



# SUNSHINE COAST LIGHT RAIL SHAPING OUR FUTURE

HASSELL

 **Sunshine Coast**  
COUNCIL



SUNSHINE COAST LIGHT RAIL

## SUNSHINE COAST LIGHT RAIL: SHAPING OUR FUTURE

This document provides an overview of the benefits and opportunities that light rail could provide in shaping the future of the Sunshine Coast.

It has been prepared as part of the light rail feasibility study being undertaken by Sunshine Coast Council in funding partnership with the Commonwealth Government.

PREPARED BY

**HASSELL**

FOR



Front cover image: Sunshine Coast Light Rail Transit Village  
Imagery by HASSELL

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\* PROJECT OVERVIEW

1 PROTECTING  
OUR NATURAL  
ADVANTAGE

2 LIGHT RAIL: A NEW  
WAY TO MOVE

3 SHAPING THE  
SUNSHINE COAST

4 NEXT STEPS



Light rail provides far more to communities than simply a new way to move around.

# PROJECT OVERVIEW



**The Sunshine Coast Light Rail project is being undertaken as part of Council's efforts to plan for the future of the Sunshine Coast**

The Sunshine Coast is expected to experience considerable population growth in the coming decades. In considering where and how we accommodate this future growth we also need to carefully consider how we will move around.

Decisions regarding transport choices for the Sunshine Coast will not only influence our local economy, but will shape how the Sunshine Coast grows and will influence our future lifestyle.

**Light rail is recognised as a mode of transport that has many benefits beyond its role as a transportation service**

Light rail has been identified as a transport option that has the potential to benefit our local economy, our environment and, importantly, our future lifestyle. Worldwide, light rail is recognised as a mode of transport that provides far more to communities than simply a way of moving around.

It is the range of potential benefits that is of particular interest to Council in planning for the future of the Sunshine Coast.

**If we plan now and identify a preferred corridor, we can preserve the ability to implement light rail in the future**

The focus of Council's current studies is to understand the feasibility of a light rail system and the potential costs and benefits associated with its implementation. Key questions being considered include:

- What would be the benefits of a light rail system for the Sunshine Coast?
- Where would the light rail system go?
- How much would the project cost and how would it be funded?
- How could the project be delivered?

Importantly, we know how traffic congestion and parking needs will affect our future lifestyle if we don't act.

**We want to hear what the community thinks about Light Rail, and where it should go on the Sunshine Coast**

This document presents an overview of feasibility investigations that were undertaken during 2013.

It addresses a range of issues relevant to the case for light rail on the Sunshine Coast.

Council is interested in obtaining community feedback on the project.

## THE PROPOSED CORRIDOR

### A LOGICAL CORRIDOR FOR PUBLIC TRANSPORT

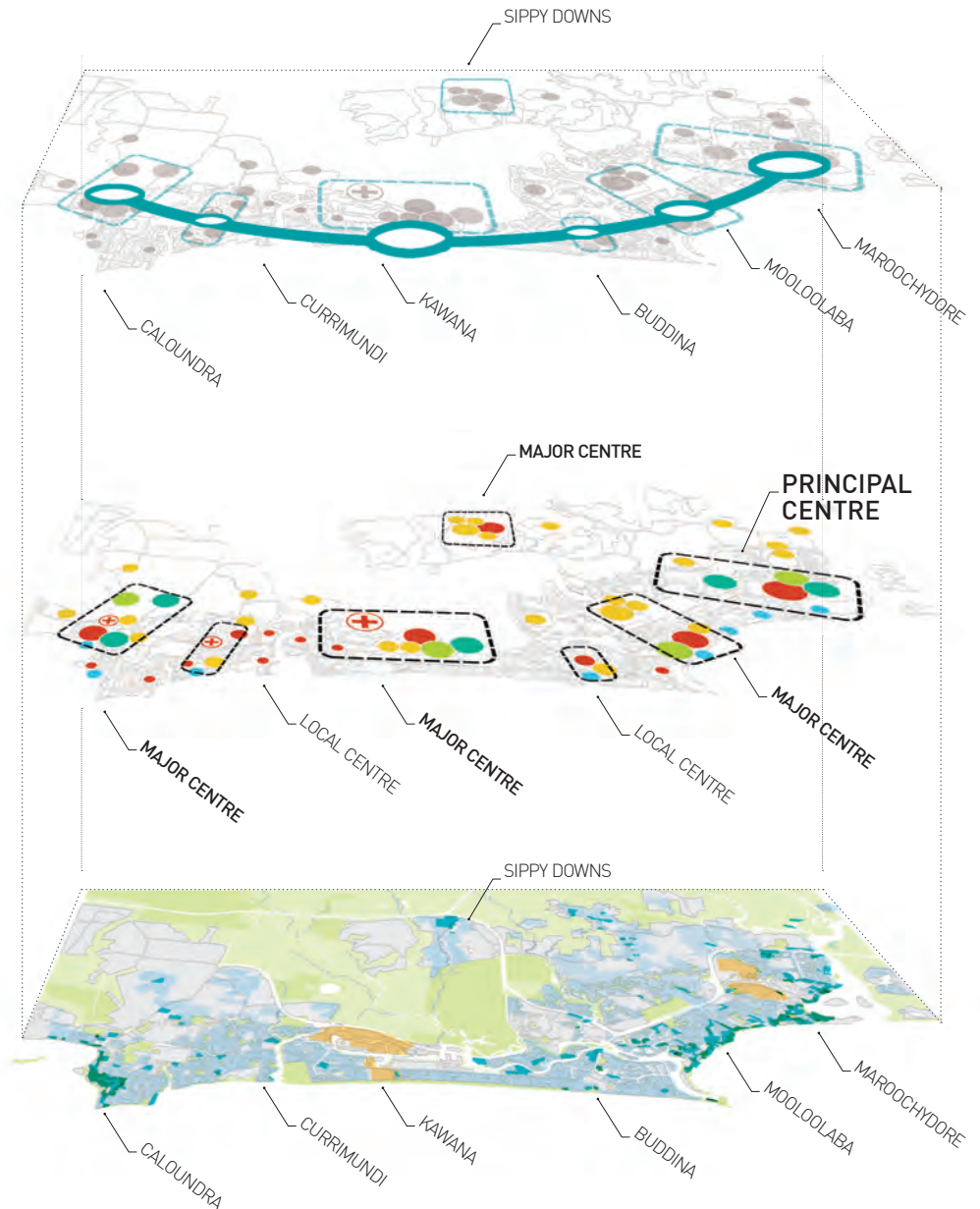
A north-south public transport link between Maroochydore and Caloundra would efficiently connect many of the activity clusters on the Sunshine Coast and maximise the number of people living within easy walking distance of a future light rail route.

### A COASTLINE OF VILLAGES

Key clusters of destinations and community facilities throughout the corridor highlight opportunities to reinforce the historic structure of the Sunshine Coast.

### POPULATION DISTRIBUTION

Census data highlights that population is concentrated in established centres and along the coast in older areas such as Caloundra, Maroochydore and Mooloolaba. The coastal zone also contains major infill development sites including Maroochydore City Centre, Kawana Town Centre, the Health and Knowledge Precinct and Bokarina Beach.



Modern light rail systems are ideal for established urban areas and can boost accessibility while reducing traffic and the need for large areas of car parking.



LIGHT RAIL VEHICLE OPERATING IN PEDESTRIAN MALL



# Light rail on the Sunshine Coast?

**More people and more jobs will mean more transport activity. We must invest in a transport system that can build on the attractiveness and liveability we have now rather than just doing more of the same.**

The ability of the Sunshine Coast to effectively manage growth and maintain its quality of life will in part depend upon the establishment of a more sustainable movement network.

As the area grows from now to 2031, it is anticipated to approach a population of 424,000 – the equivalent of over 51% growth.

By far the greatest proportion of new residents and jobs will be located in the area bound by the Maroochy River, Bells Creek and the Bruce Highway. We have the opportunity to make this a great place to live, work and visit – but to do this we have to redesign our transport system so people have more transport choices.

## **The implications of growth**

The daily number of journeys around the Sunshine Coast is projected to increase by 60% by 2031. Without light rail or a similar investment in public transport, the north-south road network will need to accommodate more than double the existing traffic volume. If we do nothing, increased congestion will be

most pronounced in established urban and coastal centres where ongoing growth will result in increased traffic levels.

Congestion will result in increasingly larger amounts of time spent in traffic rather than doing the things people love to do. Beyond the individual cost in time lost to travel, congestion will make getting to and from established centres increasingly difficult and could compromise the competitiveness of these important areas in the future.

## **Will a 'business as usual' approach suffice?**

A 'business as usual' approach could keep pace with growing traffic with readily budgeted, incremental investment in the road network to address bottlenecks and keep the traffic moving. This could involve building wider roads and bridges and opening up new routes into established centres. More expansive areas of car parking would be needed close to key destinations to support access, potentially sterilising development

opportunity and eroding 'critical mass' and activity in the heart of established centres.

The long term impact of a 'business as usual' approach could undermine the attractiveness of our communities, and compromise the very qualities that make the Sunshine Coast such a great place to live and visit.

## **Greater transport choice**

A modern, easy to understand public transport system offers a key opportunity to relieve pressure on the road network and provide an alternative way to move around. While involving early investment, light rail is recognised as one of the most efficient and sustainable modes of transport that unlocks a new range of opportunities for the Sunshine Coast to evolve and grow; preserving urban quality, freedom of movement and facilitating a more engaging lifestyle for residents and visitors.

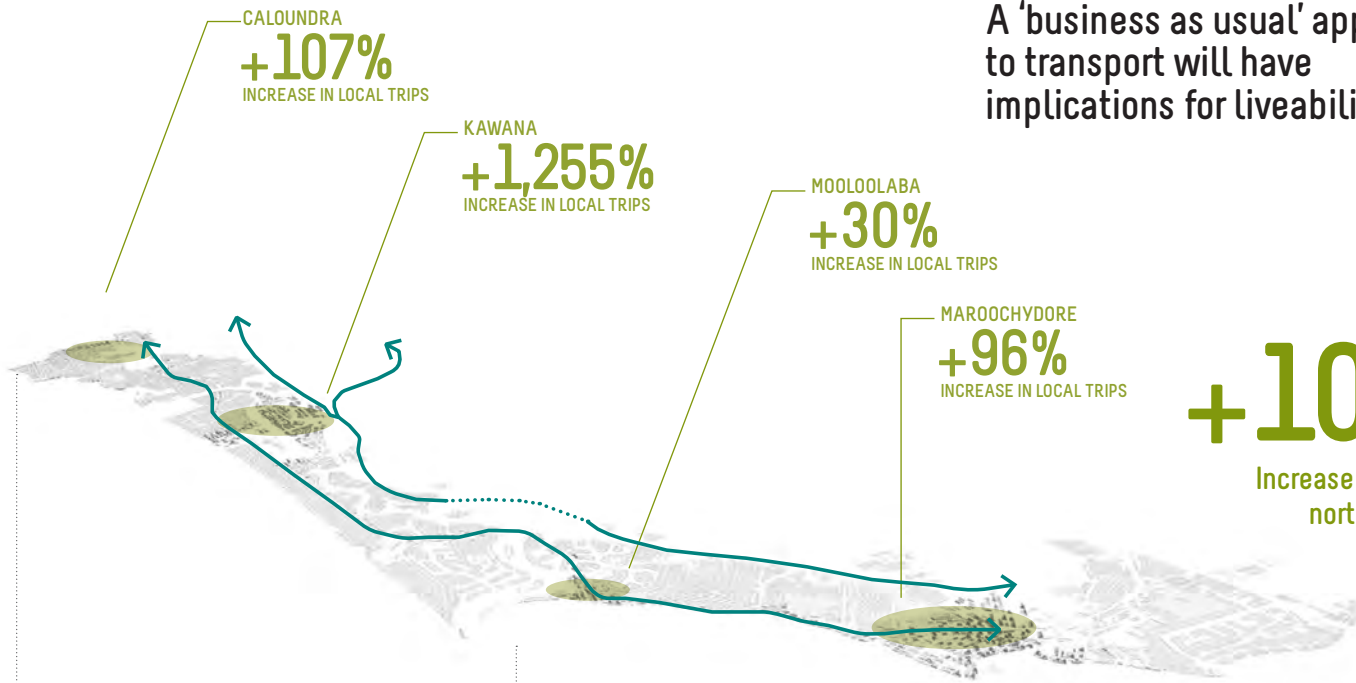
**The 2012 'Line in the Sand' prefeasibility study recognised the important role light rail could play in shaping the future of the Sunshine Coast. It recommended further detailed study to proof up possible route options and community benefits.**



Illustrative concept from the 2012 'Line in the Sand' report showing Mooloolaba foreshore with light rail



A 'business as usual' approach to transport will have implications for liveability.



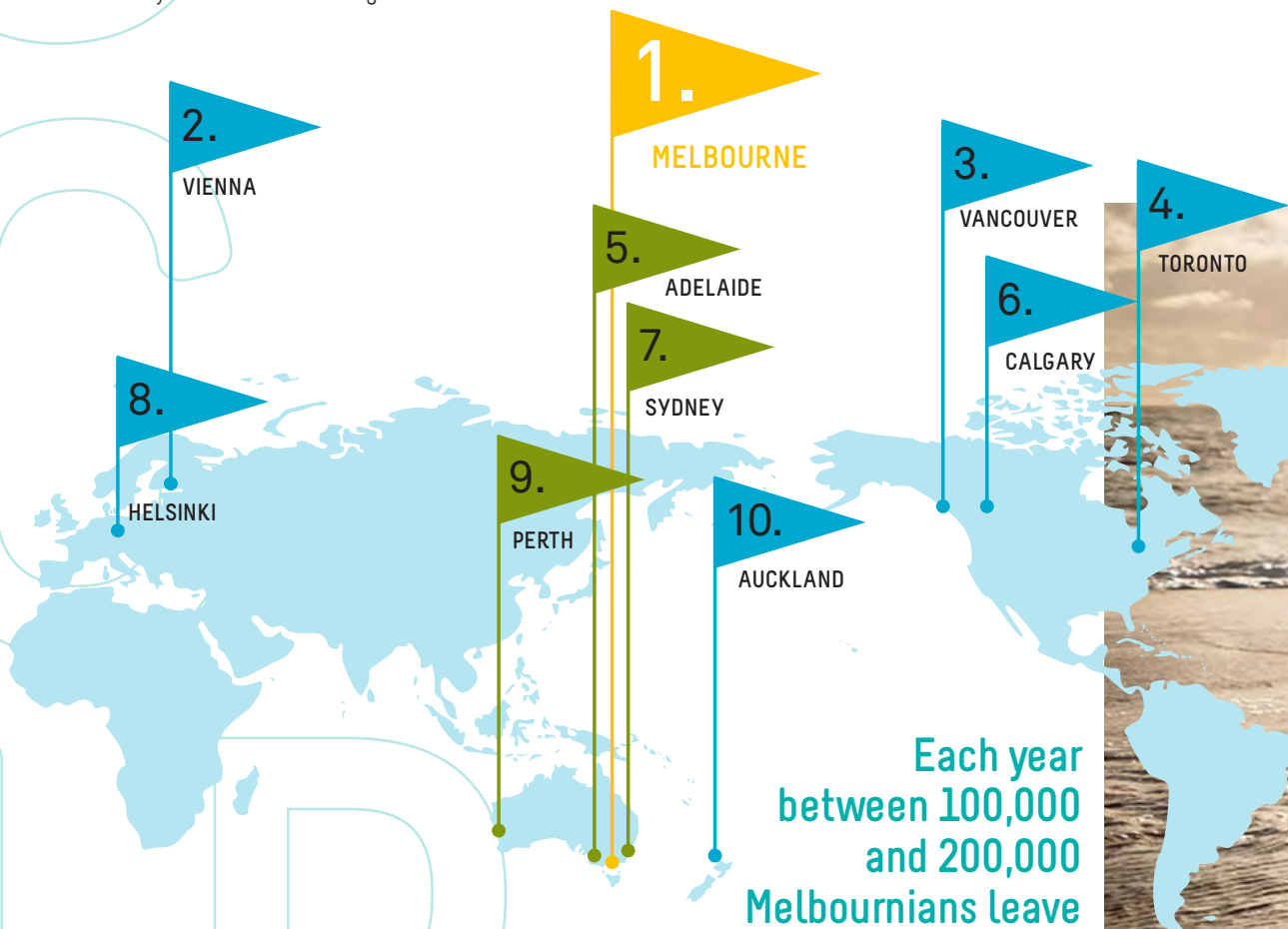
**424,000**  
Population (2031)



# <sup>1</sup> PROTECTING OUR NATURAL ADVANTAGE

## The world's 10 most liveable cities

Ranked by The Economist Intelligence Unit in 2014



Each year  
between 100,000  
and 200,000  
Melbournians leave  
the most liveable  
city on the planet to  
visit the Sunshine  
Coast region

[Source: Tourism and Events Queensland, 2013]



... we need to protect the places we love and live.

**Australia has the greatest concentration of the most liveable cities on the planet and the Sunshine Coast is recognised as one of its most liveable.**

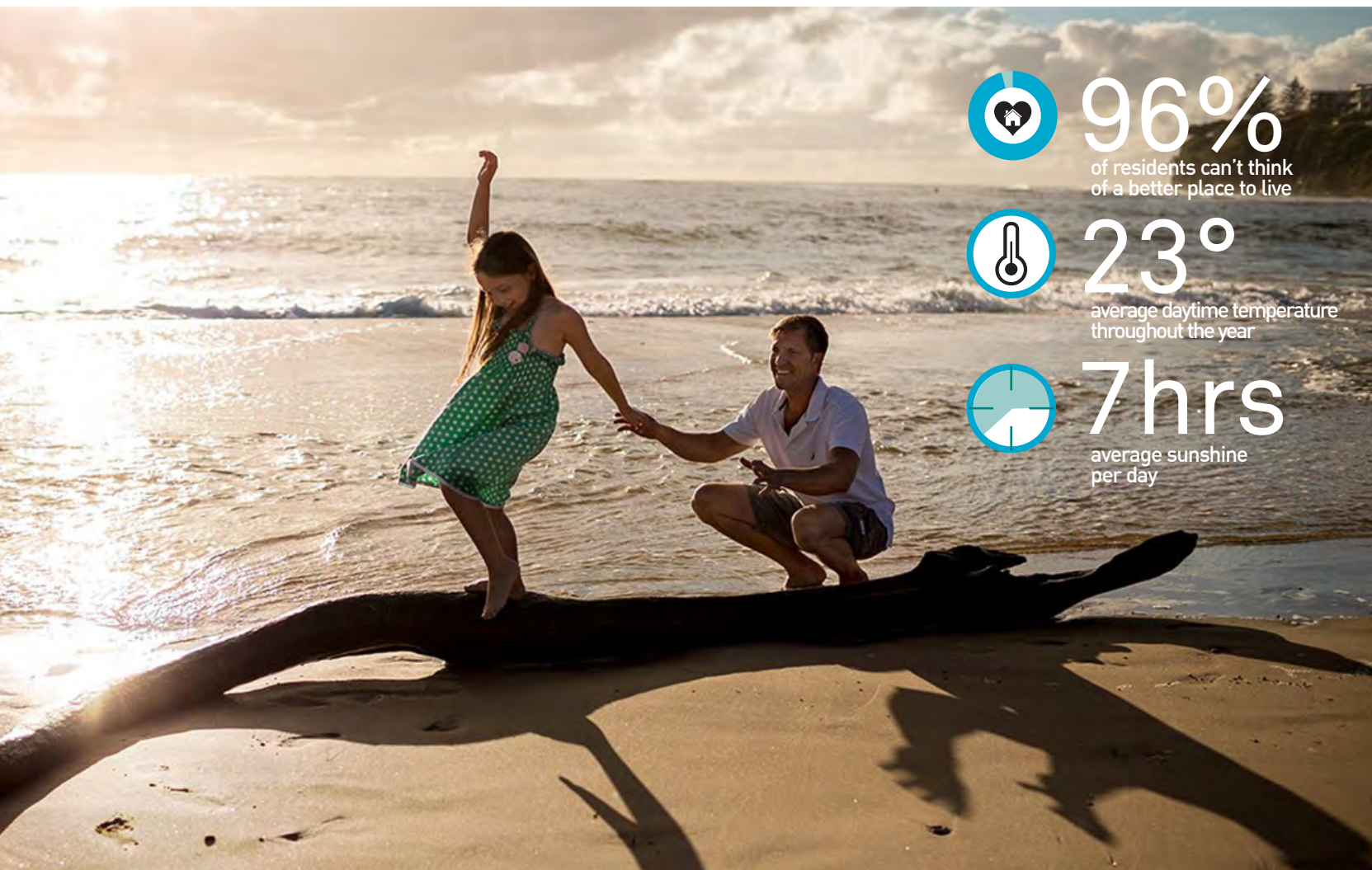
The Sunshine Coast's natural setting and quality of life are distinctive features that have attracted people over the last century. The last fifty years has seen particular growth and the emergence of the Sunshine Coast as Australia's tenth largest population centre. In the coming decades growth is expected to continue to cement the Sunshine Coast as a nationally significant region.

Particular attention will be needed to protect natural assets and ensure we continue to foster a friendly and engaging lifestyle that can attract and retain new businesses, attract young adults and broaden the tourism market. The movement network will define how easy it is to get around and experience our range of destinations and communities.

**Sunshine Coast Community Values**

Protecting the lifestyle and natural setting is a key interest for our community of communities. A number of 'big issues' for the future of the Sunshine Coast include:

- Ensuring health and wellbeing
- Managing population growth
- Providing essential services and infrastructure
- Improving and better coordinating public transport
- Diversifying the economy and creating employment opportunities
- Maintaining a vibrant lifestyle
- Enhancing the natural environment and its biodiversity
- Protecting waterways and coastal foreshores



**96%**  
of residents can't think  
of a better place to live



**23°**  
average daytime temperature  
throughout the year



**7hrs**  
average sunshine  
per day

# Priorities for the future

**The Sunshine Coast is recognised as one of Australia's 'lifestyle capitals' and, with ongoing growth, is emerging as a medium sized city in its own right.**

**Five strategic drivers have been identified to help guide the future of the Sunshine Coast and its transport network.**

- › Lifestyle
- › Jobs
- › Mobility
- › Diversity
- › Affordability

We can learn from the experience of other growing cities and shape the Sunshine Coast so it becomes anything but a conventional medium sized city. We can harness the expected growth to build on the historic village structure of the coast to protect and enhance our way of living.

Light rail offers a critical opportunity to redefine the movement network on the Sunshine Coast to protect the region's enviable lifestyle and secure a more people friendly and prosperous future.

## 1 Lifestyle

**Preserve character and enhance quality of life**

The clean, green setting of the Sunshine Coast and its relaxed coastal lifestyle are distinctive features that have attracted people to the area for the last century. These features remain some of the region's most valuable assets and require protection in order to maintain quality of life for the existing population and to underpin sustainable growth in the future.







Light rail can make the Sunshine Coast a better place to live, work and visit.

## 2 Jobs

### Diversify the economy

The amenity and lifestyle offer of the Sunshine Coast has driven strong property, tourism and service sectors with a range of employment opportunities and a very high level of local employment containment. Key opportunities exist to broaden the economic base of the Sunshine Coast and to boost the region's appeal and prosperity, including a stronger commercial sector and health and knowledge related activities associated with the new Sunshine Coast University Hospital.

## 3 Mobility

### Manage congestion and sustainable transport

Existing travel patterns on the Sunshine Coast demonstrate a heavy reliance on the private car. While alternative modes are available, limited provision for walking and cycling, and lower frequency public transport services make journeys by car the dominant mode of travel. With road congestion rising, public transport offers a critical opportunity to broaden the range of travel options and boost the capacity of the region's movement network.

## 4 Diversity

### A place for all ages

The age profile of the Sunshine Coast highlights a large gap in the number of people between school leaving age and their mid thirties. To reverse the flow of this key demographic, particular attention will be needed to build employment opportunities and diversify the lifestyle offer of the Sunshine Coast, including a greater variety of urban and cultural activities and a stronger evening and night time economy.

## 5 Affordability

### Cost of living

The Sunshine Coast was identified as one of the less 'affordable' places to live in a Seven Nation study [Demographia International Housing Affordability Survey, 2013]. The cost of housing was the largest single factor, but expenses including the cost of transport were influential. As most households own two or more cars for their travel needs, many people underestimate the cost of travel which, over a year, can add up to be more than the cost of renting a typical two bedroom unit on the coast.







CALOUNDRA

1900



MOOLOOLABA

1923



CURRIMUNDI

1950



BULCOCK ESTATE

1917



MAROOCHY SANDS

1969



POINT CARTWRIGHT

1973

VARIOUS SOURCES

### First inhabitants

- The 1820s saw the arrival of the first white inhabitants (three castaways who shared the life of the Kabi Kabi Aborigines for eight months)
- Settlement of numerous escaped convicts from Moreton Bay penal colony in Brisbane from 1830s to 1840s

### 1840s

- 1842: Maroochydhore named by Andrew Petrie
- Bunya Proclamation proposed by Governor George Gipps preventing settlement, ranching and forestry in Bunya country (much of the Maroochy district)

### 1850s-70s

- Early 1850s: Timber and cattle exploitation in the area
- 1860: Bunya Bunya Reserve discontinued
- 1862: Caloundra settled by European sheep farmers

- 1864: First land sale: 330 acres sold to William Pettigrew to keep bullocks for use in the timber industry
- Cedar shipped as far as Europe
- Creeks and rivers used to float timber to port
- Timber ports and jetties sprang up to become many of the Sunshine Coast's towns
- Snigging (timber hauling) tracks became many of the region's first roads
- 1864: Timber depot and wharf founded at Mooloolaba by William Pettigrew, dominating the timber industry
- 1867: Gympie Gold Rush stimulated traffic between Brisbane and the North Coast along Gympie Road
- 1870 to 1884: Mooloolah Heads became the gateway to the Maroochy District

### 1880s

- Fertile inland soils allowed a diverse farming and dairy industry to prosper
- 1884: Pettigrew transferred his timber industry to Maroochydhore
- Caloundra developed its reputation as a seaside resort
- 1885: First hotel built on Shelly Beach

### 1890s

- Diverse small farming (fruit and dairy) replaced the cattle-and-timber economy of earlier decades
- 1891: North Coast Railway opened, running via Nambour, land release in Caloundra
- Yandina river transport begins to decline
- Thriving railway towns emerged at Beerwah, Landsborough, Woombye and Yandina, becoming coach stops along Gympie Road

### 1900s-20s

- 1903: Maroochydhore area purchased by Thomas O'Connor for subdivision
- 1908: First land sale held and Maroochydhore developed as a seaside resort
- 1912: First hotel opened in Maroochydhore
- 1915: Agricultural land at Potts Point subdivided and sold as oceanfront allotments
- 1917: Boat and tram service operated to Nambour
- By 1919: Mooloolah Heads industry included fishing and fruit growing
- Private motor cars gained popularity, making previously isolated fringe areas accessible





# A half century of growth has seen rapid changes on the Sunshine Coast

The shape and identity of the Sunshine Coast still reflects its heritage as a network of coastal and hinterland townships.

Now one of Australia's largest population centres, the rate of change has accelerated, highlighting the need for effective planning to position the coast for a better future.

## 1920s

- Alexandra Headland developed as seaside cottages
- Caloundra became more accessible with a road connection from Landsborough station
- 1921: First sale of allotments in Mooloolaba
- 1923 – 28: First fully integrated resort complex built at Alexandra Headlands
- Coastal roads and transport services upgraded as the area becomes a premier residential and holiday destination
- Holiday cottages and houses along the Mooloolah river and spit with boat hire and fishing

## 1940s-50s

- Post war tourism saw the Sunshine Coast grow into a favoured holiday and surfing destination
- Townships like Mooloolaba offered Brisbanites affordable seaside blocks
- All three Sunshine Coast towns become more accessible by motor car from railway stations
- 1959: Breakthrough construction of the coastal road from Maroochydore to Noosa

## 1960s-70s

- Rapid car-based access drove a development boom, further expanding the Sunshine Coast's popularity
- Larger canal estates developed at Mooloolah River mouth
- Beachfront high-rise holiday apartments developed
- Sunshine Coast began attracting alternative lifestyle seekers
- Craft industries, co-operatives and spiritual centres developed in the hinterland
- 1972: The Bruce Highway was completed, supporting suburban expansion
- Urbanisation gathered pace

## 1980s-90s

- Decline in wholesale prices put sugar cane and pineapple farms under pressure
- Increased demand for industry and housing land convinced many farmers to sell
- Rapid population growth occurred throughout the Sunshine Coast
- Increased residential development in the region replaced farming
- Retail, catering and tourism gained increasing importance
- 1990: Duplication of the Bruce Highway (bypass) road was driven by rapid urbanisation

## 21st century

- Farming threatened along the central strip of the coast
- Expansion of industrial sites, housing estates and warehousing estates
- Closure of the Moreton Sugar Mill

A critical objective for the Sunshine Coast is to manage growth in a way that protects local character and lifestyle while building a more robust economy and sustainable transport network.

#### Population growth

The Sunshine Coast is one of Queensland's most rapidly changing regions, and is now recognised as the 10th largest population centre in Australia.

Over the period from 2013 to 2031, the Sunshine Coast is expected to accommodate an additional 144,000 people with the population expected to reach 424,000 by 2031, reflecting an increase of approximately 51%.

#### Regional planning

The current *South East Queensland Regional Plan 2009-2031* (SEQRP) establishes dwelling targets for local government areas throughout South East Queensland to manage growth pressure across the region. The amount of development expected to occur on the Sunshine Coast is equivalent to 66,400 new dwellings through to 2031.

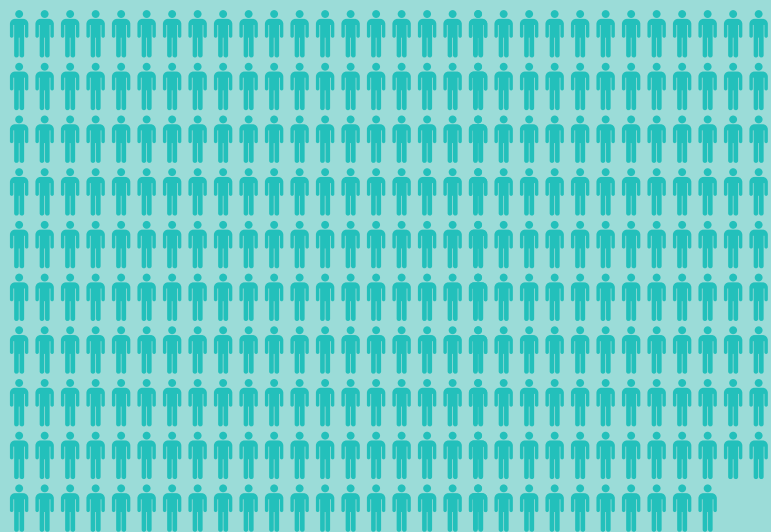
The SEQRP also establishes dwelling targets for infill and greenfield development. The plan's target is for 37% of future growth to occur in existing urban areas.

### Future population growth

# +51%

Current residents :

## 280,000



in 2013

New residents :

## 144,000



by 2031

(Total = 424,000)



## Leveraging lifestyle to boost competitiveness

In the emerging global economy, a growing proportion of productivity is determined by the workforce and talent a city is able to attract and retain. The competitiveness and economic performance of our urban centres relies more than ever on their attractiveness and liveability. Accessibility is consistently identified as a key factor determining attractiveness and liveability. For example, recent survey results indicate that Sydney has slipped in comparison to 34 other world

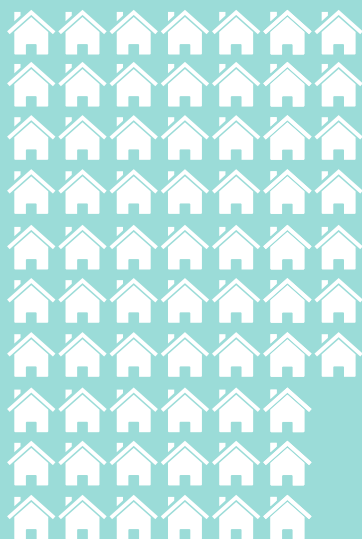
cities in the 2009 Global Power City Index, due in part to low scores in accessibility indicators.

Light rail, or a comparable investment in the transport network, will be needed for the Sunshine Coast to manage growing congestion and maintain the functionality of the movement network. Without this, the Sunshine Coast may struggle to attract the quality of people required to underpin the growth of target industries.

Light rail could also support a more compact urban growth pattern, reducing pressure on the region's natural environment and rural lands, and providing opportunities for defined urban villages at key stations. This network of urban villages would present an alternative lifestyle offer to boost the region's appeal to a wider demographic.

New dwellings :

66,400



by 2031

### URBAN INFILL DEVELOPMENT

- Maroochydore
- Caloundra
- Sippy Downs
- Kawana
- Nambour
- Beerwah
- Birtinya

40%

--- Where ?

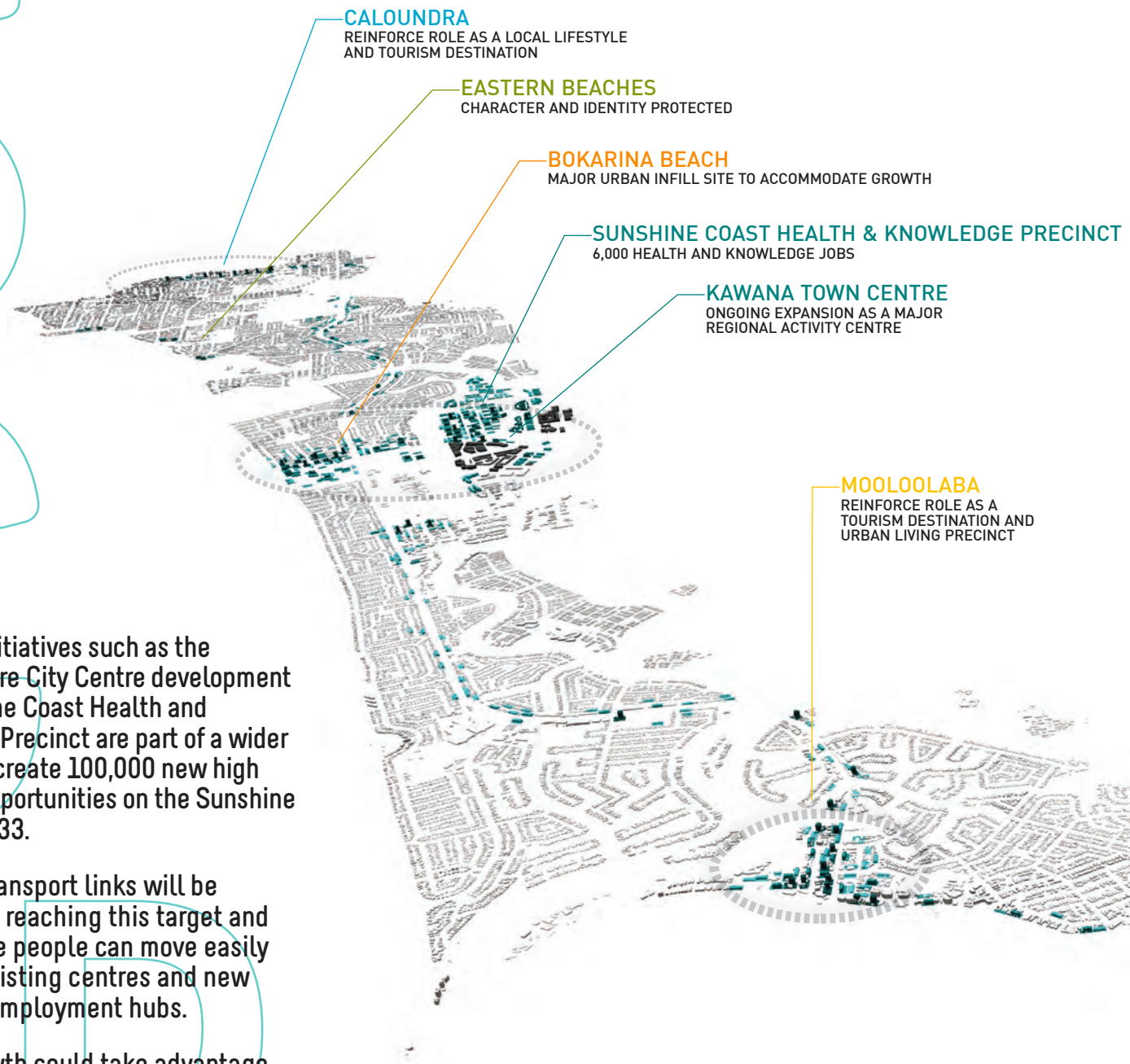
60%

### NEW COMMUNITIES

- Caloundra South
- Palmview
- Peregian Springs

Source: OESR Projected dwellings (a) (medium series), by local government area, Queensland, 2013 to 2036

# Managing population growth and building the economy



Strategic initiatives such as the Maroochydore City Centre development and Sunshine Coast Health and Knowledge Precinct are part of a wider strategy to create 100,000 new high value job opportunities on the Sunshine Coast by 2033.

Improved transport links will be essential in reaching this target and making sure people can move easily between existing centres and new specialist employment hubs.

Future growth could take advantage of currently undeveloped land around the new hubs and help manage travel demand and development pressure in established residential areas.



Sunshine Coast Council (SCC) has developed a range of planning and policy initiatives to manage the impacts of growth and harness economic opportunities. The introduction of a light rail system would support the aspirations of these plans by providing a sustainable and efficient public transport option that would create a new way to move and strengthen established centres.

### Sunshine Coast Planning Scheme

Council has prepared the *Sunshine Coast Planning Scheme* to manage and guide future development.

The plan sets a fundamental objective to protect the character and natural amenity of the region, while harnessing growth to pursue higher quality urban development, a stronger local economy and more sustainable, transit orientated development.

### Growing the region's economy

Positioning the Sunshine Coast to strengthen its regional economy is a critical planning and economic development objective. The existing economic base for the region has four main sectors of activity, including health, tourism, construction and retail. The period from 2007 to 2013 has revealed the vulnerability of the Sunshine Coast economy and its reliance on population and visitor-driven industries.

The *Sunshine Coast Regional Economic Development Strategy 2013-2033* aims to build a more resilient economic base and develop a prosperous, high value economy. It is intended to strengthen and extend traditional industries while enabling the region to be an active participant in the global economic community.

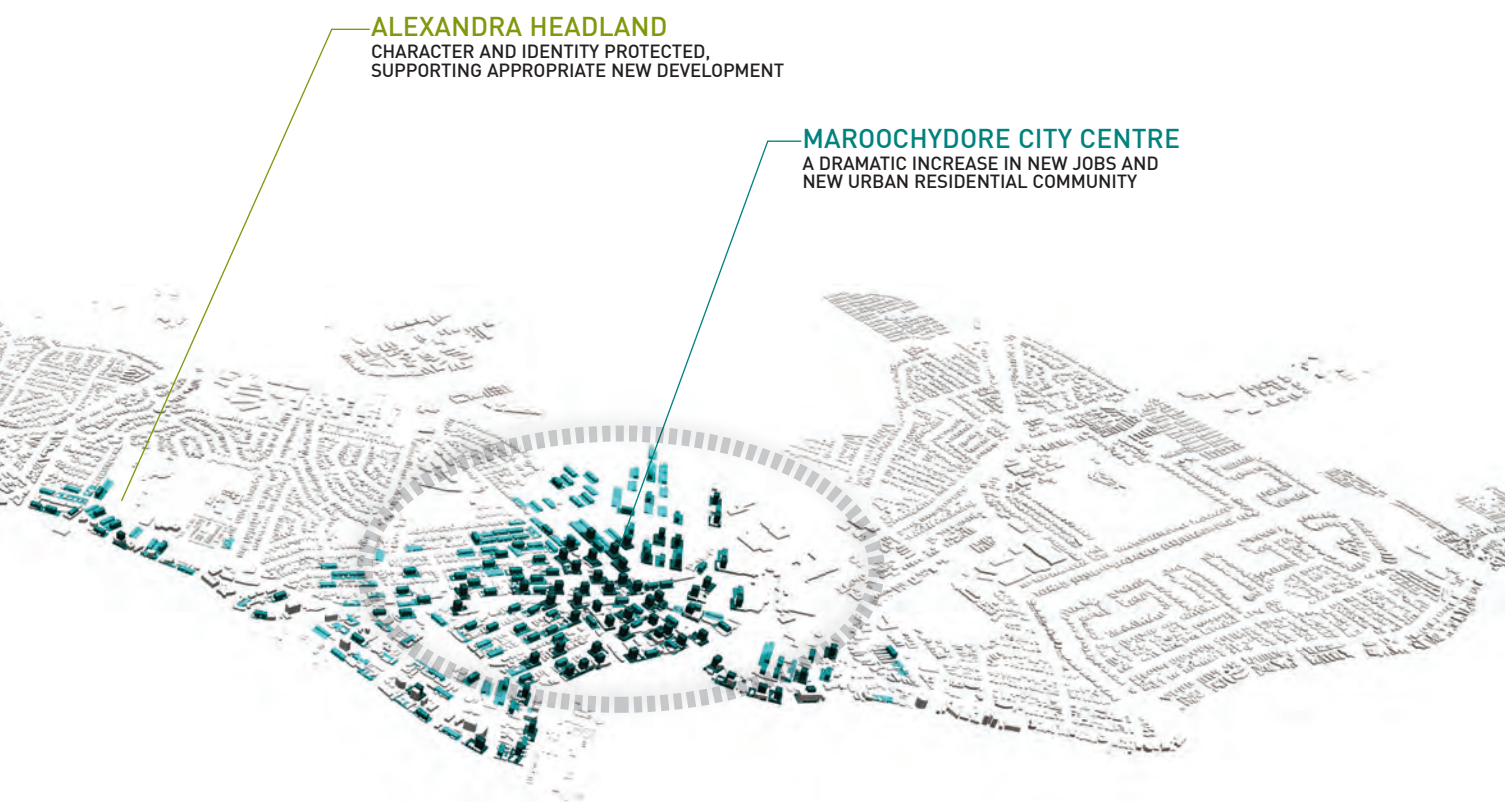
It also aims to grow alternative, high-value employment opportunities for young people seeking work outside the traditional industries.

### Major projects and investment

Large scale investment in regional infrastructure is needed to support growth and competitiveness. A number of catalyst projects have been identified for implementation including:

- Sunshine Coast University Hospital and Health and Medical Precinct
- Sunshine Coast Airport expansion
- Maroochydore City Centre development
- University of the Sunshine Coast expansion
- Bruce Highway upgrades
- Sunshine Coast Light Rail

These projects will have a transformative effect on business, employment and investment growth to support industry expansion and meet future population needs. These projects aim to leverage the Sunshine Coast's natural assets for a more competitive and prosperous future.



Artists impression showing one possible scenario for future growth between Caloundra and Maroochydore

# Sunshine Coast travel patterns

When compared with other locations in South East Queensland, the Sunshine Coast stands out as a place with high levels of local employment. Of journey to work trips, around 50% are less than 10km and around 87% of people do not leave the area.

These travel patterns are highly desirable, and mean that people spend less time and money on transport and can finish their work day sooner. The future transport network should aim to continue this trend and preserve the lifestyle people value and protect the time to enjoy it.

## Future planning needs to reinforce the need for local transport

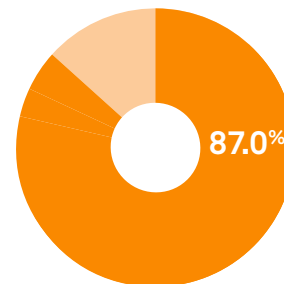
It will be important to align the Sunshine Coast's transport network with sustainable planning initiatives and the regions economic development strategy.

Improvements to the local transport network between Maroochydore and Caloundra will emerge as a key priority to align with future planning, sustainable infill growth and catalytic city shaping projects underway in these areas.

Future travel patterns indicate a much stronger need for travel within the Sunshine Coast rather than travel to locations outside the Sunshine Coast.

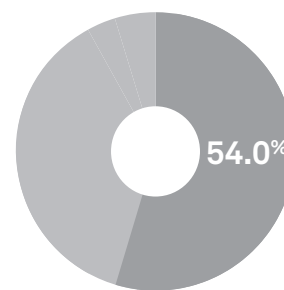
## Local containment compared

Data source: 2011 Census



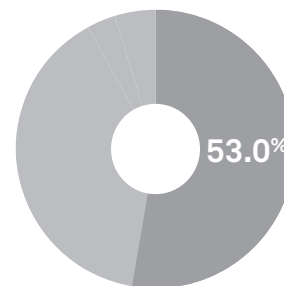
### Sunshine Coast 2011

Locally employed 87%



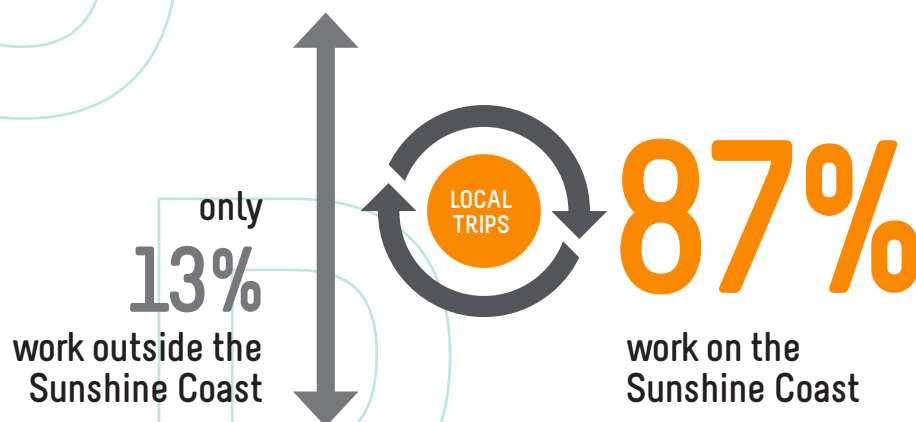
### Moreton Bay Region 2011

Locally employed 54%



### Redland City 2011

Locally employed 53%



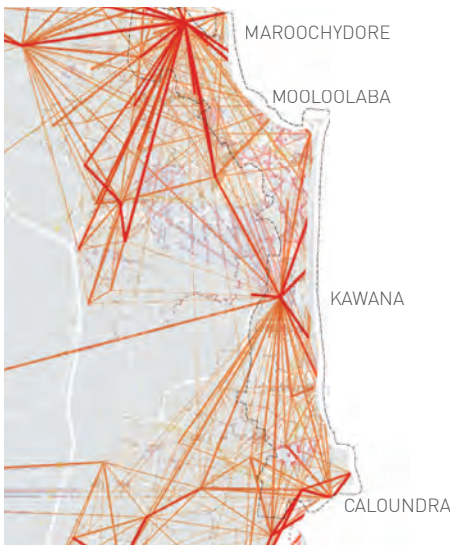




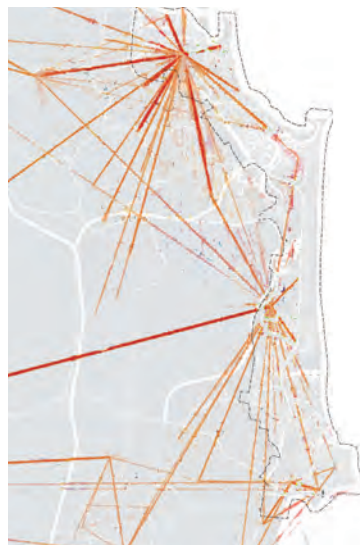
**We need to invest in local transport options to promote convenient access to key destinations and emerging employment centres**

## Projected travel patterns (2031)

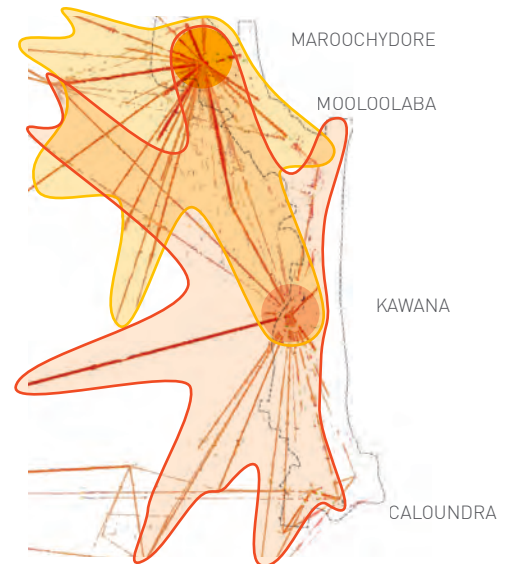
**All trips**



**Journey to work trips**



**Distinctive work travel zones**



### Future travel patterns

Daily travel 'desire lines' based on transport modelling for the year 2031 demonstrate strong radial travel patterns around the key activity centres of Caloundra, Maroochydore, Kawana and to a lesser extent Mooloolaba.

The analysis shows that the majority of trips are short in length, with only a limited number of journeys from one end of the coast to the other. It also illustrates the low proportion of trips to places outside the Sunshine Coast.

### Work trips

A review of journey to work trips shows a strong concentration of movements to and from Maroochydore and Kawana. This reflects the planned development of the Maroochydore City Centre and the emerging health and knowledge precinct at Kawana. Both will become major employment centres and underpin the economic development of the Sunshine Coast.

### Implications for future planning

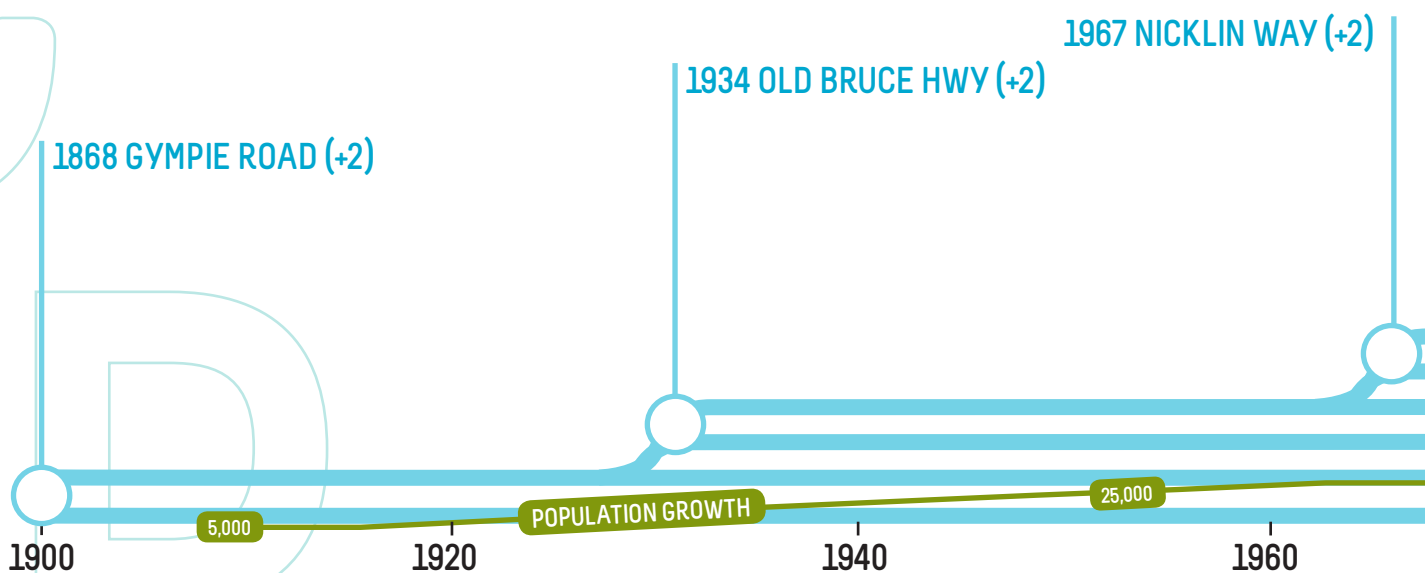
The concentration of movements to and from key centres highlights certain challenges for maintaining accessibility, such as the provision of adequate car parking and managing congestion in centres - particularly during peak times.

Congestion will be most pronounced over a two hour morning peak when work trips coincide with school trips. The analysis highlights an axis between Maroochydore and Kawana where the greatest number of trips will occur. This zone has been identified as a key area for future transport investment to help manage congestion and maintain accessibility.

# Growing investment in the transport network

Sustaining the road network to keep pace with growth will require increasing investment in the coming years.

Just building more roads won't protect our lifestyle. We need to reshape our future investment to include high quality public transport.







**In the long term the actual cost of light rail is likely to be less than an incremental approach to expanding the road network.**

Population growth together with the rise of car based travel since the 1950's has required continual expansion of the Sunshine Coast's road network.

The land use and transport network has concentrated journeys on key north-south vehicle routes between Maroochydore and Caloundra.

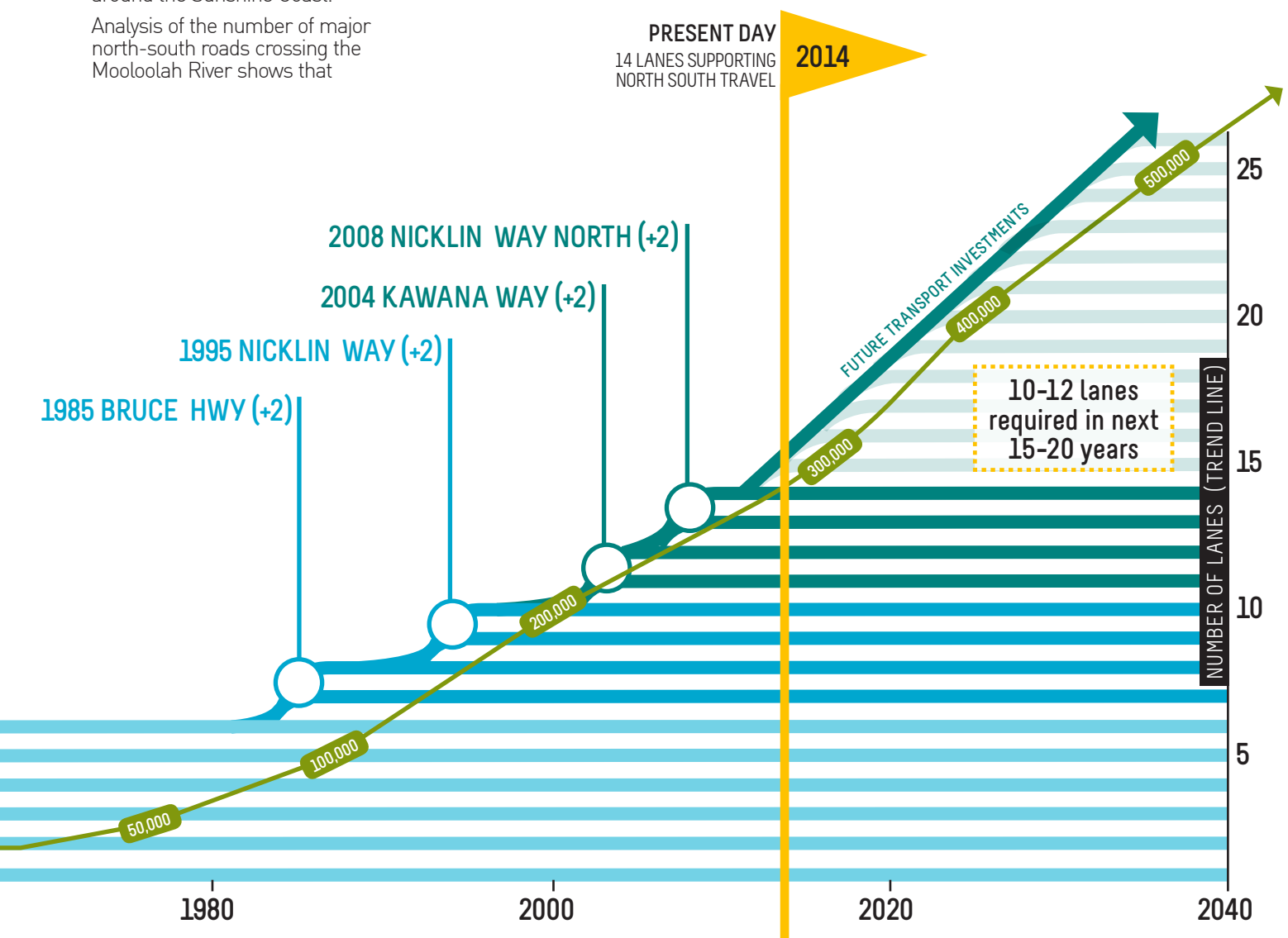
A limited number of east-west connections also contributes to localised congestion, particularly around established centres. With lower frequency public transport services and limited provision for walking and cycling on many routes, car based travel has become the most convenient way to move around the Sunshine Coast.

Analysis of the number of major north-south roads crossing the Mooloolah River shows that

expansion of the road network has generally followed population growth, with the frequency of investment increasing over time.

Looking to the future, current planning indicates that another 10-12 north south lanes will be needed over the next 15-20 years. This anticipated expansion of the road network represents a number of large investments that will need to be made as our population continues to grow.

A significant investment in public transport provides the opportunity to avoid or delay other major investments in the road network, while proving broader community and economic benefits.



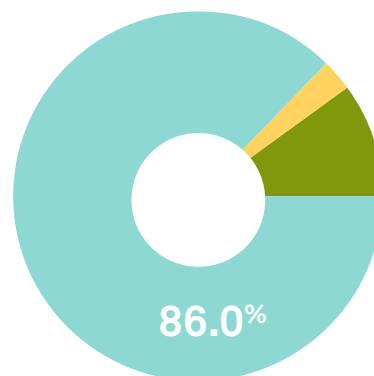
# Current trends will have impacts

Travel choices are currently confined to using the private car or a mostly low frequency bus system.

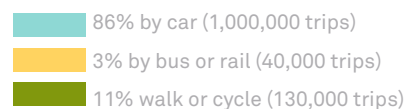
Car ownership and usage rates for the Sunshine Coast are amongst the highest in Australia with 1.74 cars per household, almost 1 car per adult. Private vehicle travel accounts for 86% of all trips on the Sunshine Coast, whilst public transport usage is extremely low with approximately only 3% of all trips made by public transport.

By 2031 there will be nearly 2 million trips across the Sunshine Coast transport network every day. If existing travel patterns continue, there could be a range of impacts affecting quality of life and our community.

## How we currently travel

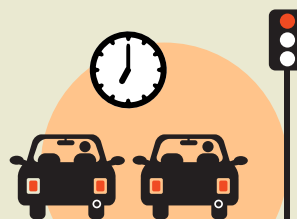


### Sunshine Coast 2011



**Total = 1,200,000**  
trips per day

## Doing nothing will have impacts



### Congestion

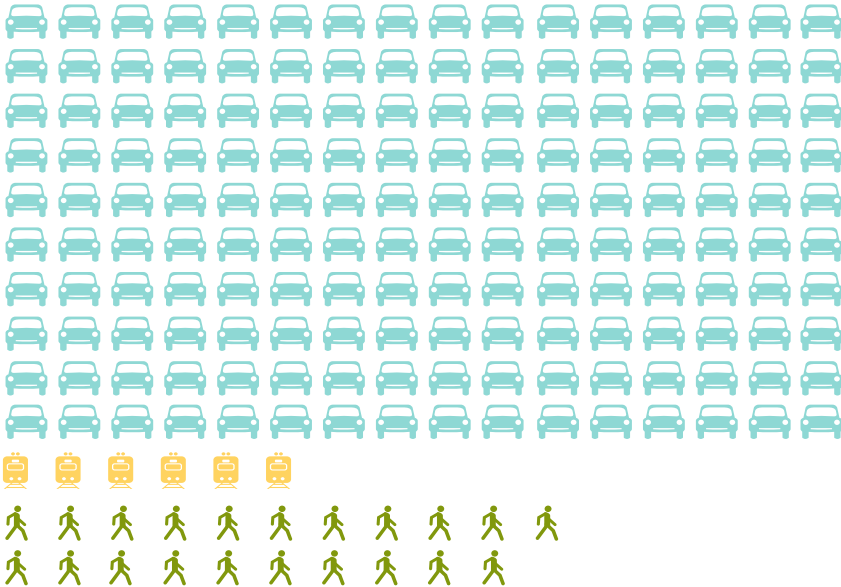
Growing congestion has a number of implications for the Sunshine Coast including the potential to restrict economic activity and growth, reduce accessibility to local centres and increase trip duration resulting in the loss of personal time to travel.





If we do nothing, current travel patterns will impact the qualities of the Sunshine Coast.

## If current trends continue



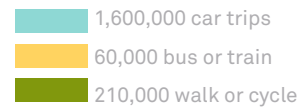
Daily travel choice (based on existing trends showing 1.9 million daily trips)

Based on current trends, by 2031 there will be around

# 600,000

additional daily trips being made by car (60% increase)

### Sunshine Coast 2031



**Total = 1,900,000**  
trips per day



## Reduced urban quality

More cars in our urban areas doesn't mean they will become better places. With trip growth focused in local centres, action will be needed to maintain priority for pedestrians and tourists which will be important for local business. Pinch points will need attention to maintain the flow of traffic and large areas of land may also be needed for new car parking areas to cater for increasing trips which are expected to double in some centres by 2031.



## Reduced travel options

If current trends for transport infrastructure investment continue on the Sunshine Coast, it will become progressively more challenging to get around without a car. Ongoing reliance on vehicle travel will commit most households to two or more cars with an average annual running cost in excess of \$12,000 for each vehicle.



## Air quality impacts

An additional 600,000 car based trips per day will result in more pollution. These emissions and other transportation pollutants have significant impacts on local air quality and the environment, the economy and resources as well as personal health and wellbeing.

# <sup>2</sup> LIGHT RAIL: A NEW WAY TO MOVE





How the current pressures of growth are managed will determine the future attractiveness and competitiveness of the Sunshine Coast. At present two possible scenarios exist for the Sunshine Coast: to continue the transport focus on road infrastructure alone, or to shift towards a more integrated network with public transport supplementing the road network.

Hundreds of cities around the world have already responded to the transport challenge, and in cases where road infrastructure was given priority, growth has required more road networks and upgrade of existing infrastructure. Urban sprawl, congestion and freeways are a common product of such an approach, which can ultimately compromise the scenic amenity and liveability of a city.

Cities with foresight planned ahead to ensure public transport was provided to support and guide growth. These cities maintained a clear advantage and enhanced the quality of life of their growing populations.

At this point in time there is a unique and exciting opportunity for the Sunshine Coast to plan for a new way to move and accommodate projected growth while protecting the unique and attractive lifestyle for future generations.

**Light rail creates more travel options and can unlock wider community benefits and new lifestyle opportunities for the Sunshine Coast.**



## BETTER PLACES

Light Rail promotes greater urban quality, local amenity and liveability.

## A GREENER COAST

Light Rail reduces carbon pollution, enabling better air-quality, and improved urban water runoff.

## LESS CONGESTION

Light Rail eases pressure on the road network, and can provide more capacity in less space.

## FOR ALL AGES AND ABILITIES

Light Rail provides convenient and accessible transport options for youth, elderly and people of all abilities.

## HIGHER VALUE PROPERTY

Light Rail provides value uplift to property within its walking catchment.





### What is light rail?

Hundreds of cities around the world have backed light rail to combat growing congestion and create better cities. Light rail systems typically run through urban environments, connecting people with a range of key destinations and centres.

Modern light rail systems include electrically powered trams that run on tracks, within a dedicated corridor or in a shared corridor with general traffic.

### Smooth, comfortable and quiet

The design and function of light rail creates a journey experience that is smooth, comfortable, quiet and frequent.

The delivery of light rail infrastructure is low impact on the urban environment as it can be incorporated into existing streets, road reserves and median strips.

It creates a more permanent transport presence, instilling confidence and attracting more people to use the system.

Light rail vehicles typically draw power from an overhead electric line and are driven by an on-board operator. In recent years, light rail systems in Australia typically adopt a low level platform arrangement at stations to enable easy boarding and alighting.

### The role of light rail in the transport network

Whilst light rail provides transit function between activity centres, it can also provide a distributor function within a city centre, providing closer stop spacing and getting people closer to their destinations compared to traditional heavy rail systems. Light rail is pedestrian friendly and can be designed to integrate with other public transport modes such as bus and heavy rail.

**"There are over 400 modern light rail systems globally, with a further 60 under construction and plans for another 200".**

*The International Association of Public Transport.*

**Modern  
Versatile  
Easy to use  
Clean**

### International case studies



#### Zaragoza, Spain

- Population: 700,000
- Constructed 2011
- Daily ridership 50,000

From the 1960s, the existing tram system declined with little or no investment, and was gradually converted to bus operation. The tram network was discontinued in 1976 and in 2009 the city decided to rebuild the system.

The first services were run in 2011 and now, with the opening of the network to Plaza del Pilar, weekday ridership is expected to increase to 50,000.



#### Grenoble, France

- Population: 155,000 (664,00 region)
- Constructed 1987
- Daily ridership 230,000

After a successful but hard fought civic referendum, the light rail was completed in 1987. It set the standard for modern light rail in Europe. The first line was 13km long with 29 stops, followed by a further four lines completed between 1990 and 2007, supporting a total network of 34km with 71 stops and an average distance between stops of around 500m.

Current ridership on the network is approximately 230,000 passenger trips per day.



#### Montpellier, France

- Population: 265,000 (410,00 region)
- Constructed 2000 - 2007
- Daily ridership 250,000+

As a mid sized coastal city, the decision to adopt a modern light rail was largely determined by the city leaders' desire for a system with its own dedicated alignment, and bus lanes were not seen as a viable solution. Four lines have been completed since the first opened in 2000 with a current total network of 63km with 83 stations and an average distance between stops of around 750m.

The system serves a walk-up population in the order of 90,000 people and supports over 250,000 passenger trips per day.

# Why do we think light rail is the right choice?

## Growing popularity

In most of Australia's largest cities, trams formed the backbone of the transport network for nearly a century. Since the 1950's many of these systems have been removed, but in recent decades a resurgence of light rail has led to the delivery of new systems in a number of Australian cities.

## Suited to the Sunshine Coast

Light rail is frequently adopted in regional cities around the world where population levels are unable to sustain high capacity heavy rail and where substantial ongoing investment is needed in the road network to keep pace with high growth rates.

A key differentiator for light rail is its ability to reduce congestion in established urban centres to maintain their competitiveness with new car-based shopping precincts.

As part of an integrated transport network, light rail is particularly well suited to coastal regions like the Sunshine Coast. Population and major centres are concentrated in a linear corridor and a single light rail line can efficiently service a significant catchment while linking key residential, employment and tourist areas.

## An agent for urban improvement

In addition to its capacity to move large volumes of people efficiently, light rail is recognised for its ability to improve property values, stimulate investment and improve the urban environment. Streetscape upgrades along the selected alignment combined with fixed station locations are expected to support increased pedestrian activity and boost market confidence. High quality mixed use development around the light rail could replace the traditional 'strip' development along busy roads to create better places for people and business.



**Seven of Australia's ten largest cities have built, or are planning to build, light rail systems.**



Every type of transport offers unique advantages. Light rail is well suited to coastal cities with a network of centres.



## Bus Rapid Transit

Bus rapid transit runs along designated busways, or bus lanes on existing roads with priority movement at intersections. While bus rapid transit is slightly cheaper to implement, the operating and future costs to increase the number of buses, can result in higher long term costs compared to light rail.

While buses have flexibility of route choice, this can lead to variable travel times and therefore reduced reliability. The permanence and presence of bus rapid transit is not as strong as light rail and can be less attractive to passengers due to lower ride comfort levels. Over the long term, bus rapid transit cannot provide a number of benefits offered by light rail, including reliability and efficiency, and value uplift of land surrounding the route. Bus rapid transit is also unlikely to encourage redevelopment of land alongside stations.

65x

PASSENGERS



## Light Rail

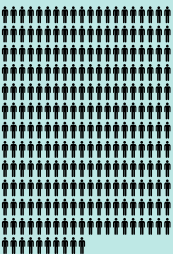
Light rail can be incorporated seamlessly within urban centres, and provides rapid, high capacity vehicles capable of long or short trips.

Light rail provides a permanent transit alignment through an urban area and presents opportunities to stimulate urban improvement.

Light rail has the capacity to carry more people than bus rapid transit, typically carrying 250 passengers per vehicle, and is a modular system that can be added to over time to meet demand.

250x

PASSENGERS



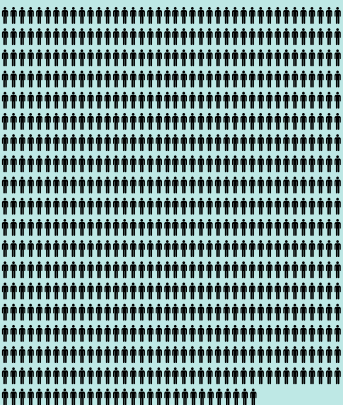
## Heavy Rail

Heavy rail includes at grade, elevated and subway systems that are well suited to high capacity and longer journey trips - particularly between cities. Heavy rail cannot safely run through streets or a town centre. With less frequent stations (typically more than 2km apart) it provides fewer opportunities for boarding compared with light rail.

Heavy and light rail systems are complementary to one another as both serve different purposes; heavy rail predominantly connects people from a wider catchment area to places that are further apart, whereas light rail provides a way to move through and between higher density urban areas and town centres.

750x

PASSENGERS





As cities grow, space becomes more important. Light rail offers considerable capacity gains compared with bus and general traffic lanes and can use this space more efficiently.

## Corridor capacity compared



**40<sub>M</sub>**  
CORRIDOR

Dual track light rail + 4 traffic lanes = **22,000** passenger trips per hour



**65<sub>M</sub>**  
CORRIDOR

12 traffic lanes = **19,000** passenger trips per hour

## Cost of living benefits

Many households require more than one car to meet their travel needs, multiplying the cost associated with the second largest asset for many Australian households. The high vehicle mileage associated with car dependent travel contributes to a depreciation in value and higher running and maintenance costs. The average running cost of a family car is \$12,000 per year. With 54% of households in the region owning two or more vehicles, there is opportunity for significant savings if light rail can make the extra car optional. Families could potentially save \$230/week (in 2013 \$) which is 70% of the average weekly rent on the Sunshine Coast.

More than half the households on the Sunshine Coast have two or more cars.  
*OESR (2011)*

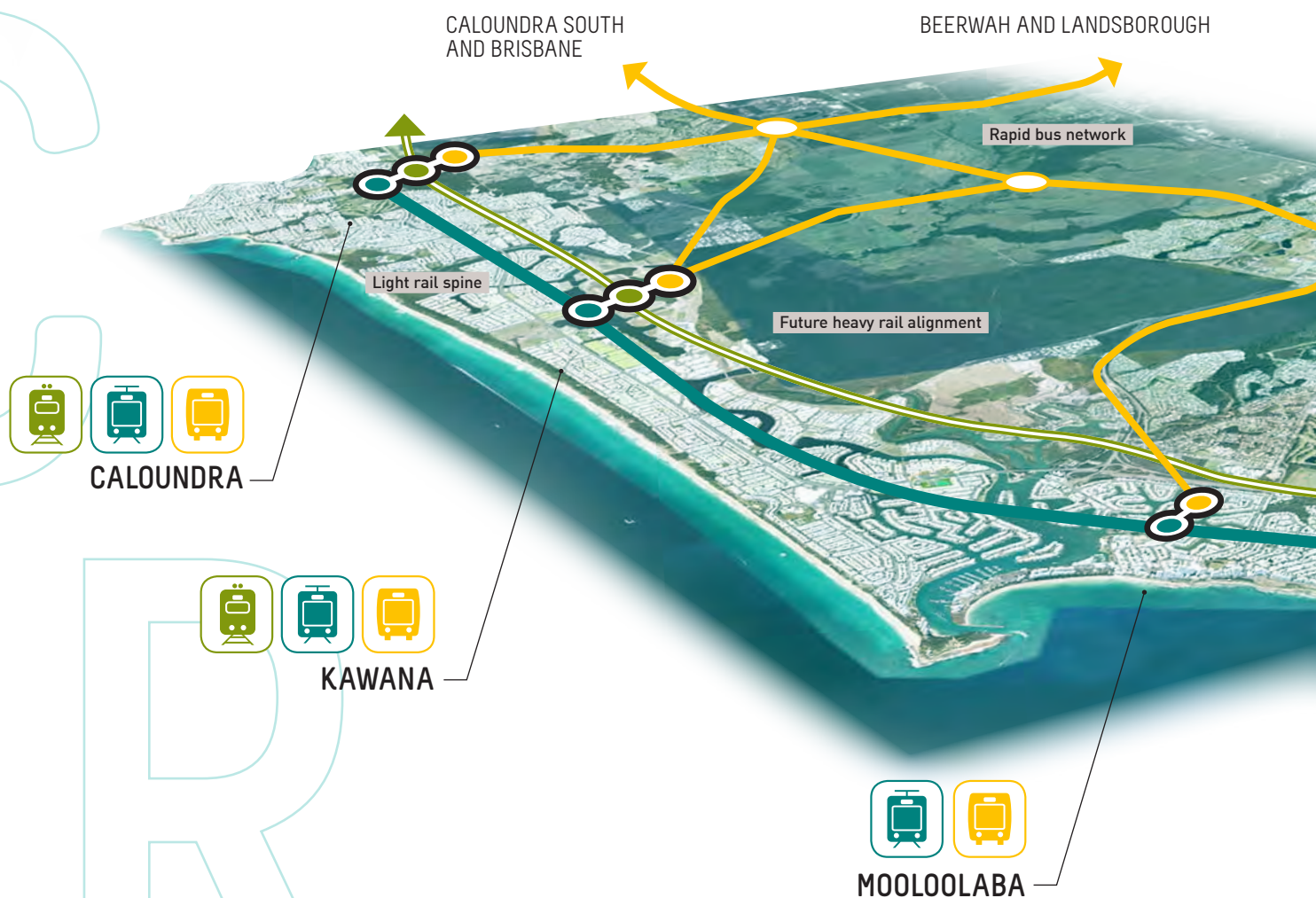


The average family car costs \$12,000 a year to own and run. If the second car is optional, families could save up to \$230 per week, over 70% of the average weekly rent.

[Sources: RACQ Vehicle Running Costs Guide 2013; ABS National Regional Profile Average Monthly Household Rental Payments 2011]

# An integrated public transport network

A new light rail system would form the backbone of the public transport network for the entire Sunshine Coast. It could be supported by a connected network of rapid, high frequency bus services and could connect with a future heavy rail line from Maroochydore to Brisbane.



Frequent, convenient and speedy connections will be critical in establishing public transport as a viable option for travel on the Sunshine Coast. Light rail would unlock opportunities to redefine bus and rail public transport across the region. Rapid district and local bus routes could feed into the light rail, complementing roads and improved active transport access.

#### Targeting better public transport

Light rail or a similar investment in public transport will be crucial to shifting transport mode share. Projected growth on the Sunshine Coast will lead to a 60% increase in daily trips by 2031. By providing more efficient transport options, there is an opportunity to decrease the share of trips by private vehicle and allow the busy activity centres to be better places for people and business.

#### An integrated bus and light rail network

Light rail would replace a number of north-south bus routes in the core coastal areas and free up buses to boost east-west services and improve access to hinterland and railway towns, emerging greenfield communities and the University of the Sunshine Coast.

Major and district stations and stops could be located at Maroochydore, Mooloolaba, Kawana Town Centre and Caloundra. These stations could facilitate high quality interchange between high frequency and priority bus routes as well as local feeder bus routes to create an integrated transport system.

Aligning key transit interchanges with major activity centres would support the economic development objectives and relieve growing pressure on roads within our important centres.

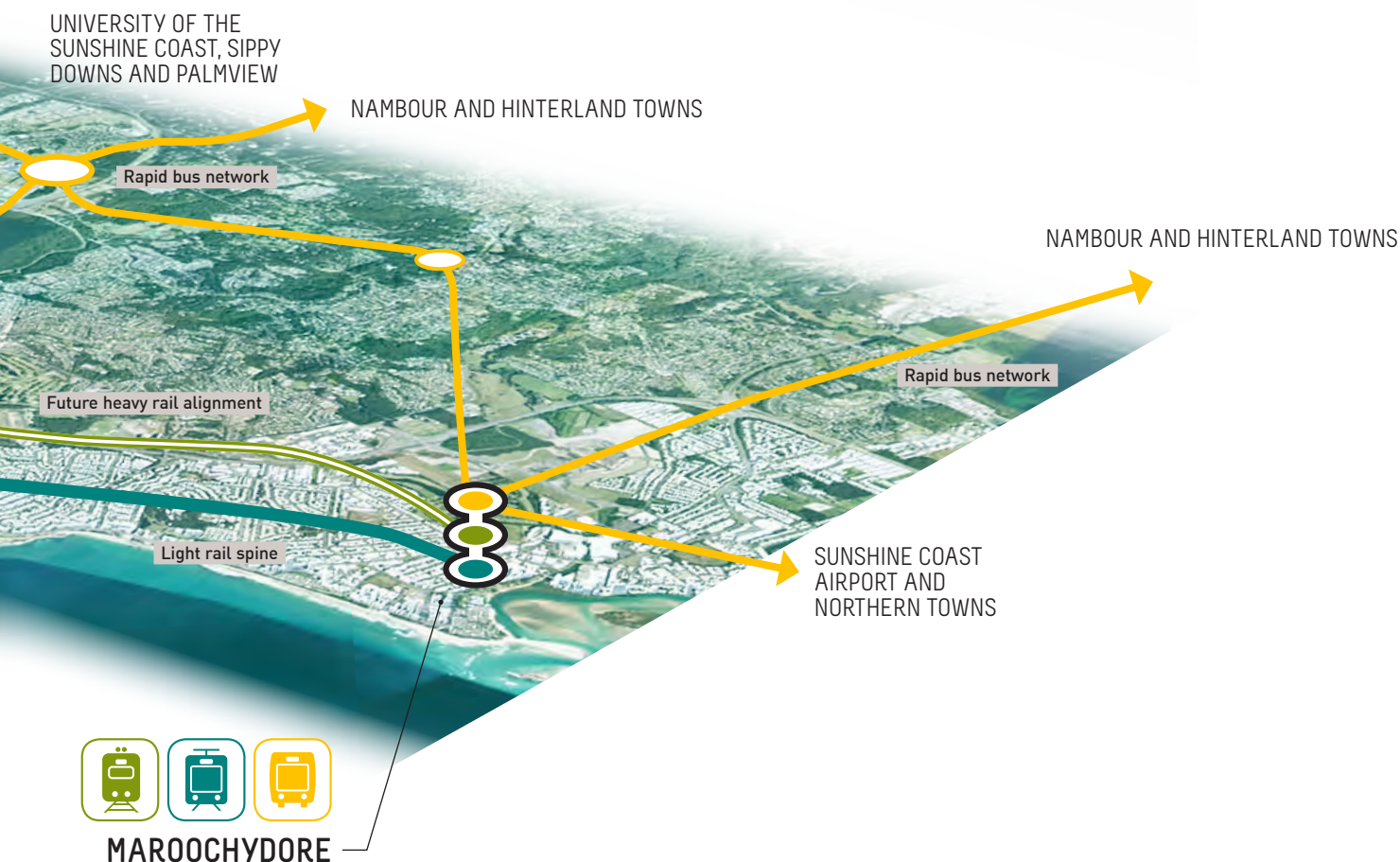
#### Park 'n' Ride

As the popularity of public transport increases, Park 'n' Ride facilities could be provided so that people travelling from suburban and rural areas benefit from easy access to the integrated rapid bus and light rail system.

#### Maroochydore heavy rail line (CAMCOS)

If the Queensland Government's proposed Maroochydore line (CAMCOS) is constructed in the future, it could extend from the north coast line at Beerwah to connect Caloundra South, Caloundra, Kawana and Maroochydore. It could provide a high speed connection to Brisbane.

The heavy rail line would perform a different function to the light rail, with both playing an important and complementary role in the wider integrated public transport network.





# Light rail is part of a staged improvement strategy for the wider network including coastal and hinterland areas



## Existing network

The bus network is the primary public transport service, with the most frequent service operating between Maroochydore and Caloundra. The network requires gradual improvements over time to build towards a high quality public transport system. The CAMCOS heavy rail corridor is protected for the long term.



## Short term

### RAPID BUS

Introduction of a new, branded, high frequency bus service between Maroochydore and Caloundra will provide a rapid and reliable service in the future light rail corridor. The new service will act as a forerunner to the future light rail system and establish public transport as a competitive travel option in the busiest area. This service can be expanded to major destinations such as the University of the Sunshine Coast and the Sunshine Coast Airport.

Building a comprehensive transport network will deliver a range of active and public transport outcomes over the next 20 years. Improvements won't happen all at once, but will involve a transition of changes over a longer period.



## Medium term

### LIGHT RAIL & RAPID BUS

The high-frequency bus network is further expanded to major Sunshine Coast destinations and the first stage of light rail is introduced on the busiest part of the network, between Maroochydore, Mooloolaba and Kawana. The bus network expands to service growing communities at Palmview and Caloundra South. Services are accompanied by progressive stop and station upgrades and targeted bus priority measures.



## Long term vision

### A COMPREHENSIVE NETWORK

The high-frequency bus network is expanded to connect all major destinations. Light rail is extended from Kawana to Caloundra. A range of options can be considered for how the light rail and heavy rail could meet. Future extensions of the light rail can also be considered.



While sections of elevated track can reduce interference with traffic, construction costs are high, and visual impacts can be very significant.

# Why track and platforms should be on the street

Generally, elevated track is considered less desirable than at-grade, as the separation of potential users to station platforms imposes accessibility issues including stairs, lifts to elevated platforms, and maintenance and emergency access issues. Cost, noise and visual amenity are also key factors in the consideration of an elevated system.

A range of factors need to be considered in deciding a preferred approach:

- Reconfiguration of streetscape elements
- Operational impacts
- Visual amenity
- Property acquisition requirements
- User accessibility
- Cost
- Land use integration

Evidence shows that elevated tracks can provide faster travel times for end to end journeys.

This is achieved by reducing delays at intersections which provides time savings for both light rail and road traffic.

While these are desirable attributes, the transport modelling for 2031 highlights the majority of journeys are short local trips to and from centres.

An at grade system is better suited to these travel patterns as it gives priority to fast and convenient access rather than speed over longer distances.

The footprint of a typical elevated structure at ground level would be up to 5 metres wide between traffic lanes, with concrete traffic barriers to protect piers. This offers a modest reduction in overall corridor width compared to an at-grade alignment, but is a costly way to manage traffic impacts.



Consideration of a number of factors has identified 'at-grade' as the most desirable option to minimise community impact and optimise property value uplift.

## 'At Grade' Alignment

### CONFIGURATION

**Integrated at street level**

### LIGHT RAIL CORRIDOR WIDTH AT GROUND LEVEL

**8 metres**

### HEIGHT (TO TOP OF CATENARY)

**4-6 metres (1-2 storeys)**

### PLATFORM ACCESS

**Signalised crossing**

### TOTAL SYSTEM COST (APPROXIMATE)

**\$90M**/KM

## Elevated Alignment

### CONFIGURATION

**On structure above street**

### LIGHT RAIL CORRIDOR WIDTH AT GROUND LEVEL

**5 metres (including foundations)**

### HEIGHT (TO TOP OF CATENARY)

**10-14 metres (3-4 storeys)**

### PLATFORM ACCESS

**Signalised crossing with Stair / Elevator**

### TOTAL SYSTEM COST (APPROXIMATE)

**\$160M**/KM



## 'AT GRADE' ALIGNMENT - DESIRABLE



## ELEVATED ALIGNMENT - UNDESIRABLE





# Light rail: technical information

Light rail is a highly flexible system capable of operating at lower speeds in established areas and ‘fast running’ where conditions allow.

A key advantage of light rail is its ability to integrate seamlessly into the existing urban environment. Recently delivered systems in Australia take up a track width that is just over two traffic lanes.

### Light rail vehicles

The light rail passenger vehicles suitable for the Sunshine Coast can travel speeds of up to 80km/hour.

Travelling speeds are determined by a range of physical and operational variables including on-street, segregated and high speed corridor characteristics. Other potential impacts on speed include:

- Track alignment
- Adjacent traffic speeds
- Development density
- Signalling priority
- Intersections
- Platform and station dwell time

The rolling stock provides a high level of safety for commuters with seamless accessibility when moving between the platform and vehicles.

The Gold Coast Light Rail vehicles demonstrate a contemporary and highly visible vehicle finish to help avoid accidents and collisions.

A twin track configuration for Sunshine Coast Light Rail could accommodate associated infrastructure requirements between both tracks, forming a total slab width of approximately 8 metres.

Light rail generally travels at the same speed as general traffic and in a dedicated corridor for congestion free running where possible.

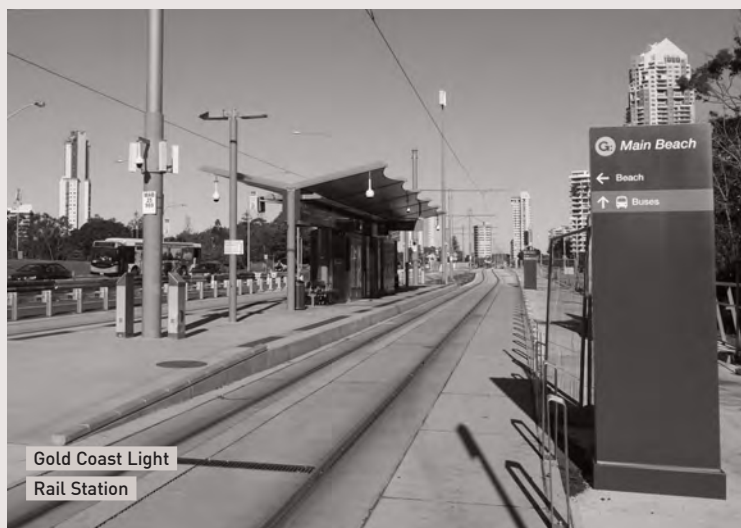
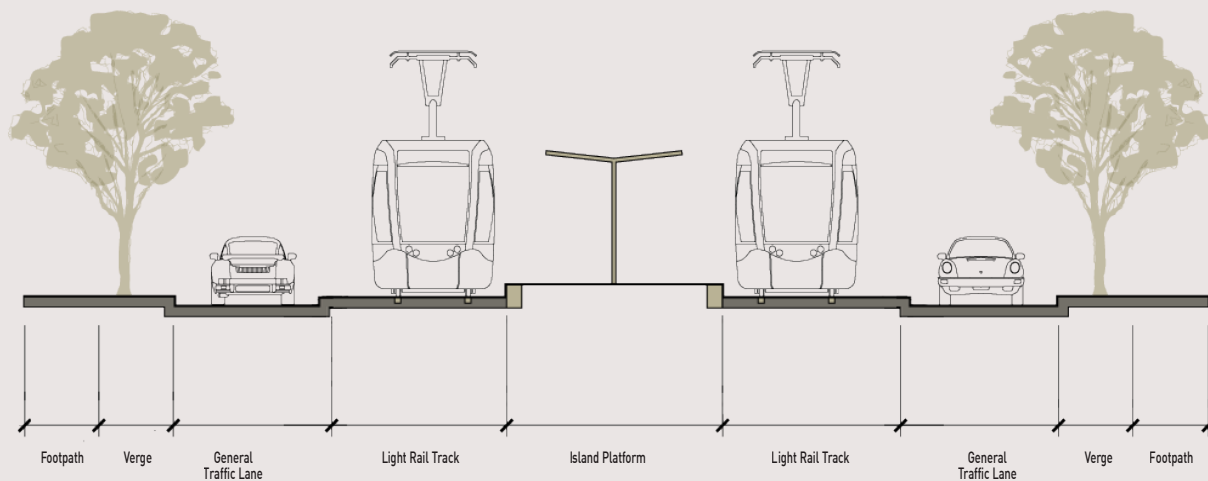


Speed	Up to 70 - 80km/hour
Measurements	Length 32.5 - 40m Width 2.65m Height 3.3m
Door step height	235 - 290mm
Low floor area	Minimum 70% (for universal access)
Pantograph and contact wire	>4.3m operating height 6.0m maximum height

GOLD COAST LIGHT RAIL VEHICLE



## Typical island platform station configuration



## Stations

A nominal 750m spacing between stations will support a total of approximately 33 stops between Maroochydore and Caloundra.

Stations could be implemented with a number of platform configurations including:

- Centre island platform
- Trafficable platform stop
- Kerb extension platform
- Side platform (single faced)

Platform configuration will be dependent upon several factors including:

- Safety for tram patrons and other road corridor users
- Context of the station within adjacent infrastructure
- Road traffic volumes
- Levels of pedestrian activity

All stations would be designed to comply with universal access guidelines.



# <sup>3</sup> SHAPING THE SUNSHINE COAST

Light rail: an agent for urban improvement



State-of-the-art  
vehicle fleet

Safe 'island'  
platforms with  
shade and shelter

Safe and convenient  
pedestrian crossings

Some existing car  
parking relocated to  
adjoining streets



**Light rail is a recognised catalyst for urban improvement.**

**Regional cities around the world demonstrate that higher property values and increased commercial and community activity occur within walking distance of new light rail stations.**

New development can reflect the character and lifestyle of the Sunshine Coast, while also supporting a higher intensity of use and activity.

Sensitive, low to medium rise development could be focused around light rail to bring people, transport, jobs and local services closer together. This approach would reduce pressure for

development in established residential areas while delivering focused urban improvement in key local centres.

Concepts were developed to illustrate how light rail could be delivered on the Sunshine Coast and how future development could look. The example below shows how light rail on Aerodrome

Road could support appropriate, high quality development and underpin a transition from a vehicle dominated space to an engaging mixed use and pedestrian orientated place for people and business.



Light rail tracks  
integrated with  
road corridor

Streetscape and  
public realm improvements  
enhance character

Increased pedestrian  
activity supports new  
development and activation

Car parking  
relocated from  
main street.  
No loss of parking

**AERODROME ROAD, MAROOCHYDORE**



Different outcomes are possible with light rail



NICKLIN WAY 2013

# Light rail: an agent for urban improvement

With a fixed alignment and station locations, and more frequent services, light rail has the ability to shift perception of public transport. Locals and tourists can catch a tram with much more confidence than a bus or other flexible modes. It also gives developers greater confidence to invest in areas around light rail because the infrastructure is fixed.

In many cases light rail has led to increased private investment and economic activity surrounding the route and stations - transforming main roads dominated by cars into vibrant, liveable and pedestrian friendly streets.

Light rail has the ability to support a city's liveability and allow targeted streetscape improvements and growth in tightly contained renewal areas. New development at key nodes along the corridor could be complemented with improvements to major arterial routes to boost street life and support local business.







New mixed use development  
adds to street life over time

Central light rail alignment

Light rail stations are easy  
to access via signalised crossings

On street parking on both sides

Planting provides shade and  
safe separation from road traffic

Generous footpaths  
support pedestrians and cyclists

## NICKLIN WAY 2031 (WITH LIGHT RAIL AND CYCLE PATHS)

Key opportunities exist to recast Nicklin Way with a community focus rather than the busy urban arterial road it has become. The passenger capacity of light rail can relieve the pressure of growing congestion and reduce the need for progressive future road widening. The corridor could be reconsidered to provide a better balance between cars, pedestrians, cyclists and public transport.

East west pedestrian and cycle movements could be facilitated rather than blocked by a busy road, and streetscape improvements could support

trees and verge planting to protect pedestrians and cyclists, while providing much needed shade and shelter in a subtropical climate.

A conceptual reconfiguration of Nicklin Way was developed to explore ways to boost transport capacity and facilitate improvements to the streetscape and urban environment. The concept illustrates a possible arrangement for Nicklin Way that supports:

- Two general traffic lanes with protected left turn lanes in each direction of travel with some rationalisation of right turn movements
- A new light rail corridor supporting stations with a central island platform (or offset side platforms)
- Wide footpaths (+5m) to facilitate protected pedestrian and off street cycle movement in each direction of travel
- On street car parking on both sides
- Protected, shady, pleasant walking environment
- An improved environment for business activity at key nodes



Light rail has the ability to attract private investment and boost economic activity surrounding the route and stations.



# Reconnecting the community to the beach: Alexandra Parade

Light rail could help reduce traffic volumes on key roads, creating opportunities to rethink some roads to improve pedestrian movement, and reconnect the community and the coast.





Light rail provides an opportunity to transform main roads, such as Alexandra Parade, to be focussed around the community. By balancing a variety of transport modes, we can redefine our streets as pedestrian friendly places, rather than dominated by cars and congestion.

A hypothetical reconfiguration of Alexandra Parade demonstrates a potential streetscape arrangement that maintains a good level of accessibility while supporting improvements to the streetscape and surrounding environment.

This concept highlights a possible scenario for Alexandra Parade that includes:

- One general traffic lane in each direction with protected left turn lanes and some rationalisation of right turn movements
- Improved visual and physical connection to the beach
- Fewer lanes and safer pedestrian crossing opportunities during the day and night
- On street car parking on both sides
- Central median and light rail could break up the wide expanse of bitumen and reduce heat island effect
- Removal of power poles and visual clutter
- New dedicated cycle lanes
- Protecting the foreshore park area
- Protected, shady, pleasant walking environment
- No private property impacts

- Light rail corridor supporting stations with a central island platform (or offset side platforms)
- Wide footpaths (+5m) to facilitate protected pedestrian and off street cycle movement in each direction of travel



TRANSFORMING ALEXANDRA PARADE: CONNECTING THE COMMUNITY TO THE COAST (2031)



# Urban improvement opportunities: the urban transit village

Light rail would  
create a convenient  
and sophisticated,  
'turn up and go'  
network that  
connects coastal  
villages and  
destinations.



Increased accessibility  
and pedestrian activity  
support new development  
and activation



Aerodrome Road [2013]



Light rail could help transform places like Aerodrome Road, Maroochydore, from a busy arterial road into an active and engaging people place.

The realignment of traffic lanes and relocation of on-street parking to adjoining streets could accommodate a central light rail alignment without widening the corridor. Streetscape improvements could result in wider footpaths with street trees and verge planting to create a safer, pleasant and shady environment for pedestrians.

Major cycle connections could be accommodated on parallel routes through established urban areas.

Over time, the additional pedestrian activity associated with new light rail stations, combined with streetscape improvements, could help stimulate the redevelopment of existing car based 'strip' development to create better business environments.

Improved signalised crossings would help reconnect the northern and southern sides of Aerodrome Road and create

a local village atmosphere with shops and public spaces around new light rail stations.

The conceptual reconfiguration of Aerodrome Road was developed to explore how to boost transport capacity while realising an alternate higher quality urban environment with improved community outcomes. The concept illustrates a possible arrangement that supports:

- Two general traffic lanes with protected left turn lanes in each direction of travel and some rationalisation of right turn movements
- A new light rail corridor supporting stations with a central island platform
- Wider footpaths (+5m) to facilitate protected pedestrian movement
- On-street car parking on adjoining side streets to ensure no loss of street parking
- Commuter cycle links on parallel routes
- Protected, shady, pleasant walking environment

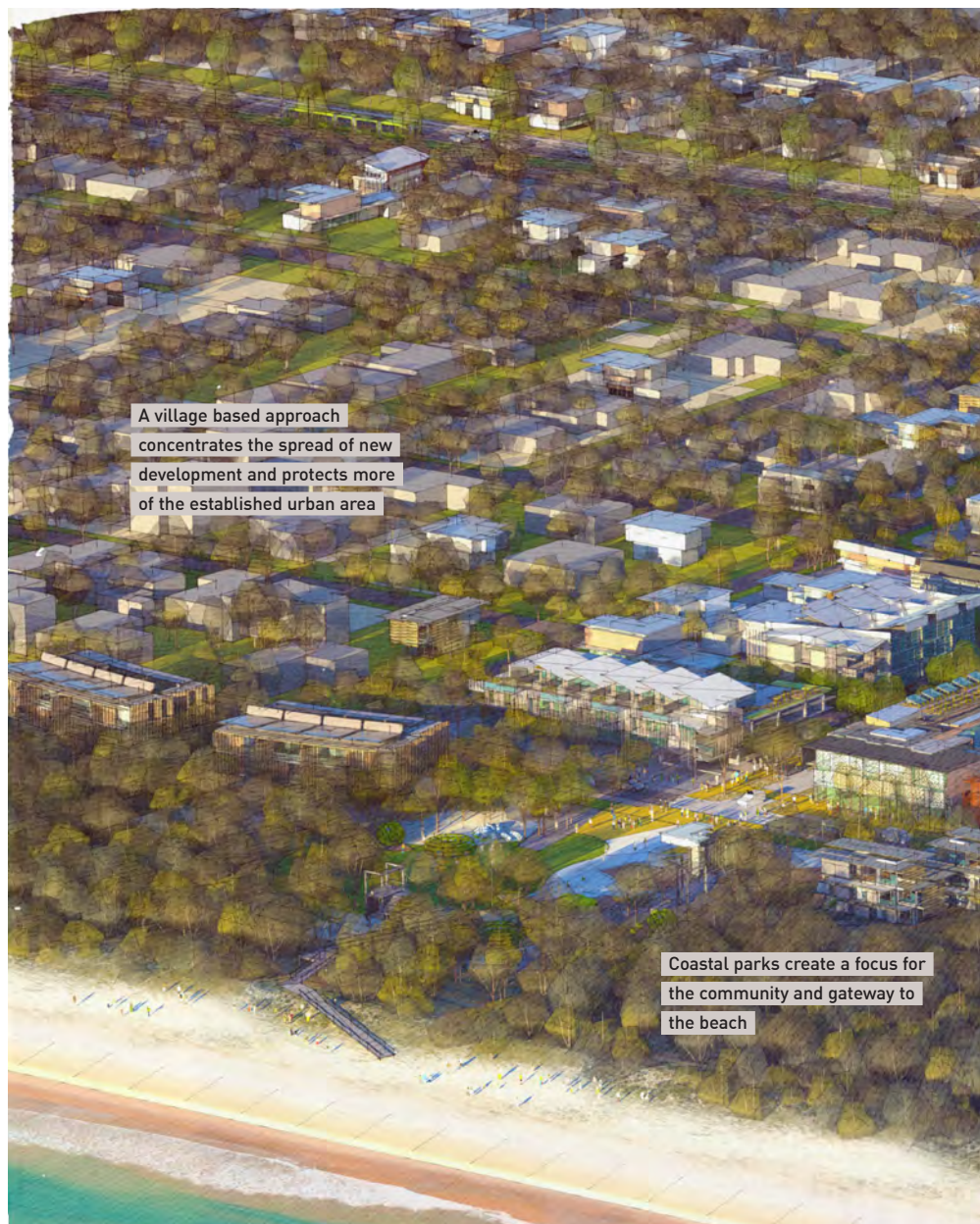


AERODROME ROAD AS A PLACE FOR PEOPLE AND BUSINESS (2031)



# Possible models for future growth: the coastal transit village

The 'coastal transit village' concept was modelled on the traditional coastal villages of the Sunshine Coast, with the beach at one end of the street and light rail at the other.



A village based approach concentrates the spread of new development and protects more of the established urban area

Coastal parks create a focus for the community and gateway to the beach



In the longer term, light rail could support future growth in new ways that bring together the best of the Sunshine Coast.

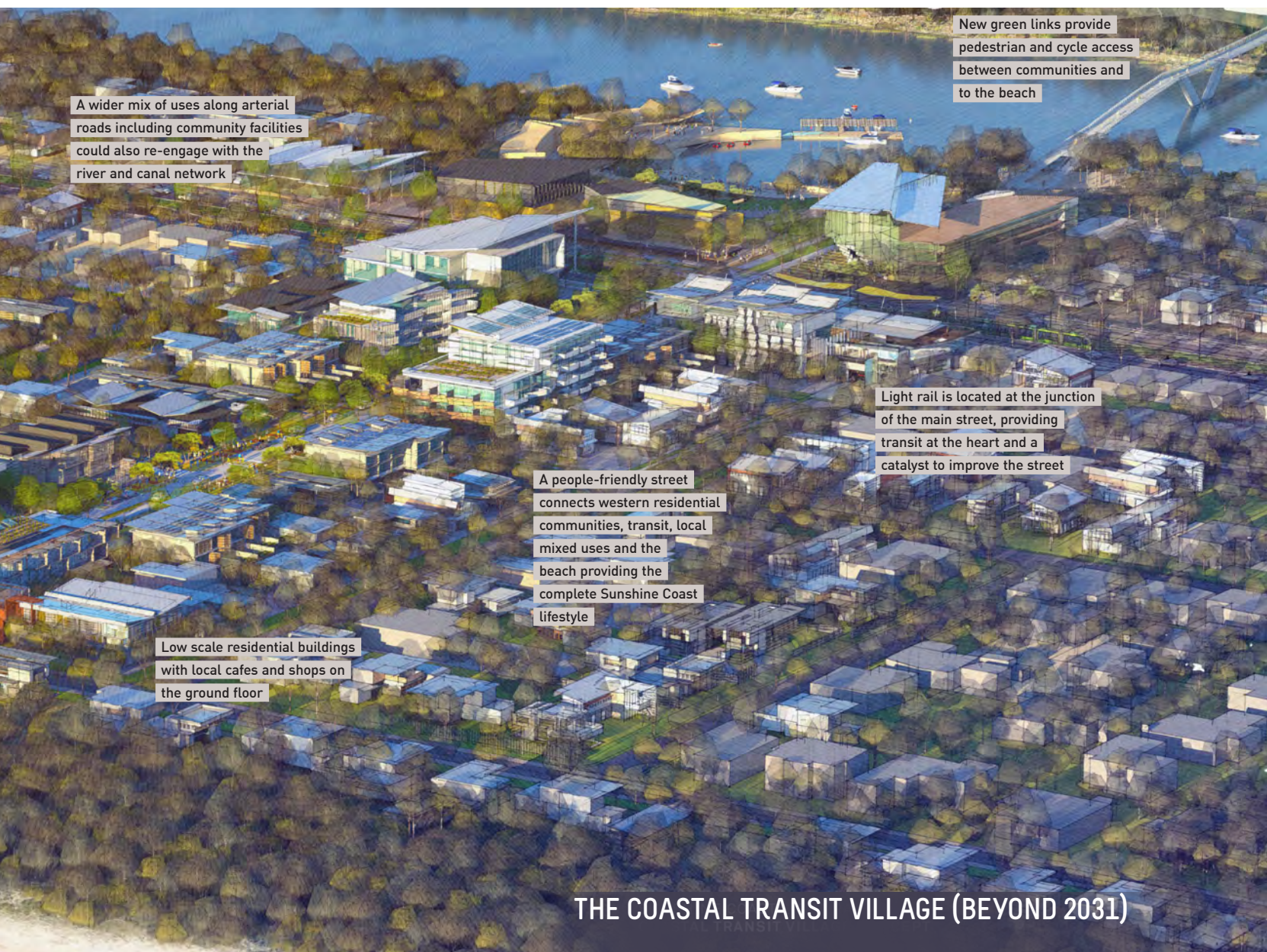
This concept for a 'coastal transit village' network explores opportunities to harness the light rail and long term growth to build a unique style of living on the coast.

The concept aims to focus and contain the footprint of future growth and protect the character of established residential communities.

The village concept relies on new development of a modest scale, focused on an east-west street that aligns with a future light rail station. The transport accessibility and strong connections to the beach and western residential catchments provide opportunities for outstanding urban and natural amenity, combined with convenient access to specialist centres in the wider structure of the Sunshine Coast.

Key features include:

- Light rail at one end of the street and the beach at the other
- Compact, low rise residential development that fits comfortably with the surrounding established residential areas
- New local shops and cafes that boost street life and support a new 'urban' coastal village lifestyle
- Improved walking and cycling links across waterways connect western and eastern communities and enhance access to the beach and local community facilities



A wider mix of uses along arterial roads including community facilities could also re-engage with the river and canal network

New green links provide pedestrian and cycle access between communities and to the beach

Light rail is located at the junction of the main street, providing transit at the heart and a catalyst to improve the street

A people-friendly street connects western residential communities, transit, local mixed uses and the beach providing the complete Sunshine Coast lifestyle

Low scale residential buildings with local cafes and shops on the ground floor

## THE COASTAL TRANSIT VILLAGE (BEYOND 2031)

# 4 NEXT STEPS

## How we can realise a light rail system for the Sunshine Coast

Planning for any major transport project takes time. Critical early steps are needed to secure a corridor and establish an interim transit solution to address growing congestion.

### WHEN COULD LIGHT RAIL HAPPEN?

#### Light rail takes time...

Light rail systems require a significant effort to plan and deliver. Light rail also requires a significant capital investment as, unlike road upgrades, it is not able to be rolled out in smaller more affordable stages. It is due to the scale of investment and construction that decisions about whether to proceed or not need to be fully informed.

In cities worldwide it is not uncommon that a planning and delivery timeframe of 5-10 years or more precedes the opening of

a light rail system. The Gold Coast Rapid Transit Project provides a local example. The project was launched by the Gold Coast City Council in 1998 and the system opened in July 2014, around 16 years later. The considerable lead time invested is worthwhile given the long term benefits of light rail.

Based on growth projections for the Sunshine Coast, we need to plan and preserve a corridor now, and commence operations by approximately 2025. As an early step, we need to develop a high frequency bus by the time the Sunshine Coast University Hospital opens in late 2016.

### PROJECT STAGING

COMPLETED

THIS REPORT

FUTURE STAGES



1  
LINE IN  
THE SAND  
PREFEASIBILITY  
STUDY



2  
SHAPING  
OUR FUTURE



3  
ROUTE  
OPTIONS



4  
FEASIBILITY  
STUDY



5  
BUSINESS  
CASE



## A PROVEN PERFORMER FOR SMALL TO MEDIUM SIZED CITIES

The Sunshine Coast is expected to reach a population of 424,000 by 2031. At this time the Sunshine Coast would have a population equivalent to or larger than many other cities that have implemented light rail as their primary public transport system.

## THE TIME IS NOW

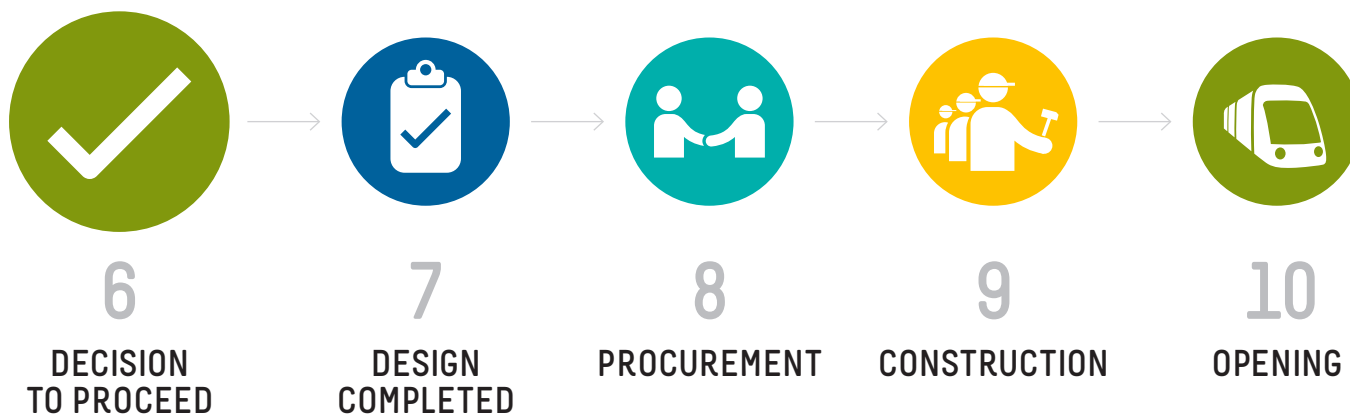
Considering the forecast population of the Sunshine Coast and the lead time to plan and implement light rail, we are in the position NOW to consider and plan for an eventual light rail system for the Sunshine Coast.

The majority of future growth on the Sunshine Coast will occur in the urban area bound by the Maroochy River to the north, the Bruce Highway to the west and the Caloundra South development to the south.

Two of the major urban development areas in this part of the Sunshine Coast include the Maroochydore and Kawana Regional Activity Centres. The anticipated timing of development of these centres and the projected travel needs of the coastal area indicate that light rail may be required by 2025. The provision of such a service will be of particular importance to the success of the Maroochydore, Kawana and Caloundra activity centres and to the improvement of the broader public transport network.

To have a light rail system operational by 2025 would require commencement of construction by around 2022.

Council's current target is to complete a detailed feasibility study. As a minimum, the completion of the study will need to identify a preferred light rail corridor for protection in the long term. A decision would also need to be made regarding whether the project should proceed and, if so, what the likely timing would be, to allow a range of corridor preservation activities to take place.





# How we can afford it

Little by little, we always seem to find the money to build more roads and more parking. But will a business as usual approach really create a better future?

In the long term the actual cost of light rail is likely to be less than an incremental approach to expanding the road network.

## HOW MUCH WILL IT COST?

The challenge will be to marshal the necessary capital before the project can be initiated. On this basis, the initial stage of light rail from Maroochydore to Kawana is forecast to cost approximately \$1.3 billion.

The basis of the capital cost estimates are the average unit costs for the Gold Coast Rapid Transit (GCRT) project. This includes an assumption on public utility and plant relocations, civil costs and the construction cost premium for working in the existing built environment and the need to maintain traffic flow around the works.

Property acquisition is assessed as being lower for the Sunshine Coast than for the GCRT and a high level of contingency has been applied to account for the lack of detail available at this stage of investigations.

It should be noted that the Gold Coast project was constructed under 24 hour traffic conditions, which added significantly to construction costs. This was driven by restricted working times, the need to provide traffic control,

maintaining property access and also the need to lay temporary, bituminised traffic routes. A similar situation could be applied to the Sunshine Coast. Workplace health and safety standards in Australia are also very high. Caution needs to be exercised in comparing costs of projects in other places where a much more aggressive approach to traffic restriction may be feasible, where workplace health and safety standards are not as high, or where the light rail is constructed off-road.

Based on recent and relevant experience on the Gold Coast, the indicative capital costs (in 2012 \$) are summarised below.

## Indicative cost estimate

Stage	Capital cost (Estimate in 2012 \$)
Maroochydore to Kawana	\$1,300 million
Kawana to Caloundra	\$700 million
<b>Total</b>	<b>\$2,000 million</b>

Concept illustration showing light rail connecting to the heart of the Maroochydore City Centre





**The introduction of a high frequency, branded bus service would help improve the reliability and profile of public transport on the Sunshine Coast, and would be great for tourists.**

## **WHAT CAN WE DO NOW?**

### **A rapid, frequent, high quality branded bus service**

As a shorter term initiative, a branded rapid bus service could be established between Maroochydore and Caloundra.

Branded, high frequency bus services represent best practice urban bus transport and are characterised by:

- High frequency trunk buses running along major movement corridors
- An all day network operation supplemented during the peaks

- High frequency operation throughout the week, not just weekdays
- Increasingly important service branding: all buses shouldn't look alike

A rapid bus service could be a forerunner to the future light rail and deliver some of the initial benefits. Over time, as the population continues to grow and traffic volumes increase, the rapid bus service would need to be upgraded to light rail to accommodate rising passenger volumes.

At present, the most frequent bus service is the Maroochydore to Caloundra 600 service, which runs every 12 minutes during the daytime period and carries 25% of all bus trips on the Sunshine Coast.

A separate initiative to CoastConnect, this service would only require minimal kerbside infrastructure such as branded shelters and signs at stops. It would not require dedicated bus lanes or major infrastructure improvements. Over time, targeted intersection treatments could assist to improve the service travel time through busier sections of the route.

Current planning indicates that such a service would be required to commence by 2016, around the timing of the opening of the Sunshine Coast University Hospital at Kawana. This service could expand to also connect to other important destinations such as the University of the Sunshine Coast and the Sunshine Coast Airport.











# SUNSHINE COAST LIGHT RAIL SHAPING OUR FUTURE

## Get involved.

Visit our website or contact Council's customer service centre.

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