-14%
	EB	1,980	1,452	-528	-27%	1,621	1,165	-456	-28%	10,389	8,246	-2,143	-21%
51	TA	2,052	1,428	-624	-30%	1,628	1,194	-434	-27%	10,275	8,262	-2,013	-20%
	TG	1,564	1,038	-526	-34%	1,584	1,226	-358	-23%	10,094	7,273	-2,821	-28%
52	TA	2,481	1,832	-649	-26%	1,562	966	-596	-38%	10,683	8,438	-2,245	-21%
	TA	2,051	1,832	-219	-11%	1,429	966	-463	-32%	9,583	8,438	-1,145	-12%
	TA	1,674	1,832	158	9%	902	966	64	7%	7,282	8,438	1,156	16%
	TG	1,334	774	-560	-42%	1,760	1,600	-160	-9%	9,794	7,442	-2,352	-24%
	TG	1,296	774	-522	-40%	1,910	1,600	-310	-16%	9,905	7,442	-2,463	-25%
	TG	837	774	-63	-8%	1,365	1,600	235	17%	6,719	7,442	723	11%
53	TA	1,480	1,474	-6	0%	1,661	1,283	-378	-23%	8,894	8,172	-722	-8%
	TG	1,563	1,206	-357	-23%	1,598	1,254	-344	-22%	8,887	7,341	-1,546	-17%
54	TA	1,458	1,037	-421	-29%	2,157	1,614	-543	-25%	9,957	8,467	-1,490	-15%
	TG	2,161	1,514	-647	-30%	1,578	962	-616	-39%	10,241	7,681	-2,560	-25%
	TG	482	477	-5	-1%	1,084	1,046	-38	-3%	4,894	4,504	-390	-8%

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ID	Dir	AM Peak				PM Peak				Daily Total			
		Count	Model	Diff	% Diff	Count	Model	Diff	% Diff	Count	Model	Diff	% Diff
55	TG	415	477	62	15%	1,013	1,046	33	3%	4,497	4,504	7	0%
	TG	502	477	-25	-5%	988	1,046	58	6%	4,694	4,504	-190	-4%
	TG	459	477	18	4%	1,038	1,046	8	1%	4,685	4,504	-181	-4%
	TA	2,101	1,216	-885	-42%	1,050	583	-467	-45%	8,495	5,268	-3,227	-38%
	TA	1,303	1,216	-87	-7%	703	583	-120	-17%	5,602	5,268	-334	-6%
	TA	1,674	1,216	-458	-27%	925	583	-342	-37%	7,261	5,268	-1,993	-27%
	TA	1,679	1,216	-463	-28%	912	583	-329	-36%	7,036	5,268	-1,768	-25%
56	TA	1,262	1,010	-252	-20%	1,967	1,326	-641	-33%	8,994	7,685	-1,309	-15%
	TG	1,976	1,323	-653	-33%	1,486	975	-511	-34%	9,232	7,500	-1,732	-19%
57	TA	536	397	-139	-26%	668	734	66	10%	3,948	3,943	-5	0%
	TG	728	766	38	5%	518	488	-30	-6%	4,100	4,170	70	2%
58	TA	540	331	-209	-39%	459	603	144	31%	3,087	2,994	-93	-3%
	TG	508	497	-11	-2%	429	345	-84	-20%	3,122	2,434	-688	-22%
59	NB	154	265	111	72%	277	174	-103	-37%	1,499	1,441	-58	-4%
	SB	262	106	-156	-59%	187	244	57	31%	1,434	1,237	-197	-14%
60	TA	941	1,240	299	32%	726	754	28	4%	5,349	6,264	915	17%
	TG	569	620	51	9%	896	1,175	279	31%	4,738	6,171	1,433	30%
61	NB	244	439	195	80%	282	334	52	19%	1,819	2,290	471	26%
	SB	281	291	10	3%	255	456	201	79%	1,854	2,313	459	25%
62	TA	243	291	48	20%	229	456	227	99%	1,587	2,313	726	46%
	TG	227	439	212	93%	239	334	95	40%	1,567	2,290	723	46%
63	TA	1,786	2,143	357	20%	2,151	2,290	139	6%	15,265	16,282	1,017	7%
	TG	1,621	1,829	208	13%	2,028	2,067	39	2%	14,176	14,412	236	2%
64	TA	1,473	1,534	61	4%	1,375	1,558	183	13%	10,803	11,364	561	5%
	TG	814	1,006	192	24%	1,497	1,286	-211	-14%	8,973	8,464	-509	-6%
65	TG	1,031	862	-169	-16%	1,565	1,322	-243	-15%	9,783	8,516	-1,267	-13%
	TA	1,268	941	-327	-26%	1,144	1,165	21	2%	9,193	8,877	-316	-3%
66	TA	1,585	1,765	180	11%	1,872	2,287	415	22%	13,112	14,088	976	7%
67	TG	539	625	86	16%	1,123	1,022	-101	-9%	6,582	6,095	-487	-7%
	TA	1,241	978	-263	-21%	1,093	961	-132	-12%	8,629	7,429	-1,200	-14%
68	TA	1,387	1,230	-157	-11%	1,189	1,411	222	19%	7,768	9,212	1,444	19%
	TG	1,264	1,308	44	4%	1,249	1,332	83	7%	7,246	9,361	2,115	29%
69	TA	470	324	-146	-31%	462	325	-137	-30%	2,732	1,999	-733	-27%
70	TG	632	793	161	25%	1,616	1,802	186	12%	7,444	9,225	1,781	24%
	TA	1,598	1,747	149	9%	902	970	68	8%	7,721	9,090	1,369	18%
71	TG	560	694	134	24%	1,273	1,300	27	2%	6,646	7,545	899	14%
	TA	1,510	1,223	-287	-19%	786	774	-12	-2%	6,752	6,682	-70	-1%
72	TA	1,427	1,938	511	36%	816	1,692	876	107%	7,149	12,363	5,214	73%
	TG	833	1,321	488	59%	1,353	1,625	272	20%	6,679	10,737	4,058	61%
73	TG	762	656	-106	-14%	1,175	855	-320	-27%	6,640	5,189	-1,451	-22%
	TA	1,064	921	-143	-13%	784	753	-31	-4%	5,821	5,245	-576	-10%
74	TA	1,354	1,231	-123	-9%	719	776	57	8%	6,262	6,538	276	4%
	TG	295	675	380	129%	636	1,406	770	121%	3,566	7,483	3,917	110%
75	TA	914	715	-199	-22%	796	1,026	230	29%	5,478	5,608	130	2%
	TG	1,280	1,048	-232	-18%	983	792	-191	-19%	7,145	5,874	-1,271	-18%
76	TA	662	912	250	38%	571	607	36	6%	4,637	5,022	385	8%
	TG	337	517	180	53%	647	1,045	398	62%	4,104	5,772	1,668	41%
77	TG	2,559	3,203	644	25%	1,674	2,150	476	28%	12,324	17,237	4,913	40%
	TA	1,912	2,139	227	12%	2,013	3,435	1,422	71%	12,301	18,643	6,342	52%
78	TA	2,750	3,483	733	27%	3,008	4,691	1,683	56%	18,357	27,927	9,570	52%
	TG	3,120	4,626	1,506	48%	3,003	3,772	769	26%	18,345	27,732	9,387	51%
79	TA	1,346	1,371	25	2%	1,957	2,431	474	24%	11,815	12,952	1,137	10%
	TG	2,307	2,361	54	2%	1,396	1,415	19	1%	11,462	11,880	418	4%
80	TA	926	1,249	323	35%	1,849	2,673	824	45%	10,144	13,504	3,360	33%
	TG	2,075	2,466	391	19%	1,298	1,355	57	4%	10,453	12,181	1,728	17%
81	TG	2,507	2,562	55	2%	1,548	1,379	-169	-11%	13,075	12,460	-615	-5%
	TA	977	1,281	304	31%	2,207	2,730	523	24%	12,089	13,781	1,692	14%
82	TG	1,759	1,854	95	5%	1,257	1,118	-139	-11%	10,541	9,997	-544	-5%
	TA	958	1,149	191	20%	1,552	1,958	406	26%	9,398	11,056	1,658	18%
	WB	2,419	2,374	-45	-2%	2,859	3,652	793	28%	15,902	19,970	4,068	26%

RTI RELEASE
Sunshine Coast Council

ID	Dir	AM Peak				PM Peak				Daily Total			
		Count	Model	Diff	% Diff	Count	Model	Diff	% Diff	Count	Model	Diff	% Diff
83	EB	2,985	3,418	433	15%	2,139	2,395	256	12%	15,312	18,593	3,281	21%
84	TA	3,257	3,389	132	4%	2,569	4,095	1,526	59%	18,507	25,433	6,926	37%
	TG	3,142	4,029	887	28%	2,878	3,561	683	24%	17,782	24,724	6,942	39%
85	TG	1,794	1,684	-110	-6%	1,566	1,325	-241	-15%	11,003	9,963	-1,040	-9%
	TA	1,305	1,437	132	10%	2,020	1,779	-241	-12%	11,188	11,174	-14	0%
86	TG	411	549	138	34%	523	661	138	26%	2,763	3,976	1,213	44%
	TA	482	653	171	36%	422	591	169	40%	2,775	4,003	1,228	44%
87	TA	966	1,006	40	4%	1,189	723	-466	-39%	7,202	5,570	-1,632	-23%
	TG	1,184	678	-506	-43%	1,146	875	-271	-24%	7,612	5,013	-2,599	-34%
88	TG	1,805	1,557	-248	-14%	1,700	1,504	-196	-12%	9,857	10,321	464	5%
	TA	1,489	2,330	841	56%	1,215	1,683	468	39%	7,637	11,808	4,171	55%
89	TA	1,325	1,240	-85	-6%	941	952	11	1%	6,546	6,833	287	4%
	TG	1,366	968	-398	-29%	1,360	1,308	-52	-4%	7,343	7,592	249	3%
90	TA	573	915	342	60%	874	535	-339	-39%	5,156	5,195	39	1%
	TG	684	354	-330	-48%	528	819	291	55%	4,030	4,667	637	16%
91	TG	695	1,024	329	47%	1,173	701	-472	-40%	6,307	5,528	-779	-12%
	TA	1,013	747	-266	-26%	903	1,015	112	12%	6,302	5,937	-365	-6%
92	TG	1,804	1,520	-284	-16%	1,267	1,153	-114	-9%	9,528	8,954	-574	-6%
	TA	1,121	1,240	119	11%	1,761	1,566	-195	-11%	9,764	10,095	331	3%
93	TA	1,590	1,343	-247	-16%	1,730	1,515	-215	-12%	10,918	11,004	86	1%
	TG	1,671	1,735	64	4%	2,180	1,789	-391	-18%	12,543	12,582	39	0%
94	TA	1,175	1,364	189	16%	1,150	995	-155	-14%	7,818	7,446	-372	-5%
	TG	1,041	947	-94	-9%	1,258	1,160	-98	-8%	7,714	7,156	-558	-7%
95	TG	1,117	898	-219	-20%	1,329	926	-403	-30%	8,168	5,896	-2,272	-28%
	TA	1,214	1,038	-176	-14%	1,275	907	-368	-29%	8,118	6,307	-1,811	-22%
96	TA	534	493	-41	-8%	277	363	86	31%	2,266	2,786	520	23%
	TG	228	355	127	56%	529	544	15	3%	2,191	2,920	729	33%
97	NB	61	41	-20	-33%	54	53	-1	-3%	382	271	-111	-29%
	SB	43	44	1	1%	71	42	-29	-41%	403	265	-138	-34%
98	TG	1,078	1,339	261	24%	1,614	1,986	372	23%	8,927	10,629	1,702	19%
	TA	1,328	1,438	110	8%	776	818	42	5%	6,741	6,388	-353	-5%
99	TA	729	633	-96	-13%	589	631	42	7%	3,952	4,058	106	3%
	TG	628	574	-54	-9%	847	568	-279	-33%	4,260	3,848	-412	-10%
100	TA	964	1,028	64	7%	591	743	152	26%	4,394	5,358	964	22%
	TG	591	669	78	13%	932	905	-27	-3%	4,531	5,110	579	13%
101	TA	1,134	1,014	-120	-11%	1,488	1,555	67	5%	7,808	8,329	521	7%
	TG	1,544	1,559	15	1%	1,277	982	-295	-23%	7,805	8,059	254	3%
102	TG	1,096	1,340	244	22%	764	802	38	5%	5,851	6,009	158	3%
	TA	912	815	-97	-11%	904	1,237	333	37%	5,772	5,924	152	3%
103	TA	1,107	1,385	278	25%	1,157	1,609	452	39%	7,450	8,808	1,358	18%
	TG	1,310	1,625	315	24%	983	1,324	341	35%	7,031	8,768	1,737	25%
104	TA	1,704	1,754	50	3%	1,923	1,941	18	1%	10,844	11,496	652	6%
	TG	2,348	1,702	-646	-28%	2,125	1,903	-222	-10%	13,039	11,522	-1,517	-12%
105	TG	2,450	1,817	-633	-26%	1,936	1,559	-377	-19%	12,466	10,567	-1,899	-15%
	TA	2,037	1,492	-545	-27%	2,204	1,918	-286	-13%	12,265	10,787	-1,478	-12%
106	TG	645	353	-292	-45%	708	669	-39	-5%	4,597	2,863	-1,734	-38%
	TA	1,454	1,696	242	17%	891	966	75	8%	6,926	7,573	647	9%
107	SB	1,429	1,637	208	15%	1,098	1,184	86	8%	7,612	8,140	528	7%
	NB	1,117	1,160	43	4%	1,297	1,308	11	1%	7,957	7,822	-135	-2%
108	TA	2,440	1,356	-1,084	-44%	2,959	2,190	-769	-26%	16,777	11,055	-5,722	-34%
	TG	2,292	2,158	-134	-6%	1,672	1,384	-288	-17%	12,097	10,770	-1,327	-11%
109	TG	2,867	2,489	-378	-13%	2,297	2,989	692	30%	14,609	17,784	3,175	22%
	TA	2,541	2,818	277	11%	2,759	2,713	-46	-2%	15,094	17,576	2,482	16%
110	SB	731	684	-47	-6%	537	609	72	13%	4,122	4,097	-25	-1%
	NB	564	605	41	7%	874	907	33	4%	4,751	4,440	-311	-7%
111	TA	2,976	3,289	313	11%	3,159	3,383	224	7%	20,699	22,815	2,116	10%
	TG	2,963	3,464	501	17%	3,470	3,785	315	9%	21,252	24,363	3,111	15%
112	TA	3,245	2,857	-388	-12%	3,182	3,705	523	16%	20,936	22,649	1,713	8%
	TG	3,247	3,776	529	16%	2,701	3,337	636	24%	19,054	24,152	5,098	27%
	TA	3,110	2,421	-689	-22%	3,025	2,994	-31	-1%	19,756	19,032	-724	-4%

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ID	Dir	AM Peak				PM Peak				Daily Total			
		Count	Model	Diff	% Diff	Count	Model	Diff	% Diff	Count	Model	Diff	% Diff
113	TG	3,191	2,985	-206	-6%	2,738	2,866	128	5%	19,523	20,336	813	4%
114	TG	4,026	5,114	1,088	27%	4,951	5,444	493	10%	29,941	35,593	5,652	19%
115	TA	1,873	1,915	42	2%	2,216	2,231	15	1%	16,989	14,760	-2,229	-13%
116	TA	1,935	2,086	151	8%	1,744	1,900	156	9%	11,865	13,644	1,779	15%
	TG	1,589	1,999	410	26%	1,783	2,315	532	30%	11,423	14,548	3,125	27%
117	TA	4,161	4,576	415	10%	4,191	4,594	403	10%	27,753	31,190	3,437	12%
	TG	3,576	4,580	1,004	28%	3,823	5,131	1,308	34%	24,876	32,979	8,103	33%
118	TG	3,945	4,021	76	2%	3,646	3,955	309	8%	24,517	26,588	2,071	8%
	TA	3,246	3,385	139	4%	3,899	3,870	-29	-1%	24,379	24,782	403	2%
119	TG	3,797	4,169	372	10%	3,545	4,120	575	16%	23,473	27,760	4,287	18%
	TA	3,148	3,427	279	9%	3,813	4,041	228	6%	23,618	25,566	1,948	8%
120	TG	3,323	3,503	180	5%	2,337	2,837	500	21%	17,650	21,732	4,082	23%
	TA	2,118	2,322	204	10%	2,900	3,461	561	19%	16,455	20,297	3,842	23%
121	EB	4,887	4,657	-230	-5%	5,132	4,859	-273	-5%	32,021	32,312	291	1%
122	EB	131	99	-32	-24%	253	259	6	2%	1,164	1,136	-28	-2%
	WB	219	156	-63	-29%	127	58	-69	-54%	1,023	612	-411	-40%
123	EB	158	113	-45	-28%	110	172	62	57%	652	889	237	36%
	WB	190	151	-39	-21%	81	108	27	34%	647	757	110	17%
124	EB	225	1	-224	-100%	101	-	-101	-100%	968	1	-967	-100%
	WB	75	-	-75	-100%	119	-	-119	-100%	637	-	-637	-100%
125	TG	855	1,110	255	30%	1,675	894	-781	-47%	8,052	6,940	-1,112	-14%
	TA	1,694	836	-858	-51%	1,006	1,034	28	3%	7,914	6,473	-1,441	-18%
126	TA	252	369	117	46%	134	236	102	76%	1,065	1,785	720	68%
	TG	132	202	70	53%	247	389	142	58%	1,109	1,813	704	63%
127	TA	158	347	189	119%	248	400	152	61%	1,201	2,393	1,192	99%
	TG	239	387	148	62%	198	377	179	90%	1,214	2,371	1,157	95%
128	TA	412	546	134	33%	330	489	159	48%	2,023	2,854	831	41%
	TG	416	521	105	25%	435	717	282	65%	2,291	3,384	1,093	48%
129	TG	132	288	156	118%	176	426	250	142%	863	2,123	1,260	146%
	TA	162	410	248	153%	130	337	207	159%	839	2,166	1,327	158%
130	NB	477	725	248	52%	668	1,187	519	78%	4,037	6,421	2,384	59%
	SB	602	1,052	450	75%	543	834	291	54%	3,990	6,156	2,166	54%
131	TG	3,784	3,027	-757	-20%	3,598	3,060	-538	-15%	22,424	20,524	-1,900	-8%
	TA	3,113	2,778	-335	-11%	3,313	3,134	-179	-5%	21,368	19,677	-1,691	-8%
132	TA	2,934	2,010	-924	-31%	3,186	2,350	-836	-26%	18,795	14,958	-3,837	-20%
	TG	3,195	2,372	-823	-26%	3,200	2,021	-1,179	-37%	19,266	14,954	-4,312	-22%
133	WB	3,540	3,277	-263	-7%	3,678	3,701	23	1%	23,529	22,936	-593	-3%
	EB	3,679	3,529	-150	-4%	3,704	3,595	-109	-3%	23,113	22,770	-343	-1%
134	NB	3,148	3,343	195	6%	5,338	5,140	-198	-4%	26,774	30,272	3,498	13%
	NB	2,121	1,496	-625	-29%	2,807	2,167	-640	-23%	15,327	13,207	-2,120	-14%
	SB	5,602	5,072	-530	-9%	3,385	3,792	407	12%	27,061	30,406	3,345	12%
	SB	2,905	2,105	-800	-28%	2,121	1,701	-420	-20%	14,895	13,253	-1,642	-11%
135	TA	2,168	2,962	794	37%	2,308	3,213	905	39%	14,446	20,439	5,993	41%
136	TA	5,312	4,763	-549	-10%	4,015	3,861	-154	-4%	28,645	28,698	53	0%
	TG	3,665	3,408	-257	-7%	4,976	4,391	-585	-12%	27,854	26,723	-1,131	-4%
137	TA	4,474	4,560	86	2%	4,855	5,134	279	6%	29,257	32,794	3,537	12%
	TG	6,318	5,542	-776	-12%	5,405	5,033	-372	-7%	34,925	35,477	552	2%
138	TA	4,445	4,653	208	5%	5,299	5,001	-298	-6%	30,960	32,658	1,698	5%
	TG	3,653	3,727	74	2%	3,739	3,505	-234	-6%	22,919	24,000	1,081	5%
139	TG	3,171	3,461	290	9%	3,238	3,476	238	7%	19,907	23,105	3,198	16%
	TA	2,602	2,962	360	14%	3,018	3,213	195	6%	17,958	20,439	2,481	14%
140	TG	3,125	2,474	-651	-21%	2,807	3,566	759	27%	18,425	21,841	3,416	19%
	TA	2,506	3,464	958	38%	2,682	2,798	116	4%	15,910	21,754	5,844	37%
141	SB	2,427	1,742	-685	-28%	1,838	1,426	-412	-22%	12,279	10,816	-1,463	-12%
	NB	1,978	1,285	-693	-35%	2,209	1,804	-405	-18%	12,374	10,778	-1,596	-13%
142	TG	4,199	3,324	-875	-21%	4,183	3,101	-1,082	-26%	25,239	21,210	-4,029	-16%
	TA	3,944	3,230	-714	-18%	4,434	3,459	-975	-22%	25,566	22,045	-3,521	-14%
143	TG	3,033	2,099	-934	-31%	2,807	1,685	-1,122	-40%	18,461	13,224	-5,237	-28%
	TA	2,436	1,582	-854	-35%	3,043	2,128	-915	-30%	17,908	13,118	-4,790	-27%
	TA	768	1,779	1,011	132%	1,085	1,317	232	21%	7,268	10,620	3,352	46%

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ID	Dir	AM Peak				PM Peak				Daily Total			
		Count	Model	Diff	% Diff	Count	Model	Diff	% Diff	Count	Model	Diff	% Diff
144	TG	2,893	2,129	-764	-26%	2,744	3,017	273	10%	20,023	17,827	-2,196	-11%
145	EB	107	15	-92	-86%	111	14	-97	-88%	630	78	-552	-88%
	WB	131	43	-88	-67%	91	41	-50	-55%	652	234	-418	-64%
146	SB	1,057	723	-334	-32%	1,528	1,224	-304	-20%	8,239	7,158	-1,081	-13%
	NB	1,807	1,199	-608	-34%	1,072	896	-176	-16%	8,521	7,222	-1,299	-15%
147	TA	1,333	1,261	-72	-5%	778	808	30	4%	5,965	6,683	718	12%
	TG	662	830	168	25%	1,322	1,266	-56	-4%	5,912	7,143	1,231	21%
148	WB	155	71	-84	-54%	142	44	-98	-69%	943	337	-606	-64%
	EB	114	35	-79	-69%	151	72	-79	-52%	779	323	-456	-59%
149	TA	357	301	-56	-16%	677	821	144	21%	3,181	3,608	427	13%
	TG	728	884	156	21%	398	354	-44	-11%	2,982	3,559	577	19%
150	TG	623	546	-77	-12%	870	1,083	213	25%	4,697	4,847	150	3%
	TA	945	947	2	0%	607	578	-29	-5%	4,873	4,841	-32	-1%
151	TG	1,106	910	-196	-18%	1,830	1,535	-295	-16%	9,221	7,760	-1,461	-16%
	TA	1,631	1,463	-168	-10%	1,019	941	-78	-8%	8,383	7,763	-620	-7%
152	EB	441	302	-139	-31%	754	752	-2	0%	3,640	2,962	-678	-19%
	WB	909	772	-137	-15%	466	460	-6	-1%	3,801	3,606	-195	-5%

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Appendix C: Metric definitions

- %GAP or Relative GAP (RGAP) = $$\frac{\sum_a C(X_a^n)\left|X_a^{n+1}-X_a^n\right|}{\sum_a C(X_a^n)X_a^n}$$

Where:

X^n_a is the demand for O-D pair *a* in iteration *n; and*

$C(X^n_a)$ is the generalised cost for O-D pair *a* of assigning the full matrix.

- Percent root mean square error (%RMSE) for link volumes = $$\%RMSE = \frac{\sqrt{\sum\ (M-C)^2/(N-1)}}{\sum\ C^2}$$
- GEH statistic = $GEH_a = \sqrt{\frac{(M-C)^2}{\frac{1}{2}(M+C)}}$

Where:

M is the modelled volume

C is the count volume

Note: The GEH statistic for count validation is based on one-hour volumes. The conversion factor from the two-hour modelled peak periods is 0.5 whereas daily volumes are factored by 0.1.

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Appendix D: Zenith model

The Zenith models have been established by applying behavioural relationships calibrated from household travel surveys and validating these against traffic counts and public transport passenger surveys. The strategic *Zenith model of SEQ for Sunshine Coast* uses the latest household travel survey data, traffic counts from the entire of SEQ as well as from within the study area, and public transport data from TransLink.

Model architecture

The primary objective of Zenith is to provide a planning tool to support the evolving policy issues of relevance to planners and government. This is accomplished by replicating the demand for travel in the modelled region, which is derived from the demand for participation in activities. Travel choices may differ depending on the activity for which the travel is undertaken. The nature of the activity may influence the frequency, timing and duration of participation, the location, as well as the mode of travel and in some cases, the route chosen.

The Zenith travel demand model simulates the travel behaviour of residents, visitors and firms within the modelled region associated with their participation in a range of activities. The model makes use of information that is available to describe the potential demands for these activities in each location, such as statistics on employment in various industries, enrolments at educational facilities, and demographic variables such as population and the number of households.

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Some of the advanced features of Zenith models are:

- **Toll Choice** – The Zenith model has an unrivalled track record of accurately predicting toll road patronage on Australian toll roads;
- **Fully Multi-modal** – The Zenith model explicitly considers multiple access modes to the transit system, including walk and car access;
- **Multi-period** – The *Zenith model of SEQ for Sunshine Coast* has three time periods, both morning and evening peaks and an off-peak period;
- **Disaggregate travel zones** – All Zenith models can be run at fine area travel zones. This is essential in transit studies where accessibility to the transit system is a major factor;
- **Disaggregate travel market segmentation** – Zenith models include travel made by residents, visitors and freight, segmented by numerous journey purposes and car ownership levels; and
- **Broad area coverage** – the *Zenith model of SEQ for Sunshine Coast* includes a significant buffer area which removes issues related to 'cross-border' flows. The region covered by the Zenith model extends from Maryborough in the north, south to Ballina in northern NSW and west to Dalby.

Zenith is a variable demand model, meaning that changes in the transport network can result in changes in travel patterns, including induced demand, related to changes of destination, mode and route. Zenith is also sensitive to changes in pricing policy, demographic profiles, and the spatial distribution of land uses.

Travel Market Segmentation

The model includes numerous trip purposes, including:

- Home based work (white collar)

- Home based work (blue collar)
- Home based education (primary)
- Home based education (secondary)
- Home based education (tertiary)
- Home based shopping & personal business
- Home based recreation & social
- Home based other (serve passenger)
- Business travel (work based work)
- Work based shopping
- Work based other
- Shopping based shopping
- Shopping based other
- Other Non-Home Based
- Airport – resident and visitor business travel
- Airport – resident leisure
- Airport – visitor leisure
- Visitor – recreation
- Visitor – shopping
- Visitor – other

Home based purposes are also segmented by household car ownership level (0,1,2,3+), which significantly boosts the accuracy of the mode and destination choice models.

Modes

The Zenith model includes the following modes:

- Car drivers
- Car passengers
- Active Transport
- Public Transport
  - Walk access
  - Car access
- Freight
  - Light
  - Heavy
  - Port

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Appendix Figure 2 Mode choice tree

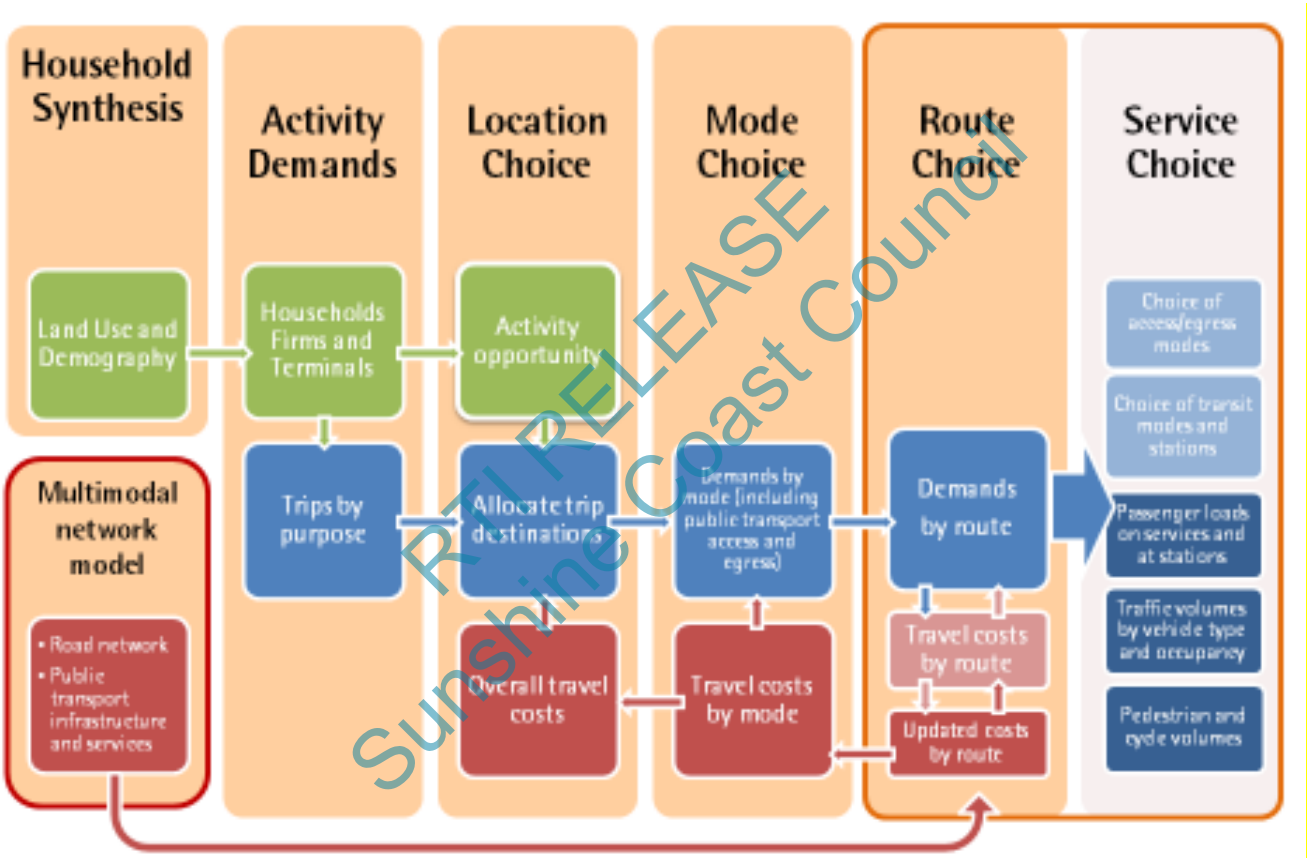
Modelling Process

The model structure, illustrated in Appendix Figure 3, includes the following components:

- **The Household Synthesis Model**, which stratifies households according to their household size, number of workers, dependants, and cars, etc.
- **The Trip Generation Model**, which calculates trip productions and attractions by trip purpose, based on household types, employment (by 13 categories), and the location of special generators (airports, ports, theme parks, etc.)

- **The Location Choice Model**, which calculates destination choices based on zonal trip attractions and zone-to-zone travel costs by mode and time of day.
- **The Period Allocation Model**, which allocates trips to the various time periods (using fixed proportions defined spatially and by trip purpose).
- **The Mode Choice Model**, which calculates modal choices based on zone-to-zone travel costs by mode and time of day. The mode choice follows period allocation, which means that modal choices vary by period.
- **The Route and Service Choice Model**, which calculates route choices, based on link speeds, capacities, congestion levels, tolls, transit frequencies, stopping patterns and fares. The trip assignment model outputs demands by cars, trucks, pedestrians, and transit passengers on individual roads and transit services.

Appendix Figure 3 Key stages of the Zenith traffic forecasting models



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Prepared for

SUNSHINE COAST COUNCIL

Final report

Sunshine Coast Concept Mass Transit Plan

January, 2019

Sunshine Coast Concept Mass Transit Master Plan

Project No. 18-035

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Date	Revision	Prepared By	Checked By	Approved By	Description
1-11-2018	Draft	M Iliffe S Donovan R Rutledge B Peij	S Donovan	G Nicholls	Draft for client review and discussion
3-12-2018	Final	Mark Iliffe	Gavin Nicholls	Gavin Nicholls	Final issue
8-01-2018	Final V2	Mark Iliffe	Gavin Nicholls	Gavin Nicholls	Update figures 2-8 and 2-9. Section 4-1 updated to address client feedback

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Executive Summary

The Case for Change

By 2041, over 500,000 people will call the Sunshine Coast home and many more will reside in wider South East Queensland. Of this population growth, 63% will occur within the existing Sunshine Coast urban area, doubling the number of households within the coastal corridor between Caloundra and Maroochydore.

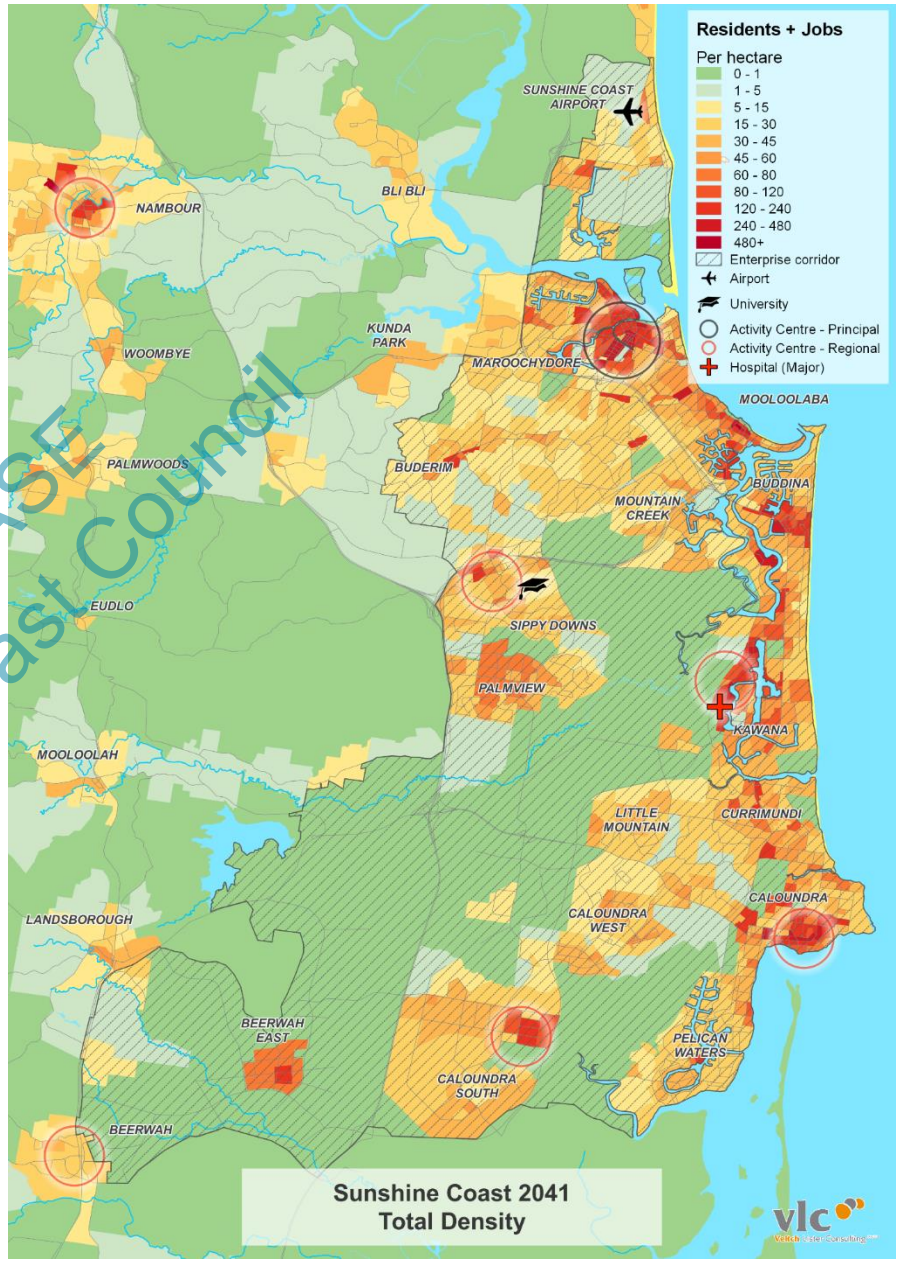
Successfully accommodating this growth requires investing in a transport system that reduces dependence on single-occupant cars and supports dense, compact, and mixed-use developments. Only mass transit has the capacity necessary to move high numbers of passengers during peak periods within a spatially constrained and sensitive local environment.

Growth on the Sunshine Coast takes place within the broader context of the SEQ region. The demand for travel between the Sunshine Coast and destinations to the south, such as Brisbane City, has the potential to affect the performance of strategic transport corridors beyond Council's borders.

This Sunshine Coast Concept Mass Transit Plan ('the Plan') considers options for providing mass transit to support growth on the Sunshine Coast. The Plan builds from earlier studies and takes a long-term, high-level perspective; it works backwards from 2041 to identify priorities, opportunities, and issues that are relevant to today.

Mass Transit: The Need and the Options

Any mass transit system on the Sunshine Coast needs to balance *local accessibility*, which supports the local integration of transport and land use outcomes, with *regional connectivity*, which considers links to key locations within the Sunshine Coast and further afield. In general, heavy rail options deliver the latter but sacrifice the former, and vice versa for light rail options. The tension between local accessibility and regional connectivity runs through this Plan and heavily influences our main findings, in terms of preferred mass transit networks.



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Data suggests that most travel on the Sunshine Coast consists of short to medium distance trips *within* the region, with only relatively small proportion of external trips associated with other parts of South East Queensland to the south. Future growth in travel demands will, in the absence of alternatives, tend to congest road networks and reduce accessibility to principal centres, undermining growth. For these reasons, mass transit options that deliver local accessibility tend to generate more patronage than those that focus on regional connectivity.

High-level modelling and analysis indicate that heavy rail alone does not adequately address strategic objectives and meet forecast local demand. Heavy rail operates at frequencies that are too low to qualify as mass transit, meeting the needs of peak commuters rather than the local all-day demand for travel. And because heavy rail stations are farther from densely populated areas along the coast, there is reduced potential for integrated transport and land use outcomes. What heavy rail does well, however, is providing regional connectivity.

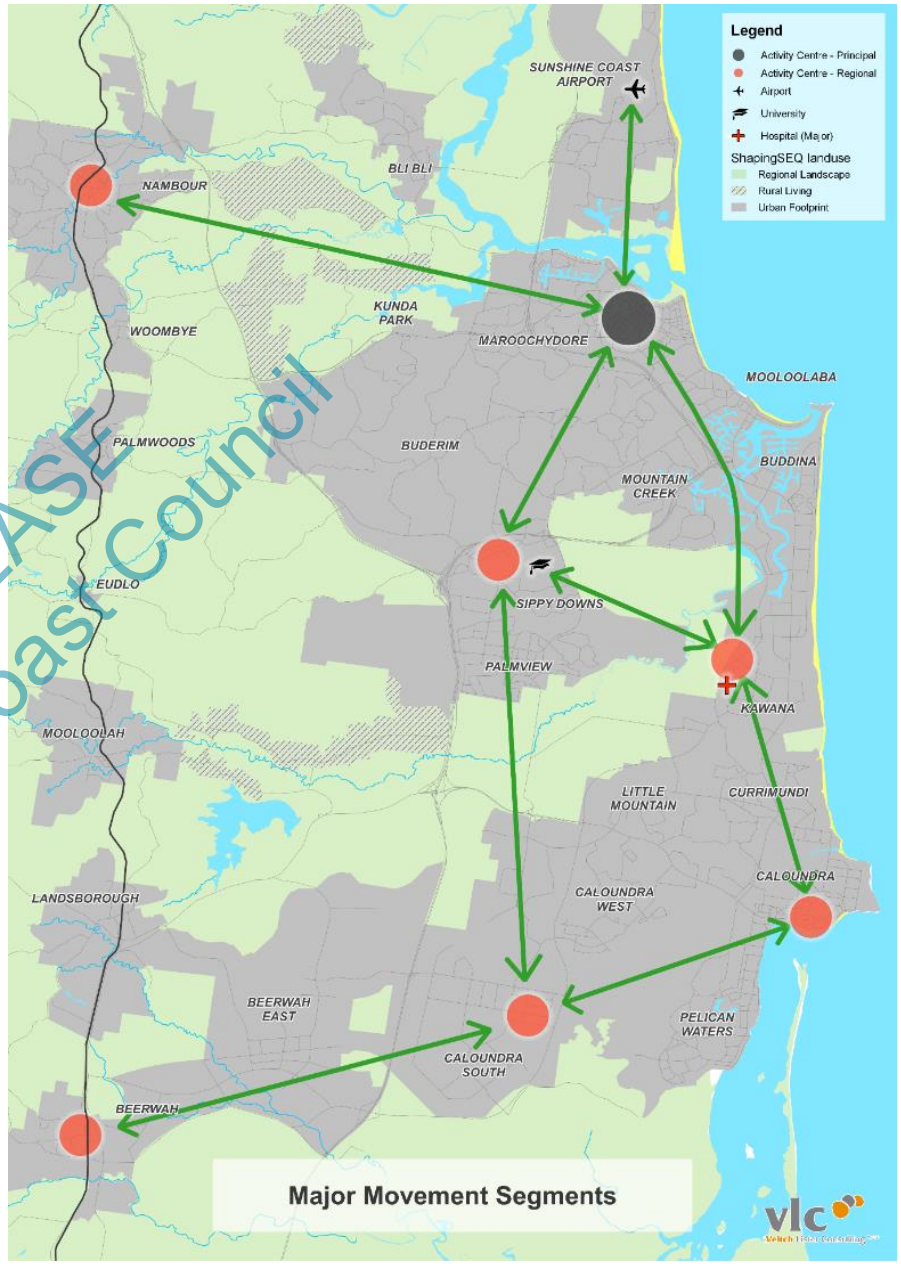
Ultimately, our analysis identifies the following two rail options as preferred:

1) **Light Rail Transit:** In which frequent light rail services are operated between Maroochydore and Kawana via the Coastal corridor and onto Beerwah via the CAMCOS corridor; and

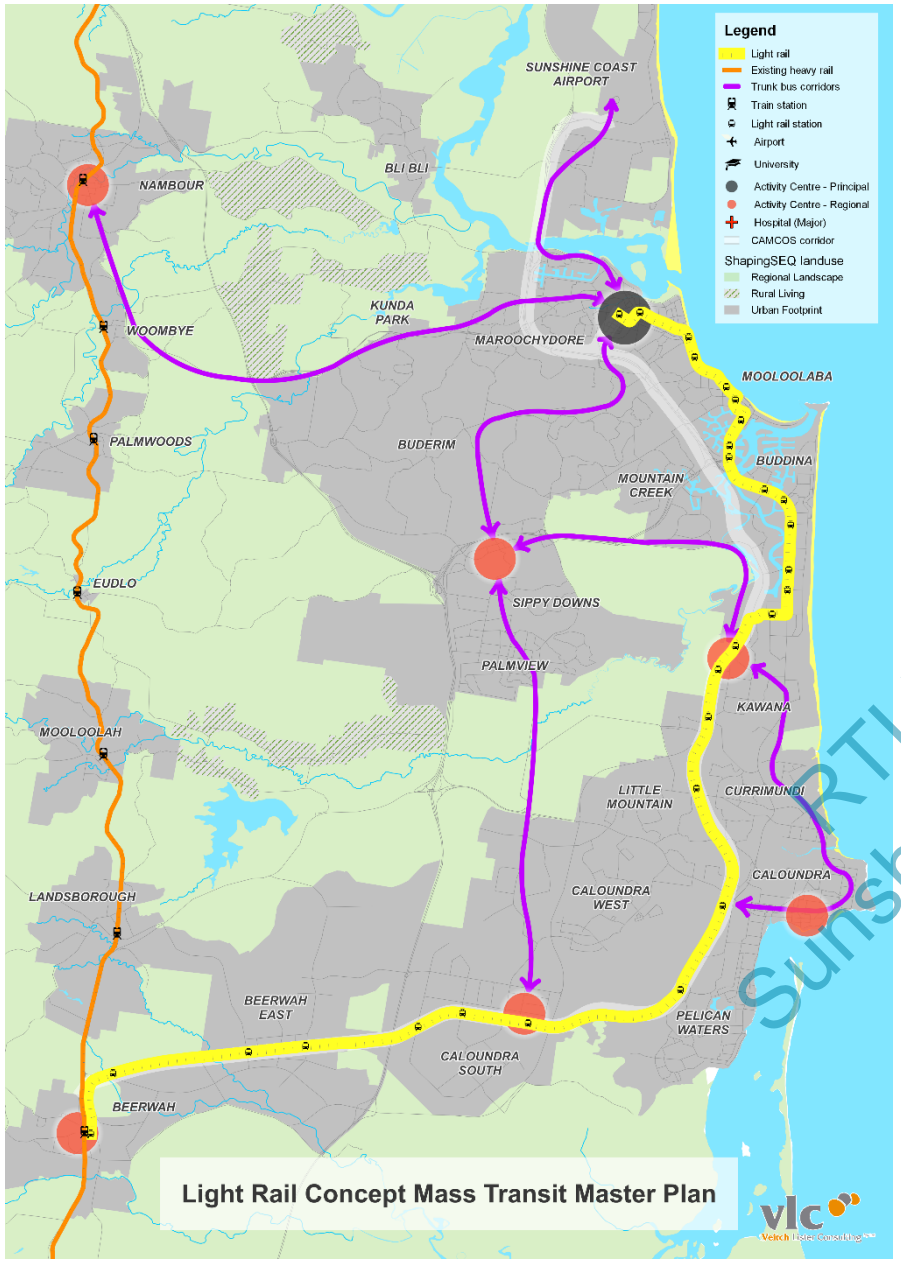
2) **Hybrid Option:** In which frequent light rail operates between Maroochydore and Caloundra via the Coastal corridor, with heavy rail provided between Kawana and Beerwah via the CAMCOS corridor.

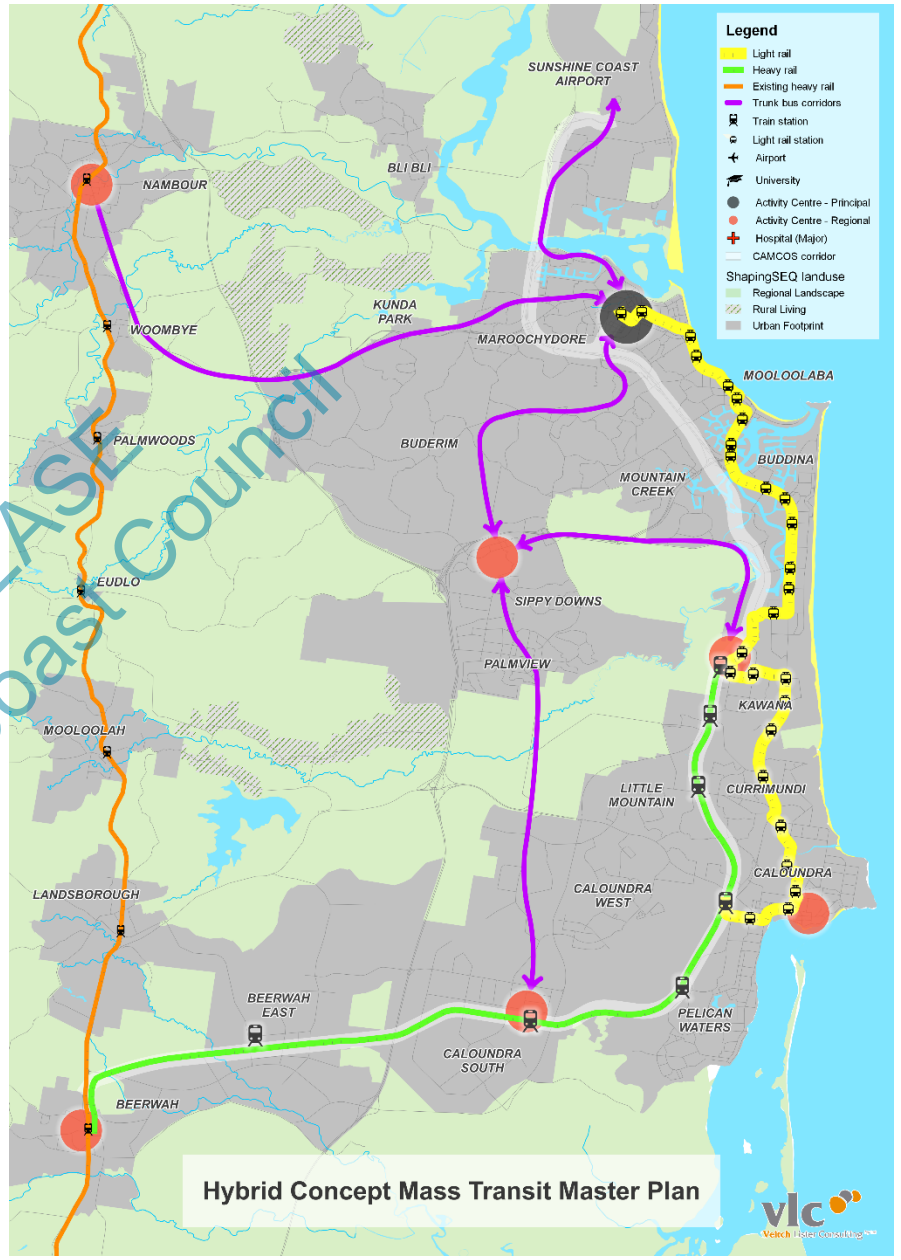
Key parameters for each option are summarised in the table below.

Light Rail Option	Hybrid Option
30 LR stations	36 stations (29 LR, 7 HR)
39.2km of track	51.1km of track (24.8km LR, 26.3km HR)
125,000 people within 800m of stations	148,000 people within 800m of stations
$3,500 million (expected net present value of capital and operating costs)	$5,300 million (expected net present value of capital and operating costs)



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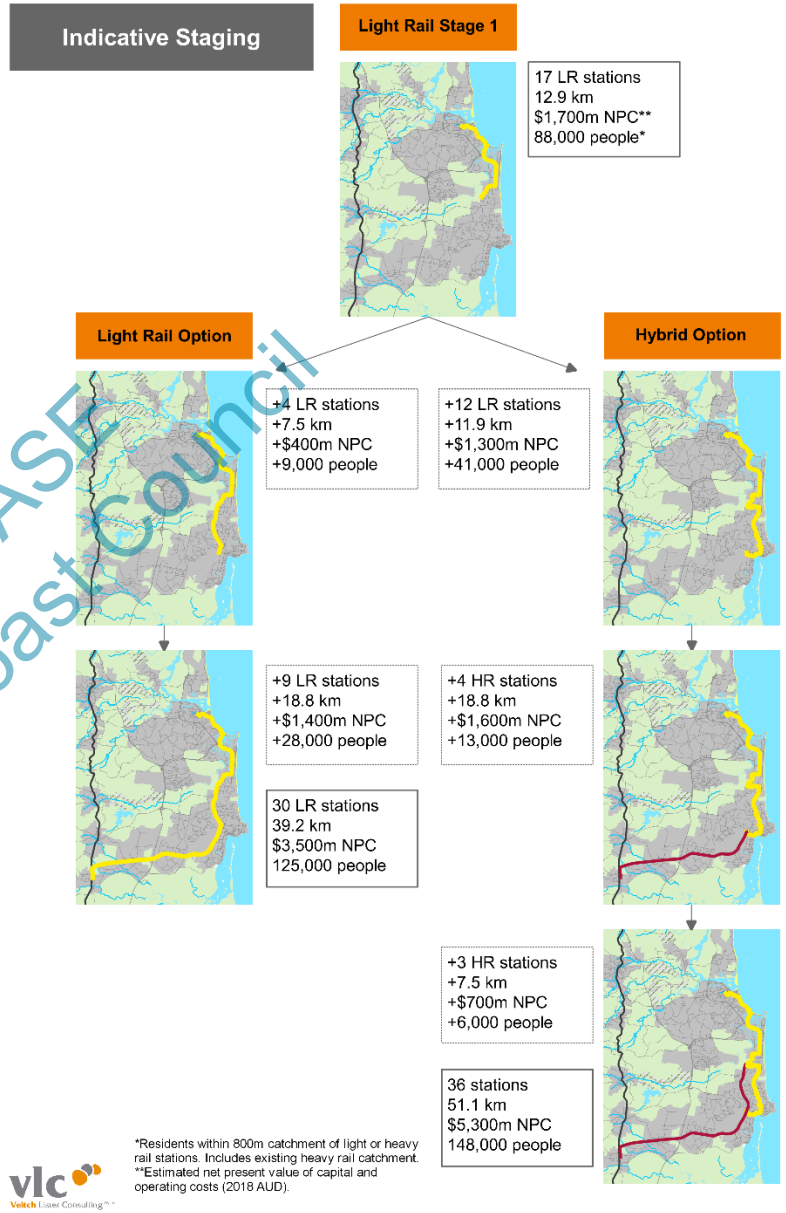
Staging

Usefully, both preferred options share a common first stage: LRT operating from Maroochydore to Kawana via the Coastal corridor. Beyond this section, the two variants require a choice. The LRT option involves the progressive extension of services south via the CAMCOS corridor to Caloundra South and eventually Beerwah. In contrast, the hybrid option involves the extension of LRT to Caloundra via a coastal route, while heavy rail is extended north-west from Beerwah to eventually terminate at Kawana. In terms of option value, the LRT option offers the potential for higher frequencies whereas the hybrid option allows for future heavy rail extensions north of Kawana to Maroochydore.

Next Steps

We identify the following next steps:

- Evaluate the mass transit concept plans using widely-recognised evaluation frameworks provided by Queensland Treasury, Building Queensland, and Infrastructure Australia.
- While we follow previous studies in focusing on rail-based solutions, we recommend future work develop and evaluate BRT options that offer comparable levels of service and (if possible) amenity to LRT.
- Develop plans for quality bus infrastructure and services, specifically a frequent, connective network with key interchanges at Maroochydore, Sippy Downs, Kawana, and Caloundra.
- Implement parking policy changes in areas served by mass transit, such as the removal of minimum parking requirements and the adoption of demand-responsive parking management.
- Invest in walking and cycling infrastructure near to mass transit stations and interchanges. Park and ride should only be considered at peripheral mass transit stations.
- Develop effective governance and funding models for delivering mass transit that reflect the need for and value of collaboration between federal, state, and regional levels of government.



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1. Introduction

1.1 Purpose

Within 30-years, over 500,000 people will call the Sunshine Coast home and many more will reside in the wider South East Queensland region. Catering for this growth requires investing in the transport system at both a local and a regional level. The Sunshine Coast Concept Mass Transit Plan ('the Plan') considers how mass transit can enable this growth in a way that aligns with Council's vision for "an integrated transport system which provides a framework for prosperity and community wellbeing".

The Plan evaluates network options and then considers enabling policy, supporting infrastructure, funding models, and emerging transport technologies. Options are evaluated in terms of both their transport impacts and their alignment with broader strategic objectives. The Plan is intended to help guide the future investigation and development of a mass transit system on the Sunshine Coast as part of a wider stream of work currently underway at both the state and regional level. Delivering on key elements of this Plan are central to achieving the vision and objectives outlined for consolidated urban form and sustainable growth outlined in ShapingSEQ and Sunshine Coast's Planning Scheme 2014.

1.2 Structure

The following sections of this Plan are structured as follows:

- **Section 2: Strategic objectives for mass transit**, which considers:
  - The strategic context formed by key federal, state and regional documents,
  - The need for change, given current travel patterns and likely future travel demands,
  - Principles of public transport planning, such as the development of a layered network, frequency and connections, all-day service levels, and the importance of density, and
  - Strategic objectives for mass transit on the Sunshine Coast.
- **Section 3: Developing the mass transit network**, which considers:
  - Major centres and movements where mass transit may offer benefits,
  - High-level analysis of options based on previous work and preliminary modelling, and
  - Refinement of high-level options considering corridor segments and potential variants.
- **Section 4: Advancing the mass transit plan**, which considers:
  - Enabling policy relating to parking, transport, and demand management,
  - Supporting infrastructure, such as high-frequency bus corridors, park and ride, interchange design, and active transport infrastructure,
  - Funding models, such as city deals, value capture, transport levies, special assessment districts, and impact fees, and
  - The impact of emerging technologies on the design of the mass transit system.
- **Section 5: Conclusions and next steps**, which considers:
  - Next steps to further the development of a mass transit system for the Sunshine Coast.

The Plan does not present an economic assessment of possible options. While we present indicative capital and operating cost estimates for various options for the purposes of comparison, these costs are only approximate and should be subject to further investigation in subsequent work.

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2. Strategic Objectives for Mass Transit

In this chapter we explore:

- *The planning and policy context*, as it relates to land use, economic development and transport and as described in relevant federal, state, and regional council documents;
- *The case for change*, in terms of current travel patterns, the state of the current public transport network, expected population growth, and the consequences of not changing;
- *Principles of public transport planning*, specifically the role of mass transit in a layered network which uses frequency and connections to deliver a quality service all-day and all-week; and
- *Strategic objectives for mass transit*, in which we distil the findings of previous sections into a set of objectives that frames our subsequent evaluation of mass transit options.

2.1 Planning and policy context

This section synthesizes the planning and policy context, including the Australian Government's Smart Cities Plan (2016), Queensland Government's ShapingSEQ (2017), Sunshine Coast's Planning Scheme 2014, and Sunshine Coast's Draft Integrated Transport Plan (2018). We consider three general areas of policy, namely economic development, land use, and transport.

2.1.1 Economic development

The Sunshine Coast Planning Scheme 2014 intends the region to be prosperous, offering choices and opportunities for high-value business investment and employment.

The Sunshine Coast Enterprise Corridor is identified as the leading location for economic development, and residential growth. Within this corridor 'game changer' projects and associated priority investment areas include the Maroochydore City Centre Priority Development Area, Sunshine Coast University Hospital and adjacent health precinct, the Sunshine Coast Airport and the University of the Sunshine Coast (Sunshine Coast Planning Scheme 2014).

Maroochydore is identified as the Principal Regional Activity Centre and is supported by other major regional activity centres within the Enterprise Corridor, namely Caloundra, Caloundra South, Kawana and Sippy Downs. Outside of the Enterprise Corridor, Nambour and Beerwah are also identified as major regional activity centres (Sunshine Coast Planning Scheme 2014).

Economic Development Intent

1. The Principal Regional Activity Centre at Maroochydore is supported by major regional activity centres at Caloundra, Caloundra South, Kawana, Sippy Downs, Nambour and Beerwah.
2. Key projects include the Maroochydore City Centre PDA, Sunshine Coast University Hospital and health precinct, the Sunshine Coast Airport and the University of the Sunshine Coast.

2.1.2 Land use

By 2041, ShapingSEQ (2017) estimates there will be 191,600 additional people living on the Sunshine Coast, giving a total population of 495,000. To sustainably accommodate this growth, it is estimated that an additional 87,000 dwellings will be required in the Sunshine Coast region, with 63% (53,700 dwellings) of these in the existing urban footprint and the balance (33,300 dwellings) via emerging communities (ShapingSEQ, 2017).

Sunshine Coast Council's Planning Scheme (2014) focuses housing density in the existing Enterprise Corridor, particularly within the existing mixed-use regional activity centres of Maroochydore, Caloundra, Kawana and Sippy Downs and in the emerging communities of Palmview, Beerwah East

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and Caloundra South. Major development areas will provide "integrated, well planned communities which showcase sustainable development, affordable living and align infrastructure delivery with development", shifting "… the Sunshine Coast towards a "more sustainable and transit supportive pattern of settlement".

The Council's desire to consolidate growth within the existing urban footprint aligns with both state and federal objectives. For example, ShapingSEQ's (2017) envisages growth on the Sunshine Coast "…will be compact, efficient, functional, mixed- use, connected and active, and provide improved urban amenity". ShapingSEQ also advocates for the Maroochydore to Caloundra corridor to become an "international showcase for transit-oriented development". At the federal level, The Smart Cities Plan seeks to increase housing supply near job opportunities and transport connections to achieve a 30-minute city (Smart Cities Plan, 2016).

Outside of defined areas, policies will seek to ensure rural and natural areas are protected for their rural enterprise, landscape and environmental values. Established low-density residential neighbourhoods will be retained in their current form in recognition of the high-quality lifestyle and character offered by these areas (Sunshine Coast's Planning Scheme, 2014).

Below are a series of maps that help to illustrate the location of residential and employment growth that is expected on the Sunshine Coast by 2041. We find:

- Residential and employment activities are focused on the coastal corridor running between Maroochydore and Caloundra; and
- Growth is focused on the coastal corridor, particularly in Maroochydore, as well as emerging communities at Palmview, Caloundra South, and Beerwah East.

The combined density (jobs and residents per hectare) forecast in 2041 and change in density from 2016 to 2041 are shown in Figure 2-1 and Figure 2-2 respectively. Residential and employment densities are shown separately in Figure 2-3 and Figure 2-4.

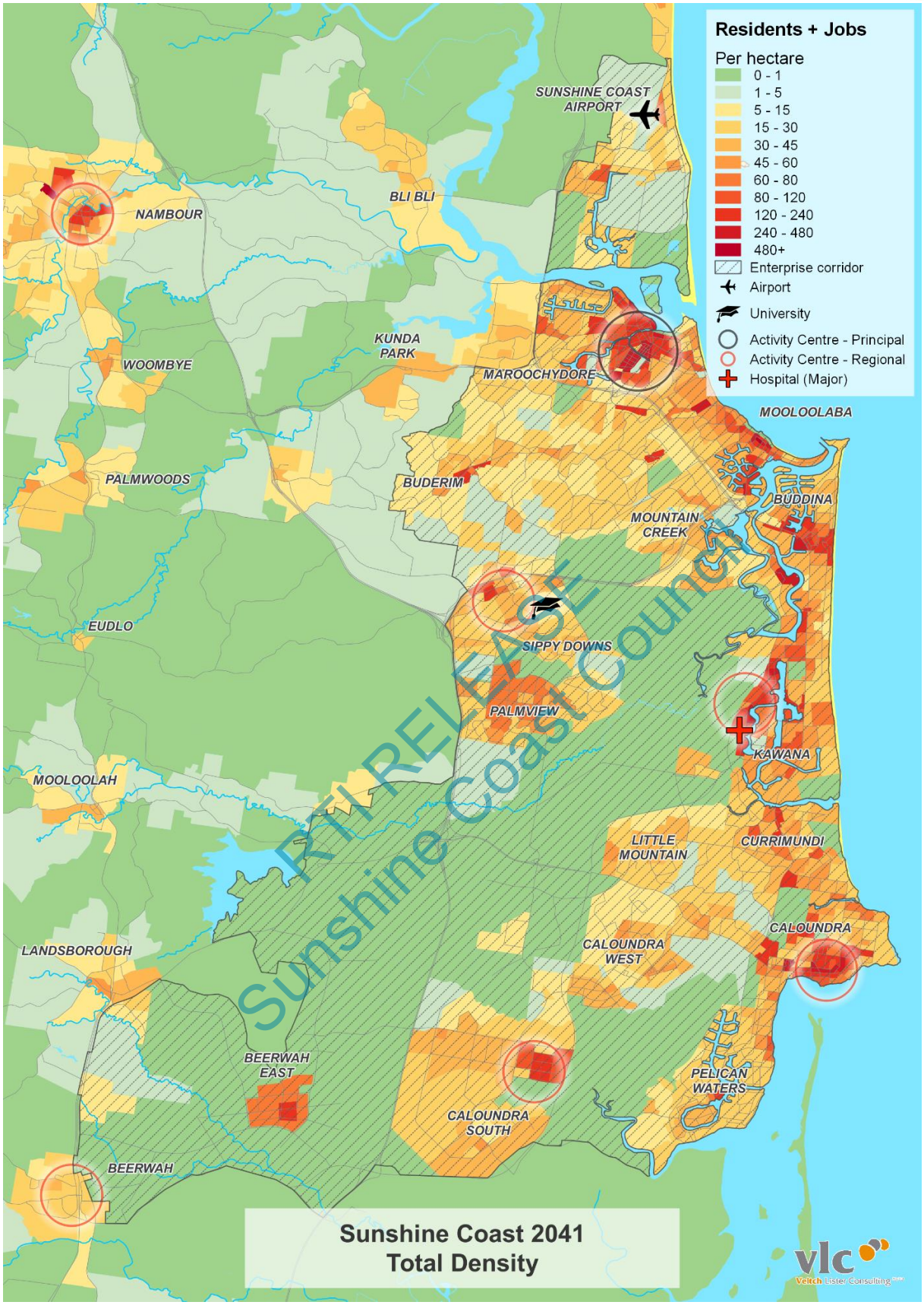
Figure 2-5

Land Use Intent

1. 63% of growth is accommodated within the existing urban footprint in locations with superior access to public transport, employment and services.
2. No more than 38% of growth will occur in emerging communities. Major development areas will offer integrated, well planned communities that showcase sustainable development, affordable living and align infrastructure delivery with development.
3. Maroochydore to Caloundra will become an international showcase for transit-oriented development, with a compact, efficient, functional, mixed- use, connected and active urban form that provides improved urban amenity.
4. Established low density residential neighbourhoods outside of the coastal corridor will be retained, recognising the high-quality lifestyle and character offered by these areas, while rural and natural areas will be protected and enhanced for their rural enterprise, landscape and environmental values

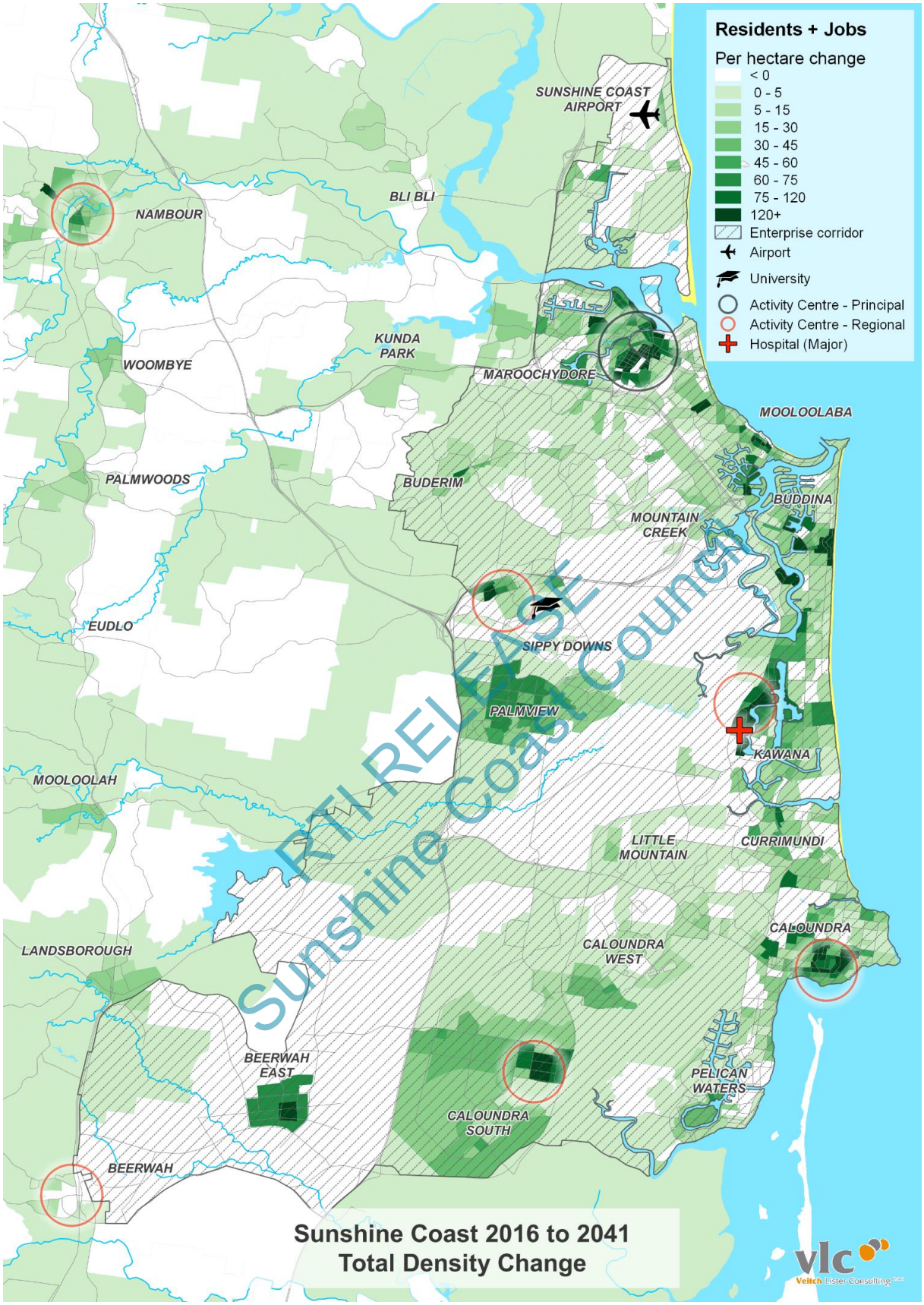
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Figure 2-1: Total density (residents plus jobs) in 2041



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Figure 2-2: Total density change (residents plus jobs) 2016 to 2041

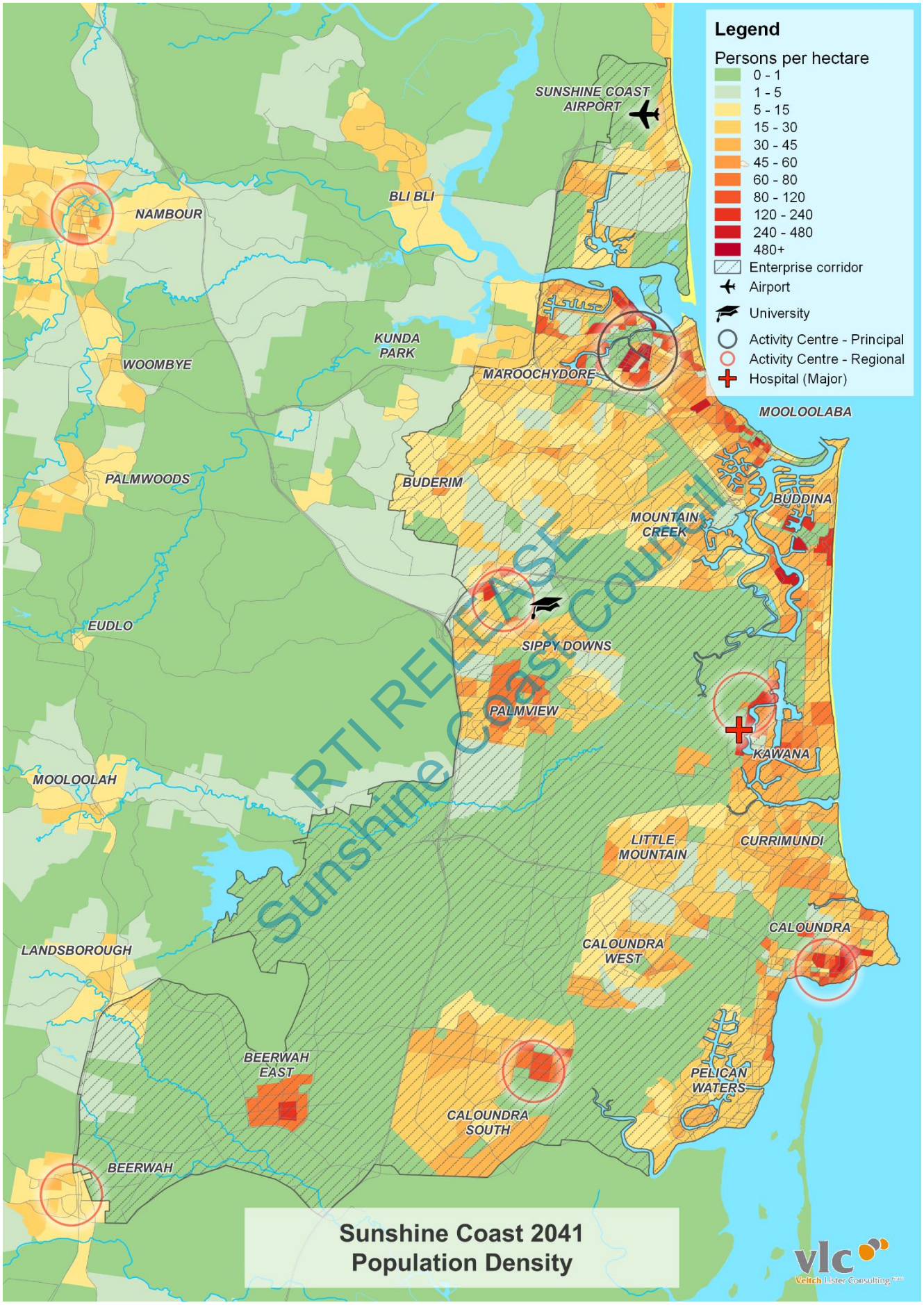


Figure 2-3 Population density (residents per hectare) in 2041

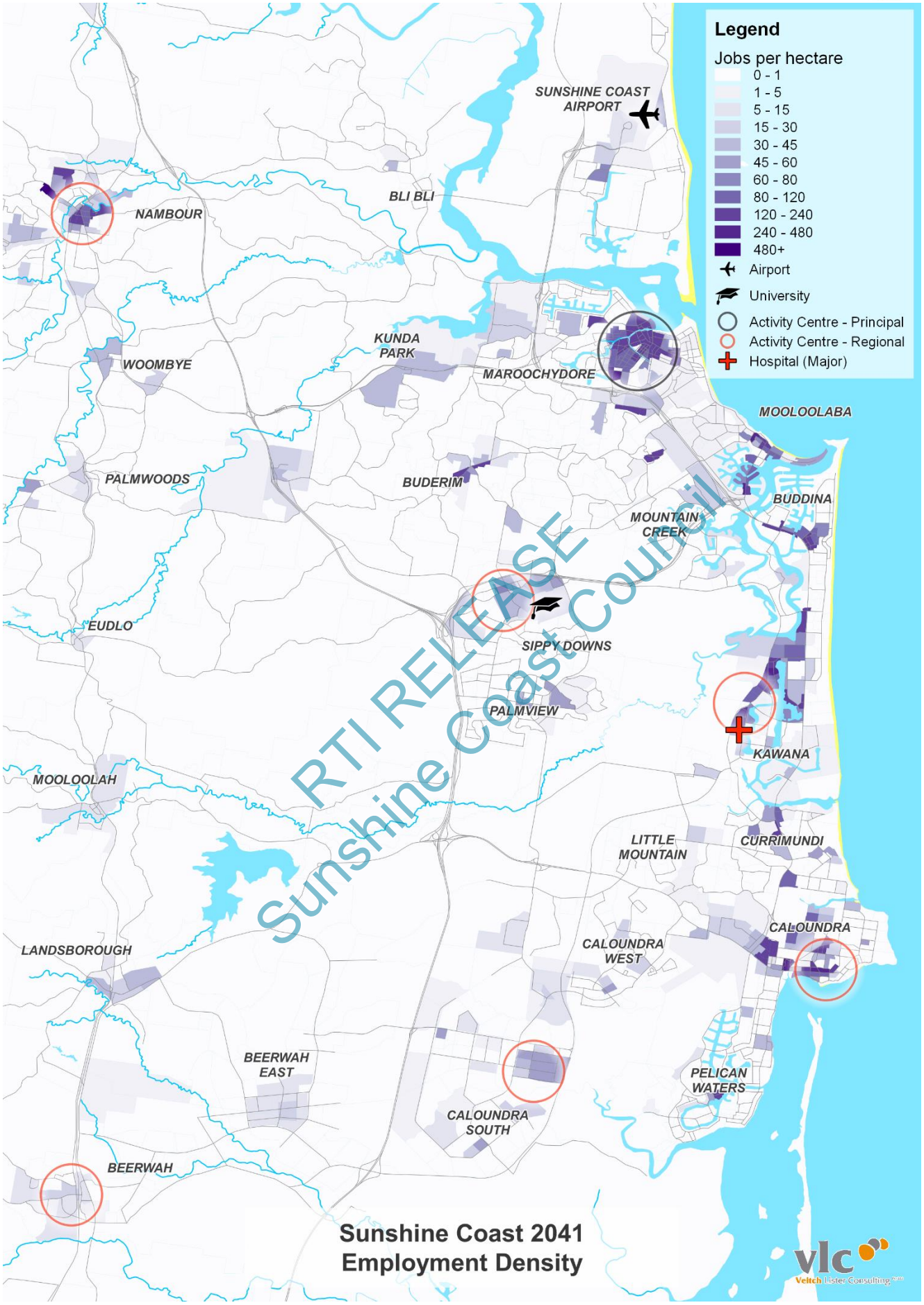


Figure 2-4 Employment density (Jobs per hectare) in 2041

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2.1.3 Transport

The Sunshine Coast Planning Scheme 2014 envisages "… a fully integrated and accessible transport system", with development that "increase walking and cycling, minimise dependency on private motor vehicle use and contribute to greater levels of regional self-containment" (Sunshine Coast Planning Scheme, 2014). Similar goals are articulated in the Draft Integrated Transport Plan (2018):

> *"In 2041, the Sunshine Coast community is connected by a smart, integrated, safe and efficient transport system. This transport system is embraced by the community, enhances the quality of life, contributes to the economic viability and adds to the sustainability of the region"*

This statement aligns with ShapingSEQ (2016), which aims for the Sunshine Coast to be "a region of interconnected communities that moves people and freight efficiently", and by the Smart Cities Plan (2016), which aims for a "30-minute city" so "no matter where you live, you can easily access the places you need to visit on a daily basis". Notably, the Smart Cities Plan (2016) also supports improvements to inter-regional passenger transport links, stating:

> *"Regional transport links, such as fast rail, increase both access to jobs and access to the labour force. Fast rail between centres provides people with a greater range of options for where they live and work."*

ShapingSEQ requires an increase in public transport mode share and a reduction in trip length. TMR's Transport Coordination Plan (2017) shares similar goals, aiming to "connect communities to employment and vital services" with "improved integration of land use and transport planning".

Earlier transport planning studies considered mass transit options on the Sunshine Coast and identified two potential alignments (NB: These are illustrated in Figure 2-5):

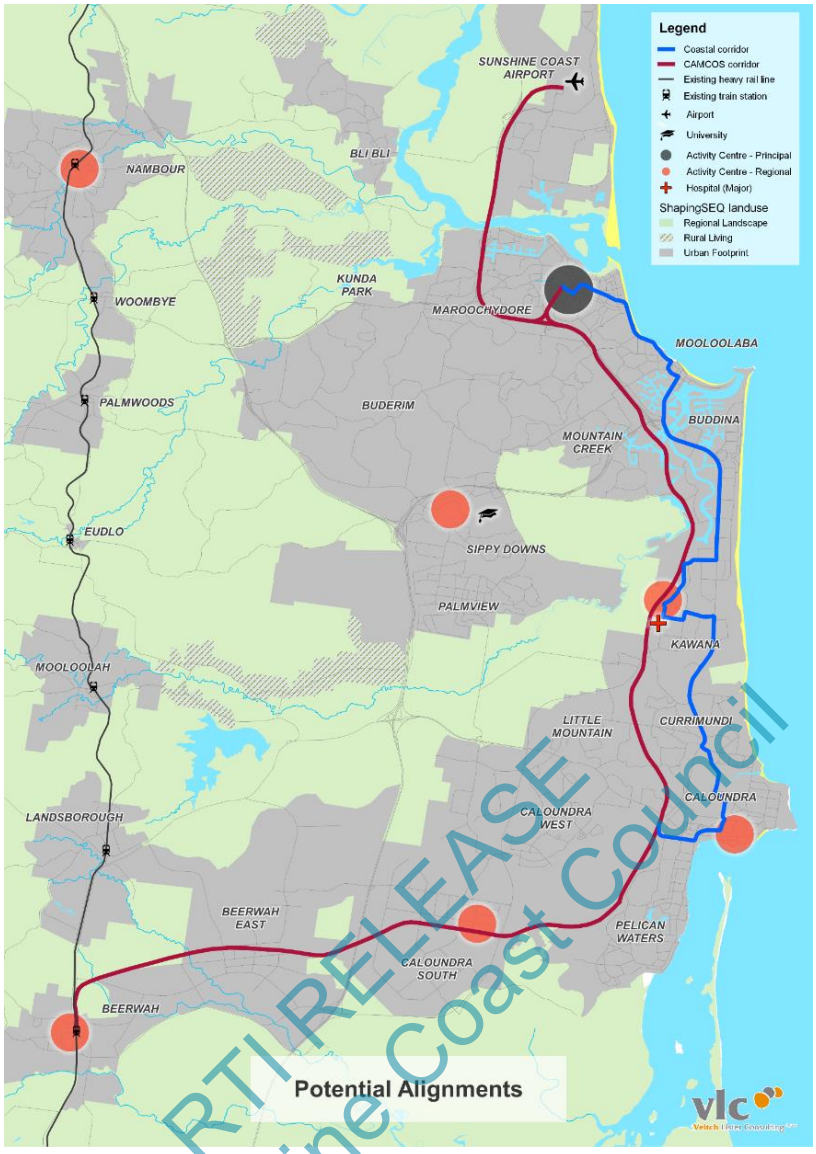
- **Caboolture to Maroochydore Corridor (CAMCOS):** this heavy rail alignment branches off the North Coast Rail Line at Beerwah and extends from west of Caloundra to Maroochydore and the Sunshine Coast Airport. The CAMCOS corridor is a protected future passenger rail corridor and is endorsed in ShapingSEQ (2016), the Sunshine Coast Planning Scheme 2014 and the Sunshine Coast Draft Integrated Transport Plan (2018). In this study, we assume the CAMCOS corridor can be utilised by either heavy or light rail, but not bus rapid transit (BRT); and
- **Sunshine Coast Light Rail (referred to as the Coastal corridor in this report):** This alignment emerges from a preliminary investigation into potential light rail options completed in A line in the sand: Taskforce Prefeasibility and Rapid Economic Appraisal Report (2012) and refined in Sunshine Coast Light Rail Shaping our Future (2014) into a potential coastal corridor between Maroochydore and Caloundra via Mooloolaba and Kawana. This alignment has been endorsed by the Sunshine Coast Draft Integrated Transport Plan (2018).

More recently, the North Coast Connect Project Stage 2 – Detailed Project Proposal (2017) proposes "faster" rail between the Sunshine Coast and the Brisbane CBD. Utilising the existing North Coast Rail Line and the CAMCOS corridor, "faster rail" proposes 45-minute travel times between Maroochydore CBD and the Brisbane CBD and Nambour and the Brisbane CBD. In achieving these travel-time savings, the "faster rail" option proposes to operate less frequent services to fewer stations. The "faster rail" proposal has been endorsed by the Smart Cities Plan (2016).

Transport Intent

1. The Sunshine Coast is connected by an integrated, accessible, frequent and reliable transport system.
2. Development is designed to increase walking and cycling, minimise dependency on private motor vehicle use and contribute to greater levels of regional self-containment.
3. The transport system enhances quality of life, contributes to the economic viability and adds to the sustainability of the region.

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Figure 2-5: Mass Transit Corridors identified in previous studies

2.2 The case for change

This section outlines the case for change. To answer this question, we consider current travel patterns, the existing public transport network, future growth, and the consequences of not changing.

2.2.1 Current travel patterns

Current travel patterns on the Sunshine Coast are dominated by car, which comprises 85% of all trips. In comparison, public transport mode share is only 3%, walking and cycling make up the remaining 12%. Private vehicle travel to work (as driver or passenger) is even higher, with 93% of work trips by car (Sunshine Coast Council Draft Integrated Transport Strategy, 2018). These mode shares have generally remained steady since 2004. A Sunshine Coast community survey found (Sunshine Coast Council Draft Integrated Transport Strategy, 2018):

- 87% of people rarely or never use public transport; and
- Only 2% use public transport daily, 5% weekly and 6% once a month.

The proportion of licence holders and vehicle ownership per household on the Sunshine Coast is also growing, with over 55% of households owning two or more cars in 2016, up from 43% in 2006 (Sunshine Coast Council Draft Integrated Transport Strategy, 2018).

2.2.2 The existing public transport network

While high car-dependency is underpinned by several factors, the most notable is the lack of viable alternatives: Historical investment in public transport on the Sunshine Coast has been insufficient to generate sizable mode shift. As illustrated below, the existing public transport network consists primarily of routes that focus on coverage rather than trunk routes supported by feeder services.

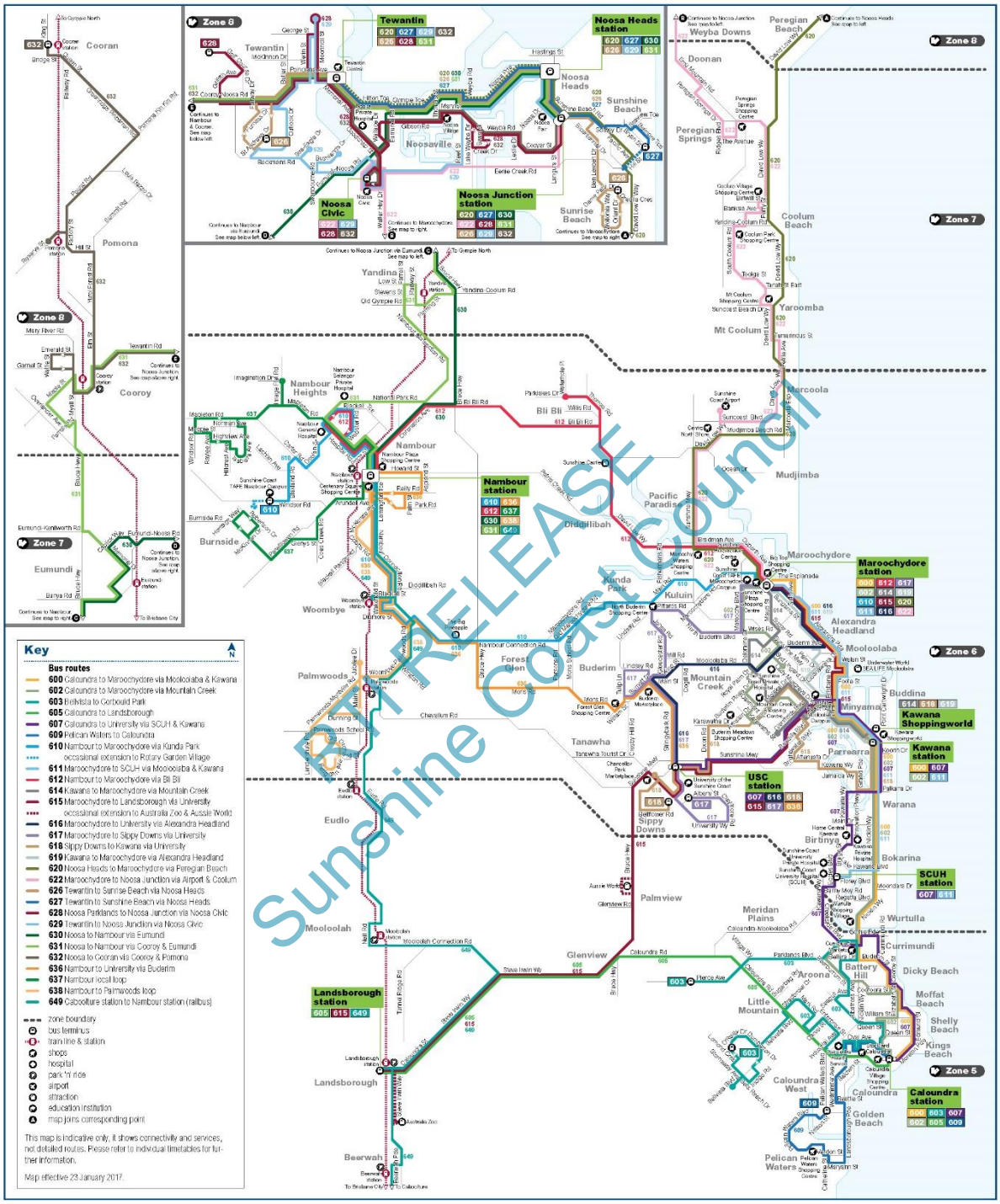


Figure 2-6: Public transport network on the Sunshine Coast

Unsurprisingly, the current network primarily serves people who are captive to the service due to limited access to alternative modes. During off-peak times several routes operate at less than hourly frequencies, if at all. The notable exception is Route 600 Caloundra – Maroochydore, which operates at 15-minute frequencies or better, all-day, all-week. As a result, the 600 route carries 2700 passengers per day; significantly more than the sunshine coast average of 522 passengers per day.

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In terms of infrastructure, historical investment has focussed on key interchanges, such as University of Sunshine Coast and Noosa, as well as duplicating the North Coast Rail Line north to Beerburrum. More recently, detailed design has begun on the Beerburrum to Nambour Rail Upgrade Project, which duplicates and realigns track north to Landsborough, after which more limited upgrades are proposed for the 40-kilometre section to Nambour. Ultimately, this project will enable higher frequencies and improve reliability, while also expanding park and ride facilities.

As shown in Figure 2-7, the current public transport network means that travel time to Maroochydore Principal Activity Centre takes much longer than by car.

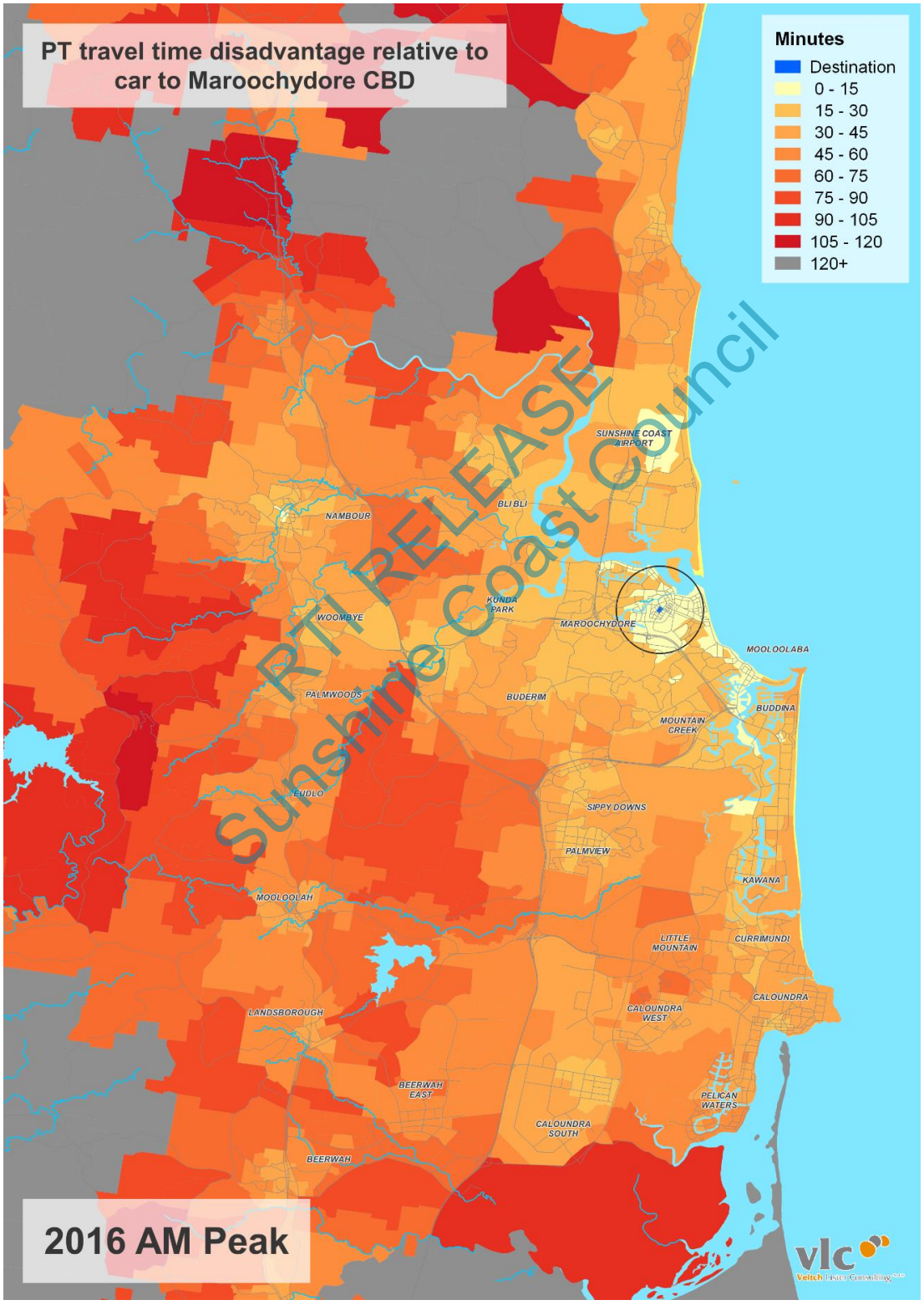


Figure 2-7: Public transport travel time to Maroochydore relative to car

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Based on this analysis, the existing public transport network appears ill-suited to attracting large numbers of people and is therefore poorly-positioned to support growth.

2.2.3 A city of 500,000 residents in a larger metropolis

As a city of 500,000 residents located in a constrained and sensitive geographic setting, the Sunshine Coast of the future will have vastly different transport requirements from today. Meeting these transport requirements through the provision of high quality, sustainable and integrated transport solutions is key to supporting the Sunshine Coast's economy and lifestyle of its residents.

The regional plan requires 63% of growth on the Sunshine Coast to occur within the existing urban area, doubling the number of households within the coastal corridor between Caloundra and Maroochydore by 2041. With 36,000 more dwellings in the area, there is a need for transport to support more dense, compact, and mixed-use developments.

While enabling this growth, Council also plans to enhance quality of life. A key plank in these plans is reducing dependence on single-occupant private vehicles by ensuring effective integration of transport and land use planning. A city of 500,000 residents requires viable alternatives to private car travel. Such alternatives are especially necessary given the Sunshine Coast has high numbers of visitors, peaky seasonal demands, and sits in a constrained and sensitive natural setting.

Reducing car-dependence requires broad-based and multi-faceted policy settings that shift existing transport and land use patterns in several inter-related ways. As a minimum, policies will need to: require large attractors to be located on major transport corridors; encourage denser and more walkable neighbourhoods; and actively-manage the availability and price of parking.

As well as these local objectives, effective mass transit will enable the Sunshine Coast to meet the regional objectives contained in ShapingSEQ. Growth on the Sunshine Coast occurs within the broader the context of the SEQ region, which is also growing rapidly. The demand for travel between the Sunshine Coast and destinations further south, such as Brisbane City for example, has the potential to congest strategic road corridors beyond the Council's borders.

2.2.4 What if we don't change?

Under a business-as-usual scenario, growth on the Sunshine Coast is forecast to lead to an additional 547,000 car trips per day and 4.6 million additional car vehicle kilometres. This additional demand will cause congestion to increase, with average vehicle speeds within the Sunshine Coast expected to fall by approximately 5.7km/hr between 2016 and 2041.

Without a shift to public transport, congestion and parking will undermine the urban environment required to support self-containment and dense, mixed-use development.

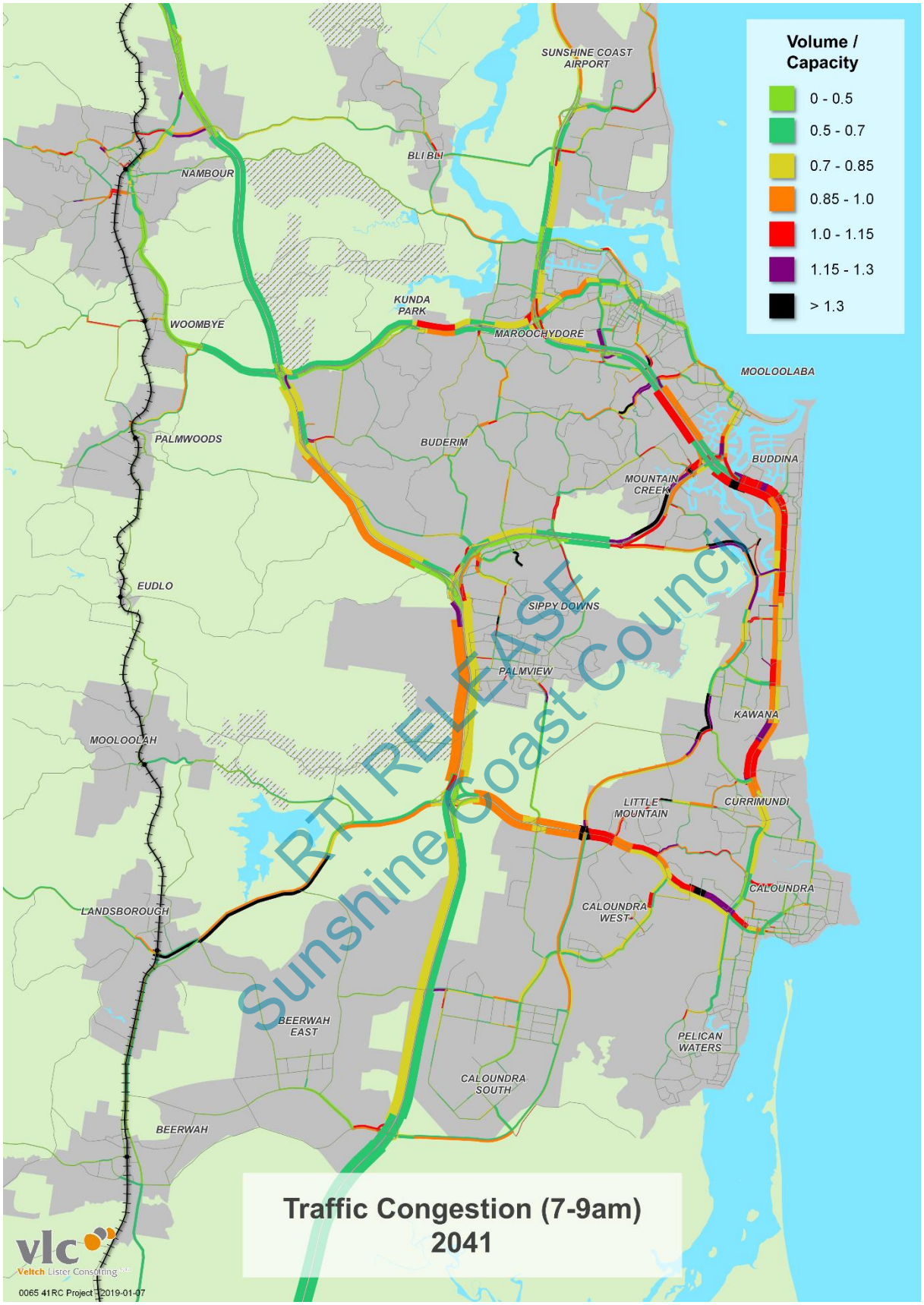
Congestion (as represented by the ratio of vehicle volume demand to road capacity) on the Sunshine Coast road network in 2041 is shown in Figure 2-8.. Figure 2-9 shows the change in car travel-time to Maroochydore in minutes by 2041[1]. The greatest increase in travel time (2016 to 2041) will be experienced in urban areas south of Maroochydoore where limited network capacity leads to increased congestion. More trips by car will also require the provision of additional parking and reduce development capacity. In Maroochydore, an additional 8,600 extra car trips will require an extra 170,000 sqm of parking. The viability and productivity of key activity centres, including but not limited to Maroochydore, depends on the provision of other transport modes.

Finally, in terms of environmental sustainability, the additional demand for vehicle travel is predicted to generate an additional $70 million p.a. of greenhouse and air pollution costs by 2041 (Appendix B).

[1] Changes in travel time are affected by both increased congestion and additional network capacity delivered between 2016 and 2041. New growth areas such as Caloundra South show improvements due to increased accessibility delivered by new infrastructure. Additional travel time due to congestion is partially offset by the provision of new infrastructure.

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Figure 2-8: Sunshine Coast Congestion (am peak) in 2041

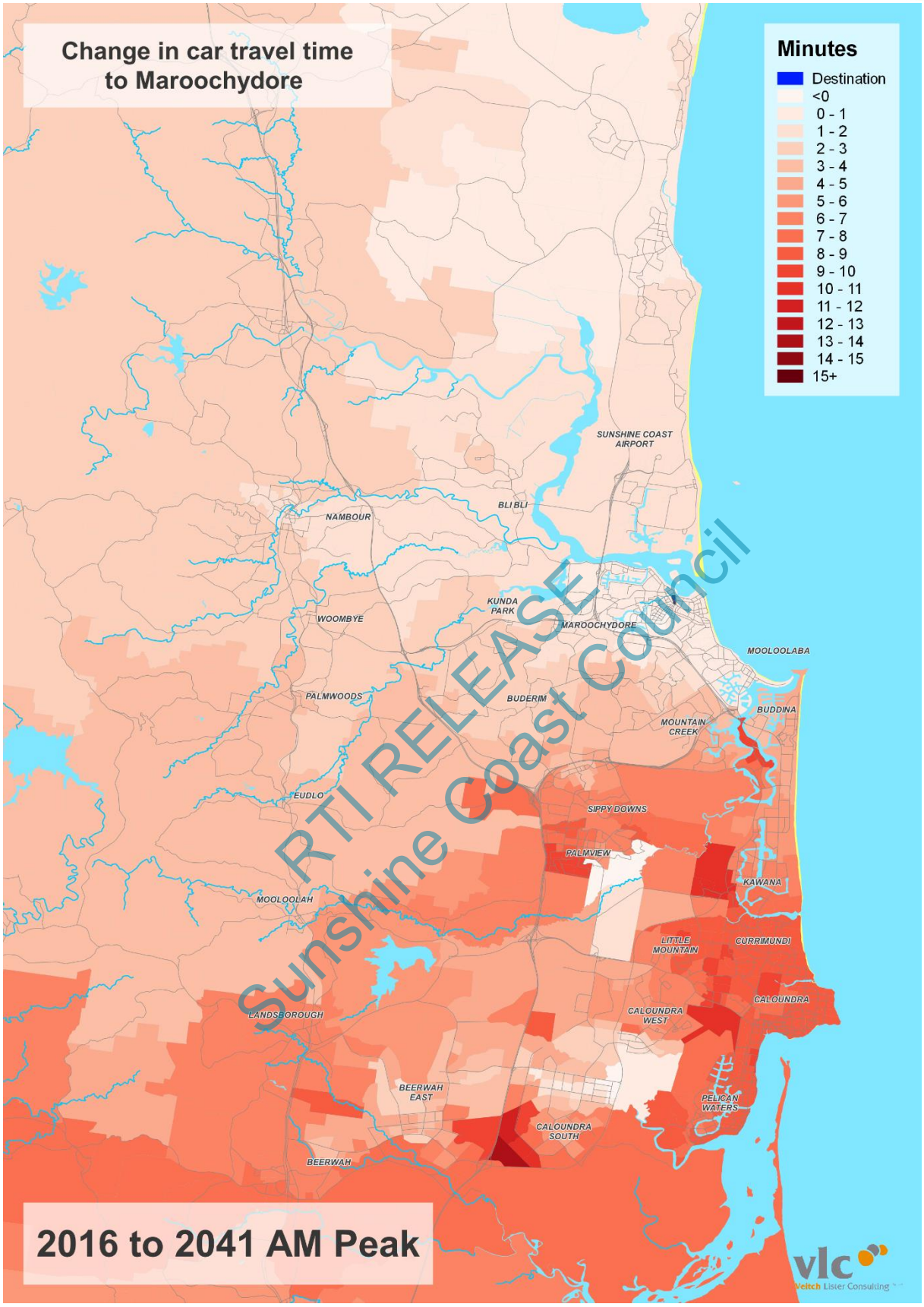


Figure 2-9: Change in car accessibility to Maroochydore – 2016 to 2041 ***(No investment in Light Rail)***

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2.3 Principles of public transport planning

The previous sections presented the strategic case for changing travel patterns on the Sunshine Coast to enable growth. Mass transit is a key part of this change. While walking and cycling have a critical role to play in catering for short to medium distance travel demands, only public transport can move large numbers of people over medium to long distances. In this section we present key public transport planning principles that have guided the development of this Plan.

2.3.1 Public transport as a layered network

Public transport networks tend to consist of (at least) four interdependent service layers:

- *Rapid services*, which operate in dedicated rights-of-way at high-speeds and high-frequencies. Examples in SEQ include the Springfield Rail Line, the South East Busway, and G:Link light rail.
- *Frequent services,* which operate at high-frequencies with priority (as required) to deliver reliable travel-times. Examples of frequent services include the Brisbane City Glider.
- *Connector services,* which often operate at high-frequencies during peak periods and then fall-back to lower frequencies during off-peak periods.
- *Local services,* which operate at low-frequencies all-day, all-week. These services are primarily designed to provide coverage, rather than generate patronage.

Our work on this Plan focuses on the first two layers, that is, rapid and frequent services. Together, these layers provide the back-bone around which connector and local services can be designed. The existing PT network on the Sunshine Coast comprises largely of Connector and Local services, with only one Frequent service (Route 600). Even though the 600 service operates at high frequencies it lacks priority treatments required to ensure reliable travel times. Moreover, the existing heavy rail network operates at frequencies that are too low to qualify as mass transit, a point to which later sections will return.

Finally, we note that some jurisdictions formally recognise public transport service layers within their strategic transport and land use policy documents. Figure 2-10 provides an example from Auckland, where the different layers—and their implications for service and infrastructure— are identified explicitly and used to inform network planning (Auckland Regional Public Transport Plan (2015)).

Service Layers	Rapid	Frequent	Connector	Local
Defining features	All-day network			
Minimum Frequency	15 minutes		30 minutes	60 minutes
Operating hours	7am-7pm, frequency may be less outside these hours			
Achieving speed and reliability	Dedicated Right of Way	Priority measures	Some priority measures	Generally no priority measures

Figure 2-10: PT service layers (Auckland Regional Passenger Transport Plan, 2015)

Defining public transport service layers within policy in this way provides useful guidance on the level of service that will be provided in different parts of the network. In Auckland's case, for example, the rapid and frequent networks have subsequently been reflected in strategic land use policies, specifically zoning, height limits, and parking requirements (which, in most cases, were removed).

2.3.2 The role of frequency and connections

It is tempting to attribute the success of mass transit simply to the speed and reliability that follows from the provision of quality infrastructure and dedicated rights-of-way. Such an interpretation,

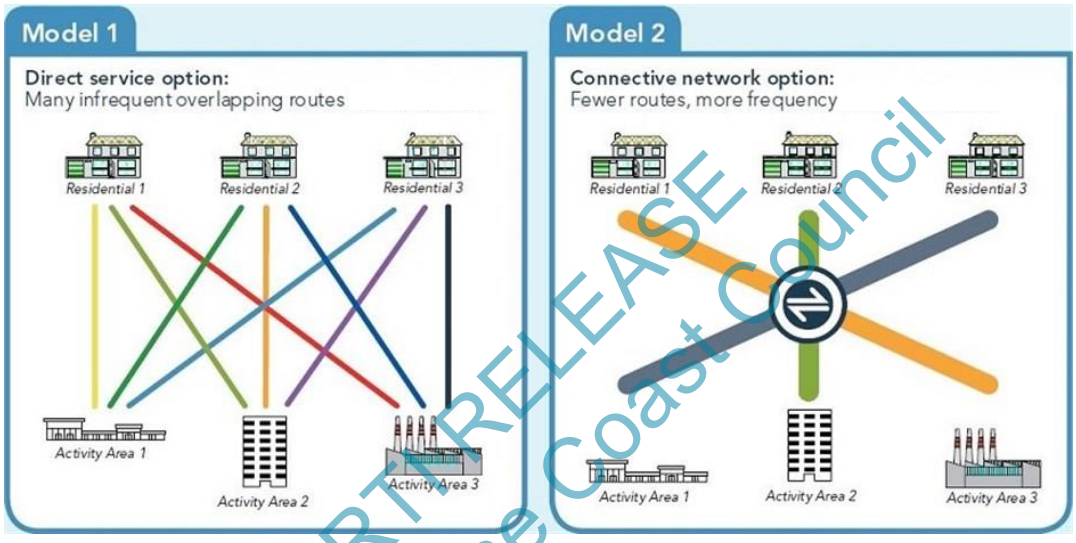
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however, tells only part of the story: Speed and reliability are necessary but insufficient conditions for mass transit. In addition, mass transit must also provide *frequent* service, which we define to be at least every 15-minutes and higher during peak periods.

Frequency contributes to several positive outcomes. The direct impacts of frequency are to (1) reduce door-to-door travel-times for everyone, by reducing the time passengers spend waiting at stops and (2) support more spontaneous, "turn-up-and-go" travel without the need for a timetable. In addition to these direct effects, however, frequency also unlocks the potential for connections. In the absence of frequent service, connections—or transfers—are often seen as overly onerous. In contrast, frequent services make connections possible, creating the potential for individual public transport routes to operate as a network, thereby catering for a much wider range of potential journeys.

The role of frequency and connections in effectively and efficiently meeting travel demands is illustrated in the following figure, which shows two different types of public transport network. The first network (left) consists of nine everywhere-to-everywhere services that run at 30-minute frequencies, whereas the second network (right) consists of three frequent services that—for the same operating costs—can run at 10-minute frequencies.



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Figure 2-11: Types of public transport networks (Auckland Transport, 2018)

Once wait-times are accounted for, the connective network to the right will typically deliver faster or comparable travel-times for most people, *even for those who must connect to reach their destination*. Operating fewer routes at higher frequencies also results in a simpler network, which is more legible and easy-to-navigate.

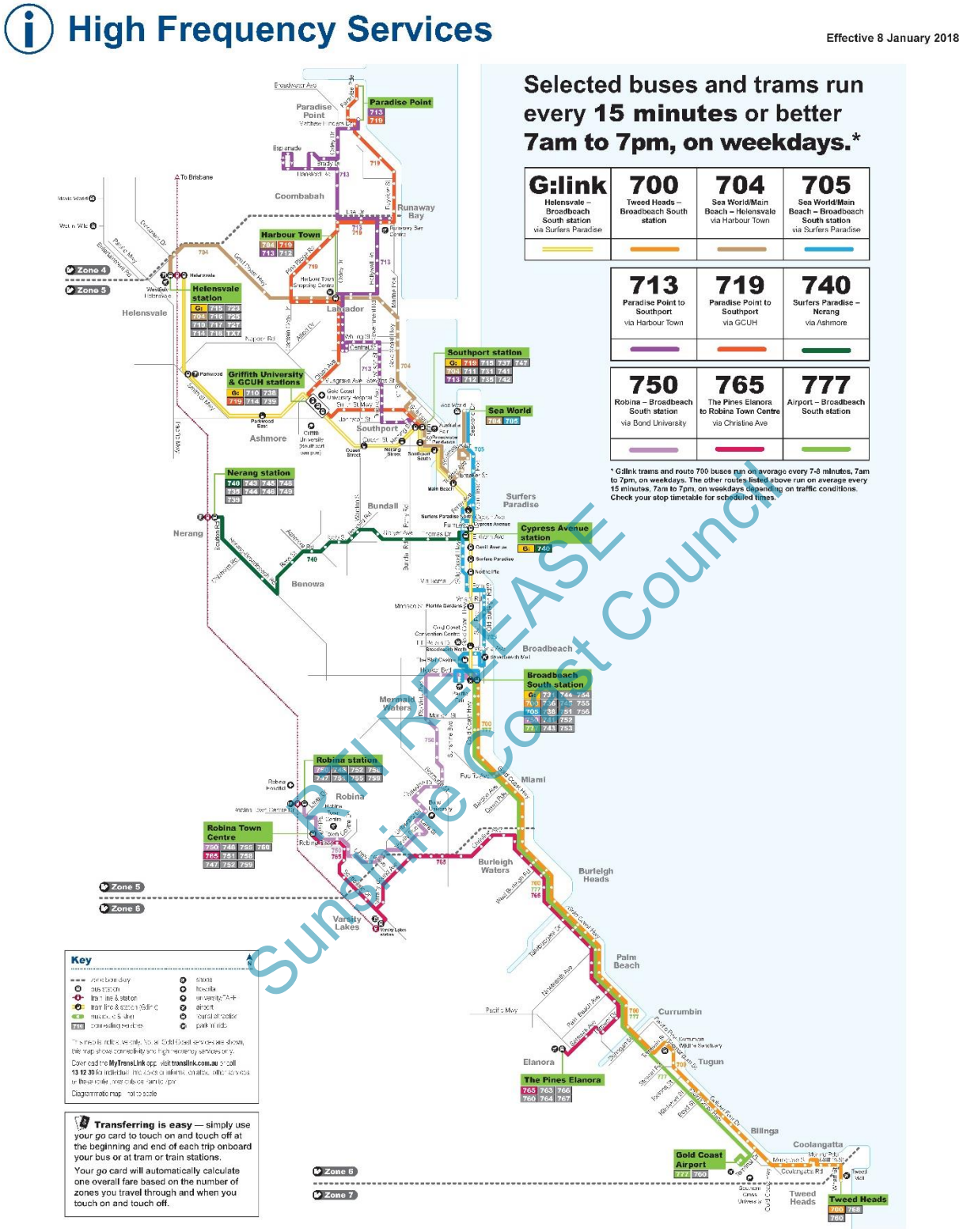
Most mass transit networks operating in Australia and overseas leverage frequency and connections to improve network performance. In our view, public transport on the Sunshine Coast will, over time, need to shift towards a connective network characterised by fewer, higher frequency routes. The connective network should maximise opportunity whilst balancing a need to minimise the number of required transfers.

2.3.3 An all-day, all-week network

This Plan envisages a Mass Transit Network for the Sunshine Coast that operates services at least every 15-minutes 7am-7pm, 5 days per week and preferably longer. Experience in Queensland and elsewhere suggests committing to this level of service is necessary to:

- Support more compact, transit-oriented urban development characterised by increased densities and lower levels of off-street car-parking; and
- Attract large numbers of discretionary travellers who want the flexibility to travel across the day and week, without necessarily having to consult a timetable.

Given the growth expected to occur on the Sunshine Coast in future decades, the current frequent network that exists on the Gold Coast provides a useful point of comparison.



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Figure 2-12: Gold Coast high frequency network (Translink, 2018)

Noteworthy aspects of the public transport network on the Gold Coast include:

- *The rapid G:Link service*, connecting from the heavy rail corridor at Helensvale to intensive development on the coastal corridor between Surfers Paradise and Broadbeach;
- *Frequent bus services*, operating along key medium density corridors and between rail stations and town centres; and

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- *Infrequent heavy rail services*, which provide for a peak commuter service operating between the Gold Coast and Brisbane City, relieving pressure on the M1.

This discussion serves to highlight the distinction between service and mode. Specifically, the Gold Coast heavy rail line is not, in our view, sufficiently frequent to qualify as mass transit, even if it may do so in the future. We return to this point when discussing heavy rail options in future sections.

2.3.4 The importance of density

Evidence shows density is a key determinant of the demand for and supply of public transport. For typical urban densities in Australia, we expect the demand for public transport will increase more than proportionally with density. Put another way, an area with twice the land use density (whether residential or employment) is expected to generate more than twice the demand for public transport.

The strong positive relationship between demand and density emerges for intuitive reasons. When density increases a range of other factors also tend to change that make public transport more attractive. At higher densities, for example, parking becomes more expensive and less convenient (due to the increased prevalence of structured parking facilities that are located remotely from individual destinations). Similarly, areas with higher densities tend to experience more road congestion, causing longer and less reliable travel-times, reducing the attractiveness of car travel.

Other, less intuitive but nonetheless important, factors may also enhance the relationship between public transport and density. One example is the role of *sorting*, where households and firms that value public transport actively choose to locate in areas where it is most readily-available. In South-East Queensland, research has found evidence of sorting by university students and staff at the University of Queensland in response to the Eleanor Schonell Bridge, for example.

While density is important, it is of course not the only factor that determines the demand for public transport. This is especially true in the presence of park-and-ride, where the density of the immediate station environs is less relevant than the catchment provided by the surrounding road network. That said, even in park-and-ride intensive public transport networks, such as South East Queensland, most passengers continue to access the network simply by walking to their local stop or station. While park-and-ride weakens the link between density and demand, a strong link remains nonetheless.

Density also matters on the supply-side. By helping to spread fixed costs over more passengers, density effectively reduces the costs of public transport infrastructure and services, leading to "economies of density" in its provision. Many of the results presented in subsequent sections of this report become easier to understand when one considers the density of the areas served by the mass transit option under consideration.

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2.4 Strategic objectives for mass transit

The strategic land-use and transport outcomes discussed above, along with the potential role of public transport in achieving these objectives, have been consolidated into the following high-level objectives for the Sunshine Coast's mass transit system:

1. **Connectivity:** The mass transit system provides improved public transport accessibility via high-frequency public transport connections between key activity centres, including Maroochydore, Caloundra, Caloundra South, Kawana, Sippy Downs, Nambour and Beerwah.
2. **Integrated transport and land use:** The mass transit system facilitates transit-oriented development in major development areas; enables compact, integrated, active and connected communities with improved urban amenity; and minimises dependency on private motor vehicles.
3. **Value for money:** The mass transit network delivers increased patronage related to the estimated capital and operating cost, measured in net present value terms.

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3. Developing the Mass Transit Network

In this chapter, we develop the mass transit network considering:

- *Major centres and movements*, in which we discuss residential and employment densities along with the major movements between key centres;
- *High-level options analysis*, in which we present high-level heavy and light rail options, as well as one hybrid option that combines heavy and light rail; and
- *Refined options analysis,* in which we present a series of potential refinements to the most-promising high-level options.

3.1 Major centres and movements

To inform the development of the mass transit network, we modelled travel demands in a variety of scenarios in 2041. These scenarios were based on assumed future land uses, as discussed in Section 2.1.2, as well as several mass transit options that we explain in more detail below.

With a population of 500,000, modelling suggests there are approximately 2.3 million trips will either start or end on the Sunshine Coast each day. Most of these trips were to, from, or within key principal and regional activity centres (i.e. between Maroochydore, Kawana, Caloundra, Caloundra South, Beerwah, Sippy Downs and Nambour). Put another way, most (90%[2])travel consists of short to medium distance trips *within* the Sunshine Coast, with only relatively small proportion of external trips associated with the rest of South East Queensland.

Using modelled demands, we identified a set of major centres and movements, as illustrated in Figure 3-1. The major movements between these key principal and regional activity centres forms the basis for this mass transit plan that we develop in subsequent sections.



Figure 3-1: Major movement corridors

We note that in developing mass transit options, we focus on the corridor running from Beerwah to Sunshine Coast Airport. This corridor was chosen for three reasons. First, it broadly reflects the findings of previous studies and the existing CAMCOS designation. Second, Beerwah offers regional connectivity to the wider rail network. Third, the coastal area from Caloundra to Maroochydore is the densest part of the Sunshine Coast Region and of strategic land use and transport importance. For these reasons, the corridor from Beerwah to Sunshine Coast Airport offers the most mass transit potential. Other major movements shown above are considered more suitable for frequent bus connections, which we explore in more detail in subsequent sections.

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[2] Trips within Sunshine Coast as per 2041 reference case model (variant 0065- Scenario 1P

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3.2 High-level options analysis

This section summarises the results of modelling of several high-level rapid transit options developed in previous planning studies (see Section 2.1.3) as well as possible combinations of these. Specifically, we evaluate the following five high-level rail options[3] (Figure 3-2).

- **Option 1: Heavy rail**, which runs at 20-minute frequencies between Sunshine Coast Airport and Beerwah via the CAMCOS corridor, with a branch at Maroochydore;
- **Option 2: Fast rail**, which uses the same alignment as option 1, but with lower frequencies and 20-30% shorter travel-times;
- **Option 3: Coastal LRT**, which operates at 7.5-minute frequencies between Maroochydore and Caloundra via a coastal alignment (the "Coastal corridor")
- **Option 4: Inland LRT,** which uses the same alignment as option 3 between Maroochydore and Kawana and then uses the CAMCOS corridor to access Caloundra and Beerwah;
- **Option 5: Hybrid A**, which runs LRT on the Option 3 alignment between Maroochydore and Kawana from where heavy rail runs to Beerwah via the CAMCOS alignment; and
- **Option 6: Hybrid B,** which combines Option 1 and Option 3 (the "Coastal corridor").

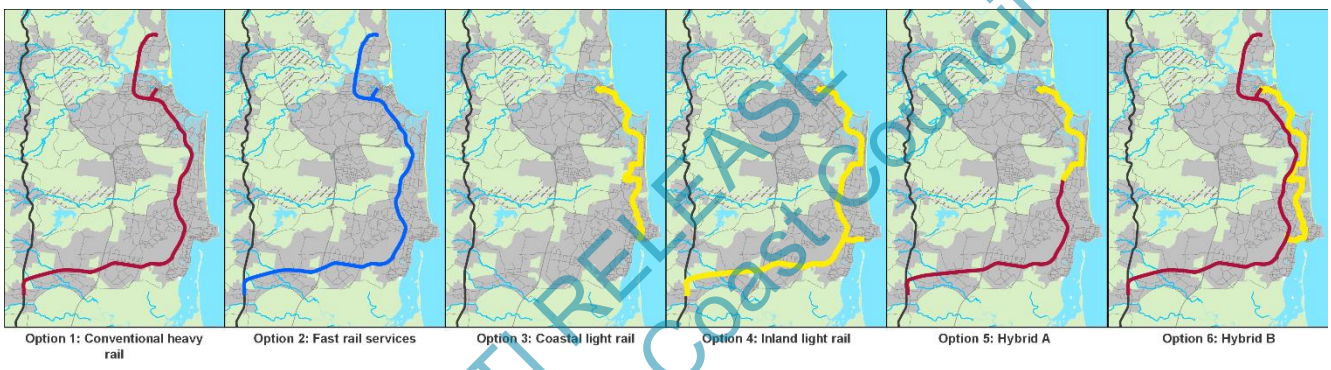


Figure 3-2: Map of Modelled Options

Options (1) and (2) are heavy rail only options, whereas options (3) and (4) are light rail only options. Options (5) and (6) are, in contrast, hybrid options, which make use of both heavy and light rail. Option (6) is in many respects an "competing" network option, fully utilising both the CAMCOS corridor (via heavy rail) and Coastal corridor (via light rail). The table below evaluates these six options compared to Business-as-usual (BAU) for various criteria designed to capture the strategic transport and land use objectives identified in Section 2.4.

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[3] Other options that were modelled, but not evaluated, are included in Appendix A. Detailed modelling results for each of these options is presented in the technical modelling report that accompanies this mass transit plan.

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Table 3-1: Key performance indicators for high-level options

Performance Indicator		BAU	Modelled Options					
			(1) HR	(2) FR	(3) Coastal LRT	(4) Inland LRT	(5) Hybrid A	(6) Hybrid B[1]
Key Network Statistics	Number of public transport services per hour along route (PK = peak; OP = "off-peak")	n/a	PK: 3 OP:2	PK: 2 OP:2	PK: 8 OP:4	PK: 8 OP:4	PK: 8 (LR), 3 (HR) OP: 4 (LR), 2 (HR)	PK: 8 (LR), 3 (HR) OP: 4 (LR), 2 (HR)
	Number of stations along route	n/a	13	5	25	30	24 (17 LR, 7 HR)	39 (26 LR, 13 HR)
	Number of vehicles required to service route	n/a	5	2	17	21	14 (11 LR, 3 HR)	23 (18 LR, 5 HR)
Connectivity	Public transport travel time between Maroochydore and Beerwah (including walk access and wait time) (min) (IVT – in-vehicle time)	76 (58 IVT)	48 (32 IVT)	34 (13 IVT)	76 (no LRT connection)	80 (66 IVT)	79 (57 IVT)	48 (32 IVT)
	Public transport travel time between Maroochydore and Caloundra (including walk access and wait time) (min)	56 (31 IVT)	53 (17 IVT)	48 (7 IVT)	65 (56 IVT)	60 (42 IVT)	72 (42 IVT)	48 (17 IVT)
	Daily public transport journeys between the Sunshine Coast LGA and Brisbane CBD	4,300	5,520	7,800	4,200	4,500	5,200	5,530
Transit-oriented development	Population within 800m of mass transit stations on the Sunshine Coast	18,400	70,800	43,200	127,400	132,600	109,900	158,900
	Employment within 800m of mass transit stations on the Sunshine Coast	19,000	61,000	54,800	91,600	91,600	80,100	106,800
	Average travel distance per public transport trip originating in the Sunshine Coast region	9.4	10.3	10.0	8.02	8.92	8.2	8.69
Value for money	Daily public transport journeys on the Sunshine Coast	37,100	48,400	50,000	54,700	55,600	54,000	64,700
	Expected capital cost of alignment (including stations and vehicles) ($2018 million)[1]	n/a	**$3,500**	**?**	**$2,500**	**$3,200**	**$3,400** ($2,000 LR, $1,400 HR)	**$6,200** ($2,700 LR, $3,500 HR)
	Expected capital cost of stations ($2018 million)	n/a	**$555**	**$213**	**$67**	**$80**	**$344** ($45 LR, $299 HR)	**$624** ($69 LR, $555 HR)
	Expected capital cost of vehicles ($2018 million)	n/a	**$27**	**?**	**$91**	**$112**	**$75** ($59 LR, $16 HR)	**$123** ($96 LR, $27 HR)
	NPV of expected operating costs (50-year lifespan) ($2018 million)	n/a	**$444**	**$370**	**$281**	**$414**	**$429** ($178 LR, $266 HR)	**$755** ($311 LR), $444 HR)

1) Operating costs do not include the additional cost of extending the existing heavy rail services from their current termination point of Caboolture to Beerwah, as it is assumed to occur under all potential mass transit scenarios.

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3.2.1 Heavy Rail performance

Modelling confirms the relative importance of local travel. Considering Option 2 "Fast Rail", we find an increase of 11,300 journeys per day (48,400 – 37,100) compared to the BAU scenario. Of these additional journeys, only 2,500 (7,800 – 4,300), or around 20-30% are associated with the Brisbane CBD. Hence, even when considering an option that focuses almost exclusively on longer distance travel, the bulk of growth in demand occurs on the local public transport network. From this we conclude that a mass transit network for the Sunshine Coast must focus first on meeting the demand for local travel, with regional connections of lesser importance.

From a strategic network perspective, neither the heavy rail or fast rail options (i.e. option (1) or (2)) are sufficiently frequent to qualify as mass transit. As previously discussed in Section 2.3.2, this Plan envisages a future mass transit network for the Sunshine Coast where services operate at least every 15-minutes 7am-7pm, 5 days per week (and preferably longer). Such frequencies are considered necessary to grow patronage, enable a connected network, and support land use. While options (1) and (2) may provide an attractive peak commuter service between the Sunshine Coast and Brisbane, the lack of frequency means this does not qualify as mass transit. Similarly, with fewer stations and a smaller catchment, options (1) and (2) provide less support for land use objectives compared to other options. Accessibility supports higher public transport demands in the short-run and, in the medium to long run, can affect location and land use choices of households, firms, and developers (NB: Location / land use effects are not captured in our model, hence why we consider accessibility separately from journeys). In terms of accessibility, options (1) and (2) perform significantly worse than other options.

While this assessment suggests that options (1) and (2) do not, on their own, align well with strategic objectives for the Sunshine Coast, they do offer faster travel-times between Maroochydore and Beerwah of 53-minutes and 48-minutes, respectively, compared to 60-80-minutes for options (3) and (4). In this way, options (1) and (2) cater better for the smaller number of longer journeys associated with external travel. In doing so, options (1) and (2) may potentially benefit the strategic road network connecting the Sunshine Coast to destinations to the south[4].

3.2.2 Light Rail Performance

Turning now to options (3) and (4), we find they perform well in terms of accessibility (and hence land use outcomes) and patronage. Option (3) Coastal LRT reaches a population of 127,400 residents, whereas Option (1) Heavy Rail reaches only 70,800 residents. The difference in accessibility between the options is even starker when one considers that Options (1) and (3) run for lengths of 47.4km and 22.5km, respectively. While option (3) offers a slightly smaller residential catchment than option (4), the catchment of the former better aligns with the dense urban environments where transit-oriented development is expected to occur. The trade-off for greater accessibility is generally longer travel time, due to additional stations and more on-street running. We note that Option (4) includes a spur of the mass-transit spine to Caloundra, which requires services to split across two termini (NB: We assume 4 services travel from Maroochydore to Beerwah with another 4 services per hour from Maroochydore to Caloundra). The relative merits of this spur are revisited below.

3.2.3 Combining Heavy and Light Rail

Option (5) is a hybrid heavy and light rail option that blends sections of options (1) and (3). Interestingly, this hybrid option appears to out-perform option (1), even with lower capital costs. Option (5) delivers similar patronage to options (3) and (4), while catering for more external trips to Brisbane CBD. Option (6) is another hybrid heavy and light rail option that delivers most of options (1) and (3). Intuitively, option (6) achieves the highest patronage and accessibility with the highest costs.

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[4]AM peak modelled volumes on the Bruce Highway south of Bells Creek Road (both directions) decreased from 13,600 vehicles per AM peak in 2041 under the business as usual scenario to 12,900 and 12,500 vehicles per AM peak under Option 1 and 2 respectively, freeing up around half of the capacity of a normal traffic lane.

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This high-level analysis confirms that heavy rail, on its own, does not present an adequate response to the transport problems facing the Sunshine Coast. Heavy rail simply caters for relatively few journeys, with patronage estimates that do not seem to warrant the costs. In contrast, by meeting the needs of a much larger share of total travel demands, light rail options better align with strategic objectives. At the same time, this analysis finds that hybrid options that blend heavy and light rail can perform relatively well and should be considered in more detail, as we do in the following section.

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3.3 Refined options analysis

The previous section highlighted the relative advantages of high-level options that made use of LRT, either on its own or in conjunction with HR. One of the key messages of the high-level analysis is that a tension exists between local accessibility and regional connectivity. Typically, heavy rail options deliver on the latter but sacrifice the former, and vice versa for light rail. In this section we present the results of a more refined options analysis, which seeks to identify possible variants to our high-level options that strike a better balance between local accessibility and regional connectivity.

3.3.1 Segment Analysis

To inform our identification of possible variants, we undertook a detailed segment-based analysis of potential modes and alignments within specific movement segments; this is included in Appendix D. Key findings from this segment-based analysis are:

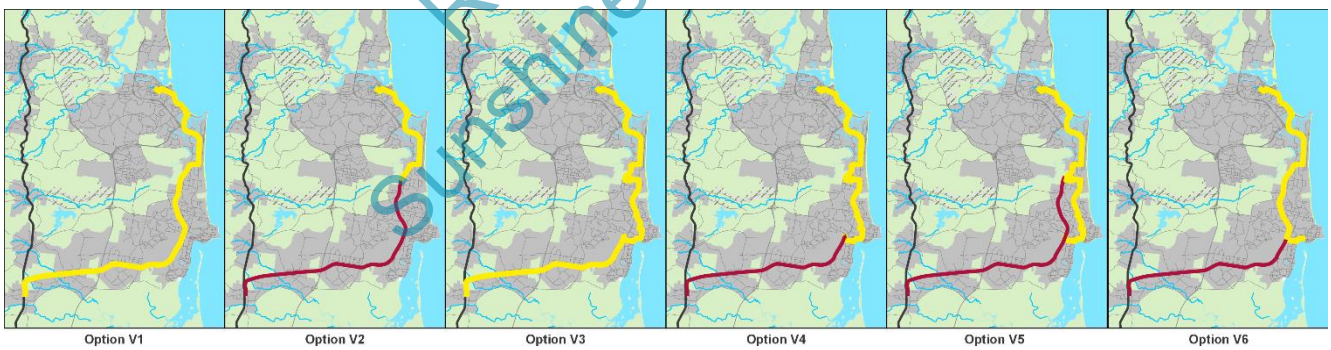
1) Light rail between Maroochydore and Kawana via the Coastal corridor out-performs under every scenario. Although travel time via this alignment is more than double that of the CAMCOS corridor via light rail, the additional catchment reached via this alignment is more than 2.5 times that of the CAMCOS light rail alignment. The price of this accessibility comes at a cost, with light rail expected to cost significantly more in this segment; and

2) Heavy or light rail extensions to Maroochydore to Sunshine Coast Airport were found to perform relatively poorly in terms of patronage, such that neither are recommended as part of the concept mass transit master plan. For heavy rail, we also question the operational implications of branching at Maroochydore, which will result in extremely inefficient running patterns. Instead, we suggest an express bus service is likely to better serve the needs of the airport.

These two key findings have been progressed forwards into a refinement of the Sunshine Coast Mass Transit Master Plan.

3.3.2 Mass Transit Network Variants

Building from the high-level options analysis and the segment-based analysis of potential alignments, we considered the following six mass transit variants for further analysis.



These variants comprise the following key elements:

- **Option V1:** LRT between Maroochydore and Kawana via the Coastal corridor and LRT between Kawana and Beerwah via the CAMCOS corridor.
- **Option V2 (option 5 in Section 3.2):** LRT between Maroochydore and Kawana via the Coastal corridor and Heavy rail between Kawana and Beerwah via the CAMCOS corridor.
- **Option V3:** LRT between Maroochydore and Kawana via the Coastal corridor, Kawana and Caloundra via the Coastal corridor, and Caloundra and Beerwah via the CAMCOS corridor
- **Option V4:** LRT between Maroochydore and Kawana via the Coastal corridor and Kawana and Caloundra via the Coastal corridor, then heavy rail between Caloundra and Beerwah via the CAMCOS corridor.

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- **Option V5:** LRT between Maroochydore and Kawana via the Coastal corridor and between Kawana and Caloundra via the Coastal corridor and heavy rail between Kawana and Beerwah via the CAMCOS corridor.
- **Option V6:** LRT between Maroochydore and Kawana via the Coastal corridor and between Kawana and Caloundra via the CAMCOS corridor, with a spur to Caloundra; and then heavy rail between Caloundra and Beerwah via the CAMCOS corridor.

Table 3-2 summarises outcomes for these variants.

Table 3-2: Key performance indicators for variants

Performance Indicator		Variant Options					
		Variant 1	Variant 2	Variant 3	Variant 4	Variant 5	Variant 6
Key Alignment Statistics	Number of public transport services along route	peak hour: 8 off-peak: 4	peak hour: 8 (LR), 3 (HR) off-peak: 4 (LR), 2 (HR)	peak hour: 8 off-peak: 4	peak hour: 8 (LR), 3 (HR) off-peak: 4 (LR), 2 (HR)	peak hour: 8 (LR), 3 (HR) off-peak: 4 (LR), 2 (HR)	peak hour: 8 (LR), 3 (HR) off-peak: 4 (LR), 2 (HR)
	Number of stations along route	28	22	36	31	34	25
Connectivity	Public transport travel time including wait time between Maroochydore and Beerwah (min)	70 (66 IVT)	67 (53 IVT)	87 (83 IVT)	86 (72 IVT)	67 (53 IVT)	73 (59 IVT)
Transit Oriented Development	Residential population within station catchment (800m from each station)	108,500	91,900	142,000	127,300	133,400	103,300
	Employment within station catchment (800m from each station)	64,700	60,400	85,100	83,100	83,900	72,700
Value for money	Expected capital cost of alignment (including stations and vehicles) ($2018 million)	$3,100	$3,400 ($1,400 LR, $2,000 HR)	$4,000	$4,200 ($2,800 LR, $1,400 HR)	$4,800 ($2,800 LR, $2,000 HR)	$3,600 ($2,200 LR, $1,400 HR)
	NPV of expected operating costs (50-year lifespan) (7% discount rate) ($2018 million)	$429	$429 ($163 LR, $266 HR)	$488	$666 ($311 LR, $355 HR)	$755 ($311 LR, $444 HR)	$662 ($266 LR, $355 HR)

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The key performance indicators of these variants are summarised in Table 3-2. When variants are compared we observe the following:

- Variants (1) and (2) are identical in alignment, however variant (2) incorporates a heavy rail extension from Beerwah to Kawana, while variant (1) utilises light rail the entire way. The use of heavy rail provides a 3-minute travel time saving, however this reduces the residential catchment by 16,600 (15%) and adds $300 million (10%) to expected capital costs. Additionally,

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under variant (2) no mass transit station exists at the Sunshine Coast University Hospital at Kawana.

- Similarly, variant (3) and (4) are identical in alignment, however variant (3) incorporates a heavy rail extension from Beerwah to Caloundra, while variant (4) utilises light rail the entire way. Once again, the use of heavy rail provides a small travel time saving, however this comes with a smaller catchment (14,700; 10%) and higher expected costs ($200 million; 6%).
- Variant (2) and (5), with light rail via the coastal route between Maroochydore and Kawana and heavy rail via the CAMCOS route between Kawana and Beerwah offer the shortest travel time between Maroochydore and Beerwah, even with an average 10-minute wait-time for transferring between light and heavy rail at Kawana. Variant (5) also includes a supporting light rail connection between Kawana and Caloundra via the Coastal route, which increases the residential catchment by 41,500 residents (45%) compared to Variant (2). This additional accessibility, however, comes at an additional $1,400 million in expected capital costs.
- Variant (6) offers the possibility for mass transit connectivity with the Caloundra activity centre from the CAMCOS alignment, without a sacrifice in service frequency that arises from a spur. When this option is compared with variant (2) (i.e. the same alignment with heavy rail extending from Beerwah to Kawana, thus preventing this spur option), variant (6) provides mass transit access to an additional 11,400 residents, however it comes at a cost of $200 million in expected capital costs and 6-minutes in travel time between Maroochydore and Beerwah.
- Variants (2), (4) and (5) do not prevent the possibility of extending heavy rail via the CAMCOS corridor in the future. Under these options heavy rail can be extended north to Maroochydore and the Sunshine Coast Airport. In contrast, variants (1), (3) and (6) would require heavy rail services to be run in parallel within the CAMCOS corridor.

Of the LRT variants (1) and (3), the former better balances the trade-off between local accessibility and regional connectivity. While variant (3) offers higher accessibility, the travel-time between Maroochydore and Beerwah is 17-minutes slower than variant (1). Variant (1) also has capital and operating costs that expected to be approximately $960 million less than variant (3).

In terms of the hybrid networks, variant (5) performs relatively well in the sense that it delivers high-levels of local accessibility and regional connectivity. The trade-off here is cost; variant (5) is estimated to add almost $2 billion to the capital and operating costs of the network compared to the LRT only variant (1).

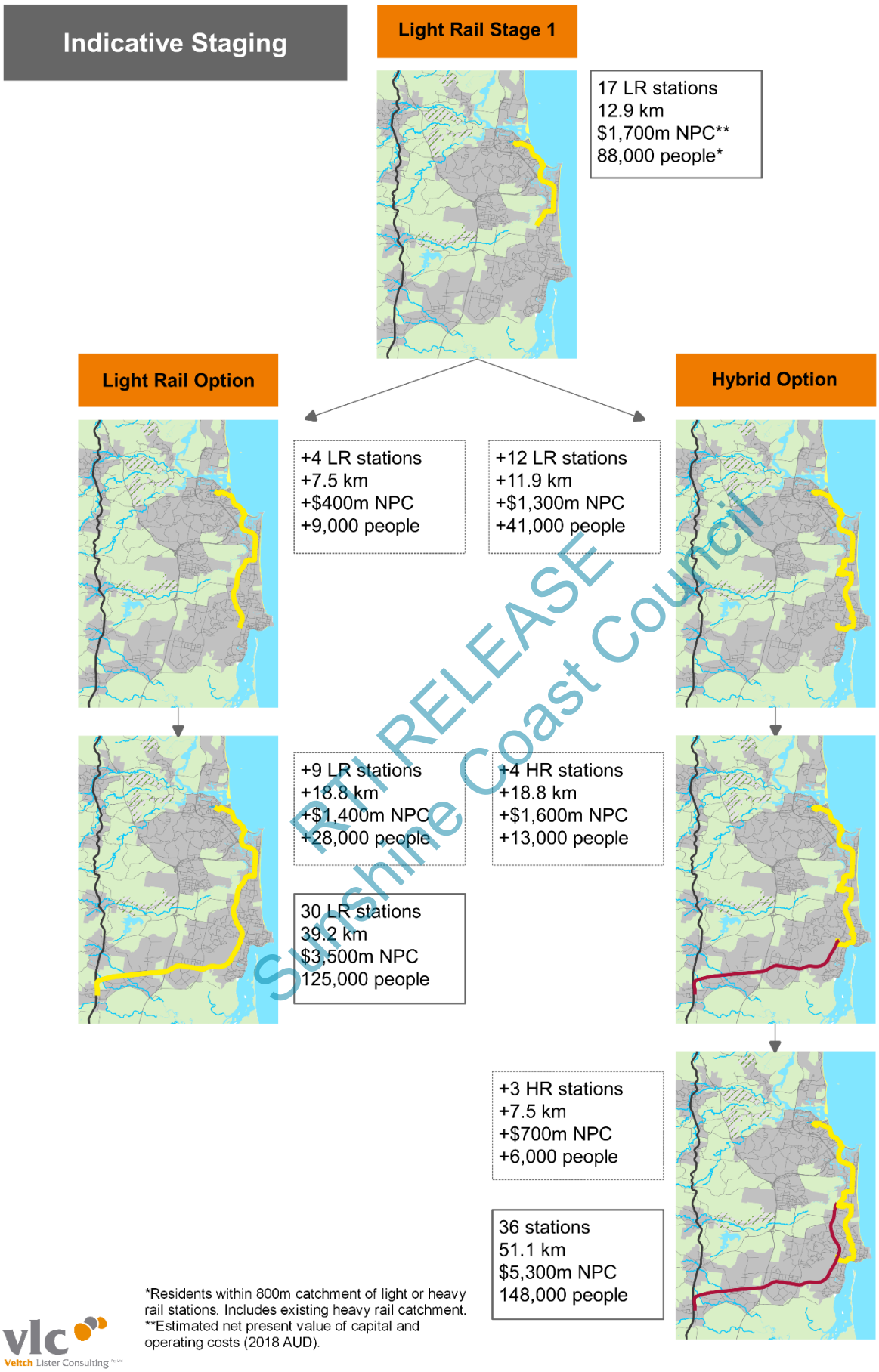
Based on the above analysis, we find that variants (1) and (5) perform the best across a range of dimensions, most notably in terms of local accessibility and regional connectivity

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3.4 Potential network staging

In terms of staging, from Maroochydore to Kawana both these two variants propose to operate LRT in the same coastal corridor section, which we identify as a common stage 1. Beyond this section, the two variants offer different potential staging options. We have illustrated these differences in the figure below.

The benefits of delivering individual segments requires further investigation to analyse interim year demands.



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Figure 3-3: Potential staging of preferred options

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4. Advancing the Concept Mass Transit Plan

4.1 Bus Based Alternatives

This study has not considered the potential for using bus options to meet the rapid transit needs on the Sunshine Coast. We recommend that bus options be developed and evaluated further as part of the business case process. Given the modelled demands, bus options are likely to warrant high-capacity vehicles from the outset. Moreover, given Council's strategic land use objectives for amenity and sustainability, the best bus option would require electric vehicles.

While our high-level analysis eliminated heavy rail options on the grounds they did not provide local accessibility, this issue may be mitigated through the provision of local high frequency bus routes connecting at heavy rail stations. While bus options should be investigated further, we note that these options are unlikely to offer high-levels of amenity in the denser coastal corridor and, when delivered in conjunction with heavy rail, may be relatively expensive.

4.2 Complementary bus services

Aside from BRT, there is a need for further work to optimise the bus network on the Sunshine Coast in response to the mass transit network options identified in this study. While this Plan has largely focused on the alignment and mode in identified corridors between key activity centres, there is an important role for high-frequency bus services to further extend the accessibility and utilisation of the mass-transit network. Such bus services are likely to be particularly beneficial to options that involve heavy rail, where local walk-up accessibility is more limited.

Key connections that need to be serviced by *frequent bus services* are shown in Figure 4-1 and Figure 4-2 for each of our two preferred options. These services connect key activity centres and the proposed mass-transit spine. Broadly speaking, this sees frequent buses operating:

- Between Sippy Downs and Maroochydore, Kawana and Caloundra South;
- Between Nambour and Maroochydore;
- Between Maroochydore and Sunshine Coast; and
- Along the coastal route between Kawana and Caloundra activity centre and through to the CAMCOS corridor (if this route is not facilitated via light rail).

One implication of these frequent bus services is that Sippy Downs (specifically, the Sunshine Coast University bus interchange) and Maroochydore become important locations for connections between buses and rapid transit. Ensuring these stops and stations are sited and designed to enable relatively direct and efficient connections between services and modes will offer benefits in terms of network connectivity and efficiency. Finally, where roads are congested, bus priority measures such as bus signal priority, bus lanes, or bus-only connections may be needed to ensure reliable travel times.

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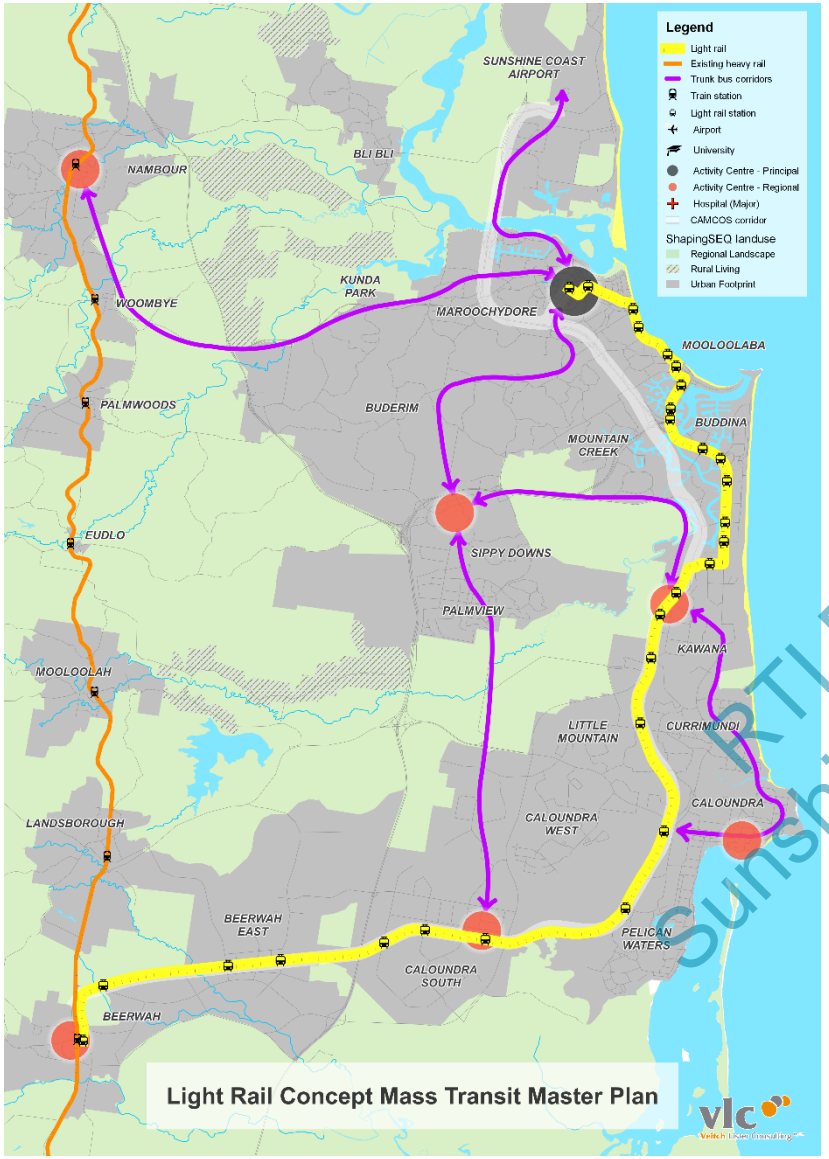


Figure 4-1 Light Rail Concept Mass Transit Master Plan

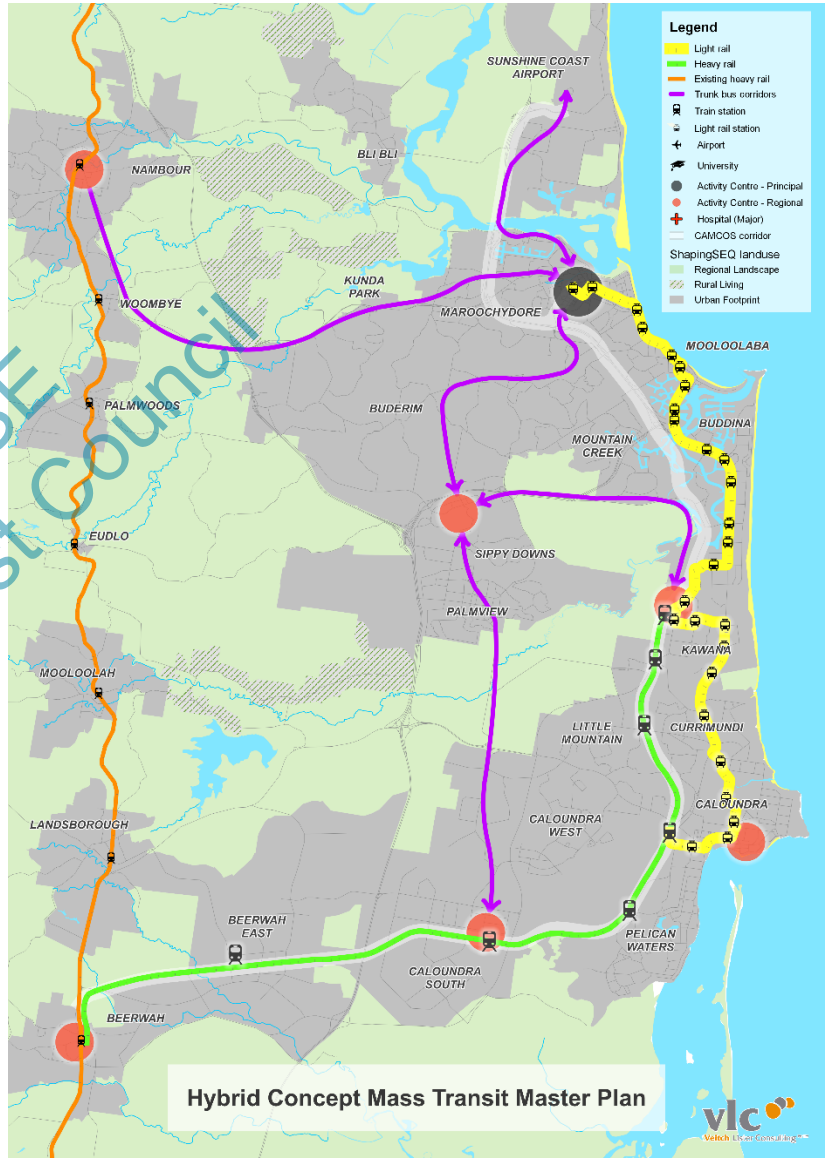


Figure 4-2 Hybrid Concept Mass Transit Master Plan

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4.3 Enabling policy

The development of this Concept Mass Transit Plan identified several important policy issues that require further consideration. Here we discuss these policy issues and consider how they might support the advancement of the mass transit plan.

4.3.1 Parking policy

The Sunshine Coast has already reduced parking requirements within key activity centres, apparently on the premise that public transport can provide alternative access to key locations within activity centres. We suggest further, more substantive changes in parking policy are implemented now to create the conditions in which mass transit can succeed.

A critical parking policy change is the adoption of a so-called “demand-responsive” parking policy, which sets the price of parking to achieve the desired level of demand (usually around 85%). We emphasise that prices, rather than time-limits, are—in medium to high density environments—the more effective way to manage demand. Cities like Auckland and San Francisco provide a useful example of what can be achieved with a demand-responsive parking policy.

To complement the implementation of a demand-responsive parking policy, and once the mass transit network plan is finalised, then we recommend the removal of minimum parking requirements in all areas that are within 800m of rapid and/or frequent public transport services. Together, the removal of minimums and the implementation of a demand-responsive parking policy will ensure the price of parking rises to a more efficient level that reflects its market value. In doing so, these policies help create the necessary conditions for mass transit to succeed. Making proactive changes to parking policy now will support the future viability of mass transit on the Sunshine Coast.

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4.3.2 Active transport

A critical component of an integrated transport system is safe and convenient access to the mass-transit spine through appropriate infrastructure solutions in and around stops and stations. Translink’s Public Transport Infrastructure Manual (PTIM) (2015) provides detailed guidance for achieving this goal. The PTIM provides for an access hierarchy, based on TransLink policy for efficient and effective access to stations (Figure 4-3). This hierarchy aligns well with the Sunshine Coast Planning Scheme (2014) vision to “increase walking and cycling, minimise dependency on private motor vehicle use and contribute to greater levels of regional self-containment”, as discussed in Section 2.1, and is designed to allow for local station and community context.

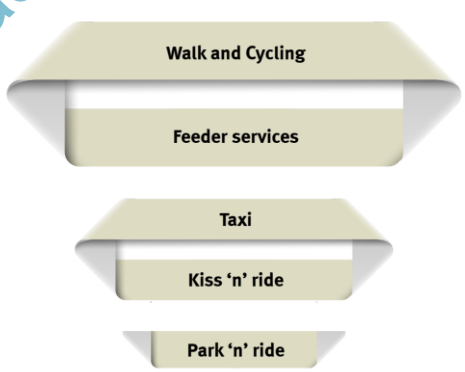


Figure 4-3: TransLink access hierarchy (Translink, 2015)

Walking is the preferred mode of station access in the PTIM, and the provision of safe and convenient pedestrian access should be the primary design goal of any urban station (Translink, 2015). To maximise the typical station walk-up catchment of 800m walking distance (with limited access from up to 1.2km), it is important that safe, convenient and direct pathways are built in the station vicinity, as part of a general walkable and pedestrian friendly environment. In the coastal corridor, where policy supports consolidated growth, most passengers are expected to walk to access mass transit. It is particularly important that stops and stations in this corridor provide for a high level of pedestrian amenity and priority along the local road roads and intersections.

Cycling helps to dramatically expand station catchment in a way which requires vastly less investment than bus connections, park ’n’ ride, or even kiss ’n’ ride facilities. According to the PTIM, immediate ride-up catchment to stops and stations with end-of-trip facilities is up to 5km for premium stops and high-volume stations, with limited access from up to 15km (Translink,2015). Unfortunately, prevailing on-road cycling infrastructure effectively limits cycle access to the narrow demographic of “fearless”

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bike riders, so a key component of unlocking this potentially expanded catchment is to invest in high-quality off-road, or 'protected' cycle track connections to stations. These links should be integrated with the wider Sunshine Coast active transport network.

Access to all stations and stops in the network can benefit from improved walking and cycling access, and cycle access to minor bus stops and light rail stations can be efficiently supported through the inclusion of casual bicycle parking facilities, such as locking rails with basic weather protection. At major stations and interchanges, and at all heavy rail stations, provision more extensive end-of-trip amenities such as secure bicycle parking and showers and change rooms may be justified.

Development of rail and busway infrastructure often provides good opportunities for complementary expansions in trunk active transport infrastructure. Expansion of trunk active transport infrastructure along major public transport links not only facilitates active access to stations along the link, but also contributes the active transport goals of the region by facilitating longer-distance intra-regional active transport trips. The CAMCOS corridor provides opportunities for a high-quality cycle link of regional significance, connecting Beerwah to Caloundra, Kawana and Maroochydore. These connections are indicated as either 'Principal Routes' or 'Future Principal Routes' in the 2016 South East Queensland Principal Cycle Network Plan. Australian examples of successful inclusion of trunk cycle infrastructure along major public transport infrastructure include the Moreton Bay Rail Link, Brisbane's V1 Cycleway, and the Perth Principal Shared Path Network.

In urban areas, the road-space re-allocation required by LRT or bus priority measures, as well as general pedestrianisation of station precincts and activity centres often provides an opportunity to re-design the streetscape to support safe walking and cycling along the corridor. We suggest that further work considers the potential for LRT to reduce car capacity and increase space for pedestrians.

4.3.3 DRT, Taxi, and kiss 'n' ride

Access to stations by taxis, private vehicle drop-offs and pick-ups (kiss 'n' ride), or by future autonomous shared taxi-style Demand Responsive Transit (DRT) will serve a very important role in low-density residential areas but can still be accommodated in the Coastal corridor.

At larger stations outside of the Coastal corridor, full off-road drop-off facilities can be provided, as per the PTIM (Translink 2015). These off-road drop-off facilities can be shared with those for complimentary activity (i.e. shopping centres or education facilities) at stations integrated into major centres.

At other stations within the Coastal corridor, however, it is likely that competing requirements for space from other transport and land uses will inhibit the provision of dedicated off-road kiss 'n' ride bays, however kiss 'n' ride can still be facilitated at nearby general passenger loading areas and short-term parking bays in these areas.

4.3.4 Park and Ride locations

While park and ride has popular appeal, especially to politicians and people who do not use public transport, evidence suggests it has a limited role to play in a mass transit network. Indeed, even in a park and ride intensive public transport network such as South East Queensland, only a small minority of public transport passengers will use park and ride to access the network. Most users will indeed access public transport the way they always have done, as pedestrians.

Nonetheless, we expect that there is a role for park and ride at specific locations on this corridor. Park and ride is not recommended along the Coastal corridor in the densely built up urban environment. As noted above, access to stations within this environment should instead be facilitated via active or public transport. We envisage a role for park and ride within the emerging communities of Beerwah East and Caloundra South, due to the relatively dispersed residential population in these regions, at least during the early stages of development. Here, park and ride facilities should be located on the edge of urban areas where they are readily accessible to arterial roads.

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The provision of car parking at public transport stations is both a large expense and uses a large amount of surrounding land. Each car park generally adds only two public transport journeys per weekday, so many spaces are required to have any meaningful patronage impact. Large park and rides can undermine amenity and may not represent the best use of space in medium to higher density areas. Where they take up space that could be used for such activities, park and ride can reduce patronage.

4.4 Governance and funding

Mass transit systems are expensive to build and operate, regardless of the technology chosen. All levels of government are struggling to meet funding requirements from existing revenue sources., such that proposals need to align with the objectives of all levels of government, if they are to succeed. Given this background, there is a need to develop effective governance structures that involve all three levels of government in the delivery of mass transit on the Sunshine Coast.

Large public transport projects have traditionally been funded by the Queensland Government, sometimes with Australian Government or local government contributions. Users of public transport also contribute towards operating costs through fare revenue. Efforts are underway to expand the range of funding options to better align them with the beneficiaries of the public transport system. The beneficiaries include existing and new public transport users, other road users, land developers and the broader population who benefit through reduced congestion and improved accessibility.

Several recent public transport projects have been delivered based on a tripartite funding model that combines local, state and Australian Government contributions, for example:

- **Moreton Bay Rail Link**, which opened in October 2016 and provides a 12.6 kilometre dual-track passenger rail line between Petrie and Kippa-Ring. The Australian Government contributed $595 million in partnership with the Queensland Government who contributed $322 million and the Moreton Bay Regional Council who contributed $108 million.
- **Gold Coast Light Rail Stage 2**, which opened for passenger services in December 2017 and extends stage 1 between the Gold Coast University Hospital and Helensvale stations. The $420 million project was delivered with a $270 million contribution from the Queensland Government, $95 million from the Australian Government and up to $55 million from the City of Gold Coast.

The following sub-sections provide a brief explanation of several governance and funding issues that are relevant to the delivery of mass transit on the Sunshine Coast.

4.4.1 City Deals

A City Deal is based on several principles: a long-term funding commitment; defined geographic scope; agreed outcomes; investment prioritisation; programs rather than projects; pooled funding; payment by results; and effective governance. The Council of Mayors (SEQ) wrote their SEQ City Deal Gateway 1 Report in October 2016 as part of their effort to engage the Queensland Government in pursuing a City Deal for SEQ with the Australian Government.

The Sunshine Coast Council could leverage the planned SEQ City Deal to deliver mass transit. Under such a deal, the Sunshine Coast Council will need to commit funding for the mass transit system. Options include an allocation from consolidated revenue or a Transport levy where funds are hypothecated to mass transit. Such options are explored more in the following sub-sections.

Further research, modelling and business case development could then proceed in partnership with the Queensland Government, which can contribute funding and are integral to Federal support. The SEQ city deal focuses on regional outcomes more so than local ones. For transport, the focus is on connecting major regional centres and whilst this is important it is equally, if not more, important to seek local transport outcomes that support consolidation, sustainability and economic prosperity on the Sunshine Coast.

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4.4.2 Transport levy

A Transport levy effectively charges ratepayers as beneficiaries of the mass transit system. The existing Sunshine Coast Council levy could be increased and hypothecated to the mass transit system. As it applies to all rateable land, this could generate substantial revenue. The hypothecation also puts a focus on the benefits accruing to residents to help gain support. Compared to value capture, transport levies offer a broad-based and efficient tool for funding mass transit. On the down side, targeted levies tend to be poorly-targeted to beneficiaries, potentially impacting negatively on low-income ratepayers.

4.4.3 Targeted levy

A targeted levy could be applied to a special assessment district or Benefitted area. The latter are defined areas that Council considers will benefit from the mass transit system. Properties within this area pay an additional rate that is hypothecated to funding mass transit. In this case, such an area could be defined as the corridor along which mass transit runs, for example, from Maroochydore to Caloundra and through Caloundra south to Beerwah. Like a transport levy, a targeted levy is relatively efficient to implement. Unlike a transport levy, however, the targeted levy focuses more on properties that are expected to derive the greatest benefit from investment in mass transit. The example below summarises the use of a targeted levy to fund CrossRail in London.

London's Crossrail

Crossrail will develop a high frequency rail corridor across London. The expected cost of this project is £14.8 billion with £4.1 billion or 32% generated by the Greater London Authority (GLA) through a Business Rate Supplement (BRS). The BRS was set as 2% of rateable values, to be reviewed every five years for a charging period expected to be between 24 and 31 years. The BRS is applied across the GLA on all non-domestic properties with rateable values above £55,000. This focuses the charge more on higher value properties and in inner London.

The BRS scheme has been evaluated to test its effectiveness at capturing value accrued from Crossrail, based on four qualitative criteria: efficiency, equity, sustainability and feasibility. Although the BRS was shown to be effective and viable, some improvements have been proposed to improve equity. Firstly, a three-tiered BRS is proposed to charge higher rates for land owners near Crossrail than for those more distant, thus improving equity. Secondly, a Stamp Duty Land Tax is proposed, again with a three-tiered structure, to capture land value increases for residential properties upon sale. This also improves equity and sustainability as the residential properties also gained in value but were not subject to the BRS.

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4.4.4 Development impact fees

Development impact fees would be applied to new developments that are considered to create the need for and benefit from mass transit system. Such fees are often justified by claims the costs of investment should be borne by the new residents and jobs that are giving rise to growth.

By targeting new development, impact fees are often politically attractive because existing rate-payers are not charged. Impact fees are arguably more equitable, although this relies on an implicit assumption that new residents and businesses, who are likely to bear most of the cost of impacts fees, are better-off than existing rate-payers. This would seem to be an empirical question.

Impact fees have several downsides, specifically:

- **Reliability.** By linking mass transit funding to development activity, impact fees are less a reliable source of funding than either a transport or targeted levy. Forward estimates require assumptions on the timing and quantum of new development, which experience suggests is rather volatile and affected by macroeconomic factors that lie outside of Council's control.
- **Narrow-base.** As impact fees focus only on new developments, they have a narrower base than other funding options. This especially true in areas where there exist fewer undeveloped land

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holdings. It can also be associated with rezoning of the land to facilitate higher density, subject to community consultation.

In our view, impact fees appear to have most potential in the sections of mass transit associated with emerging communities, such as the Beerwah to Caloundra segment. Developers, such as Australia Zoo, could be approached for potential development contributions to reflect the improved accessibility realised through providing mass transit stations in proximity to their developments.

4.4.5 Value Capture

Value capture has been used in Australia since the 1920s in the form of betterment taxes and improvement levies. Using betterment taxes, the New South Wales Government was able to fund a third of the total cost of the Sydney Harbour Bridge.

Value capture seeks to extract a portion of the gains in land value resulting from investment in mass transit. Land values typically increase with accessibility. Research intuitively finds the value gains are higher closer to stations, although the impact is not linear; there can be a negative impact for those immediately adjacent to transit due to noise and air quality (especially for buses), barrier effects (especially in the case of heavy rail), and general amenity. Research finds the "transit premium" ranges from as little as a few percent to over 150% (Roukouni and Medda, 2012). Local research finds the implementation of light rail on the Gold Coast, as well as complementary changes to planning policies, such as the removal or reduction of minimum parking requirements, caused land values increase by between 5-10% in the vicinity of light rail stations (Murray, 2017).

From an economic perspective, and to the degree that the net benefits of mass transit are capitalised in land values, then value capture may be a more equitable way to finance the capital costs than traditional fiscal sources. Table 4-1 below provides a range of useful success factors and principles, based on work by Langley in 2015 for Consult Australia. A parallel process should investigate value capture options on the Sunshine Coast to help fund Council's contribution to the construction cost.

Table 4-1: Value capture success factors and principles (Langley, 2015)

Key success factors	Guiding principles
Comprehensive, longer term planning and funding strategies	Infrastructure and urban renewal projects and programs supported by value capture methods should be based upon a minimum time horizon of 20 years to allow for funding sources to realise their full potential.
Genuine and robust stakeholder engagement	A genuine and robust public consultation program, developed and implemented by specialists in that field, is an integral part of successful value capture programs. Business and community participation and membership at various levels in consultative committees and boards and in the decision-making process should be encouraged.
Precinct-based planning and funding	Value capture programs should be carefully ring-fenced within a defined precinct. The precinct should encompass complementary community activities and assets that would benefit from the infrastructure investment and that could be leveraged to generate wider economic benefits.
Transparent and balanced governance frameworks	Local government in NSW should become a key partner in precinct-based infrastructure and urban renewal planning, decision-making, funding and delivery. A general transfer in responsibilities and powers from state agencies to better resourced local government should be pursued as a mid to long-term policy objective.
Understand and balance risks and reward	NSW Government should reinvigorate infrastructure reforms as recommended by the Productivity Commission and Infrastructure Australia, and seek genuine partnerships with the private sector based upon an equitable balancing of risks and rewards.
Use incentives to attract private investment and better design	Successful value capture programs use financial and other incentives to attract private investment and engage businesses and residents in related programs that improve property values, neighbourhood amenity and economic activity. In this way, value capture programs can generate broadly based community benefits and become self-funding.
Stronger urban renewal powers	Local government and urban renewal agencies need stronger powers if they are going to make meaningful improvements in housing approvals and

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	affordability, infrastructure investment, and broad scale regeneration of industrial precincts, commercial centres and neighbourhoods.
Recognise and incorporate wider economic benefits	It is recommended that Commonwealth and state governments collaborate to develop a common framework and commission pilot projects to assess the wider economic benefits of infrastructure and urban renewal projects. Pilot projects should be undertaken in partnership with state and local government agencies, professional associations, research institutions and the private sector.
Focus on value rather than cost	Commonwealth, state and local agencies with the responsibilities for funding, developing, evaluating and delivering infrastructure and urban renewal should incorporate value for money guidelines in project appraisals as proposed by Infrastructure Australia and Infrastructure NSW.
Secure consistent and coordinated leadership	Consistent and coordinated leadership is non-partisan, evidence-based and in the long-term public interest. The leadership model for a given project must be tailor-made and established before the project is introduced.

4.5 Emerging technologies

After many decades of relatively minor changes in transport modes, the decades ahead promise major mobility changes. Emerging technologies are already changing the way people travel, a trend that seems set to continue and accelerate in the future. In this section, we review some technologies that may be relevant to the development of mass transit on the Sunshine Coast.

From the outset, we caution that, until proven elsewhere, emerging technologies are not a valid reason to delay planning for the development of a mass transit network using conventional technologies. Indeed, the small size of the Sunshine Coast region increases the relative risks associated with bespoke transport technologies, as previously found with the O-Bahn in Adelaide.

Instead, we simply suggest that as planning progresses, and as new technologies are proven, then their potential effects on mass transit are assessed on their merits. In doing so, we would suggest applying a higher discount rate to newer technologies, reflecting a higher risk premium.

4.5.1 Demand Responsive Transport

Public transport seeks to deliver economic outcomes by reducing congestion in spatially-constrained areas and social outcomes by enabling mobility for those who are unable to drive a car for whatever reason. Both goals are worthwhile but can be in contradiction, with bus services having to focus more on patronage (economic) or coverage (social) goals. A Demand Responsive Transport (DRT) system provides a more flexible approach to service the coverage or social goals of public transport. In low density and hinterland areas where the number of users cannot justify regular buses, a DRT system has the potential to deliver a better social service at reduced cost to conventional buses. This frees up budgets and buses to focus on patronage in higher density urban areas, thus growing mode share.

Some forms of DRT have existed for many years but new technologies and business models such as ridesharing show substantial promise to deliver a DRT service that could be embraced by the community. These have the potential to expand the catchment of mass transit stations and save on the cost of parking provision.

4.5.2 Autonomous Vehicles

The growth in driving assistance technologies is expected to increase in the years ahead until new vehicles reach “level 4 automation” which effectively means they are driverless. These Autonomous Vehicles (AVs) will change travel behaviours as they improve safety and productivity of road corridors and reduce perceived travel time costs because users can do other activities while travelling. If AVs emerge as privately-owned vehicles used to deliver all family members to their activites and return empty in-between, then public transport patronage will reduce and congestion will increase. If AVs emerge in shared fleets, such as in Demand Responsive Transport services, then they could begin to substitute for connector and local public transport services. At this stage, the effects of AVs on congestion are unknown and should be a focus of future modelling efforts.

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4.5.3 Mobility as a Service

The penetration of smartphones across the population and the rapid growth of the digital economy, in concert with the emergence of DRT and AVs, enable a new system of mobility. Until recently, most households require one or more cars for their occupants to be able to engage in work, education, shopping and other tasks. With the new travel modes and technologies, apps are emerging that offer Mobility as a Service (MaaS). MaaS is where a person consults their mobility app when they seek to travel somewhere and the app provides a tailored solution to suit the requirements of the traveller. The solution could involve a bus or train trip or a DRT lift or a taxi or rideshare, bike share or e-scooter share or anything else that is available. This service could eliminate the need for many to own their cars. By avoiding the capital and on-going costs of vehicle ownership, many can save money while utilising transport modes that meet their needs for each trip.

4.5.4 Last mile solutions

Improvements in electric battery technologies are driving an explosion in last mile solutions, such as e-scooters and e-bikes. Such technologies are often proliferating rapidly via shared fleets operated by commercial providers, offering a cost-effective, fast, and reliable mode of travel for short trips. In doing so, such technologies may increase the ease with which people can access rapid and frequent public transport, increasing its relative attractiveness compared to other transport modes.

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5. Conclusions and Next Steps

5.1 Conclusions

5.1.1 The Case for Change

Within the next 30 years, over 500,000 people will call the Sunshine Coast home and many more will reside in wider South East Queensland. Of this population growth, 63% will occur within the existing Sunshine Coast urban area, doubling the number of households within the coastal corridor between Caloundra and Maroochydore by 2041.

Successfully accommodating this growth requires a transport system that reduces dependence on single-occupant cars and supports dense, compact, and mixed-use developments. Only mass transit has the capacity necessary to move high numbers of passengers during peak periods within a spatially constrained and sensitive local environment.

Growth on the Sunshine Coast takes place within the broader context of the SEQ region. The demand for travel between the Sunshine Coast and destinations further south, such as Brisbane City, has the potential to affect the performance of strategic transport corridors beyond Council's borders. Mass transit needs to balance local accessibility with regional connectivity.

This Sunshine Coast Concept Mass Transit Plan ('the Plan') considers how mass transit can support expected growth. The Plan builds from earlier studies and takes a long-term perspective, working backwards from 2041 to identify priorities, opportunities, and issues that are relevant to today.

5.1.2 Mass Transit: The Need and the Options

Any mass transit system on the Sunshine Coast needs to balance *local accessibility*, which supports the local integration of transport and land use outcomes, with *regional connectivity*, which considers links to key locations both within the Sunshine Coast and further afield. In general, we find heavy rail options deliver the latter but sacrifice the former, and vice versa for light rail options. The tension between local accessibility and regional connectivity runs through this Plan and heavily influences our main findings, in terms of preferred mass transit networks.

Data suggests that most travel on the Sunshine Coast consists of short to medium distance trips *within* the region, with only a relatively small proportion of external trips associated with other parts of South East Queensland. Future growth in travel demands will, in the absence of alternatives, tend to congest road networks and reduce accessibility to principal centres, undermining growth. For these reasons, mass transit options that deliver local accessibility tend to generate more patronage than those that focus on regional connectivity.

Based on our modelling, analysis, and evaluation, we identify two preferred mass transit network options that best balance local and regional objectives for mass transit. High-level modelling and analysis find that, on its own, heavy rail is unable to address many of the strategic objectives identified in state and regional documents. Heavy rail operates at frequencies that are too low to qualify as mass transit, meeting the needs of peak commuters rather than the local all-day demand for travel. And because heavy rail provides for fewer stations that are located farther from growth areas, it offers low overall levels of accessibility. What heavy rail does do well, however, is in providing fast regional connections.

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Ultimately, our analysis identifies the following two rail options as preferred:

1) **Light Rail Transit:** In which frequent light rail services are operated between Maroochydore and Kawana via the Coastal corridor and onto Beerwah via the CAMCOS corridor; and

2) **Hybrid Option:** In which light rail operates between Maroochydore and Caloundra via the Coastal corridor, with heavy rail between Kawana and Beerwah via the CAMCOS corridor.

Key parameters for each option are summarised and illustrated in the table and figure below.

Table 5-1: KPIs for high-level options

Light Rail Option	Hybrid Option
30 LR stations	36 stations (29 LR, 7 HR)
39.2km of track	51.1km of track (24.8km LR, 26.3km HR)
125,000 people within 800m of stations	148,000 people within 800m of stations
$3,500 million (expected net present value of capital and operating costs)	$5,300 million (expected net present value of capital and operating costs)

5.1.3 Staging

Usefully, both preferred options share a common first stage: LRT operating from Maroochydore to Kawana via the Coastal corridor. Beyond this section, the two variants require a choice.

The LRT option involves the progressive extension of services south via the CAMCOS corridor to Caloundra South and eventually Beerwah. In contrast, the hybrid option involves the extension of LRT to Caloundra via a coastal route, while heavy rail is extended north-west from Beerwah to eventually terminate at Kawana.

The LRT option is expected to cost approximately $2 billion less to develop and offers the potential for higher frequencies. In contrast, the hybrid option offers the potential for future heavy rail extensions north of Kawana to Maroochydore.

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5.2 Next steps

We identify the following next steps:

- Evaluate the mass transit concept plans using widely-recognised evaluation frameworks provided by Queensland Treasury (PAF), Building Queensland (BQ), and Infrastructure Australia (IA), for inclusion in a strategic and detailed business cases.
- While we follow previous studies in focusing on rail-based solutions, we recommend future work develop and evaluate BRT options that offer comparable levels of service and amenity to LRT.
- Develop plans for quality bus infrastructure services, specifically a frequent, connective network with key interchanges at Maroochydore, Sippy Downs, Kawana, and Caloundra.
- Implement parking policy changes in areas affected by mass transit, such as the removal of minimum parking requirements and the adoption of demand-responsive parking management.
- Invest in walking and cycling infrastructure near to mass transit stations and interchanges and consider the role of park and ride at peripheral mass transit stations.
- Develop effective governance and funding models for delivering mass transit that reflect the need for and value of collaboration between federal, state, and regional levels of government.

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Appendix A. Preliminary Modelling Assumptions

Base model and validation

All preliminary modelling of scenarios as inputs into this Sunshine Coast Mass Transit Plan (except for option (5) included in the body of the report) have been modelled and reported on as part of the Sunshine Coast Demographics and Preliminary Modelling project (VLC, 2018). This preliminary modelling sits within the context of the Sunshine Coast light rail project and was designed to inform further development of a mass transit strategy for the Sunshine Coast.

The Sunshine Coast Demographics and Preliminary Modelling had 2 key objectives:

1. Prepare a new model zone system and develop two 2041 demographic scenarios for use in transport modelling; and
2. Model a series of transport network scenarios relating to rail investment with a focus on understanding levels of self-containment and external trip end patterns.

The model is well validated against observed traffic and public transport data and meets nationally recognised acceptance criteria for models that do not employ matrix estimation, as detailed in Sunshine Coast Demographics and Preliminary Modelling Model Validation Report (Volume 7).

For the heavy and light rail scenarios, service profiles and stopping patters were developed, where possible, to accord with existing planning studies including:

- **The Caboolture to Maroochydore Corridor Study (CAMCOS):** this study proposes a passenger rail service branching off the North Coast railway line at Beerwah and extending through Caloundra to Maroochydore. The CAMCOS corridor is a protected future passenger rail corridor.
- **North Coast Connect Project Stage 2 – Detailed Project Proposal:** this study details a plan to deliver faster rail connections between the Sunshine Coast and the Brisbane CBD. The plan utilises the existing North Coast Line and the CAMCOS corridor to deliver 45-minute travel times between Maroochydore CBD and the Brisbane CBD and Nambour and the Brisbane CBD.
- **A line in the sand: Taskforce Prefeasibility and Rapid Economic Appraisal Report:** this study underpins the network assumptions used to model the light rail networks including station locations, route alignments and travel times. Other model parameters including transfer and access penalties have been taken from the Gold Coast Light Rail.

As part of the Sunshine Coat Mass Transit Master Plan project, an additional scenario (option (6) in the body of the report) was modelled within the framework of the previous model. This option used the same base assumptions as the previous modelling, and with the only variation being the public transport routes and modes employed, as described in this report.

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Model ‘Preliminary’ nature and caveats

Due to the preliminary nature of the modelling undertaken, certain caveats should be kept in mind when assessing the results. As the Sunshine Coast’s public transport options are refined these assumptions should be re-visited.

- The results in this report utilise the previous project’s ‘Project Case’ demographics. These demographics assume population and employment density increases around the ‘coastal’ light rail route, in-line with typical light rail supporting land-use strategies, however this would adversely affect assessment of scenarios which use a different light rail alignment. For more detail see Sunshine Coast Demographics and Preliminary Modelling Technical Note 2041 Demographic Scenario and Zone System development 18-027. When tested, the project case demographics resulted in a 5% to 6% increase in Sunshine Coast origin public transport trips in coastal light rail scenarios over the base demographics.

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- Aside from the increase along the coastal light rail corridor, no further land-use effects have been modelled. It is likely that construction of CAMCOS, Fast Rail could increase the attractiveness of development on the Sunshine Coast for people working in Moreton Bay or Brisbane.
- Future rail service frequencies have been based on reasonable assumptions, as described above, however sensitivity testing of service frequencies has not been performed. Furthermore, no fare increases were assumed for any scenarios, including the Fast Rail options, which could reasonably be assumed to attract a fare premium.
- Modelled bus services on the Sunshine Coast are based on the 2041 modelled network from the Sunshine Coast Integrated Multi-Modal Model and reflect a very large increase in services over 2018 service levels. In addition, these services have not been optimised compliment or feed a heavy or light rail backbone. While key competing bus routes have been modified when modelling light rail scenarios, there is still a large amount of competition being experienced between bus and rail mode choice in the models.

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Appendix B. Quantification of 2041 business-as-usual emissions

Unit costs for emissions in 2010 c/vkt for urban passenger cars were based on Austroads (2012) values for urban passenger cars, while the change in car VKT per day was based on model outputs for a Business-as-usual approach in 2041 (project-case demographics) from the Sunshine Coast Demographics and Preliminary Modelling project (VLC, 2018).

An annualisation factor of 260 was assumed to convert AWDT cost of emissions to cost per year, and this cost per year was CPI indexed from $2010 to $2018 values. This process is shown below:

Emissions Impacts

Quantification of emissions benefits

2016 passenger car vkt	10,256,000
2041 passenger car vkt	14,847,000
Change in VKT	**4,591,000**
Unit cost of air pollution (c/vkt)	2.78
Unit cost of greenhouse gases (c/vkt)	2.19
Annualisation factor	260
CPI ($ 2010 to $2018)	1.18
Change in Emissions ($2018 millions / year)	**70**

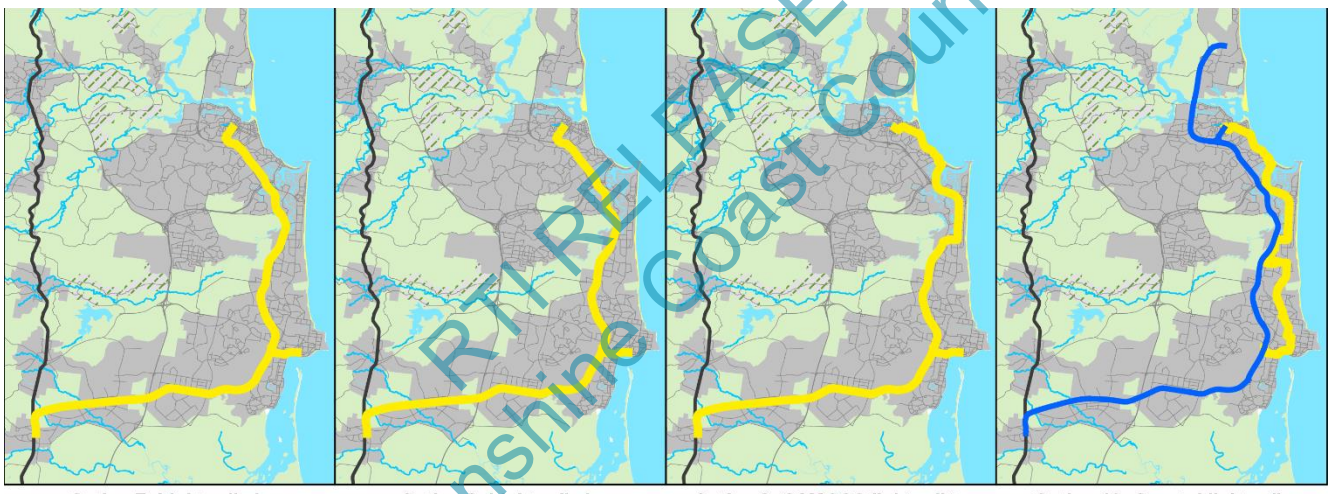
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Appendix C. Evaluation of Additional Modelled Networks

Beyond the six modelled networks included in Section 3.2, an additional five mass-transit networks were modelled. These are:

- **Option 7: Light rail via CAMCOS (Service pattern A)**, which operates 7.5-minute frequencies between Maroochydore and Beerwah via the CAMCOS corridor, with a branch at Caloundra. This branch results in 15-minute frequencies between Beerwah and Caloundra and between Caloundra activity centre and the CAMCOS corridor;
- **Option 8: Light rail via CAMCOS (Service pattern B)**, which operates 7.5-minute frequencies between Maroochydore and Beerwah via the CAMCOS corridor, with a transfer point at Caloundra;
- **Option 9: Inland light rail (Service pattern B),** which uses light rail via the Coastal alignment alignment between Maroochydore and Kawana and then uses the CAMCOS corridor to access Caloundra and Beerwah;
- **Option 10: Fast rail services and coastal light rail,** which includes both 30-minute frequencies between Sunshine Coast Airport and Beerwah via the CAMCOS corridor (with 20-30% shorter travel-times than conventional heavy rail) and 7.5-minute frequencies between Maroochydore and Caloundra via a coastal alignment (the “Coastal corridor”).



Option 7: Light rail via CAMCOS (Service pattern A)

Option 8: Light rail via CAMCOS (Service pattern B)

Option 9: CAMCOS light rail to Kawana and Coastal light rail to Maroochydore (Service pattern B)

Option 10: Coastal light rail and CAMCOS faster rail

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Performance Indicator		Business-as-Usual	Additional Modelled Options			
			(7) Light rail via CAMCOS (Service pattern A)	(8) Light rail via CAMCOS (Service pattern B)	(9) CAMCOS light rail to Kawana and Coastal light rail to Maroochydore[1]	(10) Coastal light rail and faster rail
Key Network Statistics	Number of public transport services along route	n/a	peak hour: 8 off-peak:4	peak hour: 8 off-peak:4	peak hour: 8 off-peak:4	peak hour: 8 (LR), 2 (HR) off-peak: 4 (LR), 2 (HR)
	Number of stations along route	n/a	20	20	30	26 (LR), 5 (HR)
Connectivity	Public transport travel time between Maroochydore and Beerwah (including walk access and wait time) (min) (IVT – in-vehicle time)	76 (58 IVT)	61 (47 IVT)	61 (47 IVT)	48 (66 IVT)	34 (13 IVT)
	Public transport travel time between Maroochydore and Caloundra (including walk access and wait time) (min)	56 (31 IVT)	41 (22 IVT)	37 (22 IVT)	56 (42 IVT)	44 (7 IVT)
	Daily public transport journeys between the Sunshine Coast LGA and Brisbane CBD.	4,300	4,500	4,500	4,500	7,900
Transit-oriented development	Population within 800m of mass transit stations	18,400	93,800	93,00	132,600	136,500
	Employment within 800m of mass transit stations	19,000	74,300	74,300	91,600	101,300
	Average travel distance per public transport trip	9.4	9.85	9.55	8.68	8.42
	Non-car mode share (between regional activity centres)[1]	3.70%	6.30%	6.30%	7.10%	6.50%
Network efficiency	Daily public transport journeys	37,100	49,000	49,100	55,600	68,300
	Expected capital cost of alignment (including stations and vehicles) ($2018 million)[2]	n/a	$2,500	$2,500	$3,200	?
	Expected capital cost of stations ($2018 million)	n/a	$53	$53	$80	**$283** ($69 LR, $213 HR)
	Expected capital cost of vehicles ($2018 million)	n/a	$64	$91	$117	?
	NPV of expected operating costs (50-year lifespan) ($2018 million)	n/a	$340	$414	$459	**$681** ($311 LR, $370 HR)

1) Centres were specified to include Maroochydore, Kawana, Caloundra, Mooloolaba, Kawana Waters, Sunshine Coast University and Caloundra South PDA

2) Operating costs do not include the additional cost of extending the existing heavy rail services from their current termination point of Caboolture to Beerwah, as it is assumed to occur under all potential mass transit scenarios.

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Appendix D. Segment Analysis

This appendix considers the competing objectives of connectivity and accessibility at a segment basis, to identify preferred combinations of the Coastal and CAMCOS corridor.

The table below summarises the investigation into preferred alignments and modes for each segment to achieve strategic objectives.

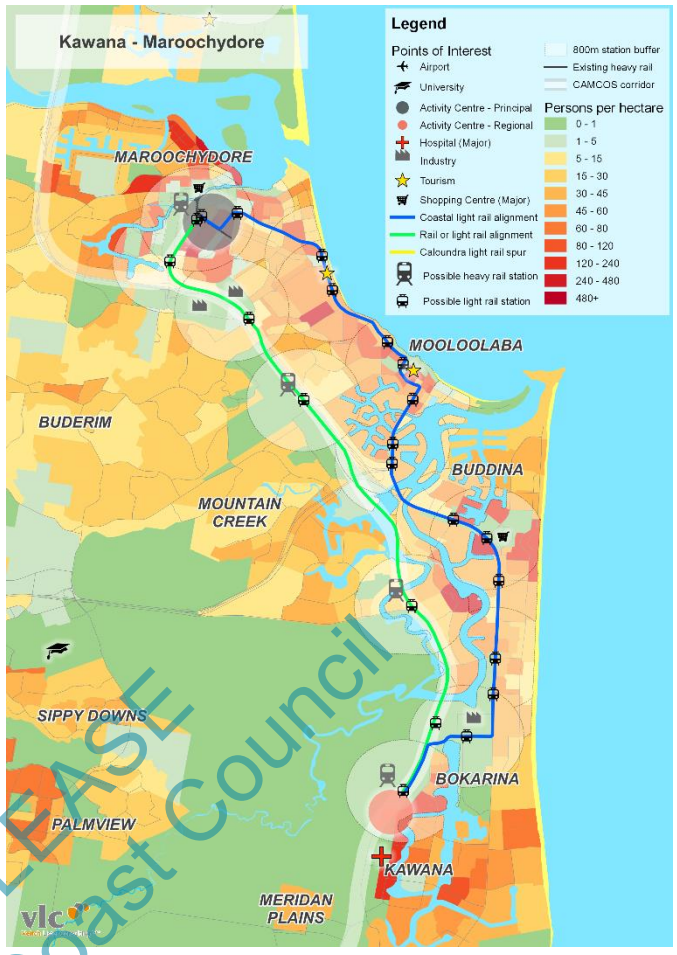
Performance Indicator		CAMCOS		Coastal corridor
		Heavy Rail Transit	Light Rail Transit	Light Rail Transit
Maroochydore to Kawana				
Connectivity	PT travel time between Maroochydore and Kawana (including average wait time) (min)	19 (9 IVT)	17 (13 IVT)	36 (32 IVT)
Transit Oriented Development	Residential population within station catchment (800m from each station)	24,300	29,700	109,000
Network efficiency	Expected capital cost of alignment (including stations) ($2018 million)	$800	$700	$1,400
Kawana to Caloundra				
Connectivity	PT travel time between Kawana and Caloundra (including average wait time) (min)	18 (8 IVT)	14 (10 IVT)	26 (22 IVT)
Transit Oriented Development	Residential population within station catchment (800m from each station)	13,000	24,300	44,900
Network efficiency	Expected capital cost of alignment (including stations) ($2018 million)	$700	$500	$1,300
Caloundra to Caloundra South				
Connectivity	PT travel time between Caloundra and Caloundra South (including average wait time) (min) (IVT – in-vehicle time)	19 (4 IVT)	26 (7 IVT)	n/a
Transit Oriented Development	Residential population within station catchment (800m from each station)	9,000	9,000	
Network efficiency	Expected capital cost of alignment (including stations) ($2018 million)	$500	$400	
Caloundra South to Beerwah				
Connectivity	PT travel time between Caloundra South and Beerwah (including average wait time) (min)	19 (9 IVT)	25 (17 IVT)	n/a
Transit Oriented Development	Residential population within station catchment (800m from each station)	6,600	26,500	
Network efficiency	Expected capital cost of alignment (including stations) ($2018 million)	$900	$800	
Maroochydore to Sunshine Coast Airport				
Connectivity	PT travel time between Maroochydore and Sunshine Coast Airport (including average wait time) (min)	20 (10 IVT)	21 (13 IVT)	n/a
Transit Oriented Development	Residential population within station catchment (800m from each station)	18,200	18,200	
Network efficiency	Expected capital cost of alignment (including stations) ($2018 million)	$800	$600	

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Maroochydore to Kawana

The Maroochydore to Kawana segment includes the existing urban areas of Kawana and Maroochydore (regional and principal activity centres respectively). This section of the network is the most densely-populated and provides the most fertile ground for mass transit demand.



Two potential mass transit routes link the two regional activity centres together, these being the CAMCOS corridor and the Coastal corridor. Kawana Shoppingworld borders the Coastal corridor. The Maroochydore to Kawana segment potentially supports three primary connectivity movements, these being:

1) Between Maroochydore and Kawana;
2) Inter-regional movement from Maroochydore and other regions along the Coast through to the heavy rail line at Beerwah; and
3) Shorter trips and local access to suburbs along the Coastal strip between Maroochydore and Kawana.

Land use objectives for the Sunshine Coast suggest this area is a prime candidate to become an international showcase for transit-oriented development. To achieve this outcome it will be important to improve connectivity while enhancing urban amenity.

While the CAMCOS corridor alignment better serves the purpose of inter-regional travel between Maroochydore and Kawana and beyond (as evidenced by the 17-19 minute travel time compared with a 36-minute travel time via the Coastal corridor), this alignment reaches only a limited residential population of between 24,000 and 30,000 people). The Coastal corridor, on the other hand, travels through the dense urban environment, thus reaching a residential population of 109,000 people (more than five times that of the CAMCOS corridor) and is well-suited to support intra-regional connectivity.

The Coastal corridor also more closely aligns with land use objectives, offering many opportunities for urban redevelopment and transit-oriented development, and the associated increased urban amenity. The close proximity of light-rail stations to residential areas also encourages active transport access. This alignment is, however, approximately double that of the CAMCOS corridor.

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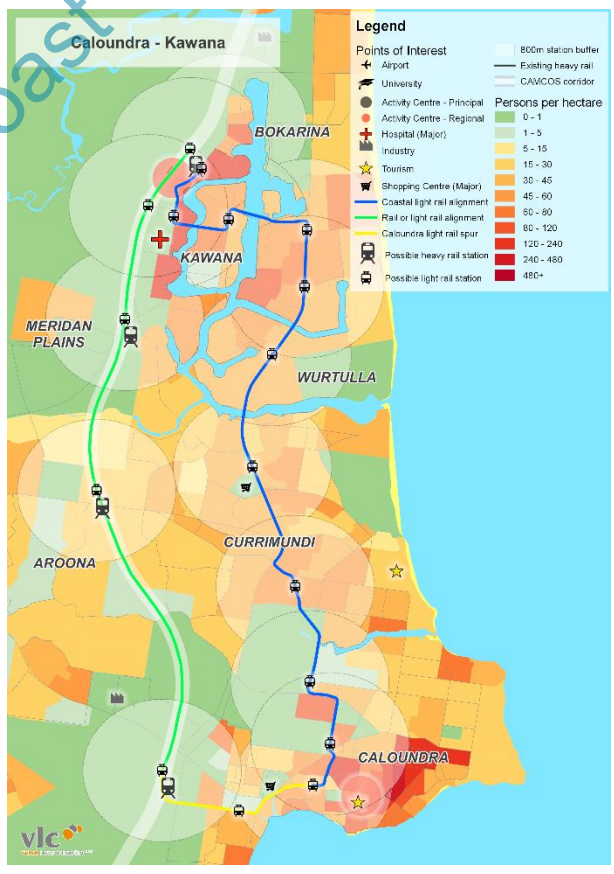
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Maroochydore to Kawana | MCA

Performance Indicator		Maroochydore to Kawana		
		CAMCOS		Coastal corridor
		Heavy Rail Transit	Light Rail Transit	Light Rail Transit
Key Segment Statistics	Number of public transport services along route	peak hour: 3 off-peak:2	peak hour: 8 off-peak:4	peak hour: 8 off-peak:4
	Number of stations along route	4	7	16
Connectivity	Public transport travel time between Maroochydore and Kawana (including average wait time) (min) (IVT – in-vehicle time)	19 (9 IVT)	17 (13 IVT)	36 (32 IVT)
	Supports inter-regional connectivity	✓✓✓	✓✓	✓
	Supports intra-regional connectivity	✓	✓✓	✓✓✓
Transit Oriented Development	Residential population within station catchment (800m from each station)	24,300	29,700	109,000
	Employment within station catchment (800m from each station)	29,000	32,700	72,600
	Integrates with land use intent for the sector	×	✓	✓✓✓
Network efficiency	Expected capital cost of alignment (including stations) ($2018 million)	$800	$700	$1,400
	Expected capital cost of stations ($2018 million)	$171	$11	$43

Kawana to Caloundra

The Kawana to Caloundra segment includes the existing urban areas of Caloundra and Kawana (regional activity centres). Although Currimundi Lake represents the boundary between Caloundra and Kawana, the entire corridor between the two centres is densely populated.



Two potential mass transit routes link the two regional activity centres together, these being the CAMCOS corridor (which could support either light or heavy rail modes) and the alternative Coastal Light Rail Corridor route (which could support either light rail or bus). The Sunshine Coast University Hospital, located at Kawana, is bordered by both routes.

The Kawana to Caloundra segment supports three primary connectivity objectives, these being:

1) Connectivity between Kawana and Caloundra;
2) Regional connectivity between Beerwah and Coastal activity centres (i.e. Maroochydore) via Kawana and Caloundra; and
3) Local access via mass transit to the existing urban area at and between Kawana and Caloundra.

Again, strategic land use objectives suggest this area is a prime candidate to become an international showcase for transit-oriented development.

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Caloundra to Kawana | MCA | Light vs heavy rail

Performance Indicator		Caloundra to Kawana			
		CAMCOS		Coastal corridor	Caloundra spur corridor
		Heavy Rail Transit	Light Rail Transit	Light Rail Transit	Light Rail Transit
Key Segment Statistics	Number of public transport services along route	peak hour: 3 off-peak:2	peak hour: 8 off-peak:4	peak hour: 8 off-peak:4	peak hour: 8 off-peak:4
	Number of stations along route	4	5	11	3
Connectivity	Public transport travel time between Kawana and Caloundra (including average wait time) (min) (IVT – in-vehicle time)	18 (8 IVT)	14 (10 IVT)	26 (22 IVT)	9 (5 IVT)
	Supports inter-regional connectivity	✓✓✓	✓✓	✓	✓
	Supports intra-regional connectivity	✓	✓✓	✓✓✓	✓✓✓
Transit Oriented Development	Residential population within station catchment (800m from each station)	13,000	24,300	44,900	10,500
	Employment within station catchment (800m from each station)	12,100	24,200	25,600	13,500
	Integrates with land use intent for the sector	✓	✓✓	✓✓✓	✓✓✓
Network efficiency	Expected capital cost of alignment (including stations) ($2018 million)	$700	$500	$100	$300
	Expected capital cost of stations ($2018 million)	$171	$11	$29	$8

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The CAMCOS corridor alignment better serves the purpose of inter-regional travel between Maroochydore and Kawana and beyond (as evidenced by the 14-18-minute travel time compared with a 26-minute travel time via the Coastal corridor). As such, this corridor is much more effective at achieving inter-regional transport connectivity. The Coastal corridor, on the other hand, travels through the dense urban environment, thus reaching a residential population of 45,000 people (slightly under double that of the CAMCOS corridor) and is well-suited to support intra-regional connectivity.

The Coastal corridor also offers many opportunities for urban redevelopment, transit-oriented development, and increased urban amenity, and the close proximity of light-rail stations to residential areas encourages active transport access. The capital cost of the Coastal corridor, however, is slightly over double that of the CAMCOS corridor.

Light rail along the CAMCOS corridor offers an additional 11,200 residents and 12,100 jobs within an 800m catchment area, through the provision of a light rail stop at the Sunshine Coast University Hospital, and with a higher service frequency, experiences a shorter travel time (including wait time).

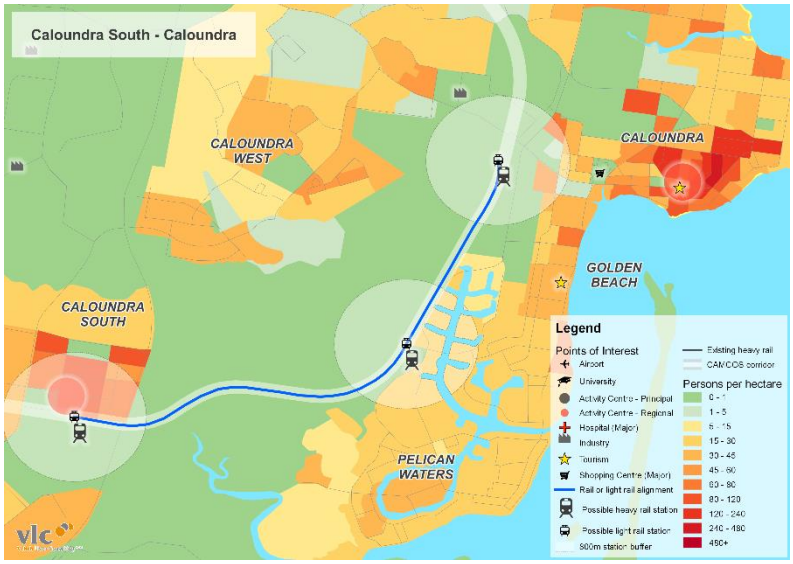
Caloundra to Caloundra South

The Caloundra to Caloundra South segment includes the emerging community of Caloundra South (designated as a regional activity centre), and the existing urban developments of Pelican Waters and Caloundra. (Pelican Waters is a recently completed greenfield development outside the dedicated urban transformation area and is therefore not expected to experience significant additional densification). The CAMCOS corridor runs parallel to Caloundra (connectivity between a potential CAMCOS station and Caloundra is discussed in Section 0) before providing connectivity between Caloundra South and Pelican Waters.

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The Caloundra to Caloundra South segment supports three primary connectivity objectives, these being:

1) Between Caloundra and Caloundra South;
2) Between Beerwah and Coastal activity centres (i.e. Kawana and Maroochydore) and via Caloundra; and
3) Local access to the existing urban area of Pelican Waters.



Land use objectives for the sector include:

1) The integration of emerging communities of Caloundra South and Pelican Waters into the mass transit network to provide integrated, well planned communities which showcase sustainable development, affordable living and align infrastructure delivery with development.
2) The protection and enhancement of rural and natural areas for their rural enterprise, landscape and environmental values.

Caloundra to Caloundra South | MCA | Light vs heavy rail

Performance Indicator		Caloundra to Caloundra South	
		CAMCOS	
		Heavy Rail Transit	Light Rail Transit
Key Segment Statistics	Number of public transport services along route	peak hour: 3 off-peak:2	peak hour: 4 off-peak:4
	Number of stations along route	14	15
Connectivity	Public transport travel time between Caloundra and Caloundra South (including average wait time) (min) (IVT – in-vehicle time)	19 (4 IVT)	26 (7 IVT)
	Supports inter-regional connectivity	✓✓✓	✓✓
	Supports intra-regional connectivity	×	×
Transit Oriented Development	Residential population within station catchment (800m from each station)	9,000	9,000
	Employment within station catchment (800m from each station)	8,300	7,800
	Integrates with land use intent for the sector	✓✓	✓✓
Network efficiency	Expected capital cost of alignment (including stations) ($2018 million)	$500	$400
	Expected capital cost of stations ($2018 million)	$128	$8

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Heavy rail provides a slightly faster travel time between Caloundra and Caloundra South than light rail (at 14 minutes compared with 15 minutes). As such, heavy rail is marginally more effective at achieving the transport objective of connectivity between Caloundra and Caloundra South activity centres.

Under both mode options stations are provided at the fringes of Pelican Water, and as such only a relatively limited proportion of the residential population at Pelican Waters is within the catchment of the station. Achievement of the transport objective of local access, transit-oriented development and active transport access is relatively limited for this centre, regardless of mode selected.

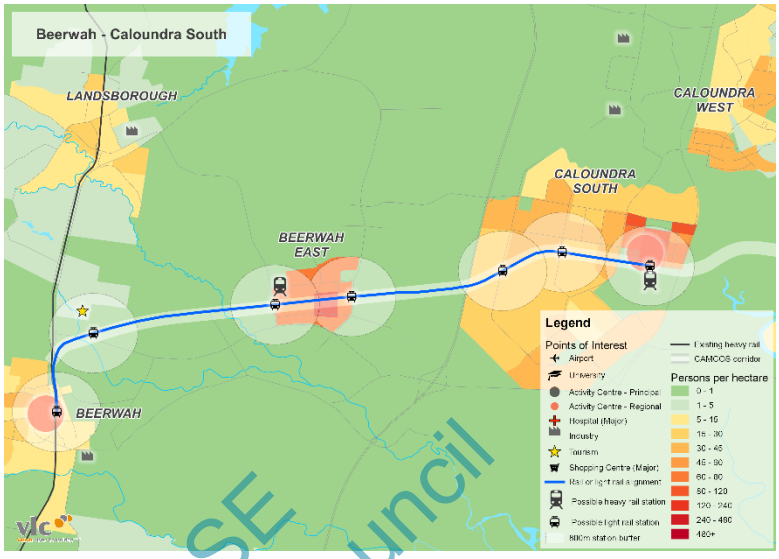
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Caloundra South to Beerwah

The Caloundra South to Beerwah segment includes the emerging communities of Caloundra South (designated as a regional activity centre) and Beerwah East, and Beerwah (including connections to the North Coast heavy rail line. The CAMCOS corridor provides connectivity between Caloundra South and Beerwah, via Beerwah East. The Australia Zoo is also located immediately adjacent to the CAMCOS corridor.

The Caloundra South to Beerwah segment supports three primary connectivity movements, these being:

1) Between Caloundra South and Beerwah;
2) Connectivity between Beerwah and Coastal activity centres (i.e. Kawana and Maroochydore) via Caloundra South; and
3) Local access to the emerging greenfield development of Beerwah East.



Land use objectives for the sector are:

1) The integration of emerging communities of Caloundra South and Beerwah East into the mass transit network to provide integrated, well planned communities which showcase sustainable development, affordable living and align infrastructure delivery with development.
2) The protection and enhancement of rural and natural areas for their rural enterprise, landscape and environmental values.

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Beerwah to Caloundra | MCA

Performance Indicator		Caloundra South to Beerwah	
		CAMCOS	
		Heavy Rail Transit	Light Rail Transit
Key Segment Statistics	Number of public transport services along route	peak hour: 3 off-peak:2	peak hour: 4 off-peak:2
	Number of stations along route	3	7
Connectivity	Public transport travel time between Caloundra South and Beerwah (including average wait time) (min) (IVT – in-vehicle time)	19 (9 IVT)	25 (17 IVT)
	Supports inter-regional connectivity	✓✓✓	✓✓
	Supports intra-regional connectivity	✓✓	✓✓✓
Transit Oriented Development	Residential population within station catchment (800m from each station)	6,600	26,500
	Employment within station catchment (800m from each station)	5,600	6,700
	Integrates with land use intent for the sector	✓✓	✓✓✓
Network efficiency	Expected capital cost of alignment (including stations) ($2018 million)	$900	$800
	Expected capital cost of stations ($2018 million)	$128	$8

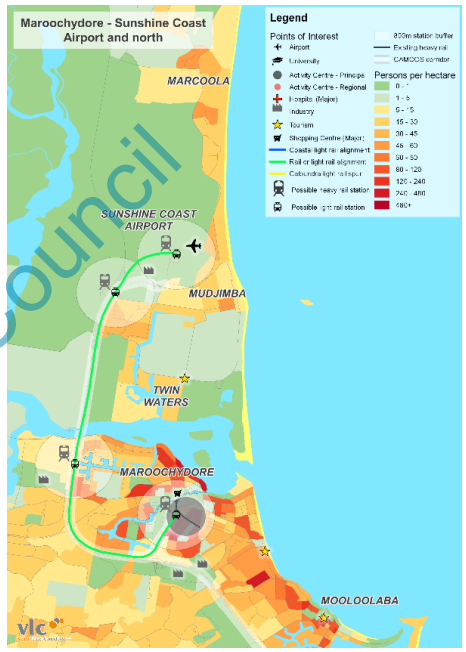
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Heavy rail provides a faster travel time between Caloundra South and Beerwah than light rail (at 19 minutes compared with 25 minutes). As such, heavy rail is more effective at achieving the transport objective of connectivity between Beerwah and the Coastal activity centres. However, under the heavy rail scenario only 3 stations are provided (i.e. the existing Nambour Station, and new stations at Beerwah East and Caloundra South). As such, achievement of the connectivity objective of local access is relatively limited.

Additionally, the reduced number of stations under the heavy rail scenario limits opportunities for the delivery of integrated development in the emerging communities of Beerwah East and Caloundra, particularly considering the location of designated heavy rail stations at the edge of the development area. The reduced number of stations also provides limited opportunities for active transport access due to lower accessibility as a lower proportion of the residential population within the segment (i.e. at Caloundra South and Beerwah East) are within the vicinity of public transport stations under the heavy rail scenario.

Maroochydore to Sunshine Coast Airport

The Nambour to Maroochydore segment supports connectivity between the principal activity centre of Maroochydore and the North Coast heavy rail line at Nambour. The CAMCOS corridor is a potential option to link Nambour and Maroochydore.



The Maroochydore to Sunshine Coast Airport supports three primary transport movement objectives, these being:

1) Connectivity between the Sunshine Coast Airport and Maroochydore;
2) Local access to Mudjimba (a suburb of Maroochydore); and
3) A gateway to northern Sunshine Coast and North Queensland.

Land use objectives for the sector are the retainment of Mudjimba in its current form in recognition of the high-quality lifestyle and character offered by this area.

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Maroochydore to Sunshine Coast Airport | MCA

Performance Indicator		**Maroochydore to Sunshine Coast Airport**	
		CAMCOS	
		Heavy Rail Transit	Light Rail Transit
Key Segment Statistics	Number of public transport services along route	peak hour: 3 off-peak:2	peak hour: 4 off-peak:2
	Number of stations along route	4	4
Connectivity	Public transport travel time between Maroochydore and Sunshine Coast Airport (including wait time) (min) (IVT – in-vehicle time)	20 (10 IVT)	21 (13 IVT)
	Supports inter-regional connectivity	✓✓	✓✓
	Supports intra-regional connectivity	✓	✓
Transit Oriented Development	Residential population within station catchment (800m from each station)	18,200	18,200
	Employment within station catchment (800m from each station)	22,700	22,700
	Integrates with land use intent for the sector	×	×
Network efficiency	Expected capital cost of alignment (including stations) ($2018 million)	$800	$600
	Expected capital cost of stations ($2018 million)	$171	$11

Heavy rail provides a slightly faster travel time between Maroochydore and Sunshine Coast Airport than light rail (at 20 minutes compared with 21 minutes). As such, heavy rail is somewhat more effective at achieving the transport objective of connectivity between Maroochydore and Sunshine Coast Airport activity centres. The relatively high expected capital cost for the implementation of the light rail CAMCOS corridor, coupled with the low residential population within the catchment of this mass transit alignment, mean that a potential light rail connection between Maroochydore and the Sunshine Coast airport must be justified from a broader network perspective.

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Appendix E. Estimation of Capital and Operating Costs

Capital Costs

Capital costs for modelled network and segment options can be broken into three categories, these being:

- The capital costs associated with the purchase of new vehicles (not estimated at a segment level);
- The capital costs associated with the implementation of new light or heavy rail stations; and
- The capital costs associated with the implementation of new light or heavy rail track.

Estimates for the above three categories are based on ATAP – M1 Public Transport (2018), which provides default $2014 capital costs for preliminary analysis. These values are indicative only, and purely for the purposes of a high level comparison of alignment options and public transport modes.

The upper end of the $15 – 40M capital cost for surface railway stations has been assumed. Similarly the upper end of the $0.5 - $2.5M capital cost for light rail costs has been assumed, although it is noted that the true capital cost of stations is highly variable and location specific. The midpoint of the $40 – 80M capital cost per route kilometre has been assumed for surface railway track and formation, although it is noted that the existing designation of the CAMCOS corridor as a future heavy rail corridor may result in reduced capital costs of track implementation.

On the other hand, costs for the implementation of light rail have been separated into CAMCOS or Coastal corridor, with implementation of light rail along the CAMCOS corridor assumed to reflect the lower bound of the $60 – 100M ATAP – M1 (2018) provided capital cost. Conversely, the implementation of light rail along the Coastal corridor was assumed to reflect the upper bound of the $60 – 100M ATAP – M1 (2018) provided capital cost to reflect the increased difficulty associated with retroactively implementing light rail in urban environments.

For comparison purposes, Stage 3 of the Gold Coast Light Rail project, a 6.4km route with 8 new light rail stations, is anticipated to cost $670.5 million ($2018), a cost of $105 million / km. As an additional point of comparison, capital costs for the Coastal light rail corridor from Maroochydore to Kawana and from Kawana to Caloundra were estimated to be $1,300 million and $710 million (in 2012 $) in the A Line in the Sand report (2012), respectively. If $100 million / km is assumed, this is equivalent to a capital cost of $1,300 million and $900 million (in 2014 $) respectively.

Assumed capital costs for vehicles, stations and track are shown below:

Table E-1: Capital Cost Assumptions

Component of capital cost	Unit	Light Rail Transit		Heavy Rail Transit
Vehicle	Cost per vehicle ($2014 / station)	$5		$9
Track and formation – surface dual track	Cost per route kilometre ($2014 / km)[1]	$60	$100	$40
New stations	Cost per station ($2014 million / station)	$2.5		$40

1 Light rail transit capital costs of track and formation per route kilometre include the cost of additional light rail stations, however heavy rail transit capital costs exclude the cost of additional light rail stations.

Capital costs have been CPI indexed to $2018 values.

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Operating Costs

Default 'typical' unit operating costs have been assumed for the purposes of this Sunshine Coast Mass Transit Master Plan, with reference to ATAP – M1 Public Transport (2018). Operating costs include all of:

- **On-vehicle crew costs.** These cover all direct costs for on-vehicle staff (drivers, guards, etc.), including wage costs and direct on-costs (payroll tax, superannuation, etc.).
- **Vehicle (direct operating) costs.** These principally cover vehicle fuel and power, vehicle maintenance (labour, parts, outside services) and tyres.
- **Infrastructure operations and maintenance costs.** These cover all costs relating to infrastructure operations and maintenance for track, right-of-way, signalling, power supply and communications systems. For simplicity per track-kilometre estimates have been used although these costs are expected to vary with system usage.
- **Overhead (operating) costs.** This category covers all operating costs not included in the above three categories. These include operations overheads (scheduling, rostering, driver supervision, depot-related costs); vehicle maintenance overheads (e.g. engineering technology services); head office costs (e.g. higher management functions); and general labour and non-labour overheads (e.g. information technology, human resources, insurance).
- **Profit margin.** This 'cost' category represents the amount a commercial operator expects to be paid to compensate for the risks of being in the business.

Unit operating cost assumptions for this Sunshine Coast Mass Transit Master Plan are therefore:

Component of operating cost	Unit	Light Rail Transit	Heavy Rail Transit
On-vehicle crew	$/train-hour	$87	$300
Direct vehicle operating costs	$/unit-km	$3.00	$5.20
Infrastructure operations and maintenance	$'000 pa/track-km	$100	$170
Overhead costs	% on other operating costs	17.5%	15%
Profit margin	% on other operating costs	4%	4%

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Train-hours and unit-km per average weekday were based on running services from 7am to 11pm, 7 days per week, however they do not include allowances for dead-running or spare vehicle capacity. 5 minute layovers have been assumed at the end of each run for LRT, and 10 minute layovers have been assumed for heavy rail. Heavy rail costs include only the requirements for extending the services north-east from Beerwah. As modelled train-hours and track-km are given for an average weekday, an annualisation factor of 293.6 (ATAP – M1 Public Transport, 2018) has been applied to daily operating costs to obtain indicative annual operating costs. ATAP provided $2014 operating costs have been CPI indexed to $2018 values.

Of note, station costs have been double-counted on a segment-by-segment basis, as the Kawana station end-point, for instance, appears in both Caloundra to Kawana and Kawana to Maroochydore.

The tables below show the development of capital and operating costs for network, segment and variant options respectively.

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Table E-2: Indicative Segment Costs | CAMCOS corridor | Heavy Rail Transit

CAMCOS alignment | Heavy Rail

Segment	Alignment-km (km)	Number of Stations	Indicative capital cost of stations per segment ($2018 million)	Indicative capital cost of alignment (including stations) ($2018 million)
Unit Cost ($2014 million)	**$60**	**$40**		
Beerwah to Caloundra South	12.3	3	$128	$900
Caloundra South to Caloundra	6.5	3	$128	$500
Caloundra to Kawana	7.5	4	$171	$700
Kawana to Maroochydore	10.6	4	$171	$800
Maroochydore to Sunshine Coast Airport	10.1	4	$171	$800

Table E-3: Indicative Segment Costs | CAMCOS corridor | Light Rail Transit

CAMCOS alignment | Light Rail

Segment	Alignment-km (km)	Number of Stations	Indicative capital cost of stations per segment ($2018 million)	Indicative capital cost of alignment (including stations) ($2018 million)
Unit Cost ($2014 million)	**$60**	**2.5**		
Beerwah to Caloundra South	12.3	3	$8	$800
Caloundra South to Caloundra	6.5	3	$8	$400
Caloundra to Kawana	7.5	4	$11	$500
Kawana to Maroochydore	10.6	4	$11	$700
Maroochydore to Sunshine Coast Airport	10.1	4	$11	$600

Table E-4: Indicative Segment Costs | CAMCOS corridor | Light Rail Transit

Coastal Alignment | Light Rail

Segment	Alignment-km (km)	# Stations	Indicative capital cost of stations per segment ($2018 million)	Indicative capital cost of alignment (including stations) ($2018 million)
Unit Cost ($2014 million)	**100**	**2.5**		
Caloundra Spur	2.5	2	$5	$300
Caloundra to Kawana	9.4	10	$27	$1,000
Kawana to Maroochydore	12.9	17	$45	$1,400

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Table E-5: Indicative Modelled Option Costs

Segment	(1) CAMCOS alignment (heavy rail)	(2) CAMCOS alignment (heavy rail) with faster services	(3) Coastal alignment (light rail)	(4) CAMCOS alignment to Kawana (light rail) & Coastal alignment to Maroochydore (light rail)	(5) CAMCOS alignment to Kawana (heavy rail) & Coastal alignment to Maroochydore (light rail)	(6) Coastal light rail and CAMCOS
Light Rail						
Number of stations along alignment	0	0	25	30	17	26
Length of alignment - dedicated corridor (km)	0	0	0	27	0	0
Length of alignment - urban environment (km)	0	0	23	14	13	25
Vehicles required to service alignment	0	0	17	21	10	18
Daily in-service km	0	0	5043	6889	2890	5486
Daily train-hours	0	0	227	280	138	246
Indicative capital cost of stations ($ 2018 million)	*0*	*0*	*67*	*80*	*45*	*69*
Indicative capital cost of vehicles ($ 2018 million)	*0*	*0*	*91*	*112*	*53*	*96*
Indicative capital cost (including stations and vehicles) ($ 2018 million)	**0**	**0**	**2,500**	**3,200**	**1,400**	**2,700**
Indicative annual operating cost in 2041 ($2018 million)	**0**	**0**	**19**	**28**	**11**	**21**
NPV of operating costs over 50 years (7% discount rate) ($2018 million)	**0**	**0**	**281**	**414**	**163**	**311**
Heavy Rail						
Number of stations along alignment	13	5	0	0	7	13
Length of alignment - dedicated corridor (km)	45	45	0	0	26	45
Vehicles required to service alignment	5	2	0	0	3	5
Daily in-service km	3583	3206	0	0	1999	3583
Daily train-hours	58	24	0	0	39	58
Indicative capital cost of stations ($ 2018 million)	*555*	*213*	*0*	*0*	*299*	*555*
Indicative capital cost of vehicles ($ 2018 million)	*27*	*11*	*0*	*0*	*16*	*27*
Indicative capital cost (including stations and vehicles) ($ 2018 million)	**3,500**	**3,100**	**0**	**0**	**2,000**	**3,500**
Indicative annual operating cost in 2041 ($2018 million)	**30**	**25**	**0**	**0**	**18**	**30**
NPV of operating costs over 50 years (7% discount rate) ($2018 million)	**444**	**370**	**0**	**0**	**266**	**444**

Segment	(7) Light rail via CAMCOS (Service pattern A)	(8) Light rail via CAMCOS (Service pattern B)	(9) CAMCOS light rail to Kawana and Coastal light rail to Maroochydore	(10) Coastal light rail and faster rail
Light Rail				
Number of stations along alignment	20	20	30	26
Length of alignment - dedicated corridor (km)	37	37	27	0
Length of alignment - urban environment (km)	2	2	14	25
Vehicles required to service alignment	12	11	22	18
Daily in-service km	6363	8686	9212	5486
Daily train-hours	157	231	303	246
Indicative capital cost of stations ($ 2018 million)	*53*	*53*	*80*	*69*
Indicative capital cost of vehicles ($ 2018 million)	*64*	*91*	*117*	*96*
Indicative capital cost (including stations and vehicles) ($ 2018 million)	**2,500**	**2,500**	**3,200**	**2,700**
Indicative annual operating cost in 2041 ($2018 million)	**23**	**28**	**31**	**21**
NPV of operating costs over 50 years (7% discount rate) ($2018 million)	**340**	**414**	**459**	**311**
Heavy Rail				
Number of stations along alignment	0	0	0	5
Length of alignment - dedicated corridor (km)	0	0	0	45
Vehicles required to service alignment	0	0	0	2
Daily in-service km	0	0	0	3206
Daily train-hours	0	0	0	24
Indicative capital cost of stations ($ 2018 million)	*0*	*0*	*0*	*213*
Indicative capital cost of vehicles ($ 2018 million)	*0*	*0*	*0*	*11*
Indicative capital cost (including stations and vehicles) ($ 2018 million)	**0**	**0**	**0**	**3,100**
Indicative annual operating cost in 2041 ($2018 million)	**0**	**0**	**0**	**25**
NPV of operating costs over 50 years (7% discount rate) ($2018 million)	**0**	**0**	**0**	**370**

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Table E-6 Indicative Variant Option Costs

	Option V1	Option V2	Option V3	Option V4	Option V5	Option V6
Heavy Rail						
Number of stations (heavy rail)	0	7	0	4	7	4
Length of alignment (heavy rail via CAMCOS)	0	26.3	0	18.8	26.3	18.8
Travel time along route	0	21	0	13	21	13
Layover	0	10	0	10	0	10
Round trip minutes	0	62	0	46	42	46
Round trip length (km)	0	52.6	0	37.6	52.6	37.6
AM services per hour	3	3	3	3	3	3
MD services per hour	2	2	2	2	2	2
PM services per hour	3	3	3	3	3	3
OP services per hour	2	2	2	2	2	2
Peak vehicles	0	4	0	3	3	3
Service hours per day	0	39	0	29	27	29
Service km/day	0	1999	0	1429	1999	1429
Indicative capital cost of stations ($2018 million)	*$0*	*$299*	*$0*	*$171*	*$299*	*$171*
Indicative capital cost of alignment ($2018 million)	*$0*	*$1,700*	*$0*	*$1,200*	*$1,700*	*$1,200*
Indicative capital cost of vehicles ($2018 million)	*$0*	*$38*	*$0*	*$29*	*$29*	*$29*
Indicative capital cost of alignment (including stations and vehicles) ($2018 million)	**$0**	**$2,000**	**$0**	**$1,400**	**$2,000**	**$1,400**
Indicative annual operating cost of alignment in 2041 ($2018 million)	**$0**	**$18**	**$0**	**$24**	**$30**	**$24**
NPV of operating costs (50-year lifespan) (7% discount rate) ($2018 million)	**$0**	**$266**	**$0**	**$355.22**	**$444**	**$355**
Light Rail						
Number of stations (light rail)	30	17	38	29	29	23
Length of alignment (light rail via CAMCOS)	26.3	0	18.8	0	0	7.5
Length of alignment (light rail via Coastal corridor)	12.9	12.9	24.8	24.8	24.8	15.4
Travel time along route	66	32	83	59	59	47
Layover	5	5	5	5	5	5
Round trip minutes	142	74	176	128	128	104
Round trip length (km)	78.4	25.8	87.2	49.6	49.6	45.8
AM services per hour	8	8	8	8	8	8
MD services per hour	8	8	8	8	8	8
PM services per hour	8	8	8	8	8	8
OP services per hour	4	4	4	4	4	4
Peak vehicles	19	10	24	18	18	14
Service hours per day	265	138	329	239	239	194
Service km/day	8781	2890	9766	5555	5555	5130
Indicative capital cost of stations ($2018 million)	*$80*	*$45*	*$101*	*$77*	*$77*	*$61*
Indicative capital cost of alignment ($2018 million)	*$3,000*	*$1,387*	*$3,841*	*$2,668*	*$2,668*	*$2,134*
Indicative capital cost of vehicles ($2018 million)	*$101*	*$53*	*$128*	*$96*	*$96*	*$75*
Indicative capital cost of alignment (including stations and vehicles) ($2018 million)	**$3,100**	**$1,400**	**$4,000**	**$2,800**	**$2,800**	**$2,200**
Indicative annual operating cost of alignment in 2041 ($2018 million)	**$29**	**$11**	**$33**	**$21**	**$21**	**$18**
NPV of operating costs (50-year lifespan) (7% discount rate) ($2018 million)	**$429**	**$163**	**$488**	**$311**	**$311**	**$266**
Total						
Indicative capital cost of stations ($2018 million)	*$80*	*$344*	*$101*	*$248*	*$376*	*$232*
Indicative capital cost of alignment ($2018 million)	*$3,000*	*$3,087*	*$3,841*	*$3,868*	*$4,368*	*$3,334*
Indicative capital cost of vehicles ($2018 million)	*$101*	*$91*	*$128*	*$125*	*$125*	*$104*
Indicative capital cost of alignment (including stations and vehicles) ($2018 million)	**$3,100**	**$3,400**	**$4,000**	**$4,200**	**$4,800**	**$3,600**
NPV of operating costs (50-year lifespan) (7% discount rate) ($2018 million)	**$429**	**$429**	**$488**	**$666**	**$755**	**$622**

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Meeting agenda and minutes

Sunshine Coast Light Rail

Cross Group Working Team – Meeting #1

Date	20 August 2018 3:00 pm to 5:00 p.m.
Location	Executive boardroom, Level 5 Maroochydore
Chair	Cr Mark Jamieson – Mayor
Notetaker	Adam Cracknell
Attendees	Cr Mark Jamieson – Mayor Cr Tim Dwyer – Deputy Mayor – Portfolio Cr- Corporate Strategy and Finance Cr Rick Baberowski - Portfolio Cr – Transport, the Arts and Heritage Cr Peter Cox - Portfolio Cr – Place Development and Design Warren Bunker, Group Executive Liveability and Natural Assets (WB) Cr John Connolly - Division 4 Councillor (Part of meeting) Craig Matheson, Chief of Staff (CM) Tom Jamieson Group Executive Built Infrastructure (TJ) **Non-voting attendees:** Ken Deutscher, Project Manager, Light Rail (KD) Leah Bancroft, Project Coordinator - Strategic Advice (LB) Adam Cracknell, Senior Project Engineer, Light Rail (AC) Nick Cooney, Manager, Transport and Infrastructure Planning (NC)
Apologies	Cr Christian Dickson - Portfolio Cr – Planning and Development James Ruprai, Group Executive Customer Engagement & Planning Services (JR) Michael Whittaker, Chief Executive Officer (CEO) Debra Robinson, Project Director, Office the Mayor and CEO (DR) Graham Fraine, Chief Strategy Officer (GF) Nicola Jarvis A/ Manager, Urban Growth Projects (NJ) Stephen Patey, Manager, Strategic Planning (SP) Cr Jason O'Pray - Division 8 Councillor

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Draft Meeting minutes

Item No	Action items	Who	Deadline
1.	***Introduction and Apologies*** Apologies were noted from: Cr Christian Dickson, CEO Michael Whittaker, Graham Fraine, Debra Robinson, Nichola Jarvis, Stephen Patey, James Ruprai and Cr Jason O'Pray. First sitting of this group. No previous minutes.		
2.	***Purpose of Group***		

	Terms of reference were received and noted. KD asked if a TMR representative should be included in this committee? NC noted that Amanda Yeates sat on the previous Steering Committee, and while she was an observer only, her input was valuable. He didn't believe there were any significant drawbacks. It was agreed to invite TMR to nominate a representative to join the committee **Action:** Draft letter for CEO signature inviting TMR to send a representative to this Committee. KD explained a new Probity framework (s.47(3)(b) - Category C) has been developed – conflicts & associations and doc control will need to be in accordance with this. **Action:** Relevant members to note the Probity Framework and sign the Confidentiality Agreement at next meeting.	KD All	Letter to Director General before 3 October meeting Next meeting
3.	***Project Plan*** KD presented an overview of the project plan revised from the 22 January 2018 Councillor workshop. Key deliverables relate to the three key stages of the Building Queensland Business Case Development Framework (BCDF). Current timelines are: • Strategic Business Case late 2018 • Preliminary Business Case late 2019 • Detailed business Case late 2020 CM sought clarity on the timelines for the three steps in the business case process, which extend until 2020. He noted the NCC project was on a tighter timeline, being May 2019. Discussion ensued re timelines, and the amount of effort and detail required for each stage of the BCDF). Infrastructure Australia has similar detailed requirements. It was agreed the Project will aim to expedite the Business Case process but these are the usual timelines needed to comply with the amount of detail sought by the BCDF. This does not prevent Council from lobbying strongly for the project before the completion of the formal business case steps. **Action:** The current project plan was agreed. Light rail team to continue in accordance with the project plan.	KD	Ongoing
4.	***Interface with other projects*** Cr Jamieson and Cr Baberowski noted some members of the community may be confused about State and Local Government roles in public transport, and some of the terminology being used in respect of public transport in the region. To be addressed later in the agenda under Communications. **Action:** Cr Jamieson to raise the need for State support for light rail with the Deputy Premier at his upcoming meeting. ***North Coast Connect (NCC)*** KD provided an overview of the NCC project as he understood it to be. He discussed a range of rail technologies and pointed out that less than 5% of all trips generated on the Sunshine Coast actually leave the region to go south. Around 2% are to the Brisbane CBD. It's important	Mayor	Next meeting with Deputy Premier

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	to concentrate resources where they can achieve the best results for the vision of a sustainable region. This means mass transit must cater for local travel as well as inter-regional travel to Brisbane. Discussion ensued about the evolution of the NCC project. The language seems to have changed from *fast rail* (45 minutes from Maroochydore/Nambour to Brisbane) to *faster rail* which is understood to mean the project may not be pursuing such significant reductions in travel time because of the very high costs to provide infrastructure and safe operations to achieve these times. It was noted the current travel time by passenger rail from Nambour to Brisbane to Nambour is about 112 minutes, and the $780 million investment in the Beerburrum to Nambour project results in less than a 5-minute reduction in travel time for this trip. sch3(8) ***Southern Sunshine Coast Public Transport Strategy (SSCPTS)*** It was noted the SSCPTS project being undertaken by TMR has many common points with the light rail project, but that it is important for Council to develop its own strategy to ensure we can best influence the future of the region. It was noted the SSCPTS project timeline was fluid given the delays in the VISUM model re-build project. There is also no clarity on whether the results of the SSCPTS will be eventually endorsed by Government and/or made public. ***Probity – SMEC*** KD noted the strengthened probity requirements for the light rail project and related projects given SMEC's involvement in the Sunshine Coast Transport Model re-build (TMR & SCC), the Southern Sunshine Coast Public Transport Study (TMR), and the North Coast Connect proposal (Stockland et al).		
5.	***Light Rail Strategic Business Case (SBC)*** KD noted that as more foundation investigations have been completed, the assumptions for the light rail business case are being refined. KD discussed the current scope of the business case, including 'the problem to be addressed by investment' and the area of interest. The extended 'Sunshine Coast Enterprise Corridor' was described as the area of interest. This centres on the currently protected CAMCOS corridor. The Regional Economic Development Strategy and the 2016 Planning Scheme defined the Enterprise Corridor as an area bounded by the Bruce Hwy to the west of Caloundra South. However, the subsequent inclusion of Beerwah East in the urban footprint through the SEQ Regional Plan is considered to justify its inclusion in the light rail Business Case scope. Further, if Beerwah township were to be connected to Kawana and Maroochydore by a high frequency mass transit system, it should also be considered as existing within the Enterprise Corridor for the purposes of the Business Case **Action:** This extension of scope to include Beerwah East and Beerwah	All to note	

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	with the area of interest for the Business Case was agreed.		
6.	***Light Rail Preliminary Business Case (PBC) – early works*** The Steering Committee discussed the importance of travel time is providing a service competitive with car travel. It was agreed the inclusion of the CAMCOS corridor in the SBC and PBC will help address this concern because it provides the opportunity for a mass transit system to operate fully segregated from other traffic, thereby improving travel speeds and reliability. **Action:** Light rail team to produce a simple map showing the relative travel times for light rail rapid transit (operating in its own corridor), and light rail semi-rapid transit (on-street) in the CAMCOS and Nicklin Way corridors respectively.  RTI RELEASE Sunshine Coast Council	AC AC AC	With next meeting's agenda Next meeting As soon as possible.
7.	***Communications Strategy*** KD gave an overview of the draft Community and Stakeholder Strategy. The need for a package of materials for use with government and community stakeholders was discussed to help the community understand Council's position and the relevance of all current proposals for public transport in the region. **Action:** Light rail team to prepare a draft package of materials to be discussed at the next meeting.	KD	Update at next meeting
8.	***Next Steps*** Continue with project plan as discussed. **Action:** Next Steering Committee meeting to consider what matters if any need	Light rail team All	Ongoing

	to go to December 2018 Ordinary Meeting		
9.	***Other business*** None		

Next meeting

Date	Wednesday 3 October 2018, 10:00 – 12:00,
Location	Level 5 Boardroom, Maroochy on First

Summary Table of Action Items

Item No.	Action Item	By Whom	Deadline
2	**Action:** Draft letter for CEO signature inviting TMR to send a representative to this Committee.	Ken Deutscher	Before 3 October
2	**Action:** Relevant members to note the Probity Framework and sign the Confidentiality Agreement at next meeting.	All	At next Steering Committee Meeting
3	**Action:** The current project plan was agreed. Light rail team to continue in accordance with the project plan.	Ken Deutscher	Ongoing
4	**Action:** Cr Jamieson to raise the need for State support for light rail with the Deputy Premier at his upcoming meeting.	Mayor Jamieson	Next meeting with Deputy Premier
5	**Action:** This extension of scope to include Beerwah East and Beerwah with the area of interest for the Business Case was agreed.	All to Note	
6	**Action:** Light rail team to produce a simple map showing the relative travel times for light rail rapid transit (operating in its own corridor), and light rail semi-rapid transit (on-street) in the CAMCOS and Nicklin Way corridors respectively.	Adam Cracknell	3 October
6	s.47(3)(b)	Adam Cracknell	3 October
6		Adam Cracknell	As soon as possible
7	**Action:** Light rail team to prepare a draft package of materials to be discussed at the next meeting.	Ken Deutscher	3 October
8	**Action:** Next Steering Committee meeting to consider what matters if any need to go to December 2018 Ordinary Meeting	All	Ongoing

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Sunshine Coast COUNCIL

Meeting agenda and minutes

Sunshine Coast Light Rail

Cross Group Working Team – Meeting #2

Date	12 November 2018 3pm to 5pm
Location	Executive boardroom, Level 5 Maroochydore
Chair	Cr Mark Jamieson – Mayor
Note taker	Adam Cracknell
Attendees	Cr Mark Jamieson – Mayor Cr Christian Dickson - Portfolio Cr – Planning and Development Cr Peter Cox - Portfolio Cr – Place Development and Design Cr Rick Baberowski - Portfolio Cr – Transport, the Arts and Heritage Michael Whittaker, Chief Executive Officer (CEO) Warren Bunker, Group Executive Liveability and Natural Assets (WB) Graham Fraine, Chief Strategy officer (GF) Craig Matheson, Chief of Staff (CM) Ken Deutscher, Project Manager, Light Rail (KD) Leah Bancroft, Project Coordinator - Strategic Advice (LB) Adam Cracknell, Senior Project Engineer, Light Rail (AC) Nick Cooney, Manager, Transport and Infrastructure Planning (NC) Belinda Warren, Manager Communications (BW) Barbara Van Heerden, Regional Director – North Coast Region, Queensland Government Department of Transport and Main Roads (BVH) **Special presenters:** Callan Stirzaker, Project Manager, WSP Consulting (CS) Daniel Bykiw, Project Designer, WSP Consulting (DB)
Apologies	Cr Tim Dwyer – Deputy Mayor – Portfolio Cr- Corporate Strategy and Finance Nicola Jarvis A/ Manager, Urban Growth Projects (NJ) James Ruprai, Group Executive Customer Engagement & Planning Services (JR) Stephen Patey, Manager, Strategic Planning (SP) Debra Robinson, Project Director, Office the Mayor and CEO (DR)

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Meeting minutes – meeting # 2

Item No	Action items	Action	Deadline
1.	***Introduction and Apologies*** Barbara Van Heerden was welcomed to the meeting.		

2.	***Actions form previous meeting*** Mayor Jamieson advised he met with Premier since the last Steering Committee meeting in August. He pressed the importance of PT on Sunshine Coast, and advised the Premier that Council would submit further information on Council's priorities for improving local public transport derived from our present business case work.		
3.	***Project Plan*** KD presented a progress report. Draft Strategic Business Case (SBC) in on schedule to be presented at the Jan 2019 meeting of this group. Aim to consider draft Preliminary Business Case (PBC) at Steering Committee by end 2019. **Decided:** Continue in accordance with the project plan discussed.		
4.	***Interface with other projects*** ***Southern Sunshine Coast Public Transport Strategy (SSCPTS) [TMR]:*** KD: provided a brief overview of the project status. The completion of the Strategy, which is important in the context of the State supporting a future light rail project, has been delayed from its June 2019 schedule. The delay results from the conversion and update of the Sunshine Coast Multi Modal Transport Model (SCIMMM) to a VISUM model being led by TMR. It is understood that the target delivery date for the new model is now October 2020. This means the Strategy itself may not be completed until early 2020. BVH: Confirmed this timeline. BVH noted the strong collaboration between SCC and the TMR region on modelling. **ACTION:** Team to prepare a map showing the extents of the SSCPTS, SCIMMM, the SEQ transport model and the light rail areas of interest. ***Beerburrum to Nambour (B2N) [TMR]:*** BVH: discussed the uncertainty relating to 80/20 or 50/50 Commonwealth/State funding. Currently the project is only 70% funded. This has given rise to a need to rethink the delivery strategy. The Infrastructure Investment Committee (IIC) on Wednesday (14 November) to talk about how to deliver it with the funding shortfall. BVH suggested meetings with Council once the meeting with IIC outcomes were known. ***North Coast Connect (NCC) – faster rail [Stockland, SMEC, KPMG & Urbis]***: GF advised that the consortium now propose to deliver the business case by June 2019. Most likely a Preliminary Business Case only. Drafting of early chapters (problem identification, options etc.) has commenced. The consortium is considering carefully the originally proposed 45 minute journey times from Nambour and Maroochydore. Very high costs are affecting this this. Options with longer journey times also being evaluated.	**2.4.1.** Team to prepare a map showing the extents of the SSCPTS, SCIMMM, the SEQ transport model and the light rail areas of interest.	Done. See attached.

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	Objective is to shortlist to 3-4 options by the end of the year to take through to the Business Case workings. WB: added that route options outside the existing corridors (i.e. CAMCOS and the light rail corridor) are no longer being considered. WB: noted that the emphasis on travel time to Brisbane would necessitate very few stops. Likely to be only: Maroochydore, Kawana, Caloundra, Caloundra South, Beerwah East. ***American Maglev Technology (AMT)***: KD: this item was added to the agenda late on account of the article in the Sunshine Coast daily today (12 November). The article does not suggest anything has changed since the last approach from AMT to the State Government. KD noted that to our knowledge, the only operating system is a short test track in Georgia, USA. The abandoned project at the Old Dominion University in Norfolk VA in the USA was noted. It is understood the levitation system failed and the vehicle collapsed onto the guideway. CEO noted that this is a State matter. ***Mooloolah River Interchange (MRI) [TMR]*** TMR has 7.5 million to complete the Detailed Business Case by mid-2020. KD noted this is a major road upgrade, but related to the light rail project because it creates the conditions for Nicklin Way volumes to reduce, offering the opportunity for urban consolidation to occur by improving amenity. BVH advised the expression of interest for the business case consultant has been completed. The tender will be released to the invitees soon. Building Queensland will assume the lead assurance role. The business case work will kick off Jan / Feb next year. BVH noted a broader investment strategy is required including the Kawana Arterial, and the Sunshine Motorway to Coolum. BVH noted the Kawana Arterial is critical to MRI business case.		
5.	***Strategic Mass Transit Master Plan*** KD: explained the need for this piece of work – to support the business case by establishing the context for the light rail project, and why the proposed stages are the best fit with a long term strategy. The area of interest for the Master Plan was defined based on the Enterprise Corridor (but this area of interest extended to include Town of Beerwah and proposed Beerwah East which was included in the urban footprint after the Enterprise Corridor was originally defined). This area of interest contains the vast majority of forecast growth in population and jobs in the next 25 years. Improved bus connections to other parts of SSC area would also be recommended. Six broad options for fast rail, regional rail and light rail (with various combinations on sections of the CAMCOS and light rail	**2.5.1.** Team to take on feedback and develop options for consideration in the Strategic and Preliminary Business Cases.	Next meeting

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	corridors) were presented, and their catchments and ridership discussed. The Mayor noted Caloundra is not as well served in Option 5, which had only a bus system extending from CAMCOS, whereas other options had light rail going right in to Caloundra. So it would not suffice in its own right. However the basis for Option 5, which is staging the regional rail Beerwah to Kawana, and connecting with light rail from Kawana to Maroochydore, did present a good balance between regional and local travel needs. Single seat journeys versus transfers and travel times were seen by the Committee as important factors in determining the preferred options going forward. There was discussion about how light rail, CAMCOS and North Coast Connect project fit together. KD: noted the various projects have fundamentally different objectives: NCC is about very fast travel to Brisbane, SCLR is about a sustainable self-contained city, focussed on local travel but recognising the need to connect with regional rail to other parts of SEQ Region. Regional rail in CAMCOS, i.e. a branch line on the current narrow gauge Qld Rail system, sits in between and can do both tasks, though it is again better suited to regional travel. The view adopted in the draft Mass Transit Master Plan is we need a system that can do both local and regional tasks, with the local task being by far the larger. **Action:** Team to take on feedback and develop options for consideration in the Strategic and Preliminary Business Cases.		
6.	***Strategic Business Case*** KD: advised that the Strategic Business Case consultant has been engaged, being an experienced team from Brisbane based firm Corview. The Business Case Process is following State and Commonwealth guidelines, and must rigorously establish a need for investment and evaluate many options. The project need is being built up as: the greenfield development will accelerate if urban consolidation cannot be achieved. This is inconsistent with the vision of a sustainable region. The desired infill development in the coastal corridor will need planning, regulatory and investment support to propel it. A mass transit investment in the coastal infill corridor is emerging as an essential feature of the investment response required. This will provide a basis for sustainable transport and also send a very strong signal to the development industry that they should invest in infill development here. The results of the SBC workings will be discussed in January meeting of this group. **Action:** SBC to include clear need for project and focus on options for mass transit in the coastal urban infill corridor, Maroochydore to Caloundra	**2.6.1. Team to ensure** SBC includes clear need for project and focus on options for mass transit in the coastal urban infill corridor, Maroochydore to Caloundra.	Next meeting

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7.	***Communications Strategy*** KD presented Rowland's recommendations in relation to timing of communications –considering key milestones. The completion of the SBC, the run up to the Federal election, the release of the NCC Business Case (currently June 2019) and the State election in 2020 were all noted as future milestones for communications. The Committee determined it was best to keep the information flowing out to other levels of government and the community in terms of the importance of the mass transit investment to maintain our enviable lifestyle in the face of very considerable growth in the future. The run up to Federal and State elections was a good time to get messaging out there. **Action:** Team to develop a final strategy with concise messaging for public release commencing after consideration of the SBC by the Committee in January 2019.	**2.7.1** Team to develop finalised strategy with concise messaging for public release commencing after consideration of the SBC by the Committee in January.	Next meeting.
8.	s.47(3)(b) - Category C		Next meeting
9.	***Next Steps*** KD confirmed the next steps were for Council to complete the Strategic and Preliminary Business Cases in 2019 and continue to work hard for the State and Council to join forces on the Detailed Business Case in 2020. The Committee discussed the need for the State to agree to this and more generally the importance of bringing the other levels of government along with the important agenda for improved local	**2.9.1.** Team to prepare a map showing the State and Federal electoral boundaries overlaid against the CAMCOS and light rail corridors.	

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	mass transit the SCC was pursuing. Engagement with State and Federal members was a part of this. **ACTION**: Team to prepare a map showing the State and Federal electoral boundaries overlaid against the CAMCOS and light rail corridors. Councillor Baberowski noted the need to include messaging about the growth in population and traffic and the impacts if we don't have a high quality local mass transit system. Lifestyle that attracts people here threatened. This is a shared responsibility of all. The Committee discussed the need to tell the story concisely and effectively. A 3D or virtual reality animation was preferred as one means of conveying this message simply and effectively. **ACTION**: Team to include a concise and effective animation tool as part of the future strategy and communications tools being developed under item 7 above.	**2.9.2:** Team to include a concise and effective animation as part of the future strategy and communications tools being developed under item 7 above.	
10	***Other business*** No other business was raised		

Next meeting

Date	Monday 21 January 2019, 3pm– 5pm,
Location	Level 5 Boardroom, Maroochy on First

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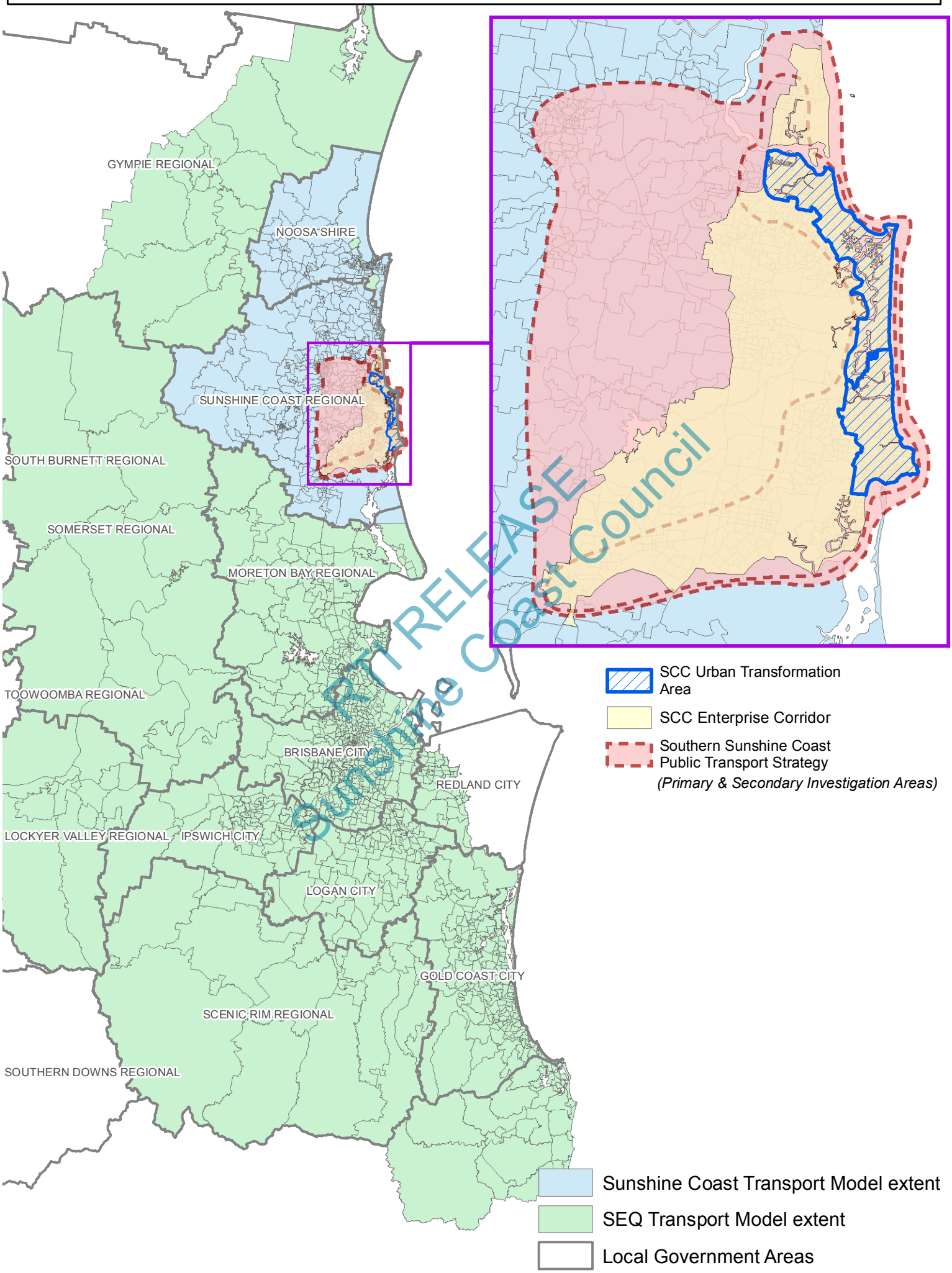
Summary Table of Action Items

Item No.	Action Item	By Whom	Deadline
2.4.1	Team to prepare a map showing the extents of the SSCPTS, SCIMMM, the SEQ transport model and the light rail areas of interest.	AC	Done. See attached.
2.5.1	Team to take on feedback and develop options for consideration in the Strategic and Preliminary Business Cases.	SCLR Team	Next meeting
2.6.1	Team to ensure SBC includes clear need for project and focus on options for mass transit in the coastal urban infill corridor, Maroochydore to Caloundra.	SCLR Team	Ongoing. To be reported at next meeting.
2.7.1	Team to develop finalised communications strategy with concise messaging for public release commencing after consideration of the SBC by the Committee in January.	SCLR Team	Next meeting
2.8.1	One preferred light rail alignment from Omrah Ave to CAMCOS to be brought to the Steering Committee for endorsement.	AC	Next meeting

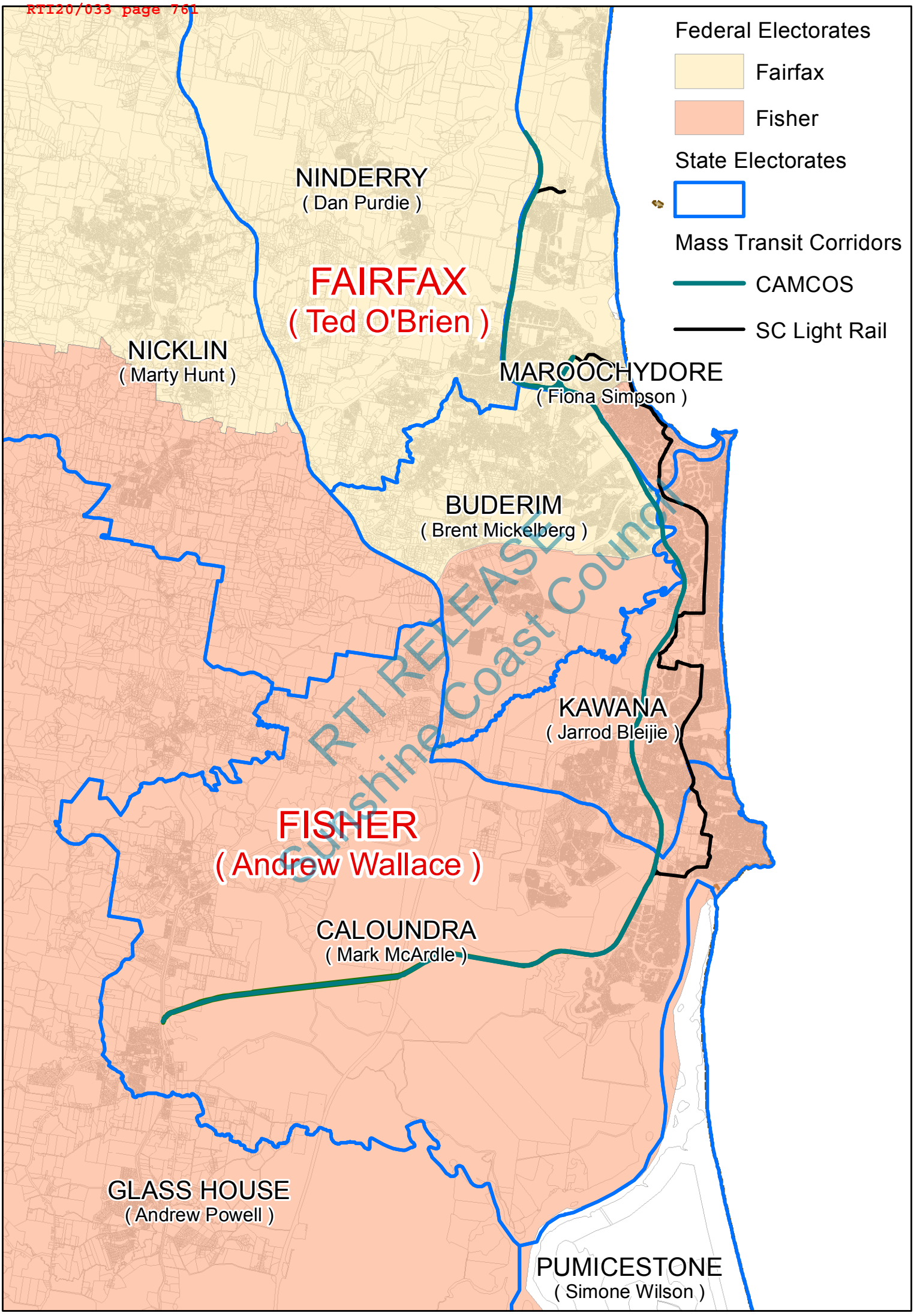
2.9.1	Team to prepare a map showing the State and Federal electoral boundaries overlaid against the CAMCOS and light rail corridors	AC	Done. See attached.
2.9.2	Team to include a concise and effective animation as part of the future strategy and communications tools being developed under item 7 above.	SCLR Team	Ongoing. Update at next meeting.

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Strategic transport model and associated project extents



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Sunshine Coast Light Rail

Cross Group Working Team – Meeting #3

Date	21 January 2019 - 3:00 pm to 5:00 p.m
Location	Executive boardroom, Level 5 Maroochydore
Chair	Cr Rick Baberowski - Portfolio Cr – Transport, the Arts and Heritage (RB)
Note taker	Karen Scott
Attendees	Cr Christian Dickson - Portfolio Cr – Planning and Development (CD) Cr Peter Cox - Portfolio Cr – Place Development and Design (PC) Graham Fraine, Chief Strategy Officer (GF) Craig Matheson, Chief of Staff (CM) James Ruprai, Group Executive Customer Engagement & Planning Services (JR) (Part) Bill Haddrill, Acting Group Executive Liveability and Natural Assets (BH) **Non-voting attendees:** Ken Deutscher, Project Manager, Light Rail (KD) Adam Cracknell, Senior Project Engineer, Light Rail (AC) Nick Cooney, Manager, Transport Infrastructure Planning (NC) Belinda Warren, Manager, Communications (BW) Barbara Van Heerden, Regional Director – North Coast Region, Queensland Government Department of Transport and Main Roads (BVH)
Apologies	Cr Mark Jamieson – Mayor (MJ) Cr Jason O'Pray – Division 8 Councillor (JO) Cr Tim Dwyer – Deputy Mayor – Portfolio Cr- Corporate Strategy and Finance (TD) Cr John Connolly - Division 4 Councillor (JC) Michael Whitaker, Chief Executive Officer CEO (MW) Warren Bunker, Group Executive Liveability and Natural Assets (WB) Debra Robinson, Project Director, Office the Mayor and CEO (DR) Leah Bancroft, Project Coordinator - Strategic Projects (LB) Nicola Jarvis A/ Manager, Urban Growth Projects (NJ) Stephen Patey, Manager, Strategic Planning (SP)

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Meeting minutes

Item No	Action items	What/ Who	Deadline
1.	***Welcome and apologies*** (RB) welcomed all to the first meeting of 2019. He advised this meeting is an important opportunity to re-engage and re-focus our thoughts on what we hope to achieve from this committee in 2019. Particularly, in the 8 March 2019 meeting, this group will be required to endorse the Strategic Business Case findings and everyone must be comfortable with its findings, so that we are able to recommend them to Council, and subsequently to the public.		
2.	***Actions from previous meeting*** Some actions from meeting #2 were addressed in attachments to previous meeting's minutes. The remainder are to be addressed in today's agenda.		
3.	***Project Plan*** ***Update and deliverables*** (KD) outlined the next key steps: • 8 March 2019 - Steering Committee asked to endorse SBC for transmission to Council • 28 March 2019 – SBC considered by Council • 2019 – 2020 – Council prepares the Preliminary Business Case (PBC) with State input • 2020- 2021 – Council and the State to jointly prepare the DBC if agreed by the State The key item delivered since the last meeting of this group is the Draft Strategic Business Case. Hard copies were available at the meeting and electronic copies can be sent to Committee members. Some feedback from the Business Case Reference Group (including Infrastructure Australia, Queensland Treasury, DSDMIP and TMR) has been received, but some is pending. Once all feedback is received, including that of the Steering Committee members, the second draft will be produced for endorsement at the next Steering Committee meeting on 8 March. The program is still on track for mass transit	**Action** **3.3.1** Team to send electronic copy of SBC to all.	ASAP

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	operations to commence in 2025 provided the State comes on board for the Detailed Business Case in 2020. The timing of the TMR led MRI business case development was discussed. The Qld Government has committed $7.5 M to complete the detailed business case by mid-2020. BVH updated the committee on progress and advised the capital funding for the project was yet to be committed. The Committee noted the strong interface between the MRI project and the mass transit project, particularly in respect of removing heavy traffic from the Nicklin Way to enable urban transformation to be fully effective. Also construction of the light rail on Nicklin Way would have less impact on traffic if the MRI was operating by then. ***Report on visit to Infrastructure Australia (IA)*** KD advised that projects seeking more than $100 million of Commonwealth Government funding must be evaluated against the Infrastructure Australia Assessment Framework. The Sunshine Coast Mass Transit Project would seek such a quantum of funding. Hence IA will be asked to review and provide input to the workings of the project. KD advise that the light rail team met with Infrastructure Australia in Sydney in December 2018. The meeting was highly valuable. A summary of advice was presented. Importantly, Infrastructure Australia prefer to review draft documents to minimise misspent effort. **Next steps** A draft IA Stage 1 Template will be submitted to IA in early March 2019, and a final will be submitted once the SBC is endorsed by Council.		
4.	***Update on related projects*** ***North Coast Connect (Stockland led consortium)*** (GF) Business Case being prepared by consortium is understood to be on track to be delivered June 2019. In the next 6 weeks the NCC Steering Committee should see the detail of the refined list of options. TMR officials sit on the NCC Steering Committee (Matt Longland) and the working group (Josh Hannan) and they would be able to provide more information to TMR officers if required. ***Beerburrum to Nambour Rail upgrade(TMR)*** (BVH) The TMR North Coast Regional Office will deliver this project.		

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	B2N project not 100% funded yet, but TMR will commence implementation through staging and procuring through separable portions. Early and enabling works likely to occur before the railway works commence. These are the current focus. Consistent messaging to the public is very important. A Communications package is being prepared by TMR. ***Southern Sunshine Coast Public Transport Strategy (TMR)*** Current revised timeline is to deliver preliminary Study findings by the end of 2019. Steering Committee for that project meets on 31 January 2019 to ratify. KD advised the mid 2019 timing (if achieved) would allow TMR to review the light rail PBC produced by Council in the light of Study findings. This would likely be a necessary step before the State would commit to a Detailed Business Case on light rail in 2020. ***Mooloolah River Interchange Business Case (TMR)*** Discussed above. ***TMR and SCRC transport planning generally*** (CM) *People Mass Movement Study* prepared for Council of Mayors to be released to public later this week. Supportive of light rail project.		
5.	***Strategic Business Case*** ***Consideration of SBC findings*** The Strategic Business Case is high level and must focus on the problems and responses, before considering current and potential initiatives. Service needs and challenges need to be established prior to solutions. Draft SBC notes supporting urban renewal in the Maroochydore to Kawana Corridor is a key challenge, as well as congestion growth and low public transport market share. Initiatives both current and potential were outlined. Draft SBC recommends a focus on the coastal urban corridor, with a mass transit solution needed to act as a catalyst for urban renewal and change the way people move there. Stage 1 recommended to be from Maroochydore to Kawana. However a coastal mass transit system must be integrated with a upgraded strategic bus network and regional rail to	**Action** 3.5.1 Project team to remove Council Logo from SBC document and circulate to members. **Action** 3.5.2 Members to send comments on Draft SBC to Internet Mailbox Light Rail lightrail@sunshinecoast.qld.gov.au **Action** 3.5.3 Light rail team to offer briefings on SBC to those Members of Council who were unable to attend to day.	Working draft circulated with these minutes as a PDF. 20/2/19 20/2/19

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	Brisbane (RB) Offered endorsement in principle today however members please interrogate the document and come back with comments by **20 February** for finalisation at meeting on 8 March, ready to go to Council 28 March. RB noted several Councillors with an interest in the project were not at today's meeting a briefing on the SBC should be offered to them if they wished. The current document is in a SCRC corporate document template. (CM) suggested the removal of Council branding, so the document was not yet seen as being endorsed by Council. 'Working draft' to be emphasised. ***Referral to Council*** Set for 28 March 2019		
6.	***Communications Strategy*** ***Activities following SBC findings*** It was agreed there would a media package prepared to accompany the consideration of the Strategic Business Case by Council on 28 March 2019. The media package should be ready to go the day the Agenda goes out - 22nd March. It was agreed the light rail project should be depicted as integrating with other key projects, not competing against them. (RB) thinks there is a need to clarify the differences between Light rail/ Fast rail / Regional rail in messaging to the public. ***Progress with animation*** AC has finished the brief.120 second video that can be cut back. This will be released to the market in the coming days.	**Action** 3.6.1 BW Bring a concise media package for the March meeting	8/3/19
7.	s.47(3)(b) - Category C		8/3/19 Future meeting

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	s.47(3)(b) - Category C		
8.	***Other business*** No other business. Meeting Closed 5.03pm		

Next meeting

Date	Friday 8 March 2019, 10am to 12noon
Location	Level 5 Boardroom, Maroochy on First

Summary Table of Action Items

Item No.	Action Item	By Whom	Deadline
3.3.1	Send electronic copy of Strategic Business Case to all Cross Working Group members.	Adam Cracknell	ASAP
3.5.1	Remove Council Logo from Strategic Business Case document and add "working draft".	Adam Cracknell	ASAP
3.5.2	Send any comments on Draft Strategic Business Case to lightrail@sunshinecoast.qld.gov.au	Group Members	20 February 2019
3.6.1	Bring a concise media package for the next meeting.	Belinda Warren/ light rail team	8 March 2019
3.7.1 3.7.2	s.47(3)(b) - Category C	Adam Cracknell Adam Cracknell	8 March 2019 Future meeting in 2019

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Sunshine Coast COUNCIL

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Sunshine Coast Light Rail

Cross Group Working Team – Meeting #4

Date	19 June 2019 – 9.00am to 11.00am
Location	Council Chambers , Eddie DeVere Building, Level 1, Nambour
Chair	Cr Rick Baberowski - Portfolio Cr - Transport, the Arts and Heritage (RB)
Note taker	Karen Scott
Attendees	Cr Tim Dwyer - Deputy Mayor - Portfolio Cr - Corporate Strategy and Finance Cr Christian Dickson - Portfolio Cr - Planning and Development Cr Peter Cox - Portfolio Cr - Place Development and Design Cr John Connolly - Division 4 Councillor Bill Haddrill, Chief Strategy Officer (BH) Warren Bunker, Group Executive Liveability and Natural Assets (WB) **Non-voting attendees:** Ken Deutscher, Project Manager, Light Rail (KD) Adam Cracknell, Senior Project Engineer, Light Rail (AC) James Coutts, Program Director, Urban Growth (JC) Stephen Patey, Manager, Strategic Planning (SP) Nick Cooney, Manager, Transport Infrastructure Planning (NC) Belinda Warren, Manager, Communications (BW) Barbara Van Heerden, Regional Director – North Coast Region, Queensland Government Department of Transport and Main Roads (BVH)
Apologies	Cr Mark Jamieson - Mayor Michael Whitaker, Chief Executive Officer CEO James Ruprai, Group Executive Customer Engagement & Planning Services (JR) Cr Jason O'Pray - Division 8 Councillor Tom Jamieson Group Executive Built Infrastructure Leah Bancroft, Project Coordinator - Strategic Projects (LB) Craig Matheson, Chief of Staff (CM) Debra Robinson, Project Director, Office the Mayor and CEO (DR)

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Meeting minutes

Item No	Action items	What/ Who	Deadline
1.	***Welcome and apologies*** Cr Dickson welcomed attendees.		
2.	***Actions from previous meeting*** All actions from meeting #3 have been completed except: 3.6.1 Media package is being updated in preparation for SBC going to Council in July.		
3.	***Strategic Business Case*** ***Consideration of SBC findings*** Purpose of meeting is to get endorsement from the Steering Committee of the findings of the Strategic Business Case (SBC) for consideration by Council at its 25 July 2019 Ordinary Meeting. There was general discussion in relation to the following: - the need for staging of the ultimate mass transit system - the business case process - acquiring funding - congestion and the impacts this would have on the liveability of the region and how this would be included in the business case process - relationships being built with public utility providers to ensure forecasting of potential service conflicts - the savings of urban consolidation compared to the cost expansion consolidation and associated mechanisms to incentivise living in higher density areas - duplication work at Mooloolaba to ensure future light rail is accounted for. It was noted that the Preliminary Business Case (PBC) will review and re-evaluate the staging priorities of the SBC. The timeline for the Detailed Business Case (DBC) completion is anticipated to be December 2021. A decision about funding for the delivery of the mass transit system is not expected before June 2022, meaning delivery could occur in 2026.	**Action:** KD to ensure significant work continues on the high level Staging Plan and examine more closely the priorities for the Caloundra sector in the (PBC). **Action: KD** to investigate the potential savings to Council of accommodating dwellings by way of urban consolidation (as opposed to urban expansion) and consider how the outcome of that investigation can form part of the rating methodology utilised in the business case process.	December 2020 December 2020

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4.	***Update on related projects*** ***North Coast Connect (Stockland led consortium)*** The business case process has been extended to at least July when it is anticipated the draft will be circulated to various state agencies. Stockland proposes to have finalised the business case by the end of the year. ***Beerburrum to Nambour Rail upgrade (TMR)*** Progressing. Waiting on sign off from the Minister to proceed with initial works. ***Southern Sunshine Coast Public Transport Strategy (TMR)*** Propose to have an interim document by the end of June; possibly released by the Minister in July. The planned Olympic bid transport network proposal was discussed. It was agreed this is to be included in the related projects update to ensure there is a better understanding of sequencing etc., and how it can best be conveyed to the community. ***Mooloolah River Interchange Business Case (TMR)*** Mooloolah River Interchange business case is proceeding well.	**Action:** KD to include the Olympic bid transport planning as part of the regular update on other relevant projects.	Next meeting
5.	***Communications Strategy*** ***Activities following SBC findings*** Steering Committee was advised that a media release for the SBC was to be issued after the Council meeting on 25 July 2019. The project website will also be updated. Progress on the PBC will be promoted with a low key social media campaign and supporting broadcast activities through the website. Draft video shown. Comments raised included: - staging, particularly in light of where the majority of growth is occurring in the southern part of Sunshine Coast - the type of technology - timing for changes to the planning scheme - light rail v mass transit terminology.	**Action:** KD to look into the wording on Council's position of preferred mode. Consider changes to the video.	Next meeting
6.	s.47(3)(b) - Category C Discussion of this item was deferred to the next meeting.		
7.	***Other business*** No other business. Meeting Closed 11.06am		

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Next meeting

Date	Monday 2nd September 2019, 3.00pm to 5.00pm
Location	Level 5 Boardroom, Maroochy on First

Summary Table of Action Items

Item No.	Action Item	By Whom	Deadline
4.3.1	Ensure significant work continues on the high level staging plan and examine more closely the priorities for the Caloundra sector in the PBC.	Ken Deutscher	December 2021
4.3.2	Investigate the potential savings to Council of accommodating dwellings by way of urban consolidation (as opposed to urban expansion) and consider how the outcome of that investigation can form part of the rating methodology utilised in the business case process.	Ken Deutscher	December 2021
4.4.1	Include the Olympic bid transport planning as part of this regular update on other relevant projects.	Ken Deutscher	Next meeting
4.5.1	Look into the wording on Council's position of the preferred mode. Consider commensurate changes to the video.	Ken Deutscher	Next meeting

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Sunshine Coast Mass Transit

Cross Group Working Team – Meeting #5

Date	22 October 2019 – 3pm to 5pm
Location	Maroochydore on first, Level 5 Boardroom
Chair	Cr Rick Baberowski - Portfolio Cr – Transport, the Arts and Heritage
Note taker	Karen Scott
Attendees	Cr Rick Baberowski - Portfolio Cr – Transport, the Arts and Heritage Cr Peter Cox - Portfolio Cr – Place Development and Design Cr John Connolly - Division 4 Councillor (Part) Warren Bunker, Group Executive Liveability and Natural Assets (WB) James Ruprai, Group Executive Customer Engagement & Planning Services (JR) (Part) **Non-voting attendees:** Ken Deutscher, Project Manager, Light Rail (KD) Julian Zorzo, Specialist Business Case Adviser (JZ) Leah Bancroft, Project Manager – Strategic Projects (LB) Adam Cracknell, Senior Project Engineer, Light Rail (AC) Stephen Patey, Manager, Strategic Planning (SP) Crispin Smythe, Acting Manager, Transport Infrastructure Planning (CS) Pannie Mitchell, Manager, Communications (PM) Kellie Cave, Acting Regional Director – North Coast Region, DTMR (KC) Sandra Hinrichsen – Regional Planning Manager, DTMR (SH)
Apologies	Cr Mark Jamieson – Mayo Cr Jason O'Pray – Division 8 Councillor Craig Matheson, Chief of Staff (CM) Cr Tim Dwyer – Deputy Mayor – Portfolio Cr- Corporate Strategy and Finance Cr Christian Dickson - Portfolio Cr – Planning and Development Michael Whitaker, Chief Executive Officer CEO Bill Haddrill, Chief Strategy Officer (BH) James Coutts Manager, Urban Growth Projects (JC) Nick Cooney, Manager, Transport Infrastructure Planning (NC)

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Meeting minutes

Item No	Action items	What/ Who	Deadline
1.	***Welcome and apologies*** Cr Baberowski welcomed Kellie Cave and Sandra Hinrichsen from TMR, to their first meeting. Apologies acknowledged.		
2.	***Actions from previous meeting*** Actions from meeting #4 are being addressed. See table below.		
3.	***Project Plan*** KD updated all on the following. - Update and deliverables - Budget - Schedule for reporting to Council - State Council Partnership for the Detailed Business Case.	Consider budget review item for funding to meet additional scope derived from Infrastructure Australia recommendations for option analysis and land use planning.	Budget review timelines for BR2
4. .	***Update on related projects.*** Updates were received from KD, KC, SH & JZ on the following. - Queensland 2032 Olympic bid transport Planning - North Coast Connect (NCC) (Stockland led consortia) - Beerburrum to Nambour Rail upgrade (B2N) - Southern Sunshine Coast Public Transport Strategy (SSCPTS) - Mooloolah River Interchange (MRI) - Gold Coast Light Rail stage 3A.	No actions arose, however it was noted: • Olympic bid taskforce reports to Premier early 2020 • North Coast Connect business case is drafted, expected to be completed early 2020 • B2N design and survey underway • SSCPTS completion early 2020 • MRI business case mid 2020	
5.	***Preliminary Business Case*** KD updated all on Business Case Reference Group report and options process. s.47(3)(b) - Category C	No Actions arose from this discussion, since a workshop on options and land use is already scheduled for 4 November 2019.	

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6.	***Communications Strategy*** ***Activities following SBC findings*** Meeting concluded before this could be discussed. To be placed on the Agenda of next meeting.		
7.	***Other business*** Interface between Mass Transit and proposed TMR bikeway at Alexandra Headlands. Meeting concluded at 4:55 p.m.	Project team to brief Councillor Connolly.	ASAP
8.	***Next Meeting*** - Monday 20 January 2020. 3-5 p.m. - Beerwah Room Level 3 Caloundra.		

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Summary Table of Action Items from Meeting #4

Item No.	Action Item	By Whom	Deadline
4.3.1	Ensure significant work continues on the high level staging plan and examine more closely the priorities for the Caloundra sector in the PBC.	Ken Deutscher	December 2021
4.3.2	Investigate the potential savings to Council of accommodating dwellings by way of urban consolidation (as opposed to urban expansion) and consider how the outcome of that investigation can form part of the rating methodology utilised in the business case process.	Ken Deutscher	December 2021
4.4.1	Include the Olympic bid transport planning as part of this regular update on other relevant projects.	Ken Deutscher	Completed and closed.
4.5.1	Look into the wording on Council's position of the preferred mode. Consider commensurate changes to the video.	Ken Deutscher	Next meeting

Summary Table of Action Items from Meeting #5

Item No.	Action Item	By Whom	Deadline
5.3.1	Consider budget review item for funding to meet additional scope derived from Infrastructure Australia recommendations for option analysis and land use planning.	KD	November 2019
5.6.2	Project team to brief Councillor Connolly on bikeway interface with mass transit at Alexandra Parade.	Ken Deutscher	December 2021

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Sunshine Coast Mass Transit

Cross Department Working Group – Meeting #6

Date	20 January 2020 – 3.00pm to 5:00pm
Location	Council Chambers, Caloundra Administration Building
Chair	Cr Rick Baberowski - Portfolio Cr - Transport, the Arts and Heritage
Note taker	Karen Scott
Attendees	Cr Tim Dwyer - Deputy Mayor - Portfolio Cr - Corporate Strategy and Finance Cr Christian Dickson - Portfolio Cr - Planning and Development Cr Peter Cox - Portfolio Cr - Place Development and Design Cr John Connolly - Division 4 Councillor (Part of meeting) Bill Haddrill, Chief Strategy Officer (BH) Craig Matheson, Chief of Staff (CM) (Part of meeting) Chris Allan, A/Group Executive Liveability and Natural Assets (CA) James Ruprai, Group Executive Customer Engagement & Planning Services (JR) (Part of meeting) Michael Whittaker, Chief Executive Officer (CEO) **Non-voting attendees:** James Coutts, Program Director, Urban Growth (JC) Ken Deutscher, Project Manager, Mass Transit (KD) Leah Bancroft, Project Coordinator - Strategic Projects (LB) Stephen Patey, Manager, Strategic Planning (SP) Nick Cooney, Manager, Transport Infrastructure Planning (NC) Scott Whitaker, Regional Director – North Coast and Wide Bay Burnett Region, Department of Transport and Main Roads (SW) Sandra Hinrichsen, Regional Planning Manager, North Coast and Wide Bay Burnett, Dept. of Transport and Main Roads (SH)
Apologies	Cr Mark Jamieson - Mayor Cr Jason O'Pray - Division 8 Councillor Adam Cracknell, Senior Project Engineer, UGP (AC) Belinda Warren, Manager, Communications (BW)

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Meeting minutes

Item No	Action items	What/ Who	Deadline
1.	***Welcome and apologies*** Cr Baberowski welcomed all to the meeting.		
2.	***Actions from previous meeting*** All actions from previous meetings were addressed with 5.3.1 and 5.6.2 Complete and 4.3.1 and 4.3.2 ongoing. 4.3.2 (CM) – Need to ensure that the PBC and DBC encapsulate economic analysis in relation to the relative benefits and costs of urban consolidation and urban sprawl.	**Action 4.3.2:** Include need to ensure that PBC and DBC encapsulate economic analysis of urban consolidation and urban sprawl in action 4.3.2. KD	December 2021
3.	***Project Plan*** **Update and deliverables** KD advised the Preliminary Business Case is due by late June ready for State to endorse. The jointly prepared Detailed Business Case is due at the end of 2021. **Budget** KD advised BR3 item expected requesting funding to cover extra work recommended by Infrastructure Australia in a range of project areas. **The Committee noted the request, which would be addressed in the formal budget review process in May 2020.** **Schedule for reporting to Council** Presentation of the PwC Interim Findings report to Council on 30 January 2020 and then report the findings of the completed PBC to Council in late June 2020. **State Council Partnership for Detailed Business Case** KD advised a Memorandum of Understanding (MOU) would be appropriate and an initial draft of this had been prepared. The MOU principles are required to be endorsed by this working group. However, DTMR would first need to consider the principles of the collaborative arrangement. This could be done at the next meeting once DTMR has completed its consideration. SW advised that DTMR would welcome the collaboration but there would be benefit in establishing a steering committee to coordinate the Detailed Business Case work. KD tabled a governance structure that had been prepared by the SCC team as a basis for the State's consideration. This includes a joint steering committee. The Committee noted that good governance of the DBC partnership was important and an MOU an obvious starting point. This MOU was needed before the DBC works commenced.	**Action 6.3.1:** Finalise a draft MOU and agree this with the State for signing before the DBC process commences in earnest. KD	July 2020

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4.	***Update on related projects*** **Queensland 2032 Olympic bid transport planning** CM advised the Queensland bid will be formally lodged June/July 2020. Awarding to the successful bidder could occur prior to 2025. IOC are more flexible now. **North Coast Connect** (NCC - Stockland-led consortia) BH advised the proponent was aiming to have the Final Business Case with Commonwealth Government early March 2020 for consideration. Cr Dwyer raised a question in relation to the use of the term *cheaper housing* as one of the objectives of the Commonwealth's Faster Rail initiative under which NCC is being developed. Is it really cheaper in remote areas? KD noted it would be better to refer to *housing in regional centres* and how this housing is linked to employment in capital cities. **Beerburrum to Nambour Rail upgrade(TMR)** (SW) Progressing with new Project Director now on board with rail background from UK. **Southern Sunshine Coast Public Transport Strategy (TMR)** NC advised he sits on the SteerCo though it hasn't met recently. Work is in progress. Not able to confirm timelines at this stage. **Mooloolah River Interchange (TMR)** (SH) Progressing Mooloolah River interchange. Looking at all options that may be suitable. (MW) Council would have an interest in the residual lands that are not required for the actual project works. There are opportunities to utilise residual land for active community use and Council would like TMR to consider this. **Gold Coast Light Rail (GCLR) Stage 3A** (KD) showed status of GCLR 3A to Burleigh and advised it is undergoing procurement for opening in late 2023. The Committee noted the costs of each of the three stages and that the Queensland Government was the senior partner of the three governments involved in funding. Notably, the cost of building Gold Coast light rail in urban environments was over $100m per km, including all infrastructure and vehicles.	**Action 6.4.1:** Update project reporting to reflect the objectives of faster rail as linking regional centres to capital cities. (see the website https://www.infrastructure.gov.au/rail/trains/faster_rail/index.aspx) KD	Next meeting

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5.	***Preliminary Business Case*** **Infrastructure Australia (IA) workshop 28/11/19** (KD) Workshop with IA went very well. However, IA requested that a lot of extra content be considered in key areas including justification of the effects of bus rapid transit on land use and assigning relative benefits of mass transit to urban renewal outcomes. There is more work to get these vital benefits accredited. (LB) IA wants to be sure that Council is committed to land use change and urban renewal, and it was made clear by SCC officers on the day that this is the case. **PwC Interim Findings report to be considered by Council 30 January 2020** (KD) Interim Findings report to be presented to Council next week. PWC is supportive of SBC findings. Infrastructure Australia asked for the preferred staging to be checked to ensure the stage from Maroochydore to Kawana should be done first. Light Rail Transit and Bus Rapid Transit are the two top modes recommended in the PBC Interim Findings report.	**Action 6.5.1:** Liaise with IA and provide a detailed response to its requests, and report back at next meeting of this working group. KD	Next meeting
6.	***Communications Strategy*** (LB) There will be a media release and website update after Council considers the Interim Findings report on 30 January 2020 and again when the PBC is presented to Council in June 2020. The key messaging in relation to urban transformation is being prepared for the release of the PBC. Looking at ongoing messaging from when the PBC is endorsed through to the formal planning scheme amendment process. The Committee discussed the need to be clear on how public comments are made and the difference between commenting on the business cases and the scheme amendments. The idea of using community champions to support urban renewal should be considered. A clear set of key messages for the mass transit and urban transformation initiatives was vital for media to work with. Cr Dwyer requested the team and Strategic Planning compile a narrative on the SCC website now to keep the community informed about the future planning scheme amendments.	**Action 6.6.1:** Bring key messaging for the urban transformation approach back to the working group committee at the next meeting. LB **Action 6.6.2:** Prepare an update for the City Planning web page addressing the link between the mass transit business case process and the planning scheme amendments. LB/ SP	Next meeting Next meeting

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7.	***Other business*** (Cr Dwyer) 1. Look to a Mass Transit system that integrates easily and conveniently with the community. Cars and trams to use the same street levels. Do not put up barricades to stop cars, etc. Referred to undesirable approach on the Gold Coast with raised central light rail track cutting off roadways. 2. In relation to associated infrastructure (e.g. walkways and connections to and from stations, underpasses and overpasses across major roads, etc.) please look for the best ultimate solutions for our pedestrian thoroughfares and options for connections into the future to encourage people to use Public transport with ease. **Review of Terms of Reference** The committee endorsed the following amendments to the current approved Terms of Reference: • Bill Haddrill to replace Graham Fraine. • Add dot point under Responsibilities: *Ensure the Sunshine Coast Mass Transit project delivers multi modal integrated transport outcomes.* Councillor Baberowski thanked all for attending and in particular, thanked Scott Whitaker and Sandra Hinrichsen from TMR for their valuable time. (SW) advised DTMR is very committed to this and working with Council. Meeting closed 5.08pm	**Action 6.7.1:** Work with urban designers and light rail designers at the detailed design stage (to be managed by the State) so maximum urban streetscape outcomes and integration are achieved. SCC Project team **Action 6.7.2:** Adopt the best ultimate solutions for pedestrian thoroughfares and options for crossings of both SCC and TMR maintained road crossings and other connections to encourage people to use public transport with ease. Project team with TMR **Action 6.7.3:** Update Charter/Terms of Reference as endorsed by committee. KD	December 2021 December 2021 Next meeting

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Sunshine Coast Council

Next meeting

Date	Wednesday 13 May 2020, 3.00pm to 5.00pm
Location	Level 5 Boardroom, Maroochy on First, Maroochydore

Summary Table of Action Items

Item	Action Item	By Whom	Deadline	Status
6.3.1	Finalise a draft MOU and agree this with the State for signing before the DBC process commences in earnest. KD	Ken Deutscher	July 2020	
6.4.1	Update project reporting to reflect the objectives of faster rail as linking regional centres to capital cities. (see the website https://www.infrastructure.gov.au/rail/trains/faster_rail/index.aspx	Ken Deutscher	Next Meeting May 2020	
6.5.1	Liaise with IA and provide a detailed response to its requests, and report back at next meeting of this working group.	Ken Deutscher	Next Meeting May 2020	

6.6.1	Bring key messaging for the urban transformation approach back to the working group committee at the next meeting.	Leah Bancroft	Next Meeting May 2020	
6.6.2	Prepare an update for the City Planning web page addressing the link between the mass transit business case process and the planning scheme amendments.	Leah Bancroft Steve Patey	Next Meeting May 2020	
6.7.1	Work with urban designers and light rail designers at the detailed design stage (to be managed by the State) so maximum urban streetscape outcomes and integration are achieved.	SCC Project Team	December 2021	
6.7.2	Adopt the best ultimate solutions for pedestrian thoroughfares and options for crossings of both SCC and TMR maintained road crossings and other connections to encourage people to use public transport with ease	Project Team with TMR	December 2021	
6.7.3	Update Charter/Terms of Reference as endorsed by committee.	Ken Deutscher	Next Meeting May 2020	
4.3.1	Ensure significant work continues on the high level staging plan and examine more closely the priorities for the Caloundra sector in the PBC.	Ken Deutscher	December 2021	Ongoing
4.3.2	Investigate the potential savings to Council of accommodating dwellings by way of urban consolidation (as opposed to urban expansion) and consider how the outcome of that investigation can form part of the rating methodology utilised in the business case process. Include need to ensure that PBC and DBC encapsulate economic analysis-benefits of urban consolidation v urban sprawl.in this action	Ken Deutscher	December 2021	Ongoing

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Sunshine Coast Mass Transit

Project Control Group Meeting # 7

Date	8 July 2020 – 3pm to 5pm
Location	Microsoft Teams/ Level 5 Boardroom Maroochydore
Chair	Cr Mark Jamieson – Mayor (part of meeting only)
Invitees	Cr Rick Baberowski – Deputy Mayor and Community (Transport) Cr Peter Cox – Environment and Liveability (Place making) Warren Bunker A/CEO (WB) Bill Haddrill, Chief Strategy Officer (BH) Chris Allan, A/ Group Executive Liveability and Natural Assets (CA) **Non-voting invitees:** Craig Matheson, Chief of Staff (CM) (part of meeting only) James Ruprai, Group Executive Customer Engagement & Planning Services (JR) James Coutts, Program Director Urban Growth (JC) Ken Deutscher, Project Manager, Mass Transit (KD) Leah Bancroft, Manager Urban Transformation Strategy (LB) Adam Cracknell , Senior Project Engineer, UGP (AC) Stephen Patey, Manager, Strategic Planning (SP) George Pegoraro, A/Manager, Transport Infrastructure Planning (GP) Belinda Warren, Manager, Communications (BW) Scott Whitaker, Regional Director North Coast Region, Dept. of Transport and Main Roads (SW) Sandra Hinrichsen, Regional Planning Manager, North Coast, Dept. of Transport and Main Roads.(SH) Hannah Whittle from Office of the Minister for Transport and Main Roads
Apologies	Nick Cooney, Manager, Transport and Infrastructure Planning (NC) Cr Christian Dickson – Service excellence

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Sunshine Coast Council

Meeting Minutes

Item No	Agenda topic	Time	By whom
1.	**Welcome and apologies** KD advised that meeting will be recorded by the meeting secretary and once Minutes are completed for probity reasons the recording will be deleted. He also requested that no one else record the meeting. Mayor Mark Jamieson advised he would need to leave the meeting at 3:45 pm due to an urgent matter. On that basis, the Committee decided to hear item 5, the Preliminary Business Case and Options Analysis first.	5 min	Chair
5.	**Consideration of draft Preliminary Business Case and Options Analysis** s.47(3)(b) - Category C The Committee noted the findings of the Preliminary Business Case and Options Analysis would be provided to a councillor workshop on Monday 13 July 2020. Following that, the Committee agreed the PBC and OA should be considered by Council as planned on 20 August 2020. Mayor Mark Jamieson left the meeting at 3.45pm and Cr Baberowski assumed the chair.	45 Min	KD/ LB KD/LB
2.	**Actions from previous meeting (see below)** All actions either completed or on track.	5 Min	Chair
3.	**Project Plan** KD updated the Committee on the business case budget. $3,360,000 was approved in 2019/20, most of which was expended on the Preliminary Business Case. For the detailed business case, $3,000,000 is approved for 2020/21 and $4,500,000 for following years. The process for the Detailed Business Case was discussed. It was noted SCC has provided to TMR an outline of a potential Memorandum of Understanding between the State and SCC, including suggested governance arrangements. (Action 6.3.1) The Committee was advised TMR is reviewing these documents and intends to respond in the next few weeks. Cr Baberowski noted it will be vital to build and maintain a strong partnership with the State for the Detailed Business Case process.	30 Min	KD

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4.	**Update on related projects** KD updated on related projects. BH is in receipt of a draft version of the Business Case but will update on North Coast Connect in the future when probity obligations permit. All other projects listed as per the schedule; no change from previous meeting.	15 Min	KD BH TMR
6.	**Communications Strategy** LB updated all on the communications plan, including the key principles for planning for Urban Transformation. SW noted that a Detailed Business Case involves communications, and noted that a joint community engagement plan would be required setting out guidelines with roles and responsibilities. 4 minute video was shown. (Due to a technical issue only those in the meeting room were able to view the video.) BW noted that communication material needs to be clear on the benefits to the community.	10 Min	KD
7. 7.7.1	**Other business** **New Charter** Reformed as a PCG, membership advised by Council. Membership has been updated to reflect new Councillors. Send any feedback to KD WB advised charter may change in the future as the Detailed Business Case proceeds. **Future of PCG in Detailed Business Case** Governance will be worked through in the MOU negotiations. SH advised that TMR will be ready to talk with SCC shortly in relation to the MOU. **Travel times** Cr Baberowski would like to see some work on the travel times and rider experience if possible. **ACTION:** AC to report on travel time and rider experience at the next meeting.	10 Min	KD
8.	**Next meeting** Meeting Closed 4.41 pm Next Meeting 9 September 2020.		Chair

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Summary Table of Action Items Meeting # 7

Item	Action Item	By Whom	Deadline	Status
6.3.1	Finalise a draft MOU and agree this with the State for signing before the DBC process commences in earnest.	Ken Deutscher	July 2020	Drafted. awaiting response from state
6.5.1	Liaise with IA and provide a detailed response to its requests, and report back at next meeting of this working group.	Ken Deutscher	Next Meeting	Ongoing
6.6.1	Bring key messaging for the urban transformation approach back to the working group committee at the next meeting.	Leah Bancroft	July 2020	Completed
6.6.2	Prepare an update for the City Planning web page addressing the link between the mass transit business case process and the planning scheme amendments.	Leah Bancroft Steve Patey	Next Meeting	Ongoing
6.7.1	Work with urban designers and light rail designers at the detailed design stage (to be managed by the State) so maximum urban streetscape outcomes and integration are achieved.	SCC Project Team	December 2021	Ongoing
6.7.2	Adopt the best ultimate solutions for pedestrian thoroughfares and options for crossings of both SCC and TMR maintained road crossings and other connections to encourage people to use public transport with ease	Project Team with TMR	December 2021	Ongoing
6.7.3	Update Charter/Terms of Reference as endorsed by committee.	Ken Deutscher	July 2020	Completed
4.3.1	Ensure significant work continues on the high level staging plan and examine more closely the priorities for the Caloundra sector in the PBC.	Ken Deutscher	December 2021	Completed and conveyed in PBC
7.7.1	Update meeting on travel times rider experience	Adam Cracknell	Next meeting	
4.3.2	Investigate the potential savings to Council of accommodating dwellings by way of urban consolidation (as opposed to urban expansion) and consider how the outcome of that investigation can form part of the rating methodology utilised in the business case process. Include need to ensure that PBC and DBC encapsulate economic analysis-benefits of urban consolidation v urban sprawl.	Ken Deutscher	December 2021	Ongoing for DBC; Included in PBC chapter 6

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Sunshine Coast COUNCIL

Meeting minutes

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Sunshine Coast Mass Transit

Project Control Group Meeting # 8

Date	9 September 2020 – 3pm to 5pm
Location	Microsoft Teams/ Level 5 Boardroom Maroochydore
Chair	Cr Mark Jamieson - Mayor
Invitees	Cr Rick Baberowski - Community (Transport) Cr Christian Dickson – Service excellence Cr Peter Cox – Environment and Liveability (Place making) Bill Haddrill, Chief Strategy Officer (BH) Chris Allan, A/ Group Executive Liveability and Natural Assets (CA) **Non-voting invitees:** Nick Cooney, Manager, Transport Infrastructure Planning (NC) Craig Matheson, Chief of Staff (CM) James Coutts, Program Director Urban Growth (JC) Ken Deutscher, Project Manager, Mass Transit (KD) Leah Bancroft, Project Manager Urban (LB) Adam Cracknell , Senior Project Engineer (AC) Stephen Patey, Manager, Strategic Planning (SP) Belinda Warren, Manager, Communications (BW) Scott Whitaker, Regional Director North Coast Region, Dept. of Transport and Main Roads (SW) Sandra Hinrichsen, Regional Planning Manager, North Coast, Dept. of Transport and Main Roads.(SH)
Apologies	Warren Bunker (WB); James Ruprai (JR)

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Minutes

Item No	Agenda topic	Time	Item No
1.	**Welcome and apologies** - Meeting protocols for MS teams - Official minutes to be the only recording. JC advised that recording would only be for minute taking purposes and deleted once Minutes sent out.	5 min	Chair
3.	**Project Plan** **Council decisions** Resolution following amended Notice of Motion in OM 20 August 2020 re: Community Consultation Resolution at Special Meeting 27 August 2020 re: Framework for Community Engagement process **Governance update:** - Updated PCG Charter approved and was attached to the Agenda **Governance for community engagement process** (CA) Raised the issue of sound governance oversight of the stakeholder and community engagement process. He recommended that a sub working group of the PCG be set up, that provides input, insight and context on how we will deliver the engagement process. (BH) supported the recommendation, noting there is value in having a smaller working group come together on a frequent and regular basis and report back up to the PCG. He suggested a minor amendment to the PCG charter through a simple statement: *The mass transit PCG has the authority to establish a sub working group to support the delivery of its business in accordance with the Charter*. That amendment to the Charter was supported by the members. CA suggested membership of the working group could be as follows: Chair being a member of the PCG, preferably a Councillor as a conduit of that process followed by others from the PCG and external and additional expertise as invited guests. Membership would include: James Coutts, Ken Deutscher, Leah Bancroft, Bill Haddrill, Chris Allan, and others as required, Steve Patey, James Ruprai. The Mayor suggested interested Councillors could attend meetings where invited on specific topics where they have interest in a particular part of the process. Cr Dickson thanked the Mayor for enabling other councillors to be included in specific deliberations relating to their interests. Cr Baberowski nominated as chair of this working group and that nomination was supported by the members. It was agreed the group needed to be formed soon and a flying minute could be prepared regarding approval of the working group's Terms of Reference.	30 Min	JC CA

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8.3.1	**ACTION: Update the PCG charter to allow for sub-working groups to be formed.**		KD
8.3.2	**ACTION: Prepare a terms of reference for the communications and engagement working group and circulate to the members via a flying minute**		CA
	Community reference group CA noted the engagement framework would need to consider a possible community reference group which will entail a number of stakeholder groups to assist in that process. It was agreed the process to establish a community reference group would be further considered by the new working group when established. This should include interface with other possible reference groups to avoid doubling up on memberships		
	Work Program update and deliverables KD advised where we are at with timelines and noted efforts would now be centred on preparing for the forthcoming stakeholder and community engagement process in Q1 of 2021 calendar year.		KD
	Budget Expended most of $3.3 M budget last year. $3 M for this year would have been allocated for the Detailed Business Case. We will now put some of this toward the consultation. Council will submit to the State that this consultation would have been part of the DBC consultation and should be counted as part of its $ 7.5 M contribution to the DBC. Understood State $7.5M commitment still available.		KD
4.	**Community Engagement Strategy Overview** LB presented the overview of Stakeholder and Community engagement as per the framework approved by council on 27 August. Objectives Phase1 - Positioning and Education; Phase 2 - Community Engagement period 6 – 8 weeks. Key strategies to be highly visual, enticing and accessible so the broadest possible range of people get engaged. Phase 3 Analysing the final community feedback. BH advised the group metrics were being compiled by Communications Branch on contacts, numbers of people who visit website, signed up for newsletters etc.	45 Min	LB
8.4.1	**ACTION**: Keep the PCG updated on metrics from the phase 1 work. The Mayor asked if it is easy to get stats on who use current infrastructure, visitors or locals? KD advised some statistics from the Gold Coast that have been provided to Councillors following the Councillor workshop on 13 July 2020. (These are appended to the minutes). The majority of users are locals. However use by visitors to the Gold Coast has increased to about 30 per cent since the connection to the regional rail at Helensvale (Stage 2) was opened in December 2017. Mayor Jamieson asked for more information on how Gold Coast residents view mass transit. Cr Cox said maybe broaden to Newcastle and Canberra which is		BW

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8.4.2	not the Gold Coast also and local people as well. **Action:** Source information form TransLink concerning the perception of the Gold Coast Light Rail by the local residents and also other mass transit investments by other cities. The group discussed the scope of the Options Analysis. (KD) To bring the community and stakeholders on the journey there is a need to work back through all the previous options work so we can show that we have considered all options and perhaps leave the preferred options open for consideration. After the *Line in the Sand* recommendations in 2012 council gravitated towards light rail but perhaps that could remain open for the options phase. Mayor Jamieson agreed with the approach but confirmed his view that we should demonstrate a clear preferred option in the Options Analysis report. (SW) Confirmed TMR view there needs to be more than just a light rail focus and the Options Analysis should show this.		KD
5. 8.5.1 8.5.2	**Update on related projects** **Queensland 2032 Olympic bid** (on hold) Hasn't advanced any further at this stage. But need to be clear how the local Mass Transit will work with Regional travel. **North Coast Connect** (Stockland led consortium) (BH) Notified by Stockland that the Business Case has been accepted for assessment by Infrastructure Australia. (SW) TMR does not have much detail on this, but will chase up **ACTION:** SW to chase up information on the Gold Coast/Brisbane, Brisbane/Toowoomba and where they stand in the approvals process with North Coast Connect. NC asked about what were the preferred components of the recommended options in the North Coast Connect business case **ACTION:** BH to advise the next meeting of the finalised components that made up the North Coast connect submission, subject to probity requirements. **Beerburrum to Nambour Rail upgrade** (SW) tender for the first round of works has closed and award of tender by the end of the calendar year. **Southern Sunshine Coast Public Transport Strategy** (SH) progressing. The region is working with Transport Strategy and Planning team that led this project. Sequencing hasn't been completed yet for the coast. Mass transit is a part of that future vision. **Mooloolah River Interchange** (SW) DBC is very close to being completed.	15 Min	JC BH SW BH TMR TMR TMR

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	Gold Coast Light Rail Stages 3 and 4 (JC) Stage 3 currently in procurement. The business case process for Stage 4 has been funded.		JC
6. 8.6.1 8.6.2	**Other business** (SW) would like discuss at operational level at Council, how we tie in active transport initiatives especially along the M2M Alexandra Parade area, to get an understanding of what we are going to engage on in the future. Cr Baberowski would also like an opportunity to discuss how the reallocated M2M funding which he understood was now going to build a bikeway in the Glasshouse electorate integrates into the B2N. SW This is not confirmed as the QTRIP program for next year has not yet been released. **Action:** At an appropriate time, TMR to brief Cr Baberowski on the any planned bikeway upgrades as part of B2N. (NC) We need and integrated transport solution at Alexandra Headland and other places to be applied and happy to work together on this. (SW) Detailed Business Case for Mass Transit is going to be led by the State so we need to be on the same page. **ACTION:** Meeting to be arranged between DTMR and Council to discuss this interface. Meeting closed 4.30pm	10 Min	Chair
7.	**Next meeting** Wednesday 11 November 2020 3 – 5 pm Level 5 Boardroom Maroochydore/ MS teams		Chair

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Sunshine Coast Council

SUMMARY OF ACTIONS FROM PCG MEETING #8

Item	Action Item	By Whom	Deadline	Status
4.3.2	Investigate the potential savings to Council of accommodating dwellings by way of urban consolidation (as opposed to urban expansion) and consider how the outcome of that investigation can form part of the rating methodology utilised in the business case process. Include need to ensure that PBC and DBC encapsulate economic analysis-benefits of urban consolidation v urban sprawl.	Ken Deutscher	December 2021	Ongoing for DBC

6.5.1	Liaise with IA and provide a detailed response to its requests, and report back at next meeting of this working group.	Ken Deutscher		Ongoing
6.6.2	Prepare an update for the City Planning web page addressing the link between the mass transit business case process and the planning scheme amendments.	Leah Bancroft Steve Patey	Next Meeting May 2020	Ongoing
6.7.1	Work with urban designers and light rail designers at the detailed design stage (to be managed by the State) so maximum urban streetscape outcomes and integration are achieved.	SCC Project Team	December 2021	Ongoing
6.7.2	Adopt the best ultimate solutions for pedestrian thoroughfares and options for crossings of both SCC and TMR maintained road crossings and other connections to encourage people to use public transport with ease	Project Team with TMR	December 2021	Ongoing
7.7.1	Provide an update on travel times and customer experience for the mass transit options	Adam Cracknell	Next meeting	For discussion November meeting
8.3.1	Recommend to the PCG with Cr Baberowski as the Chair to finalise the internal membership and charter to move forward.	Chris Allan	ASAP	
8.4.1	Keep the group advised of key metrics including numbers of those who have signed up for our newsletters.	Belinda Warren	Next meeting	
8.4.2	Provide information on the perceptions of the local Gold Coast community on the Gold Coast light rail and mass transit investments in other cities.	Ken Deutscher	Next meeting	
8.5.1	SW to chase up information on the Gold Coast/Brisbane, Brisbane/Toowoomba and where they stand in the approvals process with North Coast Connect.	Scott Whittaker	Next Meeting	
8.5.2	Advise of components that made up the North Coast connect submission, subject to probity requirements.	Bill Haddrill	Next meeting	
8.6.1	Meeting to be arranged between DTMR and Cr Baberowski at an appropriate time to discuss any planned bikeway upgrades as part of B2N	Scott Whitaker	When required	

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8.6.2	Arrange meeting on interface between Options Analysis and Detailed Business Case	Scott Whitaker	ASAP	

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Sunshine Coast COUNCIL

Meeting minutes

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Sunshine Coast Mass Transit
Project Control Group Meeting # 9

Date	9 December 2020 – 9:30am – 11:30am
Location	Microsoft Teams / Caloundra Administration Building, Level 3, Beerwah Room
Chair	Cr Mark Jamieson – Mayor (MJ)
Invitees	Cr Rick Baberowski – Community (Transport) (RB) Cr Christian Dickson – Service Excellence (CD) Cr Peter Cox – Environment and Liveability (Placemaking) (PC) Emma Thomas – Chief Executive Officer (ET) Bill Haddrill – Chief Strategy Officer (BH) Warren Bunker – Group Executive, Liveability and Natural Assets (WB) **Non-voting invitees** Craig Matheson – Chief of Staff (CM) James Ruprai – Group Executive, Customer Engagement & Planning Services (JR) Nick Cooney – Manager, Transport & Infrastructure Planning (NC) Ken Deutscher – Project Manager, Mass Transit (KD) Leah Bancroft – Project Manager Urban Transformation (LB) Adam Cracknell – Senior Project Engineer, UGP (AC) Arthur Stamatoudis – Specialist Business Case Advisor (AS) Dan Koch – Specialist Business Case Advisor (DK) Stephen Patey – Manager Strategic Planning (SP) Belinda Warren – Manager Communications (BW) Scott Whitaker – Regional Director North Coast Region, Dept. of Transport and Main Roads (SW)
Apologies	James Coutts – Program Director Urban Growth (JC) Sandra Hinrichsen – Regional Planning Manager, North Coast, Dept. of Transport and Main Roads (SH)

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Minutes

Item No	Agenda topic	When	By whom
1.	**Welcome and apologies** - Meeting protocols for MS teams - Official minutes to be the only recording.		Chair KD
2.	**Actions from previous meeting** It was advised that actions from previous meetings would be addressed during this meeting.		Chair
3.	**Project plan and governance** KD presented the timelines of the project update as follows: - Draft Options Analysis (OA) to be presented at the full Council following completion of the stakeholder and community engagement and incorporation of the findings (currently scheduled for June OM at the earliest). - If approved by Council, it will be presented to Transport and Main Roads who will undertake Gate 1 review and take on board IA feedback. - DBC commencement follows Gate 1 approval. - Findings related to land use planning initiatives from the OA engagement will be fed back into the planning scheme review process. - The working group of stakeholder / community engagement chaired by Deputy Mayor has been meeting regularly to develop the collateral of phase 1b of the community engagement. - The Business Case Reference Group will reconvene in February 2021. This group is comprised of a broad range of federal and state representatives to assist in guiding the Options Analysis. - ET noted in some of the collateral it isn't clear what the benefits are to the community. She asked the team to consider creating different 'profiles' of people that live on the SC (e.g. a nurse who works at SCUH and lives in Maroochydore; or a tradie), and talk about the advantages for those people. **9.3.1** **ACTION:** Ensure that the collateral explains to the community what benefits there are for them, and that it is accessible on a personal level (e.g. the nurse 'profile'). CM noted a potential improvement to the priority staging map. **9.3.2** **ACTION:** Revisit the priority staging map to clarify better the difference and distance between CAMCOS and Mass Transit corridors.		KD

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Item No	Agenda topic	When	By whom
4.	**Community engagement process** - Letters have gone out to all MPs in the corridor advising on the upcoming community engagement and offering a briefing.		
9.4.1	**ACTION:** MT Team to follow up with phone calls to reiterate the offer for a briefing.	ASAP	MT Team
	Stakeholder and Community Engagement Working Group - RB advised that the working group has met four times. - The possible use of the existing Transport Community Reference Group (TCRG) as an advisory group to get input into the community engagement strategy and collateral was discussed. - The list of current participants was displayed. It was noted that some parts of the community were not represented (e.g. 12-18 year olds). - LB clarified that it is proposed only that this group provide input into the collateral and engagement strategy – their feedback on the options will not be gathered through this process but through the broader consultation process.		
9.4.2	**ACTION: Decision whether to engage TCRG or an augmented TCGR to provide input into engagement strategy preparation will be made at a future meeting.**		

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Item No	Agenda topic	When	By whom
	Community Engagement - LB presented the engagement approach in 3 phases: • 1a and 1b - *inform* (educate the community, getting correct information out, directing people to website, encouraging people to register), comms team have been involved in the preparation of collateral • 2 – *engage* (went out to tender for external consultants for phases 2 and 3, consultancy decision being finalised) • 3 – *feedback* - The "inform" phase will be completed in February (additional newsletters will be issued, updates to webpage, media releases, FAQs, project summary). - The collateral and draft engagement strategy will be prepared by the external consultants and with the view to being presented to a Councillor Workshop mid-February. - Plans are to commence engagement with the release of the draft options analysis about March 2021. - The external consultants will be responsible for preparing a report on feedback (which will be public) on how we have engaged with the community; this will also be fed into the Options Analysis report. **Resourcing** Two new specialists are onboard, but staff will be needed from different branches to back-up the community engagement processes and events. ET says we should test out our messages by involving Council staff. **ACTION:** WB to approach GEs with resourcing needs for staff to assist with community engagement.	Prior to commencement of engagement	WB/LB
9.4.3			
5.	**Update on related projects** - Carried over to next meeting		
6.	**Discussion of travel times and customer experience for the mass transit options** - Carried over to next meeting		
7.	**Other business** - Nil		
8.	**Next meeting** 20 January 2021. Focus will be on presentation from successful engagement consultants.		

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SUMMARY OF ACTIONS FROM PCG MEETING #9

Item	Action Item	By Whom	Deadline	Status
4.3.2	Investigate the potential savings to Council of accommodating dwellings by way of urban consolidation (as opposed to urban expansion) and consider how the outcome of that investigation can form part of the rating methodology utilised in the business case process. Include need to ensure that PBC and DBC encapsulate economic analysis-benefits of urban consolidation v urban sprawl.	SCC Project Team	December 2021	Ongoing for DBC
6.5.1	Liaise with IA and provide a detailed response to its requests, and report back at next meeting of this working group.	SCC Project Team		Ongoing.
6.7.1	Work with urban designers and mass transit designers at the detailed design stage (to be managed by the State) so maximum urban streetscape outcomes and integration are achieved.	SCC Project Team	December 2021	Ongoing
6.7.2	Adopt the best ultimate solutions for pedestrian thoroughfares and options for crossings of both SCC and TMR maintained road crossings and other connections to encourage people to use public transport with ease	SCC Project Team with TMR	December 2021	Ongoing
7.7.1	Provide an update on travel times and customer experience for the mass transit options	Adam Cracknell	Next meeting	Deferred to February meeting
8.4.1	Keep the group advised of key web and social media metrics including numbers of those who have signed up for our newsletters.	Belinda Warren	Next meeting	Ongoing
9.3.4	Update the priority staging map to clarify difference between CAMCOS and coastal mass transit	SCC Project Team	Next meeting	
9.4.1	Follow up on emails with phone calls to ensure MPs are aware of our offer of a briefing.	SCC Project Team	ASAP	
9.4.3	WB to approach GEs with requests for staff to assist with community engagement.	Warren Bunker / Leah Bancroft	Prior to commencement of engagement	

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Holly Ogden

From: James Coutts
Sent: Monday, 17 August 2020 6:27 PM
To: Bill Haddrill
Cc: Chris Allan; Craig Matheson; Ken Deutscher; Leah Bancroft
Subject: Draft report for Special Meeting re SCMT
Attachments: Draft Report for Council Special Meeting on SCMT 27 August 2020.DOCX

Hi Bill,
As mentioned in this afternoon's meeting, please find attached the latest version of the report for the Special Meeting on 27 August 2020, ready for your input in relation to the growth management approach (hopefully) being confirmed through your Corporate Plan workshops with the Councillors.
Craig, you are most welcome to start your process of revision, but equally understand you might prefer to await the addition of Bill's content.
You'll notice I have posed some questions (in margin comments) about what we say in relation to the timing of consultation activities.
Cheers, James.

James Coutts | Program Director Urban Growth
Urban Growth Projects
Liveability and Natural Assets Group | Sunshine Coast Council

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8.2 SUNSHINE COAST MASS TRANSIT UPDATE

File No: Council meetings

Author: Project Manager
Liveability & Natural Assets Group

PURPOSE

The purpose of this report is to:

1. Advise Council of the progress made in preparing a business case for Sunshine Coast Mass Transit, in particular the *Options Analysis* phase of the business case process
2. Outline the range of broader strategic and interconnected issues (such as the regional planning directions, urban growth challenges, coastal hazard responses, integrated transport planning and infrastructure sequencing) to enable a full appreciation of all of these elements as part of progressing further with the *Options Analysis*
3. Provide detail on the scope and structure of the *Options Analysis* document as set down in the Queensland Government's business case development framework
4. Present the principles of a comprehensive community engagement framework for council's consideration to support our community's understanding of these challenging issues and to understand their views of the options before us.

EXECUTIVE SUMMARY

Over the past 20 years, the population of the Sunshine Coast has grown by 125,500 people or 67.7 per cent, at an average of 2.8 per cent per year. The region's population is projected to continue to grow strongly, reaching 518,000 in 2041 and more than 600,000 by 2050.

This gives rise to major challenges in managing growth over the next three decades. Population growth and increasing congestion will continue to put pressure on housing, transport, lifestyle, employment, social infrastructure and the environment.

The Sunshine Coast Council has a plan to sustainably manage the projected population growth of the Sunshine Coast over the decades ahead, as conveyed in the Planning Scheme and the range of supporting Council strategies. This plan aims to preserve the Sunshine Coast's character, lifestyle and iconic natural environment as essential contributors to the region's natural (competitive) advantage. But the region's lifestyle, and its valued natural environment are at risk due to very high dependence on private motor vehicle travel, and an increasing trend towards development of new suburbs at the urban fringe as the main way to cater for population growth.

The vision for the Sunshine Coast Mass Transit project is at the heart of the Council's plan to manage growth - *a step change to public transport that can set the region on a path to sustainable transport and urban development.*

Work already done by Council has shown this vision can be achieved through:

- provision of a high quality regional mass transit solution to connect the region's main residential, employment and recreational precincts, supported by an integrated feeder bus and active transport network

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- containing the rate of urban expansion that results in car-based suburban greenfield developments to the agreed expansion areas at Caloundra South, Palmview and Beerwah East
- locating the majority of new housing and jobs in the catchment of the mass transit system, while maintaining a recognisable low key Sunshine Coast character.

The alternative is to see urban sprawl, to continue to provide additional lanes to existing roads, build new roads, and provide major increases in car parking in and around centres and beachside precincts. This alternative would see existing urban areas become places catering more for cars and less for people.

The plan to manage growth and protect our lifestyle is given effect by a broad range of Queensland Government and Sunshine Coast Council policy documents, addressing regional planning directions, urban growth challenges, habitat preservation, Greenhouse responses, coastal hazard responses, integrated transport planning and infrastructure sequencing.

An investment in a regional mass transit solution is a major intervention that can only be delivered by the Queensland Government. Council can partner in this but cannot deliver it.

Council endorsed the first phase of the business case process - the *Strategic Business Case* in July 2019. The purpose of this phase (now known as a *Strategic Assessment* under Building Queensland's April 2020 guidelines) is to define a problem or opportunity that needs to be addressed, identify potential ideas that could resolve the issues or develop the opportunity, and evaluate whether any of the ideas have the potential to be viable options.

The second phase, previously known as the *Preliminary Business Case* and now known as the *Options Analysis* under Building Queensland's updated April 2020 guidelines, aims to "narrow the breadth of options by applying rigorous evaluation criteria before assessing the viability of any remaining options". Work on this phase is all but completed and focusses on the first stage of an integrated urban public transport solution for the region.

As it stands, the draft *Options Analysis* confirms the need for and value of a coordinated mass transit system and a related urban transformation strategy, and identifies the unacceptable consequences of not pursuing this strategy. The draft *Options Analysis* contains an assessment of a shortlist of options for Stage 1 of the mass transit response.

However, it is acknowledged that the draft *Options Analysis* is a large document containing extensive technical content and that it is part of an important broader strategic context connected with a range of urban growth planning policy issues.

With this mind it is important that Council engages with the community to support its understanding of these challenging issues and to understand the views of the Sunshine Coast community about how to best respond to the challenges of growth. To that end, the principles of a comprehensive community engagement framework are provided in attachment A for Council's consideration.

It is planned to present the draft *Options Analysis* in early 2021 as the basis for proceeding with a process of community engagement about the mass transit system and the urban transformation strategy.

Commented [JC1]: Perhaps best not to say this yet, until the Councillors are happy with the consultation framework.

Detailed planning in the next phase, as before, known as the *Detailed Business Case*, aims "to evaluate the viability of the highest ranked option/s with surety of outcomes across all evaluation criteria and develop investment implementation plans". It is the final phase in the business case process before funding approval for construction can be obtained.

On 8 May 2019 the Premier and Minister for Trade, the Honourable Annastacia Palaszczuk announced *"a contribution of up to $7.5 million by the State Government would be matched by Council to help develop a detailed business case for the first stage of an integrated urban public transport solution for the Coast, including pricing options for light rail"*.

As and when Council resolves to proceed with endorsing the *Options Analysis* for the transmission to the State Government, the government will undertake a process of review to

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inform its approach to proceeding with the preparation of the *Detailed Business Case*, which will be led by the Queensland Government in partnership with Sunshine Coast Council. Work on the *Detailed Business Case* is currently expected to commence in mid-2021 and be completed in mid-2022. The *Detailed Business Case* process will include extensive community engagement on all detailed aspects of the proposed project.

OFFICER RECOMMENDATION

That Council:

(a) receive and note the report titled "Sunshine Coast Mass Transit Update"

(b) note that a further report will be presented to Council in 2021 to advise the findings of draft *Options Analysis* report including:

- **mass transit technology options and broad options for urban transformation to achieve a more compact urban form, and**
- **seeking approval to undertake a community engagement strategy on the draft report prior to its consideration by Council.**

(c) receive and note the principles and milestones for a comprehensive community engagement framework as described in Appendix A.

FINANCE AND RESOURCING

The preparation of the draft *Options Analysis* is being funded through the Transport Levy allocation from the budget. A total of $3,360,916 was allocated for this work in 2019/2020.

The 2020/2021 budget allocates $3,000,000 from the Transport Levy. A further $4,500,000 is foreshadowed in the 2021/2022 budget, as per the agreement with the Queensland Government. This will be matched by $7,500,000 from the Queensland Government.

CORPORATE PLAN

Corporate Plan Goal:	***A strong community***
Outcome:	1.4 - People and places are connected
Operational Activity:	1.4.1 - Implement priority activities from the Integrated Transport Strategy 2018.

CONSULTATION

Councillor Consultation

A Sunshine Coast Mass Transit Cross Departmental Working Group was established in August 2018 to steer the Sunshine Coast Mass Transit Project.

The Working Group was comprised of:

- Mayor M Jamieson
- Former Deputy Mayor Councillor T Dwyer
- Portfolio Councillor R Baberowski – Transport, the Arts and Heritage
- Portfolio Councillor C Dickson – Planning and Development
- Portfolio Councillor P Cox – Place Development and Design
- Former Division 4 Councillor J Connolly
- Division 8 Councillor J O'Pray

The Working Group was convened six times, with the most recent meeting being held on 20 January 2020.

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Following the March 2020 election, the Working Group was reformed as the Sunshine Coast Mass Transit Project Control Group comprising:

- Mayor M Jamieson
- Deputy Mayor and Community (Transport) Portfolio Councillor R Baberowski
- Environment and Liveability (Place making) Portfolio Councillor P Cox
- Service Excellence Portfolio Councillor C Dickson.

The Project Control Group convened on 8 July 2020.

A series of Councillor workshops on the Sunshine Coast Mass Transit business case process were held during the period from early 2018 to July 2020.

Internal Consultation

Also present on the Sunshine Coast Mass Transit Project Control Group are:

- Chief Executive Officer
- Chief Strategy Officer
- Group Executive Liveability and Natural Assets
- Group Executive Customer Engagement and Planning Services
- Manager Transport and Infrastructure Planning.

External Stakeholder Engagement

A Business Case Reference Group has been established to guide and provide input to, and monitor the preparation of, the business case.

Participants in this reference group include:

- Infrastructure Australia (Commonwealth Government)
- Commonwealth Department of Infrastructure, Transport, Regional Development and Communications
- Queensland Department of Premier and Cabinet
- Queensland Department of State Development, Manufacturing, Infrastructure and Planning (the relevant parts of which are now in Queensland Treasury)
- Building Queensland (Queensland Government)
- Queensland Treasury
- Queensland Department of Transport and Main Roads.

Community Engagement

Both the *Strategic Business Case* and the draft *Options Analysis* integrate the results of significant previous community consultation undertaken by Council in relation to transport policy and, in particular, mass transit proposals in 2012, 2014 and 2018, as outlined below.

2012 – The *Line in the Sand* Report

Council's *Line in the Sand* process included a broadly representative community taskforce, supported by expert advisers from Council. The process canvassed six technology options for a mass transit system as a game changer for the Sunshine Coast. An online consultation hub, launched in January 2012, attracted more than 2,900 visits and 228 people took part in the poll on the hub. The recommended proposal for light rail on the Sunshine Coast was supported by 82 per cent of those who completed the poll.

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2014 – Sunshine Coast Light Rail – route options

Consultation was undertaken in late 2014 based on a detailed Route Options and Impact Assessment report. The report covered both transport needs and city shaping opportunities. As a result of consultation more than 700 people had their say on light rail route options proposed for Maroochydore, Mooloolaba, Kawana and Caloundra. The vast majority (87 per cent) supported Council's investigations into light rail and their feedback contributed to the selection by Council of a preferred route for further study.

2018 – Draft Integrated Transport Strategy

Council undertook market research and community consultation between November 2017 and July 2018 to help shape the *Integrated Transport Strategy*, which was released in early 2019. Key findings from the market research and community consultation relevant to the Sunshine Coast Mass Transit Project have been integrated with the business case workings.

Other consultation

Consultation on the broad need for improved transport connections and a more compact urban form was embodied in:

- The Regional Economic Development Strategy released in 2013
- The Sunshine Coast Planning Scheme adopted in 2014
- The Environment and Liveability Strategy released in 2017
- The Sunshine Coast Community Strategy released in 2019.

The Queensland Government also undertook community consultation in relation to the extent and form of dwelling and employment provision on the Sunshine Coast to 2041 as part of the preparation of *ShapingSEQ* - the South East Queensland Regional Plan - released in 2017.

Future consultation

Since it was known the *Detailed Business Case* phase would definitely occur by virtue of the Premier's announcement in May 2020, project planning was based on the detailed community engagement occurring during the *Detailed Business Case* phase, when there is more in depth knowledge of the project and its impacts. It was felt most of the consultation on the directions and issues and the need for the project had been undertaken in the extensive consultation processes surrounding the Planning Scheme, the SEQ Regional Plan and the suite of key strategies approved by Council in the past 5 years. This planning was also cognisant of the fact there are precedents whereby the State does not typically engage the broader community on the *Preliminary Business Case* phase of the business case process. Instead a strategy of making the business case reports public was adopted, with an opportunity for people to provide feedback if desired.

The approach of leaving community engagement to the *Detailed Business Case* phase was advised to Council in reports made to it in July 2019 and January 2020.

However consideration of the importance of the Sunshine Coast Mass Transit Project to the region's future, and its relationship to broader growth management planning has led to a review of that approach. As a result, community engagement on the mass transit technology options and broad options for urban transformation to achieve a more compact urban form is recommended for 2021 to inform Council's consideration of the draft *Options Analysis*.

Commented [JC2]: This assumes we are consulting the community and then seeking Council endorsement of the *Options Analysis* as the basis for it being provided to the State. Should we say the bit highlighted unless and until we're clearer about how we are going to proceed?

As previously advised in Council reports of July 2019 and January 2020, further detailed community engagement on all aspects of the Sunshine Coast Mass Transit Project is expected to be part of the *Detailed Business Case* phase, which will be led by the Queensland Government in partnership with Council and is likely to occur in 2021/22. When the Queensland Government has determined its approach to the *Detailed Business Case*, a further report will be made to Council to confirm the scope and program for the *Detailed Business Case*, including the nature and timing of community engagement in relation to the

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reference project design for the mass transit system and the detail of the urban transformation components (with the latter to be led by Council).

PROPOSAL

Introduction

Over the past 20 years, the population of the Sunshine Coast has grown by 125,500 people or 67.7 per cent, at an average of 2.8 per cent per year. By comparison, Queensland's population grew by only 35 per cent at an average of 2 per cent per year over the same period. The region's population is projected to continue to grow strongly, reaching 518,000 in 2041 and more than 600,000 by 2050.

The region is heavily dependent on car transport and continues to rapidly expand its urban boundaries. Public transport use is very low, and the current system, while suited a provincial town, cannot cope with the requirements of a major city region that the Sunshine Coast is rapidly growing into. This gives rise to major challenges in managing growth over the next three decades. Population growth and increasing congestion will continue to put pressure on housing, transport, lifestyle, employment, social infrastructure and the environment. There is a real risk of a vicious circle developing as shown opposite, diminishing the very qualities of the region that make it an attractive place to live and visit.



Current policy framework

The Sunshine Coast Regional Economic Development Strategy 2013 included extensive stakeholder and community engagement. It provided a blueprint secure the New Economy as the region grows through:

- securing high levels of investment and grow enduring employment opportunities
- investing in its communities and deliver the essential infrastructure and services that communities require
- preserving the lifestyle and environment that is so highly valued by the Sunshine Coast.

The Strategy defined an *Enterprise Corridor* - stretching primarily along the coastal strip from north of the Sunshine Coast Airport to Caloundra South and bounded to the west by the Bruce Highway. The Enterprise Corridor will represent the key area for commercial and residential growth over the next 20 years and provide the location for many of the high-value industries to establish, expand and mature. Recognising the importance of connecting businesses to each other and to their workforce, it contained an action by 2018 to:

> "Identify and preserve future priority public transport corridors to connect major business, tourism, education and population centres within the Enterprise Corridor."

With action approved by Council on 23 April 2015 to *confirm the recommended light rail route corridor with which to proceed to more detailed feasibility and business case studies,* and the previous actions by the Department of Transport and Main Roads to declare the CAMCOS corridor as a future public transport corridor, this action is completed. The current Sunshine Coast Mass Transit business case development process takes the provision of suitable infrastructure to the next step.

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The Sunshine Coast Planning Scheme 2014 was produced on the basis of very detailed and extensive community engagement as provided by the (then) *Sustainable Planning Act 2009*. It provides a clear plan for managing growth until 2031. The scheme conveys a specific set of policies aimed at managing growth under Section 3.2 – Strategic Intent (p 3.3):

> "The pattern of settlement is characterised by well-defined urban and rural residential areas and the progressive transition towards a more compact, efficient and functional urban form.
>
> The majority of new growth is located in the Sunshine Coast Enterprise Corridor, within and surrounding the mixed use regional activity centres of Maroochydore, Caloundra, Kawana and Sippy Downs and in the emerging communities of Palmview, Kawana Waters and Caloundra South.
>
> Significant new growth is also located in Nambour as the dominant major regional activity centre serving hinterland areas.
>
> Major development areas at Maroochydore, Kawana Waters, Palmview and Caloundra South provide integrated, well planned communities which showcase sustainable development, affordable living and align infrastructure delivery with development.
>
> These major developments are the keystones for the shift towards a more sustainable and transit supportive pattern of settlement.
>
> Over time and in conjunction with more detailed local planning initiatives there is an increase in the intensity of development and the proportion of the population living along the Maroochydore to Caloundra Priority Transit Corridor.
>
> This corridor links regional activity centres and the major development areas, and is part of the integrated transport system for the Sunshine Coast.
>
> Other opportunities for infill development are provided in selected locations throughout the urban fabric, although many established low density residential neighbourhoods are retained in their current form in recognition of the high quality lifestyle and character offered by these areas.
>
> Outside of defined urban and rural residential areas, rural and natural areas are protected and enhanced for their rural enterprise, landscape and environmental values. These areas separate the Sunshine Coast from other parts of metropolitan South East Queensland and provide the landscape setting and biological diversity for which the Sunshine Coast is renowned."

The Planning Scheme also provides a range of policies and provisions to ensure a distinct Sunshine Coast urban form is fostered. For example at:

- *Section 3.3.1. - Strategic outcomes for the settlement pattern*

  (f) The form and structure of new and consolidated urban areas contributes to the achievement of a more compact urban form and an effective and efficient transport network that supports increased use of walking, cycling and public transport and has a positive influence on the community's physical activity and health in general.

  (g) affordable, attractive and diverse living opportunities are provided with convenient access to integrated transport, employment, community, education, health, sport, recreation and other services. A range of housing choices are provided in locations that are close to activity centres and active and public transport. Housing is designed to be adaptable and reduce current costs.

- *Section 3.3.2. Element 1 -Character, lifestyle and environment attributes:*

  (ii) maintaining a settlement pattern and encouraging built form that is distinct to the Sunshine Coast and which avoids prominent symbols and negative attributes of

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> *larger metropolitan areas (i.e. undistinguishable tracts of urban sprawl and oversized transport corridors with bare acoustic walls and signage);*

The Queensland Government's South East Queensland Regional Plan 2017 (*ShapingSEQ*) sets a 50-year vision for the South East Queensland region to be globally positioned as a unique sub-tropical living environment. Specifically, its plan for the next 25 years aims to build on the strength of the Sunshine Coast region by:

- focusing 62 per cent of new residential development in the existing urban area
- prioritising public transport and active transport (i.e. walking and cycling)
- providing region-shaping infrastructure to increase accessibility and productivity.

To help achieve these objectives, *ShapingSEQ* at page 122 identifies an urban corridor from Maroochydore to Caloundra, supported by a high frequency passenger transport service. This would result in the urban corridor between Maroochydore and Caloundra becoming a cohesive collection of distinctive, high-quality urban environments that are typically 'Sunshine Coast' in character and which optimise accessibility to future passenger services. Mixed use development opportunities, housing choice and affordability, would also be promoted.

The Sunshine Coast Environment and Liveability Strategy 2017 was also the subject of extensive community engagement. It provides council's response to a rapidly changing world there will be many challenges and opportunities for the Sunshine Coast way of life – increasing population, changing climate, economic growth and emerging technologies.

The timely delivery of an effective and efficient transport network underpins the strategic directions of the Environment and Liveability Strategy. It also noted the need to manage and consolidate urban growth in order to protect the regions lifestyle and natural assets (p 46):

> "Currently 70% of our residents live along the coastline putting significant pressure on the built and natural environment in this narrow strip and challenging our ability to maintain the relaxed lifestyle, protect assets from coastal hazards and retain the connection with the natural environment that is so highly valued.
>
> It is anticipated that the future growth will predominately be located in the coastal area with an emphasis on infill development transitioning to more consolidated urban form supported by appropriate infrastructure, such as a light rail system, facilities and services. Creating a new way of living and minimising impacts on our natural environment.
>
> Future development will be modelled on the principles of self-containment and sustainability encouraging walking, cycling and access to employment, transport, open space and services."

The Sunshine Coast Integrated Transport Strategy 2019 was also the subject of extensive community engagement. It established the major transport challenges facing the region as it grows, and set key targets to reduce the dominance of private motor travel and increase sustainable transport modes. At page 43 the Strategy provided a High Frequency Public Transport Network Plan for 2041. This included a *Priority Transport Project* to improve public transport:

> "Sunshine Coast Light Rail (Federal / State / Council). Council is developing a business case for the Light Rail project to submit to the State Government. Light rail could provide a high-frequency transit solution extending initially from the Sunshine Coast Airport, through Maroochydore and the Sunshine Coast University Hospital precinct to Caloundra and then beyond. It will serve the Enterprise Corridor where population and employment growth are expected to increase significantly."

The Transport Strategy further noted (p 30):

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> "Consolidated and compact urban form around activity and employment centres and along major transport corridor nodes, will generally make it easier to service from public transport (including high-frequency passenger transport) and may assist in increasing public transport patronage and visibility."

The Sunshine Coast Community Strategy 2019 was developed with extensive community engagement. It notes the Sunshine Coast is experiencing a transformation from a regional centre to a regional city, reflecting deeply entrenched trends in the Australian society that are seeing attractive coastal cities continue to grow.

The Community Strategy advised that one key priority the community expected of council was to work with other levels of government to develop innovative responses to public transport and mobility options, as well as housing affordability and homelessness. At page 31 it includes an action to:

> "Collaborate and partner with government, community and relevant sectors to find solutions to transport challenges, and encourage travel behaviour change from a reliance on vehicle use to more sustainable means of transport."

Sunshine Coast Council's Corporate Plan 2020 to 2024 conveys a vision for the Sunshine Coast as *Australia's most sustainable region. Healthy. Smart. Creative.* Based on the growth management and transport issues noted above, a step change in public transport is required to set the Sunshine Coast on a path to sustainable transport and urban development. The Corporate Plan notes (p 28):

> "Council is continuing to build its case for the development of an integrated mass transit system to service the Sunshine Coast's growing population.
>
> While other levels of government are accountable for many elements of the transport system, Council is willing to be a catalyst for improvement and innovation where it contributes to the sustainability of the region. As a key example of this, Council is continuing to build its case for the development of an integrated mass transit system to service the Sunshine Coast's growing population."

Coastal hazards adaptation. The first stage of the Sunshine Coast Mass Transit is proposed to traverse the coastal corridor from Maroochydore to Sunshine Coast University Hospital, an area subject to possible coastal hazards. Council is preparing ***"Our Resilient Coast. Our Future."*** - a long-term strategy to help manage the impacts of coastal hazards. Coastal hazards include erosion of beaches, and short or long-term seawater inundation of land along the coastline.

The strategy aims to better understand coastal hazards, to reduce impacts on the coastline and its communities, and to enhance the resilience of the coastline over time. The strategy is expected to be completed in 2022. Its outputs will inform planning for the Sunshine Coast Mass Transit, potentially affecting:

- Statutory planning (future land use zoning)
- Development controls in areas that may be impacted by coastal hazards in the future
- Infrastructure and asset planning and management, including public and community facilities
- Emergency and disaster response
- Environmental and cultural management and protection
- Financial forecasting and budgets.

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Business Case Process and Phasing

A major investment in mass transit will require significant funding from the Queensland Government and most likely, the Australian Government. To qualify for major capital funding, a formal business case process must be followed. Council has therefore undertaken its business case process for Sunshine Coast Mass Transit in accordance with the guidelines issued by the Queensland and Australian governments.

Business case frameworks

Business cases for major infrastructure projects In Queensland are undertaken in accordance with Building Queensland's Business Case Development Framework. The preparation of business cases under this framework allows for consideration of the project in the Queensland Infrastructure Pipeline. This identifies endorsed Queensland Government infrastructure proposals that are unfunded for delivery with a minimum capital cost of $50 million. This is an essential step in the project being considered for future capital funding from the Queensland Government.

The Building Queensland Business Case Development Framework was updated in April 2020, when much of the work on the *Preliminary Business Case* for Sunshine Coast Mass Transit had already been completed. Accordingly Building Queensland agreed Council should generally retain the previous terminology, while recognising the changes in the new framework. Table 1 shows the previous and new terminology for the various business case phases. To reflect the new framework, the subject document prepared by council has now been termed the draft *Options Analysis*.

Previous terminology	New terminology (from April 2020)
Strategic Business Case	*Strategic Assessment*
Preliminary Business Case	*Options Analysis*
Detailed Business Case	*Detailed Business Case*

Table 1. Previous and new phasing terminology applied by Building Queensland

Australian Government infrastructure investment priorities are informed by Infrastructure Australia. Proposals requesting significant capital funding from the Australian Government also need to satisfy the requirements of Infrastructure Australia's *Business Case Assessment Framework*. In practice it is possible to orient the Queensland Business Case Development Framework work on a business case to also meet Infrastructure Australia's requirements, which is the approach being adopted for the Sunshine Coast Mass Transit Project.

The Council team has maintained close liaison with both Building Queensland and Infrastructure Australia to ensure the business case workings meet the requirements of their respective business case frameworks. This will continue throughout the *Detailed Business Case* phase.

The *Strategic Business Case* is completed

The *Strategic Business Case* (now called *Strategic Assessment*) is to define a problem or opportunity that needs to be addressed, identify potential ideas that could resolve the issues or develop the opportunity, and evaluate whether any of the ideas have the potential to be viable options. It aims, *inter alia*, to establish that there is a need for a project. The *Strategic Business Case* was approved by Council on 25 July 2019 and has been transmitted to relevant Queensland and Australian Government agencies. The feedback of these agencies has guided the work on developing the draft *Options Analysis*. Following its approval by Council, the full *Strategic Business Case* was made public through the project's website.

The draft *Options Analysis* is nearing completion

The second phase, the draft *Options Analysis*, aims *"to narrow the breadth of options by applying rigorous evaluation criteria before assessing the viability of any remaining options"*. It aims, *inter alia*, to define a project that can address the problems and shortlist viable

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options. Although still a preliminary planning phase, it represents a significant body of work and requires investigations that span engineering, environmental, urban planning and economic and financial analyses.

A partnership to prepare the *Detailed Business Case*

The final phase is the *Detailed Business Case*, which aims to "to evaluate the viability of the highest ranked option/s with surety of outcomes across all evaluation criteria and develop investment implementation plans". The means inter alia defining the detail of the project and recommending a tightly specified reference project option, based on evidence that the desired benefits will be realised and the project can be delivered for the estimated cost. On 8 May 2019 an announcement was made by the Premier and Minister for Trade, the Honourable Annastacia Palaszczuk and the Minister for Transport and Main Roads, the Honourable Mark Bailey, advising that *"a contribution of up to $7.5 million by the State Government would be matched by Council to help develop a detailed business case for the first stage of an integrated urban public transport solution for the Coast, including pricing options for light rail".*

Provision was made in the 2019-20 State budget papers for the *Detailed Business Case* to be funded over the current and following financial years. The *Detailed Business Case* will be led by the Queensland Government, working in a close partnership with the Sunshine Coast Council. It will take about 18 months to prepare. Deliverables from the *Detailed Business Case* will include:

- Costs and benefits estimated to P 90 confidence level, meaning there is only a 10 per cent chance or less that the cost estimates will be exceeded
- A detailed reference project design that can be used to underpin procurement of providers to implement the project
- Updated land use forecasting to support demand and benefits assessment
- Extensive stakeholder and community consultation
- A recommended delivery model to build and operate the reference project.

Options for major new investment in mass transit

The *Strategic Business Case* recommended that a first stage of mass transit delivered in the Priority Area 1 from Maroochydore to the Sunshine Coast University Hospital precinct was the best option for the future development of an integrated urban public transport solution for the Sunshine Coast, as depicted in Figure 2.

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Figure 2. : Geographic breakdown and focus areas for a Sunshine Coast Mass Transit solution

As a result of the *Strategic Business Case* findings, the options being evaluated in the draft *Options Analysis* will consider the technologies and initiatives that could feasibly be delivered to realise the benefits sought from the project, in the identified Priority Area 1 project corridor.

It should be noted that an option of heavy regional rail, along the lines operated by Queensland Rail, cannot feasibly and safely be installed in the Priority Areas 1 and 3, due to the need for full grade separation, and the mismatch between the heavy engineering and amenity impact of a heavy rail system compared to objectives for a high quality living environment. Heavy regional rail does however remain an option for future stages of the mass transit system in Priority Areas 2, 4 and 5 which have the benefit of a preserved rail corridor and are generally not as closely encroached by urban development.

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An Interim Findings Report received by Council in January 2020 advised the Stage 1 technology options considered in the options assessment process for the draft *Options Analysis* are:

1 Region-wide bus service enhancements, with no infrastructure improvements

2 Region-wide bus network upgrades, with supporting bus priority measures

3 Road network upgrades in the Sunshine Coast Urban Corridor

4 Quality Bus Corridor in Priority Area 1

5 Bus Rapid Transit in Priority Area 1

6 Light Rail Transit in Priority Area 1.

Based on the results of the Multi-criteria Assessment, the following options were recommended for progression in the draft *Options Analysis* to undergo economic analysis and more detailed assessment:

Option 6 – Light Rail Transit

Option 5 – Bus Rapid Transit

Option 4 – Quality Bus Corridor.

Legal

There are no legal implications arising from this report as this is the preliminary stage of the business case process.

Policy

This report is consistent with Council's policy directions as articulated in:

- Corporate Plan 2020 -2024
- Sunshine Coast Regional Economic Development Strategy 2013-2033
- Sunshine Coast Planning Scheme 2014
- Sunshine Coast Environment and Liveability Strategy 2017
- Sunshine Coast Integrated Transport Strategy 2018
- Sunshine Coast Community Strategy 2019-2041.

Risk

There are two primary categories of risk to be managed for a major investment project:

- process risks
- project risks.

Process risks are risks that affect the process of advancing the project through the current and future phases. Process risks do not necessarily have a direct impact on the cost to deliver the infrastructure project. However, process risks may have significant time, reputation and management cost impacts.

A **process risk register** has been prepared and is being reviewed and updated as the business case proceeds. It includes risk ratings and mitigation strategies. The key process risks that will continue to be managed include:

- timing and funding conflicts with other related projects
- lack of alignment between the three levels of government

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- the project narrative for a new mass transit system for the region is not compelling enough to secure funding
- the benefits of the project may be judged by government as less than the costs
- listing of the Sunshine Coast Mass Transit Project on Building Queensland and/or Infrastructure Australia's pipeline reports and infrastructure priority lists is not obtained after completion of the *Detailed Business Case*.

All these risks can be mitigated by close involvement of the relevant State and Commonwealth agencies in the preparation of the *Detailed Business Case*, and this already forms part of the current project governance and working arrangements.

Project risks are risks that could affect the outcomes of the project and have a range of potential impacts including time, cost, quality, health and safety, reputation and environment. The understanding of the project risks will change as the project proceeds and the assessment of project risks will need to be regularly reviewed and updated to reflect the current status of the project. Key project risks identified thus far are shown in Table 4 below.

Risk	Consequences	Mitigation
Construction risks, including undetected hazards, undetected public utilities, poor soil conditions, the presence of rock, and additional works that were not anticipated in the planning phases.	Unexpected service relocation costs and engineering scope increases, resulting in the project exceeding time and budget constraints. Reputation damage.	Desktop and field investigations to identify potential service conflicts, and inclusion of mitigation works in the "P 50" risk adjusted cost estimates, and third party agreements between the principal and the service providers to establish required service upgrades, funding and delivery responsibilities ahead of engagement of the constructing contractor.
Operating risks including failure to meet ridership projections, and failure of the mass transit technology to perform as specified.	Ongoing additional costs to government, and reputation damage, especially if the mass transit technology is prone to breaking down.	Plan for maximum convenience for passenger access. Adopt only proven mass transit technology that has been found to perform reliably.
Safety risks including the mass transit technology not meeting requirements of Australian standards and safety regulation regimes.	System cannot operate safely and either causes accidents or is not permitted to operate. Injury, loss of life and reputation damage	Adopt only proven mass transit technology that has been found to perform reliably and safely and is able to obtain safety accreditation in Australia.
Integration risks whereby suitable urban renewal does not occur in the project catchment, and urban expansion outside the catchment continues.	Less people would reside in the project catchment and the mass transit would be less effective and may not serve the Sunshine Coast's population well enough.	Undertake comprehensive urban corridor planning and community consultation as part of the *Detailed Business Case* to support urban transformation.

Table 4. Key project risks identified in *Preliminary Business Case* phase

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Previous Council Resolution

Ordinary Meeting 30 January 2020 (OM20/3)

That Council:

*(a) receive and note the report titled "**Sunshine Coast Mass Transit - Update**" and*

(b) note the findings of the attached report entitled "Sunshine Coast Mass Transit Preliminary Business Case – Interim Findings Report" (Appendix A).

Ordinary Meeting 25 July 2019 (OM19/102)

That Council:

(a) receive and note the report titled "Sunshine Coast Mass Transit Update"

(b) endorse the Strategic Business Case for Sunshine Coast Mass Transit at Appendix A, for the purpose of facilitating further consideration by relevant State and Federal Government agencies

(c) refer the Strategic Business Case for Sunshine Coast Mass Transit and in the form of a completed "Infrastructure Australia Stage 1 Template" to Infrastructure Australia for its consideration and inclusion in the Infrastructure Priority List, and advise Infrastructure Australia of the intention to complete a Preliminary Business Case

(d) refer the Strategic Business Case for the Sunshine Coast Mass Transit to Building Queensland for its consideration and inclusion in the Infrastructure Pipeline, and advise Building Queensland of an intention to complete a Preliminary Business Case

(e) refer the Strategic Business Case for the Sunshine Coast Mass Transit to other relevant government agencies including Transport and Main Roads and Queensland Treasury, and advise the agencies an intention to complete a Preliminary Business Case

(f) update the project website to provide access to the Strategic Business Case and a summary of the Strategic Business Case.

Ordinary Meeting 23 April 2015 (OM15/59)

That Council:

(a) authorise the Chief Executive Officer to proceed in accordance with the direction given in confidential session

(b) confirm the recommended light rail route corridor with which to proceed to more detailed feasibility and business case studies

(c) confirm support for progressing the establishment of a high frequency branded forerunner bus in conjunction with the State Government

(d) authorise the Chief Executive Officer to write to the Minister for Transport outlining the findings of the Sunshine Coast Light Rail Route Options Consultation Report and the recommended route and seeking their support for progressing with more detailed feasibility and business case studies and

(e) authorise the Chief Executive Officer following completion of (d) above to release the findings on the Sunshine Coast Light Rail Route Options Consultation Report.

Related Documentation

Refer to the project website at https://www.sunshinecoast.qld.gov.au/Council/Planning-and-Projects/Major-Regional-Projects/Sunshine-Coast-Mass-Transit-Project or simply search "sunshine coast mass transit" online.

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Critical Dates

No critical dates are relevant to this report. However the increasing trend towards urban expansion can only be effectively reversed by timely action to implement the responses recommended in the draft *Options Analysis*.

The timing recommended by the *Strategic Business Case* for future stages is shown in table 5 below.

Table 5. Timelines for Sunshine Coast Mass Transit

Project Phase	Dates
Strategic Business Case	Completed
Options Analysis - Stage 1 of the mass transit system	Receive by Council in early 2021 for community engagement. Finalise mid 2021 following engagement
Detailed Business Case - Stage 1 of the mass transit system	2021 & 2022, with community engagement likely in 2022
Investment Decision and Procurement - Stage 1 of the mass transit system	By end 2023 (indicative and subject to State and Commonwealth funding approval)
Delivery of Stage 1 of the mass transit system	By 2027 (indicative)

Implementation

Should the recommendation be accepted by Council, it is noted that the Chief Executive Officer will:

- Finalise the *Options Analysis* under the new Building Queensland Template, and present the draft report to Council in early 2021
- Prepare a comprehensive community engagement strategy as outlined in Appendix A, to address mass transit technology options and broad options for urban transformation to achieve a more compact urban form, within the context of the range broader strategic and interconnected issues (such as the regional planning directions, urban growth challenges, coastal hazard responses, integrated transport planning and infrastructure sequencing) to enable a full appreciation of all of these elements as part of progressing further with the *Options Analysis*
- Update the project website.

RTI RELEASE Sunshine Coast Council

From: Ken Deutscher
Sent: Wednesday, 19 August 2020 8:33 AM
To: James Coutts
Cc: Chris Allan
Subject: RE: Draft report for Special Meeting re SCMT

OK will do.

From: James Coutts
Sent: Wednesday, 19 August 2020 8:25 AM
To: Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>
Cc: Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Samantha Reeves <Samantha.Reeves@sunshinecoast.qld.gov.au>
Subject: RE: Draft report for Special Meeting re SCMT

Hi Ken,
Yes, I agree with Bill's additional content and comments.
Could you please revise the report accordingly.
Cheers, James.

James Coutts | Program Director Urban Growth
Urban Growth Projects
Liveability and Natural Assets Group | Sunshine Coast Council

Phone: 07 5420 8095
Mobile: s.47(3)(b)
Mailcode: CR17
Email: james.coutts@sunshinecoast.qld.gov.au
Website: www.sunshinecoast.qld.gov.au

Mail: Locked Bag 72 Sunshine Coast Mail Centre Qld 4560

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RTI RELEASE
Sunshine Coast Council

From: Ken Deutscher
Sent: Wednesday, 19 August 2020 6:33 AM
To: Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>; James Coutts <james.coutts@sunshinecoast.qld.gov.au>
Cc: Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Samantha Reeves <Samantha.Reeves@sunshinecoast.qld.gov.au>
Subject: RE: Draft report for Special Meeting re SCMT

James:

Let me know if you wish me to proceed with integrating these changes or await further review from yourself and/ or other senior staff.

I note and agree with Bill's comments regarding the CHAS. That was included as the A/CEO included coastal hazards as part of the context in his memo to Councillors. That risk certainly occurred to me. I think his suggestion is a better way to go.

Best regards

Ken Deutscher
Project Manager Mass Transit
Urban Growth Projects
Liveability and Natural Assets Group
Sunshine Coast Regional Council
+61 s.47(3)(b)

RTI RELEASE
Sunshine Coast Council

From: Bill Haddrill
Sent: Tuesday, 18 August 2020 11:53 PM
To: James Coutts <james.coutts@sunshinecoast.qld.gov.au>
Cc: Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Samantha Reeves <Samantha.Reeves@sunshinecoast.qld.gov.au>
Subject: RE: Draft report for Special Meeting re SCMT

Folks,

Apologies for delay in providing a response. Please find attached comments in track changes on the draft report for your consideration.

I have also attached some draft introductory comments I am preparing for an upcoming Growth Management Workshop with Council as part of a series of workshops to develop the new Corporate Plan. I have drawn content from a range of sources, some of which you will recognise that seeks to tell the story around our approach to growth management simply. It is at a high level and does not get into the individual components of our growth management framework, that will come later.

Anyway happy for you to use it to support development of your report as you see fit. Would also appreciate any comments you may have on the draft.

Happy to discuss further as required.

Cheers
Bill

Chief Strategy Officer - Sunshine Coast Council
Phone 07 5451 6505

Mob s.47(3)(b)

From: James Coutts
Sent: Monday, 17 August 2020 6:27 PM
To: Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>
Cc: Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>
Subject: Draft report for Special Meeting re SCMT

Hi Bill,
As mentioned in this afternoon's meeting, please find attached the latest version of the report for the Special Meeting on 27 August 2020, ready for your input in relation to the growth management approach (hopefully) being confirmed through your Corporate Plan workshops with the Councillors.
Craig, you are most welcome to start your process of revision, but equally understand you might prefer to await the addition of Bill's content.
You'll notice I have posed some questions (in margin comments) about what we say in relation to the timing of consultation activities.
Cheers, James.

James Coutts | Program Director Urban Growth
Urban Growth Projects
Liveability and Natural Assets Group | Sunshine Coast Council

Phone: 07 5420 8095
Mobile: s.47(3)(b)
Mailcode: CR17
Email: james.coutts@sunshinecoast.qld.gov.au
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Mail: Locked Bag 72 Sunshine Coast Mail Centre Qld 4560

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RTI RELEASE
Sunshine Coast Council

From: Ken Deutscher
Sent: Wednesday, 19 August 2020 10:52 AM
To: Chris Allan; James Coutts; Nick Cooney
Cc: Leah Bancroft; Bill Haddrill
Subject: FW: Draft report for Special Meeting re SCMT
Attachments: Draft Report for Council Special Meeting on SCMT 27 August 2020 - BH Comments 18 Aug 2020.DOCX; Draft Report for Council Special Meeting on SCMT 27 August 2020 - incorporates BH comments.DOCX

Dear all:

The second attachment responds to Bill's comments. I didn't track changes as wanted to keep this clean as we may have to load it quickly.

Bill's original remains attached. I've taken on board all his comments…..trust me!

I will leave it to Chris to rule on the timing in the light of Craig's recent suggestions.

Nick: this is a fast moving item. If you have time provide feedback today, it would be greatly appreciated, but I know you are busy.

Best regards

Ken Deutscher
Project Manager Mass Transit
Urban Growth Projects
Liveability and Natural Assets Group
Sunshine Coast Regional Council
+61 407 559 911

RTI RELEASE
Sunshine Coast Council

From: Bill Haddrill
Sent: Tuesday, 18 August 2020 11:53 PM
To: James Coutts <james.coutts@sunshinecoast.qld.gov.au>
Cc: Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Samantha Reeves <Samantha.Reeves@sunshinecoast.qld.gov.au>
Subject: RE: Draft report for Special Meeting re SCMT

Folks,

Apologies for delay in providing a response. Please find attached comments in track changes on the draft report for your consideration.

I have also attached some draft introductory comments I am preparing for an upcoming Growth Management Workshop with Council as part of a series of workshops to develop the

new Corporate Plan. I have drawn content from a range of sources, some of which you will recognise that seeks to tell the story around our approach to growth management simply. It is at a high level and does not get into the individual components of our growth management framework, that will come later.

Anyway happy for you to use it to support development of your report as you see fit. Would also appreciate any comments you may have on the draft.

Happy to discuss further as required.

Cheers
Bill

Chief Strategy Officer - Sunshine Coast Council
Phone 07 5451 6505
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8.2 SUNSHINE COAST MASS TRANSIT UPDATE

File No: **Council meetings**

Author: **Project Manager**
Liveability & Natural Assets Group

PURPOSE

The purpose of this report is to:

1. Advise Council of the progress made in preparing a business case for Sunshine Coast Mass Transit, in particular the *Options Analysis* phase of the business case process
2. Outline the range of broader strategic and interconnected issues (such as the regional planning directions, urban growth challenges, coastal hazard responses, integrated transport planning and infrastructure sequencing) to enable a full appreciation of all of these elements as part of progressing further with the *Options Analysis*
3. Provide detail on the scope and structure of the *Options Analysis* document as set down in the Queensland Government's business case development framework
4. Present the principles of a comprehensive community engagement framework for council's consideration to support our community's understanding of these challenging issues and to understand their views of the options before us.

EXECUTIVE SUMMARY

Over the past 20 years, the population of the Sunshine Coast has grown by 125,500 people or 67.7 per cent, at an average of 2.8 per cent per year. The region's population is projected to continue to grow strongly, reaching 518,000 in 2041 and more than 600,000 by 2050.

This gives rise to major challenges in managing growth over the next three decades. Population growth and increasing congestion will continue to put pressure on housing, transport, lifestyle, employment, social infrastructure and the environment.

The Sunshine Coast Council has a plan to sustainably manage the projected population growth of the Sunshine Coast over the decades ahead, as conveyed in the Planning Scheme and the range of supporting Council strategies. This plan aims to preserve the Sunshine Coast's character, lifestyle and iconic natural environment as essential contributors to the region's natural (competitive) advantage. But the region's lifestyle, and its valued natural environment are at risk due to very high dependence on private motor vehicle travel, and an increasing trend towards development of new suburbs at the urban fringe as the main way to cater for population growth.

The vision for the Sunshine Coast Mass Transit project is at the heart of the Council's plan to manage growth - *a step change to public transport that can set the region on a path to sustainable transport and urban development*.

Work already done by Council has shown this vision can be achieved through:

- provision of a high quality regional mass transit solution to connect the region's main residential, employment and recreational precincts, supported by an integrated feeder bus and active transport network

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- containing the rate of urban expansion that results in car-based suburban greenfield developments to the agreed expansion areas at Caloundra South, Palmview and Beerwah East
- locating the majority of new housing and jobs in the catchment of the mass transit system, while maintaining a recognisable low key Sunshine Coast character.

The alternative is to see urban sprawl, to continue to provide additional lanes to existing roads, build new roads, and provide major increases in car parking in and around centres and beachside precincts. This alternative would see existing urban areas become places catering more for cars and less for people.

The plan to manage growth and protect our lifestyle is given effect by a broad range of Queensland Government and Sunshine Coast Council policy documents, addressing regional planning directions, urban growth challenges, habitat preservation, Greenhouse responses, coastal hazard responses, integrated transport planning and infrastructure sequencing.

An investment in a regional mass transit solution is a major intervention that can only be delivered by the Queensland Government. Council can partner in this but cannot deliver it.

Council endorsed the first phase of the business case process - the *Strategic Business Case* in July 2019. The purpose of this phase (now known as a *Strategic Assessment* under Building Queensland's April 2020 guidelines) is to define a problem or opportunity that needs to be addressed, identify potential ideas that could resolve the issues or develop the opportunity, and evaluate whether any of the ideas have the potential to be viable options.

The second phase, previously known as the *Preliminary Business Case* and now known as the *Options Analysis* under Building Queensland's updated April 2020 guidelines, aims to "narrow the breadth of options by applying rigorous evaluation criteria before assessing the viability of any remaining options". Work on this phase is all but completed and focusses on the first stage of an integrated urban public transport solution for the region.

As it stands, the draft *Options Analysis* confirms the need for and value of a coordinated mass transit system and a related urban transformation strategy, and identifies the unacceptable consequences of not pursuing this strategy. The draft *Options Analysis* contains an assessment of a shortlist of options for Stage 1 of the mass transit response.

However, it is acknowledged that the draft *Options Analysis* is a large document containing extensive technical content and that it is part of an important broader strategic context connected with a range of urban growth planning policy issues.

With this mind it is important that Council engages with the community to support its understanding of these challenging issues and to understand the views of the Sunshine Coast community about how to best respond to the challenges of growth. To that end, the principles of a comprehensive community engagement framework are provided in attachment A for Council's consideration.

It is planned to present the draft *Options Analysis* in early 2021 as the basis for proceeding with a process of community engagement about the mass transit system and the urban transformation strategy.

Detailed planning in the next phase, as before, known as the *Detailed Business Case*, aims "to evaluate the viability of the highest ranked option/s with surety of outcomes across all evaluation criteria and develop investment implementation plans". It is the final phase in the business case process before funding approval for construction can be obtained.

On 8 May 2019 the Premier and Minister for Trade, the Honourable Annastacia Palaszczuk announced *"a contribution of up to $7.5 million by the State Government would be matched by Council to help develop a detailed business case for the first stage of an integrated urban public transport solution for the Coast, including pricing options for light rail"*.

As and when Council resolves to proceed with endorsing the *Options Analysis* for the transmission to the State Government, the government will undertake a process of review to

Commented [BH1]: Substantially progressed / Nearing completion

Commented [BH2]: Draft analysis undertaken to date indicates the need for and value of a coordinated mass transit system …….

Commented [BH3]: How will the outcomes of any community engagement program be considered, influence and be presented to Council? As part of or alongside of the Draft Options Analysis?

Commented [JC4]: Perhaps best not to say this yet, until the Councillors are happy with the consultation framework.

Commented [BH5]: Is there a simpler way of saying this?

Is it a given that the draft options analysis will proceed to Council or is it pending the outcomes of community engagement?

Commented [BH6]: Are we clear on what the recommendation to Council will be when the draft Options Analysis is presented. As per previous comments, if it is endorsed and the state have changes, can they be made within CEO delegation or would it need to go back to Council for further consideration and approvals?

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inform its approach to proceeding with the preparation of the *Detailed Business Case*, which will be led by the Queensland Government in partnership with Sunshine Coast Council. Work on the *Detailed Business Case* is currently expected to commence in mid-2021 and be completed in mid-2022. The *Detailed Business Case* process will include extensive community engagement on all detailed aspects of the proposed project.

Commented [BH7]: James, if you take out the above comment that you have flagged, you would need to address this comment also as it suggests a timeframe by default.

The project cannot be delayed indefinitely, so for mine it is important to set some time parameters that consultation would occur within prior to proposed timeframes for transmittal to the state, again pending outcomes of community engagement and Council's consideration of the draft Options Analysis.

OFFICER RECOMMENDATION

That Council:

(a) receive and note the report titled "Sunshine Coast Mass Transit Update"

(b) note that a further report will be presented to Council in 2021 to advise the findings of draft *Options Analysis* report including:

- **mass transit technology options and broad options for urban transformation to achieve a more compact urban form, and**
- **seeking approval to undertake a community engagement strategy on the draft report prior to its consideration by Council.**

(c) receive and note the principles and milestones for a comprehensive community engagement framework as described in Appendix A.

FINANCE AND RESOURCING

The preparation of the draft *Options Analysis* is being funded through the Transport Levy allocation from the budget. A total of $3,360,916 was allocated for this work in 2019/2020.

The 2020/2021 budget allocates $3,000,000 from the Transport Levy. A further $4,500,000 is foreshadowed in the 2021/2022 budget, as per the agreement with the Queensland Government. This will be matched by $7,500,000 from the Queensland Government.

CORPORATE PLAN

Corporate Plan Goal: ***A strong community***
Outcome: 1.4 - People and places are connected
Operational Activity: 1.4.1 - Implement priority activities from the Integrated Transport Strategy 2018.

CONSULTATION

Councillor Consultation

A Sunshine Coast Mass Transit Cross Departmental Working Group was established in August 2018 to steer the Sunshine Coast Mass Transit Project.

The Working Group was comprised of:

- Mayor M Jamieson
- Former Deputy Mayor Councillor T Dwyer
- Portfolio Councillor R Baberowski – Transport, the Arts and Heritage
- Portfolio Councillor C Dickson – Planning and Development
- Portfolio Councillor P Cox – Place Development and Design
- Former Division 4 Councillor J Connolly
- Division 8 Councillor J O'Pray

The Working Group was convened six times, with the most recent meeting being held on 20 January 2020.

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Following the March 2020 election, the Working Group was reformed as the Sunshine Coast Mass Transit Project Control Group comprising:

- Mayor M Jamieson
- Deputy Mayor and Community (Transport) Portfolio Councillor R Baberowski
- Environment and Liveability (Place making) Portfolio Councillor P Cox
- Service Excellence Portfolio Councillor C Dickson.

The Project Control Group convened on 8 July 2020.

A series of Councillor workshops on the Sunshine Coast Mass Transit business case process were held during the period from early 2018 to July 2020.

Internal Consultation

Also present on the Sunshine Coast Mass Transit Project Control Group are:

- Chief Executive Officer
- Chief Strategy Officer
- Group Executive Liveability and Natural Assets
- Group Executive Customer Engagement and Planning Services
- Manager Transport and Infrastructure Planning.

External Stakeholder Engagement

A Business Case Reference Group has been established to guide and provide input to, and monitor the preparation of, the business case.

Participants in this reference group include:

- Infrastructure Australia (Commonwealth Government)
- Commonwealth Department of Infrastructure, Transport, Regional Development and Communications
- Queensland Department of Premier and Cabinet
- Queensland Department of State Development, Manufacturing, Infrastructure and Planning (the relevant parts of which are now in Queensland Treasury)
- Building Queensland (Queensland Government)
- Queensland Treasury
- Queensland Department of Transport and Main Roads.

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Community Engagement

Both the *Strategic Business Case* and the draft *Options Analysis* integrate the results of significant previous community consultation undertaken by Council in relation to transport policy and, in particular, mass transit proposals in 2012, 2014 and 2018, as outlined below.

2012 – The *Line in the Sand* Report

Council's *Line in the Sand* process included a broadly representative community taskforce, supported by expert advisers from Council. The process canvassed six technology options for a mass transit system as a game changer for the Sunshine Coast. An online consultation hub, launched in January 2012, attracted more than 2,900 visits and 228 people took part in the poll on the hub. The recommended proposal for light rail on the Sunshine Coast was supported by 82 per cent of those who completed the poll.

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2014 – Sunshine Coast Light Rail – route options

Consultation was undertaken in late 2014 based on a detailed Route Options and Impact Assessment report. The report covered both transport needs and city shaping opportunities. As a result of consultation more than 700 people had their say on light rail route options proposed for Maroochydore, Mooloolaba, Kawana and Caloundra. The vast majority (87 per cent) supported Council's investigations into light rail and their feedback contributed to the selection by Council of a preferred route for further study.

2018 – Draft Integrated Transport Strategy

Council undertook market research and community consultation between November 2017 and July 2018 to help shape the *Integrated Transport Strategy*, which was released in early 2019. Key findings from the market research and community consultation relevant to the Sunshine Coast Mass Transit Project have been integrated with the business case workings.

Other consultation

Consultation on the broad need for improved transport connections and a more compact urban form was embodied in:

- The Regional Economic Development Strategy released in 2013
- The Sunshine Coast Planning Scheme adopted in 2014
- The Environment and Liveability Strategy released in 2017
- The Sunshine Coast Community Strategy released in 2019.

The Queensland Government also undertook community consultation in relation to the extent and form of dwelling and employment provision on the Sunshine Coast to 2041 as part of the preparation of *ShapingSEQ* - the South East Queensland Regional Plan - released in 2017.

Future consultation

Since it was known the *Detailed Business Case* phase would definitely occur by virtue of the Premier's announcement in May 2020, project planning was based on the detailed community engagement occurring during the *Detailed Business Case* phase, when there is more in depth knowledge of the project and its impacts. It was felt most of the consultation on the directions and issues and the need for the project had been undertaken in the extensive consultation processes surrounding the Planning Scheme, the SEQ Regional Plan and the suite of key strategies approved by Council in the past 5 years. This planning was also cognisant of the fact there are precedents whereby the State does not typically engage the broader community on the *Preliminary Business Case* phase of the business case process. Instead a strategy of making the business case reports public was adopted, with an opportunity for people to provide feedback if desired.

The approach of leaving community engagement to the *Detailed Business Case* phase was advised to Council in reports made to it in July 2019 and January 2020.

However consideration of the importance of the Sunshine Coast Mass Transit Project to the region's future, and its relationship to broader growth management planning has led to a review of that approach. As a result, community engagement on the mass transit technology options and broad options for urban transformation to achieve a more compact urban form is recommended for 2021 to inform Council's consideration of the draft *Options Analysis*.

As previously advised in Council reports of July 2019 and January 2020, further detailed community engagement on all aspects of the Sunshine Coast Mass Transit Project is expected to be part of the *Detailed Business Case* phase, which will be led by the Queensland Government in partnership with Council and is likely to occur in 2021/22. When the Queensland Government has determined its approach to the *Detailed Business Case*, a further report will be made to Council to confirm the scope and program for the *Detailed Business Case*, including the nature and timing of community engagement in relation to the

Commented [BH8]: adopted

Commented [BH9]: adopted

Commented [BH10]: What are we trying to achieve by the inclusion of this Future consultation section?

Commented [BH11]: Can we say this? I was of the understanding that the Options Analysis would be transmitted to the state for their gateway review, and if approved, would then proceed to DBC?

Commented [BH12]: This is not strong language. Need to base on clear and objective process, not a feeling.

Commented [BH13]: While potentially an accurate reflection of thinking at the time, this language leaves us and the state open to criticism. Can this content be refined to a more succinct and objective comment about the proposed approach for engagement associated with the DBC.

Commented [JC14]: This assumes we are consulting the community and then seeking Council endorsement of the *Options Analysis* as the basis for it being provided to the State. Should we say the bit highlighted unless and until we're clearer about how we are going to proceed?

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reference project design for the mass transit system and the detail of the urban transformation components (with the latter to be led by Council).

PROPOSAL

Introduction

Over the past 20 years, the population of the Sunshine Coast has grown by 125,500 people or 67.7 per cent, at an average of 2.8 per cent per year. By comparison, Queensland's population grew by only 35 per cent at an average of 2 per cent per year over the same period. The region's population is projected to continue to grow strongly, reaching 518,000 in 2041 and more than 600,000 by 2050.

The region is heavily dependent on car transport and continues to rapidly expand its urban boundaries. Public transport use is very low, and the current system, while suited a provincial town, cannot cope with the requirements of a major city region that the Sunshine Coast is rapidly growing into. This gives rise to major challenges in managing growth over the next three decades. Population growth and increasing congestion will continue to put pressure on housing, transport, lifestyle, employment, social infrastructure and the environment. There is a real risk of a vicious circle developing as shown opposite, diminishing the very qualities of the region that make it an attractive place to live and visit.

Commented [BH15]: Not sure I can recall us referring to the Sunshine Coast as being a provincial town



Current policy framework

Commented [BH16]: It is a long list and lots of detail on the elements of the policy framework. The report would benefit from having some lead in context as to how they all contribute to / and collectively set a direction for urban transformation supported by mass transit solution within the coastal (enterprise) corridor.

The Sunshine Coast Regional Economic Development Strategy 2013 included extensive stakeholder and community engagement. It provided a blueprint secure the New Economy as the region grows through:

- securing high levels of investment and grow enduring employment opportunities
- investing in its communities and deliver the essential infrastructure and services that communities require
- preserving the lifestyle and environment that is so highly valued by the Sunshine Coast.

The Strategy defined an *Enterprise Corridor* - stretching primarily along the coastal strip from north of the Sunshine Coast Airport to Caloundra South and bounded to the west by the Bruce Highway. The Enterprise Corridor will represent the key area for commercial and residential growth over the next 20 years and provide the location for many of the high-value industries to establish, expand and mature. Recognising the importance of connecting businesses to each other and to their workforce, it contained an action by 2018 to:

> "Identify and preserve future priority public transport corridors to connect major business, tourism, education and population centres within the Enterprise Corridor."

With action approved by Council on 23 April 2015 to *confirm the recommended light rail route corridor with which to proceed to more detailed feasibility and business case studies,* and the previous actions by the Department of Transport and Main Roads to declare the CAMCOS corridor as a future public transport corridor, this action is completed. The current Sunshine Coast Mass Transit business case development process takes the provision of suitable infrastructure to the next step.

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The Sunshine Coast Planning Scheme 2014 was produced on the basis of very detailed and extensive community engagement as provided by the (then) *Sustainable Planning Act 2009*. It provides a clear plan for managing growth until 2031. The scheme conveys a specific set of policies aimed at managing growth under Section 3.2 – Strategic Intent (p 3.3):

> "The pattern of settlement is characterised by well-defined urban and rural residential areas and the progressive transition towards a more compact, efficient and functional urban form.
>
> The majority of new growth is located in the Sunshine Coast Enterprise Corridor, within and surrounding the mixed use regional activity centres of Maroochydore, Caloundra, Kawana and Sippy Downs and in the emerging communities of Palmview, Kawana Waters and Caloundra South.
>
> Significant new growth is also located in Nambour as the dominant major regional activity centre serving hinterland areas.
>
> Major development areas at Maroochydore, Kawana Waters, Palmview and Caloundra South provide integrated, well planned communities which showcase sustainable development, affordable living and align infrastructure delivery with development.
>
> These major developments are the keystones for the shift towards a more sustainable and transit supportive pattern of settlement.
>
> Over time and in conjunction with more detailed local planning initiatives there is an increase in the intensity of development and the proportion of the population living along the Maroochydore to Caloundra Priority Transit Corridor.
>
> This corridor links regional activity centres and the major development areas, and is part of the integrated transport system for the Sunshine Coast.
>
> Other opportunities for infill development are provided in selected locations throughout the urban fabric, although many established low density residential neighbourhoods are retained in their current form in recognition of the high quality lifestyle and character offered by these areas.
>
> Outside of defined urban and rural residential areas, rural and natural areas are protected and enhanced for their rural enterprise, landscape and environmental values. These areas separate the Sunshine Coast from other parts of metropolitan South East Queensland and provide the landscape setting and biological diversity for which the Sunshine Coast is renowned."

The Planning Scheme also provides a range of policies and provisions to ensure a distinct Sunshine Coast urban form is fostered. For example at:

- *Section 3.3.1. - Strategic outcomes for the settlement pattern*

  (f) The form and structure of new and consolidated urban areas contributes to the achievement of a more compact urban form and an effective and efficient transport network that supports increased use of walking, cycling and public transport and has a positive influence on the community's physical activity and health in general.

  (g) affordable, attractive and diverse living opportunities are provided with convenient access to integrated transport, employment, community, education, health, sport, recreation and other services. A range of housing choices are provided in locations that are close to activity centres and active and public transport. Housing is designed to be adaptable and reduce current costs.

- *Section 3.3.2. Element 1 -Character, lifestyle and environment attributes:*

  (ii) maintaining a settlement pattern and encouraging built form that is distinct to the Sunshine Coast and which avoids prominent symbols and negative attributes of

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> *larger metropolitan areas (i.e. undistinguishable tracts of urban sprawl and oversized transport corridors with bare acoustic walls and signage);*

The Queensland Government's South East Queensland Regional Plan 2017 (*ShapingSEQ*) sets a 50-year vision for the South East Queensland region to be globally positioned as a unique sub-tropical living environment. Specifically, its plan for the next 25 years aims to build on the strength of the Sunshine Coast region by:

- focusing 62 per cent of new residential development in the existing urban area
- prioritising public transport and active transport (i.e. walking and cycling)
- providing region-shaping infrastructure to increase accessibility and productivity.

To help achieve these objectives, *ShapingSEQ* at page 122 identifies an urban corridor from Maroochydore to Caloundra, supported by a high frequency passenger transport service. This would result in the urban corridor between Maroochydore and Caloundra becoming a cohesive collection of distinctive, high-quality urban environments that are typically 'Sunshine Coast' in character and which optimise accessibility to future passenger services. Mixed use development opportunities, housing choice and affordability, would also be promoted.

The Sunshine Coast Environment and Liveability Strategy 2017 was also the subject of extensive community engagement. It provides council's response to a rapidly changing world there will be many challenges and opportunities for the Sunshine Coast way of life – increasing population, changing climate, economic growth and emerging technologies.

The timely delivery of an effective and efficient transport network underpins the strategic directions of the Environment and Liveability Strategy. It also noted the need to manage and consolidate urban growth in order to protect the regions lifestyle and natural assets (p 46):

> "Currently 70% of our residents live along the coastline putting significant pressure on the built and natural environment in this narrow strip and challenging our ability to maintain the relaxed lifestyle, protect assets from coastal hazards and retain the connection with the natural environment that is so highly valued.
>
> It is anticipated that the future growth will predominately be located in the coastal area with an emphasis on infill development transitioning to a more consolidated urban form supported by appropriate infrastructure, such as a light rail system, facilities and services. Creating a new way of living and minimising impacts on our natural environment.
>
> Future development will be modelled on the principles of self-containment and sustainability encouraging walking, cycling and access to employment, transport, open space and services."

The Sunshine Coast Integrated Transport Strategy 2019 was also the subject of extensive community engagement. It established the major transport challenges facing the region as it grows, and set key targets to reduce the dominance of private motor travel and increase sustainable transport modes. At page 43 the Strategy provided a High Frequency Public Transport Network Plan for 2041. This included a *Priority Transport Project* to improve public transport:

> "Sunshine Coast Light Rail (Federal / State / Council). Council is developing a business case for the Light Rail project to submit to the State Government. Light rail could provide a high-frequency transit solution extending initially from the Sunshine Coast Airport, through Maroochydore and the Sunshine Coast University Hospital precinct to Caloundra and then beyond. It will serve the Enterprise Corridor where population and employment growth are expected to increase significantly."

The Transport Strategy further noted (p 30):

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> "Consolidated and compact urban form around activity and employment centres and along major transport corridor nodes, will generally make it easier to service from public transport (including high-frequency passenger transport) and may assist in increasing public transport patronage and visibility."

The Sunshine Coast Community Strategy 2019 was developed with extensive community engagement. It notes the Sunshine Coast is experiencing a transformation from a regional centre to a regional city, reflecting deeply entrenched trends in the Australian society that are seeing attractive coastal cities continue to grow.

The Community Strategy advised that one key priority the community expected of council was to work with other levels of government to develop innovative responses to public transport and mobility options, as well as housing affordability and homelessness. At page 31 it includes an action to:

> "Collaborate and partner with government, community and relevant sectors to find solutions to transport challenges, and encourage travel behaviour change from a reliance on vehicle use to more sustainable means of transport."

Sunshine Coast Council's Corporate Plan 2020 to 2024 conveys a vision for the Sunshine Coast as *Australia's most sustainable region. Healthy. Smart. Creative.* Based on the growth management and transport issues noted above, a step change in public transport is required to set the Sunshine Coast on a path to sustainable transport and urban development. The Corporate Plan notes (p 28):

> "Council is continuing to build its case for the development of an integrated mass transit system to service the Sunshine Coast's growing population.
>
> While other levels of government are accountable for many elements of the transport system, Council is willing to be a catalyst for improvement and innovation where it contributes to the sustainability of the region. As a key example of this, Council is continuing to build its case for the development of an integrated mass transit system to service the Sunshine Coast's growing population."

Coastal hazards adaptation. The first stage of the Sunshine Coast Mass Transit is proposed to traverse the coastal corridor from Maroochydore to Sunshine Coast University Hospital, an area subject to possible coastal hazards. Council is preparing ***"Our Resilient Coast. Our Future."*** - a long-term strategy to help manage the impacts of coastal hazards. Coastal hazards include erosion of beaches and short or long-term seawater inundation of land along the coastline.

The strategy aims to better understand coastal hazards, to reduce impacts on the coastline and its communities, and to enhance the resilience of the coastline over time. The strategy is expected to be completed in 2022. Its outputs will inform planning for the Sunshine Coast Mass Transit, potentially affecting:

- Statutory planning (future land use zoning)
- Development controls in areas that may be impacted by coastal hazards in the future
- Infrastructure and asset planning and management, including public and community facilities
- Emergency and disaster response
- Environmental and cultural management and protection
- Financial forecasting and budgets.

Commented [BH17]: Correct, but we need to consider the messaging associated with this reference and the positive outcome that can be achieved to plan for mass transit solutions alongside better understanding constraints. One could easily misrepresent this reference and ask why are you placing mass transit infrastructure in an area potentially subject to coastal hazards.

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Business Case Process and Phasing

A major investment in mass transit will require significant funding from the Queensland Government and most likely, the Australian Government. To qualify for major capital funding, a formal business case process must be followed. Council has therefore undertaken its business case process for Sunshine Coast Mass Transit in accordance with the guidelines issued by the Queensland and Australian governments.

Commented [BH18]: Is therefore undertaking – the process has not been completed.

Business case frameworks

Business cases for major infrastructure projects In Queensland are undertaken in accordance with Building Queensland's Business Case Development Framework. The preparation of business cases under this framework allows for consideration of the project in the Queensland Infrastructure Pipeline. This identifies endorsed Queensland Government infrastructure proposals that are unfunded for delivery with a minimum capital cost of $50 million. This is an essential step in the project being considered for future capital funding from the Queensland Government.

The Building Queensland Business Case Development Framework was updated in April 2020, when much of the work on the *Preliminary Business Case* for Sunshine Coast Mass Transit had already been completed. Accordingly Building Queensland agreed Council should generally retain the previous terminology, while recognising the changes in the new framework. Table 1 shows the previous and new terminology for the various business case phases. To reflect the new framework, the subject document prepared by council has now been termed the draft *Options Analysis*.

Commented [BH19]: Been substantially progressed

Previous terminology	New terminology (from April 2020)
Strategic Business Case	*Strategic Assessment*
Preliminary Business Case	*Options Analysis*
Detailed Business Case	*Detailed Business Case*

Table 1. Previous and new phasing terminology applied by Building Queensland

Australian Government infrastructure investment priorities are informed by Infrastructure Australia. Proposals requesting significant capital funding from the Australian Government also need to satisfy the requirements of Infrastructure Australia's *Business Case Assessment Framework*. In practice it is possible to orient the Queensland Business Case Development Framework work on a business case to also meet Infrastructure Australia's requirements, which is the approach being adopted for the Sunshine Coast Mass Transit Project.

The Council team has maintained close liaison with both Building Queensland and Infrastructure Australia to ensure the business case workings meet the requirements of their respective business case frameworks. This will continue throughout the *Detailed Business Case* phase.

The *Strategic Business Case* is completed

The *Strategic Business Case* (now called *Strategic Assessment*) is to define a problem or opportunity that needs to be addressed, identify potential ideas that could resolve the issues or develop the opportunity, and evaluate whether any of the ideas have the potential to be viable options. It aims, *inter alia*, to establish that there is a need for a project. The *Strategic Business Case* was approved by Council on 25 July 2019 and has been transmitted to relevant Queensland and Australian Government agencies. The feedback of these agencies has guided the work on developing the draft *Options Analysis*. Following its approval by Council, the full *Strategic Business Case* was made public through the project's website.

The draft *Options Analysis* is nearing completion

The second phase, the draft *Options Analysis*, aims *"to narrow the breadth of options by applying rigorous evaluation criteria before assessing the viability of any remaining options"*. It aims, *inter alia*, to define a project that can address the problems and shortlist viable

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options. Although still a preliminary planning phase, it represents a significant body of work and requires investigations that span engineering, environmental, urban planning and economic and financial analyses.

A partnership to prepare the *Detailed Business Case*

The final phase is the *Detailed Business Case*, which aims to "to evaluate the viability of the highest ranked option/s with surety of outcomes across all evaluation criteria and develop investment implementation plans". The means inter alia defining the detail of the project and recommending a tightly specified reference project option, based on evidence that the desired benefits will be realised and the project can be delivered for the estimated cost. On 8 May 2019 an announcement was made by the Premier and Minister for Trade, the Honourable Annastacia Palaszczuk and the Minister for Transport and Main Roads, the Honourable Mark Bailey, advising that *"a contribution of up to $7.5 million by the State Government would be matched by Council to help develop a detailed business case for the first stage of an integrated urban public transport solution for the Coast, including pricing options for light rail"*.

Commented [BH20]: to

Commented [BH21]: italics

Provision was made in the 2019-20 State budget papers for the *Detailed Business Case* to be funded over the current and following financial years. The *Detailed Business Case* will be led by the Queensland Government, working in a close partnership with the Sunshine Coast Council. It will take about 18 months to prepare. Deliverables from the *Detailed Business Case* will include:

- Costs and benefits estimated to P 90 confidence level, meaning there is only a 10 per cent chance or less that the cost estimates will be exceeded
- A detailed reference project design that can be used to underpin procurement of providers to implement the project
- Updated land use forecasting to support demand and benefits assessment
- Extensive stakeholder and community consultation
- A recommended delivery model to build and operate the reference project.

Options for major new investment in mass transit

The *Strategic Business Case* recommended that a first stage of mass transit delivered in the Priority Area 1 from Maroochydore to the Sunshine Coast University Hospital precinct was the best option for the future development of an integrated urban public transport solution for the Sunshine Coast, as depicted in Figure 2.

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Figure 2. : Geographic breakdown and focus areas for a Sunshine Coast Mass Transit solution

As a result of the *Strategic Business Case* findings, the options being evaluated in the draft *Options Analysis* will consider the technologies and initiatives that could feasibly be delivered to realise the benefits sought from the project, in the identified Priority Area 1 project corridor.

It should be noted that an option of heavy regional rail, along the lines operated by Queensland Rail, cannot feasibly and safely be installed in the Priority Areas 1 and 3, due to the need for full grade separation, and the mismatch between the heavy engineering and amenity impact of a heavy rail system compared to objectives for a high quality living environment. Heavy regional rail does however remain an option for future stages of the mass transit system in Priority Areas 2, 4 and 5 which have the benefit of a preserved rail corridor and are generally not as closely encroached by urban development.

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An Interim Findings Report received by Council in January 2020 advised the Stage 1 technology options considered in the options assessment process for the draft *Options Analysis* are:

1 Region-wide bus service enhancements, with no infrastructure improvements

2 Region-wide bus network upgrades, with supporting bus priority measures

3 Road network upgrades in the Sunshine Coast Urban Corridor

4 Quality Bus Corridor in Priority Area 1

5 Bus Rapid Transit in Priority Area 1

6 Light Rail Transit in Priority Area 1.

Based on the results of the Multi-criteria Assessment, the following options were recommended for progression in the draft *Options Analysis* to undergo economic analysis and more detailed assessment:

Option 6 – Light Rail Transit

Option 5 – Bus Rapid Transit

Option 4 – Quality Bus Corridor.

Commented [BH22]: Is this report publicly available? Is it included in the PBC? Referencing it will make it visible and potentially subject to FOI. For consideration

Commented [BH23]: Have we communicated that these are the three options being considered through the development of the PBC?

Legal

There are no legal implications arising from this report as this is the preliminary stage of the business case process.

Policy

This report is consistent with Council's policy directions as articulated in:

- Corporate Plan 2020 -2024
- Sunshine Coast Regional Economic Development Strategy 2013-2033
- Sunshine Coast Planning Scheme 2014
- Sunshine Coast Environment and Liveability Strategy 2017
- Sunshine Coast Integrated Transport Strategy 2018
- Sunshine Coast Community Strategy 2019-2041.

Risk

Commented [BH24]: How much of this risk detail is required in this report versus what should appropriately be contained in the report when presenting the draft Options Analysis.

There are two primary categories of risk to be managed for a major investment project:

- process risks
- project risks.

Process risks are risks that affect the process of advancing the project through the current and future phases. Process risks do not necessarily have a direct impact on the cost to deliver the infrastructure project. However, process risks may have significant time, reputation and management cost impacts.

A **process risk register** has been prepared and is being reviewed and updated as the business case proceeds. It includes risk ratings and mitigation strategies. The key process risks that will continue to be managed include:

- timing and funding conflicts with other related projects
- lack of alignment between the three levels of government

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- the project narrative for a new mass transit system for the region is not compelling enough to secure funding
- the benefits of the project may be judged by government as less than the costs
- listing of the Sunshine Coast Mass Transit Project on Building Queensland and/or Infrastructure Australia's pipeline reports and infrastructure priority lists is not obtained after completion of the *Detailed Business Case*.

All these risks can be mitigated by close involvement of the relevant State and Commonwealth agencies in the preparation of the *Detailed Business Case*, and this already forms part of the current project governance and working arrangements.

Project risks are risks that could affect the outcomes of the project and have a range of potential impacts including time, cost, quality, health and safety, reputation and environment. The understanding of the project risks will change as the project proceeds and the assessment of project risks will need to be regularly reviewed and updated to reflect the current status of the project. Key project risks identified thus far are shown in Table 4 below.

Risk	Consequences	Mitigation
Construction risks, including undetected hazards, undetected public utilities, poor soil conditions, the presence of rock, and additional works that were not anticipated in the planning phases.	Unexpected service relocation costs and engineering scope increases, resulting in the project exceeding time and budget constraints. Reputation damage.	Desktop and field investigations to identify potential service conflicts, and inclusion of mitigation works in the "P 50" risk adjusted cost estimates, and third party agreements between the principal and the service providers to establish required service upgrades, funding and delivery responsibilities ahead of engagement of the constructing contractor.
Operating risks including failure to meet ridership projections, and failure of the mass transit technology to perform as specified.	Ongoing additional costs to government, and reputation damage, especially if the mass transit technology is prone to breaking down.	Plan for maximum convenience for passenger access. Adopt only proven mass transit technology that has been found to perform reliably.
Safety risks including the mass transit technology not meeting requirements of Australian standards and safety regulation regimes.	System cannot operate safely and either causes accidents or is not permitted to operate. Injury, loss of life and reputation damage	Adopt only proven mass transit technology that has been found to perform reliably and safely and is able to obtain safety accreditation in Australia.
Integration risks whereby suitable urban renewal does not occur in the project catchment, and urban expansion outside the catchment continues.	Less people would reside in the project catchment and the mass transit would be less effective and may not serve the Sunshine Coast's population well enough.	Undertake comprehensive urban corridor planning and community consultation as part of the *Detailed Business Case* to support urban transformation.

Table 4. Key project risks identified in *Preliminary Business Case* phase

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Previous Council Resolution

Ordinary Meeting 30 January 2020 (OM20/3)

That Council:

*(a) receive and note the report titled "**Sunshine Coast Mass Transit - Update**" and*

(b) note the findings of the attached report entitled "Sunshine Coast Mass Transit Preliminary Business Case – Interim Findings Report" (Appendix A).

Ordinary Meeting 25 July 2019 (OM19/102)

That Council:

(a) receive and note the report titled "Sunshine Coast Mass Transit Update"

(b) endorse the Strategic Business Case for Sunshine Coast Mass Transit at Appendix A, for the purpose of facilitating further consideration by relevant State and Federal Government agencies

(c) refer the Strategic Business Case for Sunshine Coast Mass Transit and in the form of a completed "Infrastructure Australia Stage 1 Template" to Infrastructure Australia for its consideration and inclusion in the Infrastructure Priority List, and advise Infrastructure Australia of the intention to complete a Preliminary Business Case

(d) refer the Strategic Business Case for the Sunshine Coast Mass Transit to Building Queensland for its consideration and inclusion in the Infrastructure Pipeline, and advise Building Queensland of an intention to complete a Preliminary Business Case

(e) refer the Strategic Business Case for the Sunshine Coast Mass Transit to other relevant government agencies including Transport and Main Roads and Queensland Treasury, and advise the agencies an intention to complete a Preliminary Business Case

(f) update the project website to provide access to the Strategic Business Case and a summary of the Strategic Business Case.

Ordinary Meeting 23 April 2015 (OM15/59)

That Council:

(a) authorise the Chief Executive Officer to proceed in accordance with the direction given in confidential session

(b) confirm the recommended light rail route corridor with which to proceed to more detailed feasibility and business case studies

(c) confirm support for progressing the establishment of a high frequency branded forerunner bus in conjunction with the State Government

(d) authorise the Chief Executive Officer to write to the Minister for Transport outlining the findings of the Sunshine Coast Light Rail Route Options Consultation Report and the recommended route and seeking their support for progressing with more detailed feasibility and business case studies and

(e) authorise the Chief Executive Officer following completion of (d) above to release the findings on the Sunshine Coast Light Rail Route Options Consultation Report.

Related Documentation

Refer to the project website at https://www.sunshinecoast.qld.gov.au/Council/Planning-and-Projects/Major-Regional-Projects/Sunshine-Coast-Mass-Transit-Project or simply search "sunshine coast mass transit" online.

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Critical Dates

No critical dates are relevant to this report. However the increasing trend towards urban expansion can only be effectively reversed by timely action to implement the responses recommended in the draft *Options Analysis*.

The timing recommended by the *Strategic Business Case* for future stages is shown in table 5 below.

Table 5. Timelines for Sunshine Coast Mass Transit

Project Phase	Dates
Strategic Business Case	Completed
Options Analysis - Stage 1 of the mass transit system	Receive by Council in early 2021 for community engagement. Finalise mid 2021 following engagement
Detailed Business Case - Stage 1 of the mass transit system	2021 & 2022, with community engagement likely in 2022
Investment Decision and Procurement - Stage 1 of the mass transit system	By end 2023 (indicative and subject to State and Commonwealth funding approval)
Delivery of Stage 1 of the mass transit system	By 2027 (indicative)

Implementation

Should the recommendation be accepted by Council, it is noted that the Chief Executive Officer will:

- Finalise the *Options Analysis* under the new Building Queensland Template, and present the draft report to Council in early 2021
- Prepare a comprehensive community engagement strategy as outlined in Appendix A, to address mass transit technology options and broad options for urban transformation to achieve a more compact urban form, within the context of the range broader strategic and interconnected issues (such as the regional planning directions, urban growth challenges, coastal hazard responses, integrated transport planning and infrastructure sequencing) to enable a full appreciation of all of these elements as part of progressing further with the *Options Analysis*
- Update the project website.

Commented [BH25]: I would put this as first dot point, otherwise gives impression that we will finalise options analysis, and then consider community engagement.

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8.2 SUNSHINE COAST MASS TRANSIT UPDATE

File No: **Council meetings**

Author: **Project Manager**
Liveability & Natural Assets Group

PURPOSE

The purpose of this report is to:

1. Advise Council of the progress made in preparing a business case for Sunshine Coast Mass Transit, in particular the *Options Analysis* phase of the business case process
2. Outline the range of broader strategic and interconnected issues (such as the regional planning directions, urban growth challenges, coastal hazard responses, integrated transport planning and infrastructure sequencing) to enable a full appreciation of all of these elements as part of progressing further with the *Options Analysis*
3. Provide detail on the scope and structure of the *Options Analysis* document as set down in the Queensland Government's business case development framework
4. Present the principles of a comprehensive community engagement framework for council's consideration to support our community's understanding of these challenging issues and to understand their views of the options before us.

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EXECUTIVE SUMMARY

Over the past 20 years, the population of the Sunshine Coast has grown by 125,500 people or 67.7 per cent, at an average of 2.8 per cent per year. The region's population is projected to continue to grow strongly, reaching 518,000 in 2041 and more than 600,000 by 2050.

This gives rise to major challenges in managing growth over the next three decades. Population growth and increasing congestion will continue to put pressure on housing, transport, lifestyle, employment, social infrastructure and the environment.

The Sunshine Coast Council has a plan to sustainably manage the projected population growth of the Sunshine Coast over the decades ahead, as conveyed in the Planning Scheme and the range of supporting Council strategies. This plan aims to preserve the Sunshine Coast's character, lifestyle and iconic natural environment as essential contributors to the region's natural (competitive) advantage. But the region's lifestyle, and its valued natural environment are at risk due to very high dependence on private motor vehicle travel, and an increasing trend towards development of new suburbs at the urban fringe as the main way to cater for population growth.

The vision for the Sunshine Coast Mass Transit project is at the heart of the Council's plan to manage growth - *a step change to public transport that can set the region on a path to sustainable transport and urban development*.

Work already done by Council has shown this vision can be achieved through:

- providing a high quality regional mass transit solution to connect the region's main residential, employment and recreational precincts, supported by an integrated feeder bus and active transport network

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- containing the rate of urban expansion that results in car-based suburban greenfield developments to the agreed expansion areas at Caloundra South, Palmview and Beerwah East
- locating the majority of new housing and jobs in the catchment of the mass transit system, while maintaining a recognisable low key Sunshine Coast character.

The alternative is to see urban sprawl, to continue to provide additional lanes to existing roads, build new roads, and provide major increases in car parking in and around centres and beachside precincts. This alternative would see many existing urban areas become places catering more for cars and less for people.

The plan to manage growth and protect our lifestyle is given effect by a broad range of Queensland Government and Sunshine Coast Council policy documents, addressing regional planning directions, urban growth challenges, habitat preservation, Greenhouse responses, coastal hazard responses, integrated transport planning and infrastructure sequencing.

An investment in a regional mass transit solution is a major intervention that can only be delivered by the Queensland Government. Council can partner in this but cannot deliver it.

Council endorsed the first phase of the business case process - the *Strategic Business Case* in July 2019. The purpose of this phase (now known as a *Strategic Assessment* under Building Queensland's April 2020 guidelines) is to define a problem or opportunity that needs to be addressed, identify potential ideas that could resolve the issues or develop the opportunity, and evaluate whether any of the ideas have the potential to be viable options.

The second phase, previously known as the *Preliminary Business Case* and now known as the *Options Analysis* under Building Queensland's updated April 2020 guidelines, aims to "narrow the breadth of options by applying rigorous evaluation criteria before assessing the viability of any remaining options". Work on this phase is substantially progressed and focusses on the first stage of an integrated urban public transport solution for the region.

Draft analysis undertaken to date is supportive of the need for and value of a substantially improved and integrated public transport solution and a related urban transformation strategy, and identifies the unacceptable consequences of not pursuing this strategy. When completed, the draft *Options Analysis* will provide an assessment of a shortlist of options for Stage 1 of the mass transit response. Typically at this *Options Analysis* phase the State would not undertake community engagement on similar projects, although there is nothing to prevent this.

However, it is acknowledged that the draft *Options Analysis* will be a large document containing extensive technical content and that it forms part of an important broader strategic context connected with a range of urban growth planning policy issues.

With this mind it is important that council engages with the community to support its understanding of these challenging issues and to understand the views of the Sunshine Coast community about how to best respond to the challenges of growth. To that end, the principles of a comprehensive community engagement framework are provided in Attachment A for Council's consideration.

If approved, consultation on options presented in the draft *Options Analysis* report could be feasibly undertaken in the first quarter of 2021. Of course the process must be subject to a COVID-Safe plan to protect staff and the community. The results of this consultation could then be integrated into a final *Options Analysis* report presented to Council for endorsement in mid-2021. This would enable the *Options Analysis* report, if endorsed, to be transmitted to the State to undertake their formal assurance review. The results of this consultation could also inform reviews of other related strategies as they fall due.

Subject to the outcomes of the State's assurance review, detailed planning in the next phase, retaining the title of *Detailed Business Case*, aims "to evaluate the viability of the highest ranked option/s with surety of outcomes across all evaluation criteria and develop investment

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implementation plans". It is the final phase in the business case process before funding approval for construction can be sought. This phase would be led by the State.

On 8 May 2019 the Premier and Minister for Trade, the Honourable Annastacia Palaszczuk announced *"a contribution of up to $7.5 million by the State Government would be matched by Council to help develop a detailed business case for the first stage of an integrated urban public transport solution for the Coast, including pricing options for light rail"*.

Under the approach typically followed by the State for detailed business cases of this kind, The *Detailed Business Case* process for Sunshine Coast Mass Transit would include extensive community engagement on all detailed aspects of the proposed project.

OFFICER RECOMMENDATION

That Council:

(a) receive and note the report titled "Sunshine Coast Mass Transit Update"

(b) note that a further report will be presented to Council in the first quarter of 2021 to advise the findings of draft *Options Analysis* report including:

- **mass transit technology options and broad options for urban transformation to achieve a more compact urban form, and**
- **seeking approval to undertake a community engagement strategy on the draft report prior to its consideration by Council.**

(c) endorse the principles and milestones for a comprehensive community engagement framework as described in Appendix A.

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FINANCE AND RESOURCING

The preparation of the draft *Options Analysis* is being funded through the Transport Levy allocation from the budget. A total of $3,360,916 was allocated for this work in 2019/2020.

The 2020/2021 budget allocates $3,000,000 from the Transport Levy. A further $4,500,000 is foreshadowed in the 2021/2022 budget, as per the agreement with the Queensland Government. This will be matched by $7,500,000 from the Queensland Government.

CORPORATE PLAN

Corporate Plan Goal: ***A strong community***
Outcome: 1.4 - People and places are connected
Operational Activity: 1.4.1 - Implement priority activities from the Integrated Transport Strategy 2018.

CONSULTATION

Councillor Consultation

A Sunshine Coast Mass Transit Cross Departmental Working Group was established in August 2018 to steer the Sunshine Coast Mass Transit Project.

The Working Group was comprised of:

- Mayor M Jamieson
- Former Deputy Mayor Councillor T Dwyer
- Portfolio Councillor R Baberowski – Transport, the Arts and Heritage
- Portfolio Councillor C Dickson – Planning and Development

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- Portfolio Councillor P Cox – Place Development and Design
- Former Division 4 Councillor J Connolly
- Division 8 Councillor J O'Pray

The Working Group was convened six times, with the most recent meeting being held on 20 January 2020.

Following the March 2020 election, the Working Group was reformed as the Sunshine Coast Mass Transit Project Control Group comprising:

- Mayor M Jamieson
- Deputy Mayor and Community (Transport) Portfolio Councillor R Baberowski
- Environment and Liveability (Place making) Portfolio Councillor P Cox
- Service Excellence Portfolio Councillor C Dickson.

The Project Control Group convened on 8 July 2020.

A series of Councillor workshops on the Sunshine Coast Mass Transit business case process were held during the period from early 2018 to July 2020.

Internal Consultation

Also present on the Sunshine Coast Mass Transit Project Control Group are:

- Chief Executive Officer
- Chief Strategy Officer
- Group Executive Liveability and Natural Assets
- Group Executive Customer Engagement and Planning Services
- Manager Transport and Infrastructure Planning.

External Stakeholder Engagement

A Business Case Reference Group has been established to guide and provide input to, and monitor the preparation of, the business case.

Participants in this reference group include:

- Infrastructure Australia (Commonwealth Government)
- Commonwealth Department of Infrastructure, Transport, Regional Development and Communications
- Queensland Department of Premier and Cabinet
- Queensland Department of State Development, Manufacturing, Infrastructure and Planning (the relevant parts of which are now in Queensland Treasury)
- Building Queensland (Queensland Government)
- Queensland Treasury
- Queensland Department of Transport and Main Roads.

Community Engagement

Both the *Strategic Business Case* and the draft *Options Analysis* integrate the results of significant previous community consultation undertaken by Council in relation to transport policy and, in particular, mass transit proposals in 2012, 2014 and 2018, as outlined below.

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2012 – The *Line in the Sand* Report

Council's *Line in the Sand* process included a broadly representative community taskforce, supported by expert advisers from Council. The process canvassed six technology options for a mass transit system as a game changer for the Sunshine Coast. An online consultation hub, launched in January 2012, attracted more than 2,900 visits and 228 people took part in the poll on the hub. The recommended proposal for light rail on the Sunshine Coast was supported by 82 per cent of those who completed the poll.

2014 – Sunshine Coast Light Rail – route options

Consultation was undertaken in late 2014 based on a detailed Route Options and Impact Assessment report. The report covered both transport needs and city shaping opportunities. As a result of consultation more than 700 people had their say on light rail route options proposed for Maroochydore, Mooloolaba, Kawana and Caloundra. The vast majority (87 per cent) supported Council's investigations into light rail and their feedback contributed to the selection by Council of a preferred route for further study.

2018 – Draft Integrated Transport Strategy

Council undertook market research and community consultation between November 2017 and July 2018 to help shape the *Integrated Transport Strategy*, which was released in early 2019. Key findings from the market research and community consultation relevant to the Sunshine Coast Mass Transit Project have been integrated with the business case workings.

Other consultation

Consultation on the broad need for improved transport connections and a more compact urban form was embodied in:

- The Regional Economic Development Strategy adopted in 2013
- The Sunshine Coast Planning Scheme adopted in 2014
- The Environment and Liveability Strategy adopted in 2017
- The Sunshine Coast Community Strategy adopted in 2019.

The Queensland Government also undertook community consultation in relation to the extent and form of dwelling and employment provision on the Sunshine Coast to 2041 as part of the preparation of *ShapingSEQ* - the South East Queensland Regional Plan - released in 2017.

Future consultation

Consistent with the approach typically adopted by the State in business case work of this type, project planning for the initial two phases of the process, run by council was based on the extensive detailed community engagement occurring during the *Detailed Business Case* phase, when there is more in depth knowledge of the project and its impacts. This approach also took account of the fact most of the consultation on the directions and issues and the need for the project had been undertaken in the extensive consultation processes surrounding the Planning Scheme, the SEQ Regional Plan and the suite of key strategies approved by Council in the past 5 years. In particular the Integrated Transport Strategy consultation undertaken in 2017-2018 addressed the need for a mass transit solution. Instead, a strategy of making the business case reports public was adopted, with an opportunity for people to provide feedback if desired.

The approach of leaving community engagement to the *Detailed Business Case* phase was advised to Council in reports made to it in July 2019 and January 2020.

However it is appreciated the business case process is complex and not easily understood by the general public. Consideration of this fact, and the importance of the Sunshine Coast Mass Transit Project to the region's future, and its relationship to broader growth management planning, has led to a review of the previous community engagement approach. As a result, community engagement on the mass transit technology options and broad options for urban transformation to achieve a more compact urban form is

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recommended for the first quarter of 2021 to inform Council's consideration of the draft *Options Analysis.*

As previously advised in Council reports of July 2019 and January 2020, further detailed community engagement on all aspects of the Sunshine Coast Mass Transit Project is also expected to be part of the *Detailed Business Case* phase, which will be led by the Queensland Government in partnership with Council and is likely to occur in 2021/22.

Of course the Queensland Government has not yet determined its approach to the *Detailed Business Case*. When it does, a further report will be made to Council to confirm the scope and program for the *Detailed Business Case*, including the nature and timing of community engagement in relation to the reference project design for the mass transit system and the detail of any proposed urban transformation components (with the latter likely to be led by Council).

PROPOSAL

Introduction

Over the past 20 years, the population of the Sunshine Coast has grown by 125,500 people or 67.7 per cent, at an average of 2.8 per cent per year. By comparison, Queensland's population grew by only 35 per cent at an average of 2 per cent per year over the same period. The region's population is projected to continue to grow strongly, reaching 518,000 in 2041 and more than 600,000 by 2050.

The region is heavily dependent on car transport and continues to rapidly expand its urban boundaries. Public transport use is very low, and the current system, while suited to a regional community, cannot cope with the requirements of a major city region that the Sunshine Coast is rapidly growing into. This gives rise to major challenges in managing growth over the next three decades. Population growth and increasing congestion will continue to put pressure on housing, transport, lifestyle, employment, social infrastructure and the environment. There is a real risk of a vicious circle developing as shown opposite, diminishing the very qualities of the region that make it an attractive place to live and visit.



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Current policy framework

The Sunshine Coast Mass Transit project is a vital part of Council's growth management plan. It is an initiative that implements the policies and objectives of a suite of key strategies and plans involving:

- Regional Economic Development Strategy 2013
- Sunshine Coast Planning Scheme 2014
- Sunshine Coast Environment and Liveability Strategy 2017
- Sunshine Coast Integrated Transport Strategy 2019
- Sunshine Coast Community Strategy 2019
- Sunshine Coast Council Corporate Plan 2020 to 2024

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- Coastal hazards adaptation strategy**"***Our Resilient Coast. Our Future***"** (under development)

The Sunshine Coast Regional Economic Development Strategy 2013 included extensive stakeholder and community engagement. It provided a blueprint secure the New Economy as the region grows through:

- securing high levels of investment and grow enduring employment opportunities
- investing in its communities and deliver the essential infrastructure and services that communities require
- preserving the lifestyle and environment that is so highly valued by the Sunshine Coast.

The Strategy defined an *Enterprise Corridor* - stretching primarily along the coastal strip from north of the Sunshine Coast Airport to Caloundra South and bounded to the west by the Bruce Highway. The Enterprise Corridor will represent the key area for commercial and residential growth over the next 20 years and provide the location for many of the high-value industries to establish, expand and mature. Recognising the importance of connecting businesses to each other and to their workforce, it contained an action by 2018 to:

> "Identify and preserve future priority public transport corridors to connect major business, tourism, education and population centres within the Enterprise Corridor."

With action approved by Council on 23 April 2015 to *confirm the recommended light rail route corridor with which to proceed to more detailed feasibility and business case studies,* and the previous actions by the Department of Transport and Main Roads to declare the CAMCOS corridor as a future public transport corridor, this action is completed. The current Sunshine Coast Mass Transit business case development process takes the provision of suitable infrastructure to the next step.

The Sunshine Coast Planning Scheme 2014 was produced on the basis of very detailed and extensive community engagement as provided by the (then) *Sustainable Planning Act 2009*. It provides a clear plan for managing growth until 2031. The scheme conveys a specific set of policies aimed at managing growth under Section 3.2 – Strategic Intent (p 3.3):

> "The pattern of settlement is characterised by well-defined urban and rural residential areas and the progressive transition towards a more compact, efficient and functional urban form.
>
> The majority of new growth is located in the Sunshine Coast Enterprise Corridor, within and surrounding the mixed use regional activity centres of Maroochydore, Caloundra, Kawana and Sippy Downs and in the emerging communities of Palmview, Kawana Waters and Caloundra South.
>
> Significant new growth is also located in Nambour as the dominant major regional activity centre serving hinterland areas.
>
> Major development areas at Maroochydore, Kawana Waters, Palmview and Caloundra South provide integrated, well planned communities which showcase sustainable development, affordable living and align infrastructure delivery with development.
>
> These major developments are the keystones for the shift towards a more sustainable and transit supportive pattern of settlement.
>
> Over time and in conjunction with more detailed local planning initiatives there is an increase in the intensity of development and the proportion of the population living along the Maroochydore to Caloundra Priority Transit Corridor.
>
> This corridor links regional activity centres and the major development areas, and is part of the integrated transport system for the Sunshine Coast.

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Other opportunities for infill development are provided in selected locations throughout the urban fabric, although many established low density residential neighbourhoods are retained in their current form in recognition of the high quality lifestyle and character offered by these areas.

Outside of defined urban and rural residential areas, rural and natural areas are protected and enhanced for their rural enterprise, landscape and environmental values. These areas separate the Sunshine Coast from other parts of metropolitan South East Queensland and provide the landscape setting and biological diversity for which the Sunshine Coast is renowned."

The Planning Scheme also provides a range of policies and provisions to ensure a distinct Sunshine Coast urban form is fostered. For example at:

- *Section 3.3.1. - Strategic outcomes for the settlement pattern*

  (f) The form and structure of new and consolidated urban areas contributes to the achievement of a more compact urban form and an effective and efficient transport network that supports increased use of walking, cycling and public transport and has a positive influence on the community's physical activity and health in general.

  (g) affordable, attractive and diverse living opportunities are provided with convenient access to integrated transport, employment, community, education, health, sport, recreation and other services. A range of housing choices are provided in locations that are close to activity centres and active and public transport. Housing is designed to be adaptable and reduce current costs.

- *Section 3.3.2. Element 1 -Character, lifestyle and environment attributes:*

  (ii) maintaining a settlement pattern and encouraging built form that is distinct to the Sunshine Coast and which avoids prominent symbols and negative attributes of larger metropolitan areas (i.e. undistinguishable tracts of urban sprawl and oversized transport corridors with bare acoustic walls and signage);

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The Queensland Government's South East Queensland Regional Plan 2017 (*ShapingSEQ*) sets a 50-year vision for the South East Queensland region to be globally positioned as a unique sub-tropical living environment. Specifically, its plan for the next 25 years aims to build on the strength of the Sunshine Coast region by:

- focusing 62 per cent of new residential development in the existing urban area
- prioritising public transport and active transport (i.e. walking and cycling)
- providing region-shaping infrastructure to increase accessibility and productivity.

To help achieve these objectives, *ShapingSEQ* at page 122 identifies an urban corridor from Maroochydore to Caloundra, supported by a high frequency passenger transport service. This would result in the urban corridor between Maroochydore and Caloundra becoming a cohesive collection of distinctive, high-quality urban environments that are typically 'Sunshine Coast' in character and which optimise accessibility to future passenger services. Mixed use development opportunities, housing choice and affordability, would also be promoted.

The Sunshine Coast Environment and Liveability Strategy 2017 was also the subject of extensive community engagement. It provides council's response to a rapidly changing world there will be many challenges and opportunities for the Sunshine Coast way of life – increasing population, changing climate, economic growth and emerging technologies.

The timely delivery of an effective and efficient transport network underpins the strategic directions of the Environment and Liveability Strategy. It also noted the need to manage and consolidate urban growth in order to protect the regions lifestyle and natural assets (p 46):

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> "Currently 70% of our residents live along the coastline putting significant pressure on the built and natural environment in this narrow strip and challenging our ability to maintain the relaxed lifestyle, protect assets from coastal hazards and retain the connection with the natural environment that is so highly valued.
>
> It is anticipated that the future growth will predominately be located in the coastal area with an emphasis on infill development transitioning to a more consolidated urban form supported by appropriate infrastructure, such as a light rail system, facilities and services. Creating a new way of living and minimising impacts on our natural environment.
>
> Future development will be modelled on the principles of self-containment and sustainability encouraging walking, cycling and access to employment, transport, open space and services."

The Sunshine Coast Integrated Transport Strategy 2019 was also the subject of extensive community engagement. It established the major transport challenges facing the region as it grows, and set key targets to reduce the dominance of private motor travel and increase sustainable transport modes. At page 43 the Strategy provided a High Frequency Public Transport Network Plan for 2041. This included a *Priority Transport Project* to improve public transport:

> "Sunshine Coast Light Rail (Federal / State / Council). Council is developing a business case for the Light Rail project to submit to the State Government. Light rail could provide a high-frequency transit solution extending initially from the Sunshine Coast Airport, through Maroochydore and the Sunshine Coast University Hospital precinct to Caloundra and then beyond. It will serve the Enterprise Corridor where population and employment growth are expected to increase significantly."

The Transport Strategy further noted (p 30):

> "Consolidated and compact urban form around activity and employment centres and along major transport corridor nodes, will generally make it easier to service from public transport (including high-frequency passenger transport) and may assist in increasing public transport patronage and visibility."

The Sunshine Coast Community Strategy 2019 was developed with extensive community engagement. It notes the Sunshine Coast is experiencing a transformation from a regional centre to a regional city, reflecting deeply entrenched trends in the Australian society that are seeing attractive coastal cities continue to grow.

The Community Strategy advised that one key priority the community expected of council was to work with other levels of government to develop innovative responses to public transport and mobility options, as well as housing affordability and homelessness. At page 31 it includes an action to:

> "Collaborate and partner with government, community and relevant sectors to find solutions to transport challenges, and encourage travel behaviour change from a reliance on vehicle use to more sustainable means of transport."

Sunshine Coast Council's Corporate Plan 2020 to 2024 conveys a vision for the Sunshine Coast as *Australia's most sustainable region. Healthy. Smart. Creative.* Based on the growth management and transport issues noted above, a step change in public transport is required to set the Sunshine Coast on a path to sustainable transport and urban development. The Corporate Plan notes (p 28):

> "Council is continuing to build its case for the development of an integrated mass transit system to service the Sunshine Coast's growing population.
>
> While other levels of government are accountable for many elements of the transport system, Council is willing to be a catalyst for improvement and innovation where it

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contributes to the sustainability of the region. As a key example of this, Council is continuing to build its case for the development of an integrated mass transit system to service the Sunshine Coast's growing population."

Coastal hazards adaptation. The first stage of the Sunshine Coast Mass Transit is proposed to traverse the coastal corridor from Maroochydore to Sunshine Coast University Hospital, an area that may potentially benefit from coastal hazard adaptation. Council is preparing **"*Our Resilient Coast. Our Future.*"** - a long-term strategy to help manage the impacts of coastal hazards. Coastal hazards include erosion of beaches, and short or long-term seawater inundation of land along the coastline.

The strategy aims to better understand coastal hazards, to reduce impacts on the coastline and its communities, and to enhance the resilience of the coastline over time. The strategy is expected to be completed in 2022. When available, any relevant outputs can be progressively integrated into the detailed business case phase for Sunshine Coast Mass Transit and future land use planning to improve the understanding adaptation responses.

Business Case Process and Phasing

A major investment in mass transit will require significant funding from the Queensland Government and most likely, the Australian Government. To qualify for major capital funding, a formal business case process must be followed. Council is therefore undertaking the initial phases of the business case process for Sunshine Coast Mass Transit in accordance with the guidelines issued by the Queensland and Australian governments.

Business case frameworks

Business cases for major infrastructure projects In Queensland are undertaken in accordance with Building Queensland's Business Case Development Framework. The preparation of business cases under this framework allows for consideration of the project in the Queensland Infrastructure Pipeline. This identifies endorsed Queensland Government infrastructure proposals that are unfunded for delivery with a minimum capital cost of $50 million. This is an essential step in the project being considered for future capital funding from the Queensland Government.

The Building Queensland Business Case Development Framework was updated in April 2020, when substantial work on the *Preliminary Business Case* for Sunshine Coast Mass Transit had been progressed under the old guidelines. Accordingly Building Queensland agreed Council could progress in line with the old guidelines, while recognising the changes in the new framework. Table 1 shows the previous and new terminology for the various business case phases. To reflect the new framework, the subject document prepared by council has now been retitled the draft *Options Analysis*.

Previous terminology	New terminology (from April 2020)
Strategic Business Case	*Strategic Assessment*
Preliminary Business Case	*Options Analysis*
Detailed Business Case	*Detailed Business Case*

Table 1. Previous and new phasing terminology applied by Building Queensland

Australian Government infrastructure investment priorities are informed by Infrastructure Australia. Proposals requesting significant capital funding from the Australian Government also need to satisfy the requirements of Infrastructure Australia's *Business Case Assessment Framework*. In practice it is possible to orient the Queensland Business Case Development Framework work on a business case to also meet Infrastructure Australia's requirements, which is the approach being adopted for the Sunshine Coast Mass Transit Project.

The Council team has maintained close liaison with both Building Queensland and Infrastructure Australia to ensure the business case workings meet the requirements of their

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respective business case frameworks. Their focus on the current phase has been on defining the problems and opportunities, and ensuring a robust evaluation of transport and non-transport options. It is expected the State and Council will continue this liaison throughout the *Detailed Business Case* phase, if progression to that phase is approved.

The *Strategic Business Case* is completed

The *Strategic Business Case* (now called *Strategic Assessment*) is to define a problem or opportunity that needs to be addressed, identify potential ideas that could resolve the issues or develop the opportunity, and evaluate whether any of the ideas have the potential to be viable options. It aims, *inter alia*, to establish that there is a need for a project. The *Strategic Business Case* was approved by Council on 25 July 2019 and has been transmitted to relevant Queensland and Australian Government agencies. The feedback of these agencies has guided the work on developing the draft *Options Analysis*. Following its approval by Council, the full *Strategic Business Case* was made public through the project's website.

The draft *Options Analysis* is well advanced

The second phase, the draft *Options Analysis*, aims *"to narrow the breadth of options by applying rigorous evaluation criteria before assessing the viability of any remaining options"*. It aims, *inter alia*, to define a project that can address the problems and shortlist viable options. Although still a preliminary planning phase, it represents a significant body of work and requires investigations of options that span engineering, environmental, urban planning and economic and financial analyses.

A partnership to prepare the *Detailed Business Case*

If the Options Analysis is approved, the final phase is the *Detailed Business Case*, which aims "to evaluate the viability of the highest ranked option/s with surety of outcomes across all evaluation criteria and develop investment implementation plans". The means *inter alia* defining the detail of the project and recommending a tightly specified reference project option, based on evidence that the desired benefits will be realised and the project can be delivered for the estimated cost.

On 8 May 2019 an announcement was made by the Premier and Minister for Trade, the Honourable Annastacia Palaszczuk and the Minister for Transport and Main Roads, the Honourable Mark Bailey, advising that *"a contribution of up to $7.5 million by the State Government would be matched by Council to help develop a detailed business case for the first stage of an integrated urban public transport solution for the Coast, including pricing options for light rail"*.

Provision was made in the 2019-20 State budget papers for the *Detailed Business Case* to be funded over the current and following financial years. The *Detailed Business Case* would be led by the Queensland Government, working in a close partnership with the Sunshine Coast Council. It would take about 18 months to prepare. Deliverables from the *Detailed Business Case* would include:

- Costs and benefits estimated to P 90 confidence level, meaning there is only a 10 per cent chance or less that the cost estimates will be exceeded
- A detailed reference project design that can be used to underpin procurement of providers to implement the project
- Updated land use forecasting to support demand and benefits assessment
- Extensive stakeholder and community consultation
- A recommended delivery model to build and operate the reference project.

Options for major new investment in mass transit

The *Options Analysis* will review the full range of options available to meet the identified problems and opportunities. Consistent with the policy directions already set in the Planning

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Scheme, the Regional Plan and the Integrated Transport Strategy, many of these options relate to a possible major investment in improving public transport.

The *Strategic Business Case* recommended that a first stage of any mass transit system upgrade should be delivered in the Priority Area 1 from Maroochydore to the Sunshine Coast University Hospital precinct, as depicted in Figure 2.



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Figure 2. : Geographic breakdown and focus areas for a Sunshine Coast Mass Transit solution

As a result of the *Strategic Business Case* findings, the transport options being evaluated in the draft *Options Analysis* will consider the technologies and initiatives that could feasibly be delivered to realise the benefits sought from the project, in the identified Priority Area 1 project corridor.

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It should be noted that an option of heavy regional rail, along the lines operated by Queensland Rail, cannot feasibly and safely be installed in the Priority Areas 1 and 3, due to the need for full grade separation, and the mismatch between the heavy engineering and amenity impact of a heavy rail system compared to objectives for a high quality living environment. Heavy regional rail does however remain an option for future stages of the mass transit system in Priority Areas 2, 4 and 5 which have the benefit of a preserved rail corridor and are generally not as closely encroached by urban development.

An Interim Findings Report received by Council in January 2020 and released to the public advised the Stage 1 transport options considered in the options assessment process for the draft *Options Analysis* are:

1 Region-wide bus service enhancements, with no infrastructure improvements

2 Region-wide bus network upgrades, with supporting bus priority measures

3 Road network upgrades in the Sunshine Coast Urban Corridor

4 Quality Bus Corridor in Priority Area 1

5 Bus Rapid Transit in Priority Area 1

6 Light Rail Transit in Priority Area 1.

Based on the results of the Multi-criteria Assessment, the following options were recommended for progression in the draft *Options Analysis* to undergo economic analysis and more detailed assessment:

Option 6 – Light Rail Transit

Option 5 – Bus Rapid Transit

Option 4 – Quality Bus Corridor.

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Legal

There are no legal implications arising from this report as this is the preliminary stage of the business case process.

Policy

This report is consistent with Council's policy directions as articulated in:

- Corporate Plan 2020 -2024
- Sunshine Coast Regional Economic Development Strategy 2013-2033
- Sunshine Coast Planning Scheme 2014
- Sunshine Coast Environment and Liveability Strategy 2017
- Sunshine Coast Integrated Transport Strategy 2018
- Sunshine Coast Community Strategy 2019-2041.

Risk

There are two primary categories of risk to be managed for a major investment project:

- process risks
- project risks.

Process risks are risks that affect the process of advancing the project through the current and future phases. Process risks do not necessarily have a direct impact on the cost to deliver the infrastructure project. However, process risks may have significant time, reputation and management cost impacts.

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A **process risk register** has been prepared and is being reviewed and updated as the business case proceeds. It includes risk ratings and mitigation strategies. The key process risks that will continue to be managed include:

- timing and funding conflicts with other related projects
- lack of alignment between the three levels of government
- the project narrative for a new mass transit system for the region is not compelling enough to secure funding
- the benefits of the project may be judged by government as less than the costs
- listing of the Sunshine Coast Mass Transit Project on Building Queensland and/or Infrastructure Australia's pipeline reports and infrastructure priority lists is not obtained after completion of the *Detailed Business Case*.

All these risks can be mitigated by close involvement of the relevant State and Commonwealth agencies in the preparation of the *Detailed Business Case*, and this already forms part of the current project governance and working arrangements.

Project risks are risks that could affect the outcomes of the project and have a range of potential impacts including time, cost, quality, health and safety, reputation and environment. They mostly relate to risks that will eventuate in the delivery and operating phases of the project. Early known key project risks have been identified and are included in a project risk register that is continuously updated.

Of note in the *Options Assessment* phase is the need to ensure any transport technology shortlisted has a proven in service record and has, or is likely to achieve, safety accreditation for operation in Queensland.

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Previous Council Resolution

Ordinary Meeting 30 January 2020 (OM20/3)

That Council:

*(a) receive and note the report titled "**Sunshine Coast Mass Transit - Update**" and*

(b) note the findings of the attached report entitled "Sunshine Coast Mass Transit Preliminary Business Case – Interim Findings Report" (Appendix A).

Ordinary Meeting 25 July 2019 (OM19/102)

That Council:

(a) receive and note the report titled "Sunshine Coast Mass Transit Update"

(b) endorse the Strategic Business Case for Sunshine Coast Mass Transit at Appendix A, for the purpose of facilitating further consideration by relevant State and Federal Government agencies

(c) refer the Strategic Business Case for Sunshine Coast Mass Transit and in the form of a completed "Infrastructure Australia Stage 1 Template" to Infrastructure Australia for its consideration and inclusion in the Infrastructure Priority List, and advise Infrastructure Australia of the intention to complete a Preliminary Business Case

(d) refer the Strategic Business Case for the Sunshine Coast Mass Transit to Building Queensland for its consideration and inclusion in the Infrastructure Pipeline, and advise Building Queensland of an intention to complete a Preliminary Business Case

(e) refer the Strategic Business Case for the Sunshine Coast Mass Transit to other relevant government agencies including Transport and Main Roads and Queensland Treasury, and advise the agencies an intention to complete a Preliminary Business Case

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(f) update the project website to provide access to the Strategic Business Case and a summary of the Strategic Business Case.

Ordinary Meeting 23 April 2015 (OM15/59)

That Council:

(a) authorise the Chief Executive Officer to proceed in accordance with the direction given in confidential session

(b) confirm the recommended light rail route corridor with which to proceed to more detailed feasibility and business case studies

(c) confirm support for progressing the establishment of a high frequency branded forerunner bus in conjunction with the State Government

(d) authorise the Chief Executive Officer to write to the Minister for Transport outlining the findings of the Sunshine Coast Light Rail Route Options Consultation Report and the recommended route and seeking their support for progressing with more detailed feasibility and business case studies and

(e) authorise the Chief Executive Officer following completion of (d) above to release the findings on the Sunshine Coast Light Rail Route Options Consultation Report.

Related Documentation

Refer to the project website at https://www.sunshinecoast.qld.gov.au/Council/Planning-and-Projects/Major-Regional-Projects/Sunshine-Coast-Mass-Transit-Project or simply search "sunshine coast mass transit" online.

Critical Dates

No critical dates are relevant to this report. However the increasing trend towards urban expansion can only be effectively reversed by timely action to implement the responses recommended in the draft *Options Analysis*.

The timing recommended by the *Strategic Business Case* for future stages is shown in table 5 below.

Table 5. Timelines for Sunshine Coast Mass Transit

Project Phase	Dates
Strategic Business Case	Completed
Options Analysis - Stage 1 of the mass transit system	Receive by Council in first quarter 2021 for community engagement. Finalise mid-2021 (indicative) following community engagement
Detailed Business Case - Stage 1 of the mass transit system	2021 & 2022, with community engagement likely in 2022
Investment Decision and Procurement - Stage 1 of the mass transit system	By end 2023 (indicative and subject to State and Commonwealth funding approval)
Delivery of Stage 1 of the mass transit system	By 2027 (indicative)

Implementation

Should the recommendation be accepted by Council, it is noted that the Chief Executive Officer will:

1. Prepare a comprehensive community engagement strategy under the framework as outlined in Appendix A, to address mass transit technology options and broad options

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for urban transformation to achieve a more compact urban form, within the context of the range broader strategic and interconnected issues (such as the regional planning directions, urban growth challenges, coastal hazard responses, integrated transport planning and infrastructure sequencing) to enable a full appreciation of all of these elements as part of progressing further with the *Options Analysis.* This can be considered alongside the draft *Options Analysis* report in the first quarter of 2021

2. Finalise the draft *Options Analysis* report under the new Building Queensland Template, and present the draft report to Council in the first quarter of 2021, with a view to it underpinning consultation referred to in point 1 above
3. Present the findings of the community engagement strategy, along with a final draft of the *Options Analysis* report to council when completed, indicatively in mid-2021.
4. Update the project website.

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From: Ken Deutscher
Sent: Wednesday, 19 August 2020 4:29 PM
To: Chris Allan; Bill Haddrill; Craig Matheson; James Coutts; Warren Bunker
Cc: Leah Bancroft; Samantha Reeves; Belinda Warren
Subject: RE: Draft report for Special Meeting re SCMT

Chris:

Re the "counter", yes the timing of state election, corporate plan consultation and Christmas holidays is highly relevant.

Could I also suggest that:

- while the current draft PBC and Options analysis report is fit for purpose as a business case document, it was not designed as consultation collateral. It's pretty technical.
- with the recent change of strategy as regards community engagement which was not previously proposed in this phase, time is now needed to prepare a properly considered consultation and engagement program with supporting easily understood collateral and tools that will reach all the various sectors of our community
- COVID safe procedures also need to included so that has to be carefully worked through
- the land use content in the current draft is exactly the same as what was in the Interim Findings report. Some of the people advocating for community engagement want to see more on this topic. By going to consultation next year, we can prepare consultation proposals and materials on the broad options for land use change in the catchment. So more content on land use options is possible if the program is properly designed (this type of consultation was proposed in our previous engagement approach to support the Detailed Business Case, for about the same time next year).

So yes we are accepting that community engagement is appropriate, but of course it has to be done right, in accordance with best practice principles, including as below from our policy:

Timeliness – Council will engage with its community in ways that are timely, open to all, easily understood and not overly bureaucratic or resource-intensive.

Mutual respect – Council's goal is one of inclusive involvement. All voices matter, all opinions are valued and considered.

It is worth noting, (while not necessarily supportive of a delay), that since we are not getting the PBC to government in late August as originally planned, the unofficial "reasonable period of grace" for the old Building Queensland guidelines will lapse. We will need to recast the document into BQs new "*Options Analysis*" template which of course can easily be done by early next year, but not necessarily by November this year (which would be the earliest possible alternative start date of any consultation process).

This change in nomenclature would also allow our March community engagement program to be very much focussed on Options, as per the draft *Options Analysis* report that will surround the engagement.

I hope this helps.

Best regards

Ken Deutscher
Project Manager Mass Transit
Urban Growth Projects

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Sunshine Coast Council

Liveability and Natural Assets Group
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From: Chris Allan
Sent: Wednesday, 19 August 2020 3:38 PM
To: Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; James Coutts <james.coutts@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Warren Bunker <warren.bunker@sunshinecoast.qld.gov.au>
Cc: Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Samantha Reeves <Samantha.Reeves@sunshinecoast.qld.gov.au>
Subject: RE: Draft report for Special Meeting re SCMT

Ok, thanks all, a workshop it is.

Also, FYI, I had a conversation with Cr Barberowski today re the NOM as I was interested in how he wished to respond to this. In a nut shell, I briefed him on the position that we will be putting forward at the Aug 27 SM, while uncomfortable with the timeframes before proceeding to consultation he acknowledges that elections, other November consultations and xmas all lead to the conclusion that commencing the engagement in the new calendar year is logical. He is concerned that the commentary from some elements re the PBC will be along the lines of "it was finished and not to release must mean that council is hiding something". The counter to that is that the technical elements of the PBC had progressed however in order to finalise the PBC for council's consideration community engagement is required and to give due regard and respect to the process and our community it would be unwise to commence this calendar year (for reasons previously stated). I explained to him the process by which we have engaged TCT to develop the community engagement framework/principles and that we would be presenting this at the SM for council's endorsement. he was pleased to hear this as (unbeknownst to me) he had sent a request to Warren regarding this. As we know, the Cr has a solid understanding of the broader issues associated with growth and the relevance of mass transit and urban transformation as a critical tool in responding to forecast growth in a sustainable way and the importance of a broader engagement plan that moves from the corporate plan through to the planning scheme (inc MT) and that the community will have multiple opportunities to have input on that continuum. I had a shorter but similar conversation with Cr Cox.

Happy to discuss.

Cheers,
Chris

Chris Allan
A/Group Executive
Liveability and Natural Assets Group
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From: Bill Haddrill
Sent: Wednesday, 19 August 2020 11:11 AM

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Cc: Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Samantha Reeves <Samantha.Reeves@sunshinecoast.qld.gov.au>
Subject: RE: Draft report for Special Meeting re SCMT

Chris, Agree with Craig.

For ELS and Biosphere we provided details of proposed engagement process and copy of plan at a workshop. At the OM you would only be seeking approval to go on public display / commence consultation for an agreed timeframe.

Cheers
Bill

Chief Strategy Officer - Sunshine Coast Council
Phone 07 5451 6505
Mob s.47(3)(b)

From: Craig Matheson
Sent: Wednesday, 19 August 2020 11:02 AM
To: Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; James Coutts <james.coutts@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>
Cc: Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Samantha Reeves <Samantha.Reeves@sunshinecoast.qld.gov.au>
Subject: RE: Draft report for Special Meeting re SCMT

Chris

I wouldn't have thought that was necessary because presumably we will brief Councillors through a workshop (sorry Bill!) once the plan is done so we can ensure they are aware of and comfortable with it. I wouldn't have though the CEP needed to come back to Council for formal adoption.

Regards

Craig

From: Chris Allan
Sent: Wednesday, 19 August 2020 10:50 AM
To: Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; James Coutts <james.coutts@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>
Cc: Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Samantha Reeves <Samantha.Reeves@sunshinecoast.qld.gov.au>
Subject: RE: Draft report for Special Meeting re SCMT

Thanks Craig, so in regard to the second dot point, should we then be saying:

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- Note that that further report will be presented for council's consideration to seek endorsement of the community engagement plan

Cheers,
Chris

Chris Allan
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From: Craig Matheson
Sent: Wednesday, 19 August 2020 10:45 AM
To: Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; James Coutts <james.coutts@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>
Cc: Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Samantha Reeves <Samantha.Reeves@sunshinecoast.qld.gov.au>
Subject: RE: Draft report for Special Meeting re SCMT

Chris

I have just had a quick look at this (without yet having reviewed the draft report) and my comments are below in red for your consideration

Regards

Craig

From: Chris Allan
Sent: Wednesday, 19 August 2020 8:56 AM
To: James Coutts <james.coutts@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>
Cc: Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Samantha Reeves <Samantha.Reeves@sunshinecoast.qld.gov.au>
Subject: RE: Draft report for Special Meeting re SCMT

Thanks Bill, and yep agree. The issue of the purpose and timing of the consultation has been rattling around in my head since yesterday, the question I have is:

- Should council endorse the principles of a community engagement framework rather than receive and note, and on that basis – Yes – council should be asked to endorse these principles
- Should we be seeking for council to endorse the commencement of engagement process in February 2021 (to provide certainty to council) to inform a No – do not specify a commencement timeframe as this pre-empts the development of the community engagement plan
- report back to council on MT and the results of community engagement in April/June 2021 I would be inclined to say when the community engagement process has been finalised and the Options Analysis has been completed.

Happy to discuss.

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Cheers,
Chris

Chris Allan
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From: James Coutts
Sent: Wednesday, 19 August 2020 8:25 AM
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Cc: Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Samantha Reeves <Samantha.Reeves@sunshinecoast.qld.gov.au>
Subject: RE: Draft report for Special Meeting re SCMT

Hi Ken,
Yes, I agree with Bill's additional content and comments.
Could you please revise the report accordingly.
Cheers, James.

James Coutts | Program Director Urban Growth
Urban Growth Projects
Liveability and Natural Assets Group | Sunshine Coast Council

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From: Ken Deutscher
Sent: Wednesday, 19 August 2020 6:33 AM
To: Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>; James Coutts <james.coutts@sunshinecoast.qld.gov.au>
Cc: Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Samantha Reeves <Samantha.Reeves@sunshinecoast.qld.gov.au>
Subject: RE: Draft report for Special Meeting re SCMT

James:

Let me know if you wish me to proceed with integrating these changes or await further review from yourself and/ or other senior staff.

I note and agree with Bill's comments regarding the CHAS. That was included as the A/CEO included coastal hazards as part of the context in his memo to Councillors. That risk certainly occurred to me. I think his suggestion is a better way to go.

Best regards

Ken Deutscher
Project Manager Mass Transit
Urban Growth Projects
Liveability and Natural Assets Group
Sunshine Coast Regional Council
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From: Bill Haddrill
Sent: Tuesday, 18 August 2020 11:53 PM
To: James Coutts <james.coutts@sunshinecoast.qld.gov.au>
Cc: Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Samantha Reeves <Samantha.Reeves@sunshinecoast.qld.gov.au>
Subject: RE: Draft report for Special Meeting re SCMT

Folks,

Apologies for delay in providing a response. Please find attached comments in track changes on the draft report for your consideration.

I have also attached some draft introductory comments I am preparing for an upcoming Growth Management Workshop with Council as part of a series of workshops to develop the new Corporate Plan. I have drawn content from a range of sources, some of which you will recognise that seeks to tell the story around our approach to growth management simply. It is at a high level and does not get into the individual components of our growth management framework, that will come later.

Anyway happy for you to use it to support development of your report as you see fit. Would also appreciate any comments you may have on the draft.

Happy to discuss further as required.

Cheers
Bill

Chief Strategy Officer - Sunshine Coast Council
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From: James Coutts
Sent: Monday, 17 August 2020 6:27 PM
To: Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>
Cc: Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>
Subject: Draft report for Special Meeting re SCMT

Hi Bill,
As mentioned in this afternoon's meeting, please find attached the latest version of the report for the Special Meeting on 27 August 2020, ready for your input in relation to the growth management approach (hopefully) being confirmed through your Corporate Plan workshops with the Councillors.
Craig, you are most welcome to start your process of revision, but equally understand you might prefer to await the addition of Bill's content.
You'll notice I have posed some questions (in margin comments) about what we say in relation to the timing of consultation activities.
Cheers, James.

James Coutts | Program Director Urban Growth
Urban Growth Projects
Liveability and Natural Assets Group | Sunshine Coast Council

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Sunshine Coast Council

From: Craig Matheson
Sent: Thursday, 20 August 2020 5:36 AM
To: James Coutts; Chris Allan
Cc: Bill Haddrill
Subject: RE: SM Report and appendix
Attachments: Mass TRansit - Appendix A - Community Engagement Framework.docx; Mass Transit - Draft Report for Council Special Meeting on 27082020.DOCX

James and Chris

Thanks for sending this through and clearly a lot of work has been done on this report with input from many people – who are all to be congratulated.

I have worked on this overnight and tracked my suggested changes in the attached version of the report and in the community engagement framework.

Tow point that I would like to highlight are:

1. In the community engagement framework, I would caution against using the term "Urban Transformation Project" – this suggests there is a formalised project and project team in place and will only reinforce the thinking of secrecy and activity being undertaken behind closed doors. I would suggest it is best to simply refer to "Urban Transformation" for reasons which I am happy to explain. In using the term, I also believe it needs to be explained in a simple way and in particular, the explanation needs to make clear what it does not mean. This explanation is needed in both the report and the community engagement plan.
2. While there is extensive information in the report about the policy and planning work done to date which highlights the challenge of managing urban growth and the need for an effective public transport system and the approach being taken to develop the business case for SCMT, what is really missing is the "why" – in effect the bridge between forecast growth, what this means for the region, the implications of not planning for and managing this effectively and (most importantly) why a mass transit solution is a crucial and necessary part of addressing these challenges. To my reading, this part of the equation is really missing from the report and I would suggest it needs to be addressed clearly, simply and compellingly because this is a key part of what many do not understand. I will leave it to you as to how this is best remedied in the report.

Thank you again for the opportunity to comment and I hope my suggestions are helpful.

Regards

Craig

From: James Coutts
Sent: Wednesday, 19 August 2020 5:28 PM
To: Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>
Cc: Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Adam Cracknell <adam.cracknell@sunshinecoast.qld.gov.au>; Nick Cooney <Nick.Cooney@sunshinecoast.qld.gov.au>; Natalie Rossow <Natalie.Rossow@sunshinecoast.qld.gov.au>; Internet Mailbox LaNA Group Support <lanagroupsupport@sunshinecoast.qld.gov.au>
Subject: SM Report and appendix

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Hi Chris, Bill and Craig,
Please find attached the latest version of the SM report and the Appendix for your review.
We are aiming to have this to Meeting Management by mid-tomorrow.
Cheers, James.

James Coutts | Program Director Urban Growth
Urban Growth Projects
Liveability and Natural Assets Group | Sunshine Coast Council

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Sunshine Coast Mass Transit
Draft Options Analysis and Urban Transformation

Community Engagement Framework

Attachment 1

Sunshine Coast Council is planning now for future growth to ensure our lifestyle, environment and liveability ~~of the Sunshine Coast~~ is ~~protected~~ maintained and enhanced into the future. The Sunshine Coast is expected to grow to more than 518,000 people over the next 20 years which ~~will require~~necessitates a holistic and ~~a~~ sustainable plan for growth. A critical part of that ~~Part of that~~ plan which will be crucial to maintaining and enhancing the liveability of the region will be an efficient and accessible public transport network.

It is important that our community and stakeholders have the opportunity to share their views, expertise and ideas to help shape our collective future and to inform the planning for a better public transport network for our region. This Community Engagement Framework outlines ~~Council's commitment to consult~~the approach to engage with the community and stakeholders to inform the Draft Sunshine Coast Mass Transit Options Analysis and in doing so, foster a wider understanding of the challenges or managing urban growth and the opportunities associated with urban transformation in the high growth urban coastal corridor. ~~Urban Transformation project.~~

Urban transformation

~~Through the Urban Transformation project,~~ Through its policy and planning instruments developed over the course of the last decade, Council ~~will identify~~has identifed key centres where significant opportunities can be achieved to provide greater housing and lifestyle choice, and improve and enhance local areas. The ~~project will ensure~~objective is on enabling Council to meet~~s~~ the growth targets set ~~by the Queensland Government~~in *ShapingSEQ* in a sustainable way and in a manner that does not undermine or compromise the lifestyle values and characteristics of the region. This includes by focusing on areas where land use change and housing diversity is most appropriate, as well as leveraging a mass transit solution to achieve urban renewal benefits.

The Sunshine Coast Mass Transit project identifies mass transit options for our coastal corridor where around 80 percent of the population lives and where a greater proportion of the population is expected to be accommodated in more accessible, connected and well serviced locations.

The Urban Transformation project will consider the integration of a mass transit solution including land use ~~changes~~ considerations and local area enhancements, such as more walkable suburbs with accessible paths and shade trees to access the corridor. Urban transformation will be focussed on areas close to the mass transit stations that have the greatest potential for renewal rather than existing high-quality residential areas. Consistent with the community's and Council's values, this does not necessitate high-density, expansive and significant building height adjustments across the entirety of the corridor

Planning for a long-term transit solution

As this growth occurs, our community must be less reliant on private vehicles for short regional travel – and an efficient and sustainable public transport solution will be critical in achieving this shift.

Mass transit solutions require significant planning to undertake a rigorous assessment of viability, benefits and impacts through a business case process. The initial phase of this process, the Strategic Business Case, was completed and released in 2019. In January 2020, Council commenced work on the Preliminary Business Case which will be submitted to the Queensland Government once endorsed by Council.

The business case process is guided by the Building Queensland Framework which recently adopted a new approach to change the Preliminary Business Case to an Options Analysis. The new approach aims *"to narrow the breadth of options by applying rigorous evaluation criteria before assessing the viability of any remaining options"*.

The Options Analysis assesses land use, transport, liveability and environmental sustainability challenges, considers options to address these challenges and defines the priority for more detailed investigations. It

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Commented [KH1]: Note: language maintained for consistency with previous announcements and included an explanation in the change in terminology below

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does not establish a definitive position on matters such as the alignment of the mass transit system or property requirements, which are subject to further investigation in the Detailed Business Case and future project delivery planning.

While significant community consultation is to be undertaken during the preparation of the Detailed Business Case, Council considers there would be benefit in seeking early input from the community at the Options Analysis phase while it remains a Council-led initiative, to build on the range of strategies, plans and consultation programs undertaken by Council in recent years.

Therefore, before considering and submitting the Options Analysis to the Queensland Government, Council will seek feedback from our community and stakeholders through an extensive consultation program. This will include a phase of technical engagement with state agencies as well as a conversation with the community around the views and ideas for the mass transit system and the form and character of the surrounding areas.

Once the engagement program is complete, the draft Options Analysis will be finalised with community and stakeholder inputs and presented to ~~Full~~ Council for consideration. The final Options Analysis will clearly articulate the engagement program, findings and ways community input has shaped the final document.

Once the Options Analysis is considered and endorsed by Council in 2021, it will be provided to the Queensland Government as the basis for the preparation of the Detailed Business Case – to be led by the Queensland Government ~~in partnership with Council~~.

Our approach to engaging

Council is committed to best practice engagement and genuinely seeking meaningful input that will help shape the way in which we continue to live, travel, work and play.

Consultation will be based on the International Association for Public Participation (IAP2) standard as the best practice framework for community engagement. Consultation will be undertaken at a number of points through the planning lifecycle for this project, at times which are appropriate to seek input to ensure there is a genuine opportunity for the community to influence the project.

The following principles will underpin Council's ongoing community engagement process:

Timeliness – Council will engage with its community in ways that are timely, open to all, easily understood and not overly bureaucratic or resource-intensive.

Information and feedback – the community has the right to be well-informed on issues and receive feedback from Council on how its input will be used to inform Council decisions.

Mutual respect – Council's goal is one of inclusive involvement. All voices matter, all opinions are valued and considered.

Action learning – Council is committed to the development of innovative engagement approaches, learning from each engagement experience, and using such learning to improve our approaches to engagement.

Foresight – Council engages with its community not only to learn about and respond to present needs, but also to gain a better understanding of our communities' perspective on emerging issues that may affect our preferred future.

In the pursuit of best practice business case development, the Building Queensland stakeholder engagement principles will also guide the strategic engagement approach which are outlined in the *Stakeholder Engagement Guide, Business Case Development Framework.*

Opportunities for engagement

There are several opportunities for the community to have input into the Mass Transit project including:

Corporate Plan 2021-2025

As part of Council's annual review of its Corporate Plan, community and stakeholders will be invited to provide input into the broader context of managing growth including a sustainable public transport network.

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Engagement on the Corporate Plan will help to provide a further context for subsequent engagement on mass transit and urban transformation and will help set the strategic drivers for Council and the Sunshine Coast. Engagement on mass transit will therefore be complementary to this engagement.

Draft Sunshine Coast Mass Transit Options Analysis and Urban Transformation project

A community engagement program will be undertaken to seek feedback on the mass transit options identified in the Options Analysis and the community's views and ideas on ~~for the U~~urban ~~t~~Transformation ~~project~~, including land use scenarios and urban renewal opportunities. In addition to community input received over many years on a range of Council's policy and planning instruments, further f~~F~~eedback will be sought on the community's values around local character, landscape, heritage and culture, mass transit design, as well as local facilities, open space and enhancements opportunities.

Council will also reconfirm the community's feedback and views received to date on key elements including growth management, jobs, connectivity, liveability and accessibility.

Future opportunities

Delivering a mass transit system is a long-term process that requires years of planning and an ongoing commitment from all levels of government. This means there are several additional opportunities for stakeholders and the community to help shape the project by having their say, including:

- Detailed Business Case – community engagement is also a critical component to the preparation of the Detailed Business Case. While this process will be managed by the Queensland Government, ~~f~~Feedback will likely be sought on the reference design, including its alignment and the proposed locations and form of the stations. Engagement will also seek input on land use planning ideas including the local character that needs to be protected and the enhancement opportunities to benefit the community.

- Planning scheme amendments – should the Detailed Business Case be approved and ~~funding secured to deliver~~the State Government decides to proceed with the project, there may be changes required to the Sunshine Coast Planning Scheme, which will be subject to a separate statutory community consultation process in accordance with the *Planning Act 2016*.

Engagement program

The Draft Sunshine Coast Mass Transit Options Analysis and Urban Transformation engagement program will be delivered in three stages. ~~The consultation phase is scheduled to commence after the adoption of the *Sunshine Coast Council Corporate Plan 2021–2025* in early 2021.~~

The program will give people the opportunity to have their say at a time when the community is best placed to participate (i.e. when a sufficient period is available outside school holidays, taking account of COVID-19 considerations).

The proposed timeframes provide time to plan a high-quality engagement program, prepare tools and materials to explain the technical elements of the draft Options Analysis, to enable broad understanding and meaningful participation, and to ensure resources are available to manage the engagement process and properly consider and analyse the feedback received. Prior to the formal engagement program, ~~In the meantime~~, Council will provide additional and more informative material ~~information~~ about the project to ensure the community has an opportunity to become more aware of the project and make the most of the ~~consultation~~ engagement process to follow.

A well-planned and considered engagement program will offer a range of consultation opportunities and engagement methods to ensure equitable and informed participation. The program will incorporate digital engagement techniques alongside traditional engagement methods and tools may include web-based surveys, virtual and in-person community information sessions and focus groups.

The engagement program will be delivered through the following key phases.

Table 1: Engagement milestones for the Mass Transit Draft Options Analysis and Urban Transformation

Engagement program		
Stage	**Objective**	**Timeframe**

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1 – Inform	To inform and educate the community about the mass transit project and urban transformation ~~projects~~, the next steps and how to be involved in future stages.	Late 2020
2 – Engage	To engage with community and stakeholders on options for mass transit and to seek thoughtful and well considered feedback to inform the final Options Analysis.	Early 2021
3 – Feedback	To report back to Council, our community and stakeholders about how their input has been considered and incorporated into the final Options Analysis.	Mid 2021
Future engagement opportunities		
Future	Detailed Business Case engagement led by the Queensland Government	TBA
Future	Planning scheme amendments - statutory community consultation (as required)	TBA

Commented [CM2]: There needs to be a "Pre-engagement" stage that focusses on information flows, correcting misinformation, creating more widescale awareness than just those arguing the negative etc

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8.2 SUNSHINE COAST MASS TRANSIT UPDATE

File No: **Council meetings**

Author: **Project Manager**
Liveability & Natural Assets Group

PURPOSE

The purpose of this report is to:

~~1. Advise Council of the progress made in preparing a business case for Sunshine Coast Mass Transit, in particular the *Options Analysis* phase of the business case process~~

~~2.~~1. Outline the range of broader strategic and interconnected issues (such as the regional planning directions, urban growth challenges, coastal hazard responses, integrated transport planning and infrastructure sequencing) which will shape the future liveability of the Sunshine Coast and the importance of these considerations in considering the public transport requirements of the region and ~~to enable a full appreciation of all of these elements as part of progressing further with~~ the *Options Analysis* for a mass transit system

2. Provide detail on the scope and structure of ~~the~~ an *Options Analysis* document as set down in the Queensland Government's business case development framework

3. Advise Council of the progress made in preparing a business case for Sunshine Coast Mass Transit, in particular the *Options Analysis* phase of the business case process

~~3.~~

4. Present a community engagement framework for Council's consideration to support our community's understanding of these challenging issues and to understand their views of the options before us.

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EXECUTIVE SUMMARY

Over the past 20 years, the population of the Sunshine Coast has grown by 125,500 people or 67.7 per cent, at an average of 2.8 per cent per year. Overall, this is the second highest growth rate of any region in Queensland. The region's population is projected to continue to grow strongly, reaching 518,000 in 2041 and more than 600,000 by 2050.

~~This gives rise to major challenges in managing growth over the next three decades.~~ Population growth and increasing congestion will continue to put pressure on housing, transport, lifestyle, employment, social infrastructure and the environment. At the same time, failing to plan for how to manage and accommodate growth and do so in a way that maintains the lifestyle and landscape values of the region, will only exacerbate these impacts and undermine the liveability of the region.

Through its land use and infrastructure planning work over the last 12 years, the ~~e~~ Sunshine Coast Council has ~~a plan~~put in place and range of strategies and other policy and regulatory levers to sustainably manage the projected population growth of the Sunshine Coast over the decades ahead – ranging from the Sunshine Coast ~~, as conveyed in the~~ Planning Scheme ~~and the range of supporting Council strategies~~to our Integrated Transport Strategy to the important work currently underway on the Sunshine Coast Coastal Hazards Adaptation Strategy. The common thread across all of this work is ~~is plan aims~~ to preserve the Sunshine Coast's character, lifestyle and iconic natural environment as essential contributors to the

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region's ~~natural (competitive) advantage~~value proposition. But the region's lifestyle, and its valued natural environment are at risk due to very high dependence on private motor vehicle travel, and an increasing trend towards development of new suburbs at the urban fringe as the main way to cater for population growth.

The vision for the Sunshine Coast Mass Transit project is ~~at the heart of the~~an important element of Council's plan to manage growth - *a step change to public transport that can set the region on a path to sustainable transport and appropriate urban development*.

Work already done by Council has shown this vision can be achieved through:

- providing a high quality regional mass transit solution to connect the region's main residential, employment and recreational precincts, supported by an integrated feeder bus and active transport network
- containing the rate of urban expansion that results in car-based suburban greenfield developments to the agreed expansion areas at Caloundra South, Palmview and Beerwah East
- locating the majority of new housing and jobs in the catchment of the mass transit system, while maintaining a recognisable low key Sunshine Coast character.

The alternative is to see urban sprawl, to continue to provide additional lanes to existing roads, build new roads, and provide major increases in car parking in and around centres and beachside precincts. This alternative would see many existing urban areas become places catering more for cars and less for people, with their amenity and attractiveness irreparably compromised.

The plan to manage growth and protect our lifestyle is given effect by a broad range of Queensland Government and Sunshine Coast Council policy documents, addressing regional planning directions, urban growth challenges, habitat preservation, Greenhouse responses, coastal hazard responses, integrated transport planning and infrastructure sequencing.

An investment in a regional mass transit solution is a major intervention that can only be delivered by the Queensland Government, which is responsible for public transport on the Sunshine Coast. ~~Council can partner in this but cannot deliver it.~~

However, the State has been unwilling to date to effectively plan for a viable and accessible public transport solution for the coastal urban corridor – the area where around 80 % of the region's population lives. In 2011, Council – led by then Councillor Vivian Griffin – took up the responsibility to start planning for a more integrated and accessible mass transit solution for the region.

For any significant public transport network to be considered for funding, it must be underpinned by a supportive business case. Council endorsed the first phase of the business case process - the *Strategic Business Case* - in July 2019. The purpose of this phase (now known as a *Strategic Assessment* under Building Queensland's April 2020 guidelines) is to define a problem or opportunity that needs to be addressed, identify potential ideas that could resolve the issues or develop the opportunity, and evaluate whether any of the ideas have the potential to be viable options.

The second phase, previously known as the *Preliminary Business Case* and now known as the *Options Analysis* ~~under Building Queensland's updated April 2020 guidelines~~, aims to "narrow the breadth of options by applying rigorous evaluation criteria before assessing the viability of any remaining options". Work on this phase ~~is~~ has been substantially progressed and focusses on the first stage of an integrated urban public transport solution for the region.

Draft analysis undertaken to date is supportive of the need for, and value of, a substantially improved and integrated public transport solution and a related urban transformation strategy, and identifies the unacceptable consequences of not pursuing this strategy. When completed, the draft *Options Analysis* will provide an assessment of a shortlist of options for Stage 1 of the mass transit response. ~~Typically at this *Options Analysis* phase the State~~

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would not undertake community engagement on similar projects, although there is nothing to prevent this.

However, it is acknowledged that tThe draft *Options Analysis* will be a large document containing is being developed with extensive technical content. However, it and that italso forms part of an important broader strategic context connected with a range of urban growth planning policy issues. All of these elements need to be considered and progressed in an integrated manner to maximize the outcome for our communities and to ensure that the liveability and connectivity of the region is not only maintained, but enhanced.

With this mind it is important that council engages with the community to support its understanding of these challengingon this breadth of issues and to understand the views of the Sunshine Coast community about how to best respond to the challenges of growth. To that end, a community engagement framework is provided in Attachment A for Council's consideration.

The Options Analysis will be presented to Council for consideration in 2021 when it is finalised following the completion of Council's community engagement activities. Should Council approve the Options Analysis at that time, it will then be formally transmitted to the State Government for assurance review. Once finalised, the Department of Transport and Main Roads will take the lead on the development of the detailed business case, which will be needed to influence and inform any State and Federal government funding decisions for a public transport solution of this nature.

If approved, consultation on options presented in the draft *Options Analysis* report could be feasibly undertaken in the first quarter of 2021. Of course the process must be subject to a COVID-Safe plan to protect staff and the community. The results of this consultation could then be integrated into a final *Options Analysis* report presented to Council for endorsement in mid-2021. This would enable the *Options Analysis* report, if endorsed, to be transmitted to the State to undertake their formal assurance review. The results of this consultation could also inform reviews of other related strategies as they fall due.

Subject to the outcomes of the State's assurance review, detailed planning in the next phase, retaining the title of *Detailed Business Case*, aims "to evaluate the viability of the highest ranked option/s with surety of outcomes across all evaluation criteria and develop investment implementation plans". It is the final phase in the business case process before funding approval for construction can be sought. This phase would be led by the State.

On 8 May 2019 the Premier and Minister for Trade, the Honourable Annastacia Palaszczuk announced *"a contribution of up to $7.5 million by the State Government would be matched by Council to help develop a detailed business case for the first stage of an integrated urban public transport solution for the Coast, including pricing options for light rail".*

Under the approach typically followed by the State for detailed business cases of this kind, The *Detailed Business Case* process for Sunshine Coast Mass Transit would include extensive community engagement on all detailed aspects of the proposed project.

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OFFICER RECOMMENDATION

That Council:

(a) receive and note the report titled "Sunshine Coast Mass Transit Update"

(b) note that a further report will be presented to Council in the first quarter of 2021 to advise the findings of draft *Options Analysis* report including:

- **mass transit technology options and broad options for urban transformation to achieve a more compact urban form, and**

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- ~~seeking approval to undertake~~the outcomes of Council's ~~a~~ **community engagement** plan ~~strategy~~ **on the draft report** ~~prior to its consideration by Council~~**.**

(c) endorse the community engagement framework contained in Appendix A.

FINANCE AND RESOURCING

The preparation of the draft *Options Analysis* is being funded through the Transport Levy allocation from the budget. A total of $3,360,916 was allocated for this work in 2019/2020.

The 2020/2021 budget allocates $3,000,000 from the Transport Levy. A further $4,500,000 is foreshadowed in the 2021/2022 budget, as per the agreement with the Queensland Government. This will be matched by $7,500,000 from the Queensland Government.

Commented [CM1]: Collectively this funding is to represent our contribution to the Detailed Business Case. This needs to be reconsidered given very little of the $3 million in 2020/2021 will be spent on the DBC.

CORPORATE PLAN

Corporate Plan Goal: ***A strong community***
Outcome: 1.4 - People and places are connected
Operational Activity: 1.4.1 - Implement priority activities from the Integrated Transport Strategy 2018.

CONSULTATION

Councillor Consultation

A Sunshine Coast Mass Transit Cross Departmental Working Group was established in August 2018 to steer the Sunshine Coast Mass Transit Project.

The Working Group was comprised of:

- Mayor M Jamieson
- Former Deputy Mayor Councillor T Dwyer
- Portfolio Councillor R Baberowski – Transport, the Arts and Heritage
- Portfolio Councillor C Dickson – Planning and Development
- Portfolio Councillor P Cox – Place Development and Design
- Former Division 4 Councillor J Connolly
- Division 8 Councillor J O'Pray

The Working Group was convened six times, with the most recent meeting being held on 20 January 2020.

Following the March 2020 election, the Working Group was reformed as the Sunshine Coast Mass Transit Project Control Group comprising:

- Mayor M Jamieson
- Deputy Mayor and Community (Transport) Portfolio Councillor R Baberowski
- Environment and Liveability (Place making) Portfolio Councillor P Cox
- Service Excellence Portfolio Councillor C Dickson.

The Project Control Group convened on 8 July 2020.

A series of Councillor workshops on the Sunshine Coast Mass Transit business case process were held during the period from early 2018 to July 2020.

Internal Consultation

Also present on the Sunshine Coast Mass Transit Project Control Group are:

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- Chief Executive Officer
- Chief Strategy Officer
- Group Executive Liveability and Natural Assets
- Group Executive Customer Engagement and Planning Services
- Manager Transport and Infrastructure Planning.

External Stakeholder Engagement

A Business Case Reference Group has been established to guide and provide input to, and monitor the preparation of, the business case.

Participants in this reference group include:

- Infrastructure Australia (Commonwealth Government)
- Commonwealth Department of Infrastructure, Transport, Regional Development and Communications
- Queensland Department of Premier and Cabinet
- Queensland Department of State Development, Manufacturing, Infrastructure and Planning (the relevant parts of which are now in Queensland Treasury)
- Building Queensland (Queensland Government)
- Queensland Treasury
- Queensland Department of Transport and Main Roads.

Community Engagement

Both the *Strategic Business Case* and the draft *Options Analysis* integrate the results of significant previous community consultation undertaken by Council in relation to transport policy and, in particular, mass transit proposals in 2012, 2014 and 2018, as outlined below.

2012 – The *Line in the Sand* Report

Council's *Line in the Sand* process included a broadly representative community taskforce, supported by expert advisers from Council. The process canvassed six technology options for a mass transit system as a game changer for the Sunshine Coast. An online consultation hub, launched in January 2012, attracted more than 2,900 visits and 228 people took part in the poll on the hub. The recommended proposal for light rail on the Sunshine Coast was supported by 82 per cent of those who completed the poll.

Commented [CM2]: That means 187 people (out of a population of some 300,000) supported light rail – that is 0.06% of the population. I really don't think this metric helps the case

2014 – Sunshine Coast Light Rail – route options

Consultation was undertaken in late 2014 based on a detailed Route Options and Impact Assessment report. The report covered both transport needs and city shaping opportunities. As a result of consultation more than 700 people had their say on light rail route options proposed for Maroochydore, Mooloolaba, Kawana and Caloundra. The vast majority (87 per cent) supported Council's investigations into light rail and their feedback contributed to the selection by Council of a preferred route for further study.

Commented [CM3]: Again, this level of response is not particularly helpful

2018 – Draft Integrated Transport Strategy

Council undertook market research and community consultation between November 2017 and July 2018 to help shape the *Integrated Transport Strategy*, which was released in early 2019. Key findings from the market research and community consultation relevant to the Sunshine Coast Mass Transit Project have been integrated with the business case workings.

Other consultation

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Consultation on the broad need for improved transport connections and ~~a more compact urban form~~the implications of a growing population was embodied in:

- The Regional Economic Development Strategy adopted in 2013
- The Sunshine Coast Planning Scheme adopted in 2014
- The Environment and Liveability Strategy adopted in 2017
- The Sunshine Coast Community Strategy adopted in 2019.

The Queensland Government also undertook community consultation in relation to the extent and form of dwelling and employment provision on the Sunshine Coast to 2041 as part of the preparation of *ShapingSEQ* - the South East Queensland Regional Plan - released in 2017.

Future consultation

~~Consistent with the approach typically adopted by the State in business case work of this type, project planning for the initial two phases of the process, run by council was based on the extensive detailed community engagement occurring during the *Detailed Business Case* phase, when there is more in depth knowledge of the project and its impacts. This approach also took account of the fact most of the consultation on the directions and issues and the need for the project had been undertaken in the extensive consultation processes surrounding the Planning Scheme, the SEQ Regional Plan and the suite of key strategies approved by Council in the past 5 years. In particular the Integrated Transport Strategy consultation undertaken in 2017-2018 addressed the need for a mass transit solution. Instead, a strategy of making the business case reports public was adopted, with an opportunity for people to provide feedback if desired.~~

~~The approach of leaving community engagement to the *Detailed Business Case* phase was advised to Council in reports made to it in July 2019 and January 2020.~~

~~However it is appreciated~~**Appendix A** to t~~t~~his report outlines a community engagement framework that will be designed to promote a wider scale understanding of the range of interconnected considerations associated with managing growth within the region and particularly, the coastal corridor and the important contribution that a public transport solution, based on mass transit, to accommodate growth and maintain the liveability of the region. The various facets of the community engagement framework will be progressively implemented over the course of at least the next six months in order to inform the finalisation of the Options Analysis. The Options Analysis will be presented for Council's consideration once it has been informed by the outcomes of the community engagement process.

~~he business case process is complex and not easily understood by the general public. Consideration of this fact, and the importance of the Sunshine Coast Mass Transit Project to the region's future, and its relationship to broader growth management planning, has led to a review of the previous community engagement approach. As a result, community engagement on the mass transit technology options and broad options for urban transformation to achieve a more compact urban form is recommended for the first quarter of 2021 to inform Council's consideration of the draft *Options Analysis*.~~

As previously advised in Council reports of July 2019 and January 2020, further detailed community engagement on all aspects of the Sunshine Coast Mass Transit Project is also expected to be part of the *Detailed Business Case* phase, which will be led by the Queensland Government ~~in partnership with Council~~ and is likely to occur in 2021/22 once the Options Analysis has been endorsed by Council and accepted by the State.

~~Of course the~~The Queensland Government has not yet determined its approach to the *Detailed Business Case*. When it does, a further report will be made to Council to confirm the scope and program for the *Detailed Business Case*, including the nature and timing of community engagement in relation to the reference project design for the mass transit

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system and the detail of any proposed urban transformation components (with the latter likely to be led by Council).

PROPOSAL

~~**Introduction**~~

Over the past 20 years, the population of the Sunshine Coast has grown by 125,500 people or 67.7 per cent, at an average of 2.8 per cent per year. Overall, this is the second highest growth rate of any region in Queensland. By comparison, Queensland's population grew by only 35 per cent at an average of 2 per cent per year over the same period. The region's population is projected to continue to grow strongly, reaching 518,000 in 2041 and more than 600,000 by 2050.

With the absence of a viable, accessible and efficient public transport network, the ~~The~~ region is heavily dependent on car transport and continues to rapidly expand its urban boundaries. Public transport use is very low, and the current system, while suited to a smaller regional community, cannot cope with the requirements of a major city region that the Sunshine Coast is ~~rapidly growing into~~becoming. This gives rise to major challenges in managing growth over the next three decades. Population growth and increasing congestion will continue to put pressure on housing, transport, lifestyle, employment, social infrastructure and the environment. There is a real risk of a vicious circle developing as shown opposite, diminishing the very qualities of the region that make it an attractive place to live and visit.



Current policy context

The Sunshine Coast Mass Transit project is a one of the ~~vital~~ critical parts of Council's growth management plan. It is an initiative that implements the policies and objectives of a suite of key strategies and plans involving:

- Regional Economic Development Strategy 2013
- Sunshine Coast Planning Scheme 2014
- Sunshine Coast Environment and Liveability Strategy 2017
- Sunshine Coast Integrated Transport Strategy 2019
- Sunshine Coast Community Strategy 2019
- Sunshine Coast Council Corporate Plan 2020 to 2024
- Coastal hazards adaptation strategy"*Our Resilient Coast. Our Future*" (under development)

The Sunshine Coast Regional Economic Development Strategy 2013 included extensive stakeholder and community engagement. It provided a blueprint ~~secure the~~to develop a New Economy as the region grows through:

- securing high levels of investment and grow enduring employment opportunities

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- investing in its communities and deliver the essential infrastructure and services that communities require
- preserving the lifestyle and environment that is so highly valued by the Sunshine Coast.

The Strategy defined an *Enterprise Corridor* - stretching primarily along the coastal strip from ~~north of~~ the Sunshine Coast Airport to Caloundra South and bounded to the west by the Bruce Highway. The Enterprise Corridor was incorporated into the Sunshine Coast Planning Scheme 2014 and ~~will~~ represents the key area for commercial and residential growth over the next 20 years and provides the location for many of the high-value industries to establish, expand and mature. Recognising the importance of connecting businesses to each other and to their workforce, it contained an action by 2018 to:

> "Identify and preserve future priority public transport corridors to connect major business, tourism, education and population centres within the Enterprise Corridor."

With action approved by Council on 23 April 2015 to *confirm the recommended light rail route corridor with which to proceed to more detailed feasibility and business case studies,* and the previous actions by the Department of Transport and Main Roads to declare the CAMCOS corridor as a future public transport corridor, this action is completed. The current Sunshine Coast Mass Transit business case development process takes the provision of suitable infrastructure to the next step.

The Sunshine Coast Planning Scheme 2014 was produced on the basis of very detailed and extensive community engagement over a three year period ~~as provided by the (then) *Sustainable Planning Act 2009*~~. It provides a clear plan for managing growth until 2031. The scheme conveys a specific set of policies aimed at managing growth under Section 3.2 – Strategic Intent (p 3.3):

> *"The pattern of settlement is characterised by well-defined urban and rural residential areas and the progressive transition towards a more compact, efficient and functional urban form.*
>
> *The majority of new growth is located in the Sunshine Coast Enterprise Corridor, within and surrounding the mixed use regional activity centres of Maroochydore, Caloundra, Kawana and Sippy Downs and in the emerging communities of Palmview, Kawana Waters and Caloundra South.*
>
> *Significant new growth is also located in Nambour as the dominant major regional activity centre serving hinterland areas.*
>
> *Major development areas at Maroochydore, Kawana Waters, Palmview and Caloundra South provide integrated, well planned communities which showcase sustainable development, affordable living and align infrastructure delivery with development.*
>
> *These major developments are the keystones for the shift towards a more sustainable and transit supportive pattern of settlement.*
>
> *Over time and in conjunction with more detailed local planning initiatives there is an increase in the intensity of development and the proportion of the population living along the Maroochydore to Caloundra Priority Transit Corridor.*
>
> *This corridor links regional activity centres and the major development areas, and is part of the integrated transport system for the Sunshine Coast.*
>
> *Other opportunities for infill development are provided in selected locations throughout the urban fabric, although many established low density residential neighbourhoods are retained in their current form in recognition of the high quality lifestyle and character offered by these areas.*
>
> *Outside of defined urban and rural residential areas, rural and natural areas are protected and enhanced for their rural enterprise, landscape and environmental values.*

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> *These areas separate the Sunshine Coast from other parts of metropolitan South East Queensland and provide the landscape setting and biological diversity for which the Sunshine Coast is renowned."*

The Planning Scheme also provides a range of policies and provisions to ensure a distinct Sunshine Coast urban form is fostered. For example at:

- *Section 3.3.1. - Strategic outcomes for the settlement pattern*

  (f) The form and structure of new and consolidated urban areas contributes to the achievement of a more compact urban form and an effective and efficient transport network that supports increased use of walking, cycling and public transport and has a positive influence on the community's physical activity and health in general.

  (g) affordable, attractive and diverse living opportunities are provided with convenient access to integrated transport, employment, community, education, health, sport, recreation and other services. A range of housing choices are provided in locations that are close to activity centres and active and public transport. Housing is designed to be adaptable and reduce current costs.

- *Section 3.3.2. Element 1 -Character, lifestyle and environment attributes:*

  (ii) maintaining a settlement pattern and encouraging built form that is distinct to the Sunshine Coast and which avoids prominent symbols and negative attributes of larger metropolitan areas (i.e. undistinguishable tracts of urban sprawl and oversized transport corridors with bare acoustic walls and signage);

The ~~Queensland Government's~~ **South East Queensland Regional Plan 2017 (*ShapingSEQ*)** sets a 50-year vision for the South East Queensland region to be globally positioned as a unique sub-tropical living environment. *ShapingSEQ* was also the subject of an extensive community consultation process, including on the Sunshine Coast, during 2016 and 2017. Specifically, its plan for the next 25 years recognises the growth forecasts for the Sunshine Coast and consistent with many of Council's policy settings~~aims to build on the strength of the Sunshine Coast region by:~~

- focus~~inges~~ 62 per cent of new residential development in the existing urban area
- prioritis~~inges~~ public transport and active transport (i.e. walking and cycling)
- provid~~esing~~ for the progression of region-shaping infrastructure to increase accessibility and productivity.

~~To help achieve these objectives, *ShapingSEQ* at page 122 identifies an urban corridor from Maroochydore to Caloundra, supported by a high frequency passenger transport service. This would result in the urban corridor between Maroochydore and Caloundra becoming a cohesive collection of distinctive, high quality urban environments that are typically 'Sunshine Coast' in character and which optimise accessibility to future passenger services. Mixed use development opportunities, housing choice and affordability, would also be promoted.~~*Shaping SEQ* is a statutory document under which Council is required (as indicated above) to provide for 62% of all new dwellings to be accommodated by way of urban consolidation, primarily in the urban corridor from Maroochydore to Caloundra, as follows:

> *"The intent to use land and infrastructure efficiently will be supported by focusing density in and around appropriate locations along the urban corridor from Maroochydore to Caloundra, and in areas with superior access to public transport, employment and services."*
>
> *"Further growth and urban renewal along the proposed passenger transport corridor, between Maroochydore and Caloundra, will provide a cohesive corridor of distinctive, high-quality urban environments that are typically 'Sunshine Coast' in character and optimise access to future passenger transport services."*

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The Sunshine Coast Environment and Liveability Strategy 2017 was also the subject of extensive community engagement. It provides council's response to a rapidly changing world where there will be many challenges and opportunities for the Sunshine Coast way of life – increasing population, changing climate, economic growth and emerging technologies.

The timely delivery of an effective and efficient transport network underpins the strategic directions of the Environment and Liveability Strategy. It also noted the need to manage and consolidate urban growth in order to protect the region's lifestyle and natural assets (p 46):

> *"Currently 70% of our residents live along the coastline putting significant pressure on the built and natural environment in this narrow strip and challenging our ability to maintain the relaxed lifestyle, protect assets from coastal hazards and retain the connection with the natural environment that is so highly valued.*
>
> *It is anticipated that the future growth will predominately be located in the coastal area with an emphasis on infill development transitioning to a more consolidated urban form supported by appropriate infrastructure, such as a light rail system, facilities and services. Creating a new way of living and minimising impacts on our natural environment.*
>
> *Future development will be modelled on the principles of self-containment and sustainability encouraging walking, cycling and access to employment, transport, open space and services."*

The Sunshine Coast Integrated Transport Strategy 2019 was also the subject of extensive community engagement process throughout 2018 and 2019. It established the major transport challenges facing the region as it grows, and set key targets to reduce the dominance of private motor travel and increase sustainable transport modes. At page 43 the Strategy provided a High Frequency Public Transport Network Plan for 2041. This included a *Priority Transport Project* to improve public transport:

> *"Sunshine Coast Light Rail (Federal / State / Council). Council is developing a business case for the Light Rail project to submit to the State Government. Light rail could provide a high-frequency transit solution extending initially from the Sunshine Coast Airport, through Maroochydore and the Sunshine Coast University Hospital precinct to Caloundra and then beyond. It will serve the Enterprise Corridor where population and employment growth are expected to increase significantly."*

The Transport Strategy further noted (p 30):

> *"Consolidated and compact urban form around activity and employment centres and along major transport corridor nodes, will generally make it easier to service from public transport (including high-frequency passenger transport) and may assist in increasing public transport patronage and visibility."*

The Sunshine Coast Community Strategy 2019 was similarly developed with extensive community engagement. It notes the Sunshine Coast is experiencing a transformation from a regional centre to a regional city, reflecting deeply entrenched trends in ~~the~~ Australian society that are seeing attractive coastal cities continue to grow.

The Community Strategy ~~advised~~ identifies that one key priority the community expected of council was to work with other levels of government to develop innovative responses to public transport and mobility options, as well as housing affordability and homelessness. At page 31 it includes an action to:

> *"Collaborate and partner with government, community and relevant sectors to find solutions to transport challenges, and encourage travel behaviour change from a reliance on vehicle use to more sustainable means of transport."*

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Commented [CM4]: Dates need to be confirmed. Including dates/timeframes for each exercise is important to demonstrating how recent and contemporary the consultation period has been.

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Sunshine Coast Council's Corporate Plan 2020 to 2024 conveys a vision for the Sunshine Coast as *Australia's most sustainable region. Healthy. Smart. Creative.* Based on the growth management and transport issues noted above, a step change in public transport is required to set the Sunshine Coast on a path to sustainable transport and urban development. The Corporate Plan notes (p 28):

> *"Council is continuing to build its case for the development of an integrated mass transit system to service the Sunshine Coast's growing population.*
>
> *While other levels of government are accountable for many elements of the transport system, Council is willing to be a catalyst for improvement and innovation where it contributes to the sustainability of the region. As a key example of this, Council is continuing to build its case for the development of an integrated mass transit system to service the Sunshine Coast's growing population."*

Coastal hazards adaptation. The first stage of the Sunshine Coast Mass Transit is proposed to traverse the coastal corridor from Maroochydore to Sunshine Coast University Hospital, an area ~~that may potentially benefit from~~of focus for coastal hazard adaptation. Council is preparing **"*Our Resilient Coast. Our Future.*"** - a long-term strategy to help manage the impacts of coastal hazards. Coastal hazards include erosion of beaches, and short or long-term seawater inundation of land along the coastline.

The strategy aims to better understand coastal hazards, to reduce impacts on the coastline and its communities, and to enhance the resilience of the coastline over time. The strategy is expected to be completed in 2022. When available, any relevant outputs can be progressively integrated into the detailed business case phase for Sunshine Coast Mass Transit and future land use planning to improve the understanding of adaptation responses.

~~Supporting the policy context set by Council, ***ShapingSEQ*** **~~the South East Queensland Regional Plan 2017~~**~~, sets down the Queensland Government's policies for managing the growth of the SEQ region to 2041.~~

~~*ShapingSEQ* has the force of law and compels Council's planning to show how it will provide for 62% of all new dwellings to be accommodated by way of urban consolidation, primarily in the urban corridor from Maroochydore to Caloundra, as follows:~~

> ~~*"The intent to use land and infrastructure efficiently will be supported by focusing density in and around appropriate locations along the urban corridor from Maroochydore to Caloundra, and in areas with superior access to public transport, employment and services."*~~
>
> ~~*"Further growth and urban renewal along the proposed passenger transport corridor, between Maroochydore and Caloundra will provide a cohesive corridor of distinctive, high-quality urban environments that are typically 'Sunshine Coast' in character and optimise access to future passenger transport services."*~~

Business Case Process and Phasing

A major investment in any significant public transport network must be supported by an extensive business case. On the Sunshine Coast, the responsibility for the public transport network rests with the Queensland Government – not Council – and any major upgrade or expansion of the existing network will need to be funded and delivered by ~~mass transit will require significant funding from~~ the Queensland Government and most likely, with ~~the Australian~~ Federal Government co-investment. To qualify for major capital funding, a formal business case process must be followed.

As outlined above, Council has long recognised the challenges that present in managing and accommodating forecast future growth and through a wide-range of policy and planning instruments, has identified the criticality of an efficient and accessible public transport network within the urban coastal corridor to support the functionality of this high growth area, alleviate congestion and retain and potentially enhance the liveability of the region.

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However, the necessary planning and business case development work for an effective public transport network has not been progressed by the State Government and in 2011, Council embarked on this planning phase in the interests of positioning a new public transport network for the urban coastal corridor for consideration and delivery by the State Government.

Council is ~~therefore~~ undertaking the initial phases of the business case development process for Sunshine Coast Mass Transit in accordance with the guidelines issued by the Queensland and Australian governments.

Business case frameworks

Business cases for major infrastructure projects ~~i~~In Queensland are undertaken in accordance with Building Queensland's Business Case Development Framework. The preparation of business cases under this framework allows for consideration of the project in the Queensland Infrastructure Pipeline. This identifies endorsed Queensland Government infrastructure proposals ~~that are unfunded for delivery~~ with a minimum capital cost of $50 million. This is an essential step in the project being considered for future capital funding from the Queensland Government.

Australian Government infrastructure investment priorities are informed by Infrastructure Australia. Proposals requesting significant capital funding from the Australian Government also need to satisfy the requirements of Infrastructure Australia's *Business Case Assessment Framework*. In practice it is possible to orient the Queensland Business Case Development Framework work on a business case to also meet Infrastructure Australia's requirements, which is the approach being adopted for the Sunshine Coast Mass Transit Project.

The Building Queensland Business Case Development Framework was updated in April 2020, when substantial work on the *Preliminary Business Case* for Sunshine Coast Mass Transit had been progressed under the old guidelines. Accordingly Building Queensland agreed Council could progress in line with the old guidelines, while recognising the changes in the new framework. Table 1 shows the previous and new terminology for the various business case phases. To reflect the new framework, the subject document prepared by council has now been retitled the draft *Options Analysis*.

Previous terminology	New terminology (from April 2020)
Strategic Business Case	*Strategic Assessment*
Preliminary Business Case	*Options Analysis*
Detailed Business Case	*Detailed Business Case*

Table 1. Previous and new phasing terminology applied by Building Queensland

~~Australian Government infrastructure investment priorities are informed by Infrastructure Australia. Proposals requesting significant capital funding from the Australian Government also need to satisfy the requirements of Infrastructure Australia's *Business Case Assessment Framework*. In practice it is possible to orient the Queensland Business Case Development Framework work on a business case to also meet Infrastructure Australia's requirements, which is the approach being adopted for the Sunshine Coast Mass Transit Project.~~

The Council team has maintained close liaison with both Building Queensland and Infrastructure Australia to ensure the business case workings meet the requirements of their respective business case frameworks. Their focus on the current phase has been on defining the problems and opportunities, and ensuring a robust evaluation of transport and non-transport options. ~~It is expected the State and Council will continue this liaison throughout the *Detailed Business Case* phase, if progression to that phase is approved.~~

The *Strategic Business Case* is completed

The role of the *Strategic Business Case* (now called *Strategic Assessment*) is to define a problem or opportunity that needs to be addressed, identify potential ideas that could resolve the issues or develop the opportunity, and evaluate whether any of the ideas have the

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potential to be viable options. It aims, *inter alia*, to establish that there is a need for a project. The *Strategic Business Case* was approved by Council on 25 July 2019, has been publically available since that time (unlike other business case documents of other agencies) and has been transmitted to relevant Queensland and Australian Government agencies. The feedback of these agencies has guided the work on developing the draft *Options Analysis*. ~~Following its approval by Council, the full *Strategic Business Case* was made public through the project's website.~~

The draft *Options Analysis* is well advanced

The second phase, the draft *Options Analysis* (previously known as the Preliminary Business Case), aims *"to narrow the breadth of options by applying rigorous evaluation criteria before assessing the viability of any remaining options"*. It aims, *inter alia*, to define a project that can address the problems and shortlist viable options. Although still a preliminary planning phase, it represents a significant body of work and requires investigations of options that span engineering, environmental, urban planning and economic and financial analyses. Importantly, it does not lock in the ultimate solution and this only occurs as a result of continuing community engagement and the finer-grained analysis and evaluation undertaken through the Detailed Business Case.

A partnership to prepare the *Detailed Business Case*

If the Options Analysis is approved, the final phase is the *Detailed Business Case*, which aims "to evaluate the viability of the highest ranked option/s with surety of outcomes across all evaluation criteria and develop investment implementation plans". The means *inter alia* defining the detail of the project and recommending a tightly specified reference project option, based on evidence that the desired benefits will be realised and the project can be delivered for the estimated cost.

For the Sunshine Coast Mass Transit project (and consistent with the approach for detailed business case development) this work is led by the Department of Transport and Main Roads, as the party that would ultimately deliver and own the solution identified.

On 8 May 2019, ~~an announcement was made by~~ the Premier and Minister for Trade, the Honourable Annastacia Palaszczuk and the Minister for Transport and Main Roads, the Honourable Mark Bailey, ~~advising that~~committed ~~*"a contribution of*~~ up to $7.5 million ~~by the State Government~~ which would be matched by Council to help develop a detailed business case for the first stage of an integrated urban public transport solution for the Sunshine Coast, including pricing options for light rail~~"~~.

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Provision was made in the 2019-20 State budget papers for the *Detailed Business Case* to be funded over the current and following financial years. The *Detailed Business Case* would be led by the Queensland Government, working in a close partnership with the Sunshine Coast Council. It would take about 18 months to prepare. Deliverables from the *Detailed Business Case* would include:

- Costs and benefits estimated to P 90 confidence level, meaning there is only a 10 per cent chance or less that the cost estimates will be exceeded
- A detailed reference project design that can be used to underpin procurement of providers to implement the project
- Updated land use forecasting to support demand and benefits assessment
- Extensive stakeholder and community consultation
- A recommended delivery model to build and operate the reference project.

Options for major new investment in mass transit

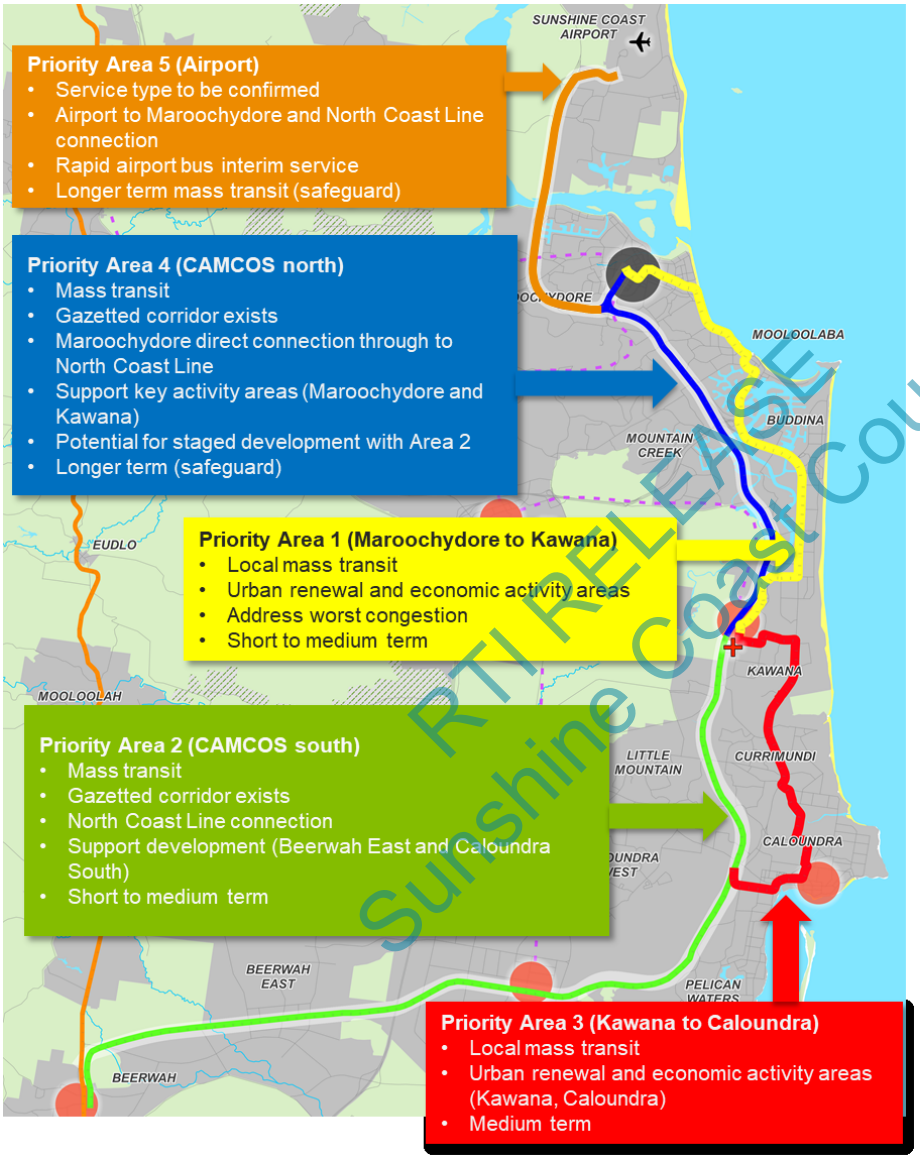
The *Options Analysis* will review the full range of options available to meet the identified problems and opportunities. Consistent with the policy directions already set in the Planning

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Scheme, the Regional Plan and the Integrated Transport Strategy, many of these options relate to a possible major investment in improving public transport.

The *Strategic Business Case* recommended that a first stage of any mass transit system upgrade should be delivered in the Priority Area 1 from Maroochydore to the Sunshine Coast University Hospital precinct, as depicted in Figure 2.



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Figure 2. : Geographic breakdown and focus areas for a Sunshine Coast Mass Transit solution

As a result of the *Strategic Business Case* findings, the transport options being evaluated in the draft *Options Analysis* will consider the technologies and initiatives that could feasibly be

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delivered to realise the benefits sought from the project, in the identified Priority Area 1 project corridor.

It should be noted that an option of heavy regional rail, along the lines operated by Queensland Rail, cannot feasibly and safely be installed in the Priority Areas 1 and 3, due to the need for full grade separation, and the mismatch between the heavy engineering and amenity impact of a heavy rail system ~~compared to objectives for~~on maintaining ~~a~~ a high quality living environment which is a central tenet and principle of all of Council's policy and planning instruments. Heavy regional rail does however remain an option for future stages of the mass transit system in Priority Areas 2, 4 and 5 which have the benefit of a preserved rail corridor and are generally not as close to existing ~~ly encroached by~~ urban development.

An Interim Findings Report received by Council in January 2020 and released to the public advised the Stage 1 transport options considered in the options assessment process for the draft *Options Analysis* are:

1 Region-wide bus service enhancements, with no infrastructure improvements

2 Region-wide bus network upgrades, with supporting bus priority measures

3 Road network upgrades in the Sunshine Coast Urban Corridor

4 Quality Bus Corridor in Priority Area 1

5 Bus Rapid Transit in Priority Area 1

6 Light Rail Transit in Priority Area 1.

Based on the results of the Multi-criteria Assessment, the following options were recommended for progression in the draft *Options Analysis* to undergo economic analysis and more detailed assessment:

Option 6 – Light Rail Transit

Option 5 – Bus Rapid Transit

Option 4 – Quality Bus Corridor.

Legal

There are no legal implications arising from this report as this is the preliminary stage of the business case process.

Neither the Strategic Business Case nor the Options Analysis (currently being developed) identify or propose specific property resumptions to deliver a mass transit solution. This level of detail would not be considered until future planning stages and be led by the Department of Transport and Main Roads as the agency responsible for the delivery of the network solution.

Policy

This report is consistent with Council's policy directions as articulated in:

- Corporate Plan 2020 -2024
- Sunshine Coast Regional Economic Development Strategy 2013-2033
- Sunshine Coast Planning Scheme 2014
- Sunshine Coast Environment and Liveability Strategy 2017
- Sunshine Coast Integrated Transport Strategy 2018
- Sunshine Coast Community Strategy 2019-2041.

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Risk

There are two primary categories of risk to be managed for a major investment project:

- process risks
- project risks.

Process risks are risks that affect the process of advancing the project through the current and future phases. Process risks do not necessarily have a direct impact on the cost to deliver the infrastructure project. However, process risks may have significant time, reputation and management cost impacts.

~~A **process risk register** has been prepared and is being reviewed and updated as the business case proceeds. It includes risk ratings and mitigation strategies. The key process risks that will continue to be managed include:~~

- ~~timing and funding conflicts with other related projects~~
- ~~lack of alignment between the three levels of government~~
- ~~the project narrative for a new mass transit system for the region is not compelling enough to secure funding~~
- ~~the benefits of the project may be judged by government as less than the costs~~
- ~~listing of the Sunshine Coast Mass Transit Project on Building Queensland and/or Infrastructure Australia's pipeline reports and infrastructure priority lists is not obtained after completion of the *Detailed Business Case*.~~

~~All these risks can be mitigated by close involvement of the relevant State and Commonwealth agencies in the preparation of the *Detailed Business Case*, and this already forms part of the current project governance and working arrangements.~~

Project risks are risks that could affect the outcomes of the project and have a range of potential impacts including time, cost, quality, health and safety, reputation and environment. They mostly relate to risks that will eventuate in the delivery and operating phases of the project. Early known key project risks have been identified and are included in a project risk register that is continuously updated.

~~Of note in the *Options Assessment* phase is the need to ensure any transport technology shortlisted has a proven in service record and has, or is likely to achieve, safety accreditation for operation in Queensland.~~

Commented [CM5]: Singling out this risk runs the "risk" that this is rated more highly by Council than the views and input by the community. There is no need to highlight this here so I would suggest removing it.

Previous Council Resolution

Ordinary Meeting 30 January 2020 (OM20/3)

That Council:

*(a) receive and note the report titled "**Sunshine Coast Mass Transit - Update**" and*

(b) note the findings of the attached report entitled "Sunshine Coast Mass Transit Preliminary Business Case – Interim Findings Report" (Appendix A).

Ordinary Meeting 25 July 2019 (OM19/102)

That Council:

(a) receive and note the report titled "Sunshine Coast Mass Transit Update"

(b) endorse the Strategic Business Case for Sunshine Coast Mass Transit at Appendix A, for the purpose of facilitating further consideration by relevant State and Federal Government agencies

(c) refer the Strategic Business Case for Sunshine Coast Mass Transit and in the form of a completed "Infrastructure Australia Stage 1 Template" to Infrastructure Australia for its

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consideration and inclusion in the Infrastructure Priority List, and advise Infrastructure Australia of the intention to complete a Preliminary Business Case

(d) refer the Strategic Business Case for the Sunshine Coast Mass Transit to Building Queensland for its consideration and inclusion in the Infrastructure Pipeline, and advise Building Queensland of an intention to complete a Preliminary Business Case

(e) refer the Strategic Business Case for the Sunshine Coast Mass Transit to other relevant government agencies including Transport and Main Roads and Queensland Treasury, and advise the agencies an intention to complete a Preliminary Business Case

(f) update the project website to provide access to the Strategic Business Case and a summary of the Strategic Business Case.

Ordinary Meeting 23 April 2015 (OM15/59)

That Council:

(a) authorise the Chief Executive Officer to proceed in accordance with the direction given in confidential session

(b) confirm the recommended light rail route corridor with which to proceed to more detailed feasibility and business case studies

(c) confirm support for progressing the establishment of a high frequency branded forerunner bus in conjunction with the State Government

(d) authorise the Chief Executive Officer to write to the Minister for Transport outlining the findings of the Sunshine Coast Light Rail Route Options Consultation Report and the recommended route and seeking their support for progressing with more detailed feasibility and business case studies and

(e) authorise the Chief Executive Officer following completion of (d) above to release the findings on the Sunshine Coast Light Rail Route Options Consultation Report.

Related Documentation

Refer to the project website at https://www.sunshinecoast.qld.gov.au/Council/Planning-and-Projects/Major-Regional-Projects/Sunshine-Coast-Mass-Transit-Project or simply search "sunshine coast mass transit" online.

Field Code Changed

Critical Dates

No critical dates are relevant to this report. However the increasing trend towards urban expansion can only be effectively reversed by timely action to implement the responses recommended in the draft *Options Analysis*.

The timing recommended by the *Strategic Business Case* for future stages is shown in table 5 below.

Table 5. Timelines for Sunshine Coast Mass Transit

Project Phase	Dates
Strategic Business Case	Completed
Options Analysis - Stage 1 of the mass transit system	Receive by Council in first quarter 2021 for community engagement. Finalise mid-2021 (indicative) following community engagement
Detailed Business Case - Stage 1 of the mass transit system	2021 & 2022, with community engagement likely in 2022
Investment Decision and Procurement - Stage 1 of the mass transit system	By end 2023 (indicative and subject to State and Commonwealth funding approval)

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Project Phase	Dates
Delivery of Stage 1 of the mass transit system	By 2027 (indicative)

Implementation

Should the recommendation be accepted by Council, it is noted that the Chief Executive Officer will:

1. Prepare a comprehensive community engagement strategy based on the framework contained in Appendix A, to ~~address mass transit technology options and~~ promote a more informed understanding of ~~broad~~ options for urban transformation to achieve a more compact urban form, within the context of ~~the range~~ broader strategic and interconnected issues (such as the regional planning directions, urban growth challenges, coastal hazard responses, integrated transport planning and infrastructure sequencing). This would also include engagement on mass transit technology options ~~to enable a full appreciation of all of these elements as part of progressing further with the *Options Analysis*. This can be considered alongside the draft *Options Analysis* report in the first quarter of 2021~~

~~2. Finalise the draft *Options Analysis* report under the new Building Queensland Template, and present the draft report to Council in the first quarter of 2021, with a view to it underpinning consultation referred to in point 1 above~~

~~3.~~2. Present the findings of the community engagement strategy, along with a final draft of the *Options Analysis* report to council when completed, indicatively in mid-2021.

~~4.~~3. Update the project website and develop a range of informative communication materials to support the community engagement strategy.

RTI RELEASE
Sunshine Coast Council

From: Craig Matheson
Sent: Sunday, 23 August 2020 8:50 PM
To: Chris Allan; Belinda Warren; Rachel Thomson; Pannie Mitchell; James Coutts; Ken Deutscher; Bill Haddrill; Brendan Hogan
Cc: Leah Bancroft
Subject: RE: Latest on Mass Transit - public notice and report
Attachments: SM Mass Transit - Appendix A - Community Engagement Framework.docx; Mass Transit - Draft Report for Council Special Meeting on 27082020 - CM comments on 23082020.docx

Chris

Thanks for this.

I have worked through this most recent version circulated and noted some additional changes and other comments for consideration by the team – all are tracked in the attached.

I am happy to discuss these with you if you wish.

Best regards

Craig

From: Chris Allan
Sent: Thursday, 20 August 2020 2:43 PM
To: Belinda Warren <Belinda.Warren@sunshinecoast.qld.gov.au>; Rachel Thomson <Rachel.Thomson@sunshinecoast.qld.gov.au>; Pannie Mitchell <pannie.mitchell@sunshinecoast.qld.gov.au>; James Coutts <james.coutts@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>; Brendan Hogan <Brendan.Hogan@sunshinecoast.qld.gov.au>
Cc: Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>
Subject: RE: Latest on Mass Transit - public notice and report

Thanks Bindy, see attached current draft. Note, some minor amendments resulting from today will now be required, the team are focused on that at the moment but the context of the report will not alter.

Happy to discuss.

Cheers,
Chris

Chris Allan
A/Group Executive
Liveability and Natural Assets Group
Sunshine Coast Regional Council s.47(3)(b)
chris.allan@sunshinecoast.qld.gov.au
Think B4U Print
1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere
3 sheets of A4 paper = 1 litre of water

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Sunshine Coast Council

From: Belinda Warren
Sent: Thursday, 20 August 2020 1:56 PM
To: Rachel Thomson <Rachel.Thomson@sunshinecoast.qld.gov.au>; Pannie Mitchell <pannie.mitchell@sunshinecoast.qld.gov.au>; Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; James Coutts <james.coutts@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>; Brendan Hogan <Brendan.Hogan@sunshinecoast.qld.gov.au>
Subject: Latest on Mass Transit - public notice and report

I've spoken to Warren.

He's indicating that he wants the following to happen (but subject to change):

- Special meeting is called (notice goes online today/tomorrow).
- The report and attachment goes online on Monday

This will give Warren a chance to look at the report tomorrow and over the weekend.

Craig is fine for us to review the current draft report and attachment to start the media release which will go out Monday once the report goes live (and the Mass Transit Project webpage also has the link to the report).

Chris is sending the current version to Pannie, Rach and me this afternoon.

Thanks everyone

Regards
B

Belinda Warren | Manager Communication
Office of the CEO | Sunshine Coast Regional Council (ED24)
Mobile: 0409 094 314
Email: Belinda.Warren@sunshinecoast.qld.gov.au
Website: www.sunshinecoast.qld.gov.au
Mail: Locked Bag 72 Sunshine Coast Mail Centre Qld 4560

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Sunshine Coast Mass Transit
Draft Options Analysis and Urban Transformation

Community Engagement Framework

Attachment 1

Sunshine Coast Council is planning now for future growth to ensure our lifestyle, environment and liveability ~~of the Sunshine Coast~~ is ~~protected~~ maintained and enhanced into the future. The Sunshine Coast is expected to grow to more than 518,000 people over the next 20 years which ~~will require~~necessitates an holistic and ~~a~~ sustainable plan for growth. A critical part of that ~~Part of that~~ plan, which will be crucial to maintaining and enhancing the liveability of the region, will be an efficient and accessible public transport network.

It is important that our community and stakeholders have the opportunity to share their views, expertise and ideas to help shape our collective future and to inform the planning for a better public transport network for our region. This Community Engagement Framework outlines ~~Council's commitment to consult~~the approach to engage~~e~~ing with the community and stakeholders to inform the Draft Sunshine Coast Mass Transit Options Analysis and in doing so, foster a wider understanding of the challenges or managing urban growth and the opportunities associated with urban transformation in the high growth urban coastal corridor. ~~Urban Transformation project.~~

Urban transformation

~~Through the Urban Transformation project,~~ Through its policy and planning instruments developed over the course of the last decade, Council ~~will identify~~has identifed key centres where significant opportunities can be achieved to provide greater housing and lifestyle choice, and improve and enhance local areas. The ~~project will ensure~~objective is on enabling Council to meet~~s~~ the growth targets set ~~by the Queensland Government~~in *ShapingSEQ* in a sustainable way and in a manner that does not undermine or compromise the lifestyle values and characteristics of the region. This includes by focusing on areas where land use change and housing diversity is most appropriate, as well as leveraging a mass transit solution to achieve urban renewal benefits.

The Sunshine Coast Mass Transit project identifies mass transit options for our coastal corridor where around 80 percent of the population lives and where a greater proportion of the population is expected to be accommodated in more accessible, connected and well serviced locations.

The approach to Urban Transformation ~~project~~ will consider the integration of a mass transit solution including land use ~~changes~~ considerations and local area enhancements, such as more walkable suburbs with accessible paths and shade trees to access the corridor. Urban transformation will be focussed on areas close to the mass transit stations that have the greatest potential for renewal rather than existing high-quality residential areas. Consistent with the community's and Council's values, this does not necessitate high-density, expansive and significant building height adjustments across the entirety of the corridor.

Planning for a long-term transit solution

As this growth occurs, our community must be less reliant on private vehicles for short regional travel – and an efficient and sustainable public transport solution will be critical in achieving this shift.

Mass transit solutions require significant planning to undertake a rigorous assessment of viability, benefits and impacts through a business case process. The initial phase of this process, the Strategic Business Case, was completed and released in 2019. ~~In January 2020,~~ Council then commenced work on the second phase of the process, the Preliminary Business Case~~,e~~ which will be submitted to the Queensland Government once endorsed by Council.

The business case process is guided by the Building Queensland Framework, which recently adopted new terminology, so what was known as the ~~a new approach to change the~~ "Preliminary Business Case" is now known as the ~~to an~~ "Options Analysis". The ~~new approach~~ aim of the Options Analysis is *"to narrow the*

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Commented [KH1]: Note: language maintained for consistency with previous announcements and included an explanation in the change in terminology below

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breadth of options by applying rigorous evaluation criteria before assessing the viability of any remaining options".

The Options Analysis assesses land use, transport, liveability and environmental sustainability challenges, considers options to address these challenges and defines the priority for more detailed investigations. It does not establish a definitive position on matters such as the alignment of the mass transit system or property requirements, which are subject to further investigation in the Detailed Business Case and future project delivery planning.

While significant community consultation is to be undertaken during the preparation of the Detailed Business Case, Council considers there would be benefit in seeking early input from the community at the Options Analysis phase while it remains a Council-led initiative, to build on the range of strategies, plans and consultation programs undertaken by Council in recent years.

Therefore, before considering and submitting the Options Analysis to the Queensland Government, Council will seek feedback from our community and stakeholders through an extensive consultation program. This will include a phase of technical engagement with state agencies as well as a conversation with the community around the views and ideas for the mass transit system and the form and character of the surrounding areas.

Once the engagement program is complete, the draft Options Analysis will be finalised with community and stakeholder inputs and presented to ~~Full~~ Council for consideration. The final Options Analysis will describe how~~clearly articulate~~ the engagement program and ~~, findings and ways~~ community input have~~s~~ shaped the final document.

When ~~Once~~ the Options Analysis is considered and endorsed by Council in 2021, it will be provided to the Queensland Government as the basis for the preparation of the final phase of the business case process, the Detailed Business Case – to be led by the Queensland Government ~~in partnership with Council~~.

Our approach to engaging

Council is committed to best practice engagement and genuinely seeking meaningful input that will help shape the way in which we continue to live, travel, work and play.

Consultation will be based on the International Association for Public Participation (IAP2) standard as the best practice framework for community engagement. Consultation will be undertaken at a number of points through the planning lifecycle for this project, at times which are appropriate to seek input to ensure there is a genuine opportunity for the community to influence the project.

The following principles will underpin Council's ongoing community engagement process:

Timeliness – Council will engage with its community in ways that are timely, open to all, easily understood and not overly bureaucratic or resource-intensive.

Information and feedback – the community has the right to be well-informed on issues and receive feedback from Council on how its input will be used to inform Council decisions.

Mutual respect – Council's goal is one of inclusive involvement. All voices matter, all opinions are valued and considered.

Action learning – Council is committed to the development of innovative engagement approaches, learning from each engagement experience, and using such learning to improve our approaches to engagement.

Foresight – Council engages with its community not only to learn about and respond to present needs, but also to gain a better understanding of our communities' perspective on emerging issues that may affect our preferred future.

In the pursuit of best practice business case development, the Building Queensland stakeholder engagement principles will also guide the strategic engagement approach which are outlined in the *Stakeholder Engagement Guide, Business Case Development Framework.*

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Opportunities for engagement

There are several opportunities for the community to have their input ~~into the Mass Transit project~~ including:

Corporate Plan 2021-2025

As part of Council's annual review of its Corporate Plan, community and stakeholders will be invited to provide input into the broader context of managing growth including a sustainable public transport network.

Engagement on the Corporate Plan will help to provide a further context for subsequent engagement on mass transit and urban transformation and will help set the strategic drivers for Council and the Sunshine Coast. Engagement on mass transit will therefore be complementary to this engagement.

Draft Sunshine Coast Mass Transit Options Analysis and Urban Transformation ~~project~~

A community engagement program will be undertaken to seek feedback on the mass transit options identified in the Options Analysis and the community's views and ideas on ~~for the U~~urban ~~t~~Transformation ~~project~~, including land use scenarios and urban renewal opportunities. In addition to community input received over many years on a range of Council's policy and planning instruments, further ~~f~~Feedback will be sought on the community's values around local character, landscape, heritage and culture, mass transit design, as well as local facilities, open space and public realm enhancement~~s~~ opportunities.

Council will also reconfirm the community's feedback and views received to date on key elements including growth management, jobs, connectivity, liveability and accessibility.

Future opportunities

Delivering a mass transit system is a long-term process that requires years of planning and an ongoing commitment from all levels of government. This means there are several additional opportunities for stakeholders and the community to help shape the project by having their say, including:

- Detailed Business Case – community engagement is also a critical component to the preparation of the Detailed Business Case. While this process will be managed by the Queensland Government, ~~f~~Feedback will likely be sought on the reference design, including its alignment and the proposed locations and form of the stations. Engagement will also seek input on land use planning ideas including the local character that needs to be protected and the enhancement opportunities to benefit the community.

- Planning scheme amendments – should the Detailed Business Case be approved and ~~funding secured to deliver~~should the State Government decides to proceed with the project, ~~there may be changes required to~~ there may be related proposals to amend the Sunshine Coast Planning Scheme, which would~~ill~~ be subject to a separate statutory community consultation process in accordance with the *Planning Act 2016*.

Engagement program

The Draft Sunshine Coast Mass Transit Options Analysis and Urban Transformation engagement program will be delivered in three stages. ~~The consultation phase is scheduled to commence after the adoption of the *Sunshine Coast Council Corporate Plan 2021-2025* in early 2021.~~

The program will give people the opportunity to have their say at a time when the community is best placed to participate (i.e. when a sufficient period is available outside school holidays, taking account of COVID-19 considerations).

The proposed timeframes provide time to plan a high-quality engagement program, prepare tools and materials to explain the technical elements of the draft Options Analysis, to enable broad understanding and meaningful participation, and to ensure resources are available to manage the engagement process and properly consider and analyse the feedback received. Prior to the formal engagement process~~gram, In the meantime~~, Council will provide additional and more informative material ~~information~~ about the project to ensure the community has an opportunity to become more aware of the project and make the most of the ~~consultation~~ engagement process to follow.

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A well-planned and considered engagement program will offer a range of consultation opportunities and engagement methods to ensure equitable and informed participation. The program will incorporate digital engagement techniques alongside traditional engagement methods and tools may include web-based surveys, virtual and in-person community information sessions and focus groups.

The engagement program will be delivered through the following key phases.

Table 1: Engagement milestones for the Mass Transit Draft Options Analysis and Urban Transformation

Engagement program		
Stage	**Objective**	**Timeframe**
1 – Inform	To inform and educate the community about the mass transit project and urban transformation ~~projects~~, the next steps and how to be involved in future stages.	Late 2020
2 – Engage	To engage with community and stakeholders on options for mass transit and to seek thoughtful and well considered feedback to inform the final Options Analysis.	Early 2021
3 – Feedback	To report back to Council, our community and stakeholders about how their input has been considered and incorporated into the final Options Analysis.	Mid 2021
Future engagement opportunities		
Future	Detailed Business Case engagement led by the Queensland Government	TBA
Future	Planning scheme amendments - statutory community consultation (as required)	TBA

Commented [CM2]: There needs to be a "Pre-engagement" stage that focusses on information flows, correcting misinformation, creating more widescale awareness than just those arguing the negative etc

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8.2 SUNSHINE COAST MASS TRANSIT UPDATE

File No: **Council meetings**

Author: **Project Manager**
Liveability & Natural Assets Group

PURPOSE

The purpose of this report is to:

1. Outline the range of broader strategic and interconnected issues (such as the regional planning directions, urban growth challenges, coastal hazard responses, integrated transport planning and infrastructure sequencing) which will shape the future liveability of the Sunshine Coast and the importance of these considerations in considering the public transport requirements of the region and the *Options Analysis* for a mass transit system
2. Provide detail on the scope and structure of an *Options Analysis* document as set down in the Queensland Government's business case development framework
3. Advise Council of the progress made in preparing a business case for Sunshine Coast Mass Transit, in particular the *Options Analysis* phase of the business case process
4. Present a community engagement framework for Council's consideration to support our community's understanding of these challenging issues and to ~~understand~~ elicit their views of the options ~~before us~~for response.

EXECUTIVE SUMMARY

Over the past 20 years, the population of the Sunshine Coast has grown by 125,500 people or 67.7 per cent, at an average of 2.8 per cent per year. Overall, this is the second highest growth rate of any region in Queensland. The region's population is projected to continue to grow strongly, reaching 518,000 in 2041 and more than 600,000 by 2050.

Population growth and increasing congestion will continue to put pressure on housing, transport, lifestyle, employment, social infrastructure and the environment. At the same time, failing to plan for how to manage and accommodate growth and do so in a way that maintains the lifestyle and landscape values of the region, will only exacerbate these impacts and undermine the liveability of the region.

Through its land use and infrastructure planning work over the last 12 years, the Sunshine Coast Council has put in place ~~and~~ a range of strategies and other policy and regulatory levers to sustainably manage the projected population growth of the Sunshine Coast over the decades ahead. These range ~~ranging~~ from the Sunshine Coast Planning Scheme, to our Integrated Transport Strategy, to the important work currently underway on the Sunshine Coast Coastal Hazards Adaptation Strategy. The common thread across all of this work is to preserve the Sunshine Coast's character, lifestyle and ~~iconic~~ outstanding natural environment as essential contributors to the region's value proposition.

But the region's lifestyle, and its ~~valued~~ natural environment are at risk due to the very high dependence on private motor vehicle travel, and an increasing trend towards development of new suburbs at the urban fringe as the main way to cater for population growth.

The ~~vision for the~~ Sunshine Coast Mass Transit project is an important element of Council's plan to manage growth – in short, its vision is to provide *a step change to public transport*

Commented [CM1]: This alone, still does not provide a robust and compelling case for why (as per my comments on Thursday, 20 August. The report does not easily take the reader from the challenges of urban growth to why a mass transit solution is the answer.

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that can set the region on a path to sustainable transport and appropriate urban development.

Work already done by Council has shown this vision can be achieved through:

- providing a high quality regional mass transit solution to connect the region's main residential, employment and recreational precincts, supported by an integrated feeder bus and active transport network
- containing the rate of urban expansion that results in car-based suburban greenfield developments to the agreed expansion areas at Caloundra South, Palmview and Beerwah East
- locating the majority of new housing and jobs in the catchment of the mass transit system, while maintaining a recognisable low key Sunshine Coast character.

The alternative is to see urban sprawl, to continue to provide additional lanes to existing roads, build new roads, and provide major increases in car parking in and around centres and beachside precincts. This alternative would see many existing urban areas become places catering more for cars and less for people, with their amenity and attractiveness irreparably compromised.

The plan to manage growth and protect our lifestyle is given effect by a broad range of Queensland Government and Sunshine Coast Council policy documents, addressing regional planning directions, urban growth challenges, habitat preservation, Greenhouse responses, coastal hazard responses, integrated transport planning and infrastructure sequencing.

An investment in a regional mass transit solution is a major intervention that can only be delivered by the Queensland Government, which is responsible for public transport on the Sunshine Coast.

However, the State has been unwilling to date to effectively plan for a viable and accessible public transport solution for the coastal urban corridor – the area where around 80 % of the region's population lives. In 2011, Council – ~~led by~~supported by then Councillor Vivian Griffin – took up the responsibility to start planning for a more integrated and accessible mass transit solution for the region.

For any significant public transport network to be considered for funding, it must be underpinned by a supportive business case. Council endorsed the first phase of the business case process - the *Strategic Business Case* - in July 2019. The purpose of this phase (now known as a *Strategic Assessment* under Building Queensland's April 2020 guidelines) is to define a problem or opportunity that needs to be addressed, identify potential ideas that could resolve the issues or develop the opportunity, and evaluate whether any of the ideas have the potential to be viable options.

The second phase, previously known as the *Preliminary Business Case* and now known as the *Options Analysis*, aims to "narrow the breadth of options by applying rigorous evaluation criteria before assessing the viability of any remaining options". Work on this phase has been ~~substantially~~ progressed and focusses on the first stage of an integrated urban public transport solution for the region.

Draft analysis undertaken to date is supportive of the need for, and value of, a substantially improved and integrated public transport solution and a related urban transformation strategy, and identifies the unacceptable consequences of not pursuing this strategy. When completed, the draft *Options Analysis* will provide an assessment of a shortlist of options for Stage 1 of the mass transit response.

The draft *Options Analysis* is being developed with extensive technical content. However, it also forms part of an important broader context connected with a range of urban growth planning policy issues. All of these elements need to be considered and progressed in an integrated manner to maximize the outcome for our communities and to ensure that the live~~a~~bility and connectivity of the region is not only maintained, but enhanced.

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With this mind it is important that council engages with the community on this breadth of issues and to understand the views of the Sunshine Coast community about how to best respond to the challenges of growth. To that end, a community engagement framework is provided in **Attachment A** for Council's consideration.

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The Options Analysis will be presented to Council for consideration in 2021 when it is finalised following the completion of Council's community engagement activities. Should Council approve the Options Analysis at that time, it will then be formally transmitted to the State Government for assurance review. Once finalised, the Department of Transport and Main Roads will take the lead on the development of the detailed business case, which will be needed to influence and inform any State and Federal government funding decisions for a public transport solution of this nature.

Under the approach typically followed by the State ~~for detailed business cases of this kind~~, ~~T~~the *Detailed Business Case* process for Sunshine Coast Mass Transit would include extensive community engagement on all detailed aspects of the proposed project.

OFFICER RECOMMENDATION

That Council:

(a) receive and note the report titled "Sunshine Coast Mass Transit Update"

(b) note that a further report will be presented to Council in the first quarter of 2021 to advise the findings of draft *Options Analysis* report including:

- **mass transit technology options and broad options for urban transformation, and**
- **the outcomes of Council's community engagement plan on the draft report.**

(c) endorse the community engagement framework contained in Appendix A.

FINANCE AND RESOURCING

The preparation of the draft *Options Analysis* is being funded through the Transport Levy allocation from the budget. A total of $3,360,916 was allocated for this work in 2019/2020.

The 2020/2021 budget allocates $3,000,000 from the Transport Levy. ~~A further $4,500,000 is foreshadowed in the 2021/2022 budget, as per the agreement with the Queensland Government. This will be matched by $7,500,000 from the Queensland Government.~~

Commented [CM2]: This also needs to address the forecast cost of the proposed community engagement process and how this will be funded.

CORPORATE PLAN

Corporate Plan Goal: ***A strong community***
Outcome: 1.4 - People and places are connected
Operational Activity: 1.4.1 - Implement priority activities from the Integrated Transport Strategy 2018.

CONSULTATION

Councillor Consultation

A Sunshine Coast Mass Transit Cross Departmental Working Group was established in August 2018 to steer the Sunshine Coast Mass Transit Project.

The Working Group was comprised of:

- Mayor M Jamieson
- Former Deputy Mayor Councillor T Dwyer

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- Portfolio Councillor R Baberowski – Transport, the Arts and Heritage
- Portfolio Councillor C Dickson – Planning and Development
- Portfolio Councillor P Cox – Place Development and Design
- Former Division 4 Councillor J Connolly
- Division 8 Councillor J O'Pray

The Working Group was convened six times, with the most recent meeting being held on 20 January 2020.

Following the March 2020 election, the Working Group was ~~reformed~~ re-established as the Sunshine Coast Mass Transit Project Control Group comprising:

- Mayor M Jamieson
- Deputy Mayor and Community (Transport) Portfolio Councillor R Baberowski
- Environment and Liveability (Place making) Portfolio Councillor P Cox
- Service Excellence Portfolio Councillor C Dickson.

The Project Control Group convened on 8 July 2020.

A series of Councillor workshops on the Sunshine Coast Mass Transit business case process were held during the period from early 2018 to July 2020.

Internal Consultation

~~Also present on~~Other participants in the work of the Sunshine Coast Mass Transit Project Control Group are:

- Chief Executive Officer
- Chief Strategy Officer
- Group Executive Liveability and Natural Assets
- Group Executive Customer Engagement and Planning Services
- Manager Transport and Infrastructure Planning.

External Stakeholder Engagement

A Business Case Reference Group has been established to guide and provide input to, and monitor the preparation of, the business case.

Participants in this reference group include:

- Infrastructure Australia (Commonwealth Government)
- Commonwealth Department of Infrastructure, Transport, Regional Development and Communications
- Queensland Department of the Premier and Cabinet
- Queensland Department of State Development, Manufacturing, Infrastructure and Planning (the relevant parts of which are now in Queensland Treasury)
- Building Queensland (Queensland Government)
- Queensland Treasury
- Queensland Department of Transport and Main Roads.

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Community Engagement

Both the *Strategic Business Case* and the draft *Options Analysis* integrate the results of significant previous community consultation undertaken by Council in relation to transport policy and, in particular, mass transit proposals in 2012, 2014 and 2018, as outlined below.

2012 – The *Line in the Sand* Report

Council's *Line in the Sand* process included a broadly representative community taskforce, supported by expert advisers from Council. The process canvassed six technology options for a mass transit system as a game changer for the Sunshine Coast. An online consultation hub, launched in January 2012, attracted more than 2,900 visits ~~and 228 people took part in the poll on the hub. The recommended proposal for light rail on the Sunshine Coast was supported by 82 per cent of those who completed the poll.~~

2014 – Sunshine Coast Light Rail – route options

Consultation was undertaken in late 2014 based on a detailed Route Options and Impact Assessment report. The report covered both transport needs and city shaping opportunities. ~~As a result of consultation more than 700 people had their say on light rail route options proposed for Maroochydore, Mooloolaba, Kawana and Caloundra. The vast majority (87 per cent) supported Council's investigations into light rail and their F~~feedback contributed to the selection by Council of a preferred route for further study.

2018 – Draft Integrated Transport Strategy

Council undertook market research and community consultation between November 2017 and July 2018 to help shape the *Integrated Transport Strategy*, which was released in early 2019. Key findings from the market research and community consultation relevant to the Sunshine Coast Mass Transit Project have been integrated with the business case workings.

Other consultation

~~Consultation on the broad~~At a broader policy level, the implications of accommodating a high population growth rate and the critical need for improved transport connections ~~and the implications of a growing population was embodied in~~have been a facet of:

- ~~T~~the Sunshine Coast Regional Economic Development Strategy adopted in 2013 and updated in 2019
- The Sunshine Coast Planning Scheme adopted in 2014
- The Environment and Liveability Strategy adopted in 2017
- The Sunshine Coast Community Strategy adopted in 2019.

The Queensland Government also undertook broadscale community consultation in relation to the extent and form of dwelling and employment provision on the Sunshine Coast to 2041 as part of the preparation of *ShapingSEQ* - the South East Queensland Regional Plan - released in 2017.

Future consultation

Appendix A to this report outlines a community engagement framework that will be designed to promote a wider scale understanding of the range of interconnected considerations associated with managing growth within the region and particularly, the coastal corridor. It will also canvass ~~and~~ the important contribution that a public transport solution, based on mass transit, makes to accommodat~~e~~ing growth and maintaining the liveability of the region. The various facets of the community engagement framework will be progressively implemented over the course of at least the next six months in order to inform the finalisation of the Options Analysis. The Options Analysis will be presented for Council's consideration once it has been informed by the outcomes of the community engagement process.

As previously advised in Council reports of July 2019 and January 2020, further detailed community engagement on all aspects of the Sunshine Coast Mass Transit Project is also

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expected to be part of the *Detailed Business Case* phase, which will be led by the Queensland Government and is likely to occur in 2021/22 once the Options Analysis has been endorsed by Council and accepted by the State.

The Queensland Government has not yet determined its approach to the *Detailed Business Case*. When it does, a further report will be made to Council to confirm the scope and program for the *Detailed Business Case*, including the nature and timing of community engagement in relation to the reference project design for the mass transit system and the detail of any proposed urban transformation components (with ~~the~~ any ~~latter~~ land use planning elements ~~likely to be led by~~to be advanced as part of the development of the next Sunshine Coast Planning Scheme ~~Council~~).

PROPOSAL

Over the past 20 years, the population of the Sunshine Coast has grown by 125,500 people or 67.7 per cent, at an average of 2.8 per cent per year. Overall, this is the second highest growth rate of any region in Queensland. By comparison, Queensland's population grew by only 35 per cent at an average of 2 per cent per year over the same period. The region's population is projected to continue to grow strongly, reaching 518,000 in 2041 and more than 600,000 by 2050.

With the absence of a viable, accessible and efficient public transport network, the region is heavily dependent on car transport. Furthermore, given the rate of historic and forecast population growth, the region has ~~and~~ continue~~s~~d to rapidly expand its urban boundaries. Public transport use is very low, and the current system, while suited to a smaller regional community, cannot cope with the requirements of a major city region ~~that~~ which the Sunshine Coast is becoming.



This gives rise to major challenges in managing growth over the next three decades. Population growth and increasing congestion will continue to put pressure on housing, transport, lifestyle, employment, social infrastructure and the environment. There is a real risk of a vicious circle developing as shown opposite, diminishing the very qualities of the region that make it an attractive place to live, work, ~~and~~ visit, raise a family and retire.

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Current policy context

The Sunshine Coast Mass Transit project is a one of the critical parts of Council's growth management plan. It is an initiative that supports the achievement of the ~~implements the~~ policies and objectives in a ~~of a~~ suite of key strategies and plans ~~involving~~including:

- Regional Economic Development Strategy 2013 - 2033
- Sunshine Coast Planning Scheme 2014
- Sunshine Coast Environment and Liveability Strategy 2017
- Sunshine Coast Integrated Transport Strategy 2019
- Sunshine Coast Community Strategy 2019 - 2041
- Sunshine Coast Council Corporate Plan 2020 to 2024

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- Coastal ~~h~~Hazards ~~a~~Adaptation ~~s~~Strategy **"***Our Resilient Coast. Our Future***"** (under development)

The Sunshine Coast Regional Economic Development Strategy 2013 (and updated in 2019) included extensive stakeholder and community engagement. It provided a blueprint to develop a New Economy as the region grows through:

- securing high levels of investment and growing enduring employment opportunities
- investing in ~~its~~ communities and delivering the essential infrastructure and services that communities require
- preserving the lifestyle and environment that is so highly valued by the Sunshine Coast.

The Strategy defined an *Enterprise Corridor* - stretching primarily along the coastal strip from the Sunshine Coast Airport to Caloundra South and bounded to the west by the Bruce Highway. The Enterprise Corridor was incorporated into the Sunshine Coast Planning Scheme 2014 and represents the key area for commercial and residential growth over the next 20 years and provides the location for many of the high-value industries to establish, expand and mature. Recognising the importance of connecting businesses to each other and to their workforce, it contained an action by 2018 to:

> "Identify and preserve future priority public transport corridors to connect major business, tourism, education and population centres within the Enterprise Corridor."

With action approved by Council on 23 April 2015 to *confirm the recommended light rail route corridor with which to proceed to more detailed feasibility and business case studies*, and the previous actions by the Department of Transport and Main Roads to declare the CAMCOS corridor as a future public transport corridor, this action is completed. The current Sunshine Coast Mass Transit business case development process takes the provision of suitable infrastructure to the next step.

The Sunshine Coast Planning Scheme 2014 was produced on the basis of very detailed and extensive community engagement process over a three year period. It provides a clear plan for managing growth until 2031. The scheme conveys a specific set of policies aimed at managing growth under Section 3.2 – Strategic Intent (p 3.3):

> *"The pattern of settlement is characterised by well-defined urban and rural residential areas and the progressive transition towards a more compact, efficient and functional urban form.*
>
> *The majority of new growth is located in the Sunshine Coast Enterprise Corridor, within and surrounding the mixed use regional activity centres of Maroochydore, Caloundra, Kawana and Sippy Downs and in the emerging communities of Palmview, Kawana Waters and Caloundra South.*
>
> *Significant new growth is also located in Nambour as the dominant major regional activity centre serving hinterland areas.*
>
> *Major development areas at Maroochydore, Kawana Waters, Palmview and Caloundra South provide integrated, well planned communities which showcase sustainable development, affordable living and align infrastructure delivery with development.*
>
> *These major developments are the keystones for the shift towards a more sustainable and transit supportive pattern of settlement.*
>
> *Over time and in conjunction with more detailed local planning initiatives there is an increase in the intensity of development and the proportion of the population living along the Maroochydore to Caloundra Priority Transit Corridor.*
>
> *This corridor links regional activity centres and the major development areas, and is part of the integrated transport system for the Sunshine Coast.*

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Other opportunities for infill development are provided in selected locations throughout the urban fabric, although many established low density residential neighbourhoods are retained in their current form in recognition of the high quality lifestyle and character offered by these areas.

Outside of defined urban and rural residential areas, rural and natural areas are protected and enhanced for their rural enterprise, landscape and environmental values. These areas separate the Sunshine Coast from other parts of metropolitan South East Queensland and provide the landscape setting and biological diversity for which the Sunshine Coast is renowned."

The Planning Scheme also provides a range of policies and provisions to ensure a distinct Sunshine Coast urban form is fostered. For example at:

- *Section 3.3.1. - Strategic outcomes for the settlement pattern*

  (f) The form and structure of new and consolidated urban areas contributes to the achievement of a more compact urban form and an effective and efficient transport network that supports increased use of walking, cycling and public transport and has a positive influence on the community's physical activity and health in general.

  (g) affordable, attractive and diverse living opportunities are provided with convenient access to integrated transport, employment, community, education, health, sport, recreation and other services. A range of housing choices are provided in locations that are close to activity centres and active and public transport. Housing is designed to be adaptable and reduce current costs.

- *Section 3.3.2. Element 1 -Character, lifestyle and environment attributes:*

  (ii) maintaining a settlement pattern and encouraging built form that is distinct to the Sunshine Coast and which avoids prominent symbols and negative attributes of larger metropolitan areas (i.e. undistinguishable tracts of urban sprawl and oversized transport corridors with bare acoustic walls and signage);

The **South East Queensland Regional Plan 2017 (*ShapingSEQ*)** sets a 50-year vision for the South East Queensland region to be globally positioned as a unique sub-tropical living environment. *ShapingSEQ* was also the subject of an extensive community consultation process, including on the Sunshine Coast, during 2016 and 2017. Specifically, its plan for the next 25 years recognises the growth forecasts for the Sunshine Coast and consistent with many of Council's policy settings:

- focuses 62 per cent of new residential development in the existing urban area
- prioritises public transport and active transport (i.e. walking and cycling)
- provides for the progression of region-shaping infrastructure to increase accessibility and productivity.

Shaping SEQ is a statutory document under which Council is required (as indicated above) to provide for 62% of all new dwellings to be accommodated by way of urban consolidation, primarily in the urban corridor from Maroochydore to Caloundra, as follows:

"The intent to use land and infrastructure efficiently will be supported by focusing density in and around appropriate locations along the urban corridor from Maroochydore to Caloundra, and in areas with superior access to public transport, employment and services."

"Further growth and urban renewal along the proposed passenger transport corridor, between Maroochydore and Caloundra, will provide a cohesive corridor of distinctive, high-quality urban environments that are typically 'Sunshine Coast' in character and optimise access to future passenger transport services."

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The Sunshine Coast Environment and Liveability Strategy 2017 was also the subject of an extensive community engagement program. It provides council's response to a rapidly changing world where there will be many challenges and opportunities for the Sunshine Coast way of life – increasing population, changing climate, economic growth and emerging technologies.

The timely delivery of an effective and efficient transport network underpins the strategic directions of the Environment and Liveability Strategy. It also noted the need to manage and consolidate urban growth in order to protect the region's lifestyle and natural assets (p 46):

> *"Currently 70% of our residents live along the coastline putting significant pressure on the built and natural environment in this narrow strip and challenging our ability to maintain the relaxed lifestyle, protect assets from coastal hazards and retain the connection with the natural environment that is so highly valued.*
>
> *It is anticipated that the future growth will predominately be located in the coastal area with an emphasis on infill development transitioning to a more consolidated urban form supported by appropriate infrastructure, such as a light rail system, facilities and services. Creating a new way of living and minimising impacts on our natural environment.*
>
> *Future development will be modelled on the principles of self-containment and sustainability encouraging walking, cycling and access to employment, transport, open space and services."*

The Sunshine Coast Integrated Transport Strategy 2019 was also the subject of extensive community engagement process from Novemberthroughout 20178 to Julyand 20189. It established the major transport challenges facing the region as it grows, and set key targets to reduce the dominance of private motor travel and increase sustainable transport modes. At page 43 the Strategy provided a High Frequency Public Transport Network Plan for 2041. This included a *Priority Transport Project* to improve public transport:

> *"Sunshine Coast Light Rail (Federal / State / Council). Council is developing a business case for the Light Rail project to submit to the State Government. Light rail could provide a high-frequency transit solution extending initially from the Sunshine Coast Airport, through Maroochydore and the Sunshine Coast University Hospital precinct to Caloundra and then beyond. It will serve the Enterprise Corridor where population and employment growth are expected to increase significantly."*

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The Transport Strategy further noted (p 30):

> *"Consolidated and compact urban form around activity and employment centres and along major transport corridor nodes will generally make it easier to service from public transport (including high-frequency passenger transport) and may assist in increasing public transport patronage and visibility."*

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The Sunshine Coast Community Strategy 2019- 2041 was similarly developed from a ground-up with extensive community engagement approach. It notes the Sunshine Coast is experiencing a transformation from a regional centre to a regional city, reflecting deeply entrenched trends in Australian society that are seeing attractive coastal cities continue to grow.

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The Community Strategy identifies that one key priority the community expected of council was to work with other levels of government to develop innovative responses to public transport and mobility options, as well as housing affordability and homelessness. At page 31 it includes an action to:

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> *"Collaborate and partner with government, community and relevant sectors to find solutions to transport challenges, and encourage travel behaviour change, from a reliance on vehicle use to more sustainable means of transport."*

Sunshine Coast Council's Corporate Plan 2020 to 2024 conveys a vision for the Sunshine Coast as *Australia's most sustainable region – Healthy. Smart. Creative.* Based on the growth management and transport issues noted above, a step change in public transport is required to set the Sunshine Coast on a path to sustainable transport and urban development. The Corporate Plan notes (p 28):

> *"Council is continuing to build its case for the development of an integrated mass transit system to service the Sunshine Coast's growing population.*
>
> *While other levels of government are accountable for many elements of the transport system, Council is willing to be a catalyst for improvement and innovation where it contributes to the sustainability of the region. As a key example of this, Council is continuing to build its case for the development of an integrated mass transit system to service the Sunshine Coast's growing population."*

Coastal hazards adaptation. The first stage of the Sunshine Coast Mass Transit is proposed to traverse the coastal corridor from Maroochydore to Sunshine Coast University Hospital, an area of focus for coastal hazard adaptation. Council is preparing ***"Our Resilient Coast. Our Future."*** - a long-term strategy to help manage the impacts of coastal hazards. Coastal hazards include erosion of beaches, and short or long-term seawater inundation of land along the coastline.

The strategy aims to better understand coastal hazards, to reduce impacts on the coastline and its communities, and to enhance the resilience of the coastline over time. The strategy is expected to be completed in 2022. When available, any relevant outputs can be progressively integrated into the detailed business case phase for Sunshine Coast Mass Transit and future land use planning to improve the understanding of adaptation responses required in the high growth coastal corridor.

Business Case Process and Phasing

A major investment in any significant public transport network must be supported by an extensive business case. On the Sunshine Coast, the responsibility for the public transport network rests with the Queensland Government – not Council – and any major upgrade or expansion of the existing network will need to be funded and delivered by the Queensland Government and most likely, with Federal Government co-investment. To qualify for major capital funding, a formal business case process must be followed.

As outlined above, Council has long recognised the challenges that present in managing and accommodating forecast future growth and through a wide range of policy and planning instruments, has identified the criticality of an efficient and accessible public transport network within the urban coastal corridor to support the functionality of this high growth area, alleviate congestion and retain and potentially enhance the liveability of the region. However, the necessary planning and business case development work for an effective public transport network has not been progressed by the State Government and in 2011, Council embarked on this planning phase in the interests of positioning a new public transport network for the urban coastal corridor for consideration and delivery by the State Government.

Council is undertaking the initial phases of the business case development process for Sunshine Coast Mass Transit in accordance with the guidelines issued by the Queensland and Australian governments. Compliance with those guidelines is essential if the project is to be assessed as suitable for investment by the respective infrastructure evaluation and prioritisation agencies (ie. Building Queensland and Infrastructure Australia).

Business case frameworks

Commented [CM3]: Before going into the business case process, this is the point where we need to address the why – the case for a mass transit solution. Prior to this, we have articulated how this has been highlighted in other major policy documents but this is the point in the report where this needs to be brought together in terms of clearly, simply and compellingly providing the case why a mass transit solution brings the threads of each of these policy documents together and provides a particular and demonstrably effective response for accommodating the extent of growth forecast for the region. At the same time, we also need to paint the picture as to why that growth – in particular the 62% urban consolidation target – needs to be accommodated within the urban coastal corridor and not in railway towns (as this option has already been canvassed by some) or loaded into new urban development areas like Palmview, Aura and Beerwah East. In responding to the latter, we need to emphasise the unsustainable environmental and catchment management impacts of increasing density further in locations like Aura and Beerwah East, as well as the very real risk of placing pressure on the inter-urban break if more population growth volume is to be pushed to the south. Preventing further encroachment into the inter-urban break is a long-standing policy position of this and previous councils and also enjoys tripartite support from Noosa and Moreton Bay councils.

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Business cases for major infrastructure projects in Queensland are undertaken in accordance with Building Queensland's Business Case Development Framework. The preparation of business cases under this framework allows for consideration of the project in the Queensland Infrastructure Pipeline, which informs the development of the State Infrastructure Plan. The Infrastructure Pipeline ~~is~~ identifies endorsed Queensland Government infrastructure proposals with a minimum capital cost of $50 million. This is an essential step in the project being considered for future capital funding from the Queensland Government.

Australian Government infrastructure investment priorities are informed by Infrastructure Australia. Proposals requesting significant capital funding from the Australian Government also need to satisfy the requirements of Infrastructure Australia's *Business Case Assessment Framework*. In practice, it is possible to orient the Queensland Business Case Development Framework work on a business case to also meet Infrastructure Australia's requirements, which is the approach being adopted for the Sunshine Coast Mass Transit Project.

The Building Queensland Business Case Development Framework was updated in April 2020. ~~, when substantial work on the *Preliminary Business Case* for Sunshine Coast Mass Transit had been progressed under the old guidelines. Accordingly Building Queensland agreed Council could progress in line with the old guidelines, while recognising the changes in the new framework.~~ Table 1 shows the previous and new terminology for the various business case phases. To reflect the new framework, the subject document currently being prepared by council has now been retitled the draft *Options Analysis*.

Previous terminology	New terminology (from April 2020)
Strategic Business Case	*Strategic Assessment*
Preliminary Business Case	*Options Analysis*
Detailed Business Case	*Detailed Business Case*

Table 1. Previous and new phasing terminology applied by Building Queensland

The Council team has maintained close liaison with both Building Queensland and Infrastructure Australia to ensure the business case workings meet the requirements of their respective business case frameworks. Their focus on the current phase has been on defining the problems and opportunities, and ensuring a robust evaluation of transport and non-transport options.

The *Strategic Business Case* is completed

The role of the *Strategic Business Case* (now called *Strategic Assessment*) is to define a problem or opportunity that needs to be addressed, identify potential ideas that could resolve the issues or develop the opportunity, and evaluate whether any of the ideas have the potential to be viable options. It aims, *inter alia*, to establish that there is a need for a project. The *Strategic Business Case* was approved by Council on 25 July 2019, has been publically available since that time (unlike other business case documents of other agencies) and has been transmitted to relevant Queensland and Australian Government agencies. The feedback of these agencies has guided the work on developing the draft *Options Analysis*.

The draft *Options Analysis* is well advanced

The second phase, the draft *Options Analysis* (previously known as the Preliminary Business Case), aims *"to narrow the breadth of options by applying rigorous evaluation criteria before assessing the viability of any remaining options"*. It aims, *inter alia*, to define a project that can address the problems and shortlist viable options. Although still a preliminary planning phase, it represents a significant body of work and requires investigations of options that span engineering, environmental, urban planning and economic and financial analyses. Importantly, it does not lock in the ultimate solution and this only occurs as a result of continuing community engagement and the finer-grained analysis and evaluation undertaken through the Detailed Business Case.

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A partnership to prepare the *Detailed Business Case*

If the Options Analysis is approved, the final phase is the *Detailed Business Case*, which aims "to evaluate the viability of the highest ranked option/s with surety of outcomes across all evaluation criteria and develop investment implementation plans". The means *inter alia* defining the detail of the project and recommending a tightly specified reference project option, based on evidence that the desired benefits will be realised and the project can be delivered for the estimated cost.

For the Sunshine Coast Mass Transit project (and consistent with the approach for detailed business case development) this work will beis led by the Department of Transport and Main Roads, as the party that would ultimately deliver and own the solution identified.

On 8 May 2019, the Premier and Minister for Trade, the Honourable Annastacia Palaszczuk and the Minister for Transport and Main Roads, the Honourable Mark Bailey, committed up to $7.5 million which would be matched by Council to help develop a detailed business case for the first stage of an integrated urban public transport solution for the Sunshine Coast, including pricing options for light rail.

Provision was made in the 2019-20 State budget papers for the *Detailed Business Case* to be funded over the current and following financial years. The *Detailed Business Case* will be led by the Queensland Government, working in a close partnership with the Sunshine Coast Council. It would conceivably take about 18 months to prepare. Deliverables from the *Detailed Business Case* would include:

- Costs and benefits estimated to P 90 confidence level, meaning there is only a 10 per cent chance or less that the cost estimates will be exceeded
- A detailed reference project design that can be used to underpin procurement of providers to implement the project
- Updated land use forecasting to support demand and benefits assessment
- Extensive stakeholder and community consultation
- A recommended delivery model to build and operate the reference project.

Need for the Sunshine Coast Mass Transit Project

A fast growing area

The Sunshine Coast's population is forecast to increase from 320,000 to more than 518,000 over the next 20 years as more people choose to make this their homelive here. The year 2041 is just a planning horizonnot an end-point - ie. Growth won't stop then, and based on historical growth patterns and current forecasts, it is reasonable to we have to expect another 200,000 people over the three decades after that as well.

Like all south east Queensland councils, Sunshine Coast Council has worked with the Queensland Government on a plan to manage growth, not to resist it. ThatTo do so would only stifle ourthe region's economy, erode employment opportunities, entrench the region's economy's reliance on industries that are highly susceptible to global fluctuations (ie. tourism and retail), threaten livelihoods and force up the price of housing. Adopting a mature approach to growth management means we can growing the region's our economy is a way that is responsive to national and global demand, while protecting our quality of life and the natural assets of our region.

Through its land use and infrastructure planning work over the last 12 years, the Sunshine Coast Council has put in place and range of strategies and other policy and regulatory levers to sustainably manage the projected population growth of the Sunshine Coast over the decades ahead. This ranges from — ranging from the Sunshine Coast Planning Scheme, to our Integrated Transport Strategy, to the important work currently underway on the Sunshine Coast Coastal Hazards Adaptation Strategy.

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Commented [CM4]: This new section needs to be moved to earlier in the document after the policy landscape and before the business case process section – it should be integrated with my comments earlier about the need to address the "why" we need a mass transit solution.

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The common thread across all of this work is to preserve the Sunshine Coast's character, lifestyle and ~~iconic~~outstanding natural environment as essential contributors to the region's value proposition.

To accommodate the forecast growth anticipated by 2041, at least 87,000 new dwellings will be needed ~~by 2041,~~ and under current trends more than half those will be delivered through urban consolidation. in new greenfield communities

If growth is not managed in this way, then ~~we don't manage growth in a careful and committed plan,~~ we will in effect be ~~see urban sprawl~~ paving the way for urban sprawl extending urban development out to our scenic hinterland and down to our southern border, and building more roads and car parks so the residents of those sprawling suburbs can access work and services, go shopping, access entertainment options and visit our beaches, waterways and recreation ~~reserves~~areas. ~~connect us to Brisbane, and we will see our iconic coastal precincts catering more for traffic and car parking than they do for people.~~

Growing transport demand

Growing transport demand is a major issue because Sunshine Coast is so heavily dependent on car travel which accounts for 85 per cent of all daily vehicular movements~~trips~~.

Forecasts already show that 830,000 extra car trips are anticipated each day on our roads if transport investment policy remains focussed on catering for ~~aims to cater for~~ vehicular traffic without shifting people to more sustainable transport options, like public transport in the areas where the majority of these vehicular movements are occurring.

Currently only 3 per cent of trips in the region are made on public transport and this suggests most people don't see public transport as meeting their needs. The reality is that the current public transport network is limited, inefficient and not conducive to effecting behavioural change that would encourage residents to adjust their reliance on the private motor vehicle.

What is needed is a step-change in ~~mass transit~~the public transport network to attract people out of cars and to retain and build on that behavioural change. Failing to do this will have significant amenity and accessibility impacts on highly valued ~~and protect the iconic~~ coastal precincts, which will largely need to be redeveloped and/or reconfigured to accommodate private vehicles and ~~for being dominated by traffic and~~ increased car parking. Much of the greenspace that abuts the coastal foreshore would likely be lost or compromised by the need to accommodate more parking spaces and wider road corridors for private vehicles. Attractive coastal locations like Alexandra Headland would inevitably have to accommodate a range of multi-deck car parking stations to accommodate private vehicles.

~~The m~~Mass transit as a solution is ~~conversation is~~ therefore, about ensuring the region's liveability and natural assets are not compromised and undermined. ~~managing our future and protecting our lifestyle. About~~In particular, it is about moving people efficiently to where they need to get to most often, arresting urban sprawl, protecting natural assets both in the hinterland and in the urban coastal corridor, and delivering urban transformation in a way that both reflects and is consistent with the values and sustainability objectives of both Council and the community it represents. ~~and about protecting our environment.~~ This is not an unattainable goal.

Responding to these problems

The ~~vision for the~~ Sunshine Coast Mass Transit project is an important element of Council's plan to manage growth ~~–~~ in short, its vision is to provide *a step change to public transport that can set the region on a path to sustainable transport and appropriate urban development*.

Work already done by Sunshine Coast Council has shown this vision can be achieved through:

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Commented [CM5]: I think this is incorrect. More than half (ie. 62%) is to be accommodated through urban consolidation – not all of which is greenfield.

Commented [CM6]: We need to add from here how urban consolidation can also be delivered in a manner that does not require contiguous high density along an uninterrupted corridor and that the importance of good quality design principles that reflect the Sunshine Coast values, lifestyle and sustainability commitments are an integral component of achieving a compact, but desirable and less impactful urban form within the urban coastal corridor.

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- providing a high quality regional mass transit solution to connect the region's main residential, employment and recreational precincts, supported by an integrated feeder bus and active transport network to attract people out of cars
- containing the rate of urban expansion, which ~~that~~ results in car-based suburban greenfield developments, to the agreed expansion areas at Caloundra South, Palmview and Beerwah East
- locating the majority of new housing and jobs in the catchment of the mass transit system, while maintaining a recognisable low key Sunshine Coast character within that catchment.

The alternative is to see urban sprawl, to continue to provide additional lanes to existing roads, build new roads, and provide major increases in car parking in and around centres and beachside precincts. This alternative would see many existing urban areas become places catering more for cars and less for people, with their amenity and attractiveness irreparably compromised.

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~~The public transport solution for the Sunshine Coast will need to be delivered by the Queensland Government and funded primarily by them and the Federal Government. However council is doing the initial planning and business case work recognising the need to advocate for our sustainable future.~~

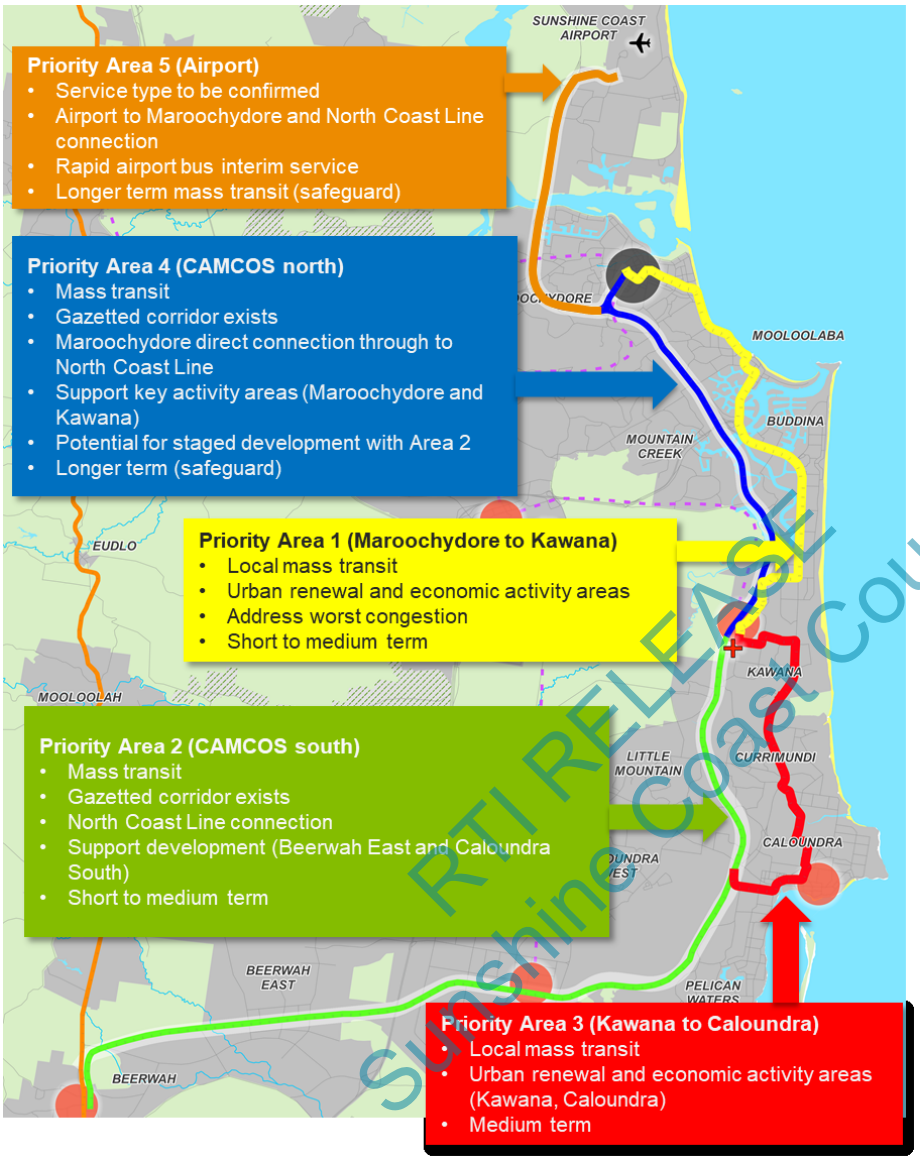
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Options for major new investment in mass transit

The *Options Analysis* will review the full range of options available to meet the identified problems and opportunities. Consistent with the policy directions already set in the Planning Scheme, the SEQ Regional Plan and the Integrated Transport Strategy, many of these options relate to a possible major investment in improving public transport.

The *Strategic Business Case* recommended that a first stage of any mass transit system upgrade should be delivered in the Priority Area 1 from Maroochydore to the Sunshine Coast University Hospital precinct, as depicted in Figure 2.

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Figure 2. : Geographic breakdown and focus areas for a Sunshine Coast Mass Transit solution

As a result of the *Strategic Business Case* findings, the transport options being evaluated in the draft *Options Analysis* will consider the technologies and initiatives that could feasibly be delivered to realise the benefits sought from the project, in the identified Priority Area 1 project corridor consistent with the characteristics of the area.

It should be noted that an option of heavy regional rail, along the lines operated by Queensland Rail, cannot feasibly and safely be installed in the Priority Areas 1 and 3, due to the need for full grade separation, and the mismatch between the heavy engineering and amenity impact of a heavy rail system vs ~~on~~ maintaining a high quality living environment -

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which is a central tenet and principle of all of Council's policy and planning instruments. Heavy regional rail does however, remain an option for future stages of the mass transit system in Priority Areas 2, 4 and 5 which have the benefit of a preserved rail corridor (ie. CAMCOS) and are generally not as close to existing urban development.

An Interim Findings Report received by Council in January 2020 and released to the public at that time advised the Stage 1 transport options considered in the ~~options~~ assessment process for the draft *Options Analysis* are:

1 Region-wide bus service enhancements, with no infrastructure improvements

2 Region-wide bus network upgrades, with supporting bus priority measures

3 Road network upgrades in the Sunshine Coast Urban Corridor

4 Quality Bus Corridor in Priority Area 1

5 Bus Rapid Transit in Priority Area 1

6 Light Rail Transit in Priority Area 1.

Based on the results of the Multi-criteria Assessment, the following options were recommended for progression in the draft *Options Analysis* to undergo economic analysis and more detailed assessment:

Option 6 – Light Rail Transit

Option 5 – Bus Rapid Transit

Option 4 – Quality Bus Corridor.

Legal

There are no legal implications arising from this report as this is the preliminary stage of the business case development process.

Neither the Strategic Business Case nor the Options Analysis (currently being developed) identify ~~or propose~~ specific property ~~resumption~~requirements to deliver a mass transit solution. This level of detail would not be considered until future planning and consultation stages and be led by the Department of Transport and Main Roads as the agency responsible for the delivery of the network solution.

Policy

This report is consistent with Council's policy directions as articulated in:

- Corporate Plan 2020 -2024
- Sunshine Coast Regional Economic Development Strategy 2013-2033
- Sunshine Coast Planning Scheme 2014
- Sunshine Coast Environment and Liveability Strategy 2017
- Sunshine Coast Integrated Transport Strategy 2018
- Sunshine Coast Community Strategy 2019-2041.

Risk

There are two primary categories of risk to be managed for a major investment project of this nature:

- process risks
- project risks.

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Process risks are risks that affect the process of advancing the project through the current and future phases. Process risks do not necessarily have a direct impact on the cost to deliver the infrastructure project. However, process risks may have significant time ~~, reputation~~ and management cost impacts.

Key process~~All these~~ risks can be mitigated by close involvement of the relevant State and Commonwealth agencies in the preparation of the *Detailed Business Case*, and this already forms part of the current project governance and working arrangements.

Project risks are risks that could affect the outcomes of the project and have a range of potential impacts including time, cost, quality, health and safety, reputation and environment. They mostly relate to risks that will eventuate in the delivery and operating phases of the project. Early known key project risks have been identified and are included in a project risk register that is continuously updated for consideration in any future phases of project delivery.

Previous Council Resolution

Ordinary Meeting 30 January 2020 (OM20/3)

That Council:

*(a) receive and note the report titled "**Sunshine Coast Mass Transit - Update**" and*

(b) note the findings of the attached report entitled "Sunshine Coast Mass Transit Preliminary Business Case – Interim Findings Report" (Appendix A).

Ordinary Meeting 25 July 2019 (OM19/102)

That Council:

(a) receive and note the report titled "Sunshine Coast Mass Transit Update"

(b) endorse the Strategic Business Case for Sunshine Coast Mass Transit at Appendix A, for the purpose of facilitating further consideration by relevant State and Federal Government agencies

(c) refer the Strategic Business Case for Sunshine Coast Mass Transit and in the form of a completed "Infrastructure Australia Stage 1 Template" to Infrastructure Australia for its consideration and inclusion in the Infrastructure Priority List, and advise Infrastructure Australia of the intention to complete a Preliminary Business Case

(d) refer the Strategic Business Case for the Sunshine Coast Mass Transit to Building Queensland for its consideration and inclusion in the Infrastructure Pipeline, and advise Building Queensland of an intention to complete a Preliminary Business Case

(e) refer the Strategic Business Case for the Sunshine Coast Mass Transit to other relevant government agencies including Transport and Main Roads and Queensland Treasury, and advise the agencies an intention to complete a Preliminary Business Case

(f) update the project website to provide access to the Strategic Business Case and a summary of the Strategic Business Case.

Ordinary Meeting 23 April 2015 (OM15/59)

That Council:

(a) authorise the Chief Executive Officer to proceed in accordance with the direction given in confidential session

(b) confirm the recommended light rail route corridor with which to proceed to more detailed feasibility and business case studies

(c) confirm support for progressing the establishment of a high frequency branded forerunner bus in conjunction with the State Government

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(d) authorise the Chief Executive Officer to write to the Minister for Transport outlining the findings of the Sunshine Coast Light Rail Route Options Consultation Report and the recommended route and seeking their support for progressing with more detailed feasibility and business case studies and

(e) authorise the Chief Executive Officer following completion of (d) above to release the findings on the Sunshine Coast Light Rail Route Options Consultation Report.

Related Documentation

Refer to the project website at https://www.sunshinecoast.qld.gov.au/Council/Planning-and-Projects/Major-Regional-Projects/Sunshine-Coast-Mass-Transit-Project or simply search "sunshine coast mass transit" online.

Field Code Changed

Critical Dates

No critical dates are relevant to this report. However the increasing trend towards urban expansion can only be effectively ~~reversed~~ constrained by timely action to implement the responses that are likely to be recommended in the draft *Options Analysis*.

The timing recommended by the *Strategic Business Case* for future stages is shown in table 5 below.

Table 5. Timelines for Sunshine Coast Mass Transit

Project Phase	Dates
Strategic Business Case	Completed
Options Analysis - Stage 1 of the mass transit system	Receive by Council in ~~first quarter~~ 2021 ~~for~~ following community engagement. ~~Finalise mid-2021 (indicative) following community engagement~~
Detailed Business Case - Stage 1 of the mass transit system	2021 & 2022, with community engagement likely in 2022
Investment Decision and Procurement - Stage 1 of the mass transit system	Depending on acceptability of the Detailed Business Case by State and Federal governments this phase is most likely to occur by the end of ~~By end~~ 2023 ~~(indicative and subject to State and Commonwealth funding approval)~~
Delivery of Stage 1 of the mass transit system	By 2027 ~~(~~(indicative and subject to State and Commonwealth funding approval)~~indicative)~~

Implementation

Should the recommendations in this report be accepted by Council, ~~it is noted that~~ the Chief Executive Officer will:

1. Prepare a comprehensive community engagement strategy based on the framework contained in Appendix A, to promote a more informed understanding of options for urban transformation to achieve a more compact urban form, within the context of broader strategic and interconnected issues (such as the regional planning directions, urban growth challenges, coastal hazard responses, integrated transport planning and infrastructure sequencing). This would also include engagement on mass transit technology options.
2. Present the findings of the community engagement strategy, along with a final draft of the *Options Analysis* report to council when completed, indicatively in mid-2021.
3. Update the project website and develop a range of informative communication materials to support the community engagement strategy.

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From: Ken Deutscher
Sent: Monday, 24 August 2020 8:16 AM
To: Craig Matheson; Chris Allan; Belinda Warren; Rachel Thomson; Pannie Mitchell; James Coutts; Bill Haddrill; Brendan Hogan
Cc: Leah Bancroft
Subject: RE: Latest on Mass Transit - public notice and report
Attachments: SCMT Interim Findings Report v5.1 from PwC20Jan2020-update post Agenda Review release.DOCX

Thank you Craig we can accommodate those comments. Re p13, the original text regarding urban consolidation is actually correct. I'll review it to make it clearer though.

Dear all:

I'd also like to attach the *Interim Findings Report* received by Council in January to this report as information. This can be used to underpin discussion on the matters being currently misrepresented in the community.

This can also address Craig's comment on p 13: "We need to add from here how urban consolidation can also be delivered in a manner that does not require contiguous high density along an uninterrupted corridor and that the importance of good quality design principles that reflect the Sunshine Coast values, lifestyle and sustainability commitments are an integral component of achieving a compact, but desirable and less impactful urban form within the urban coastal corridor."

Refer to page 14 of the Interim Findings Report. Further, the detractors have committed a mathematical "howler" regarding the population numbers.

I'll explain in meetings later this week. (see attached Interim Findings Report).

Best regards

Ken Deutscher
Project Manager Mass Transit
Urban Growth Projects
Liveability and Natural Assets Group
Sunshine Coast Regional Council
+61 s.47(3)(b)

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From: Craig Matheson
Sent: Sunday, 23 August 2020 8:50 PM
To: Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; Belinda Warren <Belinda.Warren@sunshinecoast.qld.gov.au>; Rachel Thomson <Rachel.Thomson@sunshinecoast.qld.gov.au>; Pannie Mitchell <pannie.mitchell@sunshinecoast.qld.gov.au>; James Coutts <james.coutts@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>; Brendan Hogan <Brendan.Hogan@sunshinecoast.qld.gov.au>

Cc: Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>
Subject: RE: Latest on Mass Transit - public notice and report

Chris

Thanks for this.

I have worked through this most recent version circulated and noted some additional changes and other comments for consideration by the team – all are tracked in the attached.

I am happy to discuss these with you if you wish.

Best regards

Craig

From: Chris Allan
Sent: Thursday, 20 August 2020 2:43 PM
To: Belinda Warren <Belinda.Warren@sunshinecoast.qld.gov.au>; Rachel Thomson <Rachel.Thomson@sunshinecoast.qld.gov.au>; Pannie Mitchell <pannie.mitchell@sunshinecoast.qld.gov.au>; James Coutts <james.coutts@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>; Brendan Hogan <Brendan.Hogan@sunshinecoast.qld.gov.au>
Cc: Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>
Subject: RE: Latest on Mass Transit - public notice and report

Thanks Bindy, see attached current draft. Note, some minor amendments resulting from today will now be required, the team are focused on that at the moment but the context of the report will not alter.

Happy to discuss.

Cheers,
Chris

Chris Allan
A/Group Executive
Liveability and Natural Assets Group
Sunshine Coast Regional Council s.47(3)(b)
chris.allan@sunshinecoast.qld.gov.au
Think B4U Print
1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere
3 sheets of A4 paper = 1 litre of water

From: Belinda Warren
Sent: Thursday, 20 August 2020 1:56 PM
To: Rachel Thomson <Rachel.Thomson@sunshinecoast.qld.gov.au>; Pannie Mitchell <pannie.mitchell@sunshinecoast.qld.gov.au>; Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; James Coutts <james.coutts@sunshinecoast.qld.gov.au>; Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>;

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Brendan Hogan <Brendan.Hogan@sunshinecoast.qld.gov.au>
Subject: Latest on Mass Transit - public notice and report

I've spoken to Warren.

He's indicating that he wants the following to happen (but subject to change):

- Special meeting is called (notice goes online today/tomorrow).
- The report and attachment goes online on Monday

This will give Warren a chance to look at the report tomorrow and over the weekend.

Craig is fine for us to review the current draft report and attachment to start the media release which will go out Monday once the report goes live (and the Mass Transit Project webpage also has the link to the report).

Chris is sending the current version to Pannie, Rach and me this afternoon.

Thanks everyone

Regards
B

Belinda Warren | Manager Communication
Office of the CEO | Sunshine Coast Regional Council (ED24)
Mobile: 0409 094 314
Email: Belinda.Warren@sunshinecoast.qld.gov.au
Website: www.sunshinecoast.qld.gov.au
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www.pwc.com.au

Sunshine Coast Mass Transit Preliminary Business Case

Interim Findings Report

Prepared for Sunshine Coast Council

January 2020

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Disclaimer

This report is a confidential document prepared by PricewaterhouseCoopers Australia (PwC) at the request of the Sunshine Coast Council (SCC) in our capacity as consultants in accordance with the Terms and Conditions contained in the consultant agreement between SCC and PwC in relation to the Sunshine Coast Mass Transit (SCMT) Preliminary Business Case (PBC).

The analysis contained in this report has been prepared by PwC from, inter alia, material provided by, and discussions with SCC and third parties with whom PwC has no official alliance, including:

- Luti Consulting
- JLL
- Cox
- Place Design
- Veitch Lister Consulting.

This report presents interim findings that are subject to change. No verification of the information has been carried out by PwC or any of its respective agents, directors, officers, contractors or employees, and in particular, PwC has not undertaken any review of the financial information supplied or made available during the course of the engagement. This report does not purport to contain all of the information that SCC may require in considering the SCMT PBC.

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1 Introduction

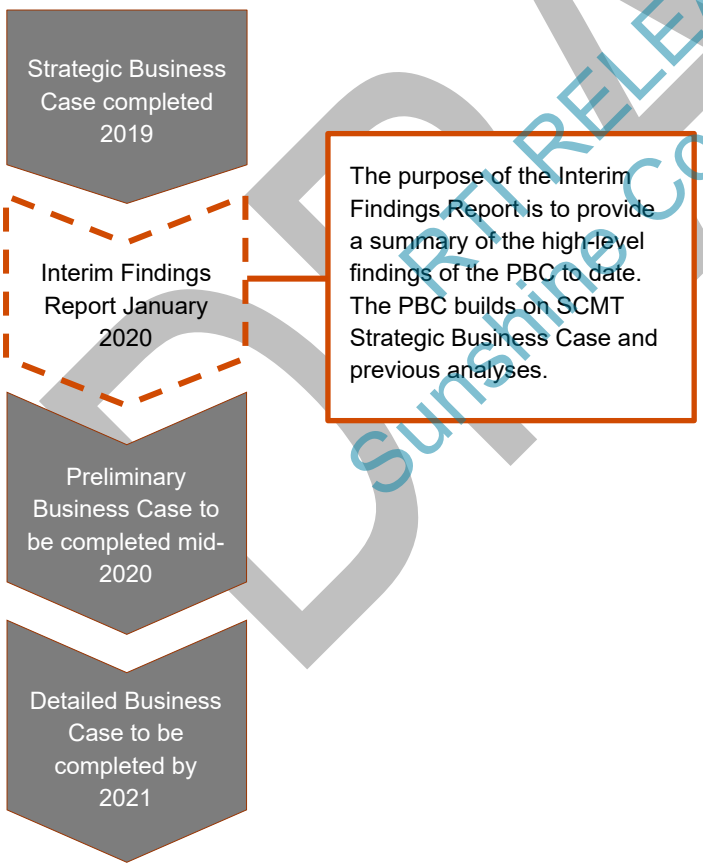
PricewaterhouseCoopers (PwC) is currently working with Sunshine Coast Council (SCC or Council) as Business Case advisors and Economic and Financial advisors on the Preliminary Business Case for the Sunshine Coast Mass Transit Project (SCMT Project or the Project). As part of this role, PwC has developed this SCMT Interim Findings Report to brief SCC at the January 2020 Council meeting.

The SCMT business case program includes three levels of business case:

- Strategic Business Case (SBC)
- Preliminary Business Case (PBC)
- Detailed Business Case (DBC).

The SBC was approved by Council at its meeting of 25 July 2019 and has been transmitted to relevant Queensland and Australian Government agencies. Investment in a mass transit solution is expensive and needs to be staged. Therefore, part of the business case development process focuses on a preferred staging plan, adopting a clear first stage for comprehensive investigation. On 25 July 2019, the SBC was endorsed by Council and recommended:

"The scope of the business case is proposed to be focused on the Maroochydore to Kawana corridor… with safeguarding for network extensions and/or connections to potential future mass transit solutions in the southern coastal corridor between Kawana to Caloundra, as well as the inland corridors between Beerwah and the Sunshine Coast Airport."[1]



SCC is now leading the PBC which is expected to be finalised by mid-2020. In May 2019, the Queensland Government committed funds to help develop a DBC for Stage 1 of the SCMT, which will be completed before the end of 2021. The business case program is shown in Figure 1.

Figure 1: Business Case program and development phases

[1] Sunshine Coast Mass Transit Strategic Business Case. p 138.

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2 Need for Project

2.1 Introduction

This section establishes the need for the Project by examining the challenges facing the Sunshine Coast as it seeks to accommodate significant population growth, while maintaining the Council's vision to be "*Australia's most sustainable region: Healthy. Smart. Creative.*"

Identifying problems or opportunities is critical to understanding the strategic drivers that a project needs to address. Developing a sound understanding of the extent, scale, cause and effect of these service needs provides a strong evidence-based foundation for developing a project solution, and ultimately investing in that project solution.

2.2 Sustainable management of population growth

South East Queensland (SEQ) is expected to continue to experience strong population growth through to 2041 and beyond, creating pressures on housing, transport, lifestyle, employment, social infrastructure and the environment. Both the Australian and Queensland Governments have recognised the challenges of managing strong forecast growth in population in a manner which is sustainable and promotes high-quality lifestyles. This includes recognising and responding to a trend towards increased urbanisation, and the social and environmental challenges that this can create.

The defining strategy which provides a framework for managing and accommodating forecast growth is the SEQ Regional Plan – *ShapingSEQ (ShapingSEQ)*. This Queensland Government plan identifies the challenge of delivering sustainable growth in population for SEQ from 3,600,000 in 2019 to an estimated 5,349,000 people by 2041. Of the suite of strategic objectives outlined in *ShapingSEQ*, those with particular relevance to this analysis include:

- Focusing 60 per cent of new housing development in SEQ in existing urban areas
- Prioritising public and active transport
- Region-shaping infrastructure to increase accessibility and productivity.

2.3 The challenge of growth for the Sunshine Coast

The growth in population estimated for SEQ is approximately 1,749,000 between 2019 and 2041. Approximately 215,100 people or 12 per cent of this total growth is estimated to occur in the Sunshine Coast, increasing the 2016 population of 303,400 by over 70 per cent to approximately 518,000[2].

The SCC area is already one of the largest population centres in Queensland, and the tenth largest in Australia. Over the past 20 years, the population of the Sunshine Coast has grown strongly by 125,500 people or 67.7 per cent, at an average rate of 2.8 per cent p.a., as depicted in Figure 2. By comparison, Queensland's population grew by only 35 per cent at an average of 2 per cent p.a. in the same period.

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[2] Queensland Government Statisticians Office. 2018. Population projections. Published 13 December 2018.

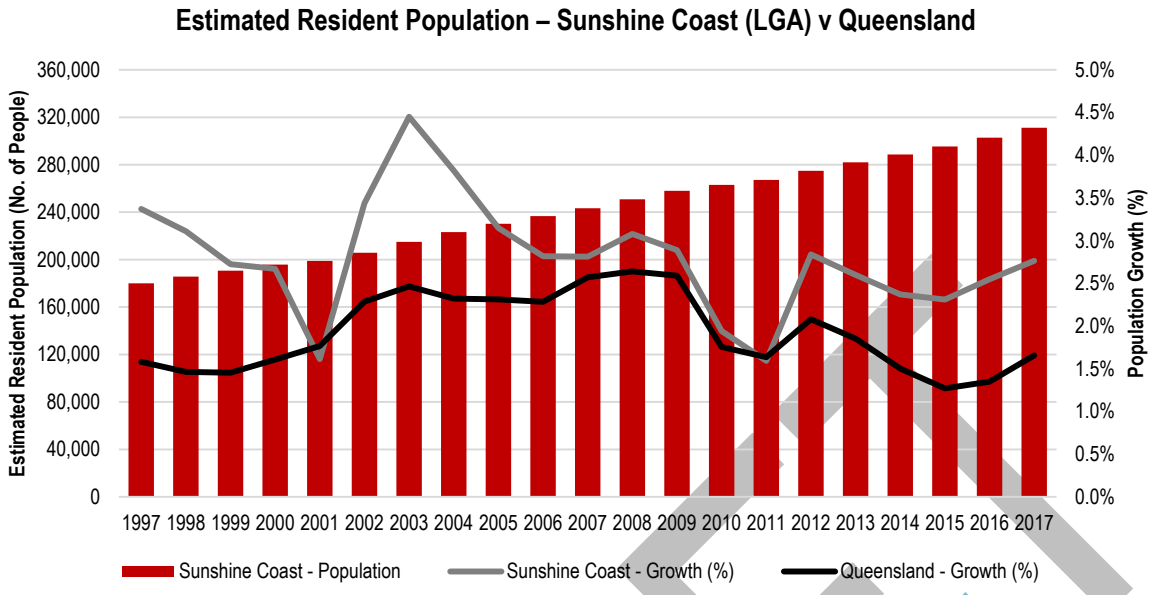


Figure 2: Population growth in Sunshine Coast 1997 - 2017

Source: Queensland Regional Database; ABS Regional Population Growth; JLL Strategic Consulting

It is expected that the Sunshine Coast region's population will continue to grow strongly, exceeding the national and state average population growth rates, as shown in Table 1. Each year the resident population experiences a net increase of about 8,300 people. By 2050, it is forecast there could be nearly 600,000 people in the SCC area.

Table 1: Comparison of forecast future population growth in Australia

Geography	Current population	Population growth rate p.a.
Australia	25.5 million	1.6 per cent
Queensland	5.14 million	1.7 per cent
South East Queensland	3.6 million	2.2 per cent
Sunshine Coast Council	320,000	2.6 per cent

To accommodate the forecast population growth in the Sunshine Coast region, *ShapingSEQ* requires the provision of 87,000 new residential dwellings across the Council area. Owing to the existing urban settlement pattern and geographic constraints, the Sunshine Coast is facing a major challenge in how it accommodates the forecast growth in population and additional dwellings.

More people will lead to more transport demand, and the number of daily trips that start or finish in the region will increase from 1.5 million to 2.4 million trips each day over the 25 years from 2016 to 2041. Currently, the region's population is highly dependent on cars, with 85 per cent[3] of all trips made by Sunshine Coast residents are made by private vehicle, and growth in car ownership[4] amongst the highest in Australia. This situation, if unchecked, would mean that the growth in transport demand would translate to spiraling traffic congestion and ever-increasing demands for more roads and car parking.

Further, if the Sunshine Coast were to accommodate forecast population growth primarily through urban expansion, this would result in urban encroachment on the region's natural resources including environmentally significantly land, highly constrained land, rural and agricultural areas. The expanded urban environment would also require significant investment in the provision of infrastructure and services over a larger geographic area.

[3] Integrated Transport Strategy, 2018, Sunshine Coast Council
[4] Integrated Transport Strategy, 2018, Sunshine Coast Council

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Both the Council and Queensland Government recognise there must be a strong focus on accommodating future population growth through urban consolidation within the existing urban footprint. This policy objective is reflected in both *ShapingSEQ* and the *Sunshine Coast Integrated Transport Strategy* and the *Sunshine Coast Planning Scheme 2014*.

ShapingSEQ identifies that to accommodate the forecast growth for the Sunshine Coast, 62 per cent of new dwelling growth should be delivered through urban consolidation, similar to the average SEQ region wide target of 60 per cent. This translates to an estimated 53,700 new dwellings to be located within the existing urban area of the Sunshine Coast over the next 25 years[5].

2.4 The Sunshine Coast Urban Corridor

Council's long-standing policy objective is to progress a comprehensive agenda to increase the ability to accommodate the majority of forecast population growth through a combination of urban consolidation and greenfield development.

Under the terms of *ShapingSEQ*, urban consolidation can be achieved through:

1 Development of some parcels of land that are presently not developed but that sit within existing urban areas

2 Redevelopment of existing vacant land or buildings for a higher intensity use that includes a significant proportion of residential accommodation

3 Development of new lots within the existing urban footprint, i.e. on the immediate urban fringe.

The greatest opportunity to achieve sustainable urban consolidation occurs within the 24km urban coastal corridor between Maroochydore and Caloundra, known as the Sunshine Coast Urban Corridor. Consistent with relevant Queensland Government and Council policies and plans, the Sunshine Coast Urban Corridor holds the key to fostering more sustainable travel patterns through greater use of public transport (PT) in the major population corridor that accommodates much of the forecast growth. This not only represents a more cost-effective solution to transport infrastructure provision but also catalyses the opportunity for supporting substantial and appropriate economic growth, while enabling greater accessibility to the lifestyle advantages the Sunshine Coast offers.

In recognition of this, and to support the strategic framework established by the growth management policies and strategies of the State and Council, the SBC identified the need to deliver integrated land use, economic and transport planning outcomes to support urban renewal in the Sunshine Coast Urban Corridor[6].

2.5 Challenges

2.5.1 Growing levels of road congestion

The Sunshine Coast Local Government Area (LGA) is the tenth largest population area in Australia. As noted earlier, the region's population is expected to grow by over 70 per cent by 2041 to over 518,000 people. This population growth will inevitably translate to increasing travel demand. Currently the region's population is significantly reliant on cars, evidenced by 85 per cent of trips being made in private vehicles. Leaving this situation unchecked will only exacerbate road congestion.

As an iconic tourist destination, the region also has to cater for very significant volumes of visitor travel. In 2018/19 there were over 13 million visits to the Sunshine Coast tourism region, comprising:

- 1.7 million international visitor nights
- 7.7 million domestic visitor nights
- 4.3 million day visits[7].

[5] *ShapingSEQ*, p120
[6] Sunshine Coast Council (2019). Sunshine Coast Mass Transit Strategic Business Case. p 100.
[7] Economy.id (2019). Sunshine Coast Council economic profile. https://economy.id.com.au/sunshine-coast/tourism-visitor-summary

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Traffic congestion in key tourism locations on the Sunshine Coast is already exacerbated by day trippers and overnight visitors during peak holiday seasons. On weekends, day trippers also place particular strain on both the local and State-controlled road networks, including the Bruce Highway with the local road network also experiencing a higher proportion of off-peak trips compared to weekdays[8]. This congestion is forecast to increase significantly by 2041 as increased numbers of residents and tourists compete for road space in Caloundra, Kawana, Mooloolaba and Maroochydore. Interventions to address this congestion may include road upgrades, however, this would further entrench the region's dependency on cars, fundamentally change the urban layout of the Sunshine Coast region and adversely impact the amenity and liveability of the region.

Strong growth in visitation is also expected to continue in line with national and SEQ population growth trends. The expansion of the Sunshine Coast Airport, along with development of the region's major tourist attractions, add to the accessibility and visitor appeal of the region. While major gateways to the Sunshine Coast like the Sunshine Coast Airport and the Bruce Highway will facilitate access by visitors to the region, once here, visitors need good access to key destinations and services locally. It is clear that a region heavily congested with vehicular traffic would detract from its popularity as a tourism destination.

The region's industry base is also expanding and becoming more diverse, with approximately 31,000 local businesses providing over 149,000 jobs, with more than 23,000 jobs created in the last five years in the seven high-value industries. Building on the same natural assets that make the Sunshine Coast a magnet for tourists, the region has generated thousands of jobs since 2013 in the sectors of health and wellbeing, aviation and aerospace, agribusiness, professional services and knowledge industries, innovative manufacturing and education and research. Approximately 91 per cent of people employed in the Sunshine Coast region also reside here.

Congestion is currently occurring in key areas on the Sunshine Coast in peak times, most notably on Nicklin Way, Sunshine Motorway and Caloundra Road, as well as other key routes where future jobs and dwellings are to be accommodated within the Sunshine Coast Urban Corridor. There are limited arterial and higher standard road corridors in the Sunshine Coast Urban Corridor, and the existing corridors have limited capacity for widening without significant impact on adjacent properties. The Council has plans to increase the capacity of Brisbane Road at Mooloolaba to four lanes in 2020 and while this will alleviate congestion in this route, it will not encourage mode shift to PT, without a separate investment in PT infrastructure or services.

The cost of road congestion for the Sunshine Coast LGA is forecast to be approximately $3 billion per annum by 2041 and approximately $1 billion per annum from Maroochydore to Kawana, in nominal terms. As the Sunshine Coast region grows, demand on the road network will continue to rise, and without intervention, there is a risk that this situation will progressively become unmanageable.

2.5.2 Accelerating trend towards urban expansion

The population of the Sunshine Coast is forecast to grow from 303,400 in 2016 to over 518,000 people by 2041 *ShapingSEQ* forecasts the region will require a total of over 212,877 dwellings to accommodate its population, an increase of 87,000 dwellings from 2016[9], as demonstrated in Figure 3.

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[8] Sunshine Coast Council (2018), Integrated Transport Strategy
[9] ShapingSEQ, p120

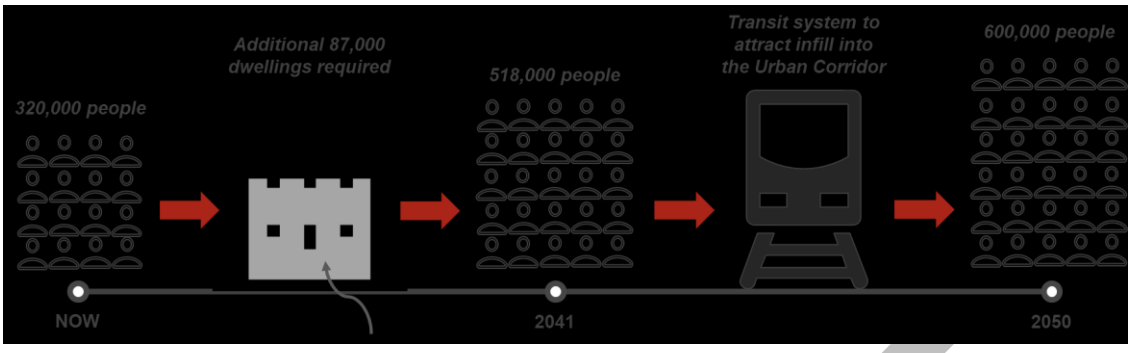


Figure 3: Population growth and infill benchmarks

To meet housing demand for the increasing population, three urban expansion areas are identified within the Sunshine Coast region; Palmview, Caloundra South and Beerwah East. The emerging expansion areas at Palmview and Caloundra South contain sufficient supply to meet the majority of expected demand up to 2031[10], subject to take up rates and land availability. Future urban expansion has been identified through *ShapingSEQ* to be accommodated at Beerwah East to further support the demand for housing within the region.

There is a strong evidence base demonstrating the net benefits that consolidated housing provides for the community when compared to urban expansion. The following costs are specifically attributable to urban expansion:

- Non-urban land consumption – with less non-urban land being available for productive uses such as agriculture, recreational, environmental and aesthetic uses.
- Infrastructure connection costs – particularly with respect to transport and utilities infrastructure, but also potentially in terms of social infrastructure service provision.
- Transport congestion costs – as greenfield residents are distantly located from jobs and services, lengthy commuting times and distances result, causing significant social and environmental costs.
- Labour force productivity costs – as agglomeration economies and human capital benefits are thwarted by spatial dislocation and congestion.
- Reduced housing choice – as constrained infill housing options fail to match the latent demand for inner and middle ring suburban living, with prospective residents prepared to trade-off private space with improved accessibility to jobs and services.

Further, the region's urban expansion areas are predominantly to the south and west of the coastal urban communities. These areas are likely to be heavily dependent on private motor vehicle transport, given they are remote from existing major employment nodes, key service centres and recreational attractions, necessitating even more investment in the road network and parking spaces. The alternative to continuous expansion of road infrastructure and car-oriented urban areas is to provide a high-quality integrated mass transit system that:

- Connects the region's major housing and employment and coastal recreation areas
- Supports urban renewal and consolidation of a significant proportion of the region's new housing within its walking catchment
- Connects to the rest of SEQ through the existing regional rail at Beerwah.

The SBC developed four project objectives for the SCMT Project to underpin delivery of a mass transit system[11]:

1 Support the Sunshine Coast's productivity, employment growth and self-containment aspirations by supporting existing and emerging strategic centres

[10] Urban Transformation – Directions Paper for the Future of the Sunshine Coast, 2017, Sunshine Coast Council, p24
[11] Sunshine coast Mass Transit Strategic Business Case. p 100

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2 Maintain, and where possible, improve amenity and livability and provide a catalyst for positive change by unlocking urban renewal opportunities

3 Improve accessibility, convenience and resilience of the integrated transport network

4 Provide a deliverable and value for money solution.

2.5.3 High dependency on private motor vehicle transport

Residents are heavily dependent on private car use. In 2016, 68 per cent of working residents in the region drove themselves to work and a further 25 per cent were passengers in a car, however, only 4 per cent of journeys to work are taken on PT[12]. The remaining trips (mode share of approximately 3 per cent) are taken using active transport (i.e. walking, cycling etc.)[13]. Figure 4 depicts the proportion of Sunshine Coast mode share for travel to work.

Without intervention to provide more sustainable transport modes and reduce car dependency, an additional 787,000 daily vehicle trips are forecast on the Sunshine Coast transport network by 2041, which represents a 70 per cent increase from 2016[14]. Lack of PT accessibility and congestion resulting from car dependency has the potential to constrain growth, hamper productivity improvements, adversely impact on lifestyle and community amenity and lead to sub-optimal urban renewal outcomes. Dispersed land uses and inadequate PT provision within the region will be key drivers of these outcomes without appropriate intervention. The abundance of parking in close proximity to key centres and the lack of alternative travel options also influence high private vehicle use[15].

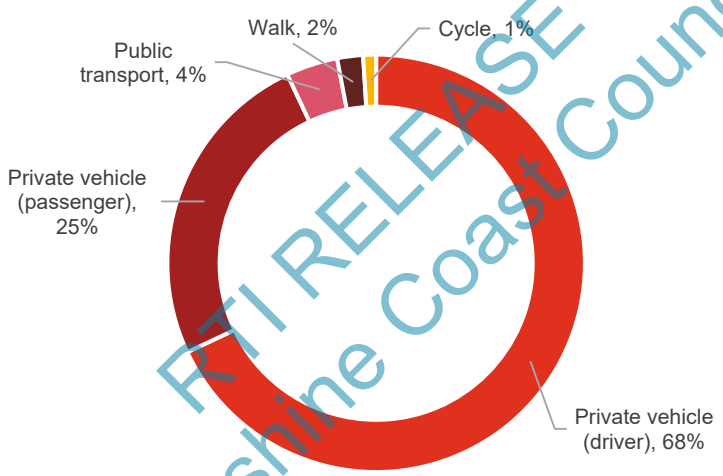


Figure 4: Sunshine Coast mode share for travel to work[16]

Council has a set a goal for PT mode share for the region to be 10 per cent by 2041, however, given the current rate of PT usage has fallen by 2 per cent between 2013 and 2016[17], the 2041 PT mode share will only be achieved if PT usage grows by a significant average of 6.6 per cent each year for 25 years.

Although it is an emerging major regional city, the Sunshine Coast presently has a PT system more suited to a regional town. The existing PT network is relatively basic in comparison to the service requirements to support forecast population growth. There has been limited service expansion and investment in PT to match the urban and population growth. It is very difficult to encourage people to elect to travel by PT if it is not an attractive, available or reliable alternative[18].

[12] Integrated Transport Strategy, 2018, Sunshine Coast Council, p24
[13] Integrated Transport Strategy, 2018, Sunshine Coast Council, p22
[14] Integrated Transport Strategy, 2018, Sunshine Coast Council, p35
[15] Integrated Transport Strategy, 2018, Sunshine Coast Council, p27
[16] Department of Transport and Main Roads (2017), *How Queensland Travels report*
[17] Calculated using Sunshine Coast total weekday boarding data received from TMR by Veitch Lister Consulting
[18] Integrated Transport Strategy, 2018, Sunshine Coast Council, p28

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If supplemented incrementally, the present PT system may be adequate to play a small role in facilitating connectivity within the region. However, with significant projected population growth and current domination of the private vehicle usage, incremental improvements to PT will not achieve the desired and required major shift in mode share. Major improvements to the PT system are required for the region to avoid spiralling congestion and loss of urban amenity in the next 10 to 15 years.

2.5.4 Self-containment and connectivity to employment

The need to pursue the development and growth of high-value industries to support continued high levels of employment self-containment is critical. The Sunshine Coast Urban Corridor has very high levels of self-containment. Over 50 per cent of Maroochydore residents work within the Maroochydore region, with a further 17 per cent travelling to Kawana for work, and 21 per cent travelling to other areas within the Sunshine Coast region. Significantly, only 3 per cent of Maroochydore residents are traveling to Brisbane, 2 per cent are travelling to the Noosa LGA and less than 1 per cent are travelling to Caboolture.

However, connectivity between key employment, tourism and health centres via PT is limited. Transport connectivity is important to attracting new employers and employees as easy access to employment via efficient transport options will improve the attractiveness of the Sunshine Coast as a place to work and live. It also supports increased productivity through agglomeration. Agglomeration is when people and businesses co-locate because they draw benefit from being in close proximity to each other and thus, they become more productive through collaboration, competition and access to a larger number of employer and employee pools.

Lack of effective PT connectivity to strategic economic precincts will impact the region's ability to achieve employment containment and growth targets. If planned activity centres within the Sunshine Coast Urban Corridor remain functionally separated, there will be fewer and less diverse interactions between businesses and people. In future, the lack of physical connectivity between the major activity centres of the region, reduced business-to-business interaction (reduced agglomeration and clustering opportunities) and the lack of reliable access to local workforce will be key factors effecting new growth in employment opportunities and development of the region's key employment industries.

Without the development of the 'step-change' projects, and the other employment generating initiatives outlined in the *Sunshine Coast Regional Economic Development Strategy*[19], there is a risk the Sunshine Coast will not achieve its economic goals and the long-term sustainability of the local economy will be at risk.

This, in turn, will reduce self-containment, decrease household income growth and constrain local productivity and employment opportunities. It will create an increased demand for people to either travel to different areas for employment (such as Brisbane) or to move to those areas (which will reduce demand for core industries and further reduce local employment opportunities, thus creating a negative, self-reinforcing cycle of economic downturn).

2.6 Summary

There is a clear need for a coordinated economic, land use and transport solution that supports the region's economic, social, environmental and transport goals. There is a need to ensure the region's economy continues to develop to attract investment to the region with an accessible and productive workforce. Suitable urban consolidation needs to be attractive and to allow residents to live closer to where they work. To be successful, this urban consolidation must be supported by a high-quality integrated mass transit system that:

- Connects the region's major housing and employment and coastal recreation areas
- Supports urban renewal and consolidation of a significant proportion of the region's new housing in its walking catchment
- Connects to the rest of SEQ through the existing regional rail at Beerwah.

[19] Sunshine Coast Council. 2013. *Sunshine Coast - Natural Advantage: Regional Economic Development Strategy 2013-2033*

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3 Land Use Analysis

3.1 Introduction

This chapter reports on the results of land use analysis changes that may result from differing levels of mass transit intervention by comparing a no-intervention (trend) land use scenario with an intervention land use scenario.

Council has completed a detailed assessment of the opportunity for land use change within the Sunshine Coast Urban Corridor in response to investment in the SCMT Project. This land use opportunity is quantified as an increase in the dwellings, population and jobs in the immediate walking catchment of the proposed mass transit stations, which directly addresses one of the SCMT project objectives – ***to improve liveability and provide a catalyst for positive change by unlocking urban renewal opportunities.***

The land use analysis:

- Identifies and provides context for the Sunshine Coast Urban Corridor
- Outlines the methodology employed to define and compare the land use scenarios
- Presents the results of the land use scenario analysis with and without intervention to assess the additional urban renewal resulting from the intervention i.e. the introduction of the SCMT Stage 1 Project
- Provides a summary of the population and employment redistribution analysis
- Summarises the key findings of the analysis.

3.2 Defining the Sunshine Coast Urban Corridor

ShapingSEQ identifies the need for balanced and managed growth, including setting benchmarks for consolidated (i.e. infill development) and expansion (i.e. greenfield) development of 62 per cent and 38 per cent respectively for the Sunshine Coast. To cater for increased urban consolidation, *ShapingSEQ* identifies an urban corridor from Maroochydore to Caloundra, supported by a high frequency passenger transport service. This would result in the urban corridor between Maroochydore and Caloundra becoming a cohesive corridor of distinctive, high-quality urban environments that are typically 'Sunshine Coast' in character and which optimise accessibility to future passenger services. Mixed use development opportunities, housing choice and affordability, would also be maximised.

Alongside its other objectives[20], the SCMT Project aims to give direct effect to this policy of urban consolidation within the Maroochydore to Caloundra urban corridor, delivering a coordinated agenda of:

- Urban transformation that increases housing choice and affordability and reduces the need to travel
- Efficient high-quality mass transit that can offer a realistic alternative to car travel.

As part of its input to *ShapingSEQ*, Council developed the *Urban Transformations Directions Paper* which identifies the transformation of the Maroochydore to Caloundra corridor as a key urban renewal initiative. Council has also undertaken a range of detailed investigations for mass transit dating back to 2012[21]. At its meeting on 23 April 2015, SCC confirmed a recommended PT corridor (nominally for light rail) as a basis for further feasibility and business case analysis. This corridor extends from Maroochydore to Caloundra, providing the basis for a mass transit spine to connect the major destinations within the Sunshine Coast Urban Corridor[22].

Through the SBC, the urban transformation corridor between Maroochydore and Caloundra has been designated as the '*Sunshine Coast Urban Corridor*'. This corridor has been identified as providing a significant opportunity to accommodate the *ShapingSEQ* required infill development target. It is approximately 24km in length, occupies an area of approximately

[20] Sunshine Coast Council. 2019. Sunshine Coast Mass Transit Strategic Business Case. pp 100 -101
[21] See https://haveyoursay.sunshinecoast.qld.gov.au/sunshine-coast-mass-transit-project for more detail
[22] See "Proposed Route for Further Investigation". https://haveyoursay.sunshinecoast.qld.gov.au/sunshine-coast-mass-transit-project

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4,670 hectares and currently accommodates over 80,000 people[23]. The Sunshine Coast Urban Corridor incorporates the major road corridors of Aerodrome Road, Alexandra Parade, Brisbane Road and Nicklin Way.

Investment in a mass transit solution is expensive and needs to be staged. Therefore, part of the business case development process focuses on a preferred staging plan, adopting a clear first stage for comprehensive investigation. On 25 July 2019, the SBC was endorsed by Council and recommended:

"The scope of the business case is proposed to be focused on the Maroochydore to Kawana corridor… with safeguarding for network extensions and/or connections to potential future mass transit solutions in the southern coastal corridor between Kawana to Caloundra, as well as the inland corridors between Beerwah and the Sunshine Coast Airport."[24]

The SBC recommended that staged development of mass transit should proceed in the following order:

1 **The coastal northern sector of the Sunshine Coast Urban Corridor between Maroochydore and Kawana.** Investing here as a priority provides the strongest basis for achieving key policy goals of supporting urban consolidation and employment growth and managing congestion. Since it contains the major employment and business growth centres of the region, this area provides the greatest opportunity to build a connected, lifestyle community with diverse housing and employment choices, all linked by local mass transit.

2 **The growth corridor between Kawana and Beerwah, which includes the inland southern sector of the preserved mass transit corridor known as "CAMCOS".** This southern sector of CAMCOS contains significant planned residential and employment growth. Mass transit investment here will link this growth area to Kawana and Maroochydore and also link to the North Coast Railway at Beerwah for service to Brisbane. This southern sector of the CAMCOS corridor should represent a high priority for mass transit investment once connectivity between Maroochydore and Kawana is achieved.

3 **The coastal southern sector of the Sunshine Coast Urban Corridor from Kawana to Caloundra.** This sector provides integrated land use and transport opportunities, and connections from Caloundra to the regional rail services to Brisbane. This is an important area for ongoing urban transformation that should be progressed as soon as possible after completion of the priorities described in points (1) and (2) above.

4 **The central sector of CAMCOS from Maroochydore to Kawana.** This sector offers the opportunity to provide a direct rapid transit connection between Maroochydore and the major urban growth communities on the southern perimeter of the Sunshine Coast region, as well connecting the Maroochydore City Centre to Brisbane. The option of this connection should therefore be kept open as a long-term priority.

5 **The northern sector of CAMCOS from Maroochydore to the Sunshine Coast Airport**. Development of mass transit here would connect the growing Sunshine Coast Airport to its local southern catchment, through the Maroochydore City Centre. This will support interstate and overseas air connections to underpin the region's ongoing development success. Initially this connection can be provided by a dedicated limited stops bus service to Maroochydore similar to the TransLink 777 service that operates on the Gold Coast. A dedicated fixed track mass transit connection would be a long-term priority.

Having regard to the high priority attached to Areas 1 and 3 (above), land use planning for urban transformation needs to focus on the whole Sunshine Coast Urban Corridor, from Maroochydore to Caloundra. This corridor would be connected by a major new investment in local urban mass transit, adopting technology that is appropriate for safe integration within the urban fabric.

The SBC recommended[25]:

- The concept for the mass transit system must be based on a technology that offers a high-quality service capable of attracting a significant proportion of passengers out of cars. The mass transit technology must also have a demonstrated capability to act as a catalyst that will engage developers and the broader community in an urban

[23] Sunshine Coast Mass Transit Strategic Business Case.

[24] Sunshine Coast Mass Transit Strategic Business Case. p 138.
[25] Sunshine Coast Mass Transit Strategic Business Case. p 20.

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transformation process that results in a significant proportion of new quality housing choices being located within the mass transit catchment.

- Modern light rail operating in a segregated right of way is a technology with proven capabilities, however, other more cost-effective options will need to be analysed in the next phase of the business case process.

Planning for the PBC has progressed the assessment of appropriate mass transit technologies, and this is discussed in Chapter 5 of this report. The work to date has supported previous findings that a staged urban mass transit system can be feasibly developed in the Sunshine Coast Urban Corridor to support the sustainable development of the region.

Planning to date has determined a reference SCMT Project within a mass transit corridor extending 22km (Phases 1 and 3 above) with up to 25 stations linking strategic centres including Maroochydore, Kawana and Caloundra. As part of the PBC, Council is currently undertaking additional analysis to confirm the findings of the SBC which recommend the stages for the SCMT Project. The two stages have been identified:

- **Stage 1** (16 stations, approximately 13km) - extending from Maroochydore to the Sunshine Coast University Hospital precinct
- **Stage 2** (9 stations, approximately 9km) - extending from the Sunshine Coast University Hospital precinct to Caloundra.

The SBC identified that the most effective development of the SCMT Project included the Maroochydore to Kawana corridor (Strategy B). This is being validated throughout the PBC. The project team has assessed the land use opportunities for both Stages 1 and 2 utilising the two following staging strategies for the *Intervention* land use:

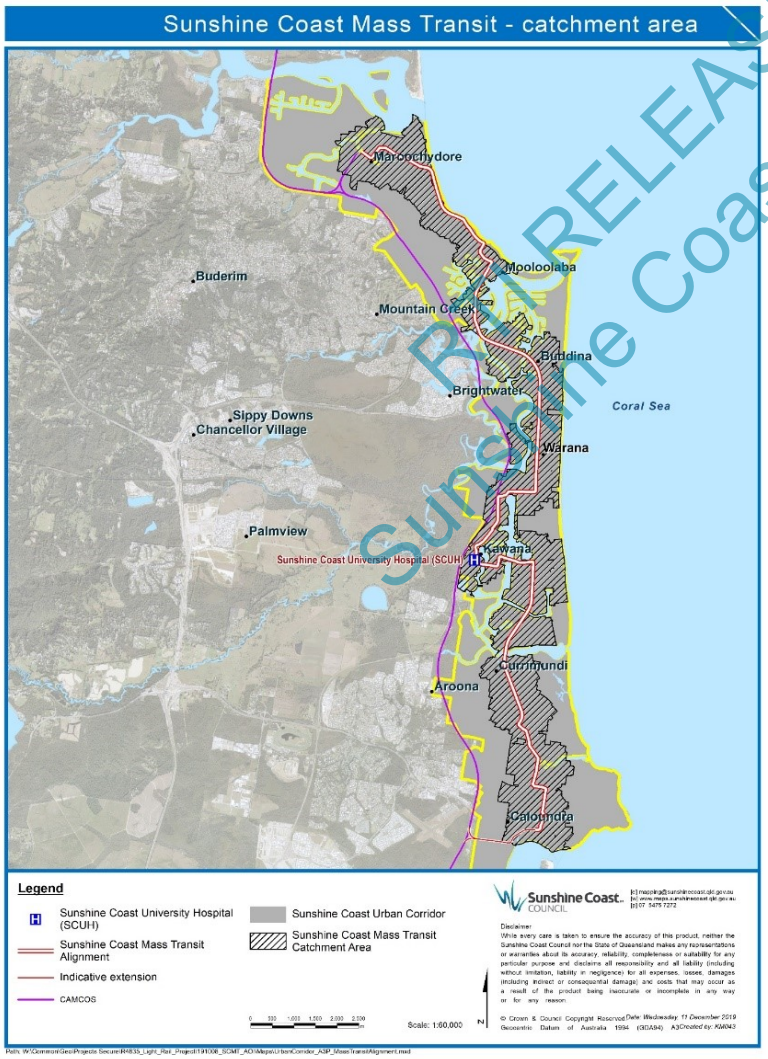


Figure 5: SCMT catchment area - Sunshine Coast Urban Corridor

- **Strategy A** - The full corridor (Stages 1 and 2) Maroochydore to Caloundra defined in Figure 5 below
- **Strategy B** - Stage 1 Maroochydore to Sunshine Coast University Hospital Precinct only.

This land use analysis (in line with the rest of the PBC) assesses **Strategy B** only and refers to the Stage 1 corridor as the SCMT Stage 1 Land Use Corridor. The SCMT Sunshine Coast Urban Corridor is shown in Figure 5.

3.3 Methodology for the land use analysis

3.3.1 General Approach and Considerations

The land use analysis was designed to determine the total quantum of urban renewal (dwellings, population and jobs) that can be unlocked by the SCMT Stage 1 Project. Analysis involved the development of two future land use scenarios:

- '*No-Intervention (trend)*' land use scenario
- '*Intervention*' land use scenario that could be compared to quantify the urban renewal opportunity enabled by the introduction of the mass transit project, in terms of both development capacity unlocked and forecast take-up.

The *No-Intervention (trend)* land use scenario represents a business-as-usual approach to

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planning and transport infrastructure provision in the Sunshine Coast Urban Corridor. The assessment has been completed by SCC and its technical advisors and identified the likely property market take-up of development entitlements under existing planning controls. The assessment included a detailed analysis of historical residential and commercial market supply and demand across the Sunshine Coast and, more specifically, within the Sunshine Coast Urban Corridor. Broadly, the *No-Intervention (trend)* land use scenario has been developed in response to a "do-minimum" transport network[26], which does not involve the introduction of SCMT Stage 1.

In contrast, the *Intervention* land use scenario has been developed in response to a 'with project' transport network, which involves the introduction of SCMT Stage 1, as well as changes to planning controls that unlock existing land supply and repurposing options in response to land market conditions as a result of the SCMT Stage 1 investment.

Each scenario involved the identification of the potential development capacity as well as the likely take-up of that capacity. The potential development capacity is defined as the theoretical quantity of development that could occur under the planning scheme if all development opportunities were maximised. The likely take-up is defined as the quantity of development capacity that is forecast to actually be delivered by the market in the specified timeframe (2016 to 2041). The forecast take-up rate for growth under the *Intervention* land use scenario assumes that market impacts would commence in 2025, that is, 12 months prior to completion of construction of Stage 1 of SCMT in 2026. Other considerations include:

- The analysis in this report has been performed assuming a Light Rail Transit (LRT) intervention, given the stage of the Project. LRT is a proven technology in achieving take-up of urban renewal opportunities. A Bus Rapid Transit (BRT) land use scenario is being developed and will be incorporated into the final PBC analysis and report.
- The Queensland Government Statistician's Office (QGSO) projections for the Sunshine Coast and the urban corridor assumes infrastructure upgrades, including a mass transit spine.
- The QGSO projections have been maintained at the Sunshine Coast level. Where the *Intervention* land use scenario forecasts additional growth in the Sunshine Coast Urban Corridor, this growth has been redistributed from outside the corridor with the total population maintained at 518,000.

3.3.2 Nine Step Assessment

A detailed nine-step assessment was used to define the land use scenarios, their development capacities and likely forecast growth projections to 2041 for each station catchment within the corridor. This sequential process is summarised as follows:

1 Determine station locality and catchment

2 Conduct a constraints analysis to identify the likely impediments to further growth

3 Identify existing constrained sites and opportunity sites that could contribute to the transformation of the station

4 Determine the *No-Intervention (trend)* capacity by identifying development capacity under current planning controls

5 Develop the urban design considerations and future land use plan for each catchment

6 Develop the *Intervention* land use scenario

7 Identify the additional capacity unlocked by the SCMT Project

8 Conduct a market-based assessment to forecast the likely take-up of both the *No Intervention (trend)* and the *Intervention* land use scenario capacities

9 Determine the total urban renewal unlocked by the SCMT Project and identify forecast growth based on take-up rates for the *No-Intervention (trend)* and the *Intervention* land use scenarios.

[26] See section 6.3 below for more detail.

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3.4 Land use analysis

3.4.1 Urban renewal unlocked by *No Intervention (trend)* and *Intervention* land use scenarios

The land use scenario capacities and forecast take-up in 2041 for both the *No-Intervention (trend)* land use scenario and the *Intervention* land use scenario are detailed in Table 2. The 2016 dwelling, population and jobs reflect the ABS 2016 Census information. The results demonstrate that the *Intervention* land use scenario unlocks significant additional capacity and additional urban renewal above the *No Intervention (trend)* land use scenario. Specifically, the *Intervention* land use scenario unlocks 9,575 dwellings, 19,597 new residents, and 6,336 new jobs over and above the *No Intervention (trend)* land use scenario, by 2041.

The forecast take-up is lower than the theoretical capacity as it is reflective of historical trends and future demands on a catchment-by-catchment basis. It shows that the land use changes and the SCMT project together unlock significant demand for housing and thus jobs to largely service new residents along the corridor.

Table 2: SCMT Stage 1 land use corridor *No Intervention (trend)* vs *Intervention* land use scenario capacity and take-up

	2016 (ABS /QGSO)	2041 NO INTERVENTION CAPACITY	2041 INTERVENTION CAPACITY	ADDITIONAL CAPACITY UNLOCKED	2041 NO INTERVENTION TAKEUP	2041 INTERVENTION TAKEUP	ADDITIONAL GROWTH UNLOCKED
Dwellings	11,209	21,533	50,761	**29,228**	17,436	27,011	**9,575**
Jobs	30,973	61,183	85,092	**23,909**	49,334	55,670	**6,336**
Population	23,222	-	-	-	35,475	55,072	**19,597**

Figure 6 graphically compares the *No Intervention (trend)* and *Intervention* land use scenario dwelling and job capacities and forecast 2041 growth. The *LRT-Intervention* land use scenario is forecast to result in additional potential dwelling capacity of more than 29,000 dwellings, and additional potential job capacity of more than 23,000 jobs.

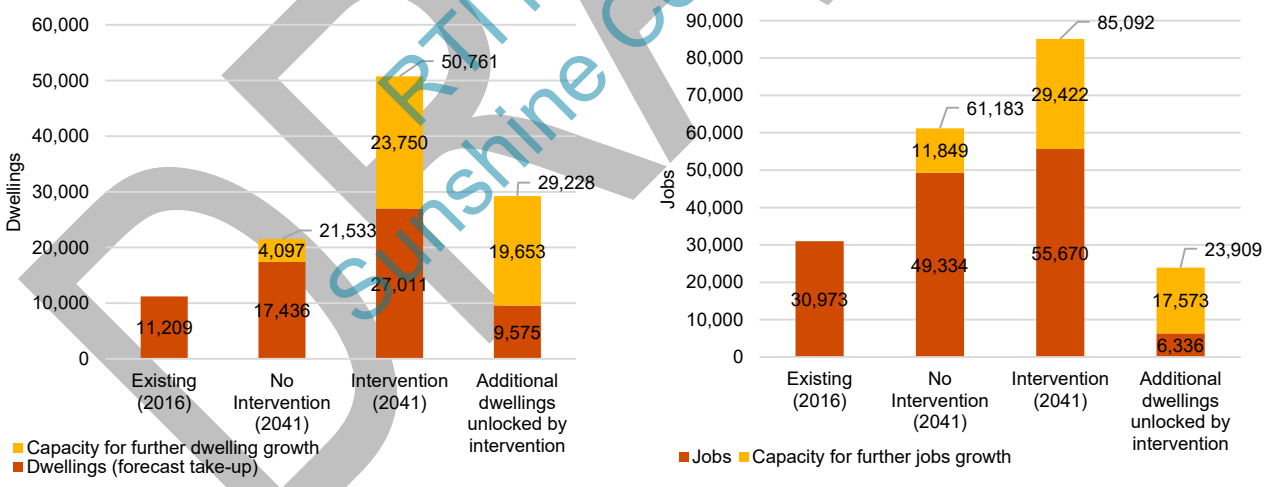


Figure 6: *No Intervention (trend)* and *Intervention* land use scenario dwelling and job capacity and forecast growth (2041)

The overall performance of the residential, retail and commercial markets relative to SCMT Stage 1 relate to multiple factors, with the ultimate urban renewal potential that may be unlocked in the corridor requiring an integrated approach addressing appropriate built-form outcomes, local amenity, and an implementation framework and/or land-use planning control amendments that support and promote the desired outcome. Without the combined impact of proactive rezoning implementation measures (e.g. a Priority Development Area (PDA) or planning scheme amendments) designed to concurrently improve and support existing retail and recreational amenity, deliver market certainty and provide for master planned precinct-based outcomes, the expected benefits from SCMT Stage 1 may be reduced.

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3.4.2 Benchmarks – Rail Infrastructure projects in Australia

Since 2000, Australia has seen a variety of light rail infrastructure projects implemented, aimed at improving accessibility between residential and employment hubs, reducing congestion on major roads, or catalysing urban regeneration projects, often resulting in increased population density within the areas serviced by the rail networks. To provide context to the potential upper and lower take-up rates which may be achieved within the corridor, a detailed assessment of the historic market performance of five identified light rail corridors (Gold Coast Light Rail Stage 1, Sydney Inner West Light Rail Stages 2 and 3, Canberra Metro Stage 1, and the Glenelg Entertainment Centre Extension) was undertaken.

While each of the benchmark case studies demonstrate that urban regeneration has occurred from introduction of the respective rail projects (despite significant barriers in many cases) the case studies highlight the need for planning intervention in order to realise maximum benefits from urban consolidation opportunities that are enabled in proximity to transit stations and corridors. Analysis highlights that station catchments where changes to planning controls (namely the use of the PDA for Gold Coast Light Rail Stage 1) had been implemented with sufficient time to enable market response to the light rail infrastructure had experienced more significant take-up than catchments where no intervention had occurred.

3.5 Redistribution of intervention scenario growth from within Sunshine Coast LGA

The *Intervention* land use scenario results in greater dwelling, population and employment growth in the Sunshine Coast Urban Corridor than would otherwise occur without a major intervention to improve mass transit options. Without intervention, this additional growth would likely otherwise have occurred in other localities within the Sunshine Coast LGA. The modelling approach redistributed the difference in population and broad industry category of employment (i.e. retail, service, professional, industry and other) relative to travel zone forecasts. The redistribution model is informed by two key factors – the planning intent of the travel zone and the level of transport network constraint.

The results of the modelling indicate that significant population redistribution into the corridor is drawn from Eumundi and west of Beerwah, while the employment impacts are less significant, aside from drawing jobs away from the Sunshine Coast Public Hospital to a degree.

3.6 Urban transformation that suits the Sunshine Coast lifestyle

Increased growth in the Sunshine Coast Urban Corridor will only be achieved if the amenity, liveability, employment and lifestyle offering is demonstrated to be attractive to current and future residents. New consolidated urban development in the Sunshine Coast Urban Corridor can be designed to achieve a *low-key* lifestyle city that maintains and enhances the Sunshine Coast's valued character and identity through:

- A series of urban villages containing a mix of uses which create local community hubs and which are connected to the major centres of Maroochydore, Kawana and Caloundra
- Providing for a range of desirable housing choices suitable for an affordable coastal oriented lifestyle
- Containing building height and site cover to deliver a built form that is consistent with a low-key approach to urbanisation, without excessive high-rise development
- Increasing density and development around stops as a function of the transit system and the increased amenity that it offers
- Providing a public realm that supports activated, vibrant places that are green, accessible, inclusive and reflect local character
- Supporting healthy and active lifestyles by incorporating extensive active transport (i.e. walking and cycling) networks and enhanced access to open space and recreation facilities
- Capitalising on opportunities for views, aspect and walk-up access to beaches and estuaries
- Mandating residential building types that foster outdoor living and allow for interaction with pedestrian activity at street level
- Promoting climate friendly building design to reduce energy needs, capitalise on prevailing breezes, sun and shade

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- Providing for renewable energy generation and water conservation and reuse as integral features of private and public buildings
- Delivering extensive native sub-tropical landscaping in streets, public spaces and private properties.

3.7 Further measures to support urban transformation

Expert analysis to support the PBC has confirmed that mass transit, combined with a proactive land use response, has the potential to facilitate a fundamental shift towards new infill renewal and improved take-up rates. These expert reports caution, however, that it is clear the process of achieving urban transformation in the face of accelerating trends for urban expansion will be difficult. There will also be a need to provide a range of stimulus measures and incentives to ensure the timely activation of the desired types of new residential and commercial infill development and to maximise the amenity and liveability of the Sunshine Coast Urban Corridor.

An “Urban Renewal Facilitation Toolkit” is being prepared to provide Council with a set of intervention levers, policy directions and incentives to be implemented in conjunction with mass transit and land use changes. This “toolkit” can assist the residential take-up rates and the ‘consolidation’ growth benchmarks under the *ShapingSEQ* to be achieved while retaining the Sunshine Coast’s character and identity. The implementation of these “toolkit” measures alongside the mass transit investment will be essential to ensure the overall success of the urban transformation agenda in the Sunshine Coast Urban Corridor and to achieve the *ShapingSEQ* growth targets.

3.8 Summary

The land use analysis undertaken to date for the SCMT Project has found that the right type of mass transit can act as a catalyst for the consolidation of new housing and business within its catchment. This will enable a higher proportion of dwelling growth to occur within the Sunshine Coast Urban Corridor and support access to key destinations and employment nodes without having to drive long distances in private motor vehicles. In particular:

- The SCMT Project will deliver a significant region-shaping opportunity when combined with complementary and appropriate changes to planning controls
- Investment in the SCMT will help drive a stronger, more competitive and sustainable economy and generate substantial and lasting economic, social and environmental benefits
- Project benefits include a combination of the initial increased demand for dwellings serviced by the new infrastructure and the benefits that come from changes in land use zoning and increased development densities
- By 2041 the *LRT-Intervention* land use scenario would result in take up of:
  - 9,575 additional dwellings in the corridor beyond forecast growth without intervention, as a key contributor to the region meeting its 62 per cent urban consolidation target
  - a population of 19,597 additional people in the corridor beyond forecast growth without intervention
  - 6,336 additional jobs in the corridor beyond forecast growth without intervention.
- A fixed infrastructure and high frequency solution would provide greater certainty for residential, retail and commercial property investment
- There would be significant additional dwellings in almost all station catchments as a result of the mass transit project, and significant employment activation in Maroochydore and Kawana (Point Cartwright Drive precinct)
- The SCMT Project could potentially unlock greater dwelling, population and employment growth through additional market influence, however, the analysis has taken a conservative view to reflect historical residential and commercial market demand along the corridor
- The process of achieving a major swing to urban consolidation will be difficult and will require the support of additional measures envisaged in the “Urban Renewal Facilitation Toolkit” alongside the major investment in mass transit.

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4 Options Assessment

4.1 Introduction

This chapter describes the options assessment process resulting in a shortlist of options to be taken forward to the detailed economic and financial analysis for the Preliminary Business Case.

The options assessment process delivered for the SCMT Project Stage 1 was undertaken over multiple stages, leveraging the work undertaken during the SBC phase and previous transport planning undertaken for SCC by expert technical advisors.

The options assessment process was delivered in accordance with best practice guidance issued by Infrastructure Australia, Building Queensland and Queensland Treasury. The process undertaken included the following key steps:

1 Identifying and costing the problem

2 Identification of the current and future states i.e. the 2016 situation and the projected "do minimum" scenario

3 Options identification

4 Scoping and development of the options, including transport modelling and cost estimation

5 Quantitative MCA to identify the preferred option(s) for consideration through economic assessment.

4.2 Cost of the problem

During the SBC phase of the project, and to inform the completion of the IA 'Template for Stage 1: Problem Identification and Prioritisation', transport and economic modelling was undertaken to monetise and quantify the problems identified. Through this process it was estimated that the cost of the problem (nominal), relating to congestion (including externality costs) was:

- $500 million per annum for the entire Sunshine Coast LGA in 2016, rising to $3.0 billion per annum in 2041
- $350 million per annum for the urban corridor from Maroochydore to Caloundra, rising to $2.2 billion in 2041
- $160 million per annum for the urban corridor from Maroochydore to Kawana, rising to $1.0 billion in 2041.

In addition to these costs directly relating to congestion, the analysis also discussed the relative cost to the economy and to government and the private sector (in terms of infrastructure provision) of greenfield developments as opposed to infill growth. This cost of the problem establishes the boundaries for the funding envelope that could be considered. Given its significance, this cost justifies a fairly substantial intervention to resolve and address this cost.

4.3 The *do-minimum* transport investment scenario

The *do-minimum* transport investment scenario includes the roads and PT within the study area. The future road and PT network infrastructure upgrades include only those upgrades that are:

- Funded and/or committed projects which form the basis of the economic analysis
- Funded and planned projects which form the basis of the planning analysis, where upgrades are currently planned by the Council and/or the Department of Transport and Main Roads (TMR) and are expected to be funded through recurrent funding
- Projects that represent *do-minimum* intervention including minor works and maintenance.

4.4 QGSO demographic scenario adopted for options testing

The Land Use analysis in Chapter 3 demonstrated that differing land use scenarios will result in 2041, depending on the level of mass transit investment. However, it would be difficult and confusing to rely on these differing scenarios to assess the performance of investment options. Accordingly, a single projected demographic scenario as developed by the Queensland Government Statisticians Office (QGSO) for the Sunshine Coast LGA in 2041, has been adopted for the

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Options Assessment. The QGSO distribution of population for the Sunshine Coast LGA is based on inputs from Council that assume certain infrastructure upgrades including a major investment to provide a mass transit spine in the Sunshine Coast Urban Corridor.

4.5 Options identification and longlist – SCMT Stage 1

The options identification process for the PBC focussed on the Stage 1 corridor from Maroochydore to Sunshine Coast University Hospital precinct (SCUH) to build on the findings and recommendations of the SBC

4.5.1 SBC options assessment and SCMT program

The SBC follows on from the Council's *A line in the sand* report and is the first stage of the formal business case assessment of the Project. The purpose of the SBC was to:

- Identify, articulate and analyse the current and forecast economic, land use and transport opportunities and challenges on the Sunshine Coast to effectively understand what is needed to achieve the strategic aspirations for the region
- Identify and assess a range of initiatives that could respond to the opportunities, challenges and service needs
- Recommend a way forward to the next stage of the Project's assessment, being a PBC.

The SBC identified and assessed 16 current and potential initiatives that are, and could be progressed, by Council or the Queensland Government. The initiatives included:

- 10 non-capital initiatives covering reform and better use
- Six capital investment initiatives to improve mass transit.

Non capital initiative options
An assessment of the non-capital initiatives showed the following:

- Eight current initiatives are not sufficient in their own right to address the challenges of growth management on the Sunshine Coast. They will form the basis of the "base case" or "without project case" against which any future investment could be measured.
- An initiative based solely on land use reform will not adequately address challenges nor fully realise desired benefits. However, in order to achieve urban renewal policy goals, a land use strategy must accompany any preferred mass transit solution as the integration of land use and transport planning is critical to achieving optimal economic and social policy outcomes for the region.
- Implementation of significant road travel demand management and restraint of car parking supply would be insufficient to respond to the major growth in travel expected.

4.5.2 PBC options identification

The SBC recommended that a first stage of mass transit delivered in the Priority Area 1 from Maroochydore to Kawana was the best option for the development of PT on the Sunshine Coast and the preferred first stage of intervention. The development of options for the PBC was undertaken by the project team, considering the technologies and initiatives that could feasibly be delivered to realise the benefits sought from the Project, within the identified project corridor.

Overall the Stage 1 options considered in the PBC options assessment were:

1 Bus service enhancements

2 Bus network upgrades

3 Road network upgrades

4 Quality Bus Corridor

5 Bus Rapid Transit (BRT)

6 Light Rail Transit (LRT).

These options reflect a range of PT solutions, mode options and levels of capital investment to understand the incremental benefit that could be realised from an increasing level of investment and intervention in the corridor.

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4.6 Options scoping and development

The identified options were subsequently scoped by the project team. For each option, sufficient design effort was undertaken to develop a strategic level cost estimate and enable transport modelling to be undertaken. All options follow the same route for Stage 1 from Maroochydore to the SCUH. For each of the options, an updated region-wide PT network including bus service enhancements was used as the basis for the strategic transport modelling.

4.6.1 Option 1 – Bus service enhancements

The bus service enhancements option reflects an expanded future PT network on the Sunshine Coast. This network was developed as part of the *Southern Sunshine Coast Public Transport Study* for TMR. It consists of a trunk corridor extending from Beerwah to the Sunshine Coast Airport (via Caloundra, Kawana, Mooloolaba, Maroochydore) which is serviced by 3 high-frequency routes. Connections to other activity centres (including new centres) and the North Coast Rail Line are provided by new and existing connector routes with improved frequencies. The level of service of bus kilometres of this network would also be deployed across all options. Greenfield growth areas are provided with new coverage services, and frequencies and routing on some existing coverage routes are improved.

4.6.2 Option 2 - Bus network upgrades

The bus network upgrades reflect a low capital solution, providing localised treatments throughout the corridor to improve the current bus network service. These upgrades represent an incremental improvement to the current service offering. Features include:

- Improved service with a combined service frequency of 8 vehicles per hour (7.5-minute headways)
- Bus services as specified in the bus service enhancement option (Option 1 – Bus service enhancements)
- Queue jumps at key locations along the corridor
- Park n Ride at Sunshine Motorway as it is a key transfer point for road, east-west bus services, and the coastal transport corridor.

4.6.3 Option 3 - Road network upgrades

The road upgrade option considers the ability to make amendments and investment in the road network to alleviate congestion and improve the transport functionality within the corridor. This also incorporates the base bus service enhancements of Option 1. The level of new infrastructure is consistent with the Quality Bus Corridor providing a similar scale of investment as PT. This option will include road upgrades along Aerodrome Road, Venning Street, Walan Street, Brisbane Road and Nicklin Way

4.6.4 Option 4 - Quality Bus Corridor (QBC)

The Quality Bus Corridor reflects the development of a high-quality bus corridor, with high frequency service provision. It represents a significant capital investment in bus technology and includes corridor level treatments, as compared to the bus network upgrades, to attract passengers and increase PT mode share. The design leverages previous detailed investigations undertaken by TMR on the *CoastConnect: Caloundra to Maroochydore Quality Bus Corridor* study undertaken in 2010-11. Key features of this option include:

- Improved vehicles - higher specification branded vehicles, articulated or double decker buses
- Pre-paid boarding, no tickets sold on buses
- Dedicated bus lanes along Aerodrome Road - Rose Street to Horton Parade
- Dedicated bus lanes along Nicklin Way (2 road lanes + 1 bus lane + active transport)
- No priority at traffic signals
- Improved service with a combined service frequency of 8 vehicles per hour (7.5-minute headways)
- Bus services as specified in the bus service enhancement option (Option 1 – Bus service enhancements)
- Quality bus stops along corridor
- Park n Ride at Sunshine Motorway.

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4.6.5 Option 5 – Bus Rapid Transit (BRT)

A BRT reference design was developed for the PBC and reflects a significant level of capital investment to create a dedicated high-quality bus-based PT spine in the corridor. The solution includes high-quality vehicles and stations with features as described by the *Bus Rapid Transit Standard*[27]. Key features of the BRT option include:

- Identical alignment to the LRT alignment across the corridor with aligned station locations and function
- Modern battery electric buses
- Pre-paid boarding, tag on platform, all doors, no contact with driver
- Dedicated right of way corridor
- 8 vehicles per hour, 7.5-minute headways
- Priority at traffic signals
- Journey time of 30 minutes from Maroochydore to Kawana
- Park n Ride at Sunshine Motorway.

4.6.6 Option 6 – Light Rail Transit (LRT)

The LRT reference design was developed for the PBC, and as for the BRT design intention, represents a significant level of capital investment to create a dedicated high-quality dedicated PT spine in the corridor. The LRT option reflects the highest specification, largest infrastructure intervention and highest cost solution considered in the options assessment. Features of the design include:

- Identical alignment to the BRT alignment across the corridor with aligned station locations and function
- Pre-paid boarding, tag on platform, no contact with driver
- Dedicated right of way corridor
- 8 vehicles per hour, 7.5-minute headways
- Priority at traffic signals
- Journey time of 30 minutes from Maroochydore to Kawana
- Park n Ride at Sunshine Motorway.

4.6.7 Trackless trams

“Trackless tram” is an emerging technology solution that is essentially a subset of BRT in form and function. A trackless tram is an electric powered rubber tyred vehicle that would be autonomously guided via an optical or radio service guidance system. “Trackless tram” systems are currently in a demonstration/ pilot technology phase of development, in China, and are a proprietary product of the Chinese rail company CRRC with a demonstration/pilot system operating in Zhuzhou.

During the identification stage of the options assessment process, trackless trams were considered as a potential option for inclusion in the Multi Criteria Assessment (MCA) process. Research undertaken into the technology, and discussions with the technical advisors to the project, determined that trackless tram is a technology variant that fits within the BRT portfolio and as such is considered in that context, with similar, if not identical infrastructure requirements and land use outcomes.

The current CRRC “trackless tram” vehicle dimensions are larger than existing buses in Australia (2.65 m wide by 3.4 m high), and purportedly can be lengthened or shortened by adding or removing sections from each consist. The propulsion systems are electric with onboard energy storage systems (supercapacitors) being recharged at stations. This requires power supply infrastructure and services to each station for quick recharging. The manufacturer also claims that the

[27] ITDP. 2017. Bus Rapid Transit Standard. https://www.itdp.org/library/standards-and-guides/the-bus-rapid-transit-standard/

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vehicles are 100% low floor, though with a floor height of 330mm. This is 30mm higher than standard low floor LRT vehicles[28].

Like BRT systems, trackless trams would require a rigid pavement to handle the repetitive and localised loading profile from the guided wheels and would need to operate in their own right of way, with dedicated stations. The guidance technology system remains unproven for various environmental conditions including heavy rain (experienced on the Sunshine Coast).

Given the new nature of such technology it would require certification and approval for operation in Australia and the pathway for such is unknown at this point in time. The guiding approach for the project has been to consider technologies and solutions that have a level of proven commercial service, thereby reducing the technological and commissioning risks and enabling the Council (and any operators) the ability to leverage off experience from similar systems globally during commissioning and operations. At this stage "trackless trams" do not have proven commercial service experience that can be relied upon to reduce this risk for Council and its partners and this solution is considered "proprietary" technology- thus adding further risks for project owners when locked into a single supplier.

Based on such similarities, and the likely relative costs to other BRT (and indeed LRT) solutions, the delivery of a mass transit system through trackless trams was seen as a technology that needs further development and some degree of proven commercial service to be considered a solution in its own right.

Its exclusion as an explicit option in the PBC phase does not prevent its future consideration in the DBC phase if the technology becomes more advanced as part of a BRT solution, if this is progressed as the preferred Reference Project.

4.7 Options assessment

4.7.1 Criteria

The six shortlisted options for Stage 1 were assessed against a range of criteria chosen to link directly to the service requirements and project objectives developed in the SBC, and the options were assessed on their ability to deliver the outcomes desired by the Council. The criteria used for the quantitative MCA are outlined in Table 3.

Table 3: MCA criteria

Criteria	Description	Core Assessment Weighting
Transport Outcomes	Impacts of the option on mode share, travel times, congestion, PT reliability, future transport network development. Focused on PT impacts.	45%
Land Use	How the option impacts on the land use outcomes in the corridor and enables urban renewal and promotes infill development. This criterion considered the amount of development around the mode and its ability to satisfy the infill criteria of Council.	30%
Cost	Comparative whole of life costs including capital and operating cost estimates for each of the scoped options, discounted at 7 per cent real (economic discount rate).	15%
Sustainability / Environmental	The overall sustainability and environmental impact of the option.	10%

4.7.2 Results

Table 4 presents the outcomes of the core MCA assessment, along with the results of the sensitives. To test the robustness of the results from the MCA, several sensitives were also run using alternative scenarios across these criteria. These sensitivities considered:

- An equal weighting, to test the outcome if all criteria are considered to be equivalently important
- Cost criteria greater than land use, to test the outcome if cost and transport are considered more important

[28] "Debunking the myths around the optically-guided bus (trackless trams), 21 January 2019" Yale Wong, University of Sydney

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- Only the Transport Outcomes, Land Use and Cost criteria, as these act as a proxy for an economic assessment.

Table 4: Quantitative MCA results and sensitivities

Criteria		Bus service enhancements	Bus network	Road network	Quality Bus Corridor	BRT	LRT
Core result Rank	Score	5.2	5.0	4.1	5.8	7.5	8.7
	Rank	**4**	**5**	**6**	**3**	**2**	**1**
Equal weightings on all criteria	Score	5.1	5.1	4.0	6.2	7.1	7.9
	Rank	***5***	***4***	***6***	***3***	***2***	***1***
Cost weighting > Land Use weighting	Score	6.7	6.2	5.4	6.7	7.1	7.6
	Rank	***4***	***5***	***6***	***3***	***2***	***1***
Transport, Land Use and Cost criteria only	Score	5.8	5.1	4.7	5.0	6.1	7.4
	Rank	***3***	***4***	***6***	***5***	***2***	***1***

4.8 Summary

The quantitative MCA results presented in Table 4 demonstrate that an LRT solution from Maroochydore to Kawana is the highest performing option when assessed against a range of criteria and transport infrastructure. LRT performed the strongest in the Core scenario as well as across all sensitivities. BRT performs second, and this result is also consistent across all sensitives. Based on the results of the MCA, the following options were recommended for progression in the PBC to economic analysis and more detailed assessment through development of a Cost Benefit Analysis:

1 LRT

2 BRT

3 Quality Bus Corridor.

The options assessment process concluded that only the LRT option and potentially the BRT option are considered to have significant benefits in achieving the important land use criterion. The Quality Bus Corridor option is based on bus lanes, and although it performs well in terms of transport and cost, cannot achieve the full range of urban renewal benefits sought for the SCMT Project in the Sunshine Coast Urban Corridor.

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5 Reference Projects

5.1 Introduction

This chapter describes the key features that comprise the SCMT Reference Projects for the shortlisted options identified in Chapter 4. The LRT Reference Project was used as the benchmark against which to develop the BRT Reference Project, and it is described in the most detail. A higher-level overview of the Reference Project – BRT and the alternative Quality Bus Corridor option is also provided.

5.2 Operational Assumptions

The LRT and BRT have been analysed and designed based on the initial operating assumptions shown Table 5.

Table 5: Operational assumptions

Item	Assumption
Alignment length	13.6km
Number of stations	16
Number of substations	LRT – 9 at approximately 2km intervals, plus the depot BRT – Assumed to be battery electric, 3 recharging at both terminus and deep recharging in the depot
Structures – number of major bridges	5 bridges Canal within Maroochydore CBD Creek on Brisbane Road Tucker Creek on Brisbane Road Mooloolah River North on Brisbane Road Mooloolah River South on Brisbane Road
Depot location	Single site for stabling and maintenance is yet to be confirmed.
System configuration	Shared driver amenities at both terminus locations
Journey time – BRT	Proposed to use standard 30-minute journey time with a 15-minute change over at each terminus (recharging, driver amenity break, driver change for driver break)
Journey time – LRT	Proposed to use standard 30-minute journey time with a 6-minute change over at each terminus (driver amenity break, driver change for driver break)
Vehicle size / length – BRT	Based on Brisbane Metro. Approximate values: Length – 24 metres Static width – 2.55 metres Passenger capacity – 60 seated, 70 standing
Vehicle size / length – LRT	Based on Gold Coast Light Rail. Approximate values: Length – 45 metres Static width – 2.65 metres Passenger capacity – 80 seated, 220 standing
Vehicle floor height	300 to 350mm (100 per cent low floor)
Platform height	
Maximum gradient	8 per cent
Speed performance	To match adjacent road, posted speed limits up to 80km per hour
Running way – BRT	High strength asphalt pavements for running way, except for concrete pavement at the following locations: • Stops including approach and departures • Intersections

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5.2.1 Public Transport Network

A project specific bus network has been developed to support operation of the light rail route. The network includes a high frequency trunk connection running from Sunshine Coast Airport through to Beerwah via Maroochydore CBD, Mooloolaba, Birtinya, Caloundra South and Beerwah East. The trunk route is comprised of high frequency busses and the LRT corridor.

5.2.2 Providing opportunities to access the mass transit system

To maximise passenger convenience, the ability to transfer between the various public transport services, and the ability to transfer to the mass transit system from other modes of transport, must be central design features. While most people walk to access public transport, not all passengers originate from points close enough to allow this. As with any integrated public transport system, passengers must have maximum ability to access the mass transit services even in cases where they cannot walk to the stop. The proposed arrangements for access and transfers for Stage 1 of the mass transit system are shown in Table 6.

Table 6: Proposed Intermodal transfer arrangements for SCMT Project

Access mode	Response	Location
Walk, cycle, micro-electric transport	Improve direct pathway connections between mass transit stations and their catchments Provide bicycle storage and/or allow bicycles to be carried on services	All mass transit stations
Transfer from intersecting local buses	Provide passenger interchange, and bus layover facilities	Maroochydore Town Centre, Mooloolaba south, Kawana Town Centre, Kawana University Hospital
Transfer between mass transit and regional rail	Provide convenient transfer points with a short walk between regional rail and mass transit at key stops	Maroochydore Town Centre, Kawana Town Centre
Passenger pick up and set down	Provide facilities for at major stops for “kiss + ride” private vehicle and booked hire services and taxis	Maroochydore Town Centre, Mooloolaba south, Kawana Town Centre, Kawana University Hospital
Park + Ride	Provide car parking spaces close to mass transit stations that are outside of busy or congested areas and have good road access	Mooloolaba south, and possible smaller facilities at local stops not located in major centres.

5.2.3 Park n Ride facilities

Park n Ride facilities allow people to drive to mass transit stations and leave their car there for the period of their journey. Park n Ride is a primarily way of intercepting motorists before they arrive in major activity centres or congested parts of the road network and allowing them to transfer to public transport. These facilities are popular with users but expensive to provide and maintain. In particular they consume large amounts of land which in central locations can be prohibitively expensive to attain. The Park n Ride facilities can also sterilise land around stations that might be used for other more valued purposes such as medium density housing and mixed use commercial development. Importantly, Park n Ride facilities need to be located so motorists do not drive into congested areas, as this is a key reason to provide the mass transit as an alternative way to access centres.

On Stage 1 there is one highly suitable location for a large Park n Ride and a bus transfer facility at Mooloolaba south, as part of the major Mooloolah River Interchange works for the Sunshine Motorway. Future detailed planning may also identify other opportunities for smaller Park n Ride facilities at other stations located outside of busy centres.

5.3 Reference Projects – general characteristics of LRT and BRT

This section outlines the characteristics of the LRT and BRT Reference Projects.

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5.3.1 Route alignment

The Stage 1 SCMT corridor (see Figure 7) has been divided into seven segments to assist with selection of the most suitable alignment options within the corridor. The segments have been identified based on the function of the segment from a land use and transport planning perspective. The segments are:

- Segment 1 - Maroochydore CBD
- Segment 2 - Aerodrome Road
- Segment 3 - Alexandra Parade and Venning Street
- Segment 4 – Mooloolaba
- Segment 5 - Mooloolah River
- Segment 6 - Nicklin Way
- Segment 7 - Birtinya Town Centre.

When considering the alignment, the following key criteria were used in the selection process of suitable options:

- Safety - Where there is private property access directly onto the corridor, placing the mass transit alignment on the same side of the corridor as the private property access points results in conflicts that need to be managed for the safety of people using the private property access and the mass transit. For safety reasons, all interactions between LRT or BRT vehicles and road vehicles will be signalised.
- Operational efficiency - Efficiency in the operations and the road network is improved by minimising the number and complexity of interactions between the two forms of transport. Reducing the number of interactions improves allowable speeds for the vehicles and any delays associated with the operation of the traffic signals.
- Place and context - The position of the LRT or BRT within the corridor and the finishes used for the track slab (concrete, paved, grassed) can provide varying levels of benefit for the development of place along the corridor. The position of the alignment controls the position of the stops across the corridor. Connectivity of the stops to their surrounding precinct can be enhanced depending on the position within the corridor.

The alignment with 10-minute walking catchment isochrones catchment area is shown in Figure 7.

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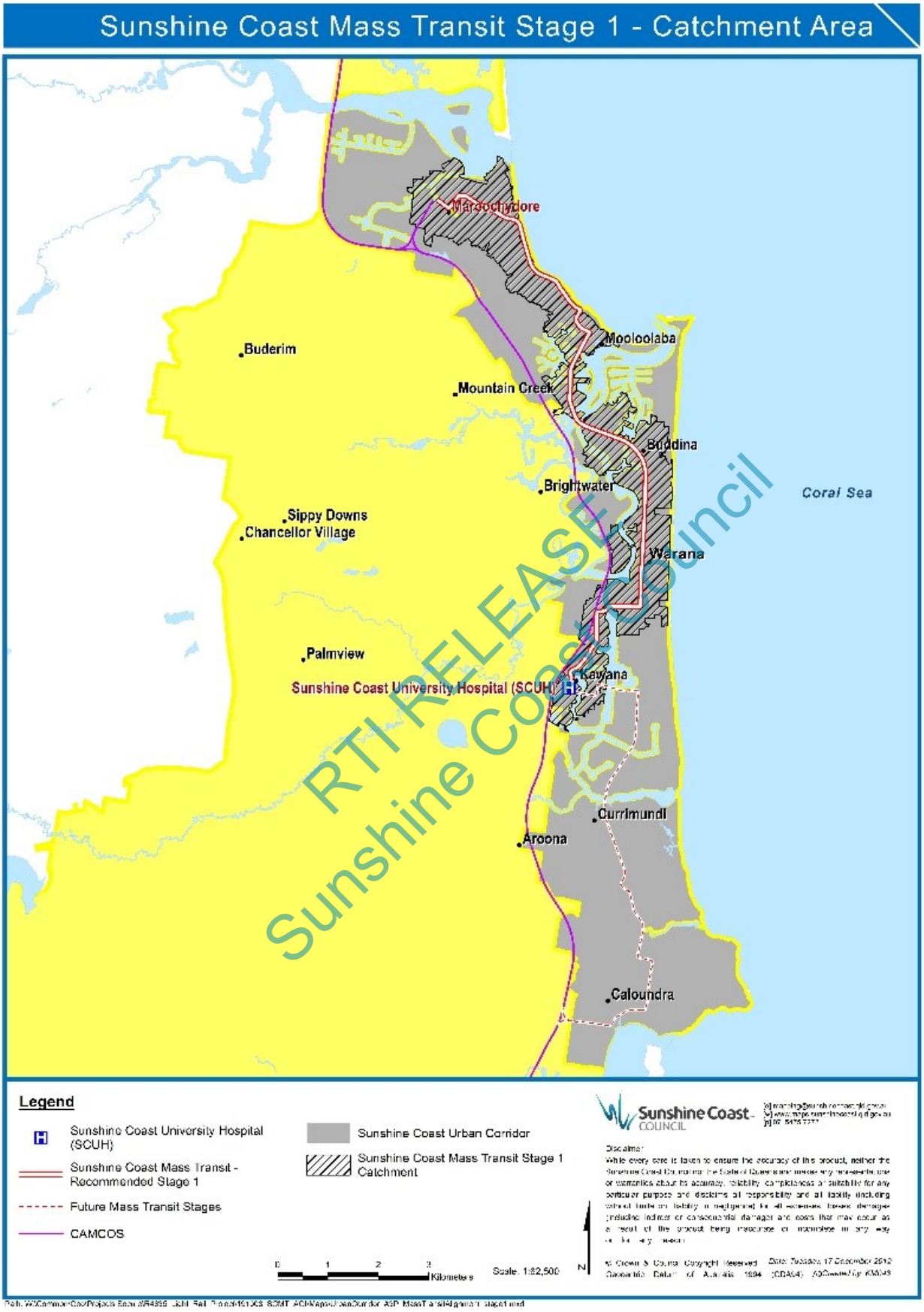


Figure 7: SCMT Stage 1 catchment area

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5.3.2 Corridor configuration

The corridor route follows existing road corridors. The approach taken aims to minimise the scale and impacts of the infrastructure, integrate the alignment within the urban environment, and achieve a suitable journey time and reliability to encourage mode shift to PT.

To minimise the impacts, a balanced mixture of LRT or BRT running way, traffic lanes, parking, active transport and open space is required. For the PBC this has resulted in the configurations proposed in Table 7.

Table 7: Corridor configuration

Segment	Road	Footpaths	Cycle	Through Lanes (each way)	Corridor type	Running way
1	Corso	Both sides	Shared with road traffic	One	Verge	Grassed / Paved
1	First Avenue	Both sides	Dedicated on western side	One	Narrow median – partially segregated	Concrete
1	Maroochydore	Both sides	Not applicable	Not applicable	Verge	Concrete
2	Aerodrome Road	Both sides	None (PCN provided on Maroubra Street)	Two	Narrow median – segregated	Concrete
3	Alexandra Parade	Both sides	M2M cycleway on eastern side	One	Verge	Concrete
3	Venning Street	Both sides	None	One	Narrow median – partially segregated	Concrete
4	Walan Street	Both sides	None	One	Narrow median – partially segregated	Concrete
4	Brisbane Road	Both sides	Bidirectional cycleway on south side	Two	Narrow median – segregated	Concrete
5	Brisbane Road	South side	Bidirectional cycleway on south side	Various	Verge	Concrete
6	Nicklin Way (Mooloolah River to Jessica Blvd)	Both sides	Bidirectional cycleway on east side	Two	Verge	Concrete
6	Nicklin Way (Jessica Blvd to Main Drive)	Both Sides	Uni directional on both sides	Two	Narrow median – segregated	Concrete
7	Main Drive	Both sides	Shared with road traffic	One	Narrow median – partially segregated	Concrete
7	Metier Linkway	Both sides	Shared with road traffic	One	Narrow median – partially segregated	Concrete
7	Kawana Way (Metier Linkway to Central Blvd)	Both Sides	On road lanes	Two	Narrow median – segregated	Concrete
7	Kawana Way (Central Blvd to past Lake Kawana Blvd)	Both Sides	On road lanes	Two	Verge	Concrete
7	Park	Water front	Water front	Not applicable	Dedicated	Grass
7	Bragg Street	Both sides	On road lanes	One	Verge	Concrete

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5.3.3 Stations

Stations, along with the vehicles, are the key interface points between the travelling public and the mass transit system and will need to provide facilities and information which make the user experience as inviting and enjoyable as possible. It is intended that the stations will have a consistent design across the network to improve legibility and will be designed to suit the Sunshine Coast design principles. Stations will be located so they:

- Will allow the convenient movement of people between the mass transit system and surrounding origins and destinations
- Allow interchanges with other forms of transport to occur at convenient locations
- Provide a safe and inviting environment
- Can be made to safely and effectively fit with, and integrate into, the surrounding urban landscape and traffic network
- Meet geometric design standards including being located on a straight section of track and flat grade at the station.

Figure 8 depicts the minimum level of facilities to be provided at each station.

A standardised arrangement of these facilities will lead to customer familiarity and ease of maintenance. However, each station platform needs to be designed in relation to its local context. For example, access points and pedestrian storage provisions on each platform will vary.

For the SCMT Project, four physical station typologies have been identified: island, side, terminus and intermediate intermodal.



Figure 8: Station facilities

Island stations are located between the tracks with facilities centrally located on the stop to provide safe access and movement paths to both platform faces. The stops require additional corridor width to allow the tracks to widen around the platform. Island stations apply only to LRT.

Side stations require two platforms located outside the running way with duplicate facilities on the stop so that passengers do not need to change platforms to reach help points, top up go cards, or use other facilities on the stops. Side platforms have a shelter covering a minimum 70 per cent of the platform. All BRT stations would be side stations due to location of the doors on the vehicle (one side only).

Terminus stations are located at the end of the alignment when vehicles complete their journey in one direction, the driver changes ends of the vehicle and returns in the other direction. Terminus platforms require additional facilities for passengers as there are normally more passengers using these stops. These stops will aim to have 100 per cent shelter and additional top-up machines, touch on/off points, and seating. Terminus stations apply to both LRT and BRT.

Intermediate Intermodal stations are provided where passengers are able to transfer to the bus network and generally have more passengers using them so require additional shelter and facilities. This station-types apply to both LRT and BRT.

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The general location, type and features of each of the 16 proposed stops are categorised as follows:

- 2 Terminus stations
- 4 Side stations for LRT (13 for BRT)
- 9 Island stations (LRT only)
- 1 Intermodal station.

5.4 Reference Project – LRT

5.4.1 Description

The LRT Reference Project has been designed along the lines of the successful Gold Coast and Canberra light rail systems with high quality vehicles and stations, with light rail trackage provided through an embedded railway track. As with these other systems, the LRT is assumed to utilise electric traction power delivered through overhead line equipment. Some LRT systems utilise battery powered trams with fast-charging at stations, and this may prove to be an economic proposition for the Sunshine Coast in the future. The LRT and its technical assumptions will be reviewed and refined in the subsequent phases of the Project.

From an operational perspective, the LRT's service frequency is eight vehicles per hour at 7.5-minute headways and a 30-minute journey time for Stage 1. Provided that this headway of 7.5 minutes or similar can be maintained in the face of passenger demand, all LRT vehicles will be given a level of priority at traffic signals to enable quicker journey times. For the purposes of the analysis, which is based on 2041, it is assumed parking charges would be applied in Maroochydore and Mooloolaba and based on current charges applied in Caloundra.

As with BRT and the Quality Bus Corridor options, a feature of the LRT option is a Park n Ride facility planned at the Sunshine Motorway junction, in a location yet to be determined.

5.5 Reference Project – BRT

The Reference Project – BRT has been designed to create a dedicated high-quality PT spine in the corridor. The solution includes high-quality vehicles and stations to resemble as closely as possible an LRT system. The BRT option is made up mostly of a dedicated right of way centre-running corridor with a width varying from 8.2 metres to 11.2 metres. The solution includes high-quality vehicles and stations with features to qualify as a "Bronze BRT" as described by the international *Bus Rapid Transit Standard*. Higher standards, i.e. Gold and Silver are possible under the BRT Standard, and these generally aim to allow BRT to compete with very high capacity passenger transport modes like metro rail. Adopting a higher standard BRT would add significant costs which were judged by technical experts to unfairly penalise the BRT option when compared to LRT.

The BRT right of way would be made up of multi-layered pavement running way, concrete stations and approaches. As with LRT and the Quality Bus Corridor options, a feature of the BRT option is a Park n Ride facility planned at the Sunshine Motorway[29]. Its station locations and function are similar to the LRT option, with paid space for stations with tap-on at platform facilities. Unlike the LRT, all stations for the BRT are side platforms due to the available BRT vehicles only having doors on one side of the vehicle. The BRT vehicle itself will be an electric vehicle similar to the proposed Brisbane Metro bi-articulated vehicles which measure 24.5 metres.

From an operational perspective, the BRT's service frequency is eight vehicles per hour at 7.5-minute headways and a 30-minute journey time for Stage 1, identical to LRT. Provided a headway of 7.5 minutes can be maintained in the face of passenger demand, all BRT vehicles will be given a level of priority at traffic signals to enable quicker journey times. For the purposes of the analysis, which is based on 2041, it is assumed kerbside parking charges would be applied in Maroochydore and Mooloolaba based on current charges applied in Caloundra. The financial and economic costs of the BRT are reflective of an increase in bus kilometres consistent with a re-orientated network around the mass transit spine.

[29] Exact location to be advised.

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5.6 Quality Bus Corridor

This option is the development of a high-quality bus corridor and service, including a significant level of capital investment and corridor level treatments focused on increasing PT mode share. The key features of this option include:

- Improved vehicles – higher specification branded vehicles, articulated or double decker buses 12 to 18 metres long
- High frequency bus services with dedicated right of way on Nicklin Way with frequency of eight services per hour and headways of 7.5 minutes
- Pre-paid services only with no cash fares, similar to Brisbane BUZ services
- Infrastructure inclusions:
  - Dedicated bus lanes along Aerodrome Road, Rose Street to Horton Parade
  - Dedicated bus lanes along Nicklin Way (two road lanes, one bus lane and AT)
- Quality bus stops along corridor
- Brisbane Road, Walan Street and Venning Street – upgraded to four lanes of general traffic. These costs are excluded from project estimates as works are being undertaken by Council in 2019/20
- Park n Ride at Sunshine Motorway
- Increase in bus kilometres and enhanced network connectivity
- It is assumed that by 2041 parking charges would be applied in Maroochydore and Mooloolaba, based on current charges applied in Caloundra.

5.7 Summary

The reference project development and assessment confirmed that it is technically feasible to deliver a mass transit project from Maroochydore to Sunshine Coast University Hospital precinct and has considered the potential impacts and benefits of the SCMT Project. Vehicles ranging from 12m for double decker buses for BRT, to 45 metres for LRT, are considered in the options.

The PBC will provide full economic cost benefit analyses for these three options. It will also identify key areas that require further investigation in the subsequent Detailed Business Case (DBC) phase. These include:

- Detailed Public Utility and Plant (PUP) investigations to identify affected services and develop mitigating treatments
- Refinement of corridor impacts, particularly the station locations to reduce and/or mitigate the property impacts
- Refinement of the journey time and intersection performance using an advance real time simulation tool
- Refinement of the construction schedule and subsequent cost estimate.

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6 Transport Outcomes

6.1 Introduction

This chapter provides the results of transport and land use modelling performed using combinations of transport network and land use scenarios to comprise two comparative cases:

- Without any project – a base case titled ***'Without-project base case'***
- With the development of Option 6 in the Stage 1 corridor from Maroochydore to the SCUH precinct titled ***'With-LRT project case'.***

Transport models require inputs based on assumptions of a future demographic scenario devised for the forecast year. Transport outcomes for all options including LRT, BRT and Quality Bus Corridor have been previously modelled in Chapter 4 utilising a single future demographic scenario for 2041 developed by the QGSO. For chapter 4 the transport outcomes were modelled at a higher level to enable comparison between options in the quantitative MCA process.

The transport outcomes presented in this chapter represent only the results of strategic transport model runs for the *With-LRT project case due to the timing of this Report.* The final PBC will include detailed transport modelling results for each of the three Reference Projects, Quality Bus Corridor, BRT, and LRT.

The transport outcomes in this chapter now reveal transport demand and network performance in 2041 when changes to land use attributable to the investment in a major mass transit project occur. This will be important in the final PBC to establish the full range of economic benefits of investing in mass transit[30]. These include the benefits to the community of increased urban renewal within the mass transit catchment, which results in shorter journeys, less emissions and supports higher use of sustainable transport modes.

The demographic scenario used in this chapter to test transport outcomes is drawn from Chapter 3 which assumed a LRT intervention, as LRT is a proven technology in achieving take-up of urban renewal opportunities. Other technology options, including BRT, would be expected to have different demographic scenario results that will be modelled in the final PBC analysis.

As a reference check, a further demographic scenario has been developed by TMR to project the desired policy outcomes of *ShapingSEQ* onto the ground in the Sunshine Coast Region in 2041. This will be used in the PBC to test the results of mass transit investment under the circumstance where the full intent of *ShapingSEQ* in achieving urban renewal is achieved by 2041. Figure 14 depicts the relative difference in population and employment resulting from the various demographic scenarios currently in place for the PBC modelling process.

6.2 The SCMT Project specific transport and land use model

The transport modelling task for the SCMT Project has been completed by consultants VLC using the 'four-step' Zenith Strategic Transport Model. The Zenith Model has been refined to create a project-specific model for the SCMT PBC. The features of this model and analyses include:

- Extensive geographic coverage
- Disaggregated local zone system which is essential in PT studies where accessibility is a major factor
- Several access modes to transit including walking, park 'n' ride and kiss 'n' ride
- Multi-period assignment with AM, PM and Interpeak
- Demand matrices that vary in response to the network and demographic scenarios being modelled.

[30] See section 9.3 below.

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6.2.1 General transport model assumptions

The model and its parameters were applied in the same way as those used for recent Business Cases developed for the M1 Projects by TMR. The general transport model assumptions include:

- Base year of 2016 and modelling of future years 2026, 2036 and 2041
- The zone system of Sunshine Coast Statistical Area (SA) 4 is made up of 1,496 Travel Zones covering 646 SA1s
- An applied 'buffer' area (intermediate zonal detail) which is broadly consistent with TMR's SEQ-Strategic Transport Model Level 2 zone system
- An applied 'balance' area (aggregate zones) consistent with SA2 boundaries.

The zone system detail is depicted in Figure 10. The approach to developing demographic and land use inputs to the transport model is demonstrated in Figure 9.

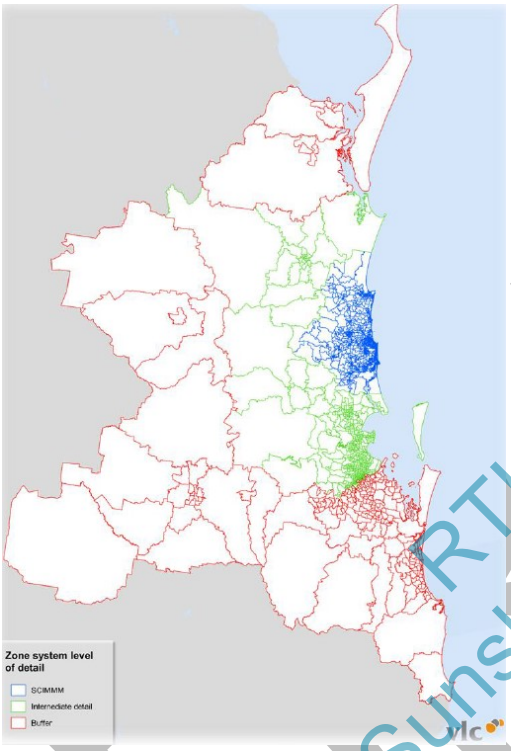


Figure 10: SCMT zone system level of detail

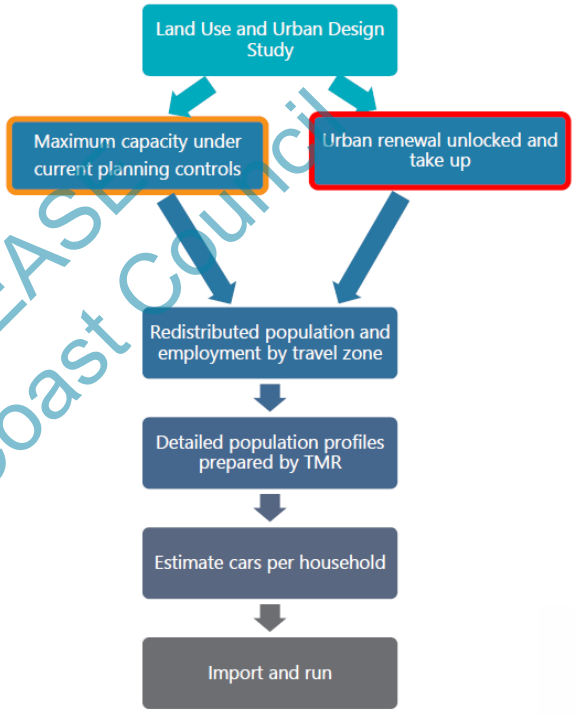


Figure 9: Approach to developing land use inputs

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6.2.2 Population and employment

The forecast 2041 mobile population and employment by area is depicted in Figure 12 and Figure 11, respectively.

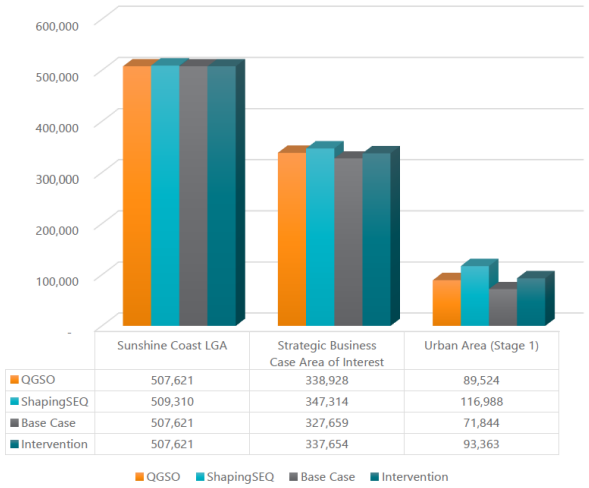


Figure 12: Mobile population by area (2041)

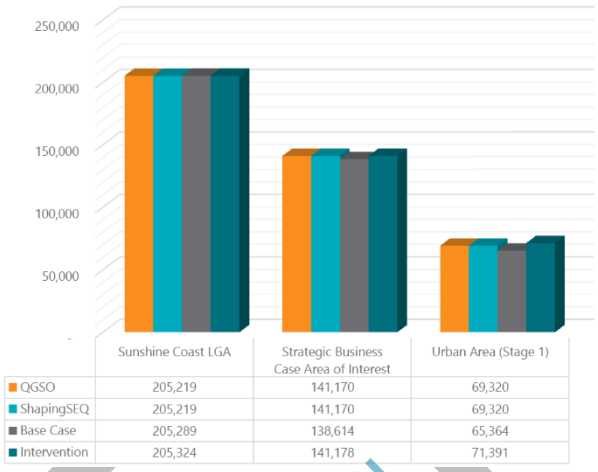


Figure 11: Employment by area (2041)

The modelled demographics include the average number of cars per household for each travel zone which is derived from simple regression models that consider household size and dwelling densities.

6.3 Transport outcomes from the *'Without-project base case'*

The *Without-project base case* is constructed using:

- The *No-intervention (trend)* demographic scenario developed in Chapter 3
- A *Do-minimum* transport network

The *Do-minimum* transport network includes only committed and funded works and is used in the base case modelling as it represents the network that will exist in the absence of specific project funding for the SCMT Project. This approach has been adopted to align with Infrastructure Australia's (IA) assessment framework and the Australian Transport Assessment and Planning (ATAP) Guidelines. This *Do-minimum* network includes both roads and PT.

The existing committed road projects are listed in Table 8.

Table 8: *Do-minimum* committed road works

ID	State Project	Year
1	Bells Creek Arterial (Caloundra Road to Baringa)	2017
2	Sunshine Coast University Hospital access improvements (Kawana Way upgrade)	2018
3	Sunshine Coast University Hospital access improvements (Production Avenue link)	2019
4	Bruce Highway Upgrade – Caloundra Road to Sunshine Motorway	2021
5	Bruce Highway – Deception Bay Road Interchange upgrade ***Outside SC LGA***	2022
6	Bruce Highway Upgrade – Maroochydore Road and Mons Road Interchanges	2023
7	Bruce Highway Upgrade Project (Caboolture – Bribie Island Road to Steve Irwin Way) upgrade to 6-Lanes	2023
8	Beerburrum to Nambour Rail – road upgrades including level crossing removal	2024
9	Bells Creek Arterial – 2-lane at-grade intersections (full length Caloundra Road to Bruce Highway at Roys Road)	2026

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The *Do-minimum* PT includes extensions into new greenfield areas, realignment of routes so they terminate in the Maroochydore Town Centre which results in an additional 850 bus kilometres per day. The *Do-minimum* PT network routes affected are outlined in Table 9.

Table 9: Do minimum PT network

Location	Routes affected	Comments
Maroochydore CBD	600, 602, 610, 611, 612, 614, 615, 616, 617, 619, 620, 622	Extended/diverted all routes that currently start/end at Maroochydore Station (Horton Parade) into the new CBD. Nambour/Noosa routes still use old station on Horton Parade, then continue into CBD. Other routes no longer use it, going straight into the CBD instead.
Palmview	615, 618	Diverted 615 to run through Palmview between Sippy Downs and Landsborough. Extended 618 to provide local coverage.
Caloundra South (Aura)	606	Extended 606 through Caloundra South future stages.
Beerwah East	605	Diverted 605 between Caloundra and Beerwah, to serve Beerwah East.

A strategic transport model run was performed to analyse transport demand and network performance under a *Do-minimum* transport network and the *No-intervention (trend)* demographic scenario as developed in Chapter 3. This provided the *Without-project base case*.

The *Without-project base case* traffic conditions and PT outcomes are outlined in Table 10. The *Without-project base case* transport outcomes demonstrate that sustainably accommodating growth on the Sunshine Coast requires investment in a transport system that reduces dependence on single-occupant cars and supports dense, compact, and mixed-use development. Modelling shows without an attractive, convenient and competitive mass transit system the urban footprint will inevitably expand and transport costs will increase.

Table 10: *Without-project base case* transport outcomes – *Do-minimum* transport network only

Base Case Traffic Conditions Outcomes	Base Case PT Outcomes
• 200,000 additional residents (+69 per cent) • 2.4 million trips will either start or end on the Sunshine Coast each day (+60 per cent) • An additional 787,000 trips within the LGA each day • 95 per cent of trips that start on the Sunshine Coast will end on the Sunshine Coast • Journey to work self-containment will remain high across the LGA at 85 per cent less than 6 per cent of (journey to work) JTW trips are made to Brisbane LGA • 31 per cent of JTW trips will end within the mass transit corridor • Congestion along key links worsens and delays increase • On average people making car trips are likely to spend 6 times longer in excessive congestion when compared to 2016.	• Uptake of PT is limited with practically no increase in overall mode share (<1 per cent to 1.2 per cent) • JTW mode share increases from 1 to 3 per cent • In 2041 JTW PT mode share within the Sunshine Coast Urban Corridor is just 1.5 per cent • PT loads on key links do not increase significantly • PT has limited competitive advantage because buses are in the same congestion as cars • PT Journeys between the SCUH and Maroochydore CBD in the AM peak will take approximately 40 minutes longer than car • Patronage on the 600 service grows at 1.0 per cent p.a. from 3,100 to 3,900 (the catchment grows at 2.7 per cent).

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6.4 Transport outcomes from the *'With-LRT project case'*

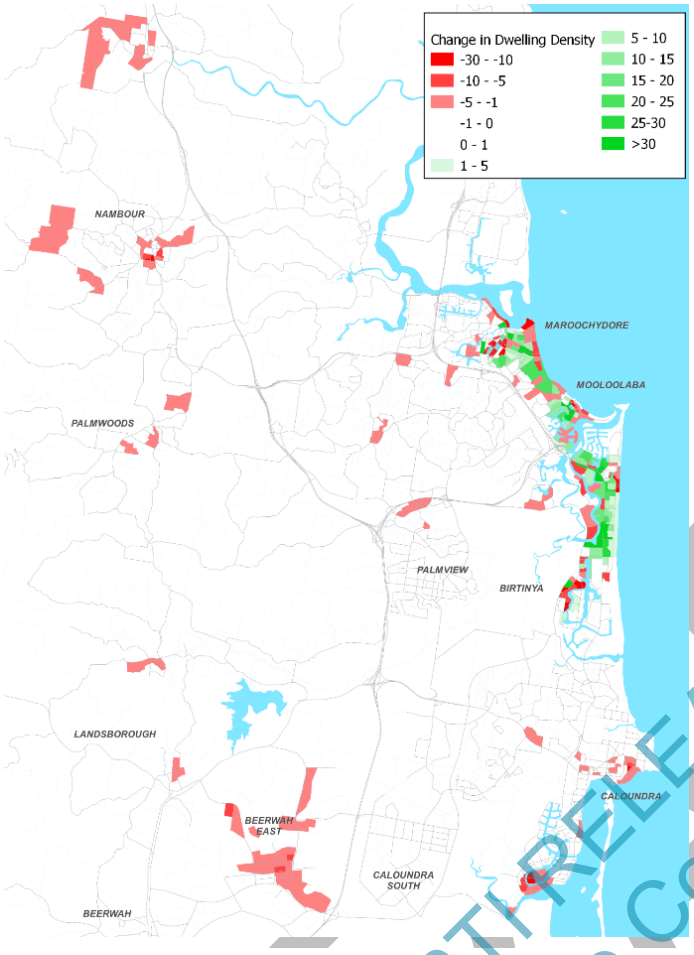


Figure 13: Change in dwelling density - LRT intervention in 2041

This section outlines the core assumptions for modelling the LRT intervention. The *With-LRT project case* is constructed using:

- The light rail intervention – Stage 1 demographic scenario developed in Chapter 3
- A transport network that includes light rail in Stage 1, an upgraded project-specific bus network and a do-minimum road network.

6.4.1 *With-LRT project case* –Stage 1 demographics

The Stage 1 LRT project intervention demographics are based on a different pattern of growth to the *No-intervention (trend)* demographic scenario. The *With-LRT* demographics are based on far higher rates of infill development as a result of mass transit investment.

Infill development is facilitated through investment in mass transit that unlocks increased capacity for housing development and increases market take-up within its walk-up catchment. As a result, growth in Beerwah East and other potential urban expansion areas within the Sunshine Coast is tempered beyond 2041. Under the *With-LRT* demographic scenario there are 19,597 more people residing in the Stage 1 Sunshine Coast Urban Corridor that would otherwise have been located within other locations of the Sunshine Coast. The difference in dwelling density between the *No-intervention (trend)* and *With-LRT project* intervention demographics is illustrated Figure 13.

6.4.2 Transport outcomes *With-LRT project case* against *Without-project base case*

The headline statistics from modelling the *With-LRT project case* against the *Without-project base case* include:

- There are 390,500 fewer vehicle kilometres travelled within the Sunshine Coast in 2041. This represents a reduction in Vehicle Kilometres Travelled (VKT) of approximately 2.4 per cent when compared to the *Without-project base case*.
- Within the Sunshine Coast LGA there are 49,400 PT trips each day in 2041, more than double the number of PT in the *Without-project base case*.
- PT mode share within the Sunshine Coast LGA increases from 1.2 per cent in the base case to 2.3 per cent.
- Change in mode share is far more pronounced when considering trips within the Stage 1 Sunshine Coast Urban Corridor. In this area, PT mode share increases from 1.3 per cent to 4.5 per cent with the intervention of the LRT.
- The total number of PT trips that start and finish within the Sunshine Coast Urban Corridor increases from 5,100 to 20,400 trips per day with the intervention of the LRT, representing a 300 per cent increase.
- 8.8 per cent of journeys to work, within the Stage 1 Sunshine Coast Urban Corridor, are made by PT. This represents a step change in travel behaviour when compared to the base scenario which observes a mere 1.5 per cent of internal journeys to work made by PT.
- 31,100 trips per day are made on LRT in 2041.

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- There is significant demand for the park ‘n’ ride around Mooloolah with approximately 1,100 car fed PT trips per day. This is due to the location’s high car accessibility relative to the mass transit station.
- The highest number of transfers from bus to LRT occur at the SCUH (590), Mooloolah River crossing (470) and the Maroochydore Transit Centre (330). This supports the case for a bus-LRT interchange facility at the Mooloolah River crossing.
- The pattern of development is far more concentrated around existing urban areas. As a result, 85 per cent of all boardings on LRT services are walk-up trips.
- 23,000 fewer car trips start in the Sunshine Coast LGA each day when compared to the base scenario. Of these, 19,800 are local trips that have moved completely to alternative modes due to more realistic alternatives and land use that support alternatives to car-based trips.
- A light rail intervention is projected to increase the resident population in the Sunshine Coast Urban Corridor by at least 19,597 people.
- An increase in population means there are more trips made by car each day within the Sunshine Coast Urban Corridor, but the number of car trips per person reduces by 8 per cent with intervention of the LRT.

6.5 Summary

This section has highlighted the transport outcomes from transport modelling of the *Without-project base case* against the *With-LRT project case* with intervention of LRT. Comparisons to the *base case* are made to demonstrate the beneficial transport and land use outcomes that could be achieved through the delivery of mass transit solutions that include a trunk transit route between Maroochydore and SCUH precinct.

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7 Social and Environmental Impacts

7.1 Introduction

The criticality of the Sunshine Coast Urban Corridor as a key economic, population and tourism corridor means that the stakeholders and communities impacted by the Project reach beyond the immediate study area. Social and environmental impacts have been identified through the SBC and PBC development and include social and environmental costs, and disadvantages to be addressed by the Project.

7.2 Social impacts

Table 11 describes the social costs and disadvantages to be addressed by the Project that arise from the problems identified and described in the Need for Project section.

Table 11: Social impacts

Social Impact Baseline	Key Stakeholders	Change with preferred option/s
Urban growth/land use challenges		
Increasing costs of urban expansion	Residents, motorists, businesses within the Sunshine Coast Urban Corridor, Local Government	Investment in a mass transit system throughout the Sunshine Coast Urban Corridor will attract residents and businesses to the region via better accessibility and connectivity, helping to achieve consolidation benchmarks.
Reversing the current dominance of low-density housing	Residents, property owners, Local Government	Increasing the range of dwelling types available in desirable and/or typically high-cost areas, such as the Sunshine Coast Urban Corridor, will increase accessibility for lower income households to these locations and attract people to live in this corridor, accommodating population growth, further development and lessening of pressure for further urban expansion.
Transport network		
Current PT system hinders urban and economic growth	Businesses within the Sunshine Coast, property owners	A quality PT mass transit system will create a more liveable and efficient urban environment that will relieve expected future chronic road network congestion that has the potential to constrain planned urban growth and economic development.
High dependency on private motor vehicles and declining PT use	Residents, motorists, potential pubic transport users	The provision of an efficient and well-connected mass transit system will increase PT mode share on the Sunshine Coast and reduce dependency on private motor vehicles.
Growing car parking demand	Residents, businesses within the Corridor, potential PT users, tourists	A frequent, reliable mass transit system will reduce the need and incentive to travel to locations within the Sunshine Coast Urban Corridor via private vehicle, decreasing the need for provision of car parking. The Project may also require land resumptions where existing car parks are situated, thereby reducing the parking available in the corridor.
High level of road congestion on key arterial roads in the Sunshine Coast	Residents, businesses within the Sunshine Coast, freight operators, motorists	Dependency on the private vehicle will be reduced, relieving congestion and improving travel times for motorists and freight operators.
Effects of congestion on business and industry	Tourists, businesses within the Sunshine Coast, freight operators	Reducing congestion increases the attractiveness of the Sunshine Coast to residents, business investors and

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Social Impact Baseline	Key Stakeholders	Change with preferred option/s
		tourists. Freight costs and lost hours of productivity as a result of congestion will also be improved.
Economic development		
Impacts of reduced levels of employment self-containment	Residents, motorists, potential PT users, businesses within South East Queensland	Investment in PT on the Sunshine Coast will encourage intra-regional commuters away from private motor vehicles and onto PT to reduce greenhouse gas emissions and deliver significant long-term productivity improvements for the region.
Future jobs and productivity growth	Residents, businesses of South East Queensland	Providing a major improvement to the local PT system in the region can provide reliable connectivity between major population and employment centres in the Sunshine Coast Urban Corridor. This is essential to facilitate the growth and expansion of the regional economy and support workforce retention.

Identification of social impacts is ongoing and will continue to be identified and mitigated throughout the business case process. Currently, there are no fatal flaws that affect the feasibility of the Project.

7.3 Environmental impacts

A review of publicly available information relevant to environmental, heritage and planning matters of interest was undertaken, as well as an assessment of potential environmental and heritage risks associated with the SCMT Project. Key environmental risks of the Project include:

- Impacts on matters of national environmental significance (MNES) located either within, or in proximity to the Project area
- Impacts on matters of State environmental significance (MSES) located either within, or in proximity to the Project area
- Hydrology and flooding impacts, including climate change impacts.

This Environmental Assessment has identified further investigations and/or monitoring is recommended to refine the assessment of potential environmental and/or heritage impacts as the Project design progresses, these may be required to support future stages of the Project. Potential mitigation measures have been identified for key environmental elements where impacts are unable to be avoided.

7.3.1 Identified environmental impacts

Key findings of the Environmental Assessment also confirmed that:

- No known Indigenous heritage sites will be impacted by the Project and no previously registered non-indigenous heritage sites will be impacted by the Project area.
- No mapped vegetation within the Project area, therefore the likelihood of threatened ecological communities occurring is low
- No high-risk areas for protected plants were identified on the Flora Survey Trigger Map within the Project area
- No essential habitat is mapped within the Project area however, essential habitat is mapped directly adjacent to the Project area on Maroochydore Beach
- No scenic routes, as identified in Schedule 2 of the Sunshine Coast Regional Plan 2014, intersect or occur in proximity to the Project and the development does not impact on the regional or sub-regional inter-urban break

The key environmental risks of the Project identified at this stage include:

- Impacts on Matters of National Environmental Significance (MNES) located either within, or in proximity to the Project area, potentially including:
  - Listed threatened ecological communities (may occur within the Project area)
  - Listed threatened flora and fauna species (may occur within the Project area)

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- Ramsar declared wetland of international importance, Moreton Bay Ramsar wetland (occurs adjacent to the Project area)
- Impacts on Matters of State Environmental Significance (MSES) located either within, or in proximity to the Project area, potentially including:
  - Essential habitat for protected plants under the *Nature Conservation Act 1992*
  - High risk areas for protected plants under the *Nature Conservation Act 1992*
- Moreton Bay Ramsar wetland of international importance (High ecological value waters) under the Environmental Protection (Water and Wetland Biodiversity) Policy 2019, Schedule 1 (In accordance with MSES definitions (e) and (f))
- Hydrology and flooding
  - Climate change impacts relating to rising sea levels and increased flood events
  - Impacts on the natural hydrology of creeks and wetlands (e.g. levels and flows)
  - Impact on the current hydrological regime of the creeks within and adjacent to the Project area
  - Impacts on flow pathways and afflux (change flood levels) and flow velocities resulting in scouring of waterways and changes in velocities.

7.3.2 Environmental Benefits

The SCC is working towards carbon neutrality, with key developments in sustainable transport, biodiversity, land use and social planning initiatives for the region. The SCMT Project is part of the objective to improve sustainable transport methods within the Sunshine Coast region.

The Project is expected to result in a reduction in local contributions to regional Green House Gas (GHG) emissions. This reduction in GHG emissions will assist in the transition to a lower carbon economy and in mitigating contributions to climate change. However, it is anticipated that there may be short term impacts (i.e. increase in GHG emissions) associated with construction activities of the Project. The PBC and subsequent DBC will assess the environmental benefits of the Project including reducing carbon emissions through increased PT mode share.

7.4 Summary

The Environmental Assessment completed to date identified further investigation and/or monitoring to refine the potential environmental and/or heritage impacts as the Project progresses. An assessment on the likelihood for significant impact to MNES and MSES (if confirmed to be impacted) as a consequence of the Project will be required, and this will be informed by site investigations.

Potential mitigation measures have been identified for key environmental elements where impacts are unable to be avoided and will be required to be refined in parallel with design progression to enable impacts from key environmental and heritage risks to be appropriately mitigated or offset where these options are available. Environmental offsets to mitigate impacts will need to be investigated and informed by these future studies.

Identification of potential environmental impacts is ongoing and will continue to be identified and mitigated throughout the business case process. Currently, there are no fatal flaws that affect the feasibility of the Project.

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8 Project Cost Estimates

8.1 Introduction

This section presents an overview of the components involved in the whole of life cost estimates for the SCMT Project options. The project cost estimate consists of two key categories:

- Capital costs incurred during the development and construction phase
- Operating costs based on a 30-year operating period.

Information on the methodology to develop the cost estimates is presented in the following sections.

8.2 Capital cost estimates

The risk adjusted capital cost estimates are being prepared using a base estimate date of November 2019 to reflect the forecast cost of delivering the planned works for each of the Reference Project options. In developing the cost estimates, it will be necessary to adopt a number of different cost estimating techniques according to the nature of the activity being estimated and the level of design information available. The techniques used range from:

- A fully resource-based estimate of labour, plant and materials priced using local market rates
- Allowances for packages of work based on actual costs obtained from completed comparable projects and adjusted to suit local market conditions.

The estimates include allowances for all direct and indirect construction costs, Principal costs for all stages of project development, property acquisition costs, and appropriate vehicle purchase costs. The capital cost estimates will be risk adjusted using quantitative risk assessment techniques to account for the risk and uncertainty associated with the various elements of the estimate. The key elements of the cost estimates are shown in Table 12.

Table 12: Capital cost estimate categories

Cost category	Quality Bus Corridor	BRT	LRT
Principals costs – all phases	✓	✓	✓
Vehicle purchase costs	✓	✓	✓
Property costs	✓	✓	✓
Construction costs			
Detailed Design	✓	✓	✓
Environmental management	✓	✓	✓
Traffic management	✓	✓	✓
Public utilities and plant	✓	✓	✓
Bulk earthworks, drainage	✓	✓	✓
Bridges and retaining walls	✓	✓	✓
Trackslab and rail track			✓
Landscaping	✓	✓	✓
Pavement works	✓	✓	✓
Stations, stops and interchanges	✓	✓	✓
Depot construction		✓	✓
Rail systems including power supply, rail control systems, communications			✓
Traffic signal integration	✓	✓	✓
Risk adjustment	✓	✓	✓

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Escalation is applied to the cost estimate to determine the outturn cost based on the delivery timeframes shown in Figure 14.

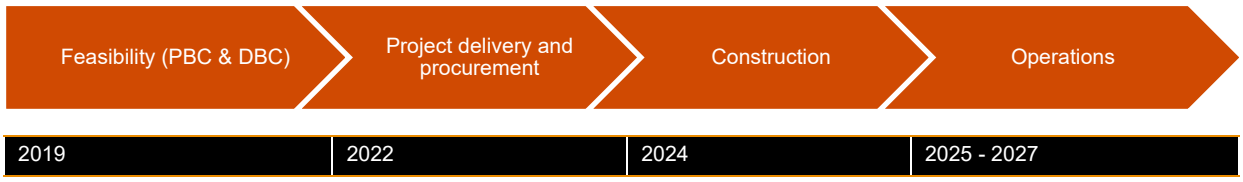


Figure 14: Project timing

8.3 Operations cost estimates

An Operations and Maintenance (O&M) cost estimate is also being prepared for each of the Reference Projects. The O&M cost estimates for the BRT and the LRT use a first principles approach and reflect the cost to establish and operate a standalone LRT or BRT system on the Sunshine Coast. The BRT and LRT costs are estimated based on Australian precedent projects including Gold Coast Light Rail and Brisbane Metro.

The cost estimate for the Quality Bus Corridor option reflects the cost to operate a new fleet of high-quality buses as an expansion of the existing Queensland Government contracted bus services on the Sunshine Coast. The key cost components of the O&M costs are shown in Table 13.

Table 13: Key elements of the operations and maintenance costs

Cost Category	Quality Bus Corridor	BRT	LRT
Client costs	✓	✓	✓
Operational staff and corporate staff	✓	✓	✓
Electricity		✓	✓
Fuel	✓		
Routine maintenance	✓	✓	✓
Vehicle lifecycle maintenance	✓	✓	✓
Depot costs	✓	✓	✓

8.4 Summary

The cost estimates for each project option (and associated benefits and revenues) will be modelled in the economic and financial appraisal work streams. The cost estimates for the LRT and BRT options are undergoing a process of value engineering and peer review to provide assurance to the cost components of subsequent economic, financial and commercial analyses. Costs will be presented in real, outturn (i.e. nominal) and present value costs and will represent the total funding requirement. All costs will present a range from P50 to P90 risk to reflect the level of risk and uncertainty at this stage of development.

The cost estimates are being prepared in accordance with the requirements of the relevant frameworks for a project at this stage of development and will be refined and tested in future phases of development.

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9 Benefits

9.1 Introduction

Investment in region-shaping projects can lead to positive transport, liveability and economic outcomes, as well as significant urban renewal benefits, higher productivity and improved transport benefits across the network which collectively drive economic efficiency. The three preferred options from the options assessment (LRT, BRT and Quality Bus Corridor) will be progressed to an economic assessment which will consider the relative ability of each option to deliver the greatest economic outcomes to society, measured through a Cost Benefit Analysis (CBA).

9.2 Economic appraisal approach

The economic appraisal will be undertaken using accepted industry practices, in line with feedback and guidance from IA, Building Queensland, TMR and Queensland Treasury. The appraisal also draws on best practice transport economics guidance issued by Australian and international organisations. The approach used has been applied on a range of projects across Australia, including the DBC for the recently funded Gold Coast Light Rail Stage 3A.

9.3 Benefit estimation

A Total Appraisal Framework has been applied in this economic analysis to comprehensively assess the benefits of the reference project. This framework assesses benefits across the two land use scenarios developed for the project:

1 The first round (without mass transit intervention) isolates the transport impacts and Wider Economic Benefits (WEBs) of the project that are independent of land use changes i.e. it assesses the benefits of the project under the *No-intervention (trend)* demographic scenario.

2 The second round (with mass transit intervention) assesses the benefits of the project inclusive of land use changes that reflect urban renewal within the corridor. This intervention case is currently only estimated for the LRT, as the other options, except potentially BRT, are not expected to result in a significant land use change above the *No-intervention* scenario. The resultant land use change from a BRT intervention will continue to be investigated throughout the course of the business case.

Outlined in Figure 15 is a summary of the benefits that are expected to be quantified in the economic assessment for SCMT. All of the 'Transport benefits' and 'WEBs' will be measured across both the first round and second round estimation. However, it is only under the second-round scenario that urban renewal benefits from land use change will be realised.

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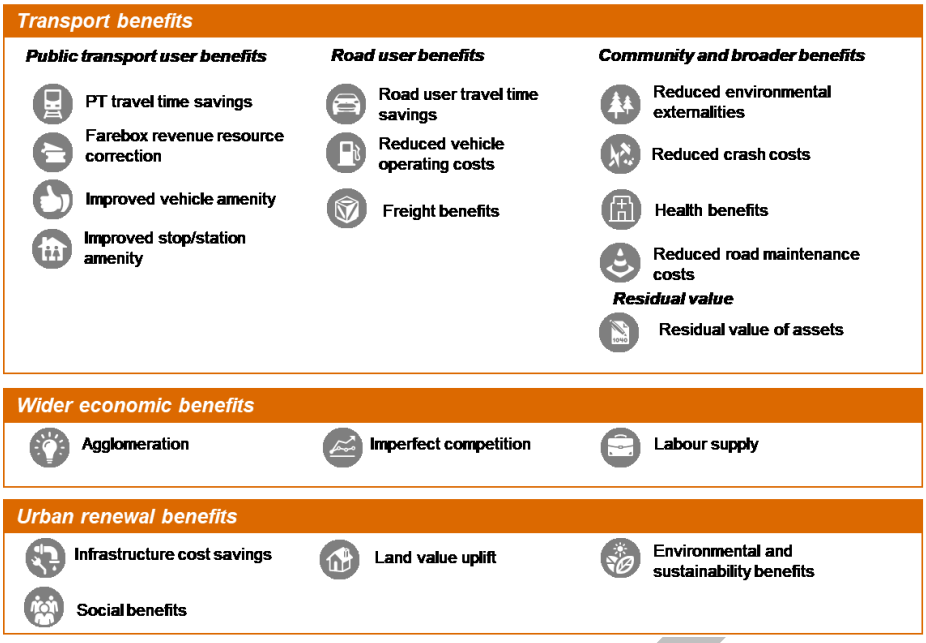


Figure 15: Economic benefits

Table 14 provides a brief description of the economic benefits outlined above, and their significance in the project assessment. The approaches to the estimation of these benefits will be undertaken in line with industry leading and best practice approaches.

Table 14: Description of economic benefits

Benefit	Summary
PT Benefits	
Travel time savings (PT user)	Measures the reduction in door-to-door journey time for PT users as a result of improved network performance.
Improved station amenity	Uplift in the quality of journeys as a result of the introduction of new station and interchanges.
Improved vehicle amenity	Uplift in the quality of journeys as a result of the introduction of new, higher quality LRT or BRT vehicles.
Road User Benefits	
Travel time savings (Road user)	Measures the reduction in door-to-door journey time for private vehicle users and commercial vehicles as a result of improved network performance.
Reduced vehicle operating costs	Calculates the reduction in vehicle running costs (fixed and operational) of the such as depreciation, fuel, repairs and maintenance as a result of improvement in average road speeds as passengers shift from road to PT.
Freight benefits	Reduction in congestion, journey times and vehicle operating costs for freight road users resulting from the easier movement of freight as passengers shift from road to PT.
Broader Community Benefits	
Reduced accident costs	Reduction in accident costs owing to a reduction in vehicle kilometres travelled resulting in a decrease in the number of accidents.
Environmental benefits	Reduction in environmental pollution as result of the project encouraging mode shift away from cars to PT and reducing the number of vehicle kilometres travelled.

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Benefit	Summary
Health benefits	The project may result in increased health benefits from an increase in active transport (AT). This can be associated with increased AT mode share or increased km's walked transiting to, from and between PT.
Avoided road maintenance costs	Reduction in wear and tear on road network because of an overall reduction in total kilometres travelled.
Wider Economic Benefits (WEBs)	
WEBs	Wider Economic Benefits (WEBs) refer to the economic impacts of transport investments that are additional to transport user benefits. WEBs are improvements in economic welfare that arise from market imperfections: that is, prices of goods and services differing from costs to society as a whole. As a city-shaping project, the SCMT is expected to improve the transport accessibility as well as attract jobs and businesses to relocate to into the corridor. The change in transport accessibility and change in land use will generate WEBs.
Urban Renewal Benefits	
Avoidable costs	Avoidable costs (also known as 'infrastructure and service cost savings') are potential benefits that can be accrued by facilitating greater rates of urban infill over the alternative of greenfield expansion (i.e. urban sprawl). The reference projects are anticipated to reduce urban sprawl by encouraging people and jobs to relocate to the corridor rather than moving to greenfield developments. The avoidable costs may be estimated for this project through an assessment of development diverted from greenfield areas and estimation of the avoidable infrastructure costs as a result of the avoided dwellings.
Land value uplift	Raising land to its highest and best use and increasing its development intensity (to match the capacity unlocked by the reference projects) is likely to be the most significant urban regeneration impact attributable to the project option/s. The 'improved land use' benefit is monetised into land values and can be quantified.
Social benefits	Some urban renewal projects can bring about an increased level of amenity, either by improving public spaces and infrastructure (e.g. public parks and plazas) or reducing negative externalities (e.g. urban blight or crime). The land value impacts associated with the increased levels of amenity within the corridor as a result of the reference projects can be used to estimate the social benefits arising from the projects.

9.4 Summary

The economic appraisal for the Project will be completed in accordance with accepted industry practices and will comply with all relevant guidelines. The economic appraisal will be completed and included in the PBC.

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10 Interim Findings

10.1 Introduction

The purpose of the Interim Findings Report is to provide a summary of the high-level findings of the PBC to date. Based on the work completed to date, the interim findings of the PBC are summarised in this section. This report has been developed to present findings to brief Council on progress to date, which are subject to change throughout completion of the PBC.

10.2 Need for project

The PBC work to date has established the need for the SCMT Project. The Sunshine Coast is challenged by growing levels of road congestion, an accelerating trend toward urban expansion, high dependency on private motor vehicle transport and the need to continue to strengthen the economy to support continued high levels of employment self-containment. There is a clear need for a coordinated economic, land use and transport solution that supports the region's economic, social, environmental and transport goals. There is a need to ensure that the region's economy continues to develop to attract investment to the region in high-value industries and associated employment opportunities, with an accessible and productive workforce. Suitable urban consolidation needs to be attractive to residents to encourage them to live closer to where they work, supported by an integrated and sustainable PT network.

10.3 Land use

The land use analysis undertaken for the Project to date has found that the right type of mass transit can act as a catalyst for the consolidation of new housing and business within its catchment. This will enable a high proportion of dwelling growth to occur within the established urban footprint and support access to key destinations and employment nodes without having to drive long distances in private motor vehicles. In particular:

- The SCMT Project, if based on LRT or other technology with a similar influence on land development take-up, will deliver a significant region-shaping opportunity when combined with complementary and appropriate changes to planning controls.
- Investment in the SCMT, if based on LRT or other technology with a similar influence on transport accessibility and land use development, will help drive a stronger, more competitive and sustainable economy and generate substantial and lasting economic, social and environmental benefits.
- Project benefits include a combination of the initial increased demand for dwellings serviced by the new infrastructure and the benefits that come from changes in land use zoning and increased development densities.
- By 2041 the intervention land use scenario would result in:
  - 9,575 dwellings in the corridor beyond forecast *No-intervention (trend)* growth, as a contributor for the region to achieve its 62 per cent urban consolidation target
  - An additional population of 19,597 accommodated in the corridor beyond forecast *No-intervention (trend)* growth
  - 6,336 new jobs accommodated in the corridor beyond forecast *No-intervention (trend)* growth.
- If the mass transit investment was based on LRT or technology with a similar influence on land development take-up, there would be significant additional dwellings in almost all station catchments as a result of the mass transit project, and significant employment activation in Maroochydore and Kawana (Point Cartwright Drive station).

A fixed track mass transit such as LRT would provide certainty for residential, retail and commercial property investment. This is one vital factor leading to considerable intensification of property development around fixed track mass transit stations. If carefully planned and based on technology that has a real influence on land use development, a major investment in the Stage 1 SCMT Project could potentially unlock greater dwelling, population and employment growth through additional market interventions.

The analysis has taken a conservative view to reflect historical residential and commercial market demand along the corridor, and results could be higher than expected with the right approach to urban transformation.

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The process of achieving a major swing to urban consolidation will be difficult and will require the support of additional measures envisaged in the Sunshine Coast Council's "Urban Renewal Facilitation Toolkit" alongside the major investment in mass transit.

10.4 Options assessment

The cost of road congestion for the Sunshine Coast LGA is forecast to be approximately $3 billion per annum by 2041 and approximately $1 billion per annum from the Maroochydore to Sunshine Coast University Hospital, in nominal terms. A multi criteria analysis process was completed to rank six options: bus service, bus network, road network, Quality Bus Corridor, BRT and LRT. The MCA demonstrates that an LRT solution from Maroochydore to Kawana is the highest performing option when assessed against a range of criteria and transport infrastructure. LRT performed the strongest in the Core scenario as well as across all sensitivities. BRT performs second, and this result is also consistent across all sensitives. Based on these results of the MCA, the following options were recommended for progression to economic analysis and more detailed assessment through development of a Cost Benefit Analysis:

1 LRT

2 BRT

3 Quality Bus Corridor.

Only the LRT option and potentially the BRT option are considered to have significant benefits in achieving the important land use criterion. The Quality Bus Corridor option, although it performs well in terms of transport and cost, cannot achieve the full range of benefits sought for the SCMT Project in the Sunshine Coast Urban Corridor.

10.5 Reference projects

The LRT and BRT have been analysed and designed based on the initial operating assumptions shown in Table 15.

Table 15: Operational assumptions

Item	Assumption
Alignment length	13.6km
Number of stations	16
Number of substations	LRT – 9 at approximately 2km intervals, plus the depot BRT – Assumed to be battery electric, 3 recharging at both terminus and deep recharging in the depot
Structures – number of major bridges	5 bridges Canal within Maroochydore CBD Creek on Brisbane Road Tucker Creek on Brisbane Road Mooloolah River North on Brisbane Road Mooloolah River South on Brisbane Road
Depot location	Single site for stabling and maintenance is yet to be confirmed.
System configuration	Shared driver amenities at both terminus locations
Journey time – BRT	Proposed to use standard 30-minute journey time with a 15-minute change over at each terminus (recharging, driver amenity break, driver change for driver break)
Journey time – LRT	Proposed to use standard 30-minute journey time with a 6-minute change over at each terminus (driver amenity break, driver change for driver break)
Vehicle size / length – BRT	Based on Brisbane Metro. Approximate values: Length – 24 metres Static width – 2.55 metres Passenger capacity – 60 seated, 70 standing
Vehicle size / length – LRT	Based on Gold Coast Light Rail. Approximate values: Length – 45 metres Static width – 2.65 metres Passenger capacity – 80 seated, 220 standing

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Item	Assumption
Vehicle floor height	300 to 350mm (100 per cent low floor)
Platform height	300 to 350mm
Maximum gradient	8 per cent
Speed performance	To match adjacent road, posted speed limits up to 80km per hour
Running way – BRT	High strength asphalt pavements for running way, except for concrete pavement at the following locations: • Stops including approach and departures • Intersections
Service pattern – length of services	All services run full length
Overhead power line – LRT	Assumed 100 percent overhead power line for LRT

The key features of the Quality Bus Corridor option include:

- Improved vehicles – higher specification branded vehicles, articulated or double decker buses
- High frequency bus services with frequency of at least eight services per hour and headways of 7.5 minutes or less
- Pre-paid services only with no cash fares, similar to Brisbane BUZ services
- Dedicated bus lanes along Aerodrome Road, Rose Street to Horton Parade and Nicklin Way (two road lanes, one bus lane and active transport).

10.6 Transport outcomes

Transport modelling has been conducted to compare the transport outcomes of the *No-intervention base case* and the *With-LRT project case* that assumes the intervention of the LRT. This focussed on Stage 1 of the trunk light rail route between Maroochydore and SCUH precinct.

The headline statistics from modelling the Stage 1 *With-LRT project* (light rail) intervention include:

The headline statistics from modelling the *With-LRT project case* against the *Without-project base case* include:

- There are 390,500 fewer vehicle kilometres travelled within the Sunshine Coast in 2041. This represents a reduction in Vehicle Kilometres Travelled (VKT) of approximately 2.4 per cent when compared to the *Without-project base case*.
- Within the Sunshine Coast LGA there are 49,400 PT trips each day in 2041, more than double the number of PT in the *Without-project base case*.
- PT mode share within the Sunshine Coast LGA increases from 1.2 per cent in the base case to 2.3 per cent.
- Change in mode share is far more pronounced when considering trips within the Stage 1 Sunshine Coast Urban Corridor. In this area, PT mode share increases from 1.3 per cent to 4.5 per cent with the intervention of the LRT.
- The total number of PT trips that start and finish within the Sunshine Coast Urban Corridor increases from 5,100 to 20,400 trips per day with the intervention of the LRT, representing a 300 per cent increase.
- 8.8 per cent of journeys to work, within the Stage 1 Sunshine Coast Urban Corridor, are made by PT. This represents a step change in travel behaviour when compared to the base scenario which observes a mere 1.5 per cent of internal journeys to work made by PT.
- 31,100 trips per day are made on LRT in 2041.
- There is significant demand for the park 'n' ride around Mooloolah with approximately 1,100 car fed PT trips per day. This is due to the location's high car accessibility relative to the mass transit station.
- The highest number of transfers from bus to LRT occur at the SCUH (590), Mooloolah River crossing (470) and the Maroochydore Transit Centre (330). This supports the case for a bus-LRT interchange facility at the Mooloolah River crossing.

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- The pattern of development is far more concentrated around existing urban areas. As a result, 85 per cent of all boardings on LRT services are walk-up trips.
- 23,000 fewer car trips start in the Sunshine Coast LGA each day when compared to the base scenario. Of these, 19,800 are local trips that have moved completely to alternative modes due to more realistic alternatives and land use that support alternatives to car-based trips.
- A light rail intervention is projected to increase the resident population in the Sunshine Coast Urban Corridor by at least 19,597 people.
- An increase in population means there are more trips made by car each day within the Sunshine Coast Urban Corridor, but the number of car trips per person reduces by 8 per cent with intervention of the LRT.

10.7 Social and environmental impacts

Potential social impacts were identified as urban growth/land use challenges, impacts to the transport network and economic development impacts. Identification of social impacts is ongoing and will continue to be identified and mitigated throughout the business case process. Currently, there are no fatal flaws that affect the feasibility of the Project.

The Environmental Assessment to date confirmed that:

- No known Indigenous heritage sites will be impacted by the Project
- No previously registered non-indigenous heritage sites will be impacted by the Project area
- No mapped vegetation within the Project area, therefore the likelihood of threatened ecological communities occurring is low
- No high-risk areas for protected plants were identified on the Flora Survey Trigger Map within the Project area
- No essential habitat is mapped within the Project area. However, essential habitat is mapped directly adjacent to the Project area on Maroochydore Beach
- No scenic routes, as identified in Schedule 2 of the *Sunshine Coast Regional Plan 2014*, intersect or occur in proximity to the Project and the development does not impact on regional or sub-regional inter-urban break.
- The SCC is working towards carbon neutrality, with key developments in sustainable transport, biodiversity, land use and social planning initiatives for the region. The SCMT Project is part of the objective to improve sustainable transport methods within the Sunshine Coast region.
- The Project is expected to result in a reduction in local contributions to regional Green House Gas (GHG) emissions. This reduction in GHG emissions will assist in the transition to a lower carbon economy and in mitigating contributions to climate change. However, it is anticipated that there may be short term impacts (i.e. increase in GHG emissions) associated with construction activities of the Project. The PBC and subsequent DBC will assess the environmental benefits of the Project including reducing carbon emissions through increased PT mode share.

10.8 Cost estimates

The project cost estimate consists of two key categories:

- Capital costs incurred during the development and construction phase
- Operating costs based on a 30-year operating period.

The cost estimating techniques applied are based on the nature of the activity being estimated and the level of design information available. The techniques used range from:

- A fully resource-based estimate of labour, plant and materials priced using local market rates
- Allowances for packages of work based on actual costs obtained from completed comparable projects and adjusted to suit local market conditions.

The cost estimates for the LRT and BRT options are undergoing a process of value engineering to and peer review to provide assurance to the cost components of subsequent economic, financial and commercial analyses. All costs will present a range from P50 to P90 risk, in accordance with relevant Government frameworks and guidelines.

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10.9 Benefits

Figure 16 is a summary of the benefits that are expected to be quantified in the economic assessment for SCMT. All of the 'Transport benefits' and 'WEBs' will be measured across both the first round and second round estimation. However, it is only under the second-round scenario that urban renewal benefits from land use change will be realised.

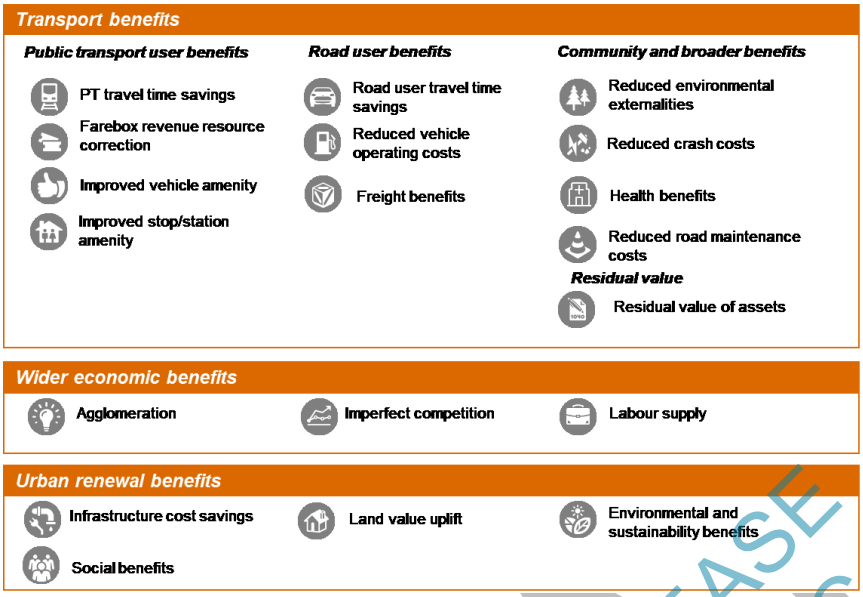


Figure 16: Economic benefits

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11 Next Steps

11.1 Introduction

This report has documented the interim findings of the SCMT Project completed to date for the PBC. The PBC is due to be completed by mid-2020 prior to commencement of the DBC.

11.2 Complete the PBC

The key outstanding tasks and inputs to the PBC are listed in Table 16.

Table 16: Remaining tasks for the PBC

Chapter	Task	Current Timeframe
Reference Project – BRT	Further refinement and development of BRT business case chapter	January 2020
Reference Project – Quality Bus Corridor	Further refinement and development of the Quality Bus Corridor business case chapter	January 2020
Transport Outcomes	Further refinement and development of the transport outcomes for the BRT and Quality Bus Corridor and development of the business case chapters	January 2020
Cost and Risk	Additional value engineering tasks	January 2020
Economic Analysis	Complete analysis, pending required inputs	March 2020
Financial and Commercial Analysis	Complete analysis, pending required inputs	March 2020
Affordability Analysis	Complete analysis, pending required inputs	April 2020
Review	State and Federal agency review	April - May 2020
Report PBC Findings to Council	Presentation of findings to Council	June 2020
DBC	Completion of the DBC	End of 2021
Investment Decision & Procurement	Indicative and subject to State and Commonwealth funding approval	End of 2023
Delivery	Indicative and subject to approval and funding commitments by State and Federal governments	By 2027

11.3 Future phases of the project

The future phases of the Sunshine Coast Mass Transit Project are expected to be as follows

1 Complete the PBC in accordance with Building Queensland's Business Case Development framework

2 Complete the DBC in partnership with the TMR as agreed, with completion expected by December 2021

3 Commission peer view and assurance audits

4 Obtain approval of the DBC by the Building Queensland Board and include the Project in the *Queensland Infrastructure Pipeline Report*

5 Obtain agreement with Infrastructure Australia that the project is supported based on the DBC and obtain listing on the national *Infrastructure Priority List*

6 Obtain capital budget funding from both the Queensland and Australian Governments

7 Undertake procurement to deliver the Project

8 Deliver the capital works and operational readiness activities

9 Obtain safety accreditation and commence operations of the Project

10 Progress corridor planning and design to support urban renewal within the Project catchment as part of the SCMT Business Case process.

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From: Ken Deutscher
Sent: Wednesday, 26 August 2020 3:48 PM
To: Cr Rick Baberowski
Subject: FW: SC Mass Transit - interviews post Special Meeting

Cr Rick:

FYI

This is the follow-up from the discussion earlier.

Best regards

Ken Deutscher
Project Manager Mass Transit
Urban Growth Projects
Liveability and Natural Assets Group
Sunshine Coast Regional Council
+61 s.47(3)(b)

From: Belinda Warren
Sent: Wednesday, 26 August 2020 3:31 PM
To: Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Chris Allan <Chris.Allan@sunshinecoast.qld.gov.au>; Pannie Mitchell <pannie.mitchell@sunshinecoast.qld.gov.au>; Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; Rachel Thomson <Rachel.Thomson@sunshinecoast.qld.gov.au>; James Coutts <james.coutts@sunshinecoast.qld.gov.au>
Subject: SC Mass Transit - interviews post Special Meeting

Good afternoon

I can confirm that I raised with the Chief of Staff the option to have a media call after the Special Meeting, with the Mayor and/or Cr Baberowski as spokesperson.

I was advised that media call would not take place as all councillors are going straight into back to back meetings for the rest of the afternoon.

Regards
Bindy

Belinda Warren | Manager Communication
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Mobile: 0409 094 314
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Mail: Locked Bag 72 Sunshine Coast Mail Centre Qld 4560

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From: Ken Deutscher
Sent: Thursday, 27 August 2020 2:33 PM
To: Chris Allan; Leah Bancroft; James Coutts; Adam Connell
Cc: Warren Bunker; Craig Matheson; Bill Haddrill
Subject: RE: thanks

Thank you for that positive feedback Chris. I really appreciate the way you make it a priority to give direction and also timely and constructive feedback to the officers. Your leadership, and support, is exemplary.

11 zip!.

Best regards

Ken Deutscher
Project Manager Mass Transit
Urban Growth Projects
Liveability and Natural Assets Group
Sunshine Coast Regional Council
+61 s.47(3)(b)

RTI RELEASE
Sunshine Coast Council

From: Chris Allan
Sent: Thursday, 27 August 2020 2:25 PM
To: Ken Deutscher <ken.deutscher2@sunshinecoast.qld.gov.au>; Leah Bancroft <Leah.Bancroft@sunshinecoast.qld.gov.au>; James Coutts <james.coutts@sunshinecoast.qld.gov.au>; Adam Connell <adam.connell@sunshinecoast.qld.gov.au>
Cc: Warren Bunker <warren.bunker@sunshinecoast.qld.gov.au>; Craig Matheson <craig.matheson2@sunshinecoast.qld.gov.au>; Bill Haddrill <Bill.Haddrill@sunshinecoast.qld.gov.au>
Subject: thanks

Hi James, Ken, Leah and Adam, many thanks for your efforts in getting us to the SM today, I know Leah and Adam did a lot of work on the developing the supporting information. Ken, particularly, your presentation and thoughtful responses to the questions was very much appreciated and, with James's engagement with the Crs, contributed to the unanimous decision this afternoon.

As discussed after the meeting, we now have clear direction and will now progress with scoping the next stage of the engagement program for the PCG's consideration early next month.

Craig and Bill, thanks for your valuable input to date, the team is looking forward to your continued support. Craig, apologies for my oversight in not providing a copy of the presentation to you. Happy to discuss the process and meeting outcome further.

Cheers,
Chris

Chris Allan
A/Group Executive
Liveability and Natural Assets Group
Sunshine Coast Regional Council s.47(3)(b)
chris.allan@sunshinecoast.qld.gov.au
Think B4U Print
1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere
3 sheets of A4 paper = 1 litre of water

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