Sunshine Coast Mass Transit

Strategic Business Case
August 2019

Sunshine Coast COUNCIL

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Acknowledgements

Council wishes to thank all contributors and stakeholders involved in the development of this document.

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EXECUTIVE SUMMARY

Sunshine Coast Council (Council) has embraced the aspirational vision to be Australia's most sustainable region – healthy, smart, creative This vision underpins a transformational agenda that strives to affect a balance in Council's economic, social and environmental objectives.

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 Sunshine Coast Mass Transit Project presents a critical opportunity to achieve this vision by transforming the urban landscape of the Sunshine Coast and delivering a range of integrated economic, land use and transportation benefits for the region. These benefits will be realised through a combination of land use and economic development planning undertaken in conjunction with the delivery of an efficient mass transit network.

Mass transit is a city-shaping investment that helps determine not only the form of new urban development, but how people move about in it. Although the actual delivery of public transport infrastructure and services remains the responsibility of the Queensland Government, the Sunshine Coast Council is progressing the Sunshine Coast Mass Transit business case to provide the State and Federal governments with an investment-ready proposition which will further Council's objectives for the region.

This Strategic Business Case (SBC) builds on the Council's 2017 *Urban Transformation Directions Paper* and follows on from the Council's "*Line in the Sand*" report to present the first stage of the formal feasibility assessment of the Sunshine Coast Mass Transit Project.

The purpose of this Strategic Business Case is 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, before recommending a way forward to the next stage of the project's feasibility assessment, being a Preliminary Business Case (PBC).

The Preliminary Business Case will build on the SBC and assess project options, further define the proposed solution, and quantify the benefits of the proposed solution through transport, social and economic analysis. The final stage of the feasibility assessment will be a Detailed Business Case (DBC), which provides in-depth analysis of the project solution in order to present a comprehensive case to government for a decision to invest and deliver the project.

An overview of the Building Queensland Business Case Development Framework is shown in the following figure.

Building Queensland Business Case Development Framework

This SBC has been completed by Council, with guidance and feedback sought from key stakeholders including the Department of Transport and Main Roads (TMR), Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP), Building Queensland, Queensland Treasury and Infrastructure Australia throughout its development.

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 in the north.

During the past 30 years, the Sunshine Coast region has experienced significant population growth and urban development much higher than the national average, and now represents a regional economy worth more than $15 billion[1]. The region has a number of major economic centres including Maroochydore, Kawana and Caloundra.

The region's current population of approximately 320,000 is projected to grow to over 500,000 by 2041. The Sunshine Coast has experienced population growth at higher annual rates (greater than 2% since 2011) than the rest of the country, the rest of Queensland and the SEQ region.

In order to support this population growth, the 2017 *South East Queensland Regional Plan (ShapingSEQ)* forecasts an additional 87,000 dwellings are required for the Sunshine Coast region by 2041. *ShapingSEQ* requires that 62 per cent of future housing development in the Sunshine Coast region is to be consolidation/infill development within the existing urban footprint.

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

There are committed greenfield urban expansion areas at Palmview and Caloundra South to help cater for the region's strong population growth and housing demand. *ShapingSEQ* also identified a new greenfield Major Development Area at Beerwah East.

The corridor between Maroochydore and Caloundra, designated for the purposes of this Strategic Business Case as the "Sunshine Coast Urban Corridor", has been identified as providing a significant opportunity to accommodate the *ShapingSEQ* required infill development. The corridor is approximately 24 kilometres in length, occupies an area of some 4,670 hectares and currently accommodates just over 80,000 people.

The region's travel patterns are dominated by trips made in small passenger or commercial vehicles, with 85 per cent of all daily trips taken in these.

In addition, the Sunshine Coast is also one of Australia's leading tourism destinations, offering a laid-back tourism experience centred around beaches, rivers and forests, all underpinned by a warm and comfortable climate. In 2017/18 there were over 12 million visitors[2] to the Sunshine Coast tourism region.

Although it is an emerging major city, the Sunshine Coast presently has a public transport system more suitable to a regional town. A major upgrade of the public transport system will be needed as the region grows into Queensland's third largest city over the next two decades.

Key challenges

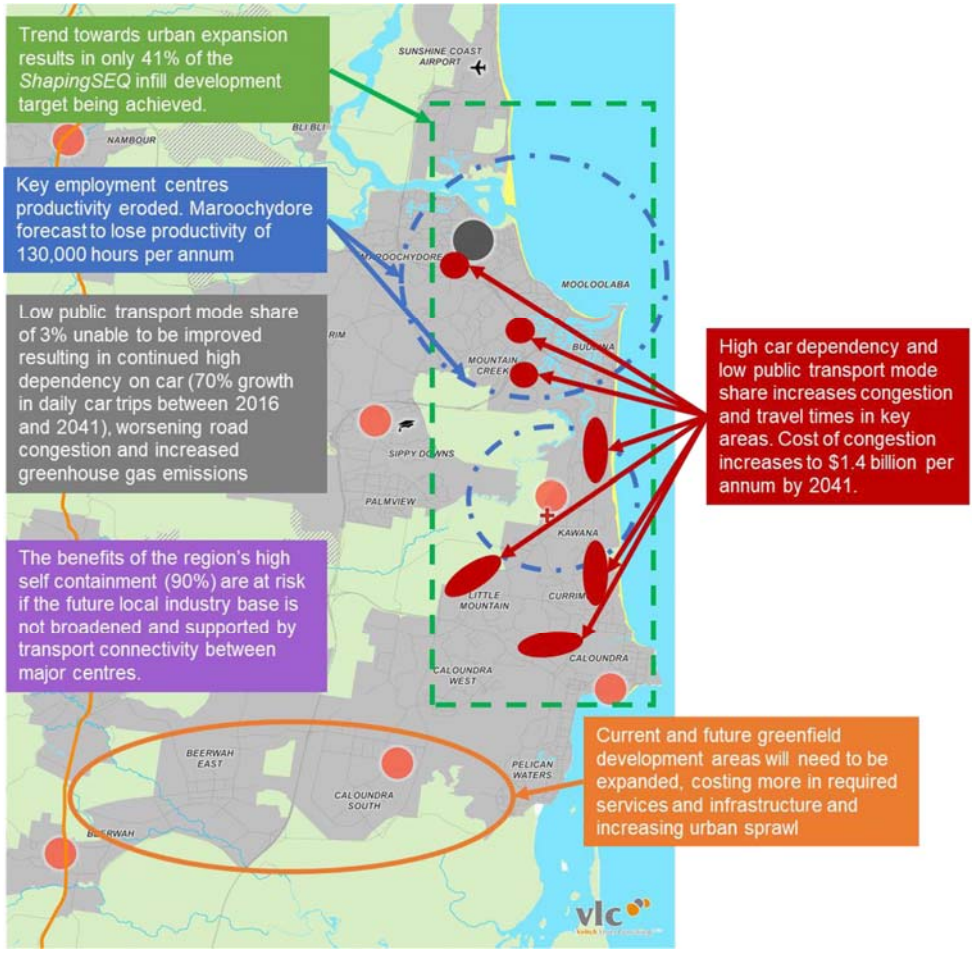
As a region experiencing strong population growth, the Sunshine Coast is now at a critical juncture in its evolution as emerging issues challenge the region's economic growth, productivity and lifestyle, liveability and sustainability aspirations. Given the very high levels of car dependence, promoting public transport as a viable alternative for accessing key activity centres within the region and as a trigger for greater urban consolidation, will be essential to addressing these issues.

In relation to growth management, the key challenges for the Sunshine Coast region include:

- growing levels of road congestion on key arterial roads within the Sunshine Coast region, resulting in increasing costs of congestion, lost productivity and less time spent with families and other lifestyle pursuits
- an accelerating trend towards urban expansion on the Sunshine Coast in response to housing demand, leading to a greatly expanded urban area, with additional costs to government and undermining the ability of the public transport system to operate efficiently
- a high level of dependency on private motor vehicle transport, resulting in low levels of public transport use and demand for more roads and car parking which will undermine urban amenity and lifestyles
- the need for continuing activity to broaden the local industry base to support continued high levels of employment self-containment. Without these efforts, there is a heightened risk of decline in the local economy and increased long distance commuting with its resultant social and environmental impacts.

The diagram below summarises these key challenges derived from a growing region.

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



Sunshine Coast region key growth management challenges

Growing road congestion

Congestion along key arterial routes within the region is currently costing over $500 million per annum. This is forecast to continue to grow and cost the regional economy $1.4 billion per annum (in 2016 dollars) by 2041 (equating to approximately $3 billion per annum in 2041 dollars). Key roadways will be heavily congested by 2041, with volume to capacity ratios of in excess of 1.1 (which would reduce average speeds by around 40 per cent).

Effectively, with no intervention by government, the annual cost of congestion in the Sunshine Coast region could more than double, while the cost in the coastal urban corridor could treble by 2041.

The economic productivity of the region will erode as time goes on without intervention to address congestion, with lost hours due to travel in Maroochydore alone forecast to reach 130,000 per annum in the peak period by 2041. Lost productivity will have serious flow on impacts, limiting any agglomeration opportunities and failing to support the region's forecast 100,000 additional jobs over the next 25 years.

Traffic congestion in key tourism locations on the Sunshine Coast is already a significant issue at peak holiday periods. This congestion is forecast to increase significantly as increased numbers of residents and tourists compete for road space into Caloundra, Mooloolaba and Maroochydore by 2041.

Congestion in the region needs to be addressed, as without intervention, it will have significant impacts on the local economy by 2041. The region needs to be able to facilitate positive economic growth by ensuring that industries and businesses established in the region are not losing productivity due to worsening road congestion within the region. The businesses in the region need to be accessible to consumers, and just as importantly, the workforce needs to be accessible to the industries and employment opportunities on the Sunshine Coast.

An expanding urban area

Without a concerted approach to achieving infill (consolidation) targets, there is a greater risk of accelerating urban expansion in the Sunshine Coast region to respond to demand for housing. This brings with it the significant risk of detrimental urban sprawl and costs to government. Research suggests that for every 1,000 additional greenfield houses built, that costs for supporting social infrastructure total almost $95 million.

The response will need to include a balanced housing strategy that includes more urban consolidation.

An additional 53,700 dwellings consolidated into the existing urban area are required to achieve the overall *ShapingSEQ's* consolidated housing target of 62 per cent by 2041. Based on current forecasts and the current land use planning approach, 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 pressure is likely to come to bear on accessing further greenfield developments, thereby failing to exploit any agglomeration opportunities. The evidence base clearly shows that at the aggregate level, the benefits of a consolidated housing approach substantially outweigh the costs.

This long term swing to urban consolidation and infill development needs to be supported through a range of government interventions, not only to meet policy requirements, but more importantly to support the needs of residents to easily access their places of employment or places of leisure to improve the liveability in the region.

The Sunshine Coast Urban Corridor provides the key opportunity in the region to accommodate a significant proportion of the required new housing through urban renewal and infill development with appropriate planning provisions in place. To do this, it will need to attract growth and investment in housing development through improved urban amenity and public transport.

Very high dependency on cars

The growth of car ownership on the Sunshine Coast is amongst the highest in Australia. And in 2016 some 69 per cent of working residents drove themselves to work, with a further 5 per cent going as passengers. Only 1.6 per cent used public transport[3]. 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)[4].

The mode share for public transport on the Sunshine Coast is currently around 3 per cent in total[5]. In comparison, private vehicle travel is the dominant mode share in the Sunshine Coast region, at 85 per cent overall.

The bus network is not currently able to meet the needs of commuters through lack of

[3] Id profile. https://profile.id.com.au/sunshine-coast/travel-to-work

[4] https://home.id.com.au/demographic-resources/

[5] Integrated Transport Strategy, 2018, Sunshine Coast Council, p24

coverage and service frequency, and is not perceived as competitive with car travel for most trips. The “average” bus on the Sunshine Coast has around 5 people travelling while the average bus in SEQ more broadly has approximately 14 people travelling.

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[6].

Car parking demand is also forecast to grow strongly on the Sunshine Coast in the medium term (beyond the next five years). It is expected that an additional 300 parking bays in Caloundra and 900 parking bays in Maroochydore will be required in the medium term. Spaces dedicated to parking can have a significant opportunity cost, in that this land may have a higher value use. Further, car parking can affect the walkability of centres by separating land uses from each other.

Council has a desired public transport mode share for the region of 10 per cent by 2041, however given the current rate of public transport usage has fallen by 2 per cent between 2013 and 2016[77], the 2041 public transport mode share target will only be achieved if public transport usage grows by a massive average of 6.6 per cent each year for 25 years.

There is a need to invest heavily to improve the capacity, service level, legibility, coverage and efficiency of public transport in the region to encourage travellers to choose public transport over car. Public transport also reduces the environmental impacts of car usage, and therefore the investment in public transport needs to be sustainable in order to effect meaningful positive change to environmental outcomes, such as greenhouse gases.

A risk of reduced employment self-containment

Currently, approximately 90 per cent of the Sunshine Coast workforce lives locally. Only five per cent of working residents travel to work in the Brisbane Local Government Area. Retaining this high level of intra-regional employment into the future will mean less time and effort spent traveling, increased economic productivity, less energy consumption and emission of greenhouse gases, and more time for families and other lifestyle activities.

This level of employment self-containment is potentially at risk if efforts are not continued to expand high-value industries that offer more enduring opportunities for production and employment and are less dependent on the consumption of goods produced elsewhere. The region also faces continuing competition from the increasing dominance of metropolitan Brisbane as a net importer of workers. The *Sunshine Coast Regional Economic Development Strategy* aims to provide a stronger, more resilient regional economy that generates high value employment opportunities in industries that will drive demand for labour as a result of major region-shaping infrastructure investments.

Continuing efforts are needed to broaden and deepen the economic base to:

- support population growth and employment self-containment;
- reduce risk and volatility for potential new industries; and
- increase income levels for local workers.

Providing a major improvement in the local public transport system in the region can support the implementation of the *Sunshine Coast Regional Economic Development Strategy* by providing reliable connectivity between major population and employment centres in the

[6] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p35
[7] Calculated using Sunshine Coast total weekday boarding data received from TMR by Veitch Lister Consulting

Sunshine Coast Urban Corridor. This reliable local connectivity will also be an essential feature in facilitating the growth and expansion of the regional economy.

Further, if the local mass transit system connects with a frequent, reliable regional rail service to Brisbane, these local employment centres, particularly the Maroochydore City Centre, can benefit from the important "Business 2 Business" accessibility.

Project Investment Logic Map

The Building Queensland Business Case Development Framework recommends the development of an Investment Logic Map (ILM) to support the process of conceptualising investment proposals. Logic mapping is a technique to ensure that robust discussion and thinking is done upfront, resulting in a sound problem definition, 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[8].

The ILM for Sunshine Coast Mass Transit Project was developed at a workshop on November 26, 2018. Attendees at the workshop included representatives from Sunshine Coast Council, Building Queensland and Department of Transport and Main Roads (TMR)[9].

The ILM supports the narrative of the SBC, as it provides an overview of:

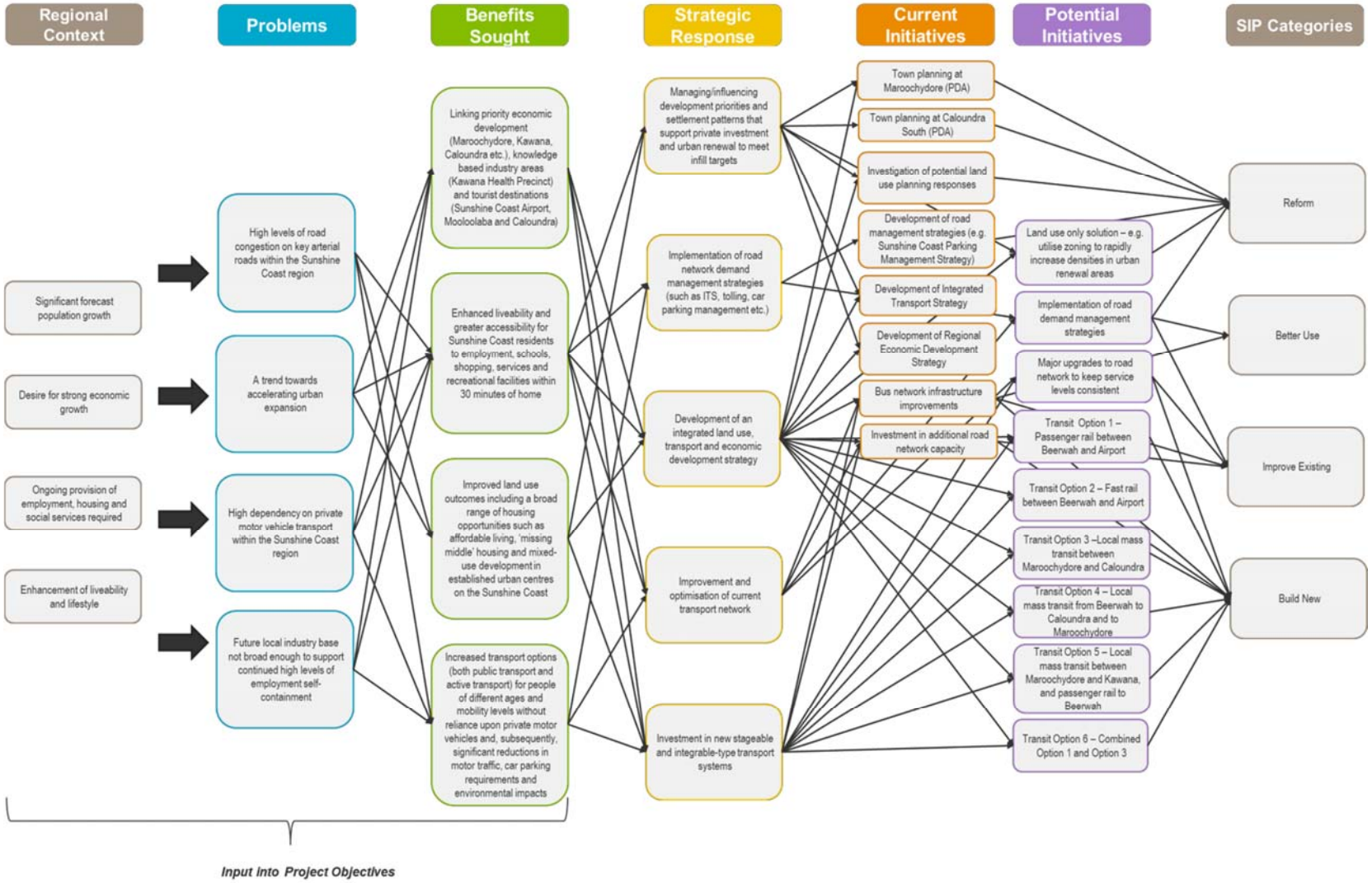
- the problems facing the region;
- the benefits sought from a response to the problem; and
- initiatives identified to address the problem and achieve some or all of the benefits sought.

The ILM is shown in the figure below.

[8] https://treasury.govt.nz/information-and-services/state-sector-leadership/better-business-cases-bbc/bbc-methods-and- tools/investment-logic-mapping

[9] Note that the TMR representative did not attend the full workshop

Sunshine Coast Mass Transit SBC ILM



Initiatives assessment

The objectives of the Sunshine Coast Mass Transit Project are to:

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

These objectives have provided a basis for the assessment of strategic responses and initiatives.

Seventeen current and potential initiatives have been identified in the SBC and are shown in the ILM. They consist of land use and transport initiatives being progressed by either the Sunshine Coast Council (Council) or Queensland Government. This included:

- 10 non-capital initiatives covering reform and better use
- 7 capital investment initiatives to improve the road network or mass transit

Non capital initiative options

An assessment of the non-capital initiatives showed that:

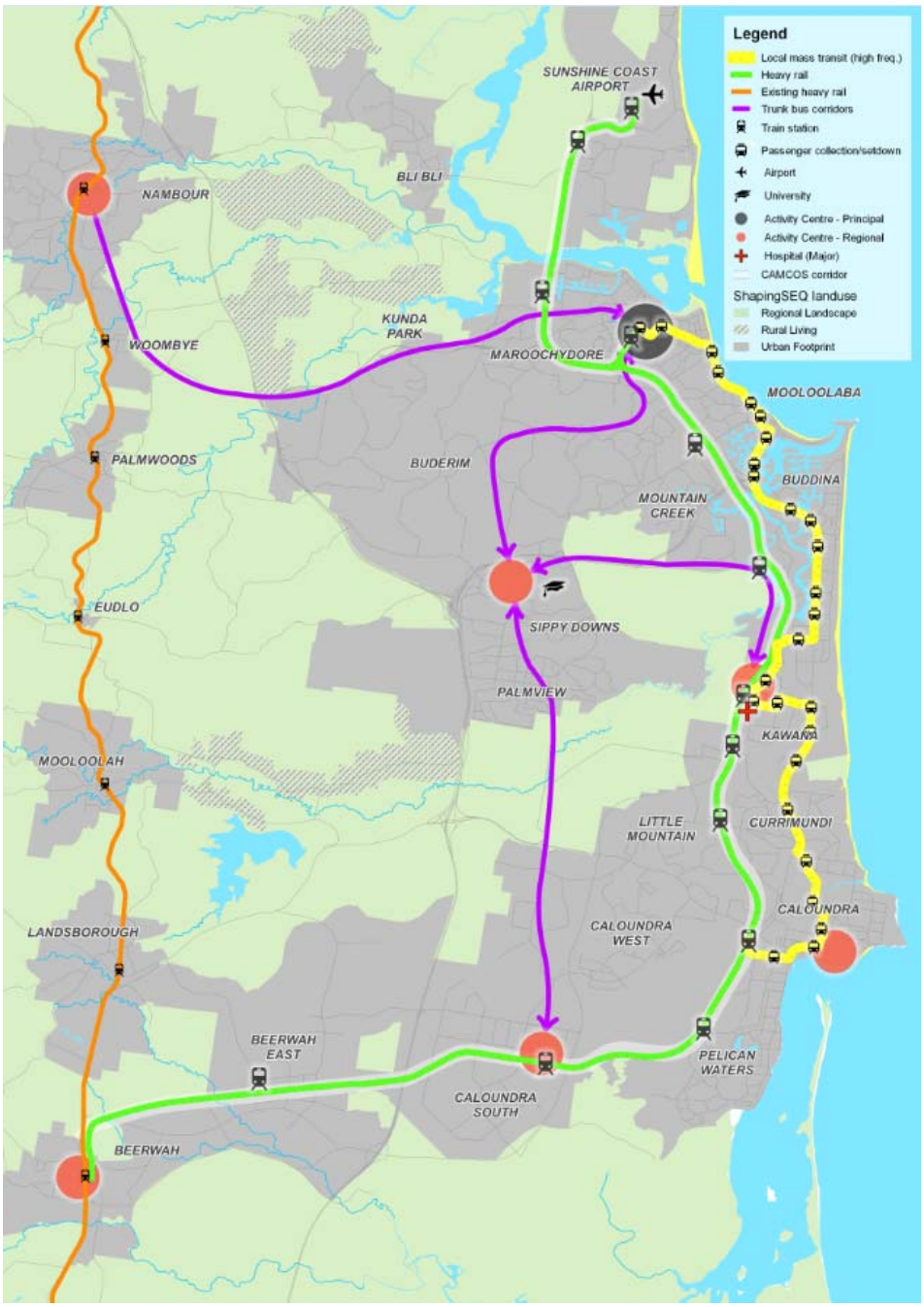
- eight current initiatives are not sufficient in their own right to address the challenges of growth management on the Sunshine Coast. They should continue to be developed as part of current planning and project development processes. They will form the basis of the "base case" or "without project case" against which any future investment could be measured.
- an initiative based solely on land use reform will not adequately address challenges nor fully realise desired benefits. However, in order to achieve the stated 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, even if this were acceptable to community stakeholders.

Capital initiative options

Continual major upgrades to the road network would not meet key land use objectives, in particular urban renewal outcomes in the urban corridor, and would potentially undermine the liveability of the region. While a program of major road investment will be needed in a growing region, it should not be the sole response, given the long term impacts of congestion and car dependency.

To better understand the effectiveness of options for capital investment in mass transit, consideration was given to work progressed by the Sunshine Coast Council in developing a concept strategic plan for a future mass transit system in the region. This resulted in a proposed optimised mass transit network strategic plan, as shown in the map below.

A combination of feeder transport modes would also need provide complementary services across the Sunshine Coast to link with the mass transit network.



Proposed optimised mass transit network strategic plan for the Sunshine Coast

This optimised mass transit network would need to be delivered in stages, and this presents the possibility of a range of mass transit technology options. To assess the effectiveness of various staging and technology options, six capital investment options were analysed using the optimised network plan. A strategic merit test was then undertaken on these six potential initiatives against the project objectives. Transport modelling for all options was available through the Mass Transit Strategic Planning process and used to support the analysis.

A summary of the outcomes of the strategic merit test assessment is provided in the table below.

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. Local mass transit between Maroochydore and Caloundra	🟡	🟢	🟡	🟢	🟡
4. Local mass transit between Beerwah and Maroochydore	🟢	🟢	🟡	🟢	🟢
5. Local mass transit between Maroochydore and Kawana, and passenger rail to Beerwah	🟢	🟢	🟡	🟢	🟢
6. Passenger rail between Beerwah and Sunshine Coast Airport, and local mass transit between Maroochydore and Caloundra	🟢	🟢	🟢	🟡	🟢

Strategic merit test summary results

Result	Traffic light score
Strong alignment with the project objective	🟢
Some alignment with the project objective	🟡
Poor alignment with the project objective	🔴

The best performing options in the strategic merit test were:

- Option 4 - local mass transit between Beerwah and Maroochydore
- Option 5 - local mass transit between Maroochydore and Kawana, and passenger rail to Beerwah
- Option 6 - passenger rail between Beerwah and Sunshine Coast Airport, and local mass transit between Maroochydore and Caloundra

Option 4, (local mass transit between Beerwah and Maroochydore) would deliver good outcomes across all objectives given the connection provided through the inland corridor and along the Sunshine Coast Urban Consolidation Corridor. For the most part, this initiative provides good transport outcomes, however it should be noted that a local mass transit technology in 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. Local mass transit 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, (local mass transit between Maroochydore and Kawana, and passenger rail to Beerwah) provides a good compromise between regional connections to Brisbane and local travel, and strongly supports urban renewal in the Maroochydore to Kawana portion of the Sunshine Coast Urban Corridor. This option optimises connectivity between the Maroochydore City Centre and other major centres, servicing a growing catchment of workers and customers for the services that will be available in Maroochydore. This presents a possible staging option for an ultimate solution.

Option 6 (Passenger rail between Beerwah and the Sunshine Coast Airport, and local mass transit between Maroochydore and Caloundra) delivers on all project objectives, with the possible exception of value for money, since it clearly requires the highest level of capital investment. Option 6 would deliver the highest accessibility outcomes given the network coverage provided and induces a higher number of public transport trips within the region.

Since Option 6 is most closely aligned with the draft Concept Mass Transit Network Strategic Plan prepared previously, it represents a potential ultimate solution for the Sunshine Coast. It will however, require significant capital outlay to deliver the required infrastructure. The delivery of a mass transit network aligned to Option 6 does offer numerous staging possibilities.

Based on this ultimate network strategic plan, the following figure provides a breakdown of the geographical areas. Staging options should be based around these geographical areas.

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

The analysis also concluded that in the short to medium term, investment in mass transit in Priority Areas 1 and 2 would best support the mass transit project objectives by:

- optimising the needs for regional and local connections, and
- supporting urban renewal outcomes and economic development; and
- providing a feasible solution for staged investment that is consistent with a long term strategic plan.

Aside from its potential to address the problems identified in this SBC, Priority Area 1 will offer the best opportunity to achieve urban transformation on the Sunshine Coast Urban Corridor to build a connected, lifestyle community with housing and employment choices, bound together by local mass transit.

A major investment in local mass transit in Priority Area 1 will also support growth of local employment in key economic centres, particularly in the new Maroochydore City Centre which is an ideal location for high value growth industries in the professional, financial and Information Technology disciplines, which is further reinforced with the delivery of the Sunshine Coast international broadband submarine cable network.

While a discrete range of mass transit technologies was assumed for the purposes of the analysis in this chapter, the PBC will investigate potential modes and transport technologies further. Sunshine Coast Council has previously considered a range of technologies such as elevated rail and quality bus corridors for the Priority Area 1 corridor, however these will be reconsidered in the PBC.

Having regard to current commercially available mass transit technologies suitable for an urban renewal corridor, a comparison between light rail and bus rapid transit presents as one likely focus for determining a preferred technology through subsequent phases of the business case process. Other elements of any potential solution for Priority Area 1 that the PBC will confirm include the detailed transit route and station location.

Conclusions

The problems identified in this Strategic Business Case can be addressed by meeting three key service needs:

- A major improvement to mass transit to provide an integrated network connecting the major activity centres and housing areas and linking it to Brisbane. This will reduce congestion, and free up valuable road space for freight and commercial traffic;
- A coordinated strategy to accelerate urban consolidation and infill, with a focus on the Sunshine Coast Urban Corridor to provide a land use settlement pattern that can reduce car dependency and the amount of travel required in the community; and
- An ongoing program to boost and connect local employment opportunities in areas close to mass transit, to allow a greater number of residents to live closer to their places of employment and provide easier accessibility to those economic areas.

By actively pursuing investment in a mass transit network for the region in concert with a coordinated strategy to achieve consolidation of housing and employment in the Sunshine Coast Urban Corridor, the Sunshine Coast region can harness a range of integrated economic, land use and transportation benefits.

If achieved, these outcomes result in the Sunshine Coast Urban Corridor becoming a sustainable and lifestyle community with broad housing and employment choices, connected by a frequent and efficient mass transit network.

Recommendations

It is recommended that the Sunshine Coast Mass Transit Project Strategic Business Case progress to the Preliminary Business Case stage, under the Queensland Government's Project Assessment Framework and Building Queensland's Business Case Development Framework. The Preliminary Business Case development should note that:

- the Sunshine Coast Mass Transit Project is aiming to achieve the following objectives to:
    - Support the Sunshine Coast's productivity, employment growth and self-containment aspirations by supporting existing and emerging strategic centres;
    - Maintain, and where possible improve amenity and liveability, and provide a catalyst for positive change by unlocking urban renewal opportunities;
    - Improve accessibility, convenience and resilience of the integrated transport network; and
    - Provide a deliverable and value for money solution.
- 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 catalytic investment that will engage developers and broader community in an urban transportation 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

The Strategic Business Case has determined that the recommended priorities for investment in the new mass transit system should be 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 point (1) and (2) above.
4. **The central sector of CAMCOS from Maroochydore to the Sunshine Coast Airport.** 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 the State capital. The option of this connection should therefore be kept open as a longer 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.

Next steps

The next step for the Sunshine Coast Mass Transit Project is to complete a Preliminary Business Case. A key objective of the Preliminary Business Case 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 Preliminary Business Case has commenced and is expected to be considered by Council in May 2020.

Project Phase	Dates
Strategic Business Case development	October 2018 – May 2019[10] (considered by Council in July 2019)
Preliminary Business Case development	March 2019 – May 2020[11]
Detailed Business Case development	February 2020 – December 2021
Investment Decision and Procurement	By end 2022 (indicative)
Delivery	By end 2026 (indicative)

Key milestones for the Sunshine Coast Mass Transit Project

The Preliminary Business Case is estimated to cost $3.6 million over two financial years 2018-19 and 2019-20.

The existing governance arrangements will continue for the Sunshine Coast Mass Transit Project throughout the PBC phase. This includes the continuation of the Steering Committee and the Business Case Reference Group, with key Queensland Government and Australian Government representatives providing guidance and feedback.

A focussed 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.

[10] Note the overlap in SBC and PBC dates allows for PBC establishment activities to commence while the SBC is finalised
[11] Note the overlap in PBC and DBC dates allows for DBC establishment activities to commence while the PBC is finalised

1. INTRODUCTION

1.1 Purpose and Overview of this Chapter

The purpose of this chapter is to provide an overview of the Sunshine Coast region's service needs in respect to managing population growth and ensuring sustainable transport outcomes in the region.

This chapter outlines:

- background on the service needs for the mass transit on the Sunshine Coast
- the development process for this Strategic Business Case (SBC)
- the vision for the future of the area and key issues that need to be addressed to manage projected regional growth
- current land use and regional development projects and initiatives underway within the region
- current related transport projects that are under investigation or development to provide adequate public and private transit amenity to support land use outcomes
- previous related studies and initiatives that have been undertaken prior to this project, and
- issues and impacts requiring government intervention.

1.2 Background on service needs – mass transit on the Sunshine Coast

This Strategic Business Case addresses mass transit needs within the Sunshine Coast region. The area of interest is focussed on the Sunshine Coast Council Local Government Area which is located approximately 100 kilometres north of the State's capital, Brisbane and covers an area of 1,633 km^2, as shown in Figure 1.1.

1.2.1 A fast growing region

The Sunshine Coast Council Local Government Area is one of the largest population centres in Queensland, and the 9th largest in Australia. Its population of 303,000 in 2016 grew to 320,000 in 2019[12] with an annual increase of about 8,300 residents at 2.6 per cent p.a[13]. The population of the region is forecast to grow to 386,960 in 2026, and to reach at least 518,000 in 2041 – a 71 per cent increase in 25 years. Recent QGSO forecasts suggest a median series projection of 518,000 in 2041[14]. By 2050, there could be over 600,000 people in the Local Government Area.

Figure 1.2 shows the relationships between growth in the Sunshine Coast Local Government Area compared with Australia, Queensland and SEQ region as a whole. The Sunshine Coast region's annual growth rates have not fallen below 2 per cent since 2011.

Growth in the Sunshine Coast region is underpinned by national growth which saw Australia's population reach 25 million in August 2018. Australia's population is currently growing at 1.6 per cent p.a. and it reached 24 million just 2.5 years earlier. It will reach 26 million in 2021[15].

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

[13] Sunshine Coast Council 2019. Population and Household Forecasts 2016 to 2026

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

[15] Australian Bureau of Statistics. 2018 - https://www.abs.gov.au/ausstats/abs%40.nsf/mediareleasesbyCatalogue/C3315F52F6219DE9CA2582E1001BC66A?OpenDocument

Queensland's population reached 5 million in 2018 and grew at 1.7 per cent from the previous year. Its share of national growth is higher than its present share of national population[16].

South East Queensland (SEQ) is the most rapidly growing part of the State. The region contains 3.5 million people and is the most populated part of Queensland. The SEQ region is growing at about 2.2 per cent p.a.[17]. Infrastructure funding allocated to the SEQ and in particular the Sunshine Coast has not kept pace with this growth.

Figure 1.1 – Sunshine Coast region overview

The Queensland Government's Regional Plan, *ShapingSEQ*, identifies the Sunshine Coast region as one of four large, distinct but interconnected urban areas in a future SEQ region that could contain over 7 million people[18].

[16] Queensland Government Statisticians Office 2019 http://www.qgso.qld.gov.au/products/reports/pop-growth- highlights- trends-qld/pop-growth-highlights-trends-qld-2019-edn.pdf

[17] .id Profile. 2019 https://profile.id.com.au/australia/population-estimate?WebID=330

[18] Queensland Government.2017. *Shaping SEQ*. p28

Figure 1.2 – Population growth rates and 10-year averages for Australia, Queensland, SEQ and Sunshine Coast[19]

1.2.2 An iconic tourist destination

The Sunshine Coast region is also one of Australia's prime tourist destinations, offering a laid-back tourism experience centred around beaches, rivers and forests, all underpinned by a warm and comfortable climate.

In 2017/18 there were over 12 million visits[20] to the Sunshine Coast tourism region[121], comprising:

- 1.5 million international visitor nights;
- 6.5 million domestic visitor nights; and
- 4.5 million day visits.

With the growth of population in Australia and in SEQ in particular, the domestic visitations can be expected to continue. International visitations are subject to a range of factors, however in 2017 the Sunshine Coast international visitor growth (8.2 per cent) topped the Australian growth figure (7.1 per cent), was higher than the overall Queensland rate (3 per cent) and higher than growth in other individual destinations such as Gold Coast (4.2 per cent), Brisbane (4.6 per cent)[22] With the expansion of the Sunshine Coast Airport which is currently underway, it is anticipated that these visitor numbers would increase.

1.2.3 An emerging city with low public transport use

The Australian Government's *Smart Cities Plan*[23] identifies that most world-class cities have invested in fast, efficient public transport systems to provide viable alternatives to private passenger vehicles. Yet although it is an emerging major city, the Sunshine Coast region presently has a public transport system more suitable to a regional town. A major upgrade of the public transport system will be needed as the region grows into Queensland's third largest city over the next two decades.

[19] https://profile.id.com.au/australia/population-estimate?WebID=120

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

[21] The Sunshine Coast Regional Council LGA excludes Noosa Shire Council.

[22] Sunshine Coast Council 2017. https://www.sunshinecoast.qld.gov.au/Council/News-Centre/International-tourism-arrivals-jump-to-almost-300000-191217

[23] Australian Government. Smart Cities Plan. 2016.

Improving mass transit in the Sunshine Coast region is a major component of that public transport upgrade. The scope of the mass transit investigations by Sunshine Coast Council 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. This network will be supported by a network of local buses and incorporate new 'last mile' travel choices all aggregated into a single user booking and payment interface.

Current project activities centre on preparing business cases under the Queensland Business Case Development Framework, and Infrastructure Australia's Assessment Framework. Delivery of this mass transit network would need to occur in stages, and the business case workings aim to establish an optimum staging plan.

1.3 Genesis of Sunshine Coast mass transit service need

1.3.1 Line in the sand report 2012

Sunshine Coast 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;
- be a flagship transport option that protects the way of life and benefits the whole Sunshine Coast; and
- if supported by visionary policy, such as strategic urban consolidation along growth corridors, 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.

1.3.2 Corridor planning and consultation 2013 – 2014

Corridor planning and community consultation based on a light rail option occurred from 2014 to 2016 through studies including:

- 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 (2014)
- Sunshine Coast Light Rail Liveable Communities Program – Feasibility Report (2014)

This work and consultation resulted in a potential light rail corridor being designated for further investigation extending from the Maroochydore City Centre, through Kawana to Caloundra Town Centre. This is shown on the project website[24].

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 mass transit transport system. These studies include:

- Sunshine Coast Light Rail: Shaping Our Future (2016) – report developing cost estimates and concept design as a basis for the light rail business case and protection of a dedicated corridor
- Urban Transformation – Directions Paper for the Future of the Sunshine Coast.

1.4 Strategic Business Case Methodology

A Strategic Business Case is the first document in the business case suite of the Building Queensland Business Case Development Framework (BCDF). It aims to ensure the problems and service need are substantiated and effectively articulated and that the benefits sought are likely to be achieved through the proposed initiatives. Furthermore, completing a robust Strategic Business Case underpins the integrity of the deliverables under the future stages of the BCDF, being a Preliminary Business Case (PBC) and Detailed Business Case (DBC) which progressively fine tune the options.

1.4.1 Overall approach

The development of this Strategic Business Case has been led by Sunshine Coast Council because Council considers that mass transit is a city-shaping investment that helps determine not only the form of new urban development, but how people move about in it. Although the actual delivery of public transport infrastructure and services remains the responsibility of the Queensland Government, the Sunshine Coast Council is progressing the Sunshine Coast Mass Transit business case to provide the State and Federal governments with an investment-ready proposition which will further Council's objectives for the region..

If approved, Sunshine Coast Council will also progress the Preliminary Business Case, building on the findings and recommendations of this Strategic Business Case.

As announced by the Hon Annastacia Palaszczuk, Premier of Queensland and Minister for Trade and the Hon Mark Bailey, Minister for Transport and Main Roads on 8 May 2019, the Queensland Government will form a partnership with Sunshine Coast Council to 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[25].

1.4.2 Analysis to support the Strategic Business Case

Various studies and analyses have been undertaken by the Mass Transit project team during 2018, to support the Strategic Business Case. These include:

- strategic transport modelling[26], and a Concept Mass Transit Master Plan[27] for the Sunshine Coast region to guide more detailed planning and prioritising of mass transit investments.

[24] https://lightrail.sunshinecoast.qld.gov.au/proposed-route; or search "light rail sunshine coast".
[25] http://statements.qld.gov.au/Statement/2019/5/8/palaszczuk-government-backs-sunshine-coast-public-transport-plan
[26] VLC. 2018. Sunshine Coast Demographics and Preliminary Modelling
[27] VLC. 2018. Sunshine Coast Concept Mass Transit Plan.

- Analysis of market take up of urban consolidation and urban expansion development undertaken by JLL in December 2018[28].

The project team also prepared a draft Strategic Business Case in accordance with the Building Queensland frameworks. In January 2019, this draft Strategic Business Case was circulated to the various agencies with an interest in the development of mass transit on the Sunshine Coast region, and their feedback has been incorporated in the current Strategic Business Case document.

1.4.3 Guidance for development of this Strategic Business Case

In addition to the Building Queensland BCDF, this Strategic Business Case has been developed in accordance with the requirements and guidance material under:

- Queensland Treasury's Project Assessment Framework (PAF)
- Building Queensland's Cost Benefit Analysis Guide – Supplementary Guidance (December 2016)
- Building Queensland's Social Impact Evaluation Guide – Supplementary Guidance (December 2016)
- Infrastructure Australia's Assessment Framework
- Department of Infrastructure, Regional Development and Cities' Australian Transport Assessment and Planning (ATAP) Guidelines.

1.4.4 Governance arrangements for the Strategic Business Case

Governance arrangements have been established for the Sunshine Coast Mass Transit business case to guide and inform decision-making and to facilitate a transparent and accountable reporting framework.

The Project Owner for these phases is the Group Executive Liveability and Natural Assets, who will report to the Council of the Sunshine Coast.

Figure 1.3 provides a summary of the current governance structure for the Sunshine Coast Mass Transit Strategic Business Case phase.

[28] JLL. 2018. Preliminary Market Assessment.

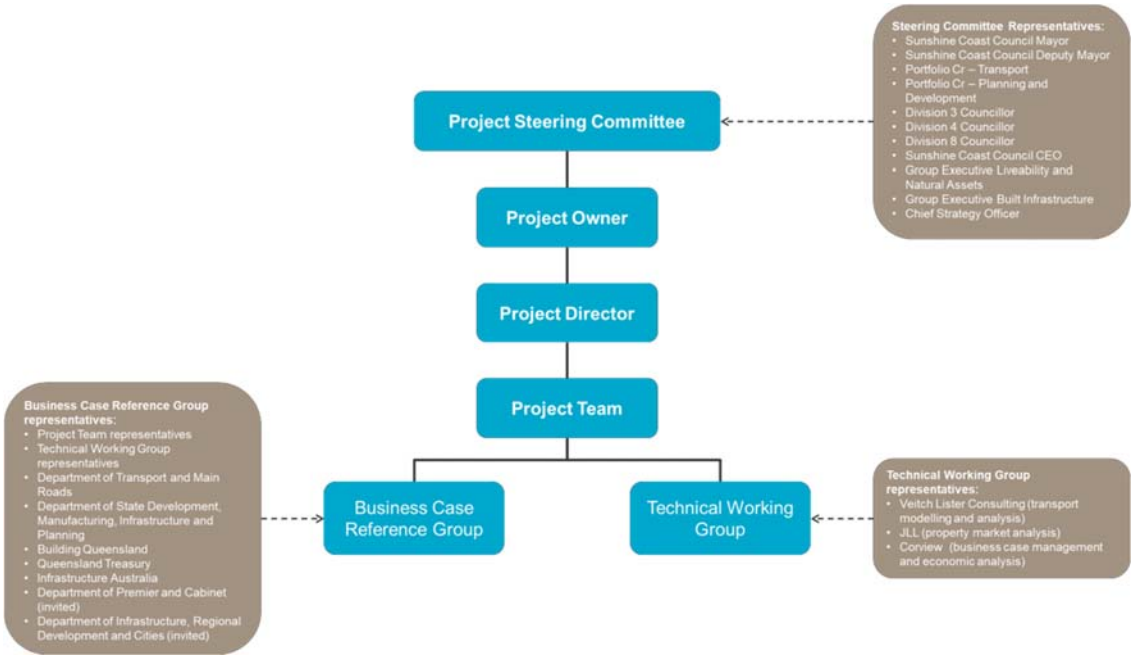


Figure 1.3 – Sunshine Coast Mass Transit SBC governance structure

Governance arrangements for the Sunshine Coast Mass Transit business case are subject to change and are likely to expand to include additional assurance groups and working groups as future business case stages commence.

Consultation has been undertaken in the preparation of the Strategic Business Case with the Project Steering Committee and the Business Case Reference Group in early 2019. The feedback from these groups has been incorporated.

1.5 Establishing Strategic priorities for managing regional growth

While being a popular place to live can be seen as a good problem to have, it is still a problem. If not addressed by concerted action, sustained population growth can undermine the very elements that make a place attractive. The following sections describe the relevant policies and priorities of all three spheres of government relating to growth management in the Sunshine Coast region. These policies and priorities have driven the core analysis presented in this Strategic Business Case, including:

- providing guidance in ensuring an investment in mass transit for the Sunshine Coast aligns with key policies and frameworks from all levels of government, as presented in this chapter;
- identifying and assessing problems and service needs that in turn provide the foundation for identifying the benefits sought, project objectives and potential strategic responses to these problems and service needs, as presented in Chapters 2, 4 and 5 respectively; and
- defining, assessing and shortlisting the potential initiatives that may address the identified problems in Chapter 6.

1.5.1 Alignment with Sunshine Coast Council vision and priorities

1.5.1.1 Corporate Vision

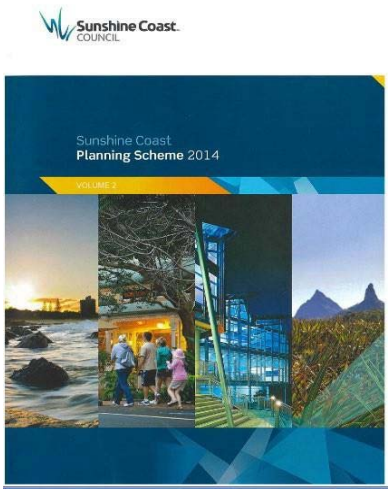
Council has embraced the long-term aspirational vision to be '*Australia's most sustainable region – healthy, smart, creative'*. This is a transformational agenda that reflects a balance in Council's economic, social and environmental objectives, namely:

- **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 land use and 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.*
>
> *Council has a clear approach to planning for the future of our communities which will seek to accommodate the growth within the existing urban footprint, protecting the character and natural assets of the region.*

1.5.1.2 SCC Planning Scheme 2014



To accommodate the projected population and tourism growth, between 87,000 and 100,000 new dwelling units will be required by 2041. The *Sunshine Coast Planning Scheme 2014* sets out Council's intention for future development in the planning scheme area until 2031.

The Council's vision for a sustainable region is underpinned by a growth management strategy established in the *Sunshine Coast Planning Scheme* 2014. Major elements that underpin the growth management strategy include:

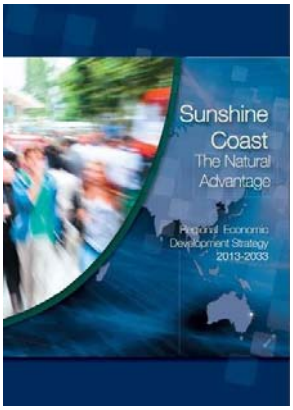
- Concentration of population growth and economic activity in the area from Beerwah to the Sunshine Coast Airport which will contain at least 80 per cent of future population growth and over 75 per cent of future employment growth within the Sunshine Coast region;
- Ongoing self-containment of employment, whereby the majority of people continue to live and work within the Sunshine Coast region; and
- A high quality, integrated and efficient public transport network including the North Coast Rail Line, the dedicated public transport corridor (CAMCOS), a high quality mass transit system in the urban corridor between Maroochydore and Caloundra and other shared road and public transport corridors which link communities to major

business, tourism, education, health centres to create high levels of local and regional accessibility.

1.5.1.3 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[29]:



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; and
5. the talent and skills of its workforce and the contribution of community members.

An important element of the *Regional Economic Development Strategy* is the Sunshine Coast Enterprise Corridor (defined as the coastal corridor from the Sunshine Coast Airport to Caloundra South), as the key area for commercial and residential growth.

Providing a major improvement of the mass transit system in the region can support the implementation of the *Sunshine Coast Regional Economic Development Strategy* under pathway 2, by providing reliable connectivity between the population and employment centres in the Sunshine Coast Enterprise Corridor[30].

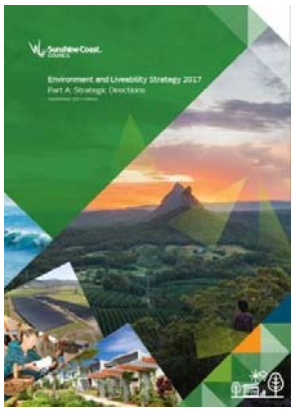
1.5.1.4 Sunshine Coast Environment and Liveability Strategy 2017

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 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[31].

[29] *Sunshine Coast: The Natural Advantage – Regional Economic Development Strategy 2013-2033*, 2013, Sunshine Coast Council, p5
[30] *Sunshine Coast: The Natural Advantage – Regional Economic Development Strategy 2013-2033,* 2013, Sunshine Coast Council, p20
[31] *Environment and Liveability Strategy (Part A – Strategic Directions)*, 2017, Sunshine Coast Council, p75

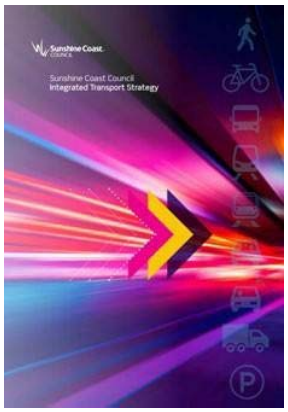
The strategy explains that an emphasis on infill development on the coastal areas of the region, supported by appropriate infrastructure can create a new way of living and minimise impacts on the natural environment[32].



1.5.1.5 Sunshine Coast Integrated Transport Strategy

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[33].

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[34]:



- A growing and aging population;
- High car dependency and congestion;
- Decline of public transport trips;
- Road safety;
- Climate change;
- Fiscal constraints.

The *Integrated Transport Strategy* also establishes a policy that integrated transport and land use outcomes must be achieved on the Sunshine Coast, including how a more compact urban form focussed around high-frequency passenger transport corridors will reduce car dependency, manage congestion and reduce impacts of development and transport on the natural environment[35].

A mass transit investment features heavily in the *Integrated Transport Strategy*, including as a potential solution to providing high-frequency public transport connections between key centres to ensure adequate capacity to accommodate growth and deliver travel time competitiveness[36].

1.5.1.6 SCC's Urban Transformation Directions Paper 2017

As part of its input to *ShapingSEQ,* Sunshine Coast Council developed the *Urban Transformations Directions Paper* which:

- identifies key issues to be addressed including economic and financial sustainability, transport and congestion, community needs and affordability and natural and landscape values;

[32] *Environment and Liveability Strategy (Part A – Strategic Directions)*, 2017, Sunshine Coast Council, p46
[33] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p10
[34] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p26
[35] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p45
[36] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p36

- identifies gaps in employment, education and entertainment opportunities, and the impacts of doing nothing including increased congestion, reduced urban quality, reduced travel options and air quality impacts;
- assesses alternative urban forms (e.g. expansion vs consolidation) and acknowledges the need for greenfield development in the short to medium term to enable consolidation development in the medium to longer term;
- identifies the transformation of the Maroochydore to Caloundra Corridor as a key initiative;
- confirms development of key greenfield areas such as Palmview and Caloundra South, to support short to medium term growth.

1.5.2 Alignment with Australian Government plans and policies

1.5.2.1 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 AIP identifies a strong need for Australia to 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[37].

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[38].

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[39].

A major improvement to mass transit in the region will improve the economic viability of the Sunshine Coast by improving connectivity between key economic areas of the region to foster agglomeration through easy movement of people and knowledge. This investment would also need to link with the North Coast rail line, to improve connectivity between the Sunshine Coast and Brisbane.

1.5.2.2 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.

[37] *Australian Infrastructure Plan*, 2016, Infrastructure Australia, p46
[38] *Australian Infrastructure Plan*, 2016, Infrastructure Australia, p30
[39] *Australian Infrastructure Plan*, 2016, Infrastructure Australia, p41

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.

The *Smart Cities Plan* identifies that most world-class cities have invested in fast, efficient public transport systems to provide viable alternatives to private passenger vehicles.

It notes that 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 cities. 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[40].

The *Smart Cities Plan* policy objectives and themes directly aligned with the objectives of the Sunshine Coast mass transit investigations 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[41].
- 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[42].
- 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[43].

In particular, a major investment in a mass transit system for the Sunshine Coast can aim to achieve the *Smart Cities Plan* concept of a '30-minute city' for the Sunshine Coast by delivering a high-frequency service connecting key education, employment, residential and recreation centres.

1.5.3 Alignment with Queensland Government policies and plans

1.5.3.1 Queensland Government's South East Queensland Regional Plan - *Shaping SEQ* 2017

Recognising the need to sustainably manage the region's growth, the Queensland Government through the 2017 *South East Queensland Regional Plan (ShapingSEQ)* set

[40] Australian Government. 2016. *Smart Cities Plan.* p16
[41] *Smart Cities Plan*, 2016. p11
[42] *Smart Cities Plan*, 2016. p16
[43] *Smart Cities Plan*, 2016. p20

clear directions for the future development of the Sunshine Coast, including the following key themes:

- Grow – sustainability accommodating a growing population
- Prosper – a globally competitive economic powerhouse
- Connect – moving people, products and information efficiently
- Sustain – promoting ecological and social sustainability
- Live – living in better designed communities.

ShapingSEQ identifies the need for balanced and managed growth including setting targets for consolidated[44] (i.e. infill development) and expansion[45] (i.e. greenfield) development of 62 per cent and 38 per cent respectively for the Sunshine Coast[46].

To cater for increased urban consolidation, *ShapingSEQ* identifies an urban corridor from Maroochydore to Caloundra, supported by a high frequency passenger transport service[47]. 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 optimise access to future passenger services. Mixed use development opportunities, and housing choice and affordability, would also be maximised.

Alongside its other objectives, the Sunshine Coast Mass Transit Project aims to give direct effect to this policy of urban consolidation within the urban corridor, delivering a coordinated agenda of:

- urban transformation that increases housing choice and affordability and reduces the need to travel; and
- efficient high quality mass transit that can offer a realistic alternative to cartravel.

1.5.3.2 State Infrastructure Plan (Department of State Development, Manufacturing, Infrastructure and Planning) 2016

The *State Infrastructure Plan* (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[48]:

- improving prosperity and liveability;
- infrastructure that leads and supports growth and productivity;
- infrastructure that connects communities and markets; and
- improving sustainability and resilience.

[44] Shaping SEQ (p43) defines Consolidation as 'development occurring on land inside the existing urban area boundary'.
[45] Shaping SEQ (p43) defines Expansion as 'development occurring on land outside the existing urban area boundary'..
[46] Queensland Government. 2017. *Shaping SEQ*. p 120
[47] Queensland Government. 2017. *Shaping SEQ*. p122.
[48] Queensland Government. 2017. *Shaping SEQ*. p122.

The Sunshine Coast mass transit investigations support 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 investigations also address a range of cross-government and transport responses contained in the SIP including[49]:

- 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; and
- 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.

1.5.3.3 Draft South East Queensland Regional Transport Plans 2018

The North Coast Regional Transport Plan identifies key challenges for the north coast region including:

- High reliance on private vehicles;
- Congestion;
- Dispersed settlement pattern;
- Mobility and accessibility for an ageing population; and
- Road safety.

The North Coast Regional Transport Plan provides for:

Priority: A transport system that supports a consolidated and sustainable urban structure[50]

In addition, there is specific provision for:

- Maroochydore City Centre; represents a once in a lifetime opportunity to establish a new capital city for the Sunshine Coast. Key to its development will be the establishment of an efficient and effective multi-modal public transport system and connections to the existing road network.
- Beerwah to Maroochydore high-frequency public transport corridor; a passenger transport trunk corridor from Maroochydore to Caloundra and on to Beerwah has been identified in *ShapingSEQ*. Further investigation will be undertaken which will feed into the feasibility and business case for the high-frequency and high-capacity public transport project.

[49] *State Infrastructure Plan (Part A: Strategy)*, 2016, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p52

[50] Qld Transport and Main Roads. 2018. Draft Regional Transport Plans for South East Queensland. P72.

1.5.4 Maroochydore City Centre Priority Development Area

Maroochydore has an important function for the region in accommodating major retail centres, government services and residential areas for permanent residents and holiday makers alike.

To support the growth of Maroochydore into a regional CBD, Sunshine Coast Council, in partnership with the Queensland Government, has progressed the Maroochydore City Centre Project.

A 53-hectare greenfield site in the heart of Maroochydore is being transformed into a Central Business District for the 21st Century, offering major investment and development opportunities in Queensland's emerging third city.

Designed for the 21st Century, this ground-breaking development will feature smart technology throughout, creating a cleaner, greener, dynamic city centre that's not only desirable and liveable, but will achieve a transformative impact on the region's economy.

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.

Given the economic and community importance of the Maroochydore CBD, accessibility and connectivity to and around the city centre will be essential. A complementary public transport solution such as the Sunshine Coast Mass Transit Project is an essential element of the success of the Maroochydore City Centre in boosting the economic productivity of the region.

1.5.5 Other initiatives and activities related to the Mass Transit on the Sunshine Coast

To support the objectives of *ShapingSEQ* and *Urban Transformations Directions Paper,* the following land use and regional development projects and initiatives are being progressed by the Queensland Government and Sunshine Coast Council including:

- Caloundra South Priority Development Area
- Sunshine Coast Airport Expansion Project
- Sunshine Coast International Broadband Submarine Cable network
- South East Queensland City Deal

An overview of each of these projects is provided in Appendix 2.

Supporting transport projects and initiatives are currently under consideration to support sustainable management of growth, including:

- Sunshine Coast mass transit investigations (i.e. this project is the subject of this SBC)
- Southern Sunshine Coast Public Transport Strategy
- Business Case for North Coast Connect
- North Coast Line Upgrade – Beerburrum to Nambour
- Business case for the Mooloolah River Interchange
- CoastConnect.

An overview of each of these projects is provided in Appendix 2.

1.6 Issues and impacts requiring government intervention

As noted in Section 1.5 above, the Sunshine Coast region has experience sustained population growth over the past 40 years, and this growth is projected to continue well beyond 2041. The population of the Sunshine Coast region is expected to grow by more than 190,000 people between 2016 and 2041, requiring at least 87,000 additional dwellings[51]. To enhance the productivity and liveability of the region, a series of imperatives for government will need to be addressed. This Strategic Business Case has identified three potential imperatives for further analysis:

- High levels of car dependence with a lack of realistic alternatives;
- Growing congestion; and
- Land use and urban form that supports alternatives to car transport.

1.6.1 High levels of car dependence with lack of realistic alternatives

The region's travel patterns are dominated by trips made in small passenger or commercial vehicles, with 85 per cent 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[52]. The growth of car ownership on the Sunshine Coast is amongst the highest in Australia. Currently 85 per cent of all trips are made by private car[53] and 66 per cent of working residents drove themselves to work. Only 6 per cent travelled in car as a passenger, and 1.6 per cent used public transpor[54].

More people and jobs means more transport activity, and if the present dominance of private motor transport is sustained, the amenity of the region's activity centres will inevitably be eroded by more traffic, more roads and more broad hectare car parking.

When combined with this high level of car dependence, the projected levels of population, housing and employment growth have significant implications for the transport network. Figure 1.4 highlights some of the key aspects of the transport network within the Sunshine Coast region and a number of key identified deficiencies.

As identified in the Sunshine Coast Council's Integrated Transport Strategy, the Queensland Government's *ShapingSEQ* and *SEQ Regional Transport Plans*, and the Australian Government's *Smart Cities Plan*, investing in alternative choices to private car travel, especially high quality, frequent public transport, is the most effective way to reduce car dependence.

[51] Queensland Government. 2018. Land supply and Development Monitoring Report. https://planning.dsdmip.qld.gov.au/planning/better-planning/state-planning/regional-plans/seqrp/lsdm?release=2018

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

[53] Sunshine Coast Council. 2018. *Integrated Transport Strategy*. p22.

[54] Id profile. https://profile.id.com.au/sunshine-coast/travel-to-work

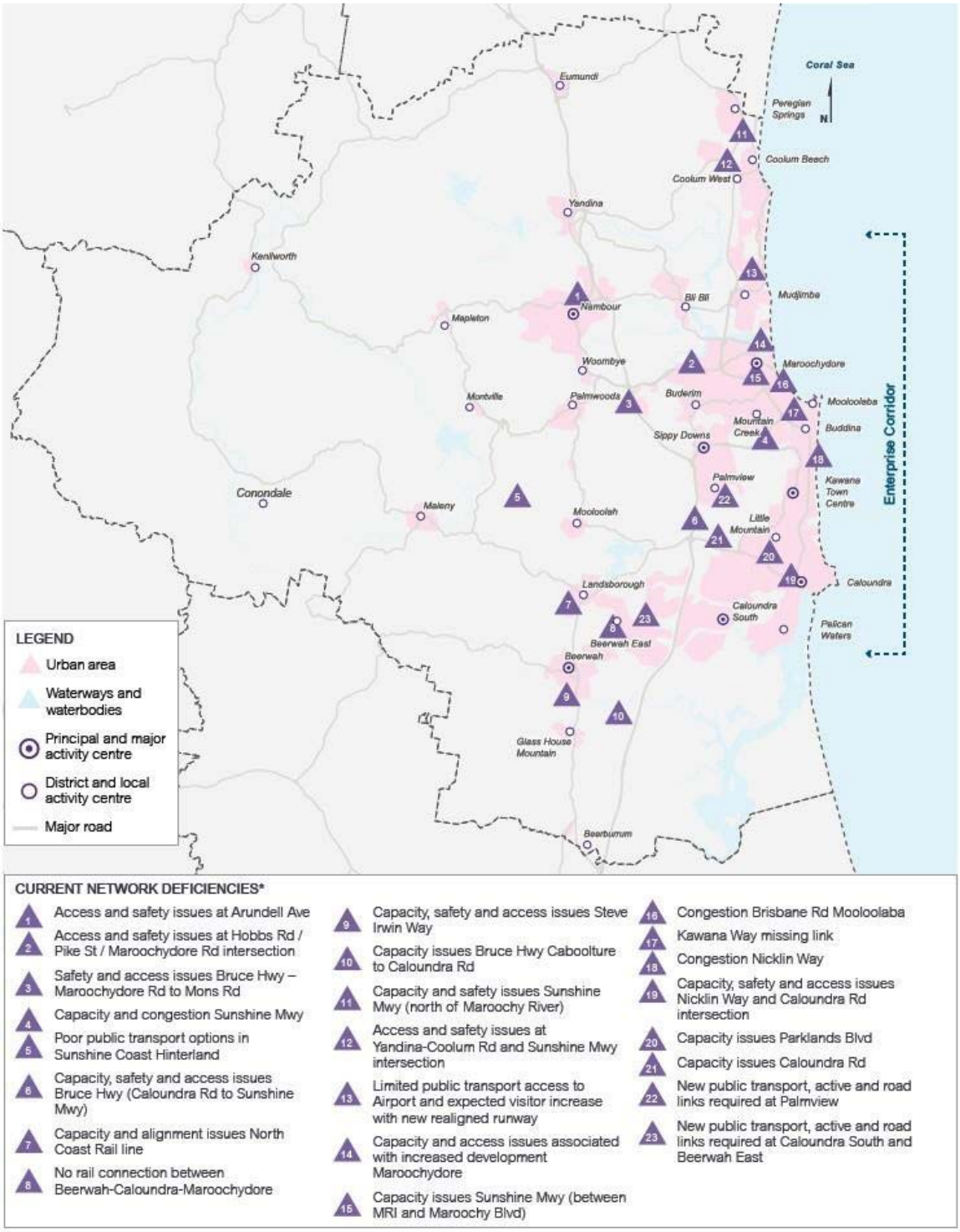


Figure 1.4 – Regional transport network deficiencies

1.6.2 Growing congestion

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.

The transport network within the Sunshine Coast is already experiencing growing road congestion, particularly on Nicklin Way, Kawana Way, Caloundra Road 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. Figure 1.5 outlines the location of these key roads.

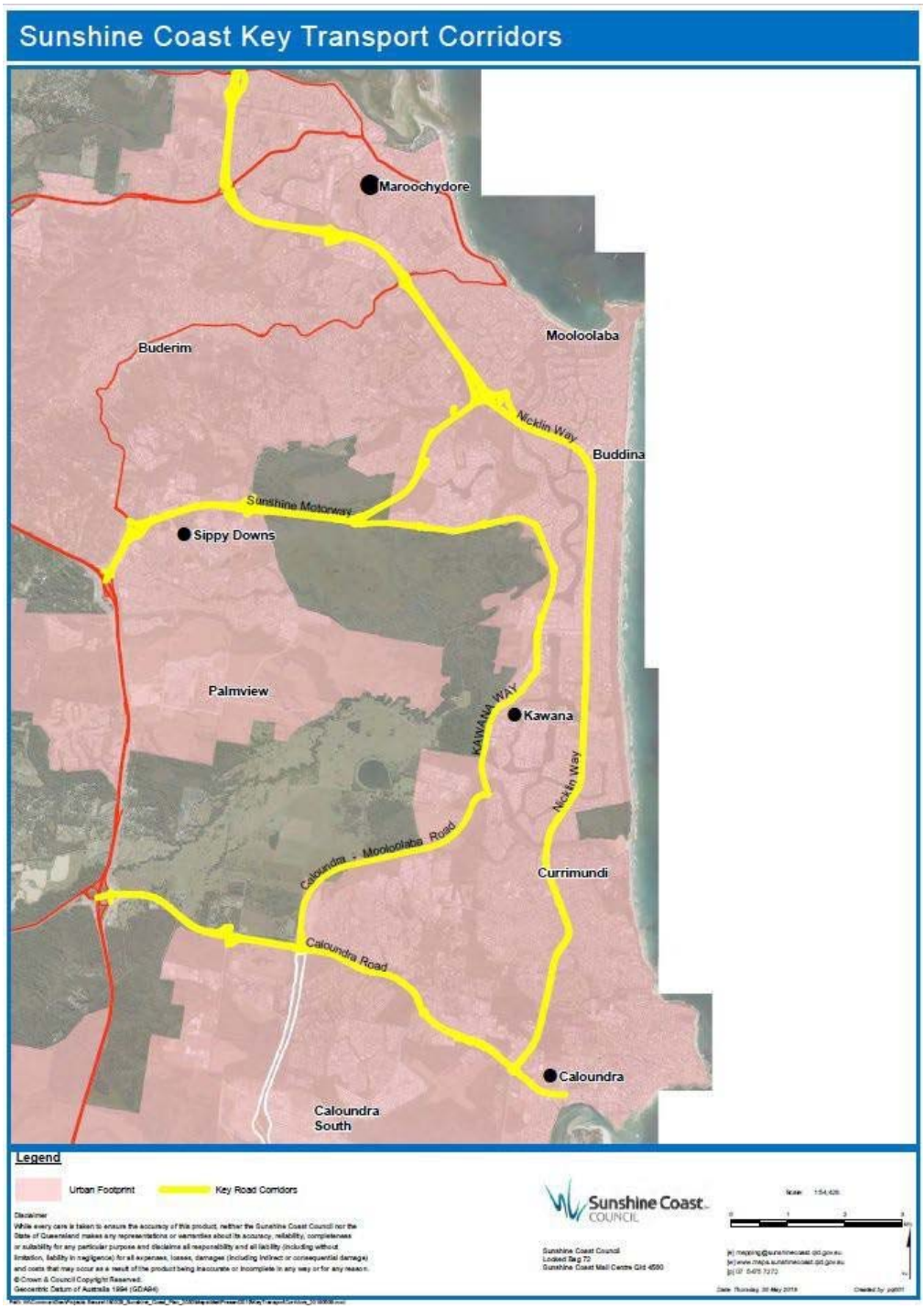


Figure 1.5 – Key roads within the Sunshine Coast urban area

1.6.3 Land use and urban form that supports alternatives to car transport

Improving these alternative transport choices also needs support through a swing away from car-oriented suburban developments towards communities with well-designed higher densities focussed in and around employment areas and along reliable high frequency public transport corridors that connect them[55].

While urban expansion provides a solution to the projected population growth and housing demand within the region, ongoing urban expansion threatens the achievement of government policies to deliver a sustainable form of urban development, and protect the high quality of life that presently exists in the Sunshine Coast region. A continuing shift to urban expansion would:

- Increase the separation between people and their destinations by dispersing the settlement pattern, thereby increasing the amount and cost of travel, the energy consumed and the emissions from vehicles;
- Reduce the effectiveness and therefore the level of service offered by public transport, thereby increasing car dependence;
- Increase the costs to government for the provision of infrastructure, facilities and services;
- Provide little alternative but for people to drive to the major destinations in the region, thereby increasing congestion and reducing the amenity of those destinations;
- Make it harder for local business and industry to connect with each other and their workforces; and
- Occupy areas of land valuable for habitat and/or agriculture.

These outcomes are inconsistent with the Sunshine Coast Council's vision of being a sustainable region, and further, they are in clear conflict with the Queensland Government's *ShapingSEQ*, and the Commonwealth Government's *Smart Cities Plan*.

What is needed is a growth management strategy that:

- provides a combination of urban expansion development and urban consolidation in established urban areas to maximise housing choices; and
- supports the growth of local employment and attractions in well-connected locations.

This balanced settlement pattern will underpin a more sustainable future which optimises economic, community and environmental outcomes[56].

1.6.3.1 Housing options to maximise choices

The location of designated housing growth areas is determined through planning documents including *ShapingSEQ* and the *Sunshine Coast Planning Scheme 2014*. Figure 1.6 provides an overview of the key urban grow areas of the Sunshine Coast region.

Broad scale expansion of urban areas in the Sunshine Coast region is currently occurring at Caloundra South and Palmview, as well a range of smaller subdivisions around the region.

[55] Queensland Government. 2017. *Shaping SEQ*. p 28.

[56] *Urban Transformation – Directions Paper for the Future of the Sunshine Coast*, 2017, Sunshine Coast Council, p26

Under *ShapingSEQ*, the Sunshine Coast is to accommodate 62 per cent of its new housing growth through urban consolidation or infill development[57]. Nearly 54,000 consolidation dwellings are required between 2016 and 2041 to meet this target. Figures produced by JLL for the Strategic Business Case indicate that under current projections, without intervention in the land use planning arrangements, less than 50 per cent of the required 54,000 dwellings will be provided by 2041[58].

Furthermore, the Queensland Government's *Land Supply and Development Monitoring Report* (LSDM)[59] noted:

> "*The rate of expansion dwelling growth has increased significantly in recent years as major sources of expansion supply to 2041, i.e. the Caloundra South Priority Development Area and Palmview structure plan area, have resolved infrastructure issues and commenced development. As the momentum of development builds in these areas in coming years, there may be a higher proportion of expansion dwelling growth."*

The LSDM report goes on to note:

> *"In the Sunshine Coast consolidation area, the capacity of planned dwelling supply is about 39,400 dwellings, about 14,000 less than the consolidation 2041 dwelling supply benchmark of 53,700.*
>
> *In contrast, in the Sunshine Coast expansion area, the capacity and realistic availability of planned dwelling supply in the Sunshine Coast expansion area are about 45,400 and 42,200 dwellings, respectively. These figures are above the expansion 2041 dwelling supply benchmark."*

This analysis by the Queensland Government points to an accelerating trend towards urban expansion, and a medium term shortfall in the availability of land for urban consolidation housing.

[57] Queensland Government. *Shaping SEQ*. 2017. P 120.

[58] JLL. 2018. *Sunshine Coast Light Rail Preliminary Market Assessment.* P 35.

[59] Queensland Government 2018. Land Supply and Development monitoring Report. https://planning.dsdmip.qld.gov.au/planning/better-planning/state-planning/regional-plans/seqrp/lsdm?release=2018&area=sunshine-coast&page=residential

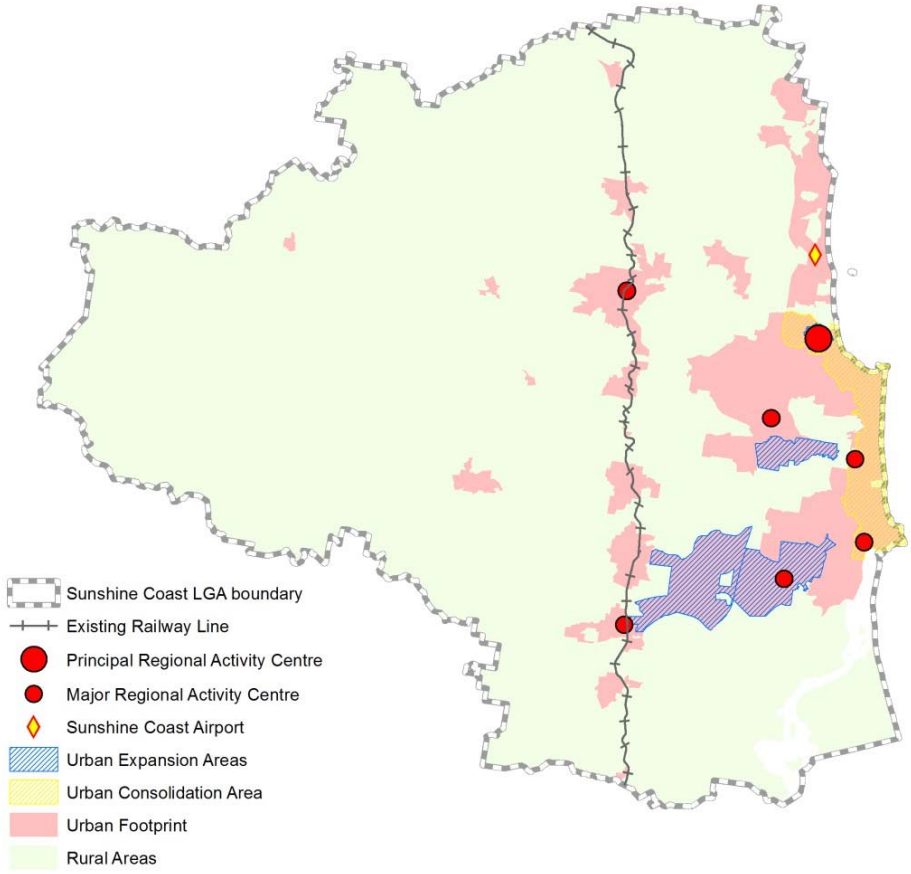


Figure 1.4 – Sunshine Coast key regional areas

The figure above highlights the urban areas where the majority of the region's population lives, as well as future consolidation and expansion areas. There is a clear a need to undertake planning and deliver suitable infrastructure that will deliver coordinated urban renewal housing within the existing urban areas of the region. Refer to Appendix 2 for more detail on these expansion and consolidation areas.

1.6.3.2 Keeping employment local

Currently, approximately 90 per cent of trips that originate within the Sunshine Coast region finish at a location within the region. Five per cent of trips travel south towards Brisbane and the Moreton Bay region and the remaining five per cent of trips travel north and west of the region[60]. For the Sunshine Coast workforce, 90.8 percent is drawn from within the local government area[61], and 77.6 percent of working residents have a job within the area[62]. Retaining this high level of regional employment into the future will means less time and effort spent traveling, increased economic productivity, less energy consumption and emission of greenhouse gases, and more time for families and other lifestyle activities.

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

[61] Id profile. https://profile.id.com.au/sunshine-coast/workers

[62] Id profile. https://profile.id.com.au/sunshine-coast/residents

Providing a major improvement of the transport system in the region can support the implementation of the *Sunshine Coast Regional Economic Development Strategy* under pathway 2, by providing reliable connectivity between the major population and employment centres in the Sunshine Coast Enterprise Corridor[63].

Further, if connected by reliable, integrated mass transit to the State Capital, these local employment centres, particularly the Maroochydore City Centre, can benefit from the important "Business 2 Business" accessibility. This will maximise opportunities for the development of major business offices on the Sunshine Coast.

1.7 The importance of taking action

The Sunshine Coast region is experiencing sustained growth which will increase the population by at least 65 per cent in 25 years. Much of this growth is now being housed in new communities on the southern fringes of the region, which are likely to be dependant mostly on car transport for most trips. This trend is set to accelerate unless suitable urban consolidation lands are provided and serviced with appropriate transport infrastructure. Not taking action will create the risk of ongoing growth of congestion and ever-reducing amenity of the major urban centres in the region. This would threaten the liveability of the region. To address this threat, government intervention is necessary on three fronts:

- Reducing car dependence;
- Reversing the trend towards urban expansion; and
- Continuing to support a broad base of local employment opportunities.

1.7.1 Reducing car dependence

The Sunshine Coast region continues to experience sustained population growth, accompanied by the need for more housing and employment, and rapidly increasing transport demands. Recent QGSO forecasts suggest a median series projection of 518,000 in 2041[64]. By 2050, there could be over 600,000 people in the Sunshine Coast Local Government Area.

More people means more transport demand. While the region is presently very heavily dependent on car transport, continuing to respond to the dependency on small motor vehicles will impact adversely on the amenity and liveability of the region. A major shift to more efficient, lower impact transport modes is required as an alternative to continuing to invest in roads, parking and other infrastructure and facilities to accommodate escalating volumes of motor vehicles and intra-regional travel by car.

The *Sunshine Coast Integrated Transport Strategy* (ITS) proposes the mechanisms to achieve a shift of this nature. 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 the ITS is a connected passenger transport network that:

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

[63] *Sunshine Coast: The Natural Advantage – Regional Economic Development Strategy 2013-2033,* 2013, Sunshine Coast Council, p20

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

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 SCC's Integrated Transport Strategy is high frequency public transport connections within the coastal growth corridor from Maroochydore to Caloundra and the North Coast Rail Line duplication.

A major investment in a mass transit system for the region will address this imperative by providing a viable alternative to car travel and forming the centrepiece of the passenger transport network.

1.7.2 Reversing the trend towards urban expansion

The form and location of new urban development should be influenced by the availability and reliability of transport options. An efficient and frequent mass transit service can and should be supported by land use policies that reduce the need to travel and increase the effectiveness of non-car choices by consolidating a significant proportion of new housing growth along reliable, high frequency public transport corridors within existing urban areas.

Policies adopted by the Queensland Government and the Sunshine Coast Council set clear requirements to increase the proportion of new dwellings and jobs that are provided within existing urban areas.

Despite these policies, there are indications the pace of development in existing urban areas is slowing, with a projected medium term shortfall in the available supply of land for urban consolidation.

This suggests there is a need to implement policies and investments to activate urban transformation within existing urban areas of the region that will be served by reliable, high frequency public transport.

The Queensland Government's *ShapingSEQ*, identifies a planned high frequency public transport investment along the Maroochydore to Caloundra urban corridor which is also a preferred site for the majority of urban consolidation for housing and employment development. Investing in reliable, high frequency mass transit in this location would act as a catalyst for accelerating the urban consolidation agenda, shaping private investment choices and sending a clear policy signal of an intention to maximise the opportunity for urban infill development and renewal.

It will also enable a form of higher density urban development which offers quality living and wider housing choice at more affordable prices and better located in terms of access to employment, services and recreation opportunities.

1.7.3 Supporting a broad base of local employment

A major improvement of the mass transit system in the Sunshine Coast region can support the implementation of economic development and employment growth in accordance with the *ShapingSEQ* and the *Sunshine Coast Regional Economic Development Strategy*. It would do this by connecting local businesses to other businesses in the region, as well as to their local workforce[65]. If extended to Beerwah through a staging plan, the mass transit system would also connect the major population centres to Brisbane and other population and employment centres in the SEQ region.

[65] *Sunshine Coast: The Natural Advantage – Regional Economic Development Strategy 2013-2033,* 2013, Sunshine Coast Council, p20

1.8 Guiding the initiatives - Optimised Concept Mass Transit Plan

As noted above, government intervention to manage growth in the region is necessary on three fronts:

- Reducing car dependence;
- Reversing the trend towards urban expansion; and
- Supporting a broad base of local employment opportunities.

Responses on all of these fronts indicate a need to provide an integrated public transport network, underpinned by a trunk mass transit system that is frequent, reliable and covers the major movement corridors of the region.

Analysis completed by Veitch Lister Consulting (VLC) for the Sunshine Coast Concept Mass Transit Master Plan[66] confirms that a mass transit system on the Sunshine Coast will need 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. A combination of transport modes (heavy rail, light rail, bus, active transport etc.) could provide complementary services across key travel corridors within the Sunshine Coast to meet the objectives of the Sunshine Coast Mass Transit Project.

Figure 1.8 provides an overview of a potential long term optimised mass transit network for the Sunshine Coast region developed by VLC, reflective of the key corridors identified for the region. The map shows the Sunshine Coast Urban Corridor serviced by a localised rapid transit style service between Maroochydore and Caloundra. This system is supported by a heavy rail corridor from Beerwah (connecting to the existing heavy rail network) to Caloundra West before turning north through an inland route to the Sunshine Coast Airport via Kawana and Maroochydore. The rail routes are also complemented with trunk bus routes to connect to secondary locations throughout the region.

Such a network would need to be delivered in stages, with the most effective options being progressed early. This long term optimised mass transit network will be used in the later stages of the Strategic Business Case to guide the formulation of potential mass transit investment initiatives.

[66] VLC Consulting. 2018. Draft Sunshine Coast Concept Mass Transit Plan. Report prepared for Sunshine coast Council. P 34.

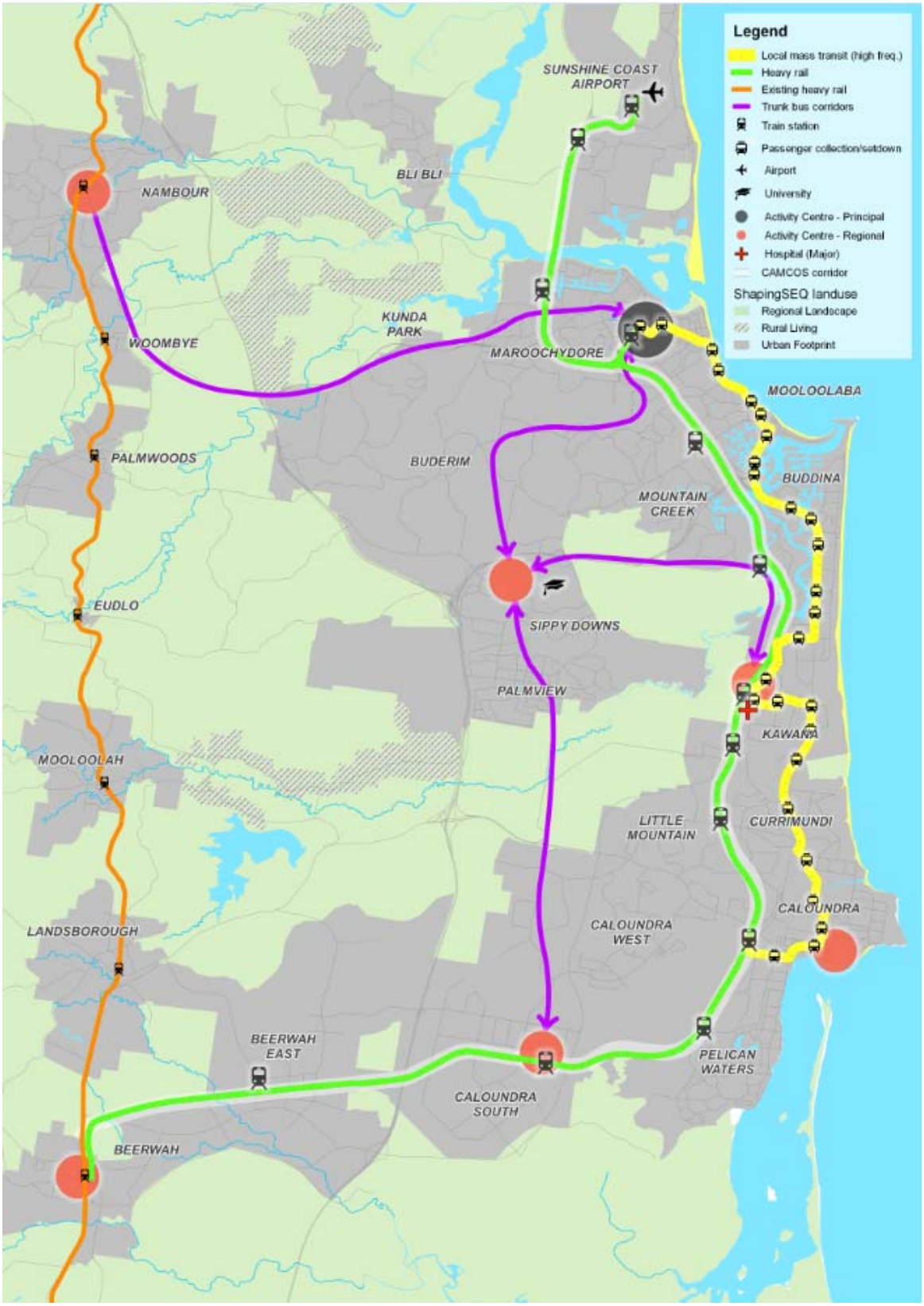


Figure 1.8 – VLC Proposed optimised mass transit network for the Sunshine Coast

2. SERVICE NEED

2.1 Purpose and Overview of this Chapter

The purpose of this chapter is to articulate the problems to be addressed or opportunities to be captured for the Sunshine Coast region.

This chapter outlines:

- the background and approach to problem and service need definition for this Strategic Business Case (SBC);
- the Investment Logic Mapping (ILM) to ensure sound problem definition, before solutions are identified and before any investment decision is made;
- the analysis underpinning each problem identified in the Project's ILM and each problem's effect on the Sunshine Coast region;
- the strategic opportunity for the Sunshine Coast region that can be captured from a project solution that addresses the service needs; and
- the urgency of a project solution for the Sunshine Coast region to ensure that the needs of the region are not exacerbated by a continued lack of intervention.

2.2 Problem and Service Need Definition

Identifying problems 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 these problems, and the service needs resulting from these problems provides a strong evidence-based foundation for developing a project solution, and ultimately investing in that project solution. Figure 2.1 describes these fundamental relationships.

Failure to clearly understand and articulate the problems and service needs being addressed may result in a mismatch of problems/opportunities and solutions, or solutions that do not adequately or effectively alleviate problems in the long-term.

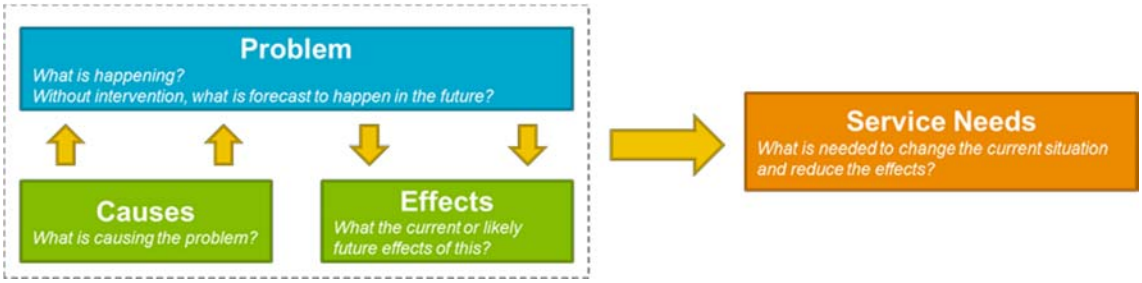


Figure 2.1 – Relationship between problems, causes, effects and service needs

The identification and preliminary analysis of the problems and service needs outlined in this chapter have been developed through the consideration of the information presented in Chapter 1, 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 problem and service need analysis.

2.3 Project Investment Logic Map

The Building Queensland BCDF recommends the development of an Investment Logic Map (ILM) to support the process of conceptualising investment proposals.

Logic mapping 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[67].

The ILM supports the narrative of the SBC, as it provides an overview of:

- the problems facing the region;
- the benefits sought from a response to the problem; and
- initiatives identified to address the problem and achieve some or all of the benefits sought.

The development of the ILM is in line with the guidance material outlined in the Building Queensland BCDF, with some minor deviations. In particular, it has been noted 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 problems and service needs.

However, it was apparent through the ILM that no currently approved initiative alone could adequately address the major problems identified, and that other initiatives were required. As such, the initiatives were identified under two broad categories:

- current approved initiatives; and
- potential initiatives.

The development of the ILM was heavily influenced by the policy context described in Chapter 1. More detailed identification of problems, and responses was then undertaken to guide the ILM. Further amendments were made to the ILM to address stakeholder feedback.

The ILM for Sunshine Coast Mass Transit SBC is split into two graphics, with the first half shown in Figure 2.2 and the second half shown in Figure 2.3.

[67] https://treasury.govt.nz/information-and-services/state-sector-leadership/better-business-cases-bbc/bbc-methods-and-tools/investment-logic-mapping

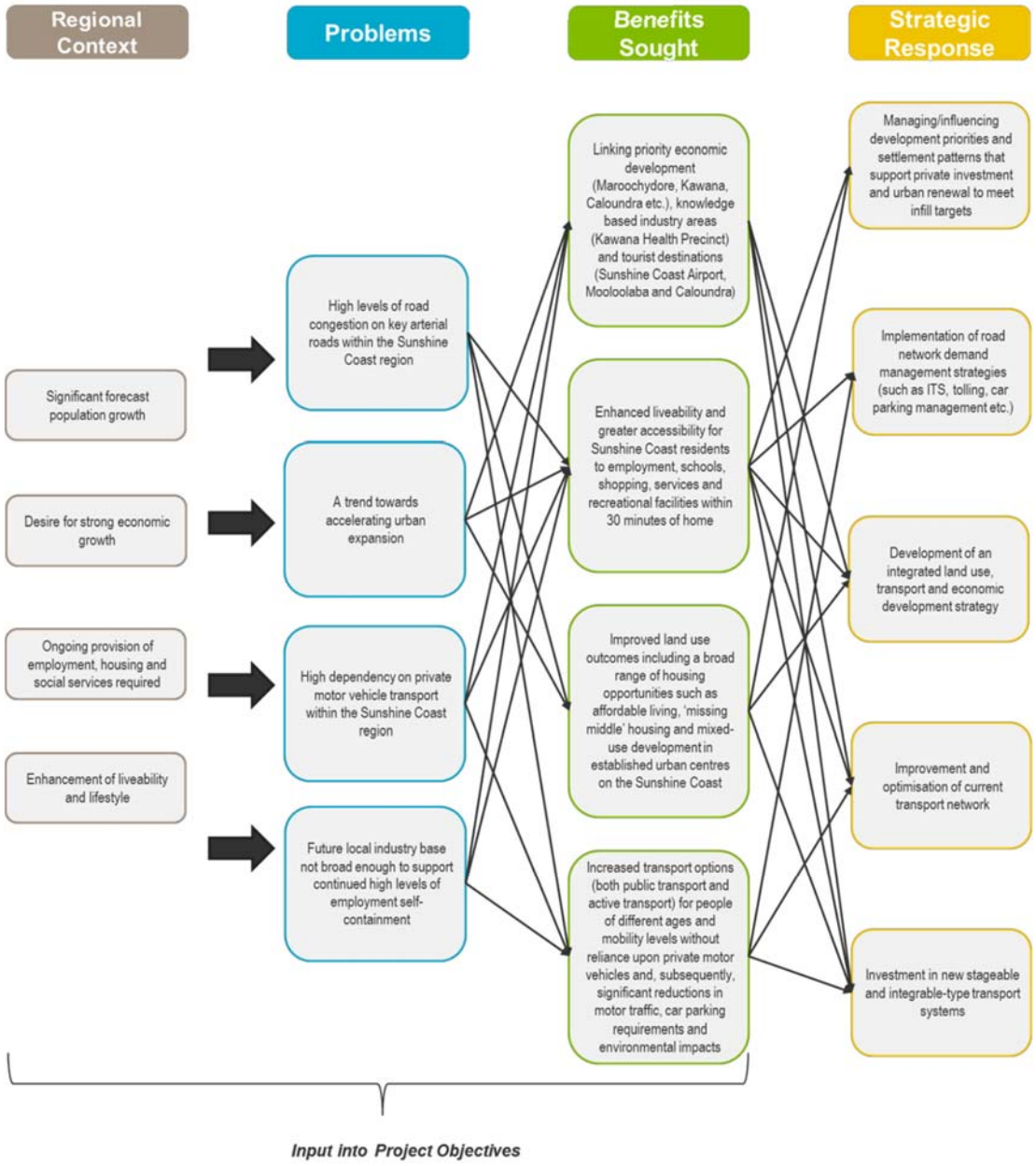


Figure 2.2 – Sunshine Coast Mass Transit SBC ILM (Part 1)

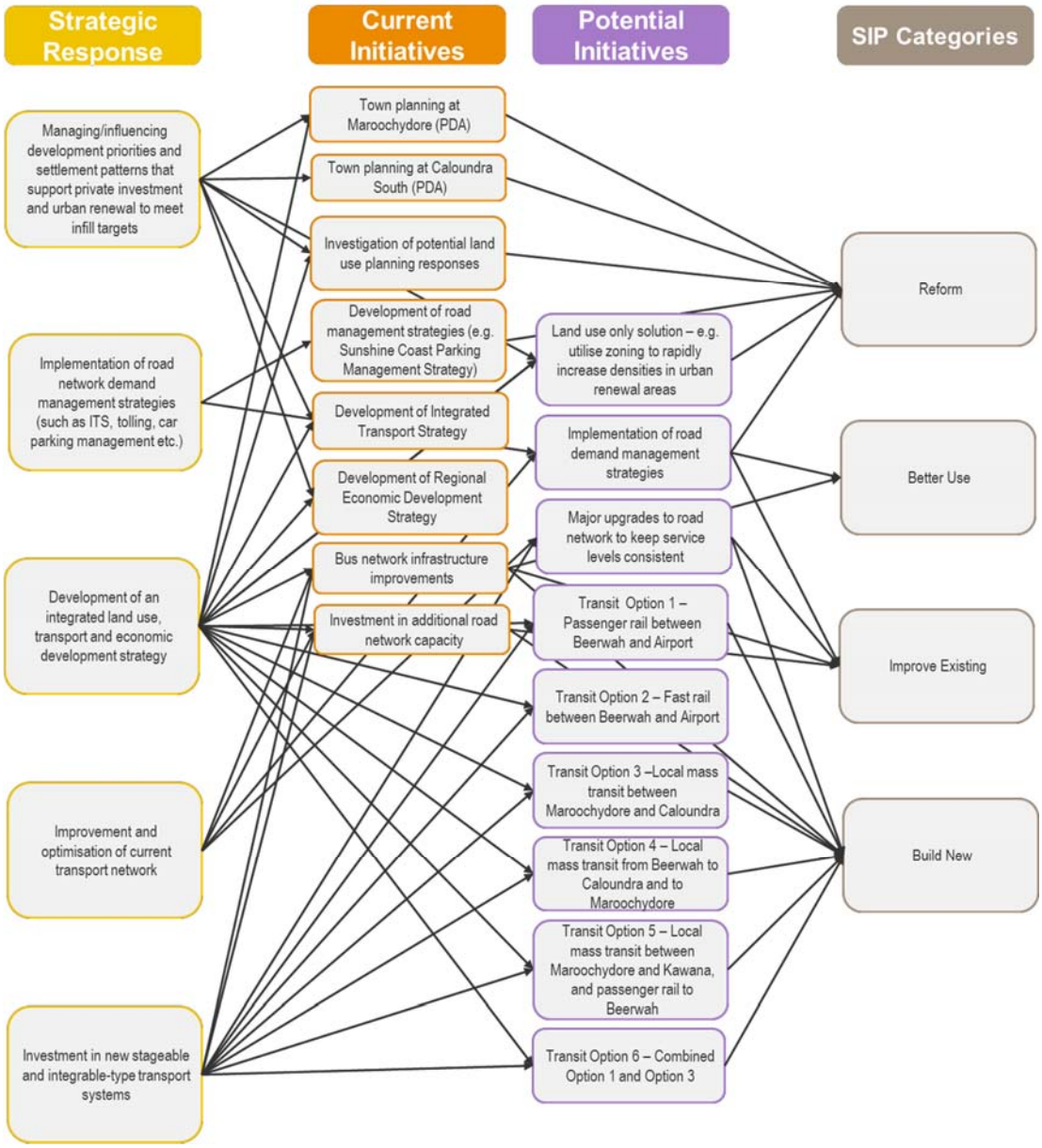


Figure 2.3 – Sunshine Coast Mass Transit SBC ILM (Part 2)

As shown in the ILM, the problems that have been identified which are being driven by the region's economic and population growth, include:

- high levels of road congestion within the Sunshine Coast region;
- a trend towards accelerated urban expansion in Sunshine Coast region;
- high dependency on private motor vehicle transport within the Sunshine Coast region; and
- the continuing need to broaden the economic base to retain high levels of employment self-containment.

Table 2.1 summarises these problems, including each problem's causes and effects, and the resulting broader service needs to support the strategic objectives and vision for the region.

Problem	Root Causes	Effects	Resulting Service Needs
High levels of road congestion within the Sunshine Coast region	• The rate of population and employment growth in the region impacts accessibility and connectivity • High levels of private vehicle ownership in the region drives high levels of dependency and congestion • The perception around the high cost of public transport in South East Queensland (SEQ) can make trips by car seem less expensive, in particular, shorter trips (i.e. less than 10 kilometres) • Unplanned incidents worsen existing peak congestion and increase the potential for gridlock • Unreliable travel times for road based public transport make it a less attractive alternative to car use	• As travel demand grows and capacity is exceeded in peaks, congestion will grow and spread to longer periods of the day • Increasing road congestion will impact on road based public transport, further reducing travel time reliability • High levels of congestion on the major road network impacts freight movements, resulting lost productivity and costs to businesses and consumers • Increasing congestion will result in costs to government and Council to deliver sufficient road infrastructure, including maintenance costs on existing road infrastructure • Increasing congestion worsens the amenity of the region and its perceived 'liveability' and attractiveness as a tourist destination	• There is a need to manage the risks and implications of growing road traffic congestion on the Sunshine Coast • There is a need to support urban consolidation and development in a manner that reduces the need for residents to travel and improves public transport efficiency • There is a need to ensure the integration of land use and transport outcomes for the region to maximise the economic prosperity and liveability of the Sunshine Coast • There is a need to invest in sustainable transport modes and support land use development which supports environmental policy objectives • There is a need to support the high demand for local travel • There is a need to improve the capacity, service level, coverage and efficiency of the Sunshine Coast public transport network • There is a need to manage and influence the growth and behaviour of travel in the region • There is a need to ensure that businesses in the region have access to a reliable workforce and to remote markets • There is a need to provide reliable connectivity between businesses, and between housing and employment locations • There is a need to provide highly accessible locations targeted at meeting the needs of growth industries
Accelerating trend towards urban expansion	• There is currently a market dominance of greenfield development on the Sunshine Coast due the extent of greenfield development areas established in the region • High property prices along the east coast of Australia, particularly in Sydney and Melbourne, means that investors and residents are looking for affordable housing in other areas • Housing affordability has driven the high levels of uptake of greenfield housing on the Sunshine Coast • A lack of incentive, commercial barriers and industry capability means that infill development is not being private sector led • Without a coordinated urban infill development strategy, including incentives for infill development over greenfield development, infill development in the region is unlikely to meet Shaping SEQ targets • The lack of attractive public transport along infill development areas means demand for housing in these areas is not particularly strong • A lack of domestic owner-occupied medium density development styles drives demand to the developments in greenfield housing areas	• The distance between the greenfield housing areas and economic and employment centres in the region results in costlier trips to access jobs and education • Housing consolidation/infill development targets for the region set by *ShapingSEQ* are at risk of not being met by 2041 • Greenfield development dominance results in greater infrastructure and service costs and reduces the availability of land for natural habitats and environmental conservation purposes • Increased greenfield developments increase the requirements and the cost of providing government services including water, sewerage, schools and health facilities to new areas • Decreased housing affordability in existing urban areas can drive individuals to live in greenfield areas, or to potentially relocate to other regions to seek better affordability, employment and socio- economic conditions • The preponderance of greenfield development impacts the service efficiency of the current public transport system • Public transport and active transport as an alternative to car transport is rendered ineffective due to the large distances between greenfield housing locations and key economic and employment centres. This will continue to drive high levels of congestion and private motor vehicle transport dependency	
Problem	**Root Causes**	**Effects**	**Resulting Service Needs**

High dependency on private motor vehicle transport (car) within the Sunshine Coast region	• The lack of an attractive public transport option drives a continued reliance on private vehicles for trips to key economic centres • Private motor vehicle transport is seen as the most flexible and accessible transport option for commuters given the self-containment of the region (high number of residents who work within the region), meaning even short trips within the region are taken by car • Dispersed development in greenfield areas is challenging to serve well and efficiently by public transport • High levels of private vehicle ownership in the region drives high levels of dependency and congestion	• High levels of car usage results in increased greenhouse gas emissions • High levels of dependency on private motor vehicle transport has caused significantly low levels of public transport mode share, and negatively impacts the efficiency of the current public transport network. The need for investment in the road network over public transport is therefore, increased • Inadequate public transport service provision to residential growth areas leads to social isolation for those without access to private motor vehicle transport • Dependency on private motor vehicle transport drives demand for car parking requirements in the key economic and employment areas, resulting in costs to cater for this demand • Car dependency impacts on the feasibility of multi-unit dwellings, due to car parking rates not being able to be reduced, and thereby impacting on infill development occurring	
Continuing need to broaden the economic base to retain high levels of employment self-containment	• Increasing impacts of automation and disruption in some industries • The time needed to expand and encourage new investment in high-value industries providing more enduring employment options • Lack of connectivity between the major economic and employment centres in the region for business-to-business interaction (reduced agglomeration and clustering opportunities) • Lack of reliable access to employment centres for local workforce	• Reduced local employment opportunities • Decline of local economy • Increase in long distance commuting to Brisbane • Social impacts of long distance commuting	

Table 2.1 – Summary of the Sunshine Coast region's problems, causes, effects and service needs

Discussion on each of these problems, and their respective causes and effects, are discussed further in the sections below.

2.4 Problem Analysis

2.4.1 High levels of road congestion within the Sunshine Coast region

The Sunshine Coast Local Government Area is the ninth largest city in Australia, and the 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[368].

The Sunshine Coast has a high level of car dependency (discussed further in Section 2.4.3 below) and there is a low public transport mode share in the region. Congestion is currently occurring in key areas on the Sunshine Coast in peak times, most notably on Nicklin Way, Sunshine Motorway, Caloundra Road, as well as other key routes where future jobs and dwellings are to be focussed along the Sunshine Coast Urban Corridor. Figure 2.4 outlines the location of these key roads.

[68] *Population Projections, Australia, 2017 (base) – 2066*, Australian Bureau of Statistics

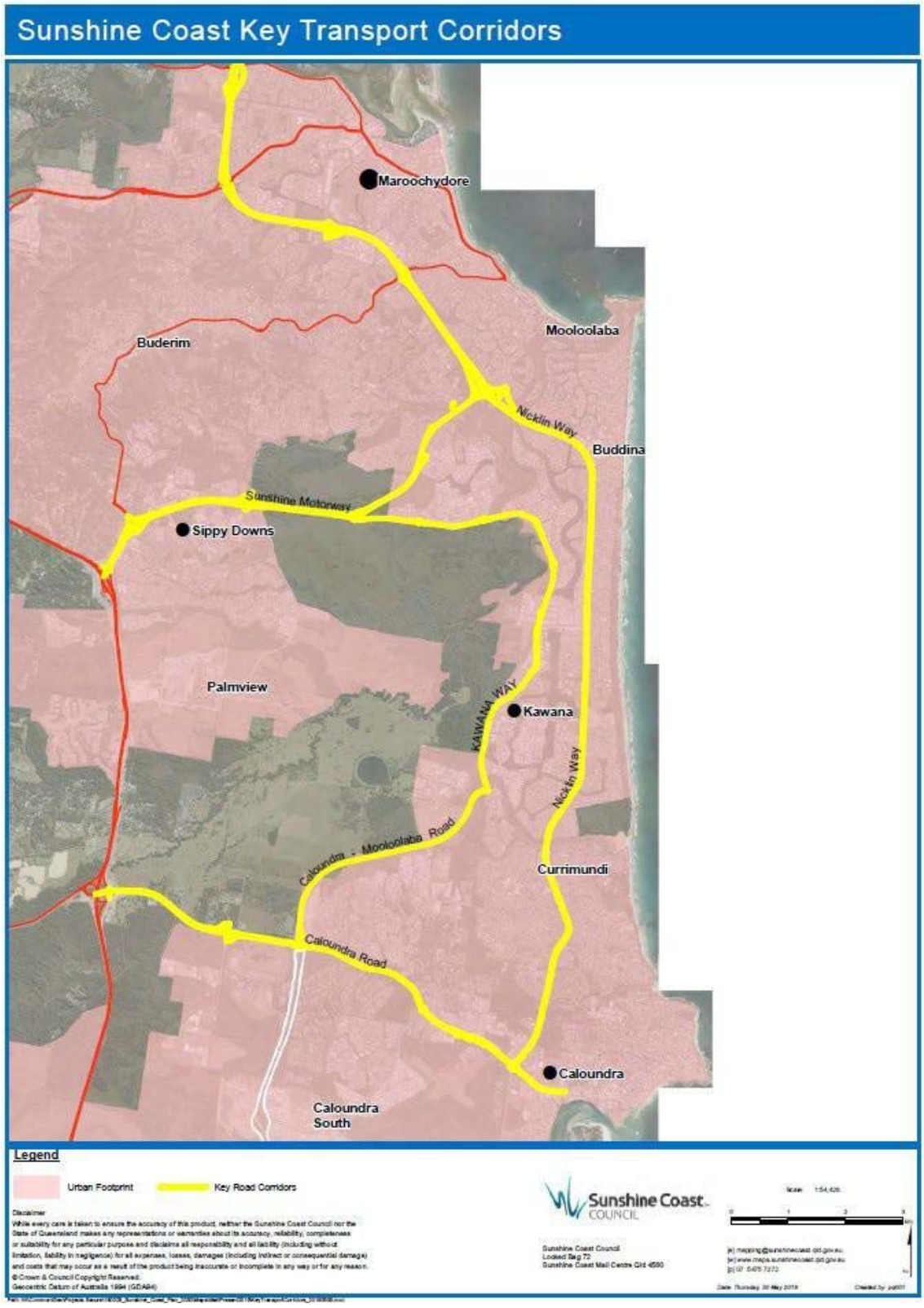


Figure 2.4 Key roads within the Sunshine Coast urban area

As the Sunshine Coast region grows, demand on the road network will continue to rise and without intervention, runs the risk of spiralling out of control. Traffic congestion has a significant social cost, in terms of the costs to both:

- road users through lost time and extra vehicle operating costs; and
- society more broadly through environmental costs and lost productivity.

2.4.1.1 Modelled congestion levels

To understand the costs of congestion better for this Strategic Business Case, Veitch Lister Consulting (VLC) undertook preliminary analysis of the traffic flows in a base case where:

- the uptake of infill development aligns with current planning targets; i.e. there is balanced growth in urban consolidation housing in the urban corridor, combined with ongoing urban expansion to accommodate new housing;
- no major mass transit project is built; and
- only the minimum currently approved investments to the road network are undertaken (i.e. assuming no major road network investment such as the Mooloolah River Interchange project).

Figure 2.5 shows the forecast level of congestion for Kawana between 2016 and 2041. The 2016 analysis demonstrates that traffic flows are already restricted, with a volume to capacity ratio of 0.7 – 0.85, which indicates a reasonably restricted level of flow. By 2041, forecast traffic volumes will result in considerable levels of traffic congestion, and reveals a road network around Kawana which is heavily congested, particularly around the hospital. The projected levels of traffic congestion on the Sunshine Motorway and Kawana Way in 2041 (greater than volume to capacity ratio of 1.3) would be so great as to force more traffic onto an already congested Nicklin Way.

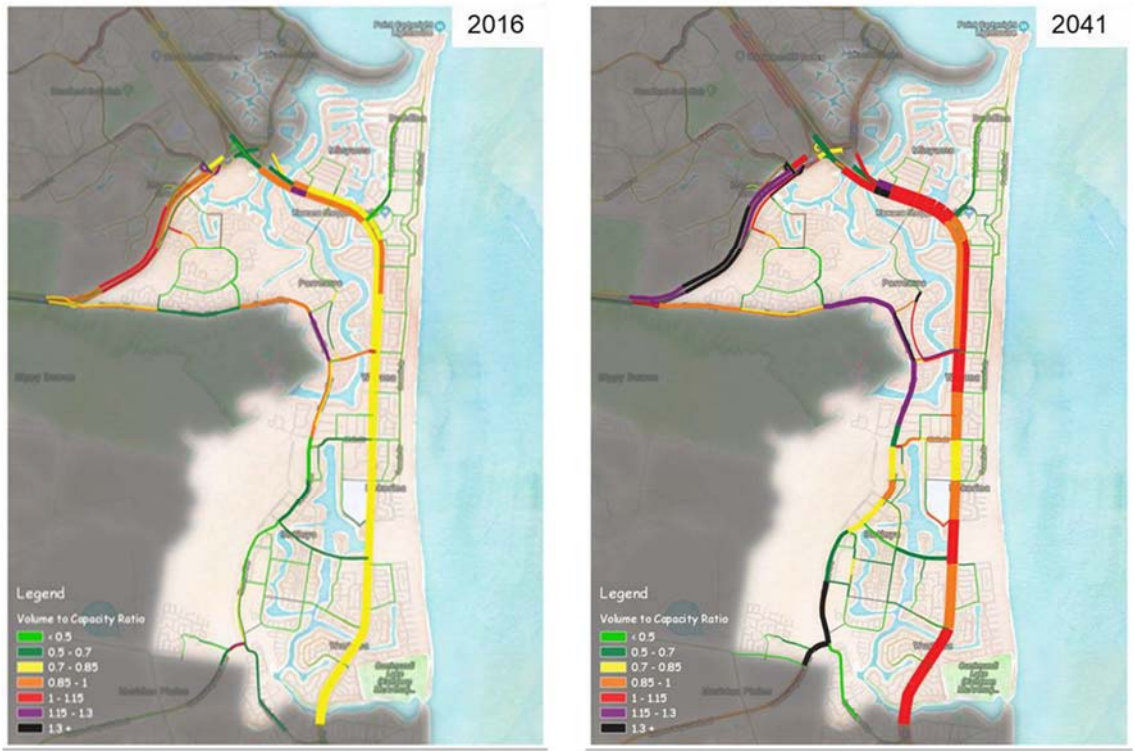


Figure 2.5 – 2016 to 2041 comparable Kawana traffic flows (maximum peak hour demand) without a mass transit project or significant road network investment

Figure 2.6 below shows the significant traffic congestion worsening in Caloundra, particularly along Caloundra Road approaching the Caloundra city centre and on the Nicklin Way around Currimundi.

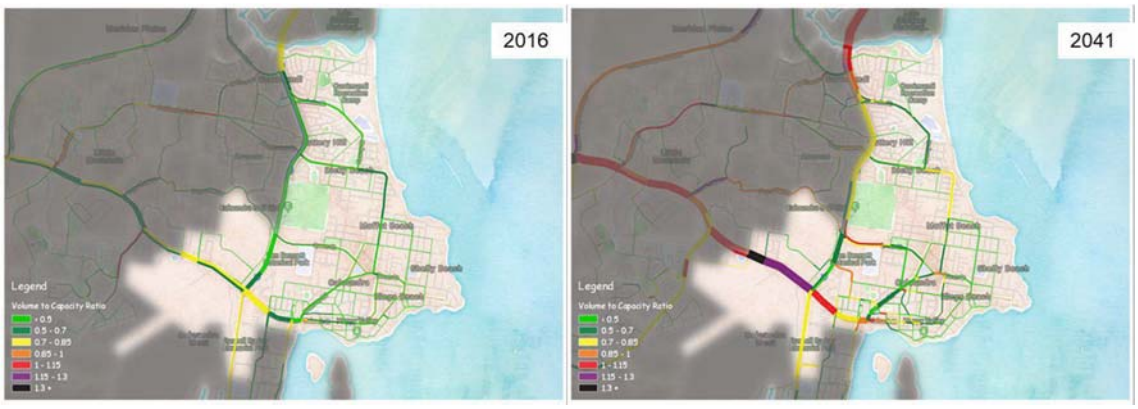


Figure 2.6 – 2016 to 2041 comparable Caloundra traffic flows (maximum peak hour demand) without a mass transit project or significant road network investment

Figure 2.7 below shows that traffic congestion in Maroochydore is also projected to worsen considerably. While flows are currently relatively unrestricted, there are bottlenecks projected to form at the Motorway interchange in particular by 2041 without major intervention.

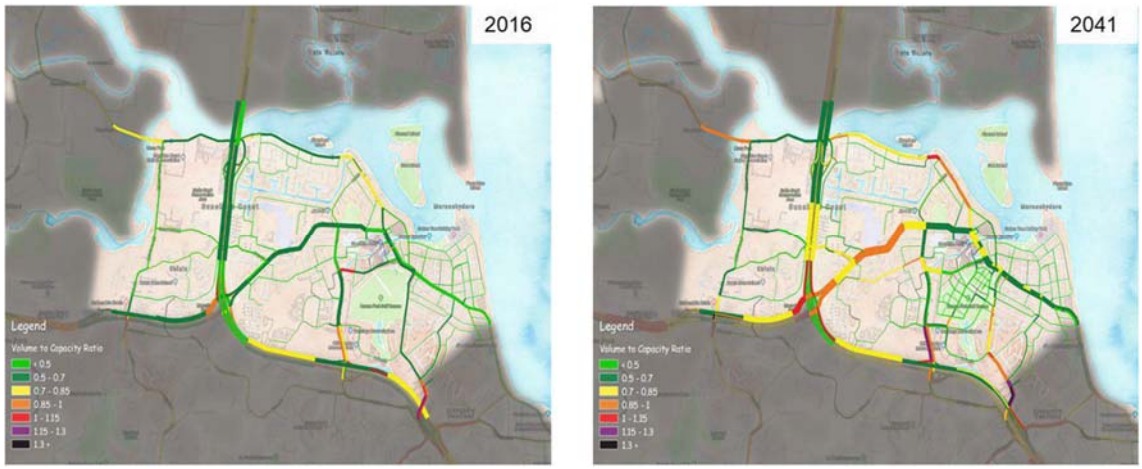


Figure 2.7 – 2016 to 2041 comparable Maroochydore traffic flows (maximum peak hour demand) without a mass transit project or significant road network investment

Figure 2.8 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 congestion at the upper end of the model's spectrum by 2041.

Figure 2.9 – Importance of road freight to key industries on the Sunshine Coast. (Source: Compiled from Australian Bureau of Statistics: Australian National Accounts:Input/Output tables)

In the figure above, the x axis shows the relative importance to the Sunshine Coast of an industry. Where a positive value is given, the industry has a higher importance on the

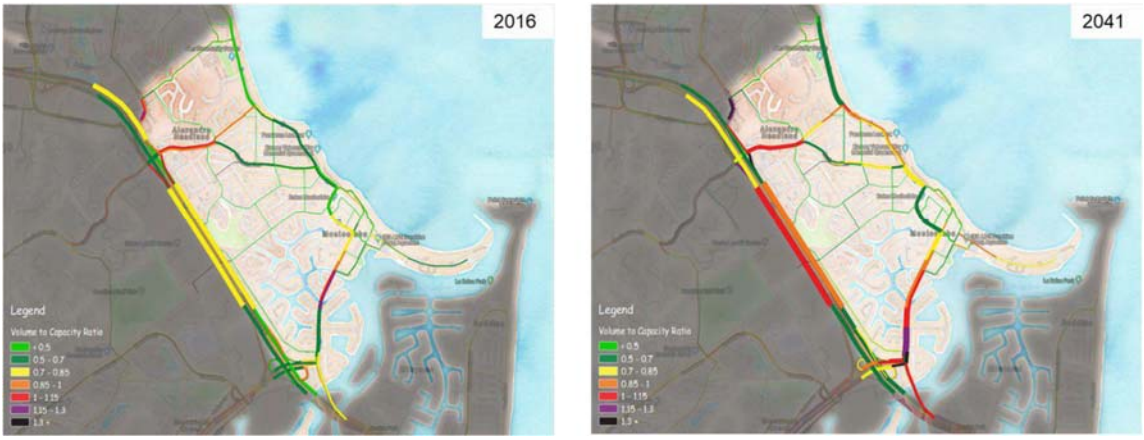
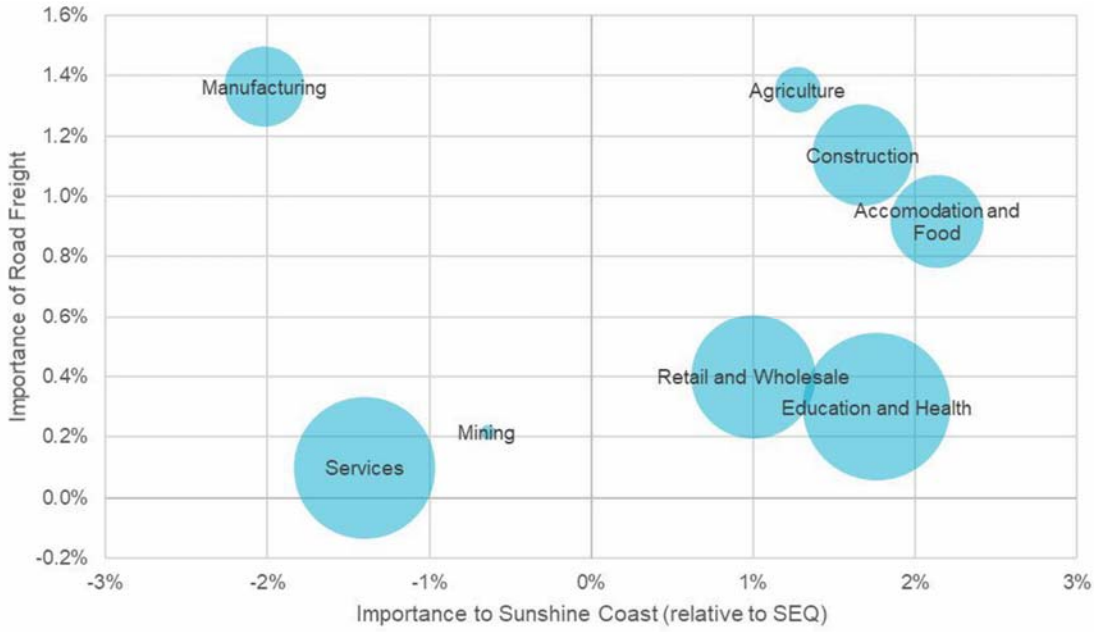


Figure 2.8 – 2016 to 2041 comparable Mooloolaba traffic flows (maximum peak hour demand) without a mass transit project or significant road network investment

2.4.1.2 Effects of congestion on business and industry

The Sunshine Coast industrial structure includes a number of industries to which road freight is of particular importance. Accordingly, these industries are most at risk from worsening congestion problems, and Figure 2.9 below summarises this problem.



Sunshine Coast relative to the rest of SEQ. Negative values indicate that the industry has a lower importance on the Sunshine Coast compared to the rest of SEQ. The y axis shows the importance of road freight to that industry. The size of the bubbles represents the relative employment shares on the Sunshine Coast.

It can be seen that the sectors where road freight costs are most important are manufacturing, agriculture, construction and accommodation. This emphasises the potential future impacts of congestion on business costs and productivity.

Congestion also impacts the community through a loss in productivity or “lost hours”. There is forecast to be a significant number of hours being lost due to congestion in the core commercial zone of the Sunshine Coast, in particular the Maroochydore City Centre. Figure 2.10 summarises the lost hours during peak periods in the Maroochydore City Centre that result from the projected increase in traffic congestion.

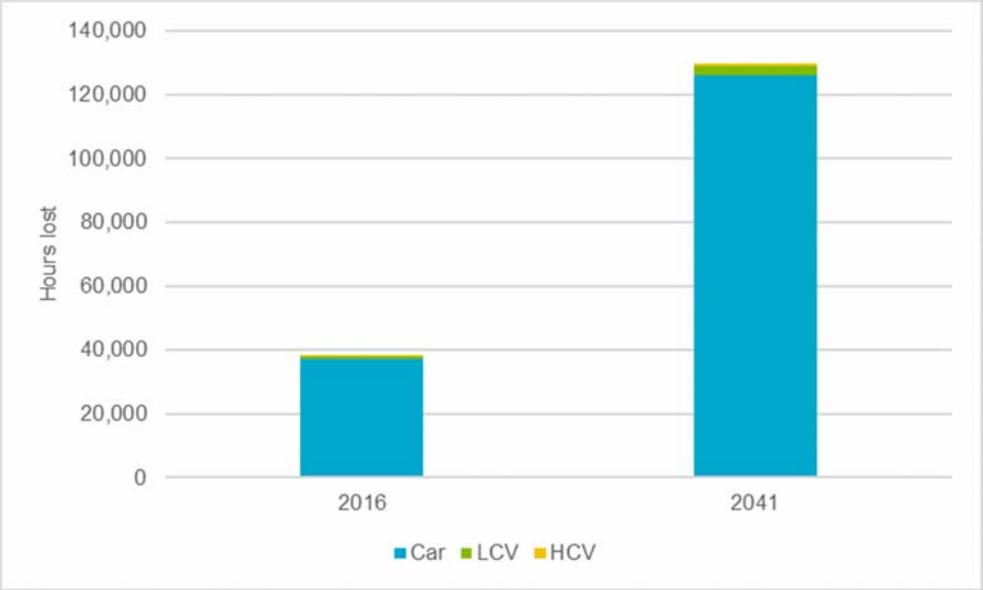


Figure 2.10 – Time lost travelling to and from Maroochydore City Centre in the morning and afternoon peaks in 2016 and 2041

High levels of congestion will also impact the attractiveness of the Sunshine Coast as a tourist destination. The figures above demonstrate that the areas impacted by traffic congestion by 2041, in particular Caloundra, Maroochydore and Mooloolaba, are the key tourism destinations on the Sunshine Coast (Figure 2.6, Figure 2.7 and Figure 2.8 respectively).

Various studies have confirmed the intuitive link between impacts on tourism behaviour and road congestion[69]. One study in particular found that 29 per cent of tourists who had visited a coastal tourism location that experiences high levels of congestion, would visit less often in in the future in response to congestion[70]. This level of impact would have significant repercussions on the important tourism industry on the Sunshine Coast, and the *Sunshine Coast Integrated Transport Strategy* highlighted that easy travel is an integral part of a visitor’s experience during their stay on the Sunshine Coast[71].

2.4.1.3 Direct congestion costs

Preliminary economic analysis was undertaken on these projections to quantify the impacts of the congested traffic flows for the region. Figure 2.11 provides a summary of the comparable cost of congestion in 2016 and 2041 under current land use forecasts (without a mass transit project), for various areas of the Sunshine Coast region, including the entire

[69] See for example *Congestion affecting the dynamic of tourism demand: evidence from the most popular destinations in Spain,* 2018, I.Albaladejo

[70] *Traffic Congestion and Tourism Displacement In The NH Route 1a/1b Corridor,* 2003, J.Wiersma and R.Robertson, p159

[71] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p31

local government area (LGA) and the Sunshine Coast Urban Corridor (between Maroochydore and Caloundra). These costs were calculated using Australian Transport Assessment and Planning (ATAP) parameters.

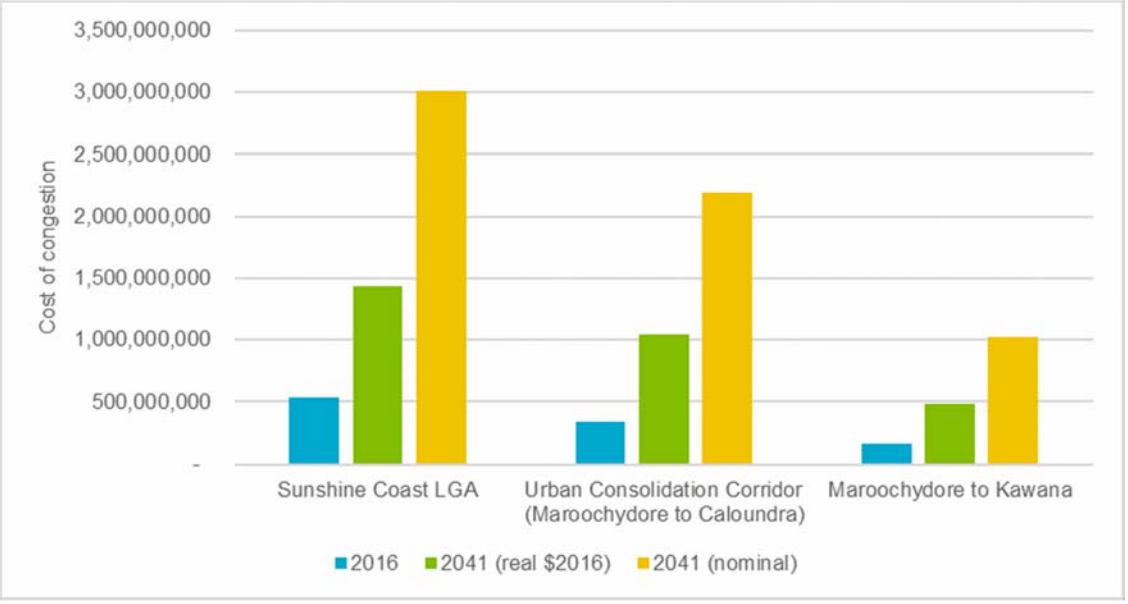


Figure 2.11 – 2016 to 2041 comparable cost of congestion for the Sunshine Coast region without a mass transit project

The results of the preliminary economic analysis show:

- for the Sunshine Coast region, in real terms, the cost of congestion is projected to grow to $3 billion by 2041, an increase of 171 per cent in 25 years;
- the annual cost of congestion for the Sunshine Coast Urban Corridor is projected to grow to $2.2 billion by 2041, an increase of 213 per cent, in 25 years; and
- more specifically, the annual cost of congestion between Kawana and Maroochydore is projected to grow to $1 billion in 2041, an increase of 200 per cent over 25years.

Major activity centres within the Sunshine Coast Urban Corridor are particularly vulnerable to congestion effects. Figure 2.12 demonstrates that a significant 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, and given healthcare services is the highest sector of employment in the region, this employment share is forecast to continue to grow.

Effectively, with no intervention by government, the annual cost of congestion in the Sunshine Coast region could more than double, while the cost in the Sunshine Coast Urban Corridor could treble by 2041.

This would have major impacts on the liveability and the effective functioning of the Sunshine Coast region. In particular, those coastal areas that are also tourist precincts would likely suffer reduced attractiveness to visitors due to congestion.

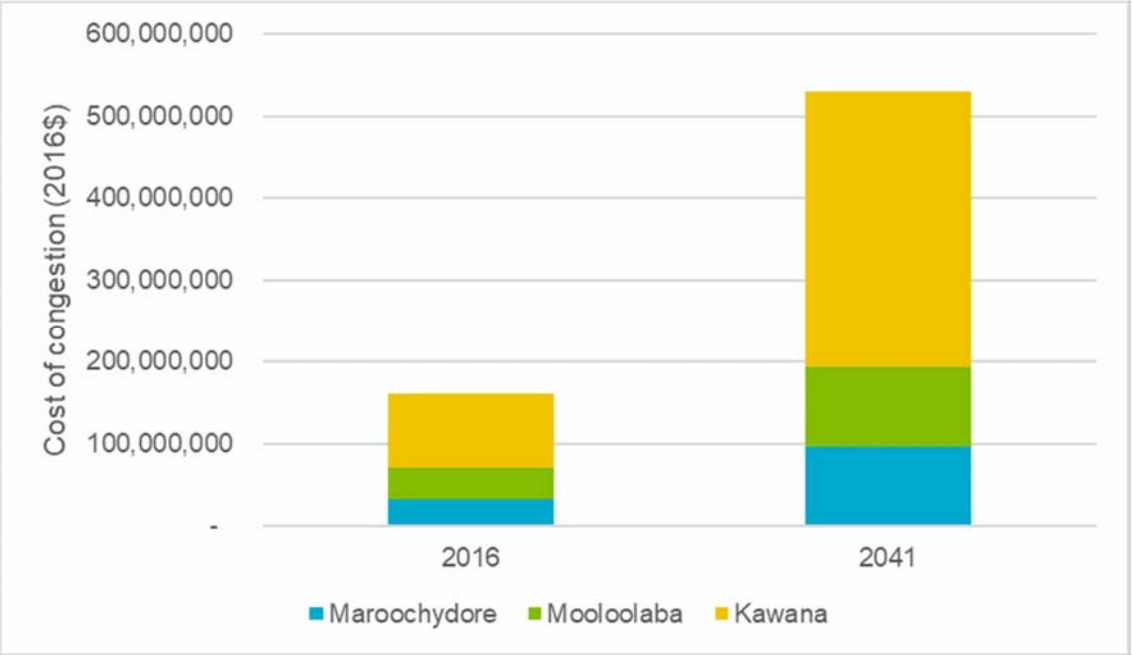


Figure 2.12 – 2016 to 2041 comparable cost of congestion for the Kawana to Maroochydore corridor without a mass transit project (2016 dollars)

2.4.1.4 Externality costs from congestion

Further defining the quantified impact of road congestion are externality costs[72], including the costs of air pollution, greenhouse gas emissions, water quality, noise, urban separation, and effects on the landscape and nature. Figure 2.13 provides a summary of these costs (calculated using ATAP parameters) for the Sunshine Coast region in 2016.

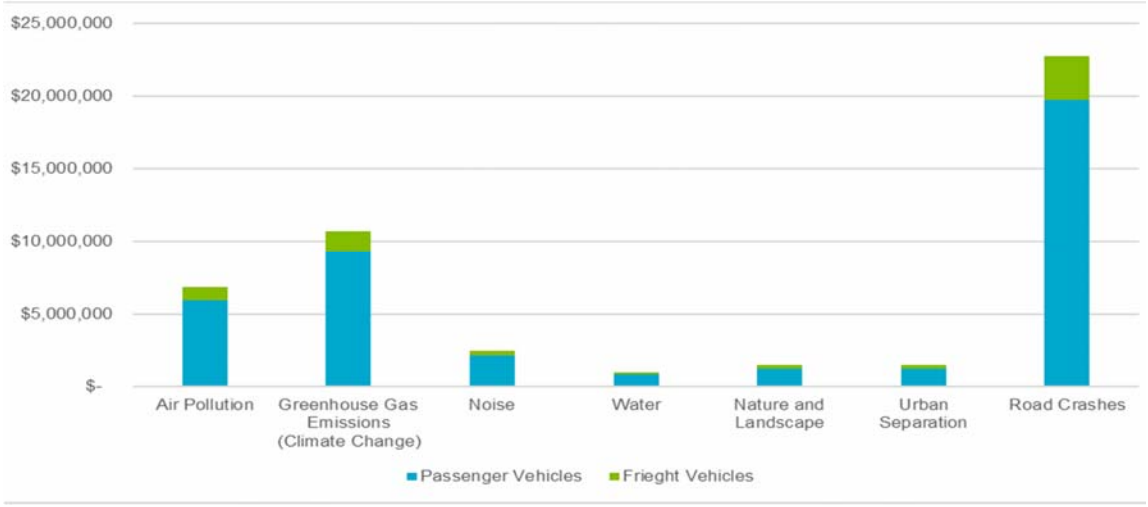


Figure 2.13 – Road congestion externality costs for the Sunshine Coast region in 2016

The figure above shows that externality costs for the region totalled over $46 million in 2016, and were largely attributable to passenger vehicles (approximately 87 per cent, compared to 13 per cent for freight vehicles). The externality costs relating to road crashes were by far

[72] Externality costs are costs borne by society over and above those faced by private citizens. In this case, an example of an externality is that when motorists spend additional time in traffic, they burn more fuel and thus create an environmental cost.

the greatest contributor to these costs, followed by the cost of greenhouse gas emissions and air pollution.

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 congestion problem 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 Urban Corridor (i.e. from Maroochydore to Caloundra). This problem is the summation of costs borne by road users (time and additional vehicle operation costs), as well as the externality costs from crashes and environmental costs.
- There are approximately 40,000 productivity hours lost in Maroochydore alone per annum in the peak in 2016, rising by almost 350 per cent to 2041 to around 130,000 hours per annum lost during the peak periods.

The congested road networks are putting at risk the attractiveness of the Sunshine Coast region for tourists, with studies highlighting the negative perception of road congestion for visiting tourists[4]. This is a particular risk for key tourism locations such as Caloundra, Mooloolaba and Maroochydore where congestion is forecast to significantly worsen.

2.4.1.5 Service needs of the Sunshine Coast region to address the problem of congestion

Based on the analysis above, it is apparent that the Sunshine Coast needs to address the current congestion levels, as congestion is forecast to continue to grow without intervention and will have significant impacts on the local economy by 2041. The region needs to be able to facilitate positive economic growth by ensuring that industries and businesses established in the region are not losing productivity due to worsening road congestion within the region. The businesses in the region need to be accessible to consumers, and just as importantly, the workforce needs to be accessible to the industries on the Sunshine Coast.

As noted in Chapter 1, various industries within the region are going to continue to grow and therefore demand will grow for mobility and connectivity, which will continue to place pressure on the region's existing transport networks, resulting in longer and more variable travel times, significant peak period congestion on the arterial road network and increased costs and lost productivity.

2.4.2 A trend towards accelerating urban expansion

As noted in Chapter 1, there have been three urban expansion major development areas identified within the Sunshine Coast region to meet housing demand. This includes the emerging expansion areas at Palmview and Caloundra South which subject to take up rates,

may contain sufficient supply to meet the majority of expected demand up to 2031[73]. Future expansion development has also been identified through the *ShapingSEQ* at Beerwah East to further support the demand for housing within the region.

While the Sunshine Coast lifestyle remains one of the region's strengths, community and visitor surveys suggest that it is being increasingly perceived as having poor affordability and a high cost of living[74]. In 2018 the Sunshine Coast was rated one of the least affordable housing markets in Australia[75]. However, the high property prices in southern cities such as Brisbane, Sydney and Melbourne have increased the rates of migration to areas such as the Sunshine Coast. Housing demand has also seen property prices rise in the region by 6.1 per cent in the 12 months to June 2018, compared to 3.1 per cent in Brisbane.

As of January 2019, median house prices on the Sunshine Coast are currently materially higher than those in Brisbane for the first time since July 2008[76].

There are a wide range of factors that influence housing affordability, including aspects that are outside the jurisdiction of local government. However, the way in which growth is managed plays a significant part. The concept of "affordable living" implies a more comprehensive response than simply providing an ample supply of new land for development. It also requires thinking about the type of housing available and where it is located in relation to employment, facilities and services. While the initial purchase price of new housing may be less expensive in outer areas, the on-going cost and time involved in travel to jobs, education and services can be significant[77].

2.4.2.1 Costs of urban expansion

Comparatively, there is increased recognition of the net benefits that consolidated (infill) housing provides for the community, as established by a growing evidence base as discussed in the *Promoting informed debate around infill housing in Australian cities* paper prepared by SGS Economics and Planning in 2015[78]. For instance, the evidence base suggests that the following costs are 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.

[73] *Urban Transformation – Directions Paper for the Future of the Sunshine Coast*, 2017, Sunshine Coast Council, p24
[74] *Urban Transformation – Directions Paper for the Future of the Sunshine Coast*, 2017, Sunshine Coast Council, p11
[75] Demographia. 2019. 15th Annual Demographia International Housing Affordability Survey (2018: 3rd quarter).
[76] https://accomproperties.com.au/news-info/article-display/property-market-sizzles-on-the-sunshine-coast,238
[77] *Urban Transformation – Directions Paper for the Future of the Sunshine Coast*, 2017, Sunshine Coast Council, p11
[78] *Promoting informed debate around infill housing in Australian cities,* 2015, SGS Planning and Economics, p2

Additional analysis of the differences in costs and benefits of urban consolidation development compared to urban expansion include:

- The Property Council of Australia (2016) found that large scale infill/brownfield dwellings could be connected to infrastructure by government at a cost ofaround $56,000 per dwelling, as opposed to around $151,000 per greenfield dwelling. This equates to an extra cost to the community of $94.5 million for every 1,000 lots developed in greenfield sites[79].
- SGS (2013) found that in a rural setting, the 30-year settlement cost of greenfield developments was approximately $58,000 per site, compared to infill developments of approximately $39,000 per site[80].
- Trubka (2010) found that the upfront costs of infrastructure were approximately $50.5 million per 1,000 dwellings for infill development and approximately $136 million per 1,000 dwellings for greenfield development. The study also concluded that the 15-year net present value of transportation costs (calculated as functions of vehicle kilometres travelled, covering all private, public and external costs) was around $169 million per 1,000 dwellings for infill development, and $335 million per 1,000 dwellings for greenfield development[81].

By contrast, in terms of comparable housing products, consolidated housing is:

- more costly to construct per unit area;
- requires a degree of supporting transport and social infrastructure investment to augment capacity of existing facilities; and
- may cause existing residents to experience amenity reductions (assuming they have a clear preference for lower density living).

Additionally, poor infill housing design can impart real costs on individual properties, be it through overshadowing, loss of privacy, or increased noise. The importance of the statutory planning system to sufficiently enforce good design for consolidated housing should not be underestimated.

Balancing all these factors, the evidence base clearly shows that at the aggregate level, the benefits of a consolidated housing approach substantially outweigh the costs.

2.4.2.2 Optimum locations for urban consolidation

Considering the above findings, research suggests the most productive distribution of infill housing is in and around town centres, enabling capacity in the public transit and other infrastructure networks to be leveraged. However, it is often difficult to promote this in-centre development, which generally is higher density in nature, without an established medium density housing market (low level apartment development, town houses etc.). Medium density development is generally directed towards the periphery of designated town centres, leaving the centre's core for employment, mixed and higher density residential development, and thereby creating a gradual reduction in density as the distance from the city increases.

79

ttps://www.propertycouncil.com.au/Web/News/Articles/News_listing/Web/Content/News/National/2016/Infill_could_save_Perth_billions.aspx

80 *Financial costs of settlement patterns in rural Victoria: Final Report*, 2013, SGS Economics and Planning, p30

81 *The Costs of Urban Sprawl – Infrastructure and Transportation*, 2010, R.Trubka, P.Newman, and D.Bilsborough, p5

2.4.2.3 Reversing the current dominance of low density housing

Table 2.2 provides a summary of the percentage of current housing densities (as at 2016) within the Sunshine Coast, compared to the Gold Coast and SEQ as a whole.

Housing Type	Sunshine Coast	Gold Coast	Greater Brisbane	SEQ
Separate Housing	69.8%	54.5%	74.4%	70.5%
Medium Density Housing	17.4%	24.6%	15.3%	17.2%
High Density Housing	9.7%	19.1%	9.0%	10.8%
Other	3.1%	1.8%	0.2%	1.5%

Table 2.2 – Comparison of housing types between Sunshine Coast, Gold Coast and SEQ[82]

The data above shows that the Sunshine Coast is largely on par with SEQ as a whole in relation to the split of housing types. However, when compared to the Gold Coast, there is significant difference in the levels of high density and medium density housing. These differences can be attributable to a range of factors (historical population growth, maturity of the Gold Coast apartment property market, tourism demands etc.), however the differences in benchmarks shows that greater intervention will likely be required to influence meaningful change in the split of housing types within the region.

As discussed in Chapter 1, the *South East Queensland Regional Plan (ShapingSEQ)* has set dwelling supply benchmarks for consolidation within Sunshine Coast local government area in 2041 at approximately 62 per cent[83] (centred on brownfield or infill development) and the remaining 38 per cent to be expansion development (through new greenfield dwellings)[84]. This is a laudable goal from a sustainability perspective, as there is strong evidence linking urban densification and sustainability from a budgetary standpoint, along with an environmental one[85].

However, given the number of major urban expansion 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 for consolidation.

ShapingSEQ identifies the geographic area similar to the Sunshine Coast Urban 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 by 2041 falls well short, with JLL forecasting only 22,450 new dwellings taken up within the corridor[86]. 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 if there is no change to planning and land use policies to enable future infill development.

[82] https://profile.id.com.au/sunshine-coast/dwellings

[83] The dwelling supply benchmarks for the Sunshine Coast are 87,000, of which 53,700 are consolidation, being 61.72 per cent (i.e. 62 per cent) of the benchmarks). A 63 per cent ratio is for the Northern Sub-Region that comprises both the Sunshine Coast and Noosa local government areas.

[84] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p120

[85] *The Costs of Urban Sprawl – Infrastructure and Transportation*, 2010, R.Trubka, P.Newman, and D.Bilsborough, p1

[86] *Sunshine Coast Light Rail Preliminary Market Assessment (Draft)*, 2018, JLL, p35

The Sunshine Coast region is experiencing high levels of housing demand, and housing is becoming more unaffordable.

The region is also experiencing high levels of urban expansion, and research suggests that there are a range of costs to government associated with continued greenfield housing expansion compared to infill housing growth, including:

- Non-urban land and habitat consumption
- Infrastructure connection costs
- Transport congestion costs
- Labour force productivity costs
- Reduced housing choice

Based on available analysis, it could be costing the Sunshine Coast community up to $95 million in additional infrastructure costs for every 1,000 new greenfield houses built in the region.

Continued urban expansion on the Sunshine Coast also puts at risk the consolidation housing target of 62 per cent by 2041 set by *ShapingSEQ*.

As noted in Section 2.4.1, the traffic patterns and projected traffic congestion issues are based on the uptake of infill development that aligns with current planning targets in *ShapingSEQ*. In the more likely "transport constrained" base case, these traffic issues can be expected to be exacerbated. 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 in Section 2.4.1 are likely to be worsened[87]. Areas with primarily homogenous land uses force residents to commute to areas of employment, and under the current scenario, where active transport is used for short trips and public transport accessibility is limited and usage is low (discussed further in Section 2.4.3), high levels of car dependency will continue in the Sunshine Coast region.

This in turn will further erode the accessibility, economic growth and productivity of the region.

In other words, without intervention, infill development take-up is projected to be well under the required targets for the region[88]. This has potentially severe long-term consequences in relation to the economic prosperity of the region, as residents and workers are required to travel further and on an increasingly congested road network.

This concept is summarised in Figure 2.14 below.

[87] 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.

[88] *Sunshine Coast Light Rail Preliminary Market Assessment (Draft),* 2018, JLL, p35

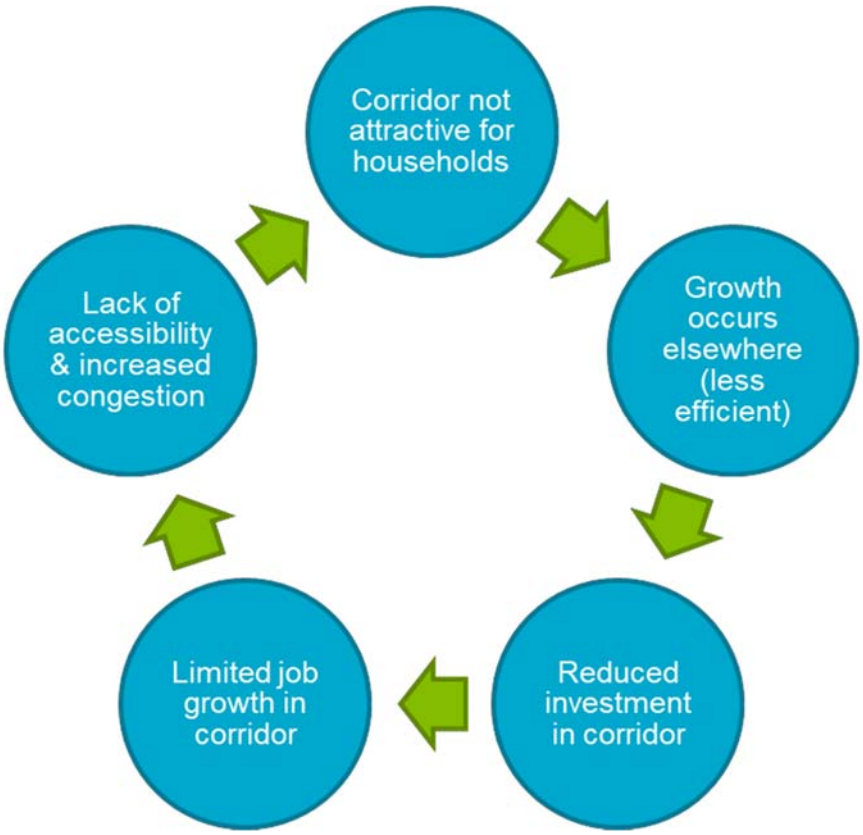


Figure 2.14 – Regional implications of urban sprawl

2.4.2.4 Service needs of the Sunshine Coast region to reverse the trend towards accelerated urban expansion

There is a need to fundamentally influence the current path of development that is occurring on the Sunshine Coast. Urban consolidation and infill development needs to be supported, not only to meet policy requirements, but to more importantly support the needs of residents to easily access their places of employment or places of leisure to improve the liveability in the region.

It is also clear the *ShapingSEQ*'s policy to concentrate new housing through urban consolidation and infill development in the Sunshine Coast Urban Corridor is soundly based. The Sunshine Coast Urban Corridor needs to attract growth and housing development through ensuring high levels of local amenity and sustainable transport solutions. Quality mass transit systems, in particular, are an important element of creating liveable and efficient urban environments in cities that are experiencing high growth, or areas where high growth is intended to be directed.

2.4.3 High dependency on private motor vehicle transport within the Sunshine Coast region

While some parts of the region are close to the North Coast Railway Line, the major activity centres in the coastal areas are not and therefore rely on a bus system (with only one high frequency service) or private vehicle to access the Citytrain network.

The current dispersed land use pattern within the region and lack of suitable alternative transport options means that private motor vehicle travel is without question the best choice for commuters. As well as the need for substantial additional road capacity to respond to

excessive traffic congestion, high car dependency can have undesirable impacts across a range of social, economic and environmental areas including:

- reducing the use of more efficient modes of travel, like public transport;
- increasing space required for car parking at residences and major centres.

2.4.3.1 Declining public transport use

The mode share for public transport on the Sunshine Coast is currently around 3 per cent in total, however less than 2 per cent of journeys to work are taken on public transport[89]. 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)[90]. In comparison, private vehicle travel is the dominant mode share in the Sunshine Coast region, at 85 per cent overall, with 93 per cent of trips to work taken using private car. The remaining trips (mode share of approximately 12 per cent) are taken using active transport (i.e. walking, cycling etc.)[91].

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[92]. As noted in Section 2.4.2 above, dispersed land use outcomes and inadequate public transport provision 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[93].

Sunshine Coast public transport trips have been in decline since 2010. This decline can possibly 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 public transport if it is not an attractive or available alternative[94]. 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[95].

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 headways of 15 minutes in peak periods). The network includes several services with headways 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[96].

Figure 2.15 provides a comparison of public transport service and passenger kilometres between the Sunshine Coast to SEQ, as well as average passenger load per service for each region.

89 *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p24
90 https://home.id.com.au/demographic-resources/
91 *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p22
92 *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p35
93 *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p27
94 *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p28
95 *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p28
96 *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p28

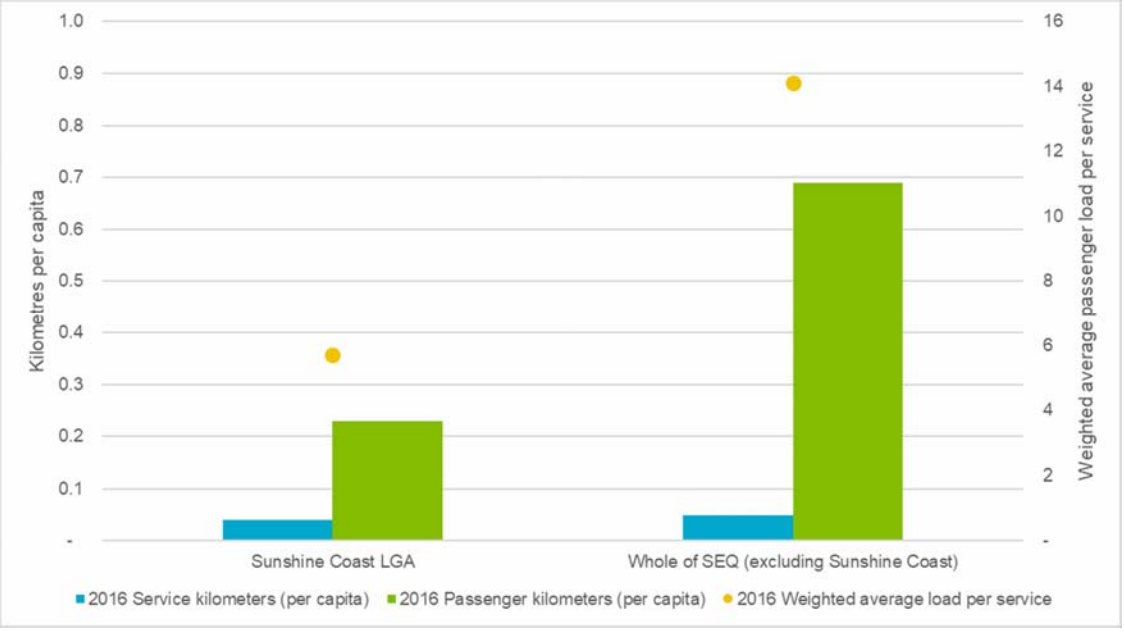


Figure 2.15 – Comparison of public transport service and passenger kilometres for the Sunshine Coast and SEQ[97]

The analysis above shows that the number of service kilometres on the Sunshine Coast per capita is similar to the SEQ (excluding Sunshine Coast) average, equating to around 0.05 kilometres of public transport run per person per day. However, the number of passenger kilometres travelled on public transport is significantly lower on the Sunshine Coast (around 0.25 passenger kilometres on public transport are taken per person per day on the Sunshine Coast, as opposed to 0.7 in SEQ more broadly). It can be surmised from this analysis that the "average" bus on the Sunshine Coast has around 5 people travelling while the average bus in SEQ more broadly has approximately 14 people travelling.

This is most likely attributable to the bus network not meeting the needs of commuters through lack of coverage and service frequency, as well as the fact bus transport is not perceived as competitive with car travel for most trips.

2.4.3.2 Growing car parking demand

In places with high car ownership, the availability and price of car parking at the destination is a major driver of mode choice. This is because the majority of costs in making a car journey are usually capitalised into the purchase and maintenance costs of the vehicle, so once a car is owned, there is an incentive to use it. If car parking is scarce and/or expensive, this can influence the margin costs of the trip, and provide a reason to choose an alternative mode.

Car parking demand is forecast to grow strongly on the Sunshine Coast in the medium term (beyond the next five years), correlating with the forecast growth in car usage in the region. For example, Council's Local Area Parking Plans have identified that there are requirements for an additional 300 parking bays in Caloundra and 900 parking bays in Maroochydore over the medium term. It is likely that given the 2041 traffic forecasts described in Section 2.4.1 above, that parking will become more of a constraint over this period. It is important to note

[97] Service kilometres refer to number of kilometres travelled per annum by buses. Passenger kilometres refer to the number of kilometres travelled on buses by passengers. The weighted average load per service is the average number of people on a bus at a given point of time based on these two figures (and is equal to passenger kilometres divided by service kilometres).

that spaces dedicated to parking can have a significant opportunity cost, and that this land may have a higher value use. These opportunity costs will be further investigated in the next stage of the project, and any avoided costs will be quantified to understand the economic costs and benefits of the Sunshine Coast Mass Transit Project.

Public transport usage on the Sunshine Coast is currently in decline, falling by 2 per cent between 2013 and 2016. This is reflective of the region's high private motor vehicle usage which sits at 85 per cent for all trips. In addition, 93 per cent of journeys to work in the region are taken by car.

Without intervention, 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.

Car parking demand is also forecast to grow strongly on the Sunshine Coast in the medium term (beyond the next five years), correlating with the forecast growth in car usage in the region. It is expected that additional 300 parking bays in Caloundra and 900 parking bays in Maroochydore will be required in the medium term. Spaces dedicated to parking can have a significant opportunity cost, and that this land may have a higher value use. Further, car parking can affect the walkability of centres by separating land uses from each other.

In order to meet the region's desired public transport mode share target of 10 per cent by 2041, an annual public transport usage growth rate of over 6.6 per cent is required.

2.4.3.3 Service needs to address the problem of high private motor vehicle transport dependency

The *Sunshine Coast Integrated Transport Strategy* establishes a desired public transport mode share of 10 per cent by 2041, rising from the current mode share of approximately 3 per cent. Based on the current Veitch Lister Consulting transport modelling, 3 per cent of all current trips taken on the Sunshine Coast equates to just over 41,000 trips per day taken on public transport (based on a 2016 transport model).

Using the base case for land use allocation and transport investment, the 2041 modelling for a public transport mode share of 10 per cent equates to approximately 205,000 trips taken by public transport per day on the Sunshine Coast each day. This analysis shows that a 399 per cent increase in daily public transport ridership will be required by 2041 to meet the 10 per cent mode share target, representing an approximate required compound annual growth rate of 6.6 per cent to 2041. Compared to the region's current decline in public transport trips (a drop of 2 per cent between 2013 and 2016)[98], it can be concluded that without intervention, the 2041 mode share targets will not be achieved, and car dependency will continue to grow within the region.

As an alternative to car transport, there is clearly a demonstrated need to improve the capacity, service level, legibility, coverage and efficiency of public transport in the region to encourage travellers to choose public transport over car. Public transport uses scarce urban spaces much more efficiently, reduces the environmental impacts of car usage, and provides an alternative transport mode for those who do not have access to car transport.

[98] Calculated using Sunshine Coast total weekday boarding data received from TMR by Veitch Lister Consulting

However investment in Sunshine Coast's public transport must be considered in conjunction with the land use aspirations discussed in Section 2.4.2.2, and an integration of land use and transport outcomes is required in order to maximise the wider economic benefits for the region. This is discussed further in Section 2.5 below.

2.4.4 Future local industry base not broad enough to support continued high levels of employment self-containment

The current level of employment self-containment of the Sunshine Coast region (i.e. the number of people who work and live within the region) is over 90 per cent, as discussed in Chapter 1. While this self-containment is positive from an environmental perspective and is a trend that Council wishes to continue to encourage in the future, for such a high level to be maintained, there must be a continuing focus on expanding and encouraging investment in high-value industries that deliver more enduring employment opportunities which respond to market need and support a rapidly growing population.

2.4.4.1 Comparison of resident journeys to work

The Sunshine Coast Urban Corridor already has very high levels of self-containment. Figure 2.16 provides a breakdown of the current journey to work statistics of those residents that live in Maroochydore and Caloundra respectively. The Maroochydore figure shows that 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.

While Caloundra offers a similar profile to Maroochydore for journey to work trends, with almost two thirds of Caloundra residents being employed in locations within the Sunshine Coast Urban Corridor, more residents are commuting south to their jobs, including 11 per cent to Brisbane, perhaps owing to Caloundra's position on the southern end of the Sunshine Coast.

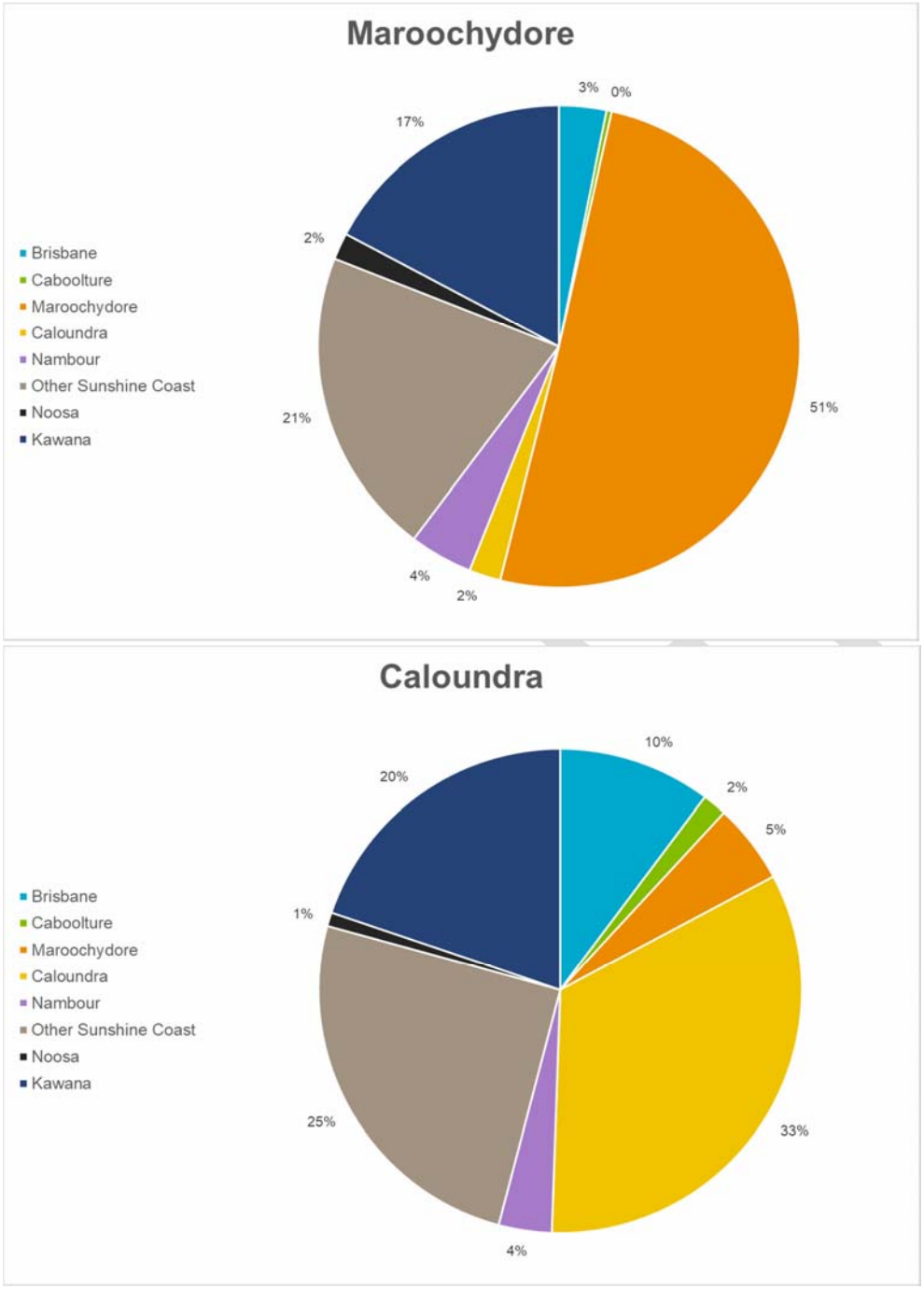


Figure 2.16 – Breakdown of journey to work destinations of Maroochydore and Caloundra residents

It is instructive to compare the journey to work characteristics of Sunshine Coast major urban centres with those closer to Brisbane. Figure 2.17 provides the statistics for residents that live at Caboolture and their travel to work patterns. The self-containment of Caboolture is still relatively high with 53 per cent of residents working within Caboolture, 14 per cent travelling to the Brisbane CBD and south, 23 per cent to northern Brisbane (to hubs such as Strathpine and Chermside) and approximately 10 per cent travelling north to the Sunshine Coast. However, by virtue of its proximity to Brisbane, a much higher proportion of Caboolture residents (37 per cent) travel there for work.

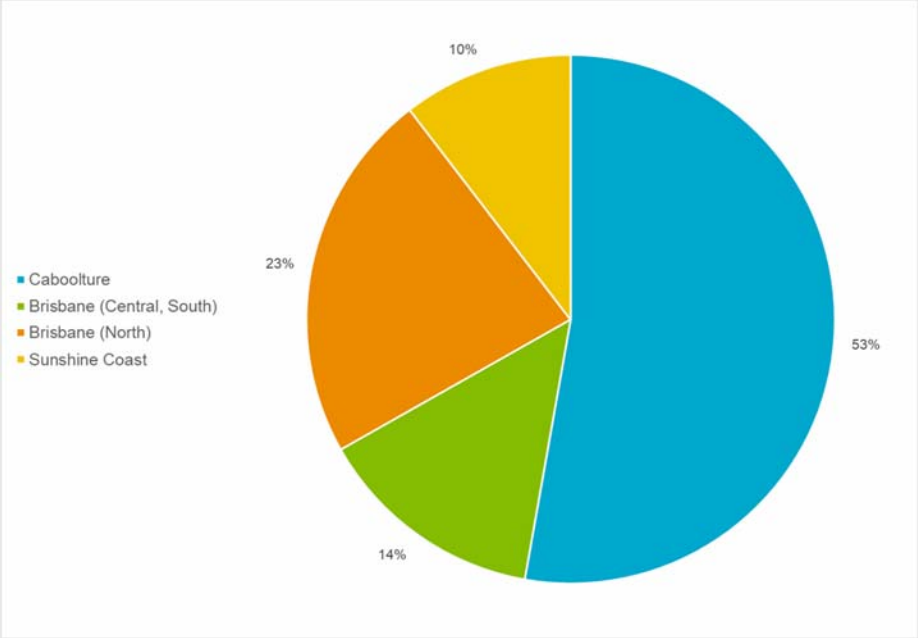


Figure 2.17 – Breakdown of journey to work destinations of Caboolture residents

An analysis of the origins and destinations of the journey to work trips taken on the Sunshine Coast has been summarised in a Sankey chart (and geographic reference map), shown in Figure 2.18. This figure demonstrates a high percentage of journeys that start and finish within the Sunshine Coast Urban Corridor (locations such as Maroochydore, Kawana and Caloundra), highlighting the relative high levels of self-containment that currently exist within that area of the Sunshine Coast.

In 2041, this is forecast to remain high, provided the employment base in the corridor increases and broadens to meet the future population growth and needs.

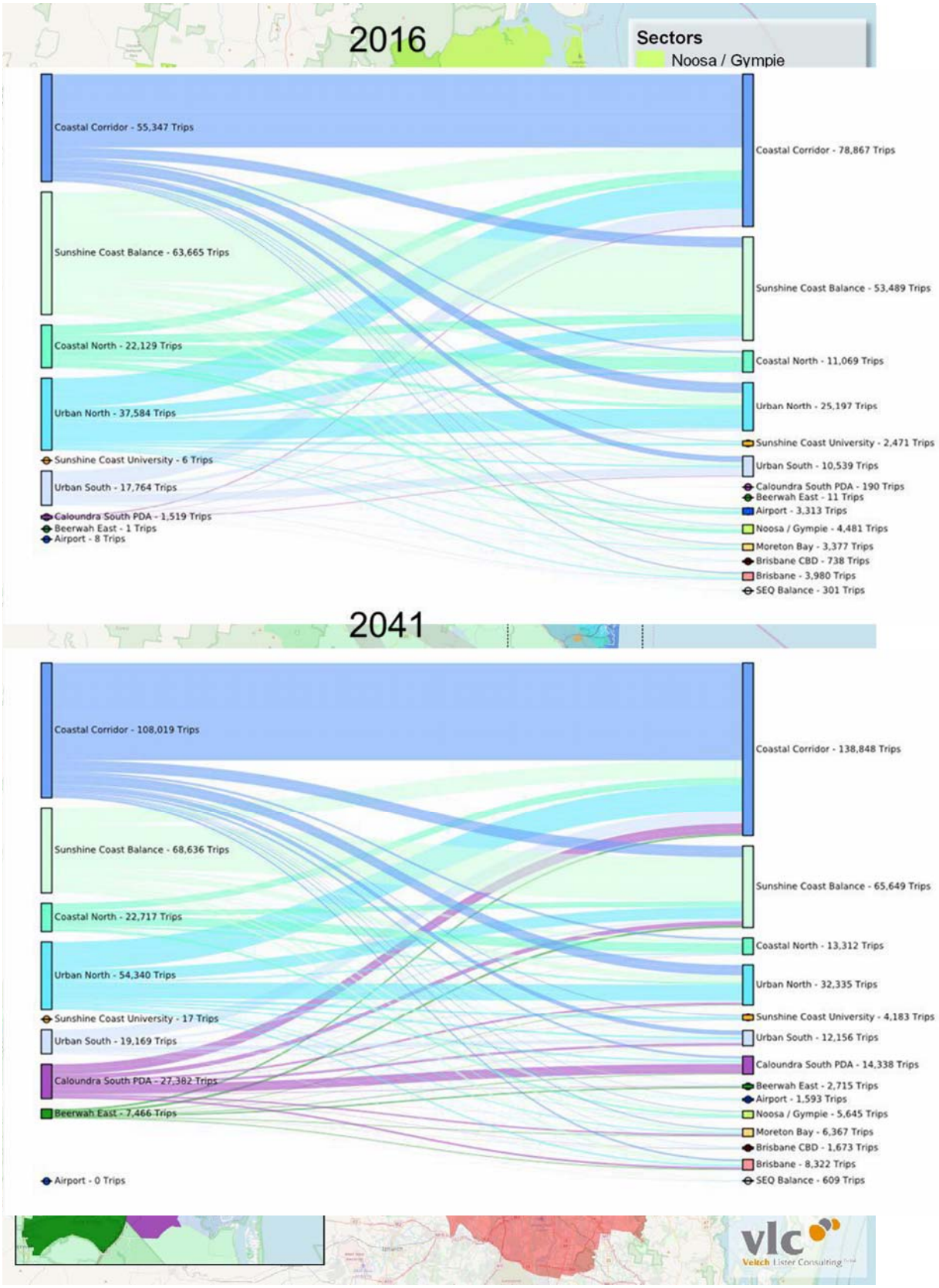


Figure 2.18 – Destinations from journey to work trips originating within the Sunshine Coast (and reference map)

2.4.4.2 Dominance or Brisbane in SEQ region's employment growth

Metro Brisbane region is a strong engine in the SEQ regional economy, especially the Brisbane Local Government Area. In 2016 Brisbane LGA had 1,184,000 residents and 817,000 jobs, resulting in the need to import workers[99]. Some 431,000 jobs are forecast to be created between 2016 and 2041 in the Brisbane LGA as indicated in Figure 2.19, easily exceeding the expected population growth of 315,000[100]. Brisbane contains the most high value professional and technical jobs, and the greatest potential for expansion.

With some key local industries including manufacturing and agriculture industries declining in their importance in providing jobs, and the continued dominance of metropolitan Brisbane as a major importer of workers, the Sunshine Coast's employment base and industry structure will need to expand. This expansion will need to match the rapidly growing population, and to continually focus on high value growth industries in order to maintain the presently high levels of employment self-containment.

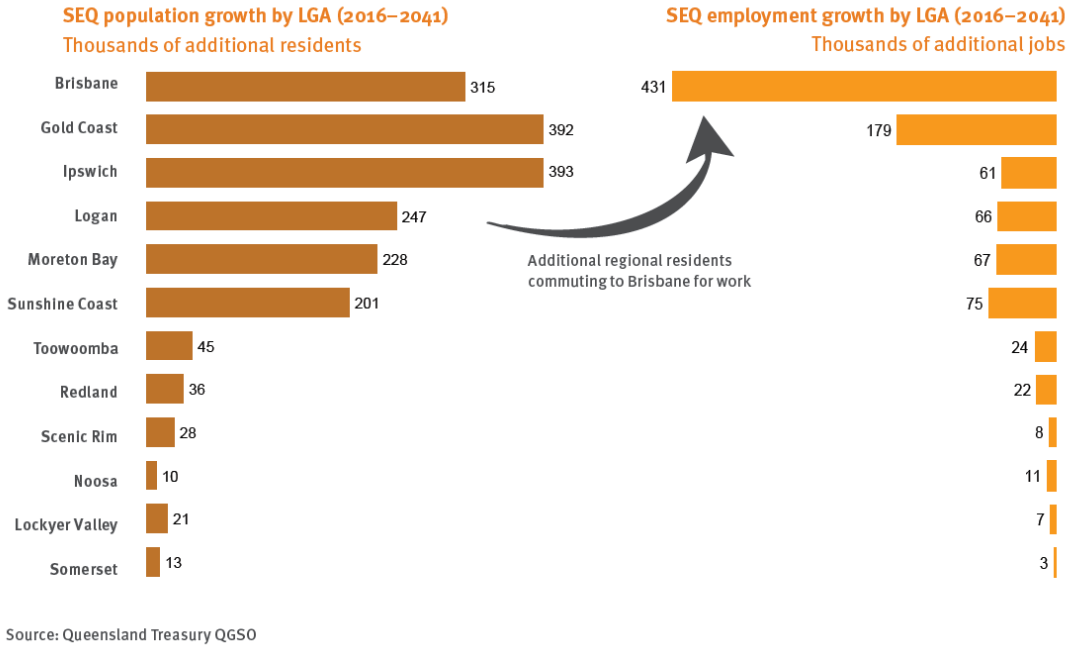


Figure 2.19 Relationship between population and jobs growth in SEQ to 2041

2.4.4.3 Impacts of reduced levels of employment self-containment

Reduced levels of employment self-containment lead to an increase in long distance commuting and its associated social and environmental impacts.

Council's vision is to be '*Australia's most sustainable region – healthy, smart, creative'.* A measure of the region's sustainability and environmental impacts can be seen through the level of greenhouse gas emissions produced by its transport system users. Theoretically, a

[99] Queensland Government. 2017. *Shaping SEQ*. pp 54 and 108
[100] Queensland Government and Brisbane City Council. 2017. *Connecting Brisbane*. P 16.

region that has a high level of self-containment and strong public transport/active transport mode share levels should have lower emissions.

Data provided by Veitch Lister Consulting has allowed for a preliminary comparison of transport-originated greenhouse gas emissions attributed to journey to work trips for LGAs across the SEQ region. These are based on emissions factors for different types of motor vehicles and different transport modes and have been quantified using ATAP parameters. Figure 2.20 provides a comparative summary of greenhouse gas emissions generated by journey to work trips in comparable LGAs relative to the Sunshine Coast LGA region.

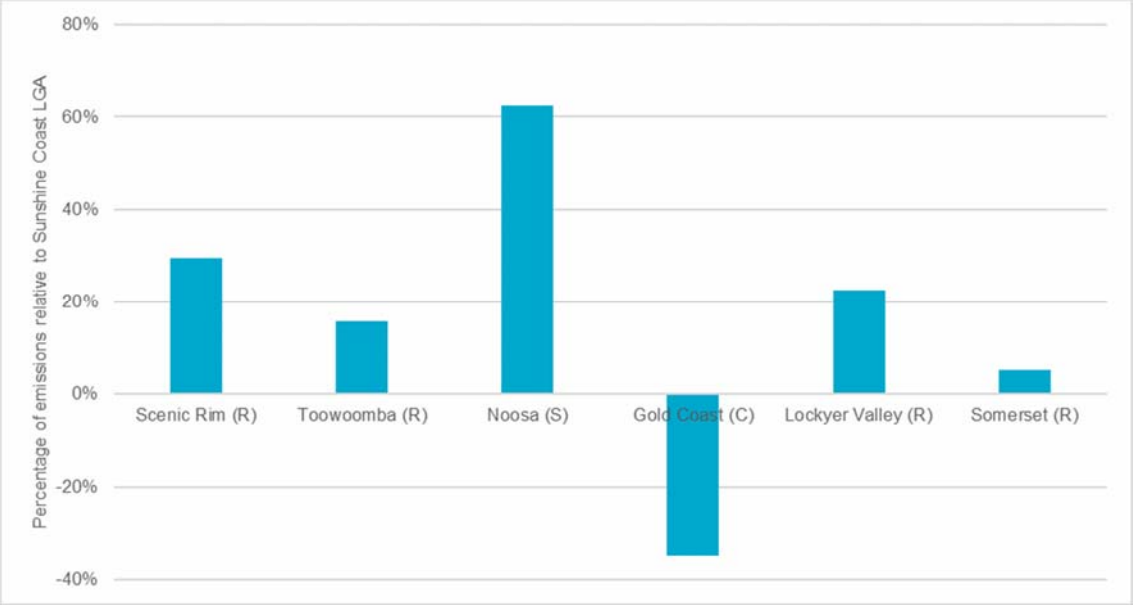


Figure 2.20 – LGA greenhouse gas emissions from journey to work trips relative to the Sunshine Coast LGA

The figure above shows that there are significant environmental benefits resulting from the Sunshine Coast's self-containment, as shown by the relative differences in emissions compared to a location such as Noosa, which has only 59 per cent self-containment and 62 per cent higher emissions than the Sunshine Coast.

In contrast, the Gold Coast LGA's high self-containment and high public transport mode share has resulted in the significant reduction in journey to work emissions of 35 per cent compared to the Sunshine Coast. This difference is attributable to the recent investments made in alternative transport modes on the Gold Coast, such as light rail, thereby encouraging journeys to work to be taken by public transport as opposed to car. Given the comparable self-containment levels, this demonstrates a significant opportunity for investment in public transport on the Sunshine Coast to encourage intra-regional commuters away from private motor vehicles and onto public transport to reduce greenhouse gas emissions and deliver significant long-term environmental benefits to the region.

2.4.4.4 Future jobs and productivity growth

During the past 30 years, the Sunshine Coast has undergone extraordinary change. The region has experienced significant employment and productivity growth and now has a regional economy worth more than $17 billion.

However, the Sunshine Coast economy is vulnerable to external pressures. Industries such as construction, retail and tourism, are typically lower value-adding industries and are highly exposed to volatility in global markets, visitation and population growth.

There is a continuing need to broaden and deepen the economic base to:

- Support population growth and self containment
- Reduce risk and volatility
- Increase productivity and wages.

The region needs to create 100,000 jobs over the next 20 years and is focused on growing seven high-value industries as described in Figure 2.21.

All of these industries have the potential to generate higher-paying enduring employment opportunities and are supported by the region's 'game changer' projects including the development of the Sunshine Coast University Hospital and the Maroochydore City Centre,the upgrade of the Bruce Highway, expansion of the Sunshine Coast Airport and the University of the Sunshine Coast and the delivery of the Sunshine Coast International Broadband Submarine Cable network.

(Figure 2.21, located on the right hand side of this page – High value growth industries[101])

Transport connectivity is also important to attracting new employers and employees through creating a more pleasant and efficient 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.

In future, the lack of physical connectivity between the major activity centres of the region for business 2 business interaction (reduced agglomeration and clustering opportunities) and the lack of reliable access to local workforce will be key factors affecting the attraction of new growth in employment opportunities and development of a broader industry base.

[101] *Sunshine Coast - The Natural Advantage, Regional Economic Development Strategy 2013-2033, p19*

More mature cities, such as Brisbane, Sydney and Melbourne, already have sufficient scale and a developed industry base so that they naturally attract new employers and employees and gain considerable benefits from agglomeration benefits.

For regional economies, such as the Sunshine Coast, it is important to drive a critical mass of high value employment. Once achieved this is enhanced by agglomeration which in turn attracts further high value businesses to the region and the industry base becomes self-sustaining. Figure 2.22 provides an overview of this strategy.

Figure 2.22 – Creating a sustainable a sustainable and productive industry base

Queensland is the most decentralised state in the nation and the strategy of establishing and supporting key high value industries in major regional centres, which are then further supported to develop economies of scale and agglomeration benefits, is a key element to continued economic growth throughout the state.

Without the development of the 'game changer' projects, and the other employment attracting initiatives outlined in the *Sunshine Coast Regional Economic Development Strategy*, there is a risk that 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 local wage growth, reduce local productivity and employment opportunities and 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).

2.4.4.5 Service needs to support self-containment

The travel patterns of residents on the Sunshine Coast demonstrate a clear need to continue supporting the demand for local travel. Reflecting Council's self-containment vision for the region, living and working within the region will continue to be encouraged.

The *Sunshine Coast Regional Economic Development Strategy* 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 changer projects such as the greenfield Maroochydore City Centre, 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.

Transport connectivity is also key to attracting new employers and employees through creating a more pleasant and efficient place to work and live. The benefits of urban agglomeration are best achieved by investment in public transport infrastructure to efficiently link workers with the knowledge-intensive jobs that drive economic activity[102].

[102] *State of Australian Cities 2014-15*, 2015, Department of Infrastructure and Regional Development, p111

2.5 Achieving integrated economic, land use and transport outcomes for the Sunshine Coast region

Aside from identifying and assessing problems and 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- healthy, smart, creative'*, the opportunity for Council is to achieve urban transformation on the Sunshine Coast Urban Corridor to build a connected, lifestyle community with housing choices and employment opportunities that are responsive to market demand, underpinned by a mass transit solution.

The Sunshine Coast has the highest level of self-containment (residents who work within the region) in South East Queensland, and the majority of journeys to work are to locations within the Sunshine Coast Urban Corridor.

The self-containment of key economic locations within the Sunshine Coast Urban Corridor is strong, with over two-thirds of Maroochydore residents travelling to Maroochydore or Kawana for work.

Transport connectivity is important to attracting new employers and employees through creating a more pleasant and efficient place to work and live. It also supports increased productivity through agglomeration – 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.

The Sunshine Coast is a polycentric region with several economic and employment centres along the Sunshine Coast Urban Corridor. Linear mass transit systems are ideally suited to linking polycentric cities of this nature and implementation of such a system can begin the process of aggregating centres into a larger, more cohesive and productive economic region. Mass transit systems are also well suited to supporting urban renewal of economic centres and the development of medium and high-density residential development areas, particularly where the development of the mass transit system is coupled with an investment in supporting urban renewal initiatives.

These are the conditions of the Sunshine Coast Urban Corridor, and investment in a mass transit system can connect the key economic centres of Maroochydore, Mooloolaba, the Sunshine Coast University Hospital, Kawana and Caloundra to better link them and support their development into a more cohesive economic corridor. Mixed development in these centres, together with medium and high-density development along the corridor in key areas

can also support and accommodate higher population growth in the corridor. With increased employment opportunities and development of a more diverse mixture of housing, there will be a greater incentive for the population to reside and work in the corridor and to be less reliant on cars for commuting and general transportation.

Therefore, the implementation of the *Urban Transformations Directions Paper* strategy, including the development of this project, will enable the Sunshine Coast to become more sustainable by:

- increasing economic activity and productivity;
- increasing land use efficiency;
- improved housing choice and affordability;
- preserving existing non-urban (rural and environmental) areas;
- enhancing public transport service levels;
- improving liveability; and
- improving self-containment of employment.

This in turn would lead to a range of regional benefits that can only be achieved through an integrated approach to land use planning and economic and community development undertaken in conjunction with the delivery of an efficient transport network.

This analysis clearly supports the 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 with an accessible and productive workforce. Regional infrastructure initiatives like the Sunshine Coast International Broadband Submarine Cable network will play a critical role in this regard. Suitable urban consolidation needs to be attractive and incentivised to allow residents to live closer to where they work, supported by an integrated and sustainable public transport network. The region's self-containment and local travel behaviours must continue to be supported by encouraging a change in travel mode with a high capacity, legible, efficient and integrated public transport network.

2.6 Urgency

The urgency for action for a mass transit system within the Sunshine Coast region, and in particular the Sunshine Coast Urban Corridor (between Maroochydore and Caloundra) is driven by the current and forecast transport and land use problems within the region. As demonstrated by the analysis presented above, it can be seen that:

- Congestion along key arterial routes within the region is currently costing over $500 million per annum. This is forecast to continue to grow and cost the regional economy $1.4 billion per annum (in 2016 dollars) by 2041 (equating to approximately $3 billion per annum in 2041 dollars).
- The economic productivity of the region will be impeded as time goes on without intervention to address congestion, with for example, lost hours in Maroochydore alone due to congestion forecast to reach 130,000 per annum in the peak period by 2041. Lost productivity will have serious flow on impacts, limiting any agglomeration opportunities and failing to support the region's forecast 100,000 additional jobs over the next 25 years.

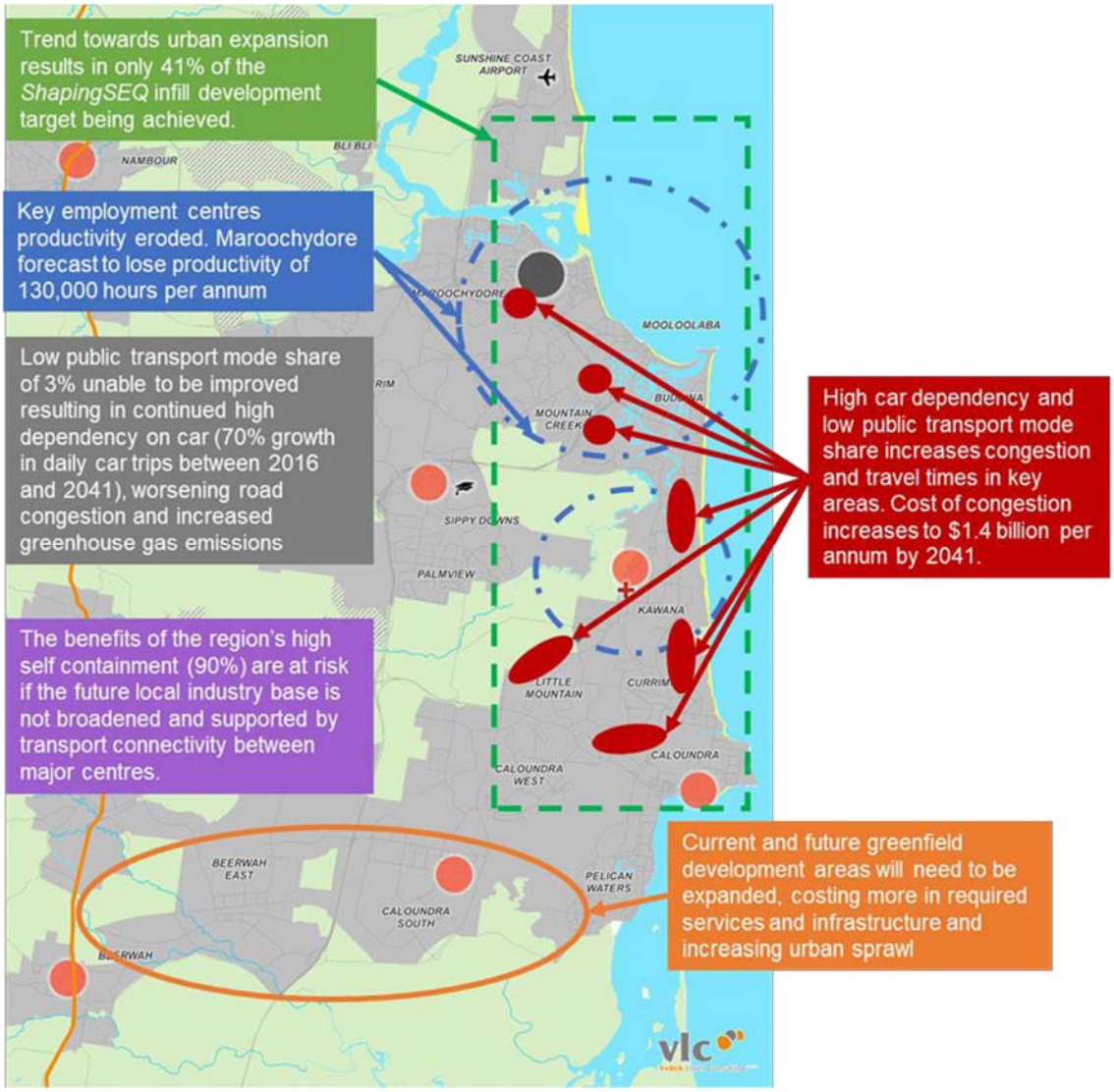
- Greenfield development within the Sunshine Coast region has been successful in supporting population growth and the demand for housing. However, there is significant risk of detrimental urban sprawl and costs to government if this greenfield development is not balanced with appropriate consolidated/infill development. Research suggests that for every 1,000 additional greenfield houses built, that costs for supporting social infrastructure total almost $95 million.
- At least an additional 53,700 consolidation/infill dwellings by 2041 are required within the region to achieve the overall *ShapingSEQ* consolidated housing target of 62 per cent by 2041. This equates to approximately 2,240 additional infill dwellings in the existing urban area each year from 2017 to 2041. Based on current forecasts, it is estimated only 41 per cent of the required 53,700 dwellings will be taken up without intervention in the land use planning arrangements for the Sunshine Coast Urban Corridor to encourage and support infill development. Without this intervention, , the *ShapingSEQ* targets will not be achieved and the increased demand for housing will need to be met by further greenfield developments, thereby failing to exploit any agglomeration opportunity.
- Without intervention to deliver 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.
- Dependency on private motor vehicles will continue within the region and given the current rate of public transport usage has fallen by 2 per cent between 2013 and 2016, the desired 2041 public transport mode share target for the region will not be achieved.
- The region's high level of self-containment, whilst positive, coupled with a continued high car dependency, will drive up greenhouse gas emissions, resulting in flow on liveability, amenity and environmental impacts.

Each year that passes without intervention to address these needs will continue to have increased economic, social and environmental impacts, and put at risk the visions and strategic objectives of key policy documents such as *ShapingSEQ*, the *Urban Transformations Directions Paper*, the *Sunshine Coast Regional Economic Development Strategy* and the *Sunshine Coast Integrated Transport Strategy*.

2.7 Problem and Service Need Summary

The Sunshine Coast region is at critical juncture in its evolution. Emerging issues present both challenges and opportunities for the region's economic growth, productivity and lifestyle, liveability and sustainability aspirations.

Figure 2.23 summarises the key problems as discussed in this chapter and the urgency required to address these needs.



- a trend towards greenfield development in response to housing demand in the region, which increases the amount of travel, reduces the efficiency of public and active transport, and supports ongoing growth of car use;
- a high level of dependency on private motor vehicle transport, resulting in low levels of public transport mode share, contributing further to congestion and reducing amenity in urban areas; and
- the continuing need to broaden the economic base to retain high levels of employment self-containment.

These challenges are forecast to be further exacerbated without a comprehensive and committed program of intervention in relation to driving alternative land use outcomes and improving alternatives to car travel.

The demand for accessibility to jobs and attractions in the Sunshine Coast Urban 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.

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;
- improving housing choice and affordability;
- preserving existing non-urban (rural and environmental) areas;
- significantly enhancing public transport service levels; and
- improving self-containment of employment.

The problems identified in this chapter can be addressed by meeting three key service needs:

- A major improvement to mass transit to provide an integrated network connecting the major activity centres and housing areas and linking it to Brisbane. This will reduce congestion, and free up road space for freight and commercial traffic;
- A coordinated strategy to accelerate urban consolidation and infill, with a focus on the Sunshine Coast Urban Corridor to provide a land use settlement pattern that can reduce car dependency and the amount of travel required in the community; and
- A continuing program to expand and connect local industries in areas close to mass transit, to allow a greater number of residents to live closer to their places of employment and provide easier accessibility to those economic and employment areas.

By actively pursuing investment in a mass transit network for the region in concert with a coordinated strategy to achieve consolidation of housing and employment in the Sunshine Coast Urban Corridor, the Sunshine Coast region can harness a range of integrated economic, land use and transportation benefits.

If achieved, these outcomes will result in the Sunshine Coast Urban Corridor becoming a sustainable lifestyle community with broad housing choices and employment opportunities which respond to market demand, connected by a frequent and efficient mass transit network.

3 PRELIMINARY STAKEHOLDER ANALYSIS

3.1 Purpose and Overview of this Chapter

The purpose of this chapter is to identify the key current and any future stakeholders for the Sunshine Coast Mass Transit 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; and
- the next steps for engaging with stakeholders during upcoming project phases.

3.2 Previous Community Consultation Completed

3.2.1 2014 Sunshine Coast Light Rail Project

Building on the consultation undertaken as part of the 2012 ‘Line in the Sand’ prefeasibility study which recognised the important role light rail could play in shaping the future of the Sunshine Coast, 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 communit y feedback on a number of route options in the areas of Maroochydore, Mooloolaba, Kawana and Caloundra, as shown in Figure 3.1.

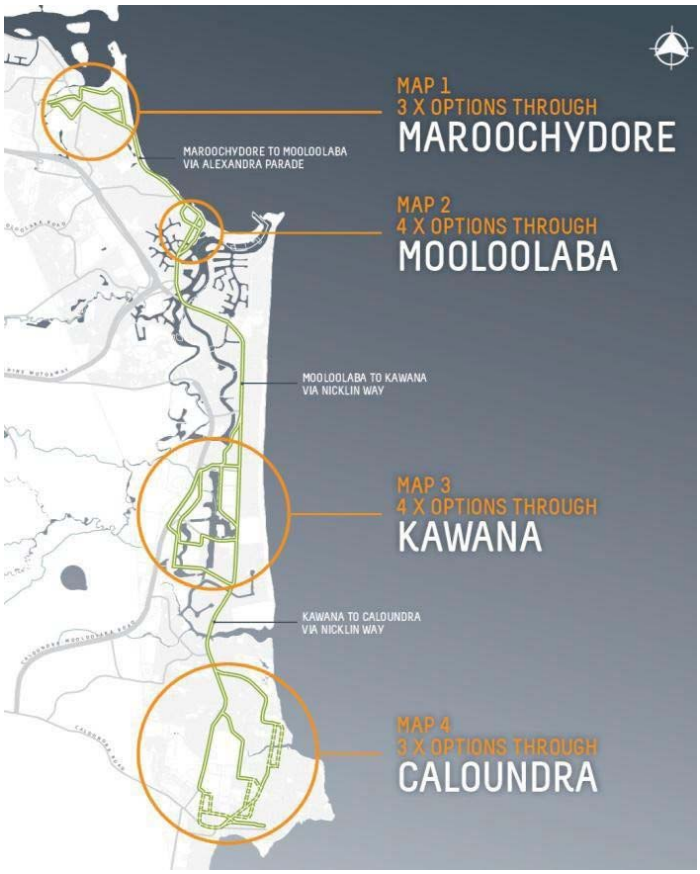


Figure 3.1 – Light rail route options summary presented during 2014 community consultation

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[103]. 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[104].

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)[3105].

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[106].

The findings of the consultation were presented in a publicly released report in May 2015 titled *Sunshine Coast Light Rail Route Options Consultation Report*.

[103] *Sunshine Coast Light Rail Route Options Consultation Report*, 2015, Sunshine Coast Council, p2
[104] *Sunshine Coast Light Rail Route Options Consultation Report*, 2015, Sunshine Coast Council, p19
[105] *Sunshine Coast Light Rail Route Options Consultation Report,* 2015, Sunshine Coast Council, p20
[106] *Sunshine Coast Light Rail Route Options Consultation Report,* 2015, Sunshine Coast Council, p20

3.2.2 2018 Draft Sunshine Coast Integrated Transport Strategy Community Consultation

As discussed in Chapter 1, 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

- 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 provides valuable context on how the Sunshine Coast community may receive any mass transit solution.

The Sunshine Coast Integrated Transport Strategy was subsequently adopted by Council in December 2018.

3.3 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 3.1 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.

Stakeholder Group	Project Interest	Proposed Indicative Management Strategies
Government Stakeholders		
Sunshine Coast Council, including • Mayor and Councillors • Council Chief Executive Offer and organisational groups: o Customer Engagement and Planning Services o Economic and Community Development o Business Performance o Built Infrastructure o 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 Ministers, including Premier, Deputy Premier, Minister for State Development, Manufacturing, Infrastructure and Planning, and Minister for Transport and Main Roads • Shadow Ministers including the Leader of the Opposition, the Shadow Treasurer, the Shadow Minister for Transport and Main Roads and the Shadow Minister for State Development, Manufacturing, Infrastructure and Planning	• 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 Ministers, Shadow Ministers 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

• Local Members of Parliament, including members for Caloundra, Kawana, Buderim and Maroochydore. • Government agencies, including: o Department of Transport and Main Roads o Queensland Treasury o Building Queensland o Department of State Development		

Stakeholder Group	Project Interest	Proposed Indicative Management Strategies
Manufacturing, Infrastructure and Planning o 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: o Department of Infrastructure, Regional Development and Cities o Infrastructure Australia o 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 for Government agencies 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 (including resident interest groups)	• 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

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 Utility Service Providers	• Potential impacts to existing and planned infrastructure and public utilities	• Early engagement to identify conflicts and mitigation strategies
Business and Industry Groups	• 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
Public transport industry groups	• Implications of a new mass transit system for all public transport networks, including bus and active transport	• Release of public project updates and information • Possible future targeted engagement

Stakeholder Group	Project Interest	Proposed Indicative Management Strategies
	• Ensuring project solution caters for complementary active transport opportunities, such as cycling and walking	
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
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	• Release of public project updates and information • Future community consultation activities • Possible future targeted engagement

Stakeholder Group	Project Interest	Proposed Indicative Management Strategies
	• Implications of any value capture initiatives on future developments	

Table 3.1 – Key Sunshine Coast Mass Transit Project stakeholder groups interests and proposed management strategies

3.4 Proposed Future Stakeholder Engagement

Based on Table 3.1 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 7.

4 BENEFITS SOUGHT

4.1 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 problem 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; and
- 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 6. 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.

4.2 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 access services and enjoy leisure activities.

It also supports the achievement of land-use planning objectives 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

vehicles[1107]. 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 4.1 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).

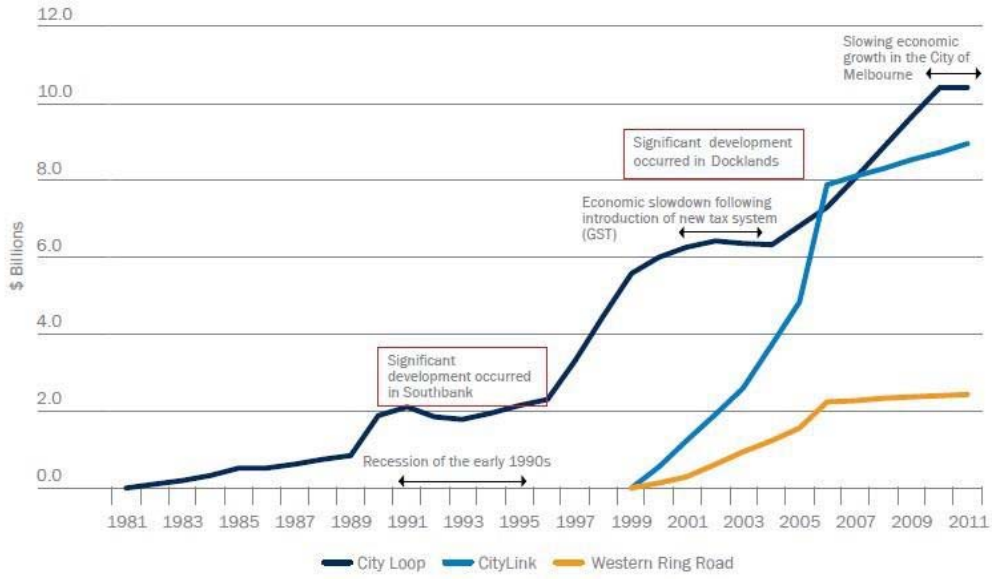


Figure 4.1 – Benefit Stream Across Time of Selected Melbourne Transport Projects ($ billions), 1981–2011[108]

4.3 Proposed Benefits Sought

As shown in the Investment Logic Map (ILM) in Chapter 2, there are a number of benefits sought that have been identified for the Sunshine Coast Mass Transit Project:

- Link priority economic and employment areas (Maroochydore Principal Activity Centre, Kawana Major Activity Centre, Caloundra Major Activity Centre), knowledge-based industry areas (Maroochydore and Kawana Health Precinct) and tourist destinations (Sunshine Coast Airport, Mooloolaba and Caloundra).
- Enhanced liveability and greater access for Sunshine Coast residents to employment, schools, shopping, services and recreational facilities within 30 minutes of home.

[107] *Smart Cities Plan*, 2016, Department of the Prime Minister and Cabinet, p12

[108] *State of Australian Cities 2014-15* (based on estimates by SGS Economics & Planning), 2015, Department of Infrastructure and Regional Development, p125

- 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.

4.3.1 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 limited 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[109].

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[110].

As noted in Chapter 2, the benefits of agglomeration are best achieved by investment in public transport infrastructure to efficiently link workers with jobs that drive economic activity[111]. This arises through two mechanisms. First, public transport infrastructure encourages densification and the location of workers nearer key employment centres. 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 performance of the SEQ region more broadly.

[109] *Sunshine Coast: The Natural Advantage – Regional Economic Development Strategy 2013-2033*, 2013, Sunshine Coast Council, p14

[110] *Productive Cities – Opportunity in a changing economy*, 2013, Grattan Institute, p39

[111] *State of Australian Cities 2014-15*, 2015, Department of Infrastructure and Regional Development, p111

4.3.2 Enhanced liveability and greater accessibility to employment, schools, shopping, services and recreational facilities

In a broad sense, this benefit sought relates to a desired enhancement of the region's liveability and an increase in accessibility and functionality 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 2, private vehicle travel within the Sunshine Coast region is the dominant mode 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[112].

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[113].

The Australian Government's *Smart Cities Plan* states that in the 21st century, cities need to be productive and accessible[114]. 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[115].

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[116]. 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 transpor[117].

4.3.3 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 to enhance the amenity of the urban corridor and to diversify the region's housing supply.

As discussed in Chapter 2, 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[118]. 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 costly infrastructure to mitigate this. The

[112] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p27

[113] *Role of public transport in delivering productivity outcomes*, 2014, Rural and Regional Affairs and Transport References Committee, p19

[114] *Smart Cities Plan*, 2016, Department of Prime Minister and Cabinet, p2

[115] *Smart Cities Plan*, 2016, Department of the Prime Minister and Cabinet, p11

[116] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p45

[117] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p46

[118] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p40

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[119].

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 4.3.1 above.

4.3.4 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 2 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[120]. 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[121].

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 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 3 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[122]. It should be noted however that these targets are region-wide, and that within the urban areas of the Sunshine Coast, public transport mode share could need

[119] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p4

[120] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p35

[121] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p28

[122] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p35

to be as high as 25 per cent to offset the continued private motor vehicle transport requirements within rural areas.

A mass transit solution that can effectively enhance and/or integrate into the existing transport networks on the Sunshine Coast, supported by an appropriate land use planning framework, will significantly improve overall accessibility and connectivity in the region.

4.4 Sunshine Coast Mass Transit Project Objectives

In response to the strategic analysis presented in Chapter 1, the problem and service need analysis presented in Chapter 2 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 5) and the options analysis (presented in Chapter 6). 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. A suite of sub-objectives have been identified for each objective to provide further definition and context. Table 4.1 summarises each objective and the respective sub-objectives.

Project Objective	Sub-Objectives
Support the Sunshine Coast's productivity, employment growth and self-containment aspirations 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 amenity and 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 Urban Corridor, including Maroochydore, Kawana, and Caloundra • Support the enhancement of the Sunshine Coast Urban Corridor's amenity and liveability that reinforces the lifestyle of the region that residents seek • Supports the *ShapingSEQ* target of 53,700 consolidation dwellings (approximately 62 per cent) by 2041
Improve accessibility, convenience and resilience of the	• Provide a highly visibility, legible, frequent (i.e. turn up and go (service with sufficient non-peak services), easy-to-use public

Project Objective	Sub-Objectives
integrated transport network	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 across the Sunshine Coast region 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 4.1 – 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.

5 STRATEGIC RESPONSES

5.1 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 problems and service needs identified in Chapter 2 and deliver the benefits sought identified in Chapter 4.

This chapter outlines:

- the relationship of the strategic responses to the other key elements of the ILM;
- the proposed strategic responses to the problems and service needs and benefits sought for the Project; and
- the conclusions drawn from the identified strategic responses, and their relationship to the initiatives identified in Chapter 6.

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 problem.

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; and
- 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.

5.2 Proposed Strategic Responses

As presented in the ILM in Chapter 2, 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 approach to land use, transport planning and economic development.
- Improvement and optimisation of current public transport network.
- Improving integrating public transport systems.

Each of these strategic responses is described in further detail in the sections below.

5.2.1 Managing/influencing development priorities and settlement patterns

This strategic response is driven by the benefits sought as presented in Chapter 4 relating to accessibility and land use improvements.

Chapter 2 discusses 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 62 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[123].

5.2.2 Implementation of road network demand management strategies

This strategic response is driven by the benefits sought presented in Chapter 4 relating to accessibility and transport network improvements.

As demonstrated in Chapter 2, there is a high private car usage within the Sunshine Coast region. This, combined with distance to employment, disconnected public transport networks and dispersed 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 needs to spend on building, maintaining and replacing the road network in the region.

5.2.3 Development of an integrated approach to land use, transport planning and economic development

This strategic response is driven by the benefits sought presented in Chapter 4 relating to productivity, accessibility and land use improvements.

As discussed in Chapter 2, *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[124]. Under any scenario, a revised land use strategy building on the *Sunshine Coast Planning Scheme 2014* would likely be required to focus on the development of the Sunshine Coast Urban Corridor, 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

[123] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p122

[124] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p122

Coast' in character which maximises development opportunities, housing choice and affordability[125].

The *Regional Economic Development Strategy* confirms that the Sunshine Coast Enterprise Corridor (which aligns with the Sunshine Coast Urban Corridor) will represent the key area for commercial and residential growth over the next 20 years and will 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[126].

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 approach to land use, transport planning and economic development 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 within the Sunshine Coast Enterprise Corridor and the region more broadly to act as a catalyst for sustainable infill growth and densification; and
- 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.

5.2.4 Improvement and optimisation of current public transport network

This strategic response is driven by the benefits sought presented in Chapter 4 relating to productivity, accessibility and transport network improvements.

As discussed in Chapter 2, 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[127].

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.

[125] *ShapingSEQ –South East Queensland Regional Plan*, 2017, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p122

[126] *Sunshine Coast: The Natural Advantage – Regional Economic Development Strategy 2013-2033*, 2013, Sunshine Coast Council, p20

[127] *Integrated Transport Strategy*, 2018, Sunshine Coast Council, p29

5.2.5 Investing in an upgraded integrated public transport system

This strategic response is driven by the benefits sought presented in Chapter 4 relating to productivity, accessibility, land use and transport network improvements.

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[128]. The *State Infrastructure Plan* notes that infrastructure investment has long-term benefits to labour productivity and incomes by enhancing the state's capital stock[129].

Studies such as *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) note 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[130].

New investment in transport infrastructure (regardless of mode) should be able to be staged to align the investment with service needs and spread the funding required over time, similar to the way that Gold Coast Light Rail is being delivered. Any new transport infrastructure would also need to be demonstrably integrated into the existing transport network, including active transport and last mile transport solutions. Potential integration with any future network changes that may be delivered by other government jurisdictions in the Sunshine Coast region should also be given due consideration.

5.3 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 6 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 challenges and service needs, it is reasonable to expect that a combination of the strategic responses may be required to achieve optimal long-term economic, land use and transport outcomes. As an example, any transport infrastructure initiative would likely deliver greater benefits if underpinned by an integrated approach to economic, land use and transport planning to guide urban renewal outcomes.

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[128] *State Infrastructure Plan (Part A: Strategy)*, 2016, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p9

[129] *State Infrastructure Plan (Part A: Strategy)*, 2016, Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p9

[130] *Connecting Brisbane*, 2017, Brisbane City Council and Department of Infrastructure, Local Government and Planning (now Department of State Development, Manufacturing, Infrastructure and Planning), p36

6 INITIATIVE IDENTIFICATION AND ANALYSIS

6.1 Purpose and Overview of this Chapter

The purpose of this chapter is to present the identified initiatives that could address the problems and service needs identified in Chapter 2. This chapter presents an analysis of initiatives against the project objectives identified in Chapter 4 and presents preliminary 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; and
- 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 problems and service needs, 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.

6.2 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 background and explanation as to how the initiatives were identified, and provides an overview of each initiative.

6.2.1 Background and Methodology

It was clear 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 problems. However, it was apparent through the ILM mapping that no current initiative alone could address every challenge 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

6.2.1.1 Alignment to State Infrastructure Plan Framework

Chapter 1 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 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[131]. 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 6.1 summarises the SIP Options Assessment Framework.

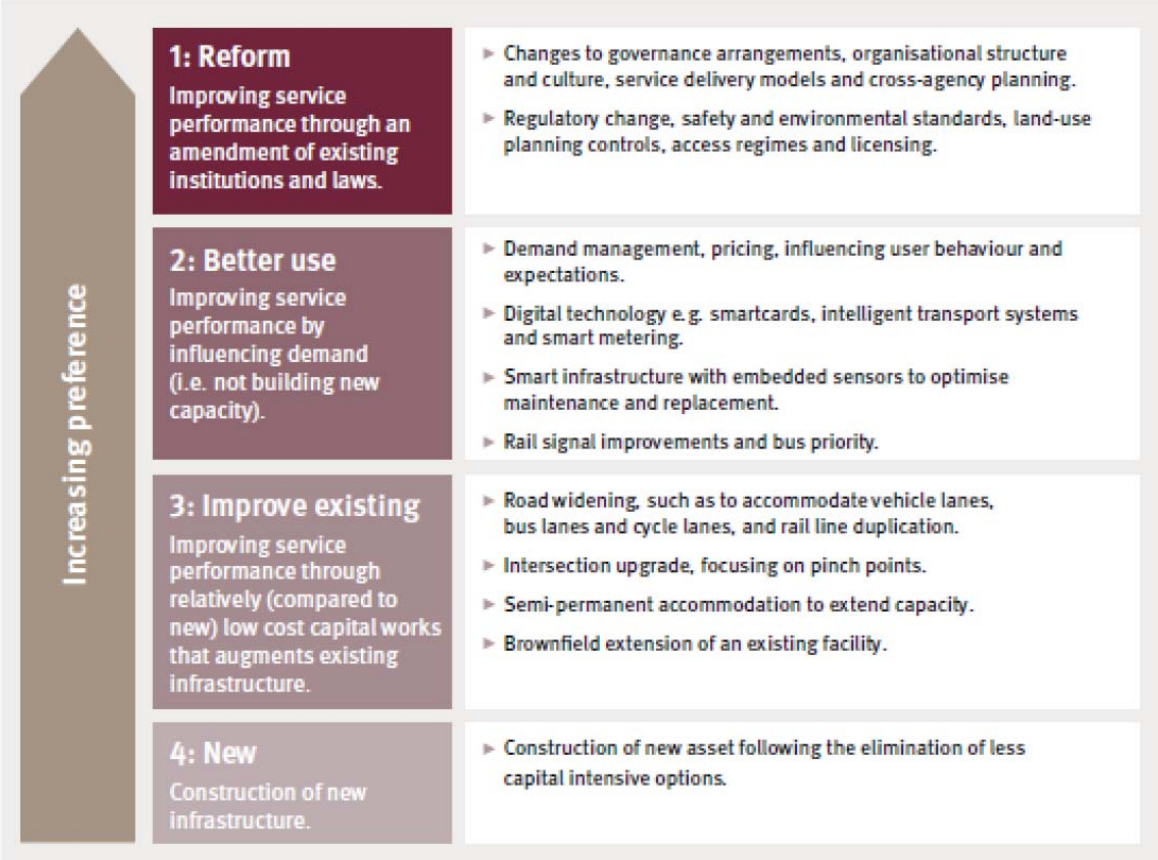

Figure 6.1 – SIP options framework

Each identified initiative was mapped to each relevant SIP category to demonstrate their alignment to the SIP framework.

6.2.2 Initiatives Description

As shown in the ILM in Chapter 2, a large number of initiatives were identified as forming part of a strategic response to address problems and service needs on the Sunshine Coast. These are listed and described in Table 6.1.

[131] *State Infrastructure Plan - Part A: Strategy*, 2016, Department of Infrastructure, Local Government and Planning, p41

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. Investigation of potential land use responses	This initiative involves an investigation and potential update of the *Sunshine Coast Planning Scheme 2014* 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.
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 and implementation of Integrated Transport Strategy	This initiative involves the implementation of early initiatives identified in the recently adopted *Sunshine Coast 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.
6. Development of Regional Economic Development Strategy	The Sunshine Coast Regional Economic Development Strategy 2013-2033 provides 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 Appendix 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 *Sunshine Coast Planning Scheme 2014* and *ShapingSEQ*.

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.
Infrastructure-based potential initiatives (refer to Figure 6.2)	
0. 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.
1. 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 Appendix 2).
2. Local mass transit[132] between Maroochydore and Caloundra	This initiative involves delivering an on-street mass transit system along a coastal corridor between Maroochydore, Kawana and Caloundra.
3. Local mass transit between Beerwah and Maroochydore	This initiative involves delivering an on-street mass transit system along a coastal corridor between Maroochydore and Kawana. The system then extends down to Beerwah through the CAMCOS corridor, with an on-street spur line to Caloundra.
4. Local mass transit between Maroochydore and Kawana, and passenger rail to Beerwah	This initiative involves an on-street mass transit system between Maroochydore and Kawana, and a passenger rail system from Kawana to Beerwah through the CAMCOS corridor.
5. Passenger rail between Beerwah and Sunshine Coast Airport, and local mass transit system 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 mass transit system from Maroochydore to Caloundra. This initiative is a combination of infrastructure initiatives 1.and 3. above.

Table 6.1 – Description of identified initiatives

6.3 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.

6.3.1 Current initiatives assessment

The eight 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

[132] Local mass transit refers to an on-road urban transport mode, such as light rail or bus rapid transit

overcome the forecast 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.

6.3.2 Reform/Better Use potential initiatives assessment

6.3.2.1 Land use reform

Potential initiatives based solely on land use reform are unlikely to meet the service need identified in Chapter 2. However, land use planning that reduces car dependence, and in particular arresting the trend towards urban expansion is identified in Chapter 1 as an important intervention to manage the risk of ongoing growth of congestion and ever-reducing amenity of the major urban centres in the region. Accordingly there are important land use planning initiatives, mostly related to achieving urban consolidation in the Sunshine Coast Urban Corridor, that need to be assessed.

6.3.2.2 Travel demand management

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 Sunshine Coast Urban 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 a desired shift to a new mass transit solution.

6.3.3 Infrastructure-based potential initiatives assessment

6.3.3.1 A major road system upgrade

The option of providing a major upgrade of the regions arterial road network with supporting increases in car parking to keep pace with growth of demand was considered at high level. Although such a program would be expensive, it would lend potential for some major options to be partially or fully recovered by user based tolls. It needs to be recognised however the stakeholders in the motor transport sector, and the community at large, would likely be opposed to such funding options.

The major concern with major upgrades to the road network is the high level of mismatch with current stated policies relating to the future development of the region. As noted under the Chapter titled “Introduction” in this Strategic Business Case, all three spheres of government are committed to a shift away from car dominated cities in the future. A major upgrade of the road system would increase the dominance of the private vehicle, create more emissions, use more energy and result in diminished amenity in the future. Providing a major upgrade to arterial roads would not meet key land use objectives, in particular urban renewal outcomes in the urban corridor, and would undermine the liveability of theregion. While a balanced, moderate program of major road investment will be obviously needed in a growing region, it should not be the sole response, given the long term impacts of motor traffic and car dependency.

6.3.3.2 Mass transit investment options

Based on initial consideration of the infrastructure-based potential initiatives, it can be concluded that any of the mass transit initiatives could potentially address all project objectives to varying degrees, as any of those initiatives could deliver economic, land use

and transport outcomes, and all could be considered deliverable at least at a very high level. In order to understand how each initiative could potentially address the Sunshine Coast Mass Transit Project objectives outlined in Chapter 4, they are further analysed in Section 6.5 below.

6.4 Shortlisted land use planning initiatives

6.4.1 Urban consolidation opportunities in the Sunshine Coast region

Under the terms of the *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; or
2. Redevelopment of existing vacant land or buildings for a higher intensity use that includes a significant proportion of residential accommodation; or
3. Development of new lots within the existing urban footprint, i.e. on the immediate urban fringe

When combined with mixed use development to include local services and attractions, the urban consolidation processes 1 and 2 could be termed "urban transformation"[133].

By far the greatest opportunity to achieve sustained urban consolidation occurs within the 24 km urban coastal corridor between Maroochydore and Caloundra, known as the Sunshine Coast Urban Corridor.

Consistent with recommendations of the relevant Queensland Government and Sunshine Coast Council policies and plans, this Sunshine Coast Urban Corridor holds the key to fostering more sustainable travel patterns, catalysing substantial economic growth and providing greater accessibility to all the lifestyle advantages the Sunshine Coast offers.

As noted by the Queensland Government's LSDM[134] when referring to mitigation strategies for the projected 14,000 shortfall on the consolidation 2041 dwelling supply benchmark of 53,700.

"Sunshine Coast Regional Council's planning scheme identifies opportunities to increase the planned dwelling supply in the consolidation area. In particular, through potential densification of development in the Sunshine Coast Enterprise Corridor, including around critical high-frequency public transport like the proposed Maroochydore to Caloundra light rail. Such planning scheme changes would contribute to addressing the identified shortfall in planned dwelling supply compared to the 2041 dwelling supply benchmark, and a number of such changes are already in process, such as those associated with the Sunshine Coast Enterprise Corridor."

Key elements of the planning for the transformation of this Sunshine Coast Urban Corridor would include:

- The development of a public transport (likely mass transit) spine (part of the focus of this SBC).
- Cross corridor connections – transit nodes located at intersections with high order east west streets, which have potential to better connect communities and amenity in the west to eastern neighbourhoods and beaches.
- Focused renewal – infill development within walkable catchments of public transport

[133] Sunshine Coast Council. 2017. *Urban Transformation – Directions Paper for the future of the Sunshine Coast*. P 20.
[134] Queensland Government. 2018. *Land supply and Development Monitoring Report. Ibid.*

is focused around cross corridor links and other uplift opportunities along the public transport spine allowing distinctive east west orientated villages to develop.

- Reinforcing established centres – specialised functions and existing centre hierarchy is supported and strengthened by improved transport networks and increased activity throughout the corridor.
- Enhanced pedestrian networks (combined with other elements) – streetscape and public realm upgrades which support direct and safe pedestrian and cycle networks between the public transport spine, renewal focus zones, community facilities and the beach.

In the short term, Sunshine Coast Council has also identified opportunities outside of the Sunshine Coast Urban Corridor to expand some of the Sunshine Coast's centres to diversify the local economies and increase levels of service. Growth in those centres that are located along the North Coast Rail Line would provide the additional benefit of increased housing opportunities that are served by public transport services. Approximately 500 hectares of developable land has been identified around smaller urban communities, which collectively might accommodate 3,000 to 5,000 additional dwellings. Communities intended to experience additional growth include the Glass House Mountains, Beerwah, Landsborough, Palmwoods, Nambour, Yandina and Bli Bl[135].

6.4.2 Contribution of Major Urban Expansion areas in Sunshine Coast Region

Although most of the greenfield developments that have occurred post-war in SEQ region have been sub-urban communities that are car-based, urban expansion can potentially be focused on non-car transport with the right combination of land use policies and infrastructure investment.

According to Sunshine Coast Council, the committed major development areas for urban expansion at Palmview and Caloundra South may contain sufficient supply to meet the majority of expected expansion housing demand up to and beyond 2031. However *ShapingSEQ* also identified Beerwah East as a major development area. This comprises a significant area of urban expansion, linking Aura to Beerwah. It has an area of over 3,500 hectares (predominantly state-controlled forestry plantation), not all of which will be developable. According to the SEQ Regional Plan 'Grow' working paper, Beerwah East has a dwelling capacity of approximately 25,000, and if development commences by 2021 is projected to contain 9,500 dwellings by 2041[136].

Both Caloundra South and Beerwah East are located on the CAMCOS future mass transit corridor, and provide opportunities to be linked the other major employment centres in the Sunshine Coastal Urban Corridor, as well as having regional rail connections to Brisbane. However, the future mass transit system in the CAMCOS corridor may be focussed on a regional connection to Brisbane, offering a lower service frequency than local mass transit

[135] Sunshine Coast Council. 2017. *Urban Transformation – Directions Paper for the Future of the Sunshine Coast*, 2017. p24
[136] Queensland Government. 2017. *Shaping SEQ background Paper 1: Grow*. P51.

due to downstream capacity constraints on the SEQ rail network. Accordingly, these new communities offer a lower chance of being focussed around non-car transport due to their remoteness from other parts of the urbanised Sunshine Coast region and likelihood of lower frequency service levels.

The Palmview community is in the initial stages of development. It is expected to contain an ultimate population of up to 17,000 residents, mostly housed in single unit dwellings. Palmview is remote from current or planned mass transit corridors. As can be observed in the form of development that is emerging there, Palmview seems to offer a much reduced chance of being oriented around non-car transport for longer trips.

It can be concluded that urban expansion into these new communities, while offering a popular choice for some residents, cannot adequately support the objectives for the Sunshine Coast in respect of urban consolidation and sustainable transport identified in the various government planning documents, as identified in Chapters 1 and 2.

6.5 Shortlisted mass transit investment Initiatives

6.5.1 Shortlisted initiatives

Based on the initial assessment of currently mooted initiatives, six potential infrastructure 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 – Local mass transit between Maroochydore and Caloundra
- Option 4 – Local mass transit between Beerwah and Maroochydore
- Option 5 – Local mass transit between Maroochydore and Kawana, and passenger rail to Beerwah
- Option 6 – Passenger rail between Beerwah and Sunshine Coast Airport, and local mass transit between Maroochydore and Caloundra

Figure 6.2 provides an overview of the each of the above options.

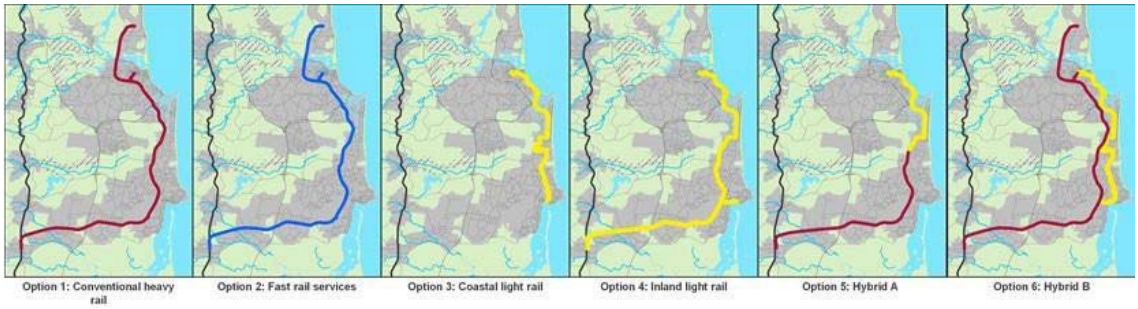

Figure 6.2 – Infrastructure-based potential initiatives for mass transit on the Sunshine Coast

These options were identified by Veitch Lister Consulting as part of the Sunshine Coast Concept Mass Transit Master Plan prepared for Sunshine Coast Council 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 Preliminary Business Case.

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 some options being considered for the North Coast Connect project being investigated on behalf of the Australian Government, as described in Appendix 2). By including a broad range of initiatives, government can be suitably informed on which solution will be best to progress.

6.5.2 Base Case

As noted above, the eight current initiatives that were identified in the ILM 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.

6.5.3 Results of analysis of mass transit infrastructure initiatives

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 4, 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 transportnetwork.
- Provide a deliverable and value for money solution.

Each initiative was allocated a score using the traffic light scoring system outlined in Table 6.2 below.

Result	Traffic light score
Strong alignment with the project objective	
Some alignment with the project objective	
Poor alignment with the project objective	

Table 6.2 – Strategic merit test traffic light scoring system

Table 6.3 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.

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. Regional passenger rail between Beerwah and Sunshine Coast Airport	🟡	🔴	🟡	🟡	🟡
2. Fast rail between Beerwah and Sunshine Coast Airport	🟡	🔴	🟡	🟡	🟡
3. Local mass transit in the coastal corridor between Maroochydore and Caloundra	🟡	🟢	🟡	🟢	🟡
4. Local mass transit between Beerwah and Maroochydore	🟢	🟢	🟡	🟢	🟢
5. Local mass transit between Maroochydore and Kawana, and passenger rail to Beerwah	🟢	🟢	🟡	🟢	🟢
6. Passenger rail between Beerwah and Sunshine Coast Airport, and local mass transit between Maroochydore and Caloundra	🟢	🟢	🟢	🟡	🟢

Table 6.3 – Strategic merit test summary results

While Option 1 (regional rail in CAMCOS) and Option 2 (fast rail in CAMCOS) deliver recognised transit outcomes and provide important connections between the region and Brisbane, they would have only a small number of local stations and would offer very limited potential for urban transformation. They would also increase the incidence of local car travel as passengers attempt to access these stations via park + ride or passenger set down modes. Accordingly, they provide limited scope (on their own) to support the high levels of local travel demand in the region without investing in more local roads and park + ride facilities.

Option 3 (local mass transit in the coastal corridor between Maroochydore and Caloundra) 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 (local mass transit between Beerwah and Maroochydore) would deliver good outcomes across all objectives given the connection provided through the inland CAMCOS corridor and along the Sunshine Coast Urban Corridor. For the most part, this initiative provides good transport outcomes, however it should be noted that a localised mass transit system through the CAMCOS corridor could result in lower top speeds and therefore slightly longer public transport travel times compared to the fast rail and regional rail initiatives. These travel time increases could be partially offset by faster acceleration and deceleration. Local mass transit 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, (local mass transit between Maroochydore and Kawana, and passenger rail to Beerwah) provides a good compromise between regional connections to Brisbane and local travel, and strongly supports urban renewal in the Maroochydore to Kawana portion of the Sunshine Coast Urban Corridor. It links the Maroochydore City Centre to other major centres and a potential growing catchment of workers and customers. Long term urban renewal outcomes may be lessened given the local mass transit system does not extend to Caloundra town centre, unlike Options 3, 4 and 6.
This task could be serviced by a high frequency bus with priority (to compete with private vehicle travel times). This option presents a possible staging option for an ultimate solution.

Option 6 (passenger rail between Beerwah and the Sunshine Coast Airport, and local mass transit between Maroochydore and Caloundra) 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.

Since Option 6 is most closely aligned with the VLC Concept Mass Transit Network Strategic Plan discussed in Chapter 1, Introduction of this Strategic Business Case. It represents a potential ultimate solution for the Sunshine Coast. It will require significant capital outlay to deliver the required infrastructure. However, the delivery of a mass transit network aligned to Option 6 offers numerous staging possibilities.

6.6 Conclusions on potential initiatives

The analysis in this chapter demonstrates that the current initiatives that Council and TMR are undertaking are not (on their own) sufficient to meet the project objectives of the Sunshine Coast Mass

Transit Project. This is supported by the problem and service needs analysis in Chapter 2 which shows that the current initiatives (collectively assumed to be the Base Case or 'without project' case) cannot fully address the problems or benefits sought 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 consolidation, although it is an essential response to support investment in mass transit. As discussed in Chapters 4 and 5, 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 performed best were those that provide:

- coverage along the coastal areas of the Sunshine Coast region from Maroochydore to Caloundra;
- inland connections through greenfield developments connecting to the existing regional passenger rail network.

6.7 Recommended approach for the Preliminary Business Case

6.7.1 Land use strategy

A comprehensive land use strategy is required that addresses service needs relating to:

- Managing congestion;
- containing urban expansion;
- reducing car dependence, and managing congestion; and
- enhancing the growth of local industries and employment opportunities.

That strategy will have urban consolidation, supporting increased use of public transport, and supporting a good mix of uses at its heart, and would include:

- The development along public transport (likely mass transit) spines (part of the focus of this SBC).
- Cross corridor connections – transit nodes located at intersections with high order east west streets, which have potential to better connect communities and amenity in the west to eastern neighbourhoods and beaches.
- Focused renewal – infill development within walkable catchments of public transport is focused around cross corridor links and other uplift opportunities along the public transport spine allowing distinctive east west orientated villages to develop.
- Reinforcing established centres – specialised functions and existing centre hierarchy is supported and strengthened by improved transport networks and increased activity throughout the corridor.

- Enhanced pedestrian networks (combined with other elements) – streetscape and public realm upgrades which support direct and safe pedestrian and cycle networks between the public transport spine, renewal focus zones, community facilities and the beach.

6.7.2 Mass transit investment by area

Given the size of the ultimate mass transit solution for the region, it is necessary to narrow the focus of analysis on a mass transit solution for the Preliminary Business Case. Figure 6.3 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 6.3 – Geographic breakdown and focus areas for a Sunshine Coast mass transit solution

In the short to medium term, investment in mass transit in Priority Areas 1 and 2 would best support the mass transit project objectives by:

- optimising the needs for regional and local connections, and
- supporting urban renewal outcomes and economic development; and
- providing a feasible solution for staged investment that is consistent with a long term strategic plan.

6.7.3 Recommended priorities for mass transit investment

The Strategic Business Case has determined that the recommended priorities for investment in a new mass transit system (as illustrated in Figure 6.3 above) should be in the following order:

1. **The coastal northern sector of the Sunshine Coast Urban Corridor between Maroochydore and Kawana** (Priority Area 1). 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. Priority Area 1 should therefore be the focus of investigations for future stages of the Sunshine Coast Mass Transit business case process.

   While a discrete range of mass transit technologies was assumed for the purposes of the analysis in this chapter, the PBC will investigate potential modes and transport technologies further. Sunshine Coast Council has previously considered a range of technologies such as elevated rail and quality bus corridors for the Priority Area 1 corridor, however these will be reconsidered in the PBC.

   Having regard to current commercially available mass transit technologies suitable for an urban renewal corridor, a comparison between light rail and bus rapid transit presents as one likely focus for determining a preferred technology through subsequent phases of the business case process. Other elements of any potential solution for Priority Area 1 that the PBC will confirm include the detailed transit route and station location.

2. **The growth corridor between Kawana and Beerwah which includes the inland southern sector of the preserved mass transit corridor known as "CAMCOS"** (Priority Area 2)**.** 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** (Priority Area 3)**.** 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 point (1) and (2) above.

4. **The central sector of CAMCOS from Maroochydore to the Sunshine Coast Airport** (Priority Area 4)**.** 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 the State capital. The option of this connection should therefore be kept open as a longer term priority.
5. **The northern sector of CAMCOS from Maroochydore to the Sunshine Coast Airport** (Priority Area 5). 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.

7 PRELIMINARY BUSINESS CASE PLANNING

7.1 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 Detailed Business Case (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, 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.

7.2 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 7.1 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 – May 2019[1] (considered by Council in July 2019)
Preliminary Business Case development	March 2019 – May 2020[2]
Detailed Business Case development	February 2020 – December 2021
Investment Decision and Procurement	By end 2022 (indicative)
Delivery	By end 2026 (indicative)

Table 7.1 – Key milestones for the Sunshine Coast Mass Transit Project

[1] Note the overlap in SBC and PBC dates allows for PBC establishment activities to commence while the SBC is finalised

[2] Note the overlap in PBC and DBC dates allows for DBC establishment activities to commence while the PBC is finalised

The Sunshine Coast Mass Transit Project PBC has commenced and is expected to be considered by Council in May 2020.

Figure 7.1 presents a high-level schedule outlining the indicative timeframes to complete the Sunshine Coast Mass Transit Project PBC.

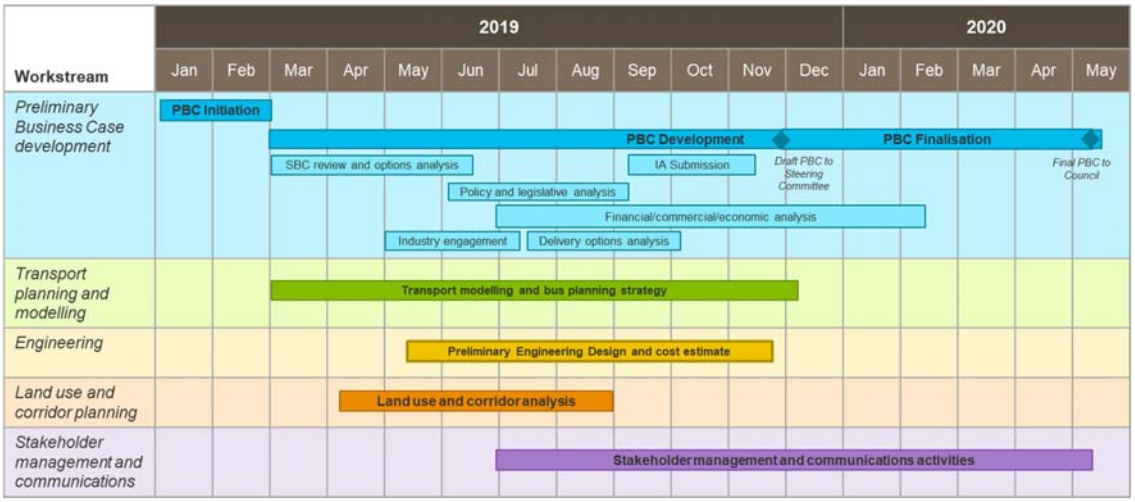

Figure 7.1 – Sunshine Coast Mass Transit Project PBC Schedule

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 7.2.1 below.

7.2.1 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)
- Infrastructure Australia's Assessment Framework
- 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 7.2.

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	

Key Activity	Tasks
Strategic transport modelling	• Update strategic modelling parameters where required. • Update to incorporate analysis requirements foroptions analysis (mode types, alignments etc.). • Develop outputs to inform preliminary capital, operatingand 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 (suchas alternative population forecasts, service plans, feeder service networks, other transport project impacts etc.) totest 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 thepreferred 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 updateidentified 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 andoperating costs estimates.
Land use and corridor planning workstream	

Key Activity	Tasks
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. • 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 7.2 – Key activities to be undertaken during the PBC for the Sunshine Coast Mass Transit Project

7.2.2 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.

7.2.2.1 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 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 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.
- 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.

7.2.2.2 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.

7.3 Preliminary Business Case resource planning

The proposed project team structure for the PBC phase is shown in Figure 7.2. Elements of the non-core team will be activated as required during the PBC phase.

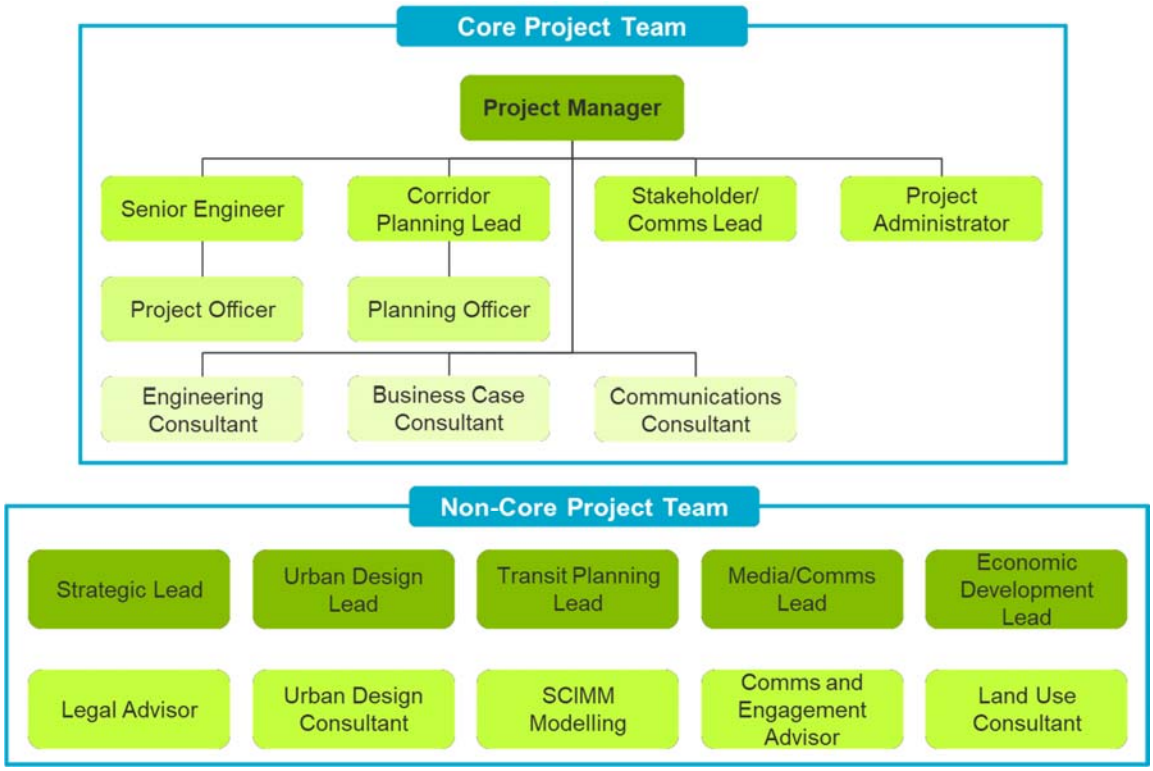

Figure 7.2 – Sunshine Coast Mass Transit Project Team for the PBC phase

The key project team resources and the working arrangements for the development of the PBC phase are shown in Table 7.3.

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 be 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: o Project Manager to December 2019 o Senior Engineer to December 2019 o Corridor Planning Lead to December 2019 o Planning Officer to December 2019 o Legal Officer (0.4 FTE (full time equivalent) to December 2019) o Communications Lead to December 2019 o Project Administrator to December 2019

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: o Queensland Government o Transport Planning and Traffic Lead o Economic Development and Major Projects Lead o Strategic Planning Lead o 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 7.3 – Sunshine Coast Mass Transit Project PBC key resourcing considerations

7.4 Preliminary Business Case budget

The proposed budget for the Sunshine Coast Mass Transit Project PBC Phase is summarised in Table 7.4

Item	Timing	Delivery Method	Estimated Cost
Internal Resources			
Project Manager	February 2019 – December 2019	Contractor	
Senior Engineer	February 2019 – December 2019	Internal resource 1.0 FTE	$105,000
Principal Planning Officer	February 2019 – December 2019	Internal resource 1.0 FTE	$105,000
Planning Officer	February 2019 – December 2019	Internal resource 1.0 FTE	$75,000
Communications Lead	February 2019 – December 2019	Internal Resource 0.2 FTE	$15,000
Legal Manager	February 2019 – December 2019	Internal Resource 0.4 FTE	$42,000
Project Administration	February 2019 – December 2019	Internal resource 1.0 FTE	$71,250
Subtotal for Internal Resources			**$413,250**
External Resources			
Engineering reference design	March 2019 to October 2019	Service provider	$750,000
Corridor master plan	March 2019 to December 2019	Service provider	$220,000
Virtual reality model	March 2019 to December 2019	Service provider	$ 80,000
Business case preparation	March 2019 to December 2019	Service provider	$850,000
Stakeholder consultation	March 2019 to December 2019	Service provider	$130,000
Mass transit system master plan	March 2019 – December 2019	Service provider	$580,000
Subtotal for External Resources			$2,610,000
Subtotal for All Resources			**$3,023,250**
Contingency (20%)			*$604,650*
Total Budget (including Contingency)			**$3,627,900**

Table 7.4 – Sunshine Coast Mass Transit Project PBC Budget

7.5 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 1, are considered to meet this criterion and will therefore continue to govern the Sunshine Coast Mass Transit Project throughout the PBC phase. This includes the continuation of the Business Case Reference Group, with key Queensland Government and Australian Government representatives providing guidance and feedback to the PBC. In particular, guidance will be sought from Building Queensland on the PBC to assist in the development of a high-quality PBC, as it is expected that the DBC could be delivered by Building Queensland.

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 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.

7.6 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 3, 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.)
- targeted project briefings
- public communications, including media statements and project updates
- market sounding
- stakeholder consultation activities.

As noted in Section 7.2.1 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.

8 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.

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 Sunshine Coast region's problems and 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 transport challenges for the Sunshine Coast region:

1. growing levels of road congestion on key arterial roads within the Sunshine Coast region, resulting in increasing costs of congestion, lost productivity and eroded regional amenity;
2. a high level of dependency on private motor vehicle transport, resulting in low levels of public transport mode share, as current public transport options are considered uncompetitive compared to private vehicles;
3. urban expansion increases the need to travel and reduces the effectiveness of public and active transport, and reinforces car dependence; and
4. the continuing need to broaden the economic base to retain high levels of employment self-containment.

Figure 9.1 provides a graphical summary of the key factors contributing to the service needs discussed in the SBC.

[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.

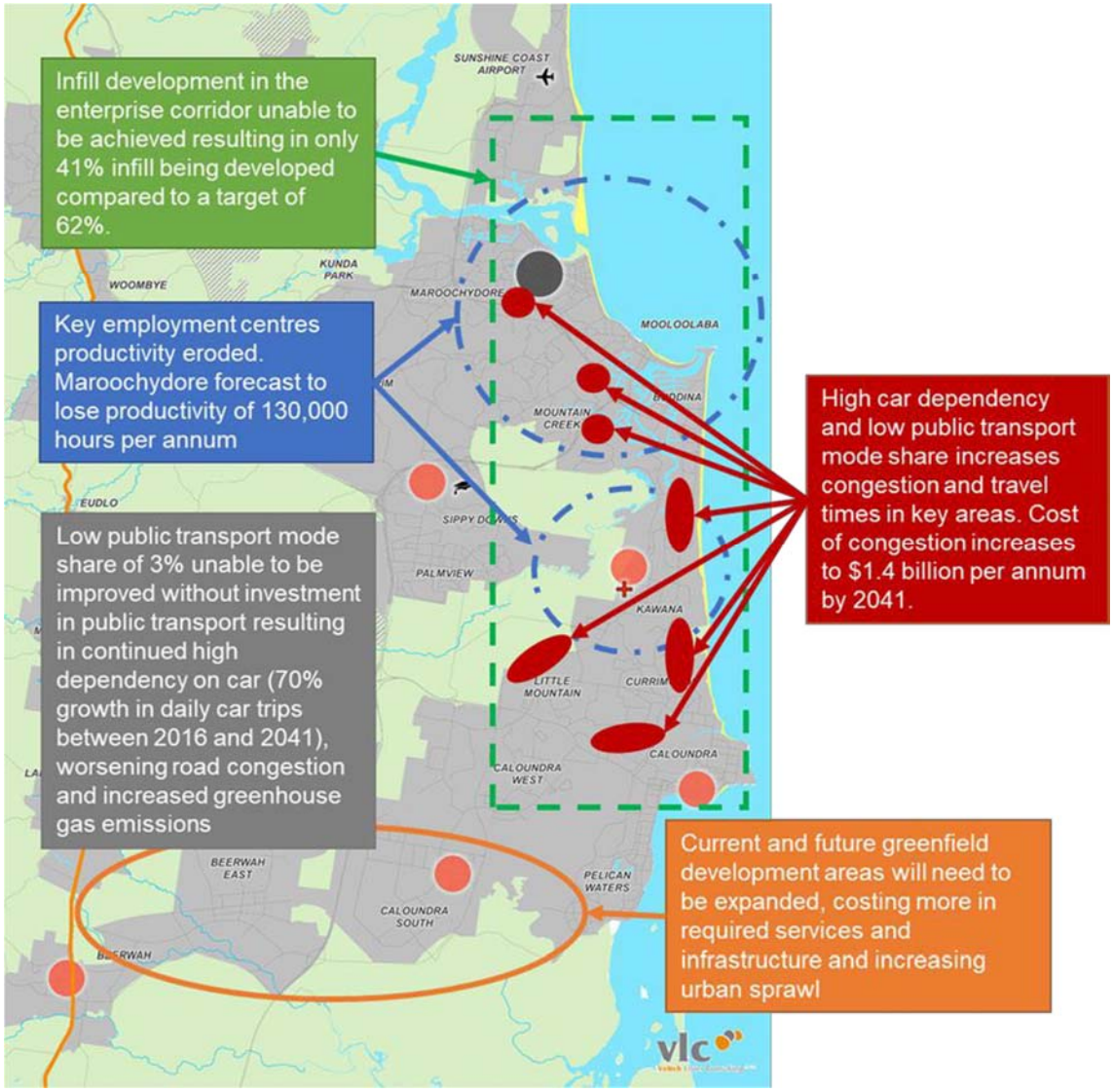

Figure 9.1 – Sunshine Coast region service need summary

The service need analysis has established that there is an urgency for a mass transit solution for the Sunshine Coast, particularly if consolidation/infill development targets established by *ShapingSEQ* are to be achieved. Without a catalytic project within the Sunshine Coast Urban Corridor (which is where the majority of the infill development will be directed towards) including appropriate land use planning interventions, 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 is 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. Road congestion will also degrade the region's productivity through lost hours and will also have detrimental impacts on liveability and tourism.

There is a need to fundamentally influence the current path of development that is occurring on the Sunshine Coast. Urban consolidation and infill development needs to be supported, not only to meet policy requirements, but more importantly to support the needs of residents to easily access their places of employment or places of leisure to improve the level of liveability in the region. The Sunshine Coast Urban Corridor must accommodate a significant proportion of the region's new housing through urban renewal and infill development to support planned dwelling and population targets and achieve an urban form characterised by high levels of amenity and a diverse range of housing styles, which are also considered affordable. The corridor needs to attract growth and housing development through ensuring adequate and sustainable public transport is available to improve the attraction of investment in the corridor.

In order to address the identified service needs, there are four potential benefits sought:

- Link priority economic development areas (Maroochydore Principal Activity Centre, Kawana Major Activity Centre, Caloundra Major Activity Centre), knowledge-based industry areas (Maroochydore and Kawana Health Precinct) and tourist destinations (Sunshine Coast Airport, Mooloolaba and Caloundra).
- Enhanced liveability and 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 four 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.
- A significant improvement and optimisation of the current public transport network, founded upon a new high frequency mass transit system.

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 4 and 5, 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 incremental upgrades to the road network would not meet demand growth or support key land use objectives, in particular urban renewal outcomes in the coastal urban corridor.
- An option of major capital investment in new roads and supporting car parking in major employement centres would be expensive and would result in a high level mismatch with the stated policies of all three spheres of government. These policies seek to achieve a sustainable future with a major shift away from car dominated cities.
- In terms of capital investment in mass transit, it was concluded that the initiatives that provide coverage along the coastal urban 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 an optimised 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[137]), which highlights the key elements of each geographical area.

[137] Option 6 from the *Sunshine Coast Concept Mass Transit Plan* (Veitch Lister Consulting, 2018)

Figure 9.2 – Geographic breakdown and focus areas for a Sunshine Coast mass transit solution

- It is proposed that Priority Areas 1 and 2 could be progressed in the short to medium term, as these areas have a large contingent of greenfield developments (Area 2) and urban transformation and economic activity centres (Area 1).
- Based on the problem and service need analysis findings, it is recommended that the PBC should focus on the solution for Priority Area 1. Aside from its potential to address the aforementioned problems, Priority Area 1 will offer the best opportunity to achieve urban transformation on the Sunshine Coast Urban Corridor to build a connected, lifestyle community with housing and employment choices, connected by mass transit.

- 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 (Area 2), 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 7.

9.3 Conclusions

The problems identified in this Strategic Business Case can be addressed by meeting three key service needs:

- A major improvement to mass transit to provide an integrated network connecting the major activity centres and housing areas and linking it to Brisbane. This will reduce congestion, and free up valuable road space for freight and commercial traffic;
- A coordinated strategy to accelerate urban consolidation and infill, with a focus on the Sunshine Coast Urban Corridor to provide a land use settlement pattern that can reduce car dependency and the amount of travel required in the community; and
- An ongoing program to boost and connect local employment industries in areas close to mass transit, to allow a greater number of residents to live closer to their places of employment and provide easier accessibility to those economic areas.

By actively pursuing investment in a mass transit network for the region in concert with a coordinated strategy to achieve consolidation of housing and employment in the Sunshine Coast Urban Corridor, the Sunshine Coast region can harness a range of integrated economic, land use and transportation benefits.

If achieved, these outcomes result in the Sunshine Coast Urban Corridor becoming a sustainable a lifestyle community with broad housing and employment choices, connected by a frequent and efficient mass transit network.

9.4 Recommendations

It is recommended that the Sunshine Coast Mass Transit Project Strategic Business Case progress to the Preliminary Business Case stage, under the Queensland Government's Project Assessment Framework and Building Queensland's Business Case Development Framework. The Preliminary Business Case development should note that:

1. the Sunshine Coast Mass Transit Project is aiming to achieve the following objectives:
    - Supporting the Sunshine Coast's productivity, employment growth and self-containment aspirations by supporting existing and emerging strategic centres;

- Maintaining, and where possible improving amenity and 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.

2. 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.
3. An optimised mass transit solution is required to address the productivity, accessibility, land use and transport service needs of the wider Sunshine Coast region, however given the urgency of various transport and land use issues, Council should focus on a project solution within the Maroochydore to Kawana corridor.
4. Investment in mass transit in Priority Area 1 on the Sunshine Coast Urban Corridor between Maroochydore and Kawana best addresses a key need to arrest the accelerating growth in urban expansion and support stated policy goals aimed at achieving ongoing urban consolidation and employment growth. This area contains the major employment and business growth centres of the region, as well as having significant potential for urban transformation. Priority Area 1 offers the best immediate opportunity to achieve urban transformation in the Sunshine Coast Urban Corridor to build a connected, lifestyle community with diverse housing and employment choices, all linked by local mass transit.
5. The growth corridor between Kawana and Beerwah which includes the inland southern sector of the preserved mass transit corridor known as “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.
6. The coastal southern sector of the Sunshine Coast Urban Corridor from Kawana to Caloundra provides integrated land use and transport opportunities, and potential 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 recommendations (4) and (5) above.
7. The central sector of CAMCOS from Maroochydore to Kawana 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 region to the State capital. The option of this connection should therefore be kept open as a longer term priority.
8. Development of mass transit in the northern sector of CAMCOS from Maroochydore to the Sunshine Coast Airport 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. By 2040, Sunshine Coast Airport is forecast to facilitate approximately 3 million passengers per annum and 2,300

passengers during the terminal's busy hour[138]. 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 a corridor for a future longer term mass transit connection should be a priority, and should be reflected in the airport's master plan

9. 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) and the Mooloolah River Interchange and Kawana Arterial projects.

[138] Sunshine Coast Airport Pty Ltd. 2019. Sunshine Coast Airport Draft Master Plan 2040. P 10

APPENDIX 1 – GOVERNANCE RESPONSIBILITIES

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 • 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:
	  o problem, service need and benefits sought definition
	  o technical project options
	  o stakeholder interests and requirements
	  o economic analysis
	  o business case development requirements
	• Provide input to resolution of key issues identified during course of analysis

Governance Level	Role
	• 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 A1.1 – Sunshine Coast Mass Transit Project SBC governance roles and responsibilities

APPENDIX 2 – REGIONAL GROWTH CONTEXT

1.1 Sunshine Coast Urban Corridor – Maroochydore to Caloundra

Under *ShapingSEQ*, the Sunshine Coast has been tasked with achieving a significant portion of its future growth through infill development with a focus on the coastal corridor between Maroochydore and Caloundra. This corridor is the key to fostering more sustainable travel patterns, catalysing substantial economic growth and providing greater accessibility to all the lifestyle advantages the Sunshine Coast offers.

The corridor between Maroochydore and Caloundra is approximately 24 kilometres in length and occupies an area of some 4,670 hectares. On average, it extends around one kilometre either side of Nicklin Way and currently accommodates just over 80,000 people. The western extent is naturally defined by the green frame created by the Mountain Creek and Meridan Plains environmental areas, and by the Sunshine Motorway in the north.

Figure 1 provides an overview of the corridor, including its consolidated development potential.

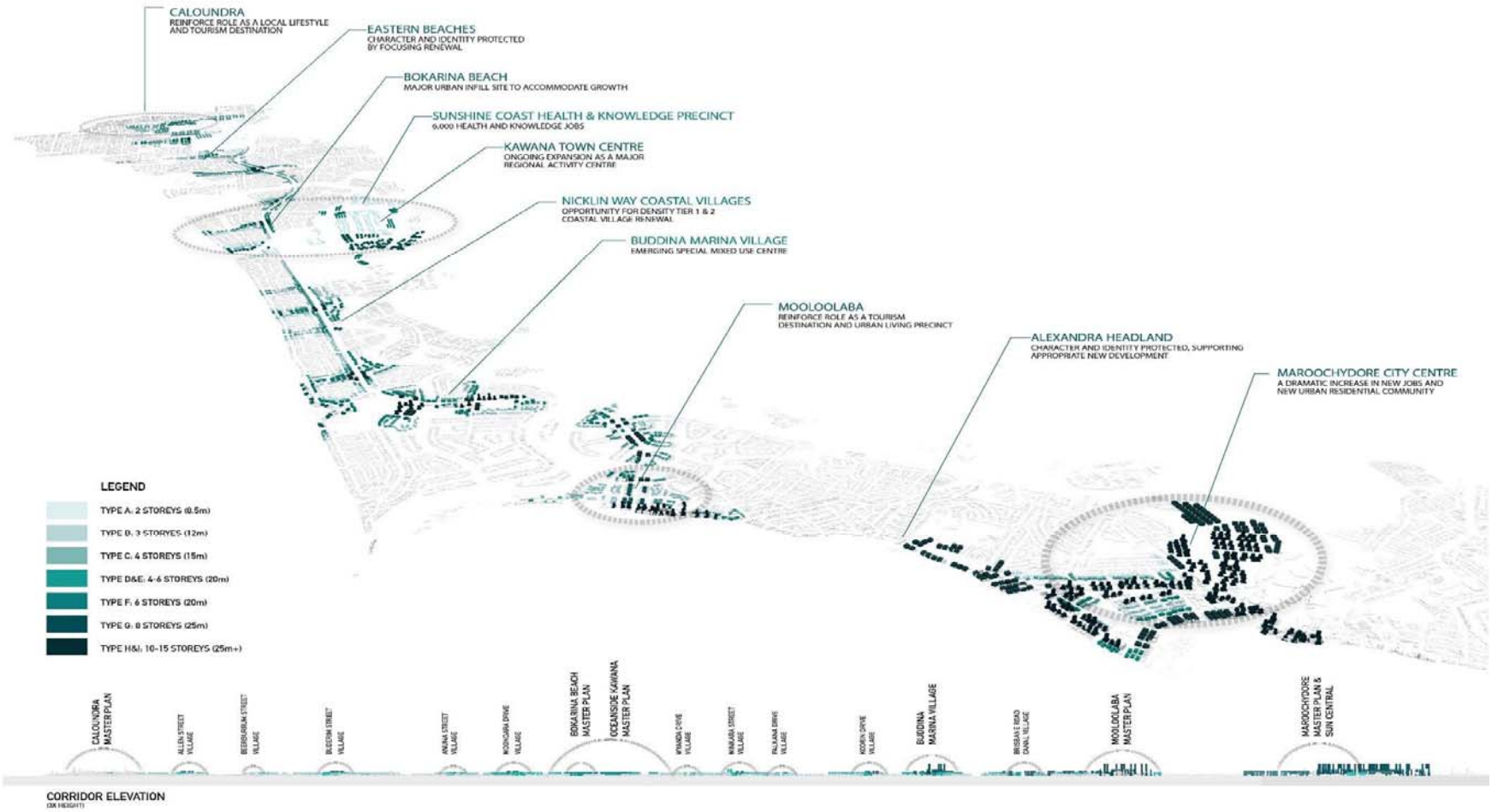

Figure 1 – Sunshine Coast Urban Consolidation Corridor locations and development opportunities[139]

139 *Maroochydore to Caloundra Corridor Strategy (Draft)*, 2017, Sunshine Coast Council, p37

Localities in the corridor include the Sunshine Coast's traditional centres and suburbs which have developed in successive waves since the 1970's. These include Maroochydore, Alexandra Headland, Mooloolaba, Minyama, Buddina, Parrearra, Warana, Birtinya, Bokarina, Wurtulla, Currimundi, Battery Hill, Dicky Beach, Moffat Beach, Shelly Beach, Kings Beach and Caloundra.

Overall, about 57 per cent of dwellings in the Maroochydore to Caloundra corridor are detached houses, and densities are generally low, at around 5 to 10 dwellings per hectare. Higher density and higher rise residential and tourist accommodation occurs around Maroochydore, Mooloolaba and Caloundra, with some more recent development at Kawana. Some areas around Maroochydore, Alexandra Headland and Mooloolaba support higher densities at around 20 to 40 dwellings per hectares, however these are substantially lower than the target densities advocated in *ShapingSEQ*[140].

The corridor is connected by a linear network of predominantly north-south major works. Nicklin Way, Kawana Way and the Sunshine Motorway are major conduits for traffic movement within the area. Infill development within the coastal corridor will optimise utilisation of the existing water and sewer networks and substantial capacity exists to accommodate growth at the Kawana sewerage treatment plant.

Key employment centres include:

- Principal regional activity centre – Maroochydore is the regional's urban core and accommodates the highest order employment, commercial, retail, government and community service base on the Sunshine Coast.
- Major regional economic activities – Kawana and Caloundra are major hubs for health, entertainment, business, retail and employment. The Sunshine Coast Health Precinct (part of the Kawana centre) is also recognised as an important focus of knowledge and technology.
- District activity centres – Mooloolaba, Buddina and Currimundi contain a mix of commercial, retail and entertainment activities.
- Local activity centres – Cotton Tree, Bundilla, Minyama, Warana, Thunderbird Drive, Bokarina, Moondara Drive and Piringa Street, Wurtulla, and Beerburrum Street and Battery Hill provide local support and convenience services.
- Specialised centres – Sugar Road, Caloundra, Minyama, Warana and Currimundi include specialised centres including showroom and large format retailing.

Key elements of the planning for the urban renewal of the corridor include:

- The development of a public transport (likely mass transit) spine (the focus of this SBC).
- Cross corridor connections – transit nodes located at intersections with high order east west streets, which have potential to better connect communities and amenity in the west to eastern neighbourhoods and beaches.

- Focused renewal – infill development within walkable catchments of public transport

[140] *Maroochydore to Caloundra Corridor Strategy (Draft)*, 2017, Sunshine Coast Council, p7

is focused around cross corridor links and other uplift opportunities along the public transport spine allowing distinctive east west orientated villages to develop.

- Reinforcing established centres – specialised functions and existing centre hierarchy is supported and strengthened by improved transport networks and increased activity throughout the corridor.
- Enhanced pedestrian networks (combined with other elements) – streetscape and public realm upgrades which support direct and safe pedestrian and cycle networks between the public transport spine, renewal focus zones, community facilities and the beach.

1.1.1 Urban Expansion – Palmview, Caloundra South and Beerwah East

In the short term, there are opportunities to expand some of the Sunshine Coast's centres to diversify the local economies and increase levels of service. Growth in those centres that are located along the North Coast Rail Line provide the additional benefit of increased housing opportunities that are served by public transport services. Approximately 500 hectares of developable land has been identified around smaller urban communities, which collectively might accommodate 3,000 to 5,000 additional dwellings. Communities intended to experience additional growth include the Glass House Mountains, Beerwah, Landsborough, Palmwoods, Nambour, Yandina and Bli Bli[3141].

Committed greenfield areas at Palmview and Caloundra South contain sufficient supply to meet the majority of expected demand up to and beyond 2031. The *ShapingSEQ* Identified Growth Area at Beerwah South is a small area adjoining the southern boundary of the centre. It offers opportunities for additional greenfield development which will build on the existing Beerwah centre. This area is considered to be suitable for urban development in the short to medium term. Beerwah East would represent a significant expansion to the existing urban footprint, linking Caloundra South to Landsborough and Beerwah. It has an area of over 3,500 hectares (predominantly state-controlled forestry plantation), not all of which will be developable. Subject to further investigations, it may have the potential to accommodate approximately 20,000 new dwellings in the long term. It is not anticipated that Beerwah East would be developed until the medium to long term[142].

Figure 2 provides an overview of the planned urban expansion areas in relation to the urban consolidation areas within the Sunshine Coast region.

[141] *Urban Transformation – Directions Paper for the Future of the Sunshine Coast*, 2017, Sunshine Coast Council, p24
[142] *Urban Transformation – Directions Paper for the Future of the Sunshine Coast*, 2017, Sunshine Coast Council, p24

Figure 2 – Summary of urban expansion areas within the Sunshine Coast

While it is recognised that these greenfield developments provide a shorter-term solution to the forecast population growth and housing demand within the region, Council believes that growth can be better managed through a settlement pattern that provides a combination of greenfield development and urban transformation (i.e. infill development within established urban centres along the coastal corridor) development. This combined settlement pattern will underpin a more sustainable future which optimises economic, community and environmental outcomes[143].

1.2 Regional development projects and initiatives

There are a number of regional development initiatives which will link with and drive 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 Submarine Cable Network
- South East Queensland City Deal.

The interdependency between mass transit, land use and regional growth is important to define to ensure a coordination of transport, land use and economic growth outcomes for the region.

1.2.1 Maroochydore City Centre Priority Development Area

Maroochydore has a 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, subsequently amended in April 2016, and is currently undergoing further review with draft proposed amendments to increase the residential density components. 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.

[143] *Urban Transformation – Directions Paper for the Future of the Sunshine Coast*, 2017, Sunshine Coast Council, p26

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, accessibility and connectivity to and around the city centre will be essential. 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.

1.2.2 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 Caboolture to Maroochydore Corridor Study (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.

1.2.3 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 over 2 million 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.

1.2.4 Sunshine Coast International Broadband Submarine Network Cable

The Sunshine Coast International Broadband Network Cable project includes the delivery of a 550 kilometre undersea fibre optic cable, and supporting land infrastructure, which will connect the Sunshine Coast to the 9,600 kilometre 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 forecast 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.

1.2.5 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.

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.

In early 2019, a blueprint for the SEQ City Deal was released and in March 2019, a Statement of Intent was signed by all three levels of government to work together to design and implement a City Deal. Priority areas for the City Deal were identified, including:

- Connecting Infrastructure
- Jobs and Skills
- Liveability and Sustainability
- Housing and Planning
- Digital
- Governance and Leadership

It is expected that transport projects being considered for the SEQ City Deal will focus on transforming regional connectivity and the Sunshine Coast Mass Transit project may be included in these considerations.

1.3 Sunshine Coast transport network overview

The Bruce Highway runs through the 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.

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.

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 1.5.3 below, proposes to improve the capacity of the line).

The Sunshine Coast region is served by approximately 24 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 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.

Population, housing and employment growth has significant implications for the transport network. Figure 3 provides a summary of the key transport routes within the Sunshine Coast region and a number of key identified deficiencies.

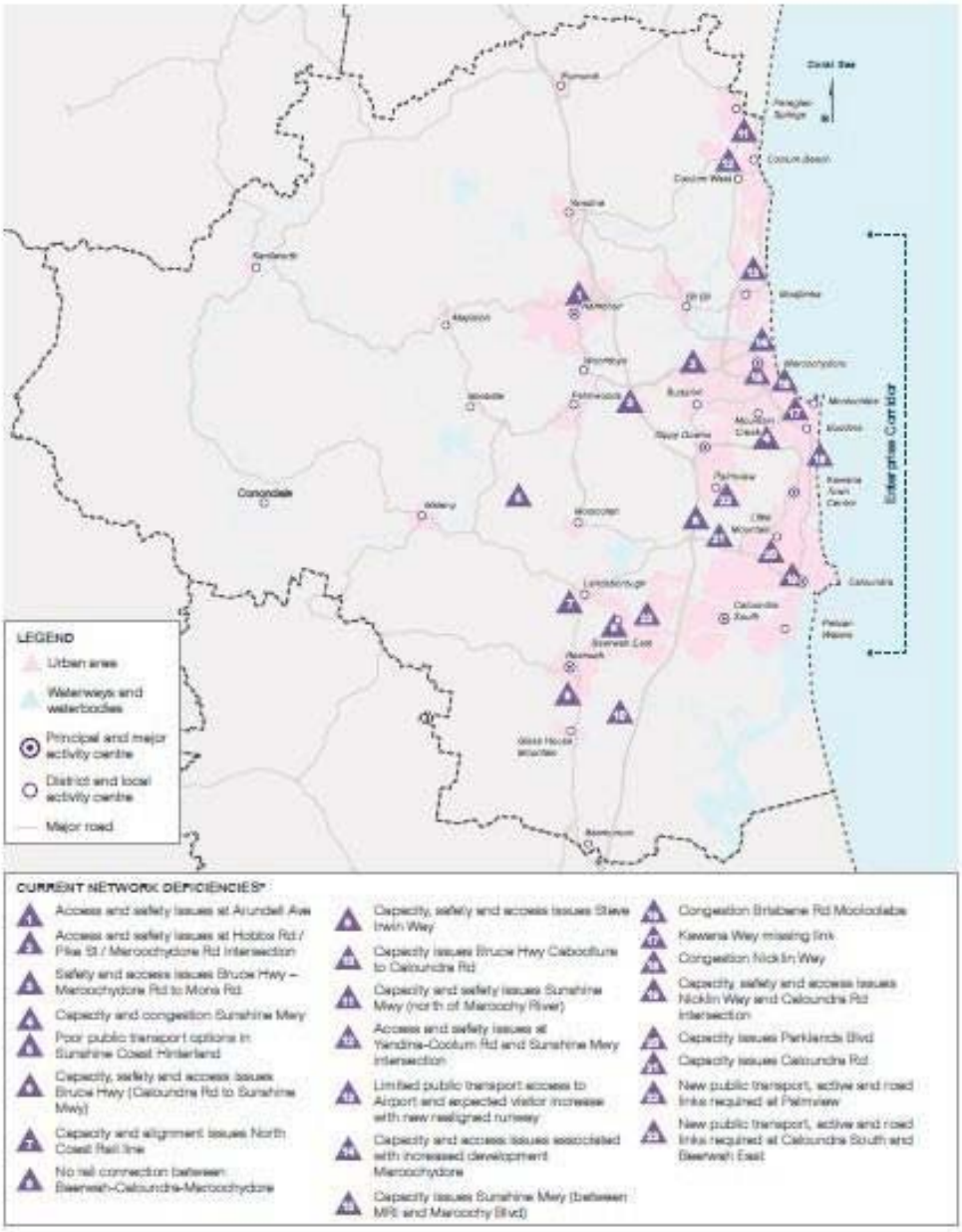

Figure 3 – Current transport network deficiencies on the Sunshine Coas[144]

The transport network within the Sunshine Coast is experiencing growing road congestion, particularly on Nicklin Way, Kawana Way, Caloundra Road 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. Five per cent of trips will travel south towards Brisbane and the Moreton Bay region and the remaining five per cent of trips will travel north

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

and west of the region[145]. 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 1.4 below, along with commentary on their current status.

1.4 Previous transport 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.

1.4.1 Caboolture to Maroochydore Corridor Study

The South East Queensland Integrated Regional Transport Plan of 1997 identified the need for protecting major transport corridors. The 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 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 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.

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

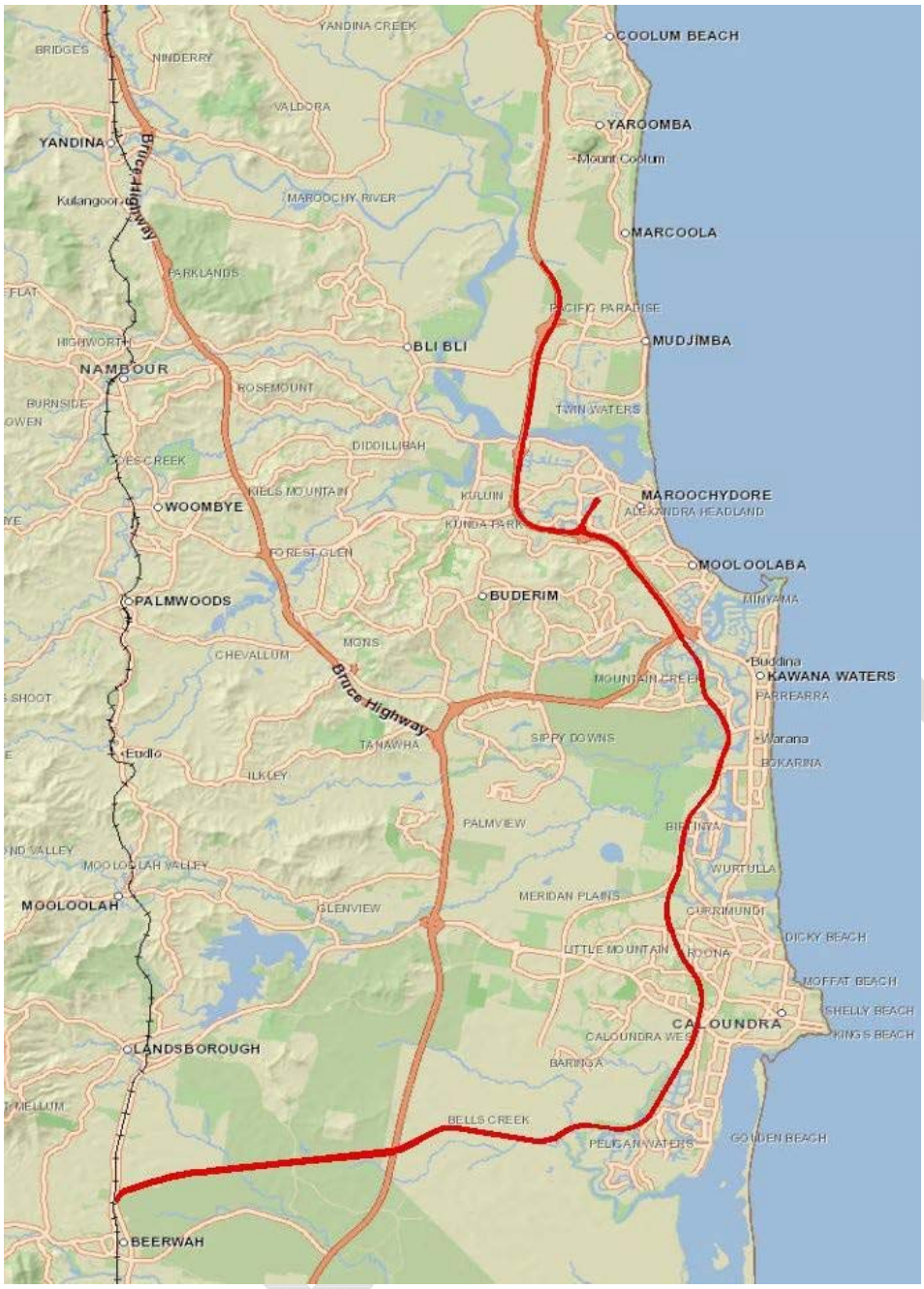

Figure 4 – CAMCOS corridor

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. The corridor was also recently amended to accommodate parts of the development at Caloundra South.

1.4.2 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 1.4.3 below).

1.4.3 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 1.5.5 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 1.5.5 below.

1.4.4 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

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, and decided not to proceed with the proposal.

1.4.5 Previous 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
- be 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, 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 (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.

1.5 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 in response to the issues identified in Section 1.3 above. These projects include:

- Southern 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.

1.5.1 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.

1.5.2 North Coast Connect

The North Coast Connect is a three stage rail project proposed by a consortium including Stockland, KPMG, Urbis and SMEC, in response to the Australian Government's fast rail prospectus which intends to provide better connections between the Brisbane, Moreton Bay and Sunshine Coast regions. It would provide a combination of upgrades to existing infrastructure and new infrastructure 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:

- 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 1.5.3 below)
- Stage 2 – CAMCOS – A new passenger rail service branching off the North Coast Line at Beerwah and comprising a 40 kilometre spur-line.

The project proposal phase has been completed and the project is expecting to deliver all three Business Cases, in line with Building Queensland frameworks and the Project PAF, to government by the middle of 2019.

The proposed North Coast Connect and Sunshine Coast Mass Transit Project solution are consistent and supportive of each other, namely that North Coast Connect is focused on inter-regional travel whereas the Sunshine Coast Mass Transit Project solution will focus on intra-regional travel.

1.5.3 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.

The 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 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 1.5.2 above).

One important feature of the Beerburrum to Nambour Rail Upgrade Project is the duplication of the North Coast Line between Beerburrum and Beerwah. This section of 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.

1.5.4 Mooloolah River Interchange/Kawana Arterial Road

TMR is progressing investigations for a range of major road 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 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 is required to provide road users with a second route away from the likely mass transit corridor.

1.5.5 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[146].

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.

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

1.5.6 Council of Mayors South East Queensland People Mass Movement Study

The SEQ Council of Mayors released a study and road map of projects to plan for world class connectivity that will promote liveability to ensure SEQ remains resilient over the next 25 years.

The road map has been developed as a blue-print to address future transport constraints and challenges. Government and Council strategic plans, transport strategies and infrastructure plans were reviewed to identify common objectives and strategies with these then being synthesised into a shared strategic vision for transport across SEQ.

The study identified four key findings:

- road network gaps are placing pressure on the ability to move around SEQ and should be eliminated
- faster rail may form a strong regional backbone of public transport in SEQ
- enhancing active and public transport connectivity is key to improving liveability
- the potential benefits of connected autonomous vehicles and technology transformation should be leveraged to maximise the use of infrastructure investments into the future.

The study recommends closing the missing 'gaps' of the strategic transport network to maximise efficient accessibility and identifies investments that support a modal shift away from the current strong reliance on the private vehicle and more towards sustainable passenger transport services for the longer term.

A mass transit system on the Sunshine Coast (referred to as light rail within the study) has been identified as a key project to support the vision of a connected SEQ region, alongside a faster rail network which extends to the Sunshine Coast (such as the network proposed by North Coast Connect, as discussed in Section 1.5.2 above).

Appendix 3 – Dictionary

Glossary of recommended terms[147] Version 5

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.
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. May also operate in mixed traffic for limited sections. Typically high frequency services, station spacing 400- 1000 m. The correct terminology is "Bus Semi-rapid Transit.
Faster rail	According to the Australian Government[148], faster rail connects between cities and surrounding urban areas. It may consist of a spectrum of projects ranging from incremental improvements on existing rail networks to new high speed systems operating at 250 km/h or more.
Fixed track mass transit	Mass public transport system operating on a fixed rail or guideway either with or without a driver
For-hire urban passenger transport	Transport services provided by an operator and available to all parties for prescribed fares and rates, but which is adjustable to the individual user's desires (i.e. demand responsive).
Heavy rail	A term sometimes used in Australian and UK transport vernacular to describe a passenger railway or technology that is not a light rail. e.g. Queensland Rail trains, Sydney trains. This is a non-preferred term; preferred terms are High Speed Rail, Regional Rail, or Suburban Rail as appropriate
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 frequency', with frequencies of 4 per hour or higher, corresponding to headways of 15-minutes 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"[149].
Integrated Public Transport Network	A connected network comprised of a range of public transport technologies all presenting to the user as a single network with integrated ticketing, fares and timetables
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.
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 typically between 20 and 50 m long[150]. Maximum operating speed is typically 70 km/h.
Mass transit (MT)	A form of Public Transport that concentrates on moving large numbers of people over a fixed route or network. Can imply **a** high capacity version of 'high-frequency public transport'.

[147] Adapted from Vuchic, V. 2007. Urban Transit Systems and Technology. John Wiley and sons.

[148] Australian Government. 2017. *The National Rail Program: Investing in rail networks for our cities and regions.* P13

[149] International Union of Railways (UIC). 2018. *High Speed Rail – Fast Track to sustainability.*

[150] Sydney's Alstom X05 trams are 33 m long but are planned to operate in coupled sets 67 m long.

Mass Rapid Transit (MRT)	A generic term used to describe modern public transport systems operating in an urban area; these can range from a painted bus lane to extensive underground railway networks.
Metro	A high frequency, very high capacity mass transit system operating in an urban area. Fully segregated corridor, often utilising a subway or elevated. The vast majority of "metro" systems are high capacity railways. Many adopt the term "metro" in their names; e.g. Rome Metro, Osaka Metro.
Passenger Rail	A generic term used to describe a railway that caries passengers, including Light Rail, Regional Rail, Suburban 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.
Private transport	Privately owned vehicles operated by owners for their own use, usually on publicly owned roads
Protected level crossing	A facility provided to enable a railway to cross a roadway at the same level that is protected from conflict by boom gates, signals or signage. They may also have audible alarms. The railway vehicles will have right-of-way over other intersecting traffic.
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*[151]. Includes train, bus ferry and taxi services provided or regulated through a range of operators by the Queensland Government.
Rapid transit	A generic class of mostly electrically powered guided transit technologies that operate exclusively in their own grade separated right-of-way. Characterised by higher speeds, high capacity and reliability. Includes" High Speed Rail", "Regional Rail", "Suburban Rail" and "Light Rail Rapid Transit". In a few cases it may include bus technology[152].
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. Qld. Rail trains are mostly "Regional Rail" and can operate at 140 km/h maximum speed.
Semi-rapid transit	A generic class of technologies using mostly its own right-of-way, but not grade-separated from other transport modes. Typically operating line-of-sight and obeying traffic signals. Includes" Light Rail Transit" and "Bus Rapid Transit[153]"
Suburban Rail	Rail-guided passenger technology or service connecting centres within conurbations. Stations typically 2-4 km apart. Operates in its own right-of-way with grade-separation or protected level crossings. Typical maximum operating speed 100 km/h. Qld. Rail trains operating within the Brisbane City network could be considered "Suburban Rail".
Sunshine Coast Enterprise Corridor	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.
Transit	The carrying of people or things from one place to another, or the action of passing through or across a place. In US terminology "Transit" is also widely applied as a noun or an adjective to have the same meaning as "Public Transport".

[151] Some jurisdictions include on-demand options including taxis as a formal component of public transport

[152] 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)

[153] *ibid*

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