

DATE 23 February, 2015

CONTACT STEVE WILLIAMS

# Halls Creek Integrated Transport Strategy For Stockland

## EXECUTIVE SUMMARY

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The Halls Creek Identified Growth Area (IGA) has been identified within the *South East Queensland Regional Plan* (SEQRP) as a potential location to assist in accommodating the long term population growth of the Sunshine Coast and South East Queensland. The Halls Creek area, and development of same, from a transport perspective can meet the planning intent for Identified Growth Areas for the Sunshine Coast Region as expressed in the SEQRP. The transport system has been described within this report and clearly demonstrates how the Halls Creek transport strategy is aligned with the IGA objectives which include the following critical transport elements. The Halls Creek transport strategy contributes to:

- the **delivery and performance of infrastructure (including public transit) to the Sunshine Coast community** by supporting and leveraging up to \$8B of planned investment in infrastructure;
- **achieving urban consolidation and self-containment** by providing excellent active and public transport within the area;
- Providing high standards of **accessibility to a public transit service** in the form of bus priority routes to/from/in the site which can provide connectivity to the CAMCOS network as/when this transport corridor is delivered. Thereby increasing catchments/densities and subsequent viability of this major infrastructure initiative; and
- Providing **coordinated delivery of infrastructure** through the leveraging existing and planned infrastructure and contributing to the efficient rollout of same.

While this document provides a high level of transport strategy it is considered any future development of the IGA would involve the creation of a master planned project on the 1280 ha investigation area and would require a detailed transport system investigation. One of the major advantages for the planning and implementation of Halls Creek is that this land has large scale and is in single ownership. The site can logically extend to the south of the approved Caloundra South development which is located alongside the Bruce Highway and 5km southwest of Caloundra CBD.

The key conclusions drawn from the Halls Creek IGA integrated transport strategy are as follows:

### **Caloundra South and Sunshine Coast Integration**

- A significant amount of infrastructure is to be developed within the Sunshine Coast region and in particular in proximity to Caloundra South over the next 20 years. The level of expenditure and new capacity within the active transport, public transport and road networks allows development at Halls Creek to leverage the new and approved infrastructure. The Halls Creek IGA will provide increased population density and employment opportunities that will subsequently improve utilisation and economic

viability of the proposed and committed infrastructure, particularly public and active transport infrastructure;

- The Halls Creek IGA demonstrates the ability to comply with the transport related requirements outlined in SEQRP including:
  - Assisting in the delivery and performance of infrastructure (including public transit) to the Sunshine Coast community by supporting and leveraging up to \$8B of planned investment in infrastructure, as discussed in **Section 2.2**;
  - Achieving urban consolidation and self-containment by providing excellent active and public transport within the area;
  - Providing high standards of accessibility to a public transit service in the form of bus priority routes to/from/in the site which can provide connectivity to the CAMCOS network as/when this transport corridor is delivered. Thereby increasing catchments/densities and subsequent viability of this major infrastructure initiative; and
  - Providing a coordinated delivery of infrastructure.
- Halls Creek would logically adopt and extend the Caloundra South strategic vision of a healthy prosperous, culturally, socially and economically diverse community, which embraces sustainable technologies and lifestyle practices which all contribute to a balanced and sustainable transport system;
- The development of the Halls Creek IGA would maximise opportunities to realise the benefits of self-containment by reducing the likelihood of promoting a satellite suburb of Brisbane, a potential consequence of focussing on increased density around existing heavy rail stations which does not effectively link the entire Sunshine Coast region; and
- The Halls Creek IGA can comply will all relevant standards while complying with and contributing to transport policies and strategies.

### Active Transport

- The urban design of Halls Creek IGA could enable a sustainable community with high levels of active transport due to the natural topography and urban design features, which would support the goals of healthier and more active residents with better work-life balance;
- The proposed active transport strategy has the ability to increase the transition from car to active transport. Halls Creek can deliver a hierarchy of cycle and pedestrian routes and the supporting infrastructure, to create a “15 minute” community;

- Halls Creek can provide an accessible active transport system for all pedestrian and cyclist users (commuter, recreational, fitness, etc.) in a safe and efficient network with high quality infrastructure, end of trip facilities and seamless integration with public transport and the wider road network. This includes providing separation from road traffic where applicable and ensuring crime prevention through environmental design principles are applied;
- The location of the Halls Creek IGA in relation to the Caloundra South Integrated Transit Centre would allow an increased catchment of cyclists, with high standard cyclist infrastructure and supporting end of trip facilities providing a realistic alternative to motorised modes of transport;
- The potential locations of centres within the Halls Creek IGA could result in the majority of residents being within a few hundred metres walk of essential local facilities, which includes schools;
- End of trip facilities will be provided as they play an important part in increasing cycling mode share. Cycle centres with secure bicycle parking and showers could be trialled to make cycling a more attractive travel alternative; and
- Provision of crime prevention through environment design (CPTED) measures to deter criminal behaviour and encourage the transient to active transport can be supported throughout the site.

### **Public Transport**

- The Halls Creek IGA supports the viability of longer term public transport infrastructure and leverages planned Caloundra South infrastructure. Key areas of interaction include the CAMCOS and CoastConnect projects with high frequency bus services within the Halls Creek precinct potentially increasing the patronage of these services;
- Halls Creek can demonstrate the ability to integrate the future urban development with the broader Sunshine Coast region through proximity and access to existing & planned priority public transport and road corridors;
- A transit hub can be provided within Halls Creek on the southern side of the employment area to provide a high standard public transport node for Halls Creek which can be integrated with the Caloundra South Integrated Transit Hub and other locations within the Sunshine Coast; and
- Halls Creek has the ability to provide direct and cost effective linkages via the committed Transit Corridor between Caloundra South and the Caloundra Major Regional Activity Centre and subsequently to the CoastConnect corridor extending between the Principal Regional Activity Centre at Maroochydore and Major Regional Activity Centre at

Caloundra. This may also include a potential express route providing high quality connectivity between the major centres including Maroochydore, Mooloolaba, Kawana, Caloundra South, Halls Creek and Beerwah, which includes the Beerwah rail station.

### **Road Network**

- The Halls Creek IGA will capitalise on a number of road infrastructure projects being delivered by Stockland under Infrastructure Agreements with the exception of the East-West Link and the Bells Creek Arterial duplication, which are to be delivered by TMR. The key piece of infrastructure relevant to the Halls Creek IGA is the Halls Creek interchange, delivered as part of the Bells Creek Arterial. The interchange provides excellent accessibility to Caloundra South and is ideal to service the Halls Creek IGA; and
- Halls Creek is proposed to have a high level of self-containment, with excellent connectivity to Caloundra South therefore reducing impacts on the external network.

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## 1.0 INTRODUCTION

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### 1.1 HALLS CREEK IDENTIFIED GROWTH AREA

The Halls Creek Identified Growth Area (IGA) is a significant parcel of land that is well suited as an IGA to assist to accommodate the land use needs for longer term population growth of the Sunshine Coast. Any future development of the IGA would involve the creation of a master planned project on the 1280 ha investigation area, located south of Caloundra on the Sunshine Coast. One of the major advantages of Hall Creek is that this land is in single ownership with secure land tenure. The site can become an extension of the approved Caloundra South development, which is located alongside the Bruce Highway and 5km southwest of Caloundra CBD.

As an extension to the Caloundra South development, any development of the Halls Creek IGA could utilise infrastructure and transport strategies proposed for the Caloundra South development. Halls Creek would logically adopt and extend the Caloundra South strategic vision of a healthy prosperous, culturally, socially and economically diverse community which embraces sustainable technologies, lifestyle practices and expands on the population base needed to support aspirations of transport modes such as priority bus routes, heavy and light rail; a vision that has been extensively reviewed and commented upon by the community during multiple rounds of community consultation. The neighbourhood centres and employment areas of Halls Creek would be linked by a public transport and active transport network to the Caloundra South City Centre and Integrated Transit Centre. By creating a strong and sustainable economy that offers a diversity of employment opportunities, residents would be encouraged to live, work and play in the Caloundra South and Halls Creek areas, reducing the external impact of travel. The design and layout of active transport network would encourage a mode shift away from car based travel and would support the ideal of Caloundra South and Halls Creek as a '15 minute community'. As an extension to Caloundra South, Halls Creek would be seen as a place for sustainable living and a place without the necessity of car usage for every trip. The Caloundra South master plan provides for a high level of active transport and since the Halls Creek IGA may not be needed for another 20 years there is potential to provide even further innovation within this area.

### 1.2 REPORT INTENT

The intention of this report is to help inform the SEQRP planning process through assessment of transport planning opportunities at the Halls Creek IGA. This Halls Creek IGA Transport Strategy Investigation addresses the transport planning requirements and identifies how development of



the IGA would successfully integrate into Caloundra South and regional infrastructure to achieve an optimised transport network.

The overall aim of the transport strategy is to identify an effective integrated transport system that works towards a **Self-Contained Community** (discussed further below) and will integrate with the Caloundra South strategy which aims to achieve the following three key outcomes:

- Develop a transport network that provides for future movement needs, facilitates sustainable forms of transport and supports connected communities;
- Provide an urban form, settlement patterns structure and demand management measures that increases mode share of sustainable transport such as walking, cycling and public transport over private vehicle use; and
- Increase access to, and awareness of, options for sustainable travel to reduce dependence on private car travel.

The transport strategy also aims to integrate with the Sunshine Coast Region and support further investment in regional infrastructure.

### 1.2.1 SELF-CONTAINED COMMUNITY

One of the most effective mechanisms for providing a more sustainable transport system is through better integration of the transport system and land-use. The large scale advanced master planning, in line with this study, allows improved integration throughout the study area, compared to progressive development without a coherent holistic plan. Creation of communities with higher levels of self-containment with employment, education, retail and recreation in close proximity provides realistic opportunities for increased utilisation of active transport (non-motorised) modes and local public transport services while reducing the demand for and reliance on car based transport. It is understood there is a market demand for the self-contained community lifestyle.

Delivery of self-contained communities is consistent with The *South East Queensland Regional Plan* (SEQRP) with the purpose of “managing regional growth and change in the most sustainable way to protect and enhance quality of life in the region”.

The Halls Creek development would continue the design philosophy of a ‘15 minute community’ adopted in the Caloundra South development, by providing high standards of walking/cycling and bus infrastructure linking directly to employment, retail, education and recreation within the Halls Creek and Caloundra South precincts. These linkages have potential to will be seamlessly integrated with the infrastructure proposed as part of Caloundra South.

District Centres and lower order centres within Halls Creek can be connected with the residential communities by cycling/pedestrian infrastructure reducing the needs for utilisation of motorised transport modes to access retail and community facilities. Continuation of and integration with the public transport system being delivered with Caloundra South would also provide high standard

linkages, with high frequency and good coverage, between Halls Creek and the significant employment, education, retail and recreational land uses being delivered in Caloundra South thereby increasing the opportunities for self-containment within a larger master planned integrated community.

The intent of this report is to demonstrate that increased population within close proximity, which is serviced by convenient and well-connected transport opportunities, will further enhance the economic sustainability and utilisation of key features of Caloundra South including the educational precinct (including the planned TAFE), employment nodes (providing in excess of 20,000 employment opportunities) and Caloundra South Major Regional Activity Centre, including a major Integrated Transit Centre.

The development of the Halls Creek IGA would maximise opportunities to express the benefits of self-containment such as:

- A reduction in overall trip length leading to improved modal balance and enhancing the sustainability of the transport system;
- Reduced demand for intra-regional transport;
- Improved utilisation, and hence, viability of community based public transport services; and
- Increasing genuine inclusion within Sunshine Coast urban fabric by providing effective linkages the entire Sunshine Coast region.

### **1.3 PROPOSED LAND USE PATTERNS**

To inform the integrated transport strategy study the following land use, population and employment outcomes have been assumed:

- Residential Development: 8,000 – 12,000 dwellings;
- Retail Development: 1 district centre and 5 neighbourhood / local centres;
- Schools: 4 primary and secondary schools; and
- Employment: 100 hectares of employment land.

Overall the development could support up to 30,000 people with significant employment self-containment with over 10,000 local jobs being provided; however this is subject to more detailed planning and investigation.

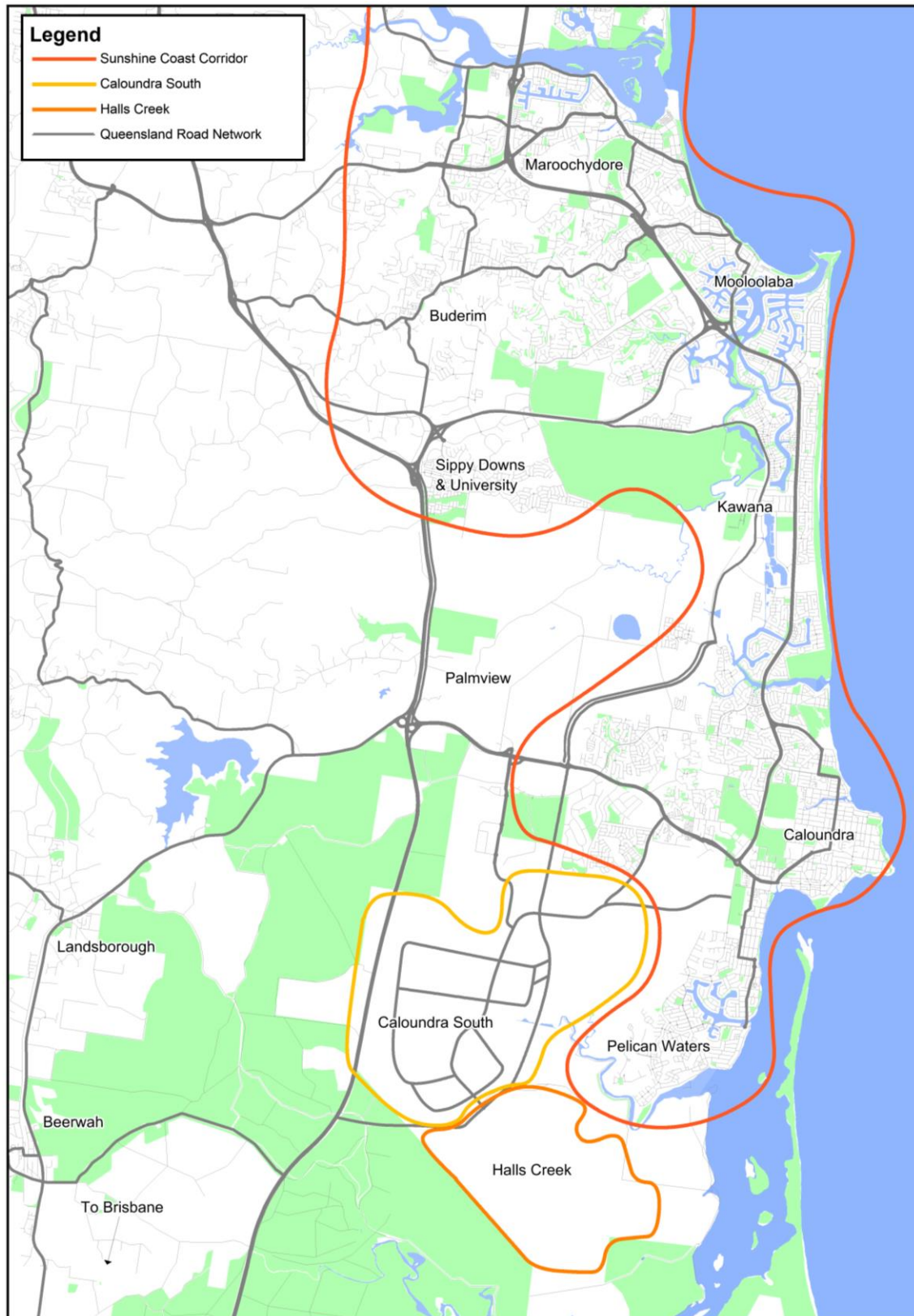
## 2.0 REGIONAL CONTEXT AND PLANNING

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### 2.1 REGIONAL CONTEXT

Halls Creek is a 1,280 ha site located to the south and adjoining the Caloundra South Priority Development Area, situated east of the Bruce Highway. The site is within the Sunshine Coast Council region, separated from Moreton Bay Regional Council region by the Inter-Urban break.

The location of Halls Creek and Caloundra South is shown in **Figure 2-1** below.



**Figure 2-1 Caloundra South (Halls Creek) location**

Caloundra South is defined as a major regional activity centre in the *South East Queensland Regional Plan 2009-2031* (SEQRP) with Halls Creek marked as an Identified Growth Area (IGA) in the SEQRP. An IGA is defined as land that may accommodate long term residential and employment growth, subject to detailed land use impact investigation.

The site is governed by the following state and regional planning documents:

- South East Queensland Regional Plan 2009-2031
- Connecting SEQ Plan 2031: An Integrated Regional Transport Plan
- Queensland Cycle Strategy 2011 – 2021
- South East Queensland Principal Cycle Network Plan
- South East Queensland Infrastructure Plan And Program 2009 – 2026
- TransLink Strategic Priorities And Policies
- Camcos: Caboolture To Maroochydore Corridor Study
- Sunshine Coast Light Rail
- TMR road upgrades to Bruce Highway

The following sections discuss the goals and objectives of each of these sources.

### **2.1.1 SOUTH EAST QUEENSLAND REGIONAL PLAN 2009-2031**

The SEQRP was developed in 2009 for the purpose of “managing regional growth and change in the most sustainable way to protect and enhance quality of life in the region”. SEQRP recognises IGAs as additional locations which may accommodate growth in the long-term beyond 2031.

With respect to the Sunshine Coast in particular, the SEQRP estimates that the Sunshine Coast will require 98,000 additional dwellings by 2031 to accommodate its expected regional growth, with these additional dwellings being accommodated by developing existing urban-zoned land and the major long-term Regional Development Areas of Caloundra South and Palm view.

The SEQRP vision for Caloundra South as a Regional Development Area is that of a compact community with an efficient and effective public transport system provided in sequence with urban development. Caloundra South will comprise a series of walkable neighbourhoods with a range of housing choice and affordability, local employment opportunities, retail and community facilities, services and recreational opportunities.

The SEQRP acknowledges that planning for Caloundra South is a priority for the delivery of short- to medium-term land supply on the Sunshine Coast.

Within the context of the SEQRP planning for the next wave of growth beyond 2031, the Caloundra South (Halls Creek) IGA is nominated as one of the possible locations suitable for

residential expansion ostensibly due the proximity efficiencies that can result from integration with Caloundra South.

The SEQRP discussed the IGA needs to consider each site's ability to:

- Comply with the Urban Footprint principles and requirements within the Sunshine Coast sub-regional narrative;
- Assist in the delivery and performance of infrastructure (including public transit) to the Sunshine Coast community;
- Protect environmental values;
- Achieve urban consolidation and self-containment; and
- Achieve high environmental performance.

In addition, developments within the Halls Creek IGA will need to demonstrate:

- Sufficient demand for further urban land within the sub-region;
- Accessibility to a public transit service;
- Achieving compliance with the Urban Footprint principles;
- Achieving world leading environment performance for any urban development and related infrastructure;
- Materially assisting in the provision of infrastructure for the southern Sunshine Coast community;
- Demonstrated high levels of employment self-containment; and
- Coordinated delivery of infrastructure.

## **2.1.2 CONNECTING SEQ 2031: AN INTEGRATED REGIONAL TRANSPORT PLAN FOR SOUTH EAST QUEENSLAND**

Through the *Connecting SEQ 2031: The Integrated Regional Transport Plan for South East Queensland*, the Queensland Government proposes to reduce reliance on private car from 86.3% to 72% by 2031, through increasing:

- Public transport trips from 3.6% to 10%;
- Walking trips from 8.4% to 10%; and
- Cycling trips from 1.7% to 8%.

To facilitate this sustainable urban development and a change in travel patterns a number of strategic road and rail projects have been identified.



The *Connecting SEQ* 2031's vision for 2031 encourages the shift to public transport through several projects:

- **UrbanLink:** The provision of a high frequency (15 minutes or better), all day, seven days a week bus service operating across the Sunshine Coast. These buses will provide links between the coastal communities from Noosa to Caloundra, and can also provide connectivity for major inland communities on the Sunshine Coast, such as Nambour. In the longer term, using the CAMCOS rail line between Maroochydore and Beerwah, high frequency UrbanLink rail services could also operate on the CAMCOS rail line between Maroochydore and Beerwah.
- **Coast Link:** The provision of rail services between Gympie North and Maroochydore. CoastLink services will stop all stations on the Sunshine Coast to Caboolture, and then run express to inner Brisbane.
- **Rail network enhancements:** The rail line from Beerwah to Maroochydore will improve connectivity between the concentrated coastal communities. The existing North Coast Line to Nambour is proposed to undergo upgrades and straightening to improve travel times.
- **TransitWays:** UrbanLink bus services will be packaged with TransitWays on key routes to provide priority for buses, to ensure fast, reliable travel times. Including a link between Sippy Downs to Caloundra South.

The *Connecting SEQ Plan* 2031's vision also includes upgrades to the road network, with improvements to the arterial road network including provision of multi-modal corridors between Maroochydore and Caloundra South and bus and active transport facilities on a new arterial road from Sippy Downs to Caloundra South. It also recommends that road access to the Caloundra South growth area be based around an extension of the Bells Creek Connection as a multi-modal urban arterial road, connecting to the Multi-Modal Transport Corridor, and supported by local access roads. Finally it suggests that the Bruce Highway (M1) and Sunshine Motorway should be upgraded for safety and local capacity improvements to act as an inter-regional network and an urban bypass system for the Sunshine Coast.

### 2.1.3 QUEENSLAND CYCLE STRATEGY 2011 – 2021

The *Queensland Cycle Strategy* supports the cycling mode share objectives within the Queensland Governments' 'Toward Q2: Tomorrow's Queensland' plan.

The Sunshine Coast region needs to provide integrated active and public transport to support the mode share targets set by *Connecting SEQ*. Providing strategic cycle connections between Caloundra to Caloundra South; Caloundra to Maroochydore; and Sippy Downs to Kawana, will

provide residents working locally within the Sunshine Coast region an active transport alternative. **Figure 2-2** demonstrates the proposed cycle strategy route.

End of trip facilities will play an important part in increasing cycling mode share. Cycle centres with secure bicycle parking and showers could be trialled in key centres, such as Maroochydore, to make cycling a more attractive travel alternative.

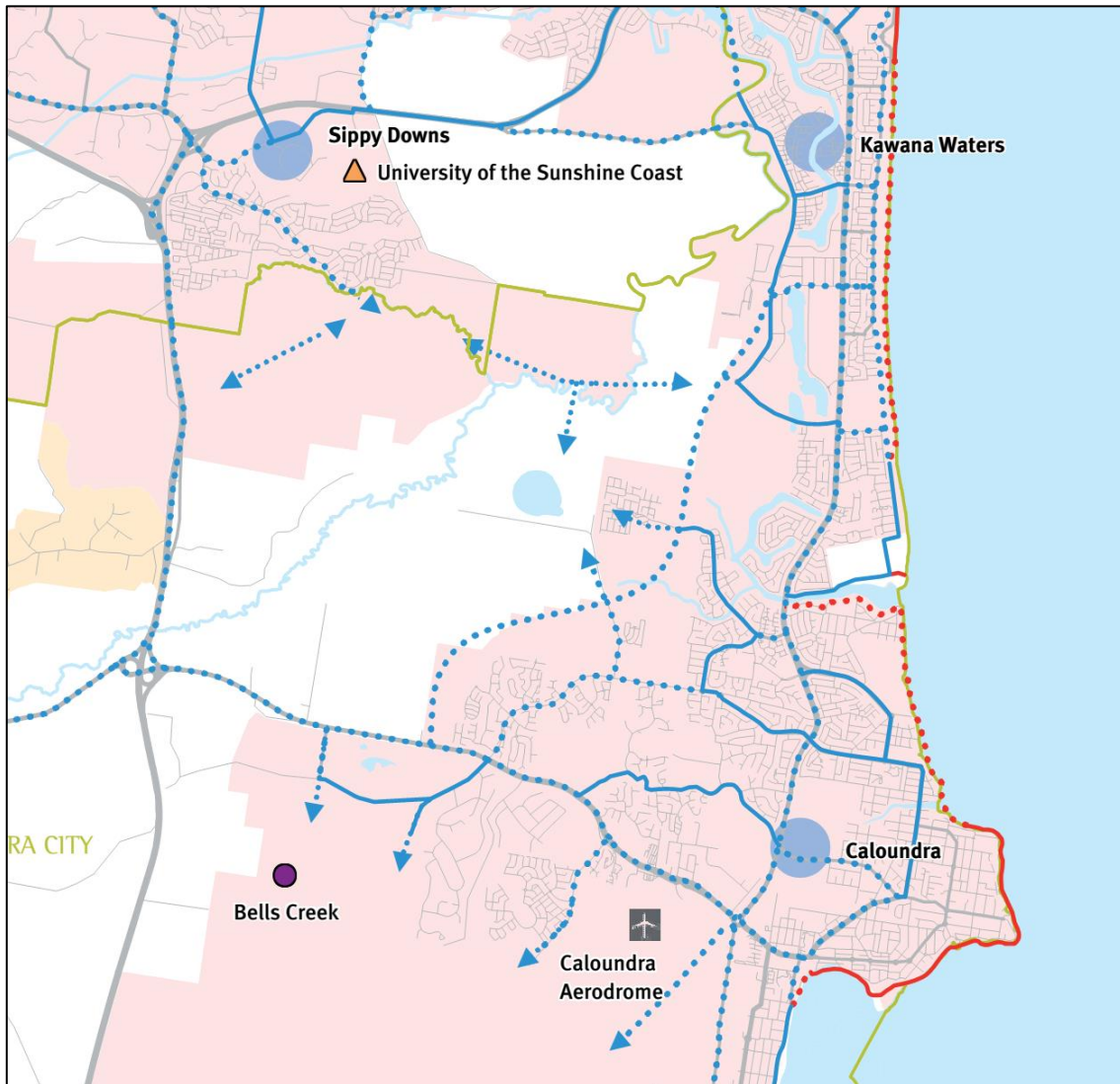
#### **2.1.4 SOUTH EAST QUEENSLAND PRINCIPAL CYCLE NETWORK PLAN**

The *SEQ Principal Cycle Network Plan* for the Sunshine Coast provides a framework for future cycle network planning in the region.

This plan is intended to inform planning and construction of state controlled and local government cycle routes, prioritisation and allocation of \$235 million for cycle network planning and infrastructure delivery committed by South East Queensland Infrastructure Plan and Program (SEQIPP) and assessment of development applications to ensure cycle infrastructure is delivered in a consistent manner.

Several future strategic routes are proposed to intersect with planned routes within Caloundra South development and could also extend into the Halls Creek IGA. **Figure 2-** below shows the potential connection points with the proposed cycle network. This would be updated over time to reflect new cycle infrastructure and connections such as those planned for delivery at Caloundra South.





**Figure 2-2 Caloundra Principal Cycle Network** (source: SEQ Principle Cycle Network Plan)

## 2.1.5 SOUTH EAST QUEENSLAND INFRASTRUCTURE PLAN AND PROGRAM 2009 – 2026

Developed in 2009, the SEQIPP outlines the Queensland Government's program of infrastructure and major projects to support the *South East Queensland Regional Plan 2005-2026* (now superseded by the *South East Queensland Regional Plan 2009-2031*). With respect to the Sunshine Coast in particular, the SEQIPP focuses on:

- Providing improved access between Maroochydore and Caloundra and emerging population centres, including improved public transport;

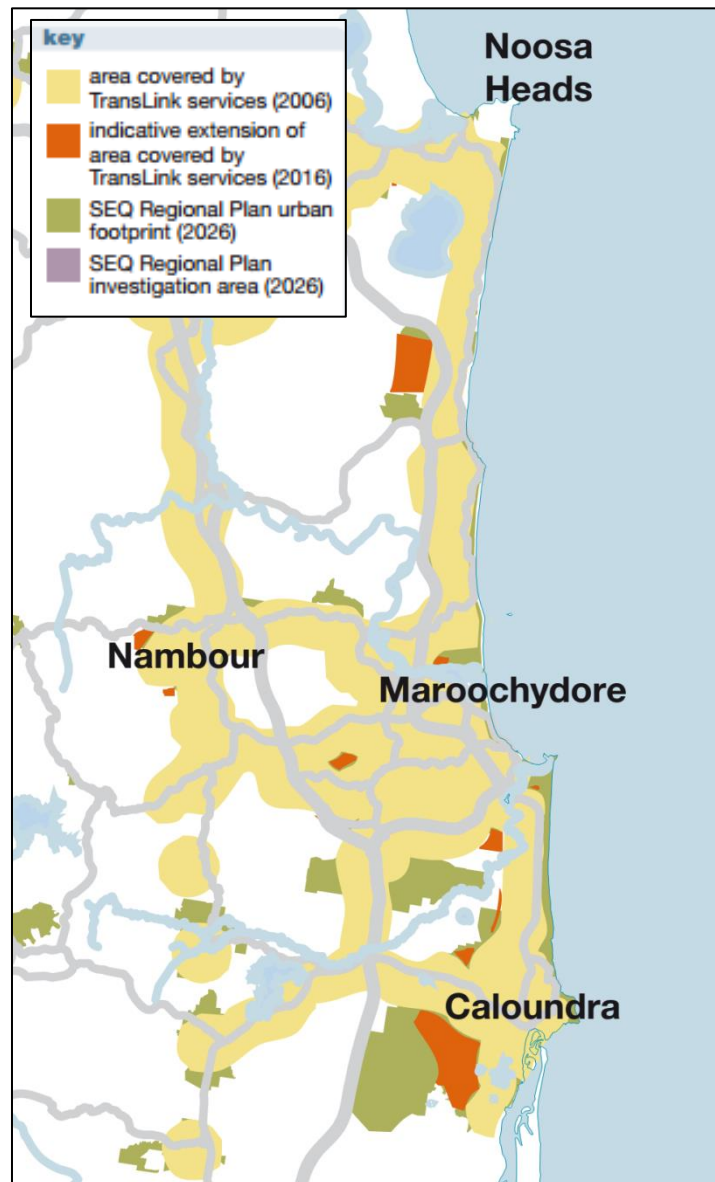
- Increasing the capacity of the north coast rail line and upgrading connections between the rail line and coastal activity centres;
- Enhancing the safety and efficiency of the Bruce Highway, a national transport link;
- Developing the Principal Cycle Network; and,
- Investigating the long-term transport requirements in the subregion and preserving transport corridors to cater for future growth.

#### **2.1.6 TRANSLINK STRATEGIC PRIORITIES AND POLICIES**

Released in 2011, the *TransLink Strategic Priorities and Policies* outline the strategic priorities and policies that the choices TransLink and its business partners make in developing the TransLink network. TransLink has outlined the following outcomes for its future strategic priorities:

- Making services connect;
- Making services fast, frequent and reliable;
- Filling the gaps in the network; and,
- Making it easy, comfortable and safe.

**Figure 2-** below shows TransLink's future service plan for the Sunshine Coast region. In particular, Caloundra South is established as a SEQ Regional Plan urban footprint in 2026 with a portion of the development slated for an extension of TransLink services in 2016.



**Figure 2-4 TransLink Service Area** (source: *TransLink Strategic Priorities and Policies*)

### 2.1.7 CAMCOS: CABOOLTURE TO MAROOCHYDORE CORRIDOR STUDY

In 2001 TMR completed a study regarding the feasibility of a passenger rail service branching from the North Coast railway line at Beerwah and extending through Caloundra to Maroochydore.

An Impact Assessment Study was conducted to examine the optimal mode of transport for the CAMCOS corridor. These included:

- Dedicated busway
- Guided busway,

- Light rail,
- Passenger rail,
- Monorail and
- Maglev (advanced technology applying magnets to propel trains).

It was found that a heavy passenger rail, similar to the current Citytrain network, would be the optimal solution.

The draft *Connecting SEQ 2031: An Integrated Regional Transport Plan for South East Queensland* identifies the new Beerwah to Maroochydore rail line as part of the 2031 transport network.

It is understood that TMR is in the process of undertaking a Concept Design and Analysis for the Beerwah to Caloundra South Investigation, with tenders closing on the 12<sup>th</sup> December 2014, indicating advancement of the CAMCOS project. The objectives of the investigation include:

- Develop and design a heavy rail solution between Beerwah and Caloundra South (BECS). The proposed public passenger transport corridor alignment may differ in locations previously developed, as may the proposed junction;
- Undertake analyses of the passenger demand profiles for the Sunshine Coast region, considering current demand on the North Coast Line (NCL) and any potential changes to demand profiles after introducing a new rail corridor, such as BECS;
- Identify the optimal rail corridor using the current corridor alignment between Beerwah and Caloundra South which will be subject to value engineering and design refinement as information regarding proposed future stations; signalling; and service levels becomes known.
- Identify the proposed junction from the Northern mainline at or close to Beerwah branching off from the northern main line. This could be a flat junction or a grade separated junction and will be driven by rail operational analysis to define junction occupancy and potential impacts on the NCL.

With regards to the Halls Creek development, the CAMCOS heavy rail is expected to travel through Caloundra with a proposed railway station within the Caloundra South Integrated Transit Centre. Halls Creek can efficiently leverage this opportunity with access to the railway station via high frequency bus services and active transport connectivity.

The delivery timing and prospects would appear to suit the development timelines of Halls Creek, with this infrastructure established in advance of development at Halls Creek.

### 2.1.8 SUNSHINE COAST LIGHT RAIL

The *Shaping Our Future* report (October 2014) indicates the long term vision of the Sunshine Coast Light Rail network extending from Maroochydore, through the town centres of Mooloolaba and Kawana, and stopping in Caloundra.

If the Sunshine Coast Light Rail proceeds it is proposed to be delivered in two stages over the next 20 years:

- Stage 1: Maroochydore to Kawana \$1,300 million (2012 \$)
- Stage 2: Kawana to Caloundra \$700 million (2012 \$)

The *Shaping Our Future* report also suggests that future extensions to the light rail network could be considered. The location of the Halls Creek IGA could potentially support the extension of the light rail to Caloundra South to provide a high capacity public transport connection to the coastal towns of the Sunshine Coast. Linking the Halls Creek IGA with Caloundra South via bus rapid transit and supporting high frequency bus networks will enable more resident access to the light rail network.

The Halls Creek IGA would provide a potential additional 30,000 residents to the Sunshine Coast region and could connect to the light rail system via a rapid bus transit and local bus connections.

Community consultation on route options occurred during November 2014. The results of community feedback will inform remaining feasibility studies and help to determine the preferred light rail route.

### 2.1.9 BRUCE HIGHWAY INTERCHANGE: ROYS ROAD AND BELLS CREEK ROAD

In October 2013 construction started on upgrades to Bruce Highway interchanges at Roys Road and Bells Creek Road. The \$80.7 million federally-funded project is part of the federal government's \$195 million commitment to upgrade interchanges on the Bruce Highway between Brisbane and the Sunshine Coast.

The new interchange is designed to improve safety for local and highway traffic, accommodate future traffic growth, and improve connectivity between local communities, in particular to the Bells Creek arterial which is proposed to service Caloundra South. The major upgrade to the interchange will also provide additional capacity which can be utilised by future Halls Creek residents.

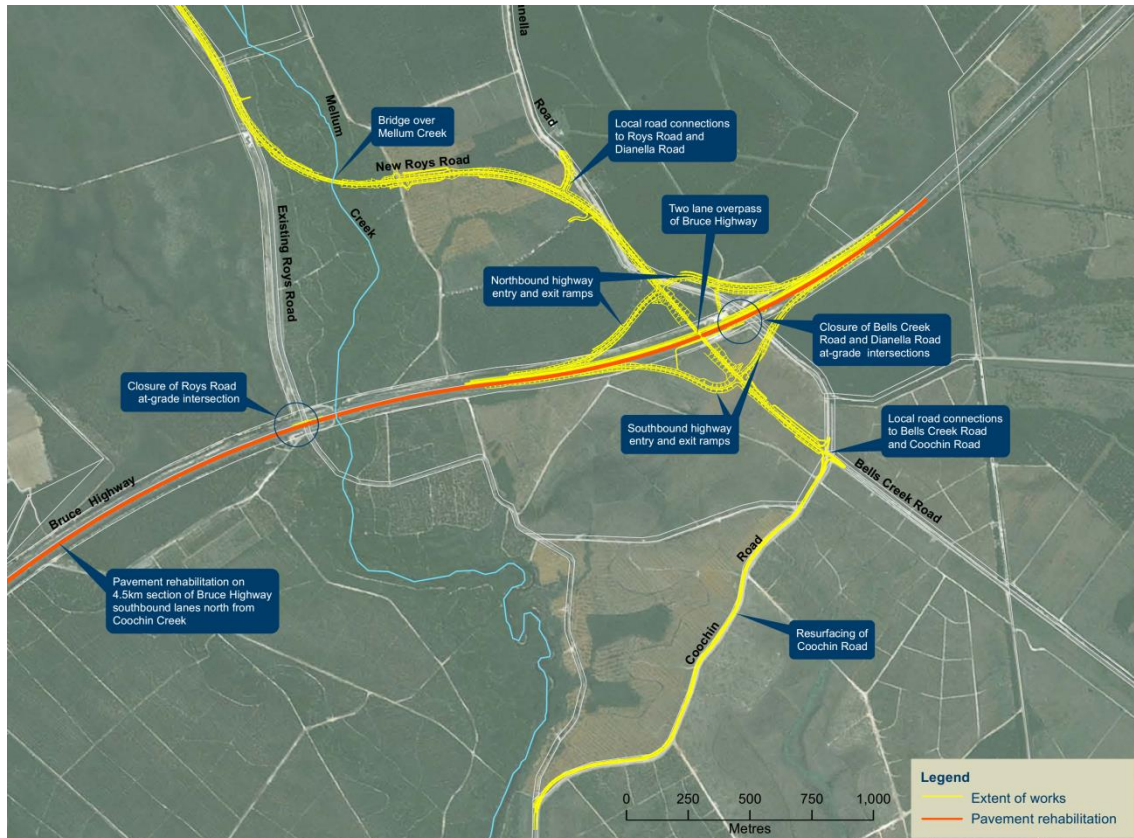
Key features of the upgrade will include:

- A 2-lane overpass over the Bruce Highway near the Bells Creek Road intersection;
- Northbound and southbound entry and exit ramps;



- Local road connection to Roys Road, Bells Creek Road and Dianella Road;
- A bridge over Mellum Creek;
- New pavement on the southbound lanes of a 4.5km section of the highway north of Coochin Creek, to improve the road surface; and
- Resurfacing Coochin Road between Bells Creek Road and Roys Road.

The upgraded intersection is shown in **Figure 2-** below.



**Figure 2-4 Bruce Highway Interchange Upgrade - Roys Road / Bells Creek Road** (source: [www.tmr.qld.gov.au](http://www.tmr.qld.gov.au))

#### 2.1.10 BRUCE HIGHWAY UPGRADE: CALOUNDRA ROAD TO SUNSHINE MOTORWAY

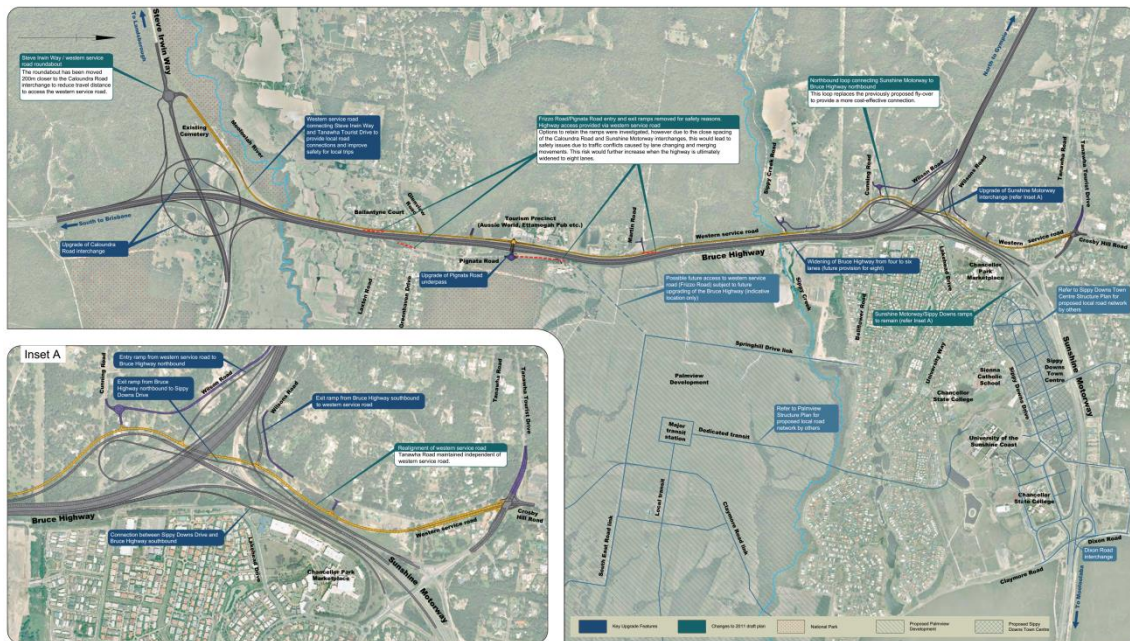
Between 2010 and 2012 TMR conducted a planning study for the future upgrade of the Bruce Highway between Caloundra Road and the Sunshine Motorway. Following consultation with the public the following upgrades were proposed.

- Upgrading the Bruce Highway / Sunshine Motorway interchange;
- Upgrading the Bruce Highway / Caloundra Road interchange;

- Providing a western service road by extending Frizzo Road to Steve Irwin Way in the south and to Tanawha Tourist Drive in the north for local traffic; and
- Widening the Bruce Highway from 4 lanes to 6 lanes between Caloundra Road and the Sunshine Motorway, with future provision for 8 lanes.

The proposed upgrades will strengthen connections between Halls Creek and Caloundra to the north through the additional capacity along Bruce Highway.

The preferred planning layout is shown in **Figure 2-** below:



**Figure 2-5 Draft Plan for Bruce Highway Upgrades** (source: *Bruce Highway Upgrade Planning Study*)

### 2.1.11 COASTCONNECT: CALOUNDRA TO MAROOCHYDORE QUALITY BUS CORRIDOR

The CoastConnect project is designed to increase options for sustainable travel on the Sunshine Coast through a priority bus spine and improved cycle facilities from Caloundra to Maroochydore. Significant work has been undertaken to date with a number of iterations to the concept designs and it is understood that staged construction is to commence from 2014 and upgrades will occur as demand is warranted and funding is available.

Key components of the CoastConnect project include:

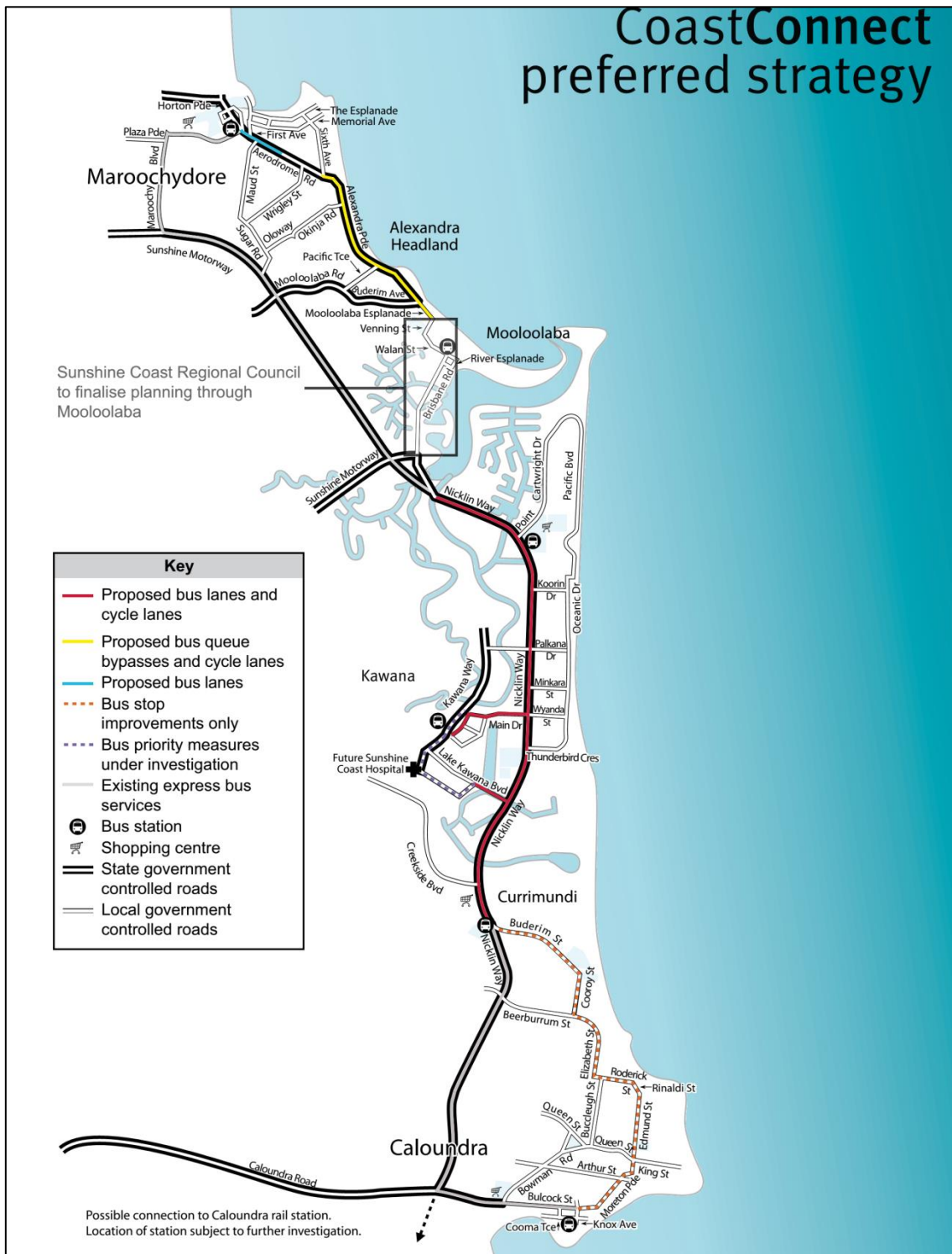
- Bus priority lanes;
- On-road cycle lanes;
- Bus stations in key activity areas;

- Bus stop upgrades; and
- Bus queue bypasses.

The CoastConnect strategy has the potential to extend south into Caloundra South and Halls Creek

A map of the preferred upgrades is shown in **Figure 2.6**.





**Figure 2.6 CoastConnect Preferred Strategy** (source: CoastConnect – Caloundra to Maroochydore – In Brief)

## 2.2 PLANNED TRANSPORT INFRASTRUCTURE

It is intended to provide strategic transport linkages between the Halls Creek IGA and the approved Caloundra South Major Activity Centre (including Integrated Transit Centre), the Caloundra Major Regional Activity Centre and north to Caloundra Road via committed infrastructure. These linkages will allow the Halls Creek IGA to provide increased population density and employment opportunities that will subsequently improve utilisation and economic viability of significant inter and intra-regional transport corridors currently being planned/proposed as discussed above.

The key projects in vicinity of Halls Creek, sourced from the *South East Queensland Infrastructure Plan and Program 2009 – 2026* (SEQIPP), demonstrates the significant level of potential infrastructure upgrades and are summarised below with the estimated investment. It should be noted that SEQIPP is understood to be the most up to date infrastructure expenditure document available, however priorities and commitments over the past five years may have changed.

- Bruce Highway upgrade: corridor preservation Caboolture to Caloundra Road (\$2M);
- Bruce Highway upgrade: Caloundra Road to Sunshine Motorway (\$450M);
- Bruce Highway interchanges: Johnston Road to Bells Creek Road (\$120M);
- Bells Creek connection: Bruce Highway to Caloundra Road (\$700M);
- Multi-Modal Transport Corridor: Caloundra Mooloolaba Road duplication: Caloundra Road to Creekside Boulevard (including Mooloolah River Bridge) (\$3,400M);
- CoastConnect: Caloundra to Maroochydore quality bus corridor (\$350M); and
- CAMCOS: Beerwah to Maroochydore (\$3,300M).

## **3.0 TRAVEL NEEDS ASSESSMENT**

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### **3.1 KEY DESTINATIONS (EXTERNAL TO HALLS CREEK)**

In addition to the trip generators and attractors within the Halls Creek IGA, the surrounding developed town centres and regional centres can also offer an attractive, alternative destination for work, education, recreation and other social purpose trips, with Caloundra South expected to account for a large proportion of these movements. A brief discussion of the likely destinations within the surrounding region is provided below.

#### **3.1.1 EMPLOYMENT CENTRES**

In addition to the jobs proposed to be created within Halls Creek (over 10,000), it is estimated that up to 70% of workers will travel to destinations outside of Halls Creek including 20% to Caloundra South. Caloundra South, Caloundra, Kawana and Maroochydore are likely to offer the greatest proportion of employment opportunities, with Nambour, Sippy Downs/Palmwoods, Mooloolaba, and Beerwah also offering employment opportunities.

Residents may also travel to Caboolture and Brisbane for work, as the Bruce Highway presents a motorway standard transport corridor link.

#### **3.1.2 RETAIL/RECREATION**

A range of centres are proposed within Halls Creek, which will provide retail options, and Caloundra South is expected to provide substantial retail within its major centres therefore accommodating the majority of retail within the two areas. Caloundra, Kawana, Maroochydore, Nambour and Caboolture all offer retail and commercial destinations, with some trips possibly extending up as far as Noosa to the north and as far south as Brisbane.

Recreational centres will be similar to above, with the coastal area between Pelican Waters and Noosa also a popular destination. Trips will also extend west to the hinterland area and south towards Brisbane.

#### **3.1.3 EDUCATION**

There is proposed to be a number of primary and secondary schools located within the Halls Creek development and in the adjacent Caloundra South which is expected to accommodate the majority of students with the area. However, a number of trips may also be external to the site for those wishing to access particular schools, universities and other further education facilities in the

surrounding areas. Key destinations would include the University of the Sunshine Coast and Sunshine Coast Institute of TAFE.

### 3.1.4 DISTRIBUTION OF EXTERNAL TRIPS

The distribution of external trips for Halls Creek is expected to be consistent with Caloundra South. The distribution of external trips was based on a review of the Caloundra South SLA 2006 Journey to Work statistics, extracted from the 2006 Census. Excluding the traffic travelling to and from Caloundra South the following distribution of external trips is assumed for Halls Creek:

- Caloundra (and surrounding suburbs): 30%
- Maroochydore (and surrounding suburbs): 25%
- Brisbane/Caboolture: 20%
- Nambour/Sippy Downs: 15%
- Beerwah: 10%

It is assumed that the majority of the external trips will be destined for areas between Caloundra to Maroochydore, due to their close proximity and greater concentration of employment, recreation and education opportunities.

The impact that this traffic distribution has on the road network is discussed in **Section 8**.

## 3.2 TRAVEL CHARACTERISTICS

The majority of the traffic volumes generated by development of Halls Creek will be associated with home based trips and work based trips.

The Halls Creek home based trips are expected to be consistent with Caloundra South, which was derived from Parsons Brinckerhoff analysis of the South East Queensland Travel Survey, undertaken in the *Caloundra South Integrated Transport Study*. The home based trips are broken down into four distinct purpose groups and are indicatively shown below:

- Work: 37.5% of trips
- Education: 25% of trips
- Social/other: 25% of trips
- Shopping: 12.5% of trips

Halls Creek is proposed to have a high level of self-containment, with excellent connectivity to Caloundra South therefore reducing impacts on the external network. Halls Creek is expected to have the following level of self-containment for household based car trips:

- Education: 75% of trips within Halls Creek and 15% of trips to Caloundra South
- Social/other: 45% of trips within Halls Creek and 10% of trips to Caloundra South
- Shopping: 70% of trips within Halls Creek and 15% of trips to Caloundra South

The self-containment for work trips depends highly on the number and type of job, demographics of the resident population as well as the accessibility to those jobs. Two different scenarios have been tested as part of the development of this strategy, 20% and 30% internalisation within Halls Creek and 20% to Caloundra South.

Reduction in the car based trips generated by households can be reduced through a number of measures, where the trips are instead made by walking, cycling, car-pooling or public transport.

The possible reductions are associated with:

- Good site design facilitates active transport by providing high quality pedestrian networks, comfortable walkable distances between trip attractors, nearby activity centres;
- High quality cycle networks that provide direct trips and excellent facilities at employment and other destinations; and
- Close proximity of households to main public transport corridor within reasonable / walkable proximity to a high frequency public transport service.

### **3.3 PROPOSED LAND USE OUTCOMES**

The overall Halls Creek development could support up to 30,000 people with significant employment self-containment with over 10,000 local jobs being provided. Significant community, retail, commercial / industrial and education facilities are also proposed.

A high level assessment of the trip generation of the site (internal and external) and the implication this has on the road network is provided below.

#### **3.3.1 TRIP GENERATION**

The assumptions used to calculate the employment and household trips for Halls Creek are consistent with and benchmarked to the extensive analysis undertaken for Caloundra South. This is considered appropriate given the immediate proximity, with assumptions including:

- Approximately 80% of population in the Sunshine Coast are of working age (*The Sunshine Coast Population and Housing Fact Sheet*);
- Approximately 60% of the working age population are employed (*The Sunshine Coast Regional Council Preliminary Regional Profile 2008*);
- 5% of external work trips will utilise public transport;
- Travel demand management will result in the peaks being spread over 2-3 hour periods; and
- The high level of public and active transport within Halls Creek and Caloundra South will result in a non-car mode share of 24% for household trips.

The estimated morning peak trip generation for the Halls Creek IGA, based on the level of population and jobs the development can support, is summarised below in **Table 3-1**.

**Table 3-1 Halls Creek estimated morning peak generation**

Trip purpose	Self-contained trip	Caloundra South trip outbound	Caloundra South trip inbound	External trip outbound	External trip inbound
<i>20% internalisation of work trips</i>					
Work	500	500	800	1500	-
Education	1250	200	50	150	50
Social/other	750	150	50	600	150
Shopping	600	100	50	100	50
Total	3100	950	950	2350	250
<i>30% internalisation of work trips</i>					
Work	750	500	800	1250	-
Education	1350	200	50	100	50
Social/other	850	150	50	550	150
Shopping	650	100	50	100	50
Total	3600	950	950	2000	250

The above numbers are planning estimates only to demonstrate the implications of the Halls Creek IGA, at a high level, on the surrounding road network. More detailed trip generation and distribution would need to be conducted at the detailed planning stages when actual land uses are confirmed to determine the specific requirements of the transport network to support this

travel demand. This high level assessment reflects the early planning stage of the Halls Creek site, which is at least 20 years away from being needed for development.

## 4.0 CALOUNDRA SOUTH TRANSPORT STRATEGY

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### 4.1 OVERVIEW

The Caloundra South Priority Development Area (PDA) will become the southern gateway of the Sunshine Coast. The PDA covers 2,310 hectares of land located south of the existing Caloundra urban area. The Caloundra South strategy aims to achieve the following three key outcomes:

- Develop a transport network that provides for future movement needs, facilitates sustainable forms of transport and supports connected communities;
- Provide an urban form, settlement patterns structure and demand management measures that increases mode share of sustainable transport such as walking, cycling and public transport over private vehicle use; and
- Increase access to, and awareness of, options for sustainable travel to reduce dependence on private car travel.

Halls Creek is proposed to reflect the Caloundra South strategy to deliver a Self-Contained Community and promote sustainable transport options including public and active transport.

The Caloundra South Master Plan has progressed to a precinct level and a strategic transport model has been developed by MWH to refine the transport networks. The increased level of certainty around the Caloundra South infrastructure is important to the Halls Creek IGA given the proposed high degree of integration between the two areas.

This section has been informed by the following sources:

- *Caloundra South Integrated Transport Strategy*, published by MWH (June 2014);
- *Caloundra South Integrated Transport Study*, published by Parsons Brinckerhoff (December 2011);
- *Caloundra South Application 2: Precinct 2 Traffic Assessment*, published by MWH (October 2014);
- *Caloundra South Rail Investigation Preliminary Findings*, published by Cardno (3 May 2012); and
- *Caloundra Downs Rail Viability Study*, published by Parsons Brinckerhoff (July 2008).

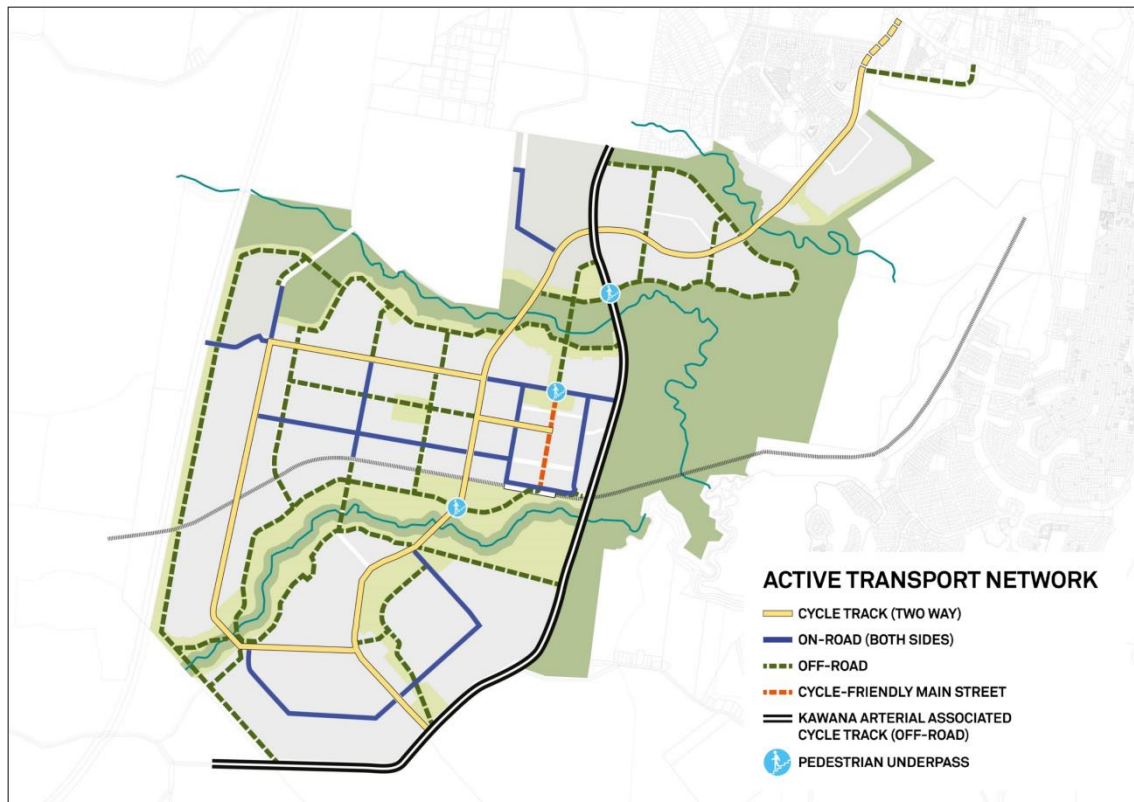
### 4.2 CALOUNDRA SOUTH INTEGRATED TRANSPORT STUDY

To facilitate the Caloundra South PDA, active transport, public transport and road infrastructure is proposed. The following information has been sourced from the MWH *Caloundra South Integrated Transport Strategy*.



#### 4.2.1 ACTIVE TRANSPORT

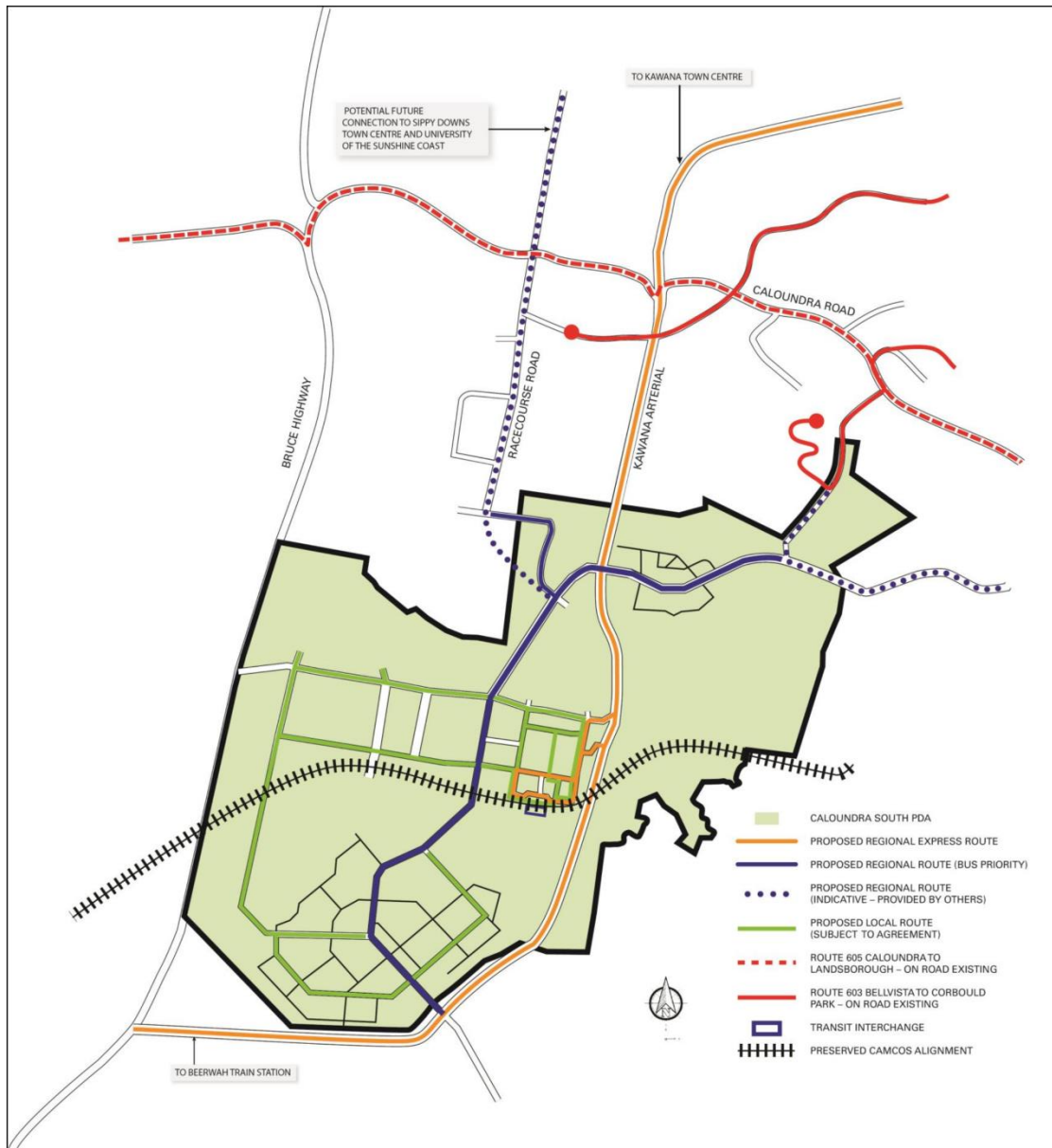
Walking and cycling will be an integral part of the Caloundra South transport network to become a self-contained community and meet the *Connecting SEQ* targets. The movement network within Caloundra South will consist of a mixture of local commuter trips, service delivery and recreational trips. The Caloundra South active transport strategy is represented in **Figure 4-1**.



**Figure 4-1 Proposed active transport strategy** (source: MWH Caloundra South Integrated Transport Strategy)

#### 4.2.2 PUBLIC TRANSPORT

A public transport strategy has been devised for the Caloundra South PDA which includes bus and rail solutions. The development is expected to leverage regional services including regional bus lines and CAMCOS and will include local bus routes to service the community. A transit interchange is proposed within the major district centre to facilitate these routes and provide a centralised location for commuters to distribute. The public transport strategy is demonstrated in **Figure 4-2**.



**Figure 4-2 Proposed public transport network strategy** (source: MWH Caloundra South Integrated Transport Strategy)

While Caloundra South can become a self-contained community, the delivery of CAMCOS can provide public transport for further-away destinations and will enhance the employment and retail areas. The *Caloundra Downs Rail Viability Study* assessed three options with different frequency / service level assumptions to provide high level costs for construction and operation:

- Option 1 – Beerwah to Caloundra West (Caloundra Rd / Nicklin Way intersection)
- Option 2 – Beerwah to Kawana
- Option 3 – Beerwah to Maroochydore

In this study Parsons Brinkerhoff took a high level approach, and based costs on the CAMCOS plans produced by Arup for the Caloundra – Maroochydore connection and utilised the Cardno preliminary designs for the Beerwah to Caloundra connection. A summary of the proposed costs, based on medium frequency with a 2% cost escalation per year, is shown in **Table 4-1**.

**Table 4-1 Caloundra Downs Rail Viability Study Preliminary Report Table ES7: Medium frequency option 2026 (\$million 2008) with 2% construction cost escalation per year**

(\$million 2008)	Beerwah to Caloundra West	Beerwah to Kawana	Beerwah to Maroochy
<b>Capital Cost</b>			
Construction Cost	\$686.6	\$1,295.4	\$2,085.2
Rolling Stock (med 30 min service)	\$84.0	\$84.0	\$96.0
<b>Debt Cost</b>			
Debt service over 50 yrs@8%	\$62.9	\$112.8	\$178.3
<b>Operational Costs</b>			
Operation cost (med service)/annum	\$29.6	\$29.9	\$33.4
<b>Revenue</b>			
Passenger Revenue per annum (med service)	\$6.2	\$8.0	\$9.0
<b>Cost Recovery</b>			
Revenue/operation	23%	27%	27%
<b>Annual Net Cost</b>	\$83.3	\$134.7	\$202.7

Option 1, Beerwah to Caloundra West, outlines the cost to build the heavy rail line from Beerwah to Caloundra West (Caloundra Road / Nicklin Way intersection). This is the section of CAMCOS alignment that travels through Caloundra South – enabling a train station to be developed, as indicated by the Caloundra South Integrated Transport Strategy.

The inclusion of Halls Creek with a high level of connectivity to the Caloundra South Integrated Transit Centre would increase the passenger revenue per annum without the financial outlay of an additional railway station by increasing the patronage at the currently proposed Caloundra South station. The effectiveness of this outcome is expected to be strengthened by providing a high standard of public and active transport links between the Halls Creek precinct and the future railway station (Integrated Transit Centre) resulting in an increased catchment. The approximate size of catchments is defined by the Translink Strategic Priorities and Policies which states:

- Walking is the most-used public transport access mode, and is particularly effective within 400 metres and up to 800 metres of the station or stop;
- Getting a lift to or from the station or stop, or kiss n' ride, occurs typically in catchments within 3km of a station or stop. Providing kiss n' ride facilities at stations or stops can increase the local catchment and reduce demand for park n' ride;
- The primary purpose of park n' ride facilities is to intercept car journeys and encourage a transfer to public transport. Park n' ride facilities can significantly expand the catchment area for fixed public transport, allowing people in low-density areas or distant from line-haul services to catch public transport. This can prevent people from driving the entire trip, helping to reduce overall car travel. However, like kiss n' ride, park n' ride can also replace walking and over-reliance on park n' ride can undermine more environmentally friendly access modes.

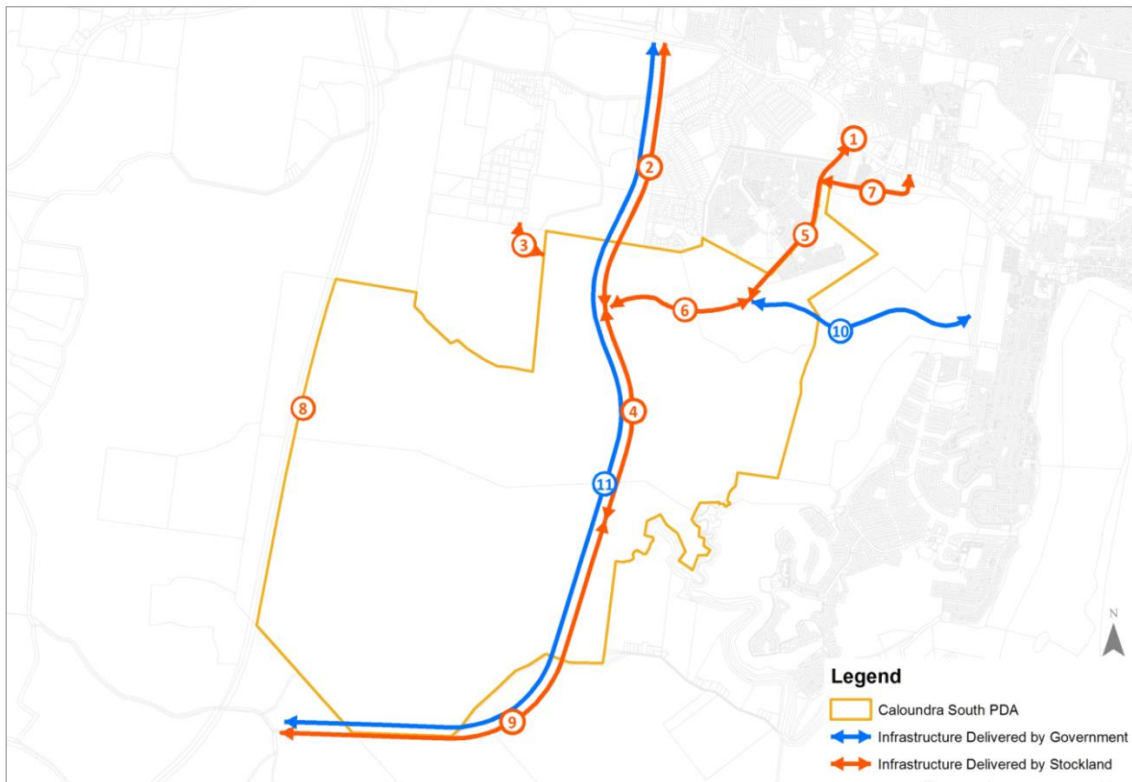
#### 4.2.3 ROAD NETWORK

The MWH *Caloundra South Integrated Transport Strategy* outlines a number of key road infrastructure projects being delivered in conjunction with Caloundra South. The majority delivered by Stockland under Infrastructure Agreements with the exception of the East-West Link and the Bells Creek Arterial duplication, which are to be delivered by TMR. The key piece of infrastructure relevant to the Halls Creek IGA is the Halls Creek interchange, delivered as part of the Bells Creek Arterial. The interchange provides excellent accessibility to Caloundra South and is ideal to service the Halls Creek IGA. Indicative timing is presented in **Table 4** with approximate locations shown in **Figure 4-3**. The table demonstrates the significant level of infrastructure being delivered to support the Caloundra South development and improve connectivity within the Sunshine Coast.

**Table 4-2 Proposed Caloundra South infrastructure**

Item	Proposed Upgrade / New Link	Form	Indicative Timing / Trigger
1	Bellvista Boulevard Caloundra Road Intersection Upgrade	Signalised Intersection and intersection works	To provide if Phase 1 of Bells Creek Arterial (linking Caloundra Road to Bellvista Boulevard) not in place by December 2016
2	Bells Creek Arterial (Caloundra Road to Precinct 2 & 3)	2 lane road	December 2016

Item	Proposed Upgrade / New Link	Form	Indicative Timing / Trigger
3	Racecourse Road Connection to Precinct 3	2 lane road	Either: * First sealed lot in precinct 3, 4 or 5 if the Bells Creek Arterial (item 2) not established; or * If the Bells Creek Arterial is established then no later than 70% occupancy of Precincts 3, 4 and 5
4	Bells Creek Arterial (Precinct 2 to Precinct 8 & 9 – Town Centre)	2 lane road	Post 2020 as determined by development sequencing
5	Bellvista Boulevard Duplication	Additional 2 traffic lanes	As determined by traffic modelling
6	East – West Link between Bells Creek Arterial and Bellvista Blvd	Initial 2 lane road. 4 lanes if required by traffic modelling	Staged construction from 2016 to 2020
7	Bunnings Road Link	2 Lane Road if required by traffic modelling	As determined by traffic modelling
8	Bruce Highway Northern Interchange at Precinct 13	South Facing Ramps	Post 2030 as determined by development sequencing and as required traffic modelling
9	Bells Creek Arterial Precinct 8 & 9 – Town Centre to Bruce Highway	2 Lane Road	Post 2024 as determined by development sequencing and as required traffic modelling
10	East – West Link between Bellvista Blvd and Pelican Waters or upgrade to Caloundra Road	Multiple lanes delivered by State	Delivered by the State Government
11	Bells Creek Arterial Duplication & Interchanges	Additional Lanes and grade separated interchanges	Delivered by the State Government



**Figure 4-3 Proposed Caloundra South infrastructure** (source: MWH Caloundra South Application 2: Precinct 2 Traffic Assessment)

### 4.3 HALLS CREEK INTEGRATION

The Caloundra South Integrated Transport Strategy, as discussed above, demonstrates a significant amount of infrastructure to be developed. The level of expenditure and new capacity within the active transport, public transport and road networks allows development at Halls Creek to leverage the new infrastructure. The Halls Creek IGA will provide increased population density and employment opportunities that will subsequently improve utilisation and economic viability of the proposed and committed infrastructure, particularly public and active transport infrastructure.

The specific transport strategies for the Halls Creek IGA and how they will ultimately integrate with the proposed Caloundra South PDA infrastructure are discussed following.



## 5.0 HALLS CREEK IGA TRANSPORT STRATEGY

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To inform the Halls Creek planning process in the context of the review of the South East Queensland Regional Plan (SEQRP), the Halls Creek IGA Transport Strategy addresses the transport planning requirements and identifies how development of the IGA would successfully integrate into Caloundra South to achieve an optimised transport network.

The SEQRP discusses that the Halls Creek IGA needs to consider its ability to:

- Comply with the Urban Footprint principles and requirements within the Sunshine Coast sub-regional narrative;
- Assist in the delivery and performance of infrastructure (including public transit) to the Sunshine Coast community;
- Protect environmental values;
- Achieve urban consolidation and self-containment; and
- Achieve high environmental performance.

In addition, developments within the Halls Creek IGA will need to demonstrate:

- Sufficient demand for further urban land within the sub-region;
- Accessibility to a public transit service;
- Achieving compliance with the Urban Footprint principles;
- Achieving world leading environment performance for any urban development and related infrastructure;
- Materially assisting in the provision of infrastructure for the southern Sunshine Coast community;
- Demonstrated high levels of employment self-containment; and
- Coordinated delivery of infrastructure.

The Transport Strategy demonstrates the ability for future development of Halls Creek land to assist in the delivery and performance of infrastructure (including public transit) to the Sunshine Coast community by discussing the three primary transport areas including active and public transport, in addition to use of road network infrastructure. The location of the Halls Creek IGA presents many advantages, benefits and flexibility to these transport modes which is discussed in the following sections.

The intention of the Halls Creek IGA is that it will comply with all relevant standards while contributing to transport policies and strategies. In addition as the Halls Creek IGA progresses and closer to the time of development planners would seek input from Council, Government and

community to ensure all of these requirements are being met while addressing the relevant needs of the surrounding area.

**Section 6.0** summarises the active transport strategy and the ability to deliver the outcomes required to increase the transition from car to active transport. The section discusses the hierarchy of cycle and pedestrian routes and the supporting infrastructure required, focussing on delivering a “15 minute” community.

**Section 7.0** discusses opportunities for the Halls Creek IGA to support the viability of longer term public transport infrastructure and leverage the infrastructure supporting Caloundra South. Key areas of interaction include the CAMCOS and CoastConnect projects and how high frequency bus services within the Halls Creek can potentially increase the patronage of these services.

While it is preferential to encourage the use of active and public transport, **Section 8.0** provides a high level assessment of the requirements associated with car use. The Halls Creek interchange will provide connectivity from the Halls Creek IGA to the Bells Creek arterial, where traffic can utilise the road infrastructure in this vicinity.

The provision of excellent connectivity through active, public and road infrastructure allows greater certainty of access and journey times to key destinations throughout the Halls Creek IGA and the greater Sunshine Coast Region. This would result in positive influence on land values by meeting housing market expectations through economic benefits, liveability and work life balance benefits. This approach is in alignment with the planning principles for Identified Growth Areas for the Sunshine Coast Region as expressed in the SEQRP.

The Halls Creek IGA also demonstrates the ability to comply with the transport related requirements outlined in SEQRP including:

- Assisting in the delivery and performance of infrastructure (including public transit) to the Sunshine Coast community by supporting and leveraging up to \$8B of planned investment in infrastructure, as discussed in **Section 2.2**;
- Achieving urban consolidation and self-containment by providing excellent active and public transport within the area;
- Providing high standards of accessibility to a public transit service in the form of bus priority routes to/from/in the site which can provide connectivity to the CAMCOS network as/when this transport corridor is delivered. Thereby increasing catchments/densities and subsequent viability of this major infrastructure initiative; and
- Providing a coordinated delivery of infrastructure.



## 6.0 ACTIVE TRANSPORT STRATEGY

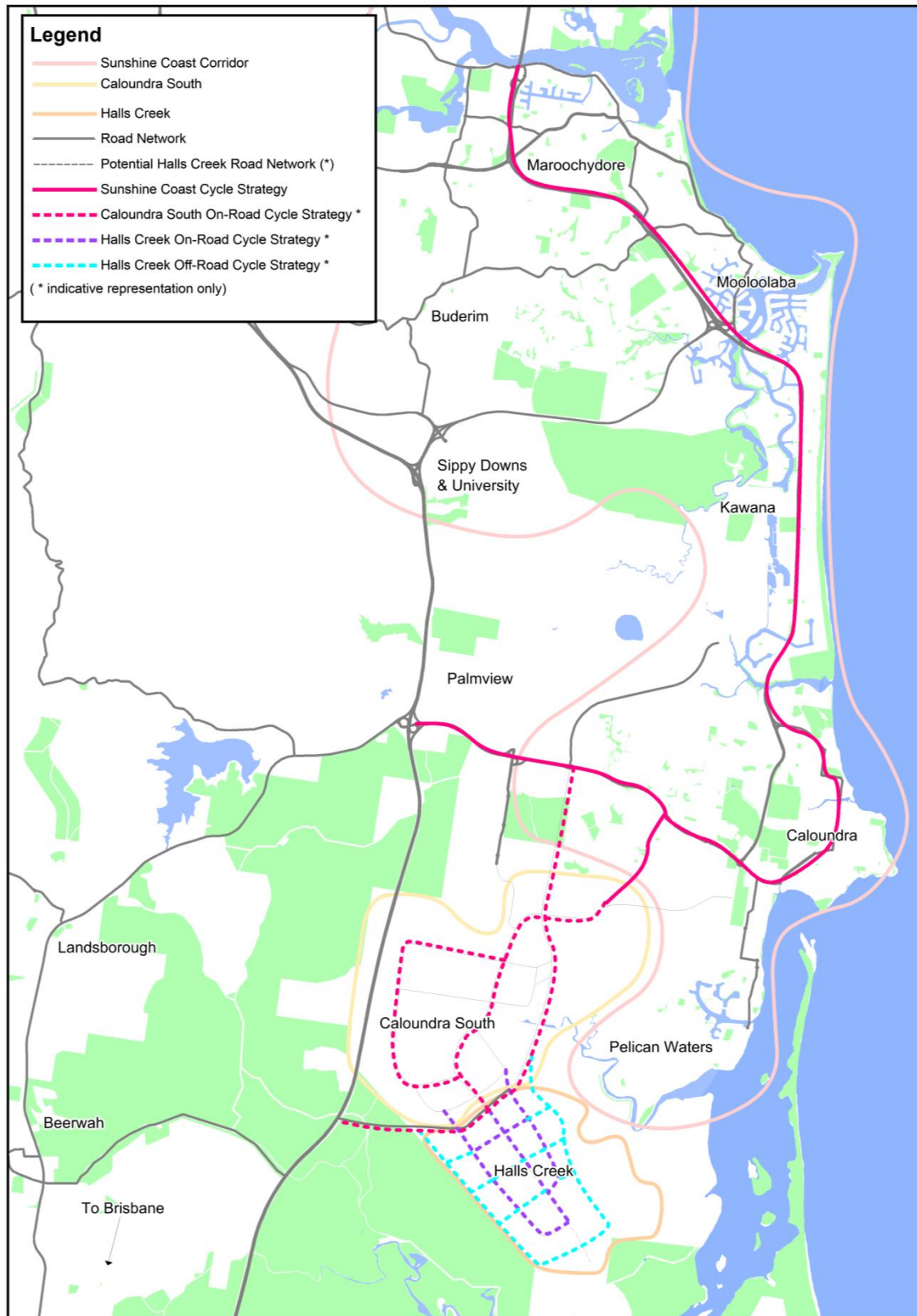
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### 6.1 POLICY AND REGIONAL CONTEXT REVIEW

The key outcomes of the policy and regional context review in relation to active transport are outlined below.

- To provide an accessible active transport system for all pedestrian and cyclist users (commuter, recreational, fitness, etc.) in a safe and efficient network with high quality infrastructure, end of trip facilities and seamless integration with public transport and the wider road network. This includes providing separation from road traffic where applicable and ensuring crime prevention through environmental design;
- Well connected community with a focus on health and wellbeing;
- Provision of segregated cycle corridors, separating cyclists from road traffic, catering for commuters and recreational cycling and providing direct linkages between residential precincts and employment, retail, education and recreational land uses;
- Provision of high standard pedestrian linkages providing direct connectivity between residential precincts and public transport facilities and other employment, retail, education and recreational land use;
- Provision of crime prevention through environment design (CPTED) measures to deter criminal behaviour and encourage the transient to active transport;
- A reduced reliance on private vehicles with walking trips proposed to increase from 8.4% to 10% and cycling trips from 1.7% to 8%; and
- End of trip facilities will play an important part in increasing cycling mode share. Cycle centres with secure bicycle parking and showers could be trialled to make cycling a more attractive travel alternative.

A number of strategic routes are proposed within vicinity of the Halls Creek IGA to support these active transport outcomes, including the Sunshine Coast Cycling route as part of the SEQ Principal Cycle Network Plan, and is demonstrated in **Figure 5-1**.



**Figure 5-1 Proposed Active Network**

How the Halls Creek IGA can achieve these desired outcomes in conjunction with Caloundra South is discussed further below.

## **6.2 ACTIVE TRANSPORT NEEDS**

To facilitate the policies discussed above, with the key outcome of increasing transition from car to active transport, the ability of pedestrians and cyclists, trip types and characteristics of the network require consideration. The characteristics of the walking and cycling network will need to meet the needs of potential users to ensure growth.

It is proposed that the Halls Creek IGA could adopt the design philosophy of a '15 minute community' as adopted in the Caloundra South development, by providing high standards of walking / cycling infrastructure linking directly to employment, retail, education and recreation within Halls Creek precinct and Caloundra South. Due to the long planning lead time these linkages can be planned ahead to seamlessly integrate with the infrastructure within Caloundra South.

## **6.3 DESIGN STANDARDS**

To ensure a safe and efficient cycle route key design standards for the Halls Creek bicycle facilities are proposed to be consistent with those utilised for Caloundra South to provide effective integration between the neighbouring areas. The key standards to be adhered to include:

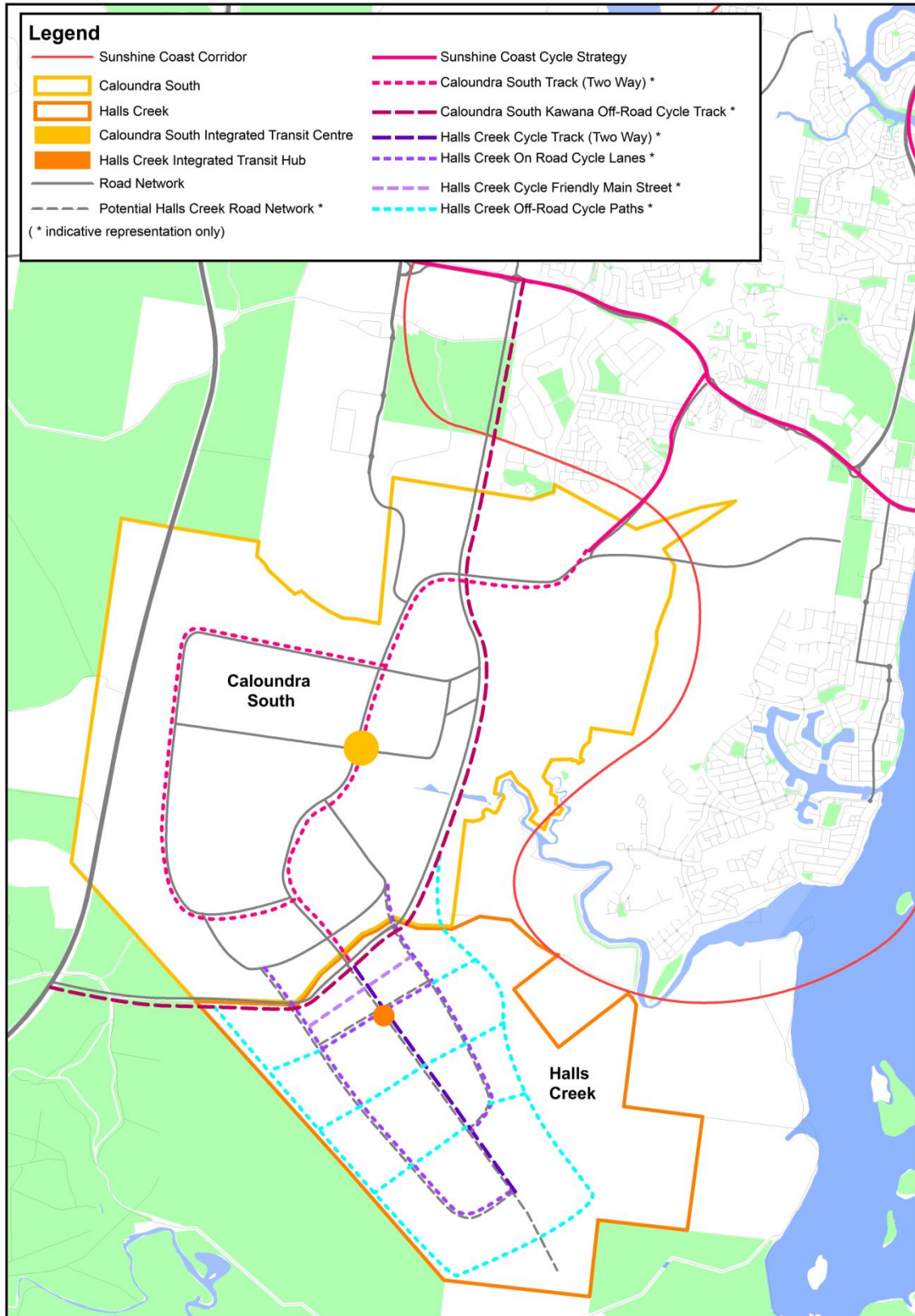
- Austroads Guide to Traffic Engineering Practice. Part 14: Bicycles;
- QT Cycle Notes;
- Australian Standard Manual of Uniform Traffic Control Devices. Part 9: Bicycle Facilities (AS 1742.9); and
- Australian Standard Manual of Parking Facilities. Part 3: Bicycle Parking Facilities (AS 2890.3).

The proposed cyclist facilities that can be implemented through Halls Creek, providing adequate CPTED through open space, include:

- On-road cycle facilities, which include combined parking/cycle lanes and shared lanes;
- Exclusive bicycle lanes, which are the preferred solution; and
- Off-road cycle facilities, which include shared use path and dedicate bicycle paths.

## 6.4 STRATEGY

To demonstrate that the Halls Creek active transport can effectively link into Caloundra South a potential active transport strategy is shown in **Figure 5-2**.



**Figure 6-2 Halls Creek proposed cycle network connecting to Caloundra South**

The potential strategy has been segregated into various levels of hierarchy with the specific routes discussed below. The actual layout will depend of firmer land use designation, particularly following further environmental assessment of developable areas.

#### **6.4.1 CYCLE TRACK**

It is proposed to extend the Cycle Track (two way segregated cycle track) along the main corridor through to Halls Creek from Caloundra South to link the southern neighbourhood centre with Caloundra South Integrated Transit Centre. As the facilities are currently proposed along this higher order route, to the proposed boundary of Halls Creek, it is considered to be logical to extend the cycle route to provide a high quality cycle link between the neighbourhood and district centres located in Halls Creek with the Caloundra South Town Centre strengthening the “15 minute community”.

#### **6.4.2 ON-ROAD CYCLE**

On-Road cycle lanes to be provided along the distributor road and collector network to allow safe access to the Cycle Track. As the on-road cycle lanes are mainly used by commuter cyclists, the on-road cycle network is proposed to operate as a feeder system to the Cycle Track.

#### **6.4.3 CYCLE FRIENDLY LOWER ORDER STREETS**

Local streets to be ‘cycle safe’ by following the TMR Cycle Strategy guidelines on street set out and connectivity.

#### **6.4.4 OFF-ROAD CYCLE PATHS**

Off-road cycle paths are commonly used by cautious commuters, recreational cyclists, and also by younger children travelling to school. Therefore, large green spaces and parks are proposed to be well connected with an off-road cycle network, to educational centres, neighbourhood centres and the areas

#### **6.4.5 PEDESTRIAN NETWORK**

The potential locations of centres within the Halls Creek IGA could result in the majority of residents being within a few hundred metres walk of essential local facilities, which includes schools. The PB *Caloundra South Integrated Transport Strategy* identified that the average length

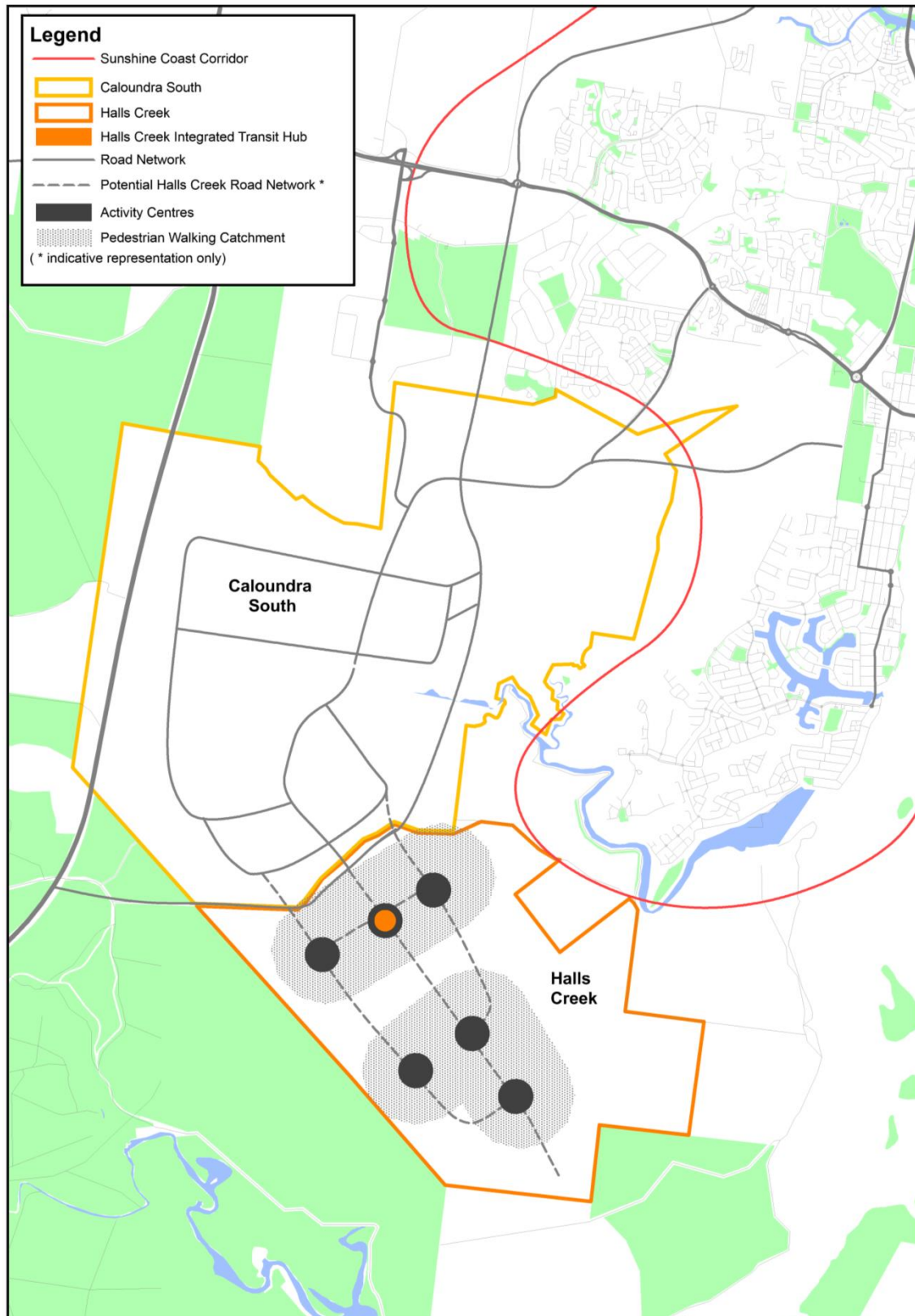
people are willing to walk to shops is around 600 m. The areas that are within this distance of a potential centre at Halls Creek are shown in **Figure 5-2**.

These centres can also be stops on the main public transport routes, enabling easy access to services and facilities further afield, without requiring the use of the car.

All roads and streets within Halls Creek are proposed to include the provision of footpaths on both sides of all but the most quiet of local access streets to ensure high quality provision and connections. Local access streets will, where appropriate, be designed as slow speed mixed-mode environments.

It is also proposed that the Caloundra South shared trail networks are extended into Halls Creek to allow pedestrian use for recreational purposes and provide active access local centres and neighbourhoods.





**Figure 6-3 Town / District / Neighbourhood Centre Pedestrian Walking Catchments**

#### 6.4.6 INTEGRATION WITH PUBLIC TRANSPORT NETWORK

To encourage cycling, a range of end-of-trip facilities needs to be provided, including:

- Racks;
- Lockers and security;
- Water fountains;
- Seating;
- Shower; and
- Toilets.

Bicycle racks should be provided at all major destinations, including shops, schools, parks and rail and bus stations as a minimum, with consideration for bicycle cages if required. Showers and change facilities should be provided at workplaces and major transport interchange nodes. Bicycle parking should be designed in accordance with the relevant Australian standard (AS 2890.3-1993).

The *Cycling Aspects of Austroads Guides* state that for high-quality, high priority routes permitting quick, unhindered travel between major regions of cities, towns or urban areas, the cyclist operating speed is between 25 and 40 km/h. On the basis of the average cyclist speed of 30 km/h, the distance travelled by a cyclist over a 15 minute period is approximately 7.5km. This would capture a large proportion of Halls Creek demonstrating, with high standard cyclist infrastructure, a cyclist's ability to ride to the Caloundra South Integrated Transit Centre within the 15 minute period.

## 7.0 PUBLIC TRANSPORT STRATEGY

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### 7.1 POLICY AND REGIONAL CONTEXT REVIEW

The Halls Creek IGA provides the opportunity to support the viability of longer term public transport infrastructure, including:

- Access to the CAMCOS heavy rail project via direct bus priority and active cycle links to the Caloundra South Integrated Transit Centre;
- Providing increased densities in and around the Transit Corridor as an extension of the Coast Connect Corridor; and
- Providing direct linkages via bus priority services to Caloundra with the potential to then access the \$2B Sunshine Coast Light Rail project currently under investigation should it be adopted.

Development of the Halls Creek IGA can provide future urban development in a manner that facilitates high transport integration with the Sunshine Coast and self-containment.

Strategic transport linkages can be easily accommodated between Halls Creek and the approved Caloundra South Major Activity Centre (including Integrated Transit Centre), the Caloundra Major Regional Activity Centre and north to Caloundra Road via committed infrastructure. Development of Halls Creek would provide increased population density and employment opportunities that will subsequently improve utilisation and economic viability of significant inter and intra-regional transport corridors currently being planned/proposed including CAMCOS, Coast Connect and Sunshine Coast Light Rail.

The Halls Creek IGA could create the opportunity for future urban development within the Sunshine Coast to be provided with an integrated, cost effective transport solution that is well connected to new and existing population centres. The key features are discussed below:

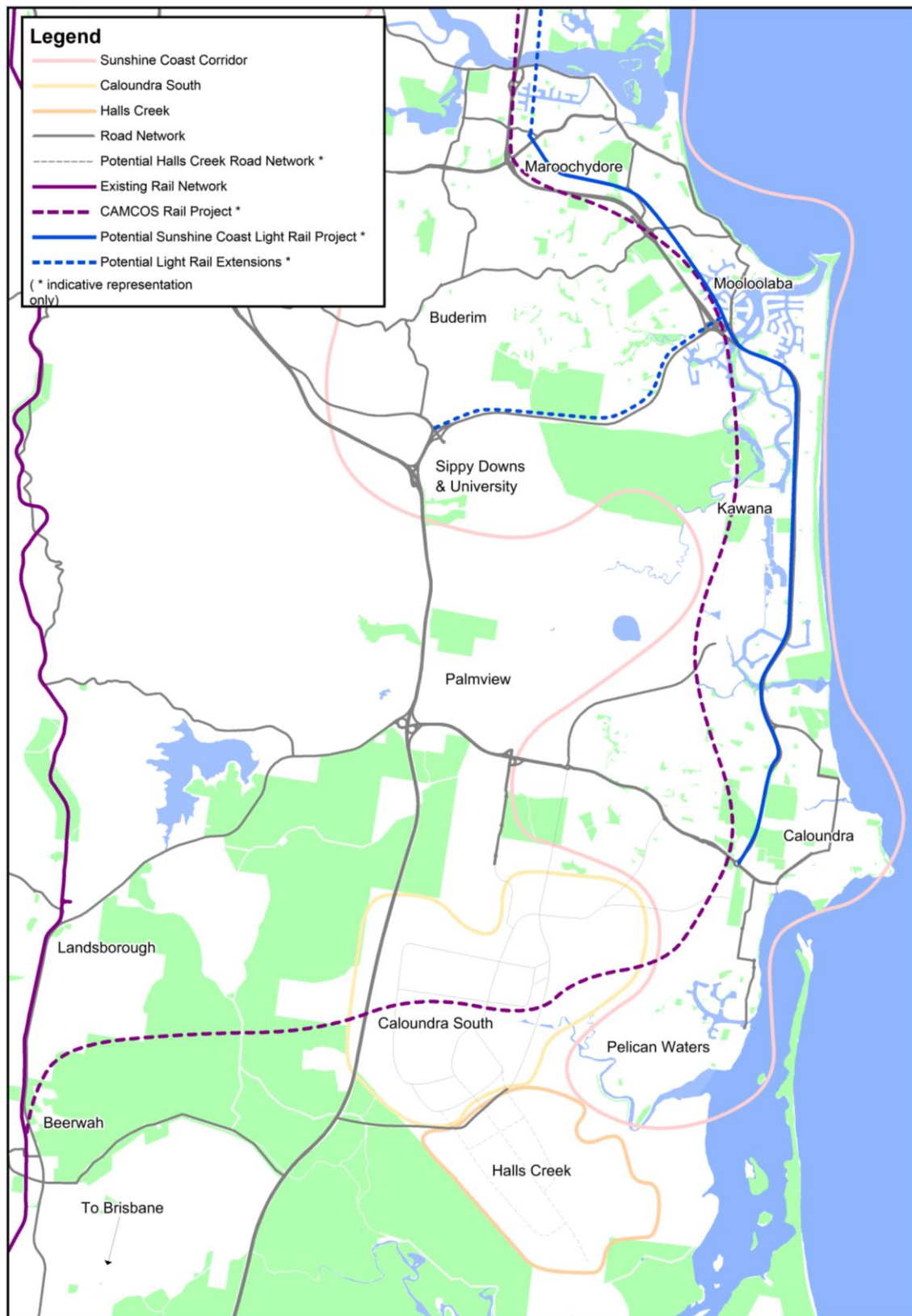
- Ability to integrate the future urban development with the broader Sunshine Coast region through proximity and access to existing & planned road and priority public transport corridors;
- Provision of direct and cost effective linkages via the committed Transit Corridor between Caloundra South and the Caloundra Major Regional Activity Centre and subsequently to the Coast Connect corridor extending between the Principal Regional Activity Centre at Maroochydore and Major Regional Activity Centre at Caloundra;
- Through planned and carefully integrated bus priority measures, the Halls Creek IGA will capitalise on the Bus Rapid Transit priority links established through Caloundra South as discussed in **Section 4**;

- The Halls Creek site has the ability to provide direct linkages to the Major Regional Activity Centres at Caloundra South and Caloundra via a network of committed priority bus and road infrastructure.

The site has a number of advantages and is well situated in relation to the existing and committed/planned transport infrastructure. Development in the Halls Creek IGA will provide opportunities for the Sunshine Coasts' future urban development patterns to be situated in a manner that will maximise the potential utilisation of the committed infrastructure, recognised by the planning scheme and proposed as part of Caloundra South, including:

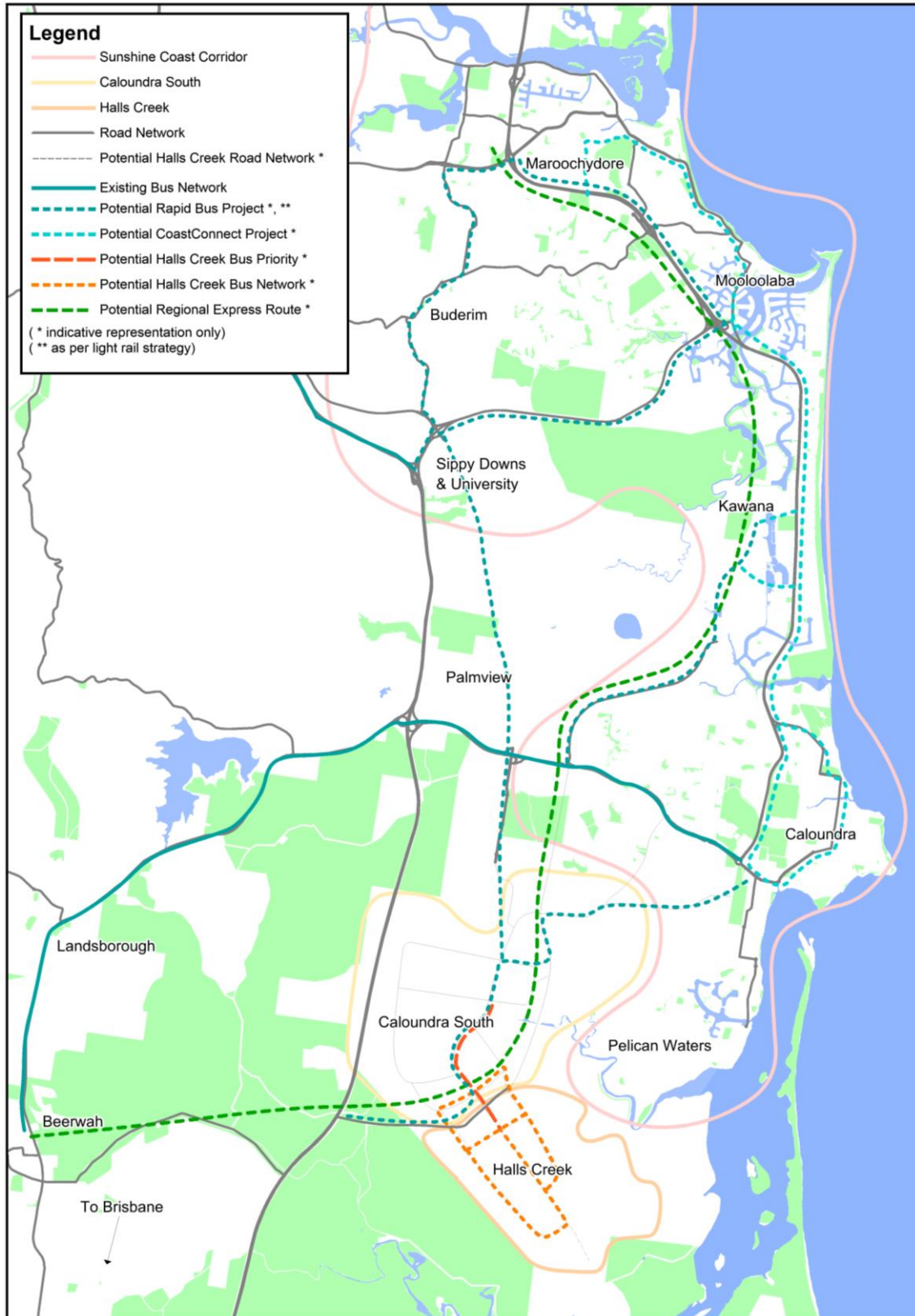
- Bus Rapid Transit corridors along Bells Creek Arterial including links to the Caloundra South Major Regional Activity Centre;
- East-West Bus Priority corridor linking directly to Caloundra and then subsequently to the Coast Connect corridor and potential Sunshine Coast Light Rail currently under investigation;
- Sub-arterial transport network including bus priority measures providing links to education, employment and retail opportunities;
- High standard road and freight corridors including Bruce Highway and Bells Creek Arterial;
- Ultimately being serviced by the CAMCOS corridor via high frequency bus services; and
- Direct access to North Coast Rail Line should residents prefer rail travel to north and south.

This provides future residents with significant flexibility of transport options and avoids over-reliance on private vehicles. The key public transport infrastructure, relative to the Halls Creek IGA, is demonstrated in **Figures 7-1 and 7-2**.



**Figure 7-1 Proposed Rail Infrastructure**





**Figure 7-2 Proposed Bus Infrastructure**

The increase in the resident population, employment opportunities and other uses will provide the greatest opportunity to maximise utilisation of the significant commitment to transport infrastructure in the vicinity without the need for significant additional expenditure by State and Local Government.

## **7.2 ROLE OF PUBLIC TRANSPORT**

The role of buses and trains are considered to play different roles in Queensland with rail being viewed as being for longer distance peak hour commuting. However, it does perform a range of services from inter-urban to local commuting. Buses are usually viewed as providing connections to places not served by rail and supporting shorter trips, with the exception of busway and rapid transit routes. Investigations have also been undertaken for Light Rail Transit (LRT) on the Sunshine Coast.

The various roles the modes perform currently and are likely to perform in the future within the Sunshine Coast are discussed below. This information helps to inform the most appropriate strategy for Halls Creek, which is discussed in the next section.

### **7.2.1 RAIL ON THE SUNSHINE COAST**

Currently the only rail servicing the Sunshine Coast region is the North Coast Rail Line running between Beerburrum and Eumundi as a single lane. The North Coast Rail Line is the principal regional freight and passenger line within the Queensland Rail network, running the length of coastal Queensland between Nambour in the south and Cairns in the north. Key roles that the rail line would provide for passengers on the Sunshine Coast would include commuters to Brisbane and day visitors to Brisbane and from Brisbane.

The Caboolture to Landsborough rail upgrade study proposes to duplicate the rail line between Caboolture and Landsborough. The first section between Caboolture and Beerburrum was completed in 2009 and the second section between Beerburrum to Landsborough is proposed to be delivered by 2021. The duplication is expected to strengthen the link between Sunshine Coast and Brisbane.

The currently proposed CAMCOS is proposed to link Beerwah to Maroochydore. The project delivered as a whole would strengthen the connectivity between the major Sunshine Coast destinations, including the coastal community not presently serviced by the North Coast Rail Line. CAMCOS to be delivered in parts would only strengthen the connectivity to Brisbane.



### 7.2.2 BUSES ON THE SUNSHINE COAST

The primary purposes that bus services currently provide on the Sunshine Coast are:

- Linking residential areas to centres;
- Providing feeder services to railway stations;
- Linking to regional centres; and
- Serving trips to work.

To increase the level of bus usage, service and travel time reliability are important and can be assisted with the provision of bus priority. The CoastConnect project is proposed to provide a quality bus corridor with higher frequency services planned along the existing Sunshine Coast corridor (Caloundra to Maroochydore) supported by excellent quality stops and interchanges. The currently planned CoastConnect corridor is shown in **Figure 2-7**.

## 7.3 PROPOSED STRATEGY

The Halls Creek proposal builds on the principles of the Caloundra South development, to provide '15 minute communities' and aligns with the planning intent for Identified Growth Areas outlined in the SEQRP by providing high standards of accessibility to a public transit service in the form of bus priority routes to/from/in the site which can provide connectivity to the CAMCOS network as/when this transport corridor is delivered. The Halls Creek district Centre and business district is proposed to be 4kms from the Caloundra South Town Centre, which is within the 15 minute zone for travelling by public transport.

Public transport will play an important role in connecting Halls Creek to Caloundra South, and to the wider Sunshine Coast community.

The Halls Creek public transport system will integrate seamlessly into the Caloundra South development, which will provide convenient connections for residents of both communities to access employment, shopping and education opportunities within each location. A transit hub could be provided within Halls Creek on the southern side of the employment area to provide access to the Caloundra South Integrated Transit Hub and other locations within the Sunshine Coast.

### 7.3.1 HEAVY RAIL

A CAMCOS rail line would include a station within the Caloundra South town centre. Halls Creek can leverage the location of this station by providing feeder buses from the Halls Creek

employment and centre locations, including a potential transport hub near the employment area. Subsequently CAMCOS is proposed to provide connectivity to the following locations:

- The Sunshine Coast Principal Activity Centre at Maroochydore;
- The Major Activity Centres of Kawana Waters and Beerwah; and
- Caboolture and Brisbane.

The PB Caloundra South Integrated Transport Strategy identifies that a staged strategy for CAMCOS should be investigated, with stage one potentially providing a connection between Beerwah and Caloundra South Town Centre. It is considered that this would provide benefits to the Sunshine Coast by earlier investment in rail, as expected investment would be much lower than a full provision to Maroochydore. Halls Creek would further intensify the development in close proximity to the Caloundra South station, with the support of frequent feeder bus routes. This is considered to be a more cost effective solution compared to providing additional stations along the route, given an estimated cost of \$10-15 million (*PB Caloundra Downs Rail Viability Study Preliminary Report*).

### 7.3.2 BUS PRIORITY

Bus services will provide access to major areas within the Sunshine Coast region and provide access to all the major commercial, retail and community facilities within Halls Creek and Caloundra South for all residents outside convenient walking distance.

To assist in the provision of high quality bus transport the following measures can be implemented to improve bus transport:

- Provide Bus Priority along arterial and sub-arterial corridors, extending the Bus Priority Sub-Arterial to be delivered at Caloundra South to the proposed Halls Creek Transport Hub which includes dedicated bus lanes;
- Provide a potential regional express route, as demonstrated in **Figure 7.2**. The express route could provide a high quality connectivity between the major centres including Maroochydore, Mooloolaba, Kawana, Caloundra South, Halls Creek and Beerwah, which includes the Beerwah rail station;
- Implement Bus Priority measures providing links between the Halls Creek transport hub and the Neighbourhood Centres to the south;
- Provision of increased residential and employment density within walking and cycling distances of bus priority corridors at Caloundra South; and
- Provision of increased direct residential, employment and retail densities necessary to increase the long term viability of the multi-billion dollar CAMCOS Corridor.

Specifically:

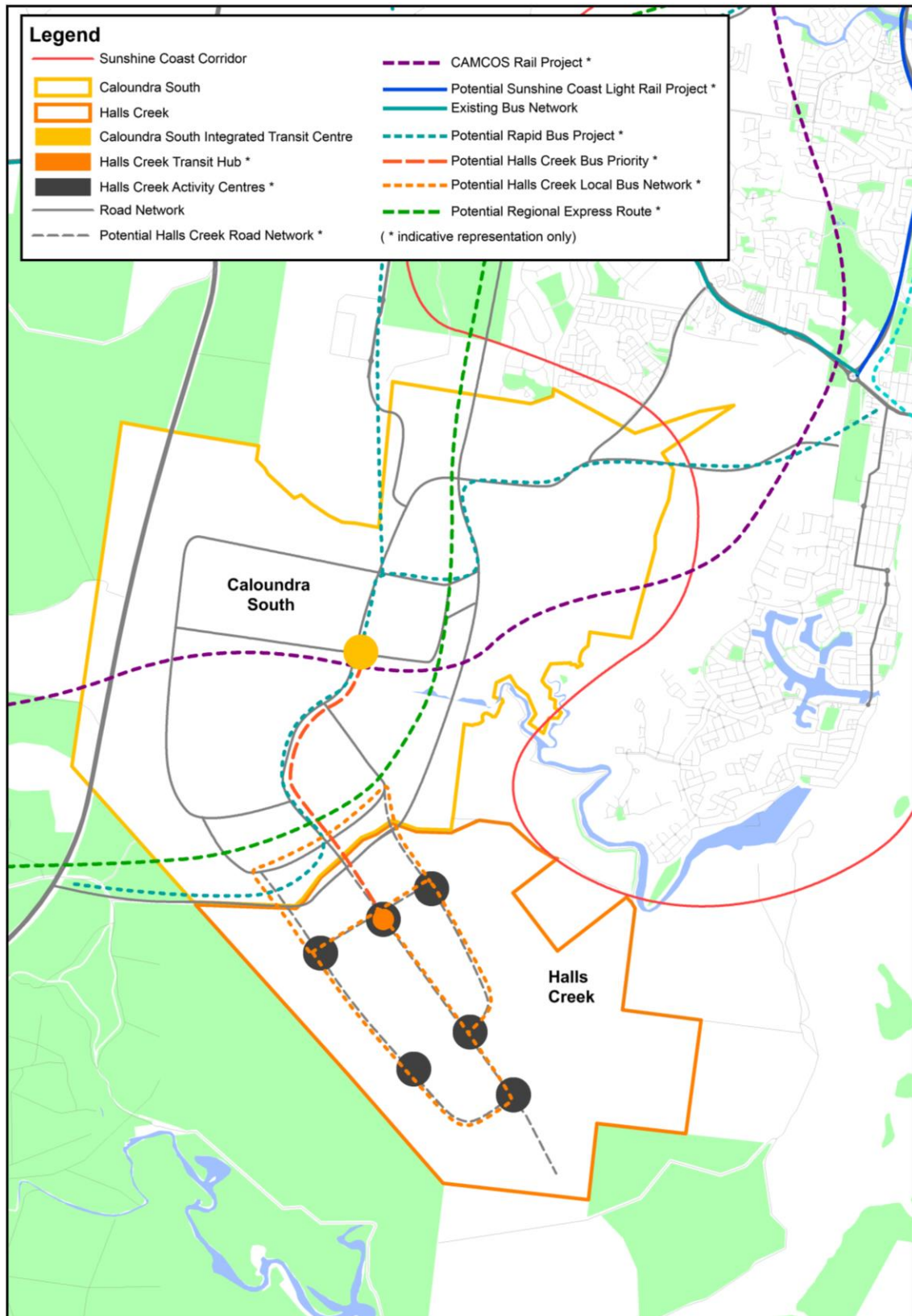
- High frequency within peak times, 'turn up and go' system to encourage use
- Coordinated system to enable easy bus change

### **7.3.3 FEEDER BUS NETWORK**

To support the use of the dedicated bus corridor, the sub-arterial and lower order road network of Caloundra South will be utilised to feed bus services into the priority corridor. These measures include:

- Local bus services to feed to connection points to the bus priority network at the Halls Creek public transport hub; and
- Loop services using distributor roads and collector streets.

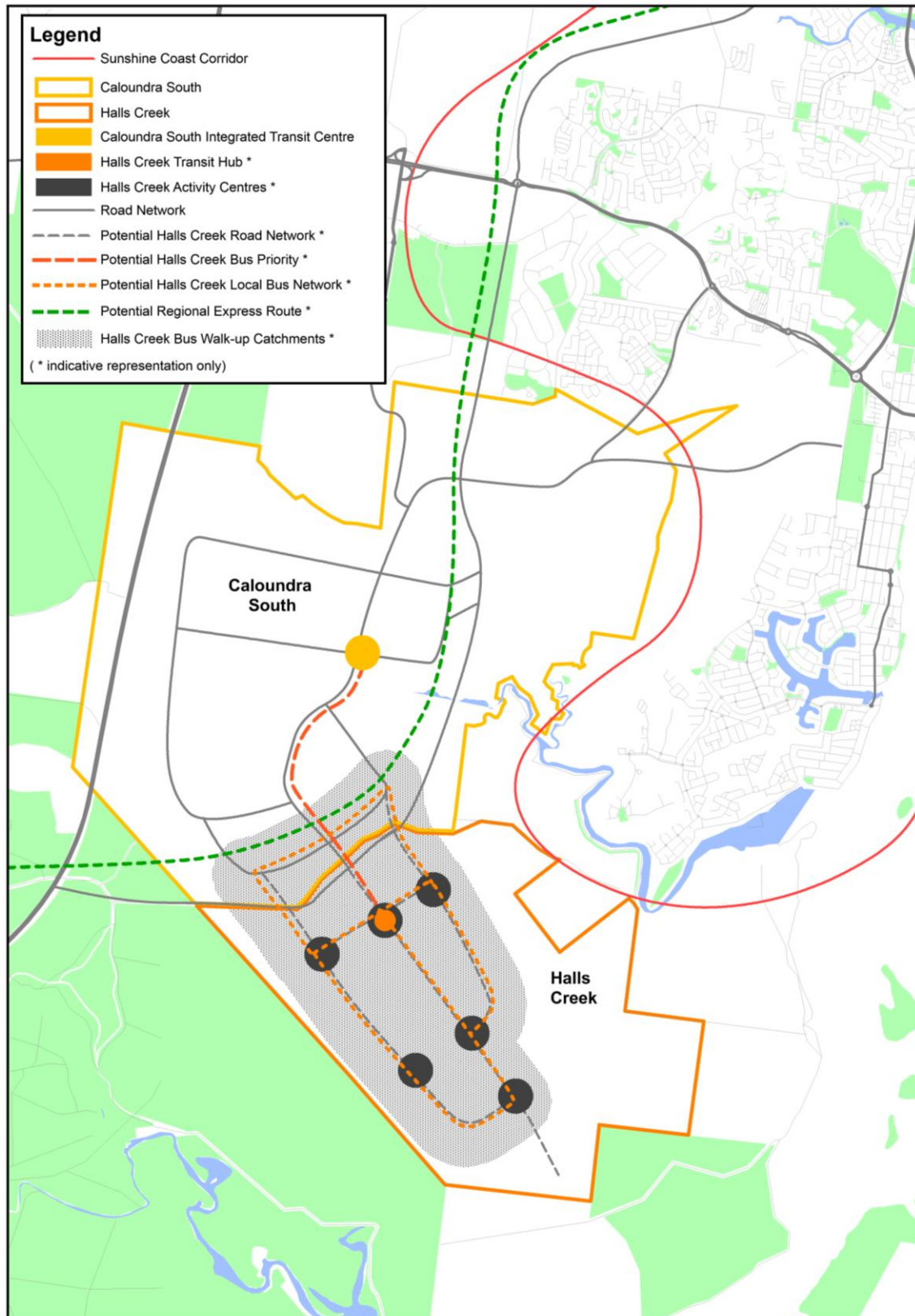
The potential bus priority and feeder bus network is demonstrated in **Figure 7-3**.



**Figure 7-3 Halls Creek Bus Routes**

#### **7.3.4 INTEGRATION WITH ACTIVE TRANSPORT NETWORK**

To integrate with the active transport network, it is proposed to provide end of trip facilities at key public transport nodes (i.e. District and neighbourhood centres) as discussed in **Section 6.4.6**. In addition, bus stops are proposed at locations within 400m walking distance of all key areas within the Halls Creek IGA as demonstrated in **Figure 7-4**.



**Figure 7-4 Bus Walk-Up Catchment**



### 7.3.5 LIGHT RAIL

The long term vision for the Sunshine Coast Light Rail is to provide light rail from Kawana to Caloundra with future extensions to be considered. *The Sunshine Coast Light Rail Project Pre-feasibility and Rapid Economic Appraisal Report* identifies Caloundra South and Halls Creek within the Sunshine Coast Principal Regional Activity Centre which is considered to warrant a potential future extension out to Caloundra South to facilitate connectivity through the regional activity centre.

Development at Halls Creek can accommodate 30,000 residents and 10,000 jobs to leverage community building at the Caloundra South. This would increase population density to a level that could support the extension of the Sunshine Coast Light Rail (project cost approximately \$2 billion) to Caloundra South by increasing the level of benefit associated with the route. An extension to the proposed Sunshine Coast Light Rail project to provide a station within the Caloundra South integrated bus and rail transit station within the Caloundra South town centre would enable passenger interaction with the CAMCOS rail line.



## 8.0 ROAD NETWORK TRANSPORT STRATEGY

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### 8.1 NETWORK REQUIREMENTS AND CHARACTERISTICS

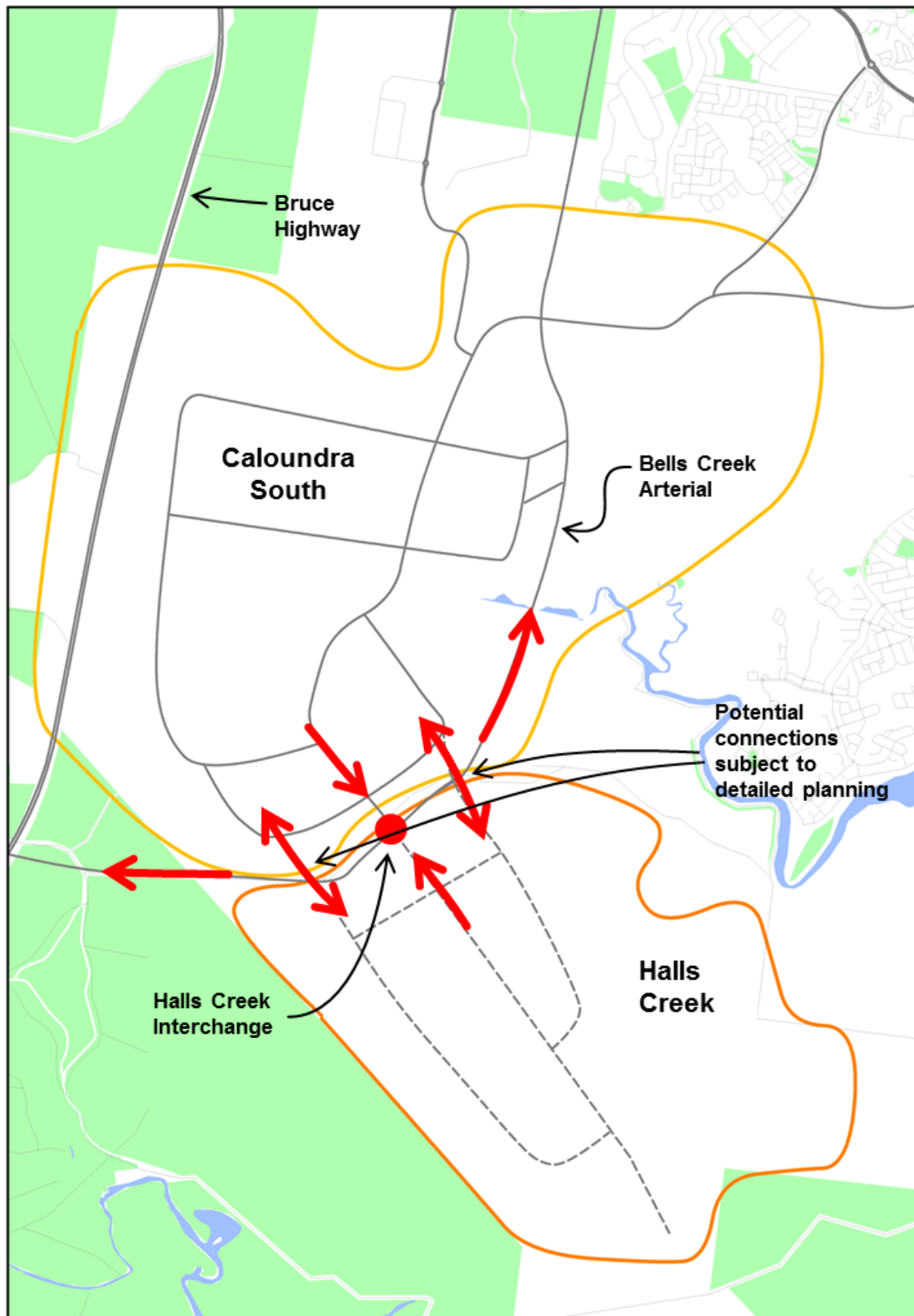
The job internalisation ratio is likely to impact the level of external trip generation of the Halls Creek site, particularly in the peak periods. Job internalisation refers to the percentage of residents of working age that are working within their community.

While it is noted that the Caloundra South strategy adopted 30% and 40% job internalisation scenarios, the close proximity and high level of connectivity between Halls Creek and Caloundra South is expected to increase internalisation with the two developments supporting each other.

Based on the assumed trip distribution, the likely routes, which are committed infrastructure projects, have been identified:

- Trips to Brisbane, Caboolture, Palmview, Sippy Downs and Nambour will use the Bells Creek Arterial to access the southern Bruce Highway interchange;
- Trips to Beerwah will use Bells Creek Arterial and cross over the Bruce Highway at the southern interchange and continue;
- Trips to Caloundra, Kawana and Maroochydore will use the Bells Creek Arterial; and
- Trips to Caloundra South will use a number of connections across Bells Creek Arterial.

The expected distribution of traffic, entering and exiting the Halls Creek IGA, is demonstrated in **Figure 8-1**.



**Figure 8-1: The expected distribution of traffic**

## 8.2 NETWORK IMPACTS

There are a number of implications for the regional road transport network resulting from development at the Halls Creek IGA. These are discussed from a high level perspective below.

To help inform the implications on the road network a review was undertaken of the MWH *Caloundra South Integrated Transport Strategy*, which modelled the implications of Caloundra South on the existing and proposed road network.

To provide a high level assessment of the implications of Halls Creek on the external road network, the external trips calculated in **Section 3** have been used. The calculated trips and assessment are high level at this early stage of planning for Halls Creek. More detailed trip generation, distribution and modelling will be conducted at the detailed planning stages when actual land uses are confirmed. This will allow the project team to determine specific transport network requirements to support actual travel demand.

### 8.2.1 EXTERNAL ROAD NETWORK IMPLICATIONS

The key outcomes of the external road network implications are summarised below:

- Further detailed planning and capacity analysis is required to understand the impacts on the Halls Creek Interchange if other connections to the Bells Creek Arterial are not provided. The largest proportion of Halls Creek demand is expected to/from the north, therefore further investigation is required into providing appropriately designed network connections to Bells Creek Arterial to safely facilitate demand for vehicle movements to/from the north;
- To encourage connectivity and integration between Halls Creek and Caloundra South further investigation will be undertaken to investigate the optimal road network solution to support this objective, including consideration of the number, form and function of the linkages between the two areas; and
- The Halls Creek IGA is expected to have an increase on demand along the Bruce Highway; however should Halls Creek IGA be included in the urban footprint and is closer to being needed; further investment in strategic, regional transport infrastructure can be reasonably anticipated. It is expected that there will be Federal and State focus for ongoing investment in the Bruce Highway.

Given the long lead time before Halls Creek will be needed there is ample time to consider these future arrangements.

## 9.0 TRAVEL DEMAND MANAGEMENT STRATEGY

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As part of the Caloundra South development, Travel Demand Management (TDM) strategies are proposed to improve transportation system efficiency.

TDM strategies seek to influence behaviours to prioritise the use and accessibility of more efficient or alternative travel modes. They take the form of improved transport options, financial incentives, parking and land use management, planning policy or education programs. Effective TDM strategies can extend the life and capacity of transport infrastructure and services and would be well suited at Halls Creek and Caloundra South.

This section identifies possible TDM strategies to better manage the use of the transport system within Caloundra South, which can extend to and benefit Halls Creek. These incentives are primarily focused on changing people's private vehicle travel behaviour to ultimately reducing the number of vehicle trips. The close proximity of Halls Creek will allow the area to effectively utilise the strategies and further encourage their implementation. The strategies will also strengthen the connectivity between Halls Creek and Caloundra South, providing a more efficient transport strategy utilising existing infrastructure and services.

Following is an overview of practical and successful programs and incentives that can be applied as part of the TDM strategy:

- **'Travel Smart' Program:** Seeks to change individuals' travel choices by providing them with information that is directly relevant to their needs. This includes information on walking and cycling paths as well as public transport timetable and fares.
- **Workplace Travel Plans:** Workplace travel plans are employer-based packages that promote sustainable travel options to their staff. Workplace travel plans can encourage alternatives to the private car such as walking, cycling, public transport and car sharing.
- **School Travel Plans and Walking School Bus Initiatives:** School travel plans promote healthy and sustainable methods of travelling to school, such walking and cycling and reduced use of private cars.
- **Ride Sharing:** Programs to identify potential travel partners and rewards for private car users where passenger transport services are currently not available or provide limited services.
- **Spread Peak Demand:** Employers are encouraged to introduce policies that allow employees to commence work earlier or later and travel before and after the peak.
- **Bike Hire Schemes:** Public bike hire schemes provide convenient rental bicycles intended for short (less than 5 km) urban trips.

- **Car Parking Management:** Parking management strategies are integral to the reduction of the demand for parking, encouraging efficient use of parking facilities, improving quality of service and design as well as increasing the provision of viable alternatives including active and public transport.

## 10.0 CONCLUSION

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The Halls Creek Identified Growth Area (IGA) has been identified within the *South East Queensland Regional Plan* (SEQR) as a potential location to accommodate the long term population growth of the Sunshine Coast and South East Queensland. The Halls Creek area, and development of same, from a transport perspective can meet the planning intent for Identified Growth Areas for the Sunshine Coast Region as expressed in the SEQR. The transport system has been described within this report and clearly demonstrates how the Halls Creek transport strategy is aligned with the IGA objectives. Any future development of the IGA would involve the creation of a master planned project on the area of the site deemed most suitable for development. One of the major advantages for the planning and implementation of Halls Creek is that this land has large scale and is in single ownership. The site can logically extend to the south of Caloundra South which is located alongside the Bruce Highway and 5km southwest of Caloundra CBD.

Any development of the Halls Creek IGA could utilise infrastructure and transport strategies within Caloundra South. Halls Creek would logically adopt and extend the Caloundra South strategic vision of a healthy prosperous, culturally, socially and economically diverse community, which embraces sustainable technologies and lifestyle practices.

The Transport Strategy demonstrates the ability to assist in the delivery and performance of infrastructure (including public transit) to the Sunshine Coast community by addressing the three primary transport areas with the hierarchy being active transport, public transport and road network infrastructure.

Development approval at Halls Creek is possible within 20 years and by this time; much of the approved and proposed infrastructure investment associated with Caloundra South will have been committed and completed. This will make Halls Creek's integration with Caloundra South and nearby infrastructure practical. The long lead-time also allows for adjustment to planning at Halls Creek if and when there are changes to scope and delivery timing. Over this time, some of the public transport proposals (external to the site) such as CAMCOS and rail proposals should have been resolved.

The future neighbourhood centres and employment areas of Halls Creek can be linked by a public transport and active transport network to the Caloundra South City Centre and Integrated Transit Centre. By creating a strong and sustainable economy that offers a diversity of employment opportunities, residents would be encouraged to live, work and play in the Caloundra South and Halls Creek areas, reducing the external impact of travel. The design and layout of active transport network would encourage a mode shift away from car based travel and would support the ideal of Caloundra South and Halls Creek as a '15 minute community'. As an

extension to Caloundra South, Halls Creek would be seen as a place for sustainable living and a place where you don't need to use your car for every trip. The Halls Creek IGA is expected to have a self-containment in the order of 20-30% through the provision of high standards of walking / cycling and public transport infrastructure linking directly to employment, retail, education and recreation within Halls Creek precinct.

As Caloundra South progresses a significant amount of infrastructure will be developed. The eventual capacity of the active transport, public transport and road networks provides leverage and opportunity for the Halls Creek community. The Halls Creek IGA can provide increased population density and employment opportunities that will subsequently improve utilisation and economic viability of the proposed and committed infrastructure and particularly public and active transport infrastructure. This will result in limited additional expenditure by State and Local Government and will be delivered through the effective integration of Halls Creek with Caloundra South.

The proposed active transport strategy has the ability to increase the transition from car to active transport. Halls Creek can deliver a hierarchy of cycle and pedestrian routes and the supporting infrastructure, to facilitate a "15 minute" community.

The Halls Creek IGA supports the viability of longer term public transport infrastructure and leverages Caloundra South infrastructure. Key areas of interaction include the CAMCOS and CoastConnect projects with high frequency bus services within the Halls Creek precinct potentially increasing the patronage of these services.

While it is preferential to encourage the use of active and public transport, adequate road infrastructure will be needed to meet the expected demands. The Halls Creek interchange is proposed to provide connectivity from the Halls Creek IGA to the Bells Creek arterial, where the generated traffic can utilise the proposed and committed road infrastructure in vicinity of the precinct.

Public interest in traffic generation on the Bruce Highway and other external pressures such as parking at hinterland train stations from regional development is understood. By the time Halls Creek IGA may be included in the urban footprint and is closer to being needed, further investment in strategic, regional transport infrastructure can be reasonably anticipated. Federal and State focus and ongoing investment in the Bruce Highway for example, should continue over the next 20years leading into the timeframe of development at Halls Creek.