



Korumburra Town Centre
Car Parking Strategy

transportation planning, design and delivery

Korumburra Town Centre

Car Parking Strategy

Issue: A 24/06/13

Client: South Gippsland Shire Council

Reference: 13M1553200

GTA Consultants Office: VIC

Quality Record

| Issue | Date | Description | Prepared By | Checked By | Approved By |
|-------|----------|-------------|-------------|-------------|---|
| A | 24/06/13 | Final | Justin Gale | Chris Coath |  |

© GTA Consultants (GTA Consultants (VIC) Pty Ltd) 2012
The information contained in this document is confidential and intended solely for the use of the client for the purpose for which it has been prepared and no representation is made or is to be implied as being made to any third party. Use or copying of this document in whole or in part without the written permission of GTA Consultants constitutes an infringement of copyright. The intellectual property contained in this document remains the property of GTA Consultants.



MELBOURNE • SYDNEY • BRISBANE • CANBERRA
ADELAIDE • GOLD COAST • TOWNSVILLE
www.gta.com.au

Table of Contents

| | |
|--|-----------|
| 1. Introduction | 1 |
| 1.1 Background | 1 |
| 1.2 Study Area | 2 |
| 1.3 Reference Documents | 2 |
| 2. Background and Context | 4 |
| 2.1 Previous Reports | 4 |
| 2.2 Travel Characteristics | 6 |
| 2.3 Consultation | 8 |
| 3. Existing Car Parking Conditions | 10 |
| 3.1 Details of Data Collection | 10 |
| 3.2 Car Parking Supply | 10 |
| 3.3 Car Parking Demands | 11 |
| 3.4 Car Parking Land Use Generation | 16 |
| 3.5 Commercial Street Car Parking Safety | 17 |
| 4. Future Car Parking Demands | 19 |
| 4.1 Future Floor Space | 19 |
| 4.2 Current Car Parking Generation Rates | 19 |
| 4.3 Sensitivity Testing | 19 |
| 5. Managing Existing Parking Demands | 21 |
| 5.1 Overview | 21 |
| 5.2 Car Parking Management Strategies | 23 |
| 5.3 Recreational Vehicle / Caravan / Trailer Parking | 26 |
| 5.4 Car Parking Layout | 29 |
| 6. Accommodating Future Parking Demands | 32 |
| 6.1 Future Parking Demand | 32 |
| 6.2 Ability to Use Existing Parking Vacancies | 32 |
| 6.3 Future Land Use Development | 33 |
| 6.4 Need to Retain Public Acquisition Overlay | 33 |
| 7. Summary and Conclusions | 35 |

Appendices

- A: Existing Car Parking Survey Results

Figures

| | | |
|-------------|--|----|
| Figure 1.1: | Korumburra Town Centre Framework Plan – Context of Parking Strategy to Overall Project | 1 |
| Figure 1.2: | Subject Site and Environs | 2 |
| Figure 2.1: | Korumburra Age Profile (ABS 2011 Census) | 6 |
| Figure 2.2: | Korumburra Car Ownership (ABS 2011 Census) | 7 |
| Figure 2.3: | Korumburra Journey to Work (ABS 2011 Census) | 8 |
| Figure 3.1: | Car Parking Demands During Peak (3:00pm) by Location | 14 |
| Figure 5.1: | Car Parking Management Recommendations | 24 |
| Figure 5.2: | Car Parking Signage Concepts | 25 |
| Figure 5.3: | Recommended Car Parking Signage Locations | 26 |
| Figure 5.4: | Caravan Parking Option | 28 |
| Figure 5.5: | Recommended Pedestrian Connections | 29 |
| Figure 5.6: | Recommended Little Commercial Street Car Parking Reconfiguration | 30 |
| Figure 6.1: | Public Acquisition Overlay Area Assessment | 34 |

Tables

| | | |
|------------|--|----|
| Table 3.1: | Korumburra Study Area Car Parking Supply | 11 |
| Table 3.2: | Car Parking Demands | 11 |
| Table 3.3: | Car Parking Demands at Peak (3:00pm) | 12 |
| Table 3.4: | Car Parking Temporal Variation by Location | 15 |
| Table 3.5: | Comparison of Car Parking Rates | 16 |
| Table 4.1: | Future Change in Land Use Data [1] | 19 |
| Table 4.2: | Anticipated Increase in Car Parking Demand (based on current demand) | 19 |
| Table 4.3: | Anticipated Increase in Car Parking Demand (sensitivity testing) | 20 |
| Table 5.1: | Priority Allocation of Parking | 22 |
| Table 5.2: | Acceptable Walking Distances [1] | 22 |

1. Introduction

1.1 Background

Korumburra is the second largest urban area in South Gippsland and serves an important role as a major centre for a number of communities in the region. In 2010 the Korumburra Structure Plan was released by Council. Among other matters, the report anticipated that the town will have a population of 4,550 in 2026, an increase of 1,290 over the 2006 figure of 3,260.

Driving principles and visions for traffic and transport in Korumburra by the year 2026 identified in the Structure Plan were:

- Having strong transport linkages to Melbourne and Gippsland.
- Having a road traffic network that appropriately manages heavy vehicle movements through the Town Centre.
- A community where all residents have access to a quality pedestrian and cycle network linking them to key services and facilities.

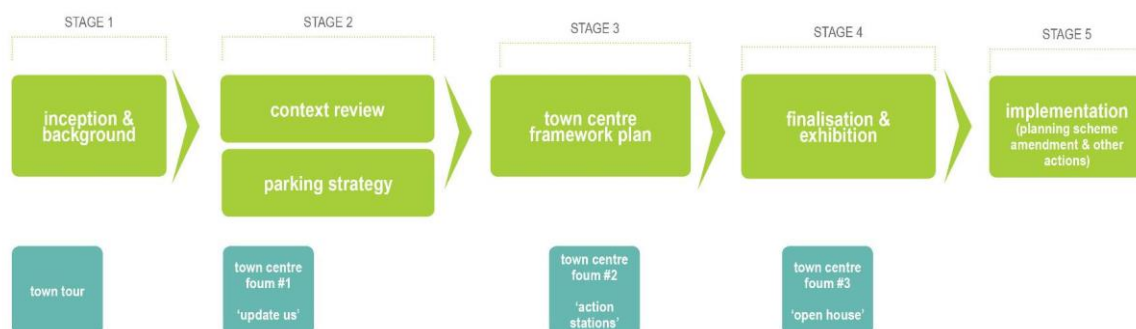
An outcome of the structure plan process was the need to prepare a Framework Plan for the town centre to further shape how the desired visions could be achieved.

In this regard the South Gippsland Shire Council has engaged Hansen Partnership, in association with GTA Consultants and Tim Nott Economics, to prepare the Korumburra Town Centre Framework Plan (KTCFP).

As part of the project, a Car Parking Strategy has specifically been sought to be prepared to inform the Framework Plan.

Figure 1.1 provides context as to how the car parking strategy fits within and informs the overall KTCFP.

Figure 1.1: Korumburra Town Centre Framework Plan – Context of Parking Strategy to Overall Project



1.1.1 Purpose of Parking Strategy

The objective of this Car Parking Study is to provide recommendations on appropriate levels of car parking to be provided for new developments and to establish mechanisms to better manage car parking within the town centre.

Specifically this study will:

- Review existing car parking demands within the Korumburra Town Centre as a means to establishing existing car parking generation rates for the centre.

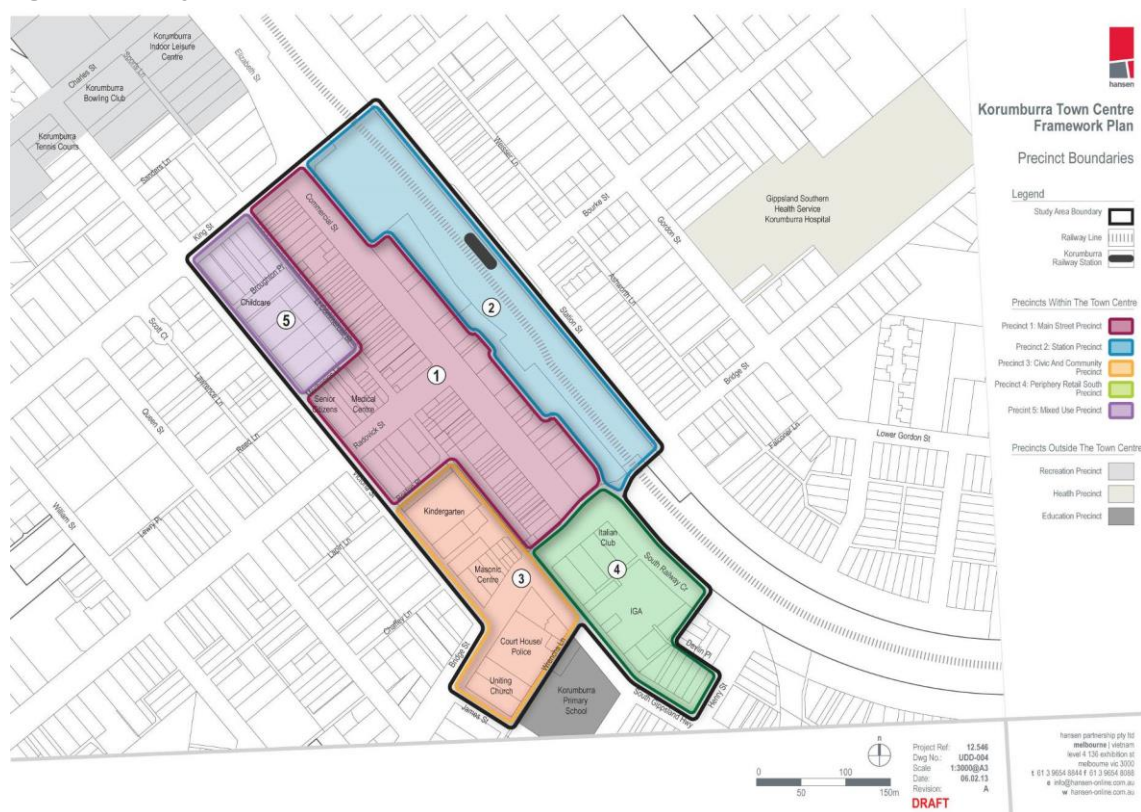
- Review the existing management of car parking and establish measures to further improve the operation of the parking network.
- Establish future car parking demands which could be expected to be generated by the centre to enable a balanced approach to be developed as to how to provide for such demands.

1.2 Study Area

The Study Area is defined as the area which encompasses the town centre of Korumburra. It is noted that the study area is slightly different to the town centre boundary identified within the Amendment C70 report noting that the study area has been chosen to capture the majority of off-street car parking facilities and car parking demand within Korumburra.

The Study Area is illustrated in Figure 1.2.

Figure 1.2: Subject Site and Environs



1.3 Reference Documents

In preparing this report, reference has been made to a number of background documents including:

- South Gippsland Shire Council Planning Scheme
- Korumburra Retail Centre Assessment 2007-2012 Update (Draft), prepared by Urban Enterprise Pty Ltd (March 2013)
- South Gippsland Amendments C52, C66, C70 and C71 Panel Report (8 November 2012)
- Korumburra Structure Plan (July 2010)

- traffic and car parking surveys undertaken by GTA Consultants as referenced in the context of this report
- Leongatha CBD Parking Strategy, 2013
- an inspection of the site and its surrounds.

2. Background and Context

2.1 Previous Reports

A number of previous reports have been prepared in respect of the Korumburra Town Centre, which provide relevant background to this study. A number of those reports are described in the following:

2.1.1 Korumburra and Leongatha Traffic Study

O'Brien Traffic in March 2008 prepared a traffic study for the Korumburra and Leongatha areas. This study included consideration in respect of both traffic and parking matters and included consideration of a bypass route around the Korumburra Town Centre.

Specific to this study however, the report made a number of recommendations regarding the provision of car parking. These recommendations are reproduced in the following:

"Recommended Short Term Actions

In appropriate order of importance:

- *Put in place a mechanism to secure future pedestrian through site links to Commercial Street that generally coincide with existing / proposed pedestrian facilities*
- *Consider encouraging development that also has a frontage into the rear car parks (terrain permitting) in addition to an active frontage to the main road;*
- *Change the restrictions in Commercial Street from a 2 to 1 hour limit and increase the level of enforcement of the restrictions;*
- *Relinemark the parking bays in the off-street car park area at the rear of the shops between Radovick and King Streets;*
- *Install large directional signage at key locations and reduce signage clutter where practicable;*
- *Consider not linemarking the parallel parking bays particularly in the main street to improve utilisation."*

"Recommended Longer Term Actions

In no particular order of importance:

- *Identify a preferred location for the new supermarket that in so far as is practicable, results in a larger integrated public car park that addresses the identified short comings of the existing parking. Assemble the required land if not already in Council ownership.*
- *Campaign for funding for a highway bypass to facilitate streetscape improvements and additional parking along Commercial Street."*

2.1.2 Korumburra Town Centre Report on Workshop

This report provides a summary of the outcomes of a workshop held in Korumburra in February 2010 which engaged with community representatives and stakeholders regarding the form of an urban design framework for the Korumburra Town Centre. In respect of traffic and parking matters a number of points were raised including:

- Vision for the Town Centre
 - Introduce a range of measures to significantly slow and calm vehicle movement.

- Pay particular attention to appropriate parking for visitors, mindful that caravanning is a popular way for visiting the region and parking can be a real challenge.
- Areas for improvement and Proposals
 - Angle of parking in Main Street.
 - Parking Signage (particularly for long vehicles).
 - One-way car park (Post Office).

2.1.3 Priority Development Panel Report, Korumburra Town Centre and Structure Plan

A Priority Development Panel (PDP) was appointed in May 2010 to provide input and guidance to the preparation of the Korumburra Structure Plan. A number of recommendations were made by the PDP with those relevant to this study reproduced below:

- *"Progress as a priority the preparation of a framework plan for the Town centre (as proposed in Section 3.5.1 of the Structure Plan) which should:*
 - *Build upon the momentum and outputs of the Town Centre Forum event conducted on 27 February 2010;*
 - *Encourage major retail, office and community proposals to concentrate on the core of the Town Centre, comprising the blocks bounded by Commercial Street, King Street, Victoria Street and Bridge Street;*
 - *Facilitate site assembly for larger retail or commercial premises within these core blocks (recognising the Shire roles as a significant landowner and service provider);*
 - *Address pedestrian connectivity, convenience and safety within the Town Centre, including opportunities for mid-block pedestrian links and road crossing points;*
 - *Provide a framework for townscape enhancement and traffic management planning; and*
 - *Consider guidance for the quality and effectiveness of public and private signage."*

2.1.4 Korumburra Central Site Assembly Plan 2012

MGS were appointed by South Gippsland Shire Council, to prepare a Site Assembly Plan for Korumburra Central. This report builds on work previously done on the Korumburra Town Centre and Structure Plan by the PDP. Aspects of transport and access are central objectives of the vision and role of central Korumburra. These include:

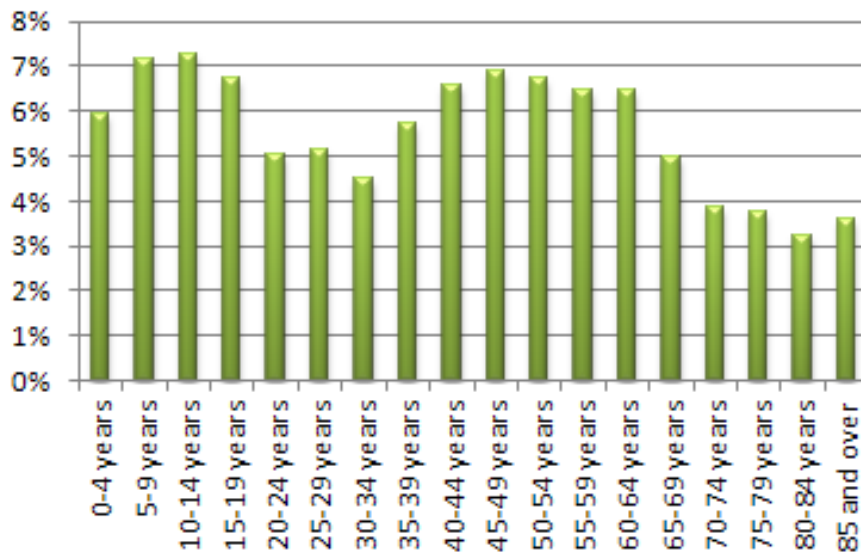
- To create an active town centre fostering vitality and walkability.
- To enhance the visual quality and pedestrian amenity of streets, public spaces and landscaping.
- To facilitate single-trip shopping, promote walkability and connectivity.
- To optimise all modes of transport.
- To utilise and optimise Council owned street parking and off-street parking; enhance the landscape quality and capacity.
- To encourage the pedestrian friendly bus stops, preferably with canopies integrated with shop frontages; consideration given to surveillance and entries to buildings, sidewalk street furniture and landscaping.
- To stimulate activity on both levels towards laneways, streets, parking and park interfaces.

2.2 Travel Characteristics

2.2.1 Demographics and travel behaviour

Figure 2.1 shows the age profile for Korumburra from the 2011 Census.

Figure 2.1: Korumburra Age Profile (ABS 2011 Census)



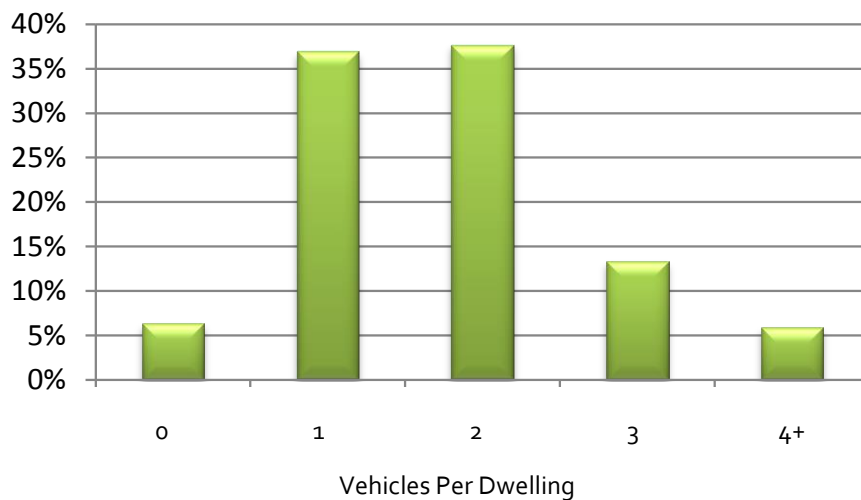
The age profile for Korumburra from the 2011 Census (Figure 2.1) has the following implication for transport and access:

- Approximately 27% of Korumburra’s population is aged 19 or under. This age group is likely to require alternative modes of transport such as safe and continuous walking and cycling routes and public transport services. In the absence of these alternative modes, it is likely that this age group will be heavily reliant on private vehicle transport by their parents or other adults. This is likely to entrench attitudes and habits with respect to transport behaviour from an early age.
- Approximately 19% of Korumburra’s population is aged 65 or older. This age group is likely to require a safe, convenient and accessible walking network and public transport options. As people move through this age group, the likelihood of them no longer being able to drive increases. As residents become unable to drive, they are likely to either rely on family and friends for mobility or move to a location with better access choices.
- Other groups within the community that are also less likely to be able to drive include disabled people and the socio-economically disadvantaged.

2.2.2 Car Ownership

Figure 2.2 shows car ownership for Korumburra.

Figure 2.2: Korumburra Car Ownership (ABS 2011 Census)



Analysis of the car ownership figures shows that:

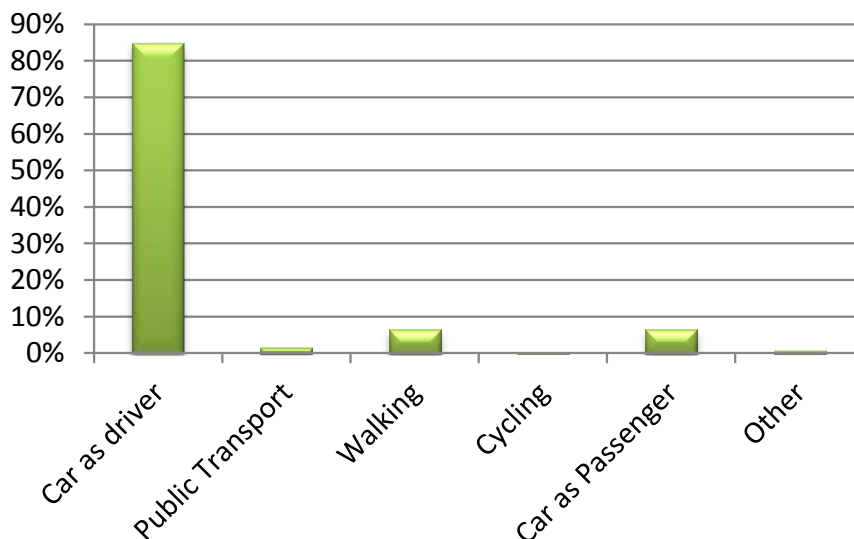
- A small proportion of households (6%) do not own a car, which is likely to reflect the lack of viable alternative options to the car for daily transport needs.
- A high proportion of households own one car (35%). This group typically benefits from improved walking, cycling and public transport options as it means that if one member of the household is using the car, the other member(s) still have alternative means of accessing employment, services, recreation and the like.

The provision of viable alternative means of transport is a key factor in households decreasing car use and ownership. This helps to overcome transport accessibility difficulties for those who are not able to drive, has environmental and health benefits and alleviates the financial pressure of running more than one car for lower income families.

2.2.3 Existing travel patterns

Figure 2.3 shows the Journey to Work data for Korumburra residents in 2011.

Figure 2.3: Korumburra Journey to Work (ABS 2011 Census)



Key points to note include:

- “Car driver” represents 85% of all journey to work trips, which is slightly higher than the State average and reflective of the relationship between small regional towns and greater car priority.
- Walking, cycling and public transport mode share of the journey to work trip is very low (<10%), which may reflect the relative lack of accessible employment opportunities within close proximity to Korumburra, and the relative ease and convenience of driving due to a lack of congestion. Such mode share could also be reflective of the lack of separated pedestrian and cycle facilities in order to access the Korumburra Town Centre.

It is important to note that journey to work only represents a small proportion of the total trips undertaken by Korumburra residents. However, it is considered likely that the mode share for all trips is generally similar to the journey to work data and data is not available for other trip types.

The travel patterns likely reflect a number of transport and land use conditions in the Korumburra town centre, such as:

- lack of viable and attractive alternative modes of travel (i.e. lack of local public transport services, discontinuous walking and cycling networks)
- relative ease and convenience of car travel (lack of congestion and convenient parking)
- dispersal of relevant land uses such as employment opportunities.

Notwithstanding these factors, it is likely that improvements to the local walking and cycling networks in the Korumburra town centre would result in a mode shift for shorter trips in particular, and provide additional options to those in society who don’t or can’t drive. Many of these people are not reflected in the journey to work statistics, as they are elderly, youth or disabled and may not be employed.

2.3 Consultation

In order to better understand the existing issues in the Korumburra Town Centre, public community consultation and stakeholder workshops were held on the 14 March 2013.

Some of the key items raised in relation to car parking which are relevant for considerations as part of this study are summarised in the following:

- perceptions of a lack of parking during peak demand periods in key areas of the town centre
- need for improved signage for car parking locations, including tourist traffic (large caravans/boat trailers/rv vehicles/horse floats)
- lack of appropriate street lighting for (and on route to) car parking areas on Little Commercial Street
- need for integration of car parking and public toilet facilities particularly in association with tourist needs (i.e. caravan parking)
- greater need for improved pedestrian connections between parking areas and key land uses
- need for consideration of increasing needs for mobility spaces and better access to car parking in the flatter areas of the town centre.

3. Existing Car Parking Conditions

3.1 Details of Data Collection

Car parking demand surveys of the study area were undertaken by GTA Consultants on Friday 14 February 2013, between 9:00am 5:00pm.

The survey date is considered typical and did not occur during school holiday periods or during the Christmas shopping period. It is noted that the weather during the survey period was sunny with a temperature of approximately 30 degrees.

Car parking demand surveys of all publicly accessible on and off street parking areas within the study area were undertaken every two hours (9:00am, 11:00am, 1:00pm, 3:00pm and 5:00pm). These surveys times are considered to be sufficient to capture the way in which car parking varies across the day.

It is noted that the car parking surveys recorded the number of parked vehicles at each particular survey time, however did include duration of stay surveys.

Details of the car parking inventory and surveys are discussed in the following sections. Full data and map is set out within Appendix A.

3.2 Car Parking Supply

The car parking inventory compiled by GTA Consultants identified the supply and restriction type of all publicly available spaces within the study area including:

- on-street car parking spaces
- formally marked off-street car parking spaces (on public and private land)
- informal off-street car parking (i.e. on private land) at the rear of businesses off Little Commercial Street.

For the purposes of analysis, the car parking data was generally categorised as follows:

- very short term (15 minutes or less) – Drop off and pick up parking
- short Term (between 30 minutes and 3 hours) – Short Term Parking
- long Term (unrestricted parking zones) – All Day Parking.

Table 3.1 outlines the parking restrictions observed within the study area and the amount of parking for each parking restriction type.

Table 3.1: Korumburra Study Area Car Parking Supply

| Parking Type | Supply |
|---------------------|------------|
| 15min or less | 11 |
| 30 min – 3 Hour [1] | 208 |
| Unrestricted | 587 |
| Disability | 13 |
| Loading | 6 |
| Taxi | 1 |
| Other [2] | 5 |
| Total | 831 |

[1] This grouping of parking reflects parking which could be typically used for short term shopper trips. It comprises a majority 2 hour parking with minor amounts of 30 minute and 3 hour parking.

[2] Other refers to specifically restricted areas such as 'No Standing Library Staff Excepted' and 'Church only parking'.

It is noted that car parking classified under the “No-Standing and Bus Zone” category was excluded from the general supply as these spaces are typically not available for use by the general public. Parking areas which included the restriction “no standing when flags displayed” were included in the supply and demand results for all parking counts noting that flags were not observed at the two applicable crossings during school start/finish times and that vehicles were observed parked in these areas during the 9:00am and 3:00pm counts. Consequently, car parking supply was constant for all parking categories during the car parking survey times.

3.3 Car Parking Demands

3.3.1 Overall Study Area

The observed parking demands during the survey day are provided in Table 3.2.

Table 3.2: Car Parking Demands

| Time | Supply | Demand | Occupancy |
|---------|--------|--------|-----------|
| 9:00am | 831 | 333 | 40% |
| 11:00am | 831 | 422 | 51% |
| 1:00pm | 831 | 413 | 50% |
| 3:00pm* | 831 | 433 | 52% |
| 5:00pm | 831 | 203 | 24% |

*Peak demand of study area

Table 3.2 shows that overall car parking demands throughout the centre are constant throughout the daytime period (11:00am – 3:00pm) with a noticeable reduction in car parking demands during the morning (9:00am) and early evening (5:00pm). The peak occupancy observed at 3:00pm represents an occupancy rate of 52%.

With respect to the capacity of public car parking, an occupancy greater than 85%¹ represents a situation where drivers are unable to identify where vacant spaces exist and subsequently represents effective capacity. Demands above these theoretical capacities can and do exist. However such levels of demand are associated with excessive vehicle circulation (i.e. unnecessary traffic generation) as drivers search for vacant car spaces, unless such parking areas are supported by improved car parking layout and/or management.

¹ Donald Shoup, *The Price of Parking on a Great Street*, Parking World, February 2009

The Korumburra survey results indicate that on the whole, more than adequate car parking exists to serve the Town Centre.

However, while the overall capacity is sufficient, it is also recognised that individual pockets of parking issues may also exist within the study area. For that reason it is also relevant to consider the sufficiency of different types of parking (i.e. restrictions) within the study area and localised areas. These are considered in the following sections.

3.3.2 Parking Type / Duration

Table 3.3 outlines the peak parking demands for individual parking restriction types during the observed peak car parking demand period (3:00pm).

Table 3.3: Car Parking Demands at Peak (3:00pm)

| Parking Type | Supply | Demand | Occupancy |
|-----------------|------------|------------|------------|
| 15min or less | 11 | 8 | 73% |
| 30 min – 3 Hour | 208 | 105 | 50% |
| Unrestricted | 587 | 314 | 53% |
| Disability | 13 | 2 | 15% |
| Loading | 6 | 1 | 17% |
| Taxi | 1 | 0 | 0% |
| Other | 5 | 3 | 60% |
| Total | 831 | 433 | 52% |

This data indicates that at the overall peak time of parking that all parking types remain generally within theoretical capacity limits. In addition to the peaks outlined above the following points are also noted with respect to the demand within individual parking types outside of the overall study area peak.

Disabled Parking

- Demands for disabled parking are higher during periods outside the overall peak (3:00pm) with occupancies levels of up to 38%.
- Disabled parking supplies represents 1.6% of all parking spaces within the study area which is consistent with the Building Code of Australia (BCA) which requires 1-2% of all parking to be allocated as disabled parking for typical retail type land uses.

15 Minute Parking

- 15 minute parking areas are less utilised outside of the overall study area peak time with occupancies less than 45%.
- Notwithstanding this, some areas of 15 minute parking within Commercial Street, the off-street parking area on Little Commercial Street near Boston Place as well as the off-street car parking area near the post office and bakery, experience higher demands.

Loading Areas

- Loading areas were generally busier (up to 33% occupancy) outside of the study area peak time with the loading zone on the eastern side of Commercial Street (near the tyre shop) often having no vacancies.

30 Minute to 3 Hour Parking Areas

- 30 minute to 3 hour parking areas peaked at 58% at 11:00am. Notwithstanding this, car parking demands in sections of Commercial Street were greater than 85% at different times with car parking demands in the car park near the post office also high (approximately 90%).
- Car parking demand for 30 minute to 3 hour parking were moderate in the Little Commercial Street car parks and Radovick Street.

Unrestricted Parking Areas

- Car parking demands were less than 50% at times outside of the overall study area peak.
- James Street was busy at 9:00am and 3:00pm with car parking demands in this area primarily associated with the Korumburra Primary School.
- Boston Place car parking demands were high throughout the day with some staff noted to park in these areas (likely due to 2P parking restrictions within the Little Commercial Street car park in the vicinity of Boston Place).
- The IGA car park peaked at 77% at 3:00pm noting that car parking demands at 5:00pm were 70% with car parking demands throughout the rest of the day moderate (less than 50%).
- The sealed car park at the rear of the Korumburra Masonic Centre had high car parking demands for marked car parking bays throughout the day (excluding 5:00pm) with peak demands equating to 86% occupancy.
- The off-street car parking area off Little Commercial Street near Mechanics Lane peaked at 74% occupancy for marked car parking bays at 11:00am, with moderate parking demands throughout the rest of the day.
- The area surrounding the Korumburra Public Toilet and Picnic Shelter was busy from 11:00am – 3:00pm with parking occupancies varying between 70% – 93%. (Note, many of the car parking spaces in this area are unmarked and not included within the formal supply). Car parking demands in this area appeared to comprise of people having lunch, making restroom stops as well as people visiting shops on the eastern side of Commercial Street.

3.3.3 Parking Location

The car parking demands within the study area have been broken into nine areas as outlined in Figure 3.1. This shows the demands at the peak time of the study area (3:00pm).

Figure 3.1: Car Parking Demands During Peak (3:00pm) by Location



In addition to the above figure, Table 3.4 shows the variation in car parking occupancy for each survey time for the parking precincts area throughout the day.

Table 3.4: Car Parking Temporal Variation by Location

| Area | Location | Time | | | | |
|------|--|--------|---------|--------|---------|--------|
| | | 9:00am | 11:00am | 1:00pm | 3:00pm* | 5:00pm |
| A | King Street | 20% | 15% | 30% | 20% | 5% |
| B | Area generally bounded by Commercial Street, Victoria Street, King Street and Radovick Street | 38% | 48% | 42% | 33% | 16% |
| C | Radovick Street | 50% | 69% | 66% | 56% | 25% |
| D | Commercial Street | 35% | 76% | 58% | 69% | 30% |
| E | Railway Car Park | 70% | 93% | 86% | 70% | 44% |
| F | Area generally bounded by Commercial Street, Victoria Street, Radovick Street and Bridge Street | 47% | 55% | 59% | 42% | 14% |
| G | IGA Car Park and South Railway Crescent | 20% | 39% | 36% | 50% | 45% |
| H | Off-Street car parks in the vicinity the Junction Hotel | 38% | 52% | 68% | 65% | 40% |
| I | Mine Road, Bridge Street, James Street and off-street car parks in the vicinity of Korumburra Primary School | 48% | 34% | 35% | 72% | 13% |

*Peak demand of study area

In addition to the data outlined above the following points are also noted with respect to the demand within general parking areas.

- Car parking demands on Commercial Street were far greater close to Radovick Street with car parking demands on Commercial Street lower in the vicinity of King Street.
- Car parking in the vicinity of the railway station are high throughout the day with most informal parking north of the post office observed to be longer term (likely staff) and informal/formal car parking to the south of the post office observed to be shorter term (visitors to the visitor centre and retail customers).
- IGA car park was noticeably busier at 3:00pm and 5:00pm compared with the rest of the day noting that this area as outlined in Table 3.4 also includes South Railway Crescent.
- Car parking in the vicinity of Korumburra Primary School peaked at 9:00am and 3:00pm with moderate demands throughout the rest of the day, noting that demands reduced significantly at 5:00pm (outside of school hours).
- The off-street car parks off Little Commercial Street were at their busiest at 11:00am and 1:00pm.

3.3.4 Impact of Private Parking

This supply and demand data does however include some car parking which exists within private land at the rear of shops and parking spaces within some Public Acquisition Overlay areas which could be removed and therefore no longer be available for car parking purposes in the future.

As a result reconsideration has been given to the available public car parking vacancies within the town centre. Removing parking vacancies recorded within these areas described above results in a revised quantum of 328 public parking vacancies within the town centre.

3.4 Car Parking Land Use Generation

3.4.1 Existing Centre Generation

Existing land use data for the study area within the township of Korumburra has been sourced from an Economic Assessment prepared by Tim Nott dated March 2013. This assessment identifies a total of 21,231 sqm² of floor space within the study area which includes 9,451 sqm of retail uses and 11,780 sqm of other land uses.

As described earlier a peak parking demand within the study area of 433 vehicles was observed at 3:00pm on a typical Friday. When applied to the current floor area this equates to a car parking demand of 2.04 car spaces per 100 sqm of floor area for the study area. It is acknowledged that some land uses may generate car parking at a higher rate and some at a lower rate, however on average the town centre generates car parking at a rate of 2.04 spaces per 100 sqm.

3.4.2 Comparison to Planning Scheme and Empirical Data

Table 3.5 has been prepared to show a comparison between South Gippsland Shire Planning Scheme parking requirements as well as typical empirical parking data for typical town centre land uses. The empirical data is based on surveys conducted by GTA and other traffic engineering consultants and includes a mix of existing land uses within and outside of metropolitan Melbourne as well as within regional centres.

Table 3.5: Comparison of Car Parking Rates

| Use | Rate | |
|-----------------|---------------------------------|-----------------------|
| | Planning Scheme (Column A rate) | GTA Empirical Rate |
| Office | 3.5 spaces / 100 sqm | 3.32 spaces / 100 sqm |
| Supermarket | 5.0 spaces / 100 sqm | 3.7 spaces / 100 sqm |
| Shop | 4.0 spaces / 100 sqm | 2.3 spaces / 100 sqm |
| Restaurant/Cafe | 0.4 spaces / patron permitted | 0.36 spaces / person |

The rates included within the above table indicate that Planning Scheme car parking requirements are typically higher than empirical evidence would suggest the rate at which car parking is generated for town centre land uses.

Having regard however for the car ownership and journey to work details discussed earlier within this report, it would typically be expected that car parking demand generated by land uses within the Korumburra Town Centre would be higher than or equal to the typical empirical data rate, as the latter includes metropolitan locations with greater access to public transport and active modes of travel).

Notwithstanding, the calculated average car parking generation rate for the Korumburra Town Centre would suggest that land uses do not generate car parking at rates any higher (and indeed below) that which the typical empirical data would suggest.

In addition the application of Planning Scheme car parking rates to the Korumburra Town Centre floor space would predict a car parking demand in the order of 750 – 800 spaces. This far exceeds that actually generated by the Town Centre (433 spaces), further justifying that land uses do not generate car parking at rates any higher (and indeed below) that which the typical empirical data would suggest.

² A total of 22160 sqm of floor space exists, however 928 sqm is vacant resulting in a subsequent 21231 sqm of active floor space.

3.5 Commercial Street Car Parking Safety

Throughout the review of car parking, consideration has been given to the safety of parallel car parking along Commercial Street.

In this regard it is acknowledged that traffic volumes are not excessive on Commercial Street, however observations indicate significant commercial vehicle movements do exist. In addition the gradient along Commercial Street can result in higher vehicle speeds than may typically be expected.

To assist, reference has been made to the Austroads Guide to Traffic Management Part 11: Parking which provides discussion in respect of the advantages and disadvantages of providing on-street parking in a parallel or angle configuration. In the regard the guide highlights the following:

Parallel Parking

- Advantages
 - *Road crashes associated with parking manoeuvres are minimised compared to angle parking.*
 - *It requires less lane width than angle parking.*
- Disadvantages
 - *The number of vehicles able to park along any given length of kerb is not as high as in angle parking*
 - *Manoeuvring into and out of spaces can cause disruption to other traffic.*

Angle Parking

- Advantages:
 - *It can accommodate up to twice as many vehicles per unit length of kerb as parallel parking.*
 - *The parking manoeuvre is easier for angle parking than parallel parking, especially for small angles.*
- Disadvantages:
 - *More roadway width is required for angle parking bays and associated parking manoeuvres.*
 - *All angle parking presents a greater hazard to road users than parallel parking. This situation is mainly due to the fact that parking at an angle always requires reversing which causes bottleneck effects in the moving traffic and may lead to collisions directly involving the reversing vehicle.*
 - *Sight/visibility issues and increased conflict with pedestrians crossing midblock.*

Considering the above advantages and disadvantages, the parallel configuration of parking is considered to be appropriate. However in recognition of the commercial vehicle volumes should a greater separation between parking lane and vehicle traffic lanes be able to be achieved this would be recommended.

The configuration of Commercial Street is not the subject of this parking study however the Korumburra Town Centre Framework Plan could give consideration to a number of options to create greater separation between parking and traffic lanes including:

- narrowing of through traffic lanes
- greater indentation of parking
- reduction of Commercial Street carriageway to a single lane in each direction.

4. Future Car Parking Demands

4.1 Future Floor Space

Future land use data has been referenced from the draft economic assessment report prepared by Tim Nott titled Korumburra Town Centre Framework Plan Economic Assessment, March 2013.

This report has identified future floor space projections for key land use groups for the years 2021 and 2031. These projections are reproduced within Table 4.1.

Table 4.1: Future Change in Land Use Data [1]

| Use | Future Floor Area Projections (sqm) | |
|---------------------------------|-------------------------------------|-----------|
| | Year 2021 | Year 2031 |
| Retail space requirement | 2,600 | 5,600 |
| Non-retail space (30% of total) | 1,100 | 2,400 |
| Total additional space | 3,700 | 8,000 |
| Existing vacant space | 900 | 900 |
| Net space requirement | 2,800 | 7,100 |

[3] Source: Tim Nott, Korumburra Town Centre Framework Plan Economic Assessment, March 2013

With respect to the future floor area projections outlined within Table 4.1 it is noted that Korumburra currently has a total of 21,231m² of floor space which includes 9,451m² of retail uses and 11,780m² of other land uses (non-retail space).

4.2 Current Car Parking Generation Rates

Based on the projected future floor areas within Korumburra and adopting the average centre car parking rate of 2.04 spaces / 100 sqm, the anticipated increase in car parking demand for both 2021 and 2031 is outlined within Table 4.2.

Table 4.2: Anticipated Increase in Car Parking Demand (based on current demand)

| Year | Floor Area Growth | Car Parking Rate | Increase in car parking demand |
|------|-------------------|-----------------------|--------------------------------|
| 2021 | 3,700 sqm | 2.04 spaces / 100 sqm | 75 spaces |
| 2031 | 8,000 sqm | 2.04 spaces / 100 sqm | 163 spaces |

The anticipated additional floor space is estimated to generate a future parking demand for some 75 and 163 spaces in 2021 and 2031 respectively.

4.3 Sensitivity Testing

While Table 4.2 outlines the anticipated increase in car parking demand based on the current peak car parking demand generation rate, it is important to consider the impacts should future car parking be generated at a rate higher to that currently observed.

In this instance a sensitivity test adopting a car parking generation rate of 3.0 car spaces per 100 sqm of additional floor area has been undertaken. This higher rate could reflect future higher levels of car ownership and modal choice, increased employee / shopper densities within new uses or general greater attractiveness and retention of escape shopping.

A rate of 3.0 spaces per 100 sqm is approximately 50% higher than the surveyed car parking rate within Korumburra of 2.04 spaces per 100 sqm. It is noted that this rate is less than the Planning Scheme minimum car parking rates for typical town centre land uses and is on average generally more consistent with the identified empirical car parking rates.

Based on the above sensitivity test, Table 4.3 outlines the anticipated increase in car parking demand adopting a car parking rate of 3.0 spaces / 100sqm for 2021 and 2031 respectively.

Table 4.3: Anticipated Increase in Car Parking Demand (sensitivity testing)

| Year | Floor Area Growth | Car Parking Rate | Increase in car parking demand |
|------|-------------------|----------------------|--------------------------------|
| 2021 | 3,700 sqm | 3.0 spaces / 100 sqm | 111 spaces |
| 2031 | 8,000 sqm | 3.0 spaces / 100 sqm | 240 spaces |

As a point of comparison the sensitivity test equates to an additional 36 and 77 spaces for 2021 and 2031 respectively over and above those anticipated by using the surveyed peak car parking demand.

5. Managing Existing Parking Demands

5.1 Overview

Having regard for the issues identified within the discussion of existing car parking conditions, a number of strategies have been developed to improve the management of car parking within the Town Centre. These strategies are discussed in the following sections.

In order to determine the basis for any applied car parking strategies for the Korumburra Town Centre, it is relevant to first understand some of the fundamental, overarching principles which relate to car parking and car park planning.

5.1.1 What is Car Parking?

As a general rule, land uses generate and attract patrons, customers, staff and / or residents. A bi-product of access to these land uses is, in its simplest form, a 'trip'. Trips can be made by a variety of methods including (but not limited to) walking, cycling, public transport and / or the private motor vehicle.

Where does car parking enter this equation? Car Parking provides an 'end of trip facility' for the private motor vehicle mode.

The type of land use has differing levels of attractiveness (i.e. trip generation) and therefore different requirements for car parking. Different uses also have different customer bases and in turn different needs in regard to their required length of stay. Accordingly, different types of car parking are required. For example pick up/drop off parking of 5 to 15 minutes, short term parking of 1 to 2 hours and long term parking (all day) to satisfy differing needs.

In an activity centre or town centre area, it is important both to recognise the differing user group needs and to attempt to balance the impacts that car parking can have on the centre.

There are various ways in which these parking demands can be accommodated:

- individually on each development site
- on-street
- public, off-street facilities.

The following parking strategy endeavours to explore the way in which parking for the study area is being provided currently and how demands should be accommodated both now and into future.

5.1.2 Parking Space Priority Allocation

It is recognised that car parking is a finite resource and as such, consideration needs to be given to the priority order in which drivers should have access to car parking. The considerations give regard to the mobility of drivers accessing a centre, the desire to promote sustainable and active modes of travel, and the servicing needs of businesses.

Table 5.1 indicates the typical priority allocation of parking.

Table 5.1: Priority Allocation of Parking

| Priority (Highest to Lowest) | | Description |
|------------------------------|--------------------------------|---|
| 1 | Safety Zone | Safety is the highest priority in all situations |
| 2 | Public Transport Zone | Public Transport is the second highest priority in all situations for efficiency, environmental and social equity reasons |
| 3 | Disabled Permit Zone | People with disabilities are the third highest priority across all situations for social equity reasons |
| 4 | Loading Zone | Loading Zones have a medium priority in all Activity Centre areas to support local economic activity |
| 5 | Customers | Customers have a medium priority in Major Activity Centres and residential areas |
| 6 | Commuters | Commuters have medium-low priority in Activity Centres and are a high priority in Park and Ride designated facilities |
| 7 | Local Employees | Local employees are encouraged to use either alternative modes or to use the least convenient car parking – leaving more convenient spaces for customers |
| 8 | Commercial | Using the kerb side for commercial activity is a low priority except in specific circumstances where Council has slowed traffic speeds and is encouraging pedestrian activity |
| 9 | Residents (including visitors) | Residents are the next highest priority in residential areas. In Major Activity Centres residents should not expect priority access to on-street parking |

Table 5.1 shows that disabled car parking, public transport and loading zones rate the highest, with traders and local employees, park and ride, and residents allocated the lowest priorities for car parking.

5.1.3 Walking Distance

Acknowledgement must be given to appropriate walking distances between car parking locations and a user's intended destination. Generally, the time and distance which drivers are prepared to walk depends on the length of time which will be spent at their destination. The acceptable walking distance can also be impacted by the quality of the pedestrian environment, gradients, climate, line of sight (can the destination be seen), and friction (barriers such as crossing busy roads).

Providing car parking within a close distance to a given destination has an impact on its desirability for staff and visitors to drive there. Furthermore, if car parking is within a proximate distance to a more general precinct, it can encourage/support multi-purpose trips and thus reduce the number of trips within the precinct.

The Victorian Transport Policy Institute paper on Shared Parking dated 4 September 2007 indicates the following walking distances as a guide for various activities as set out in Table 5.2.

Table 5.2: Acceptable Walking Distances [1]

| Adjacent (Less than ~50m) | Short (Less than ~250m) | Medium (Less than ~400m) | Long (Less than ~500m) |
|---|---|--|--|
| People with disabilities Deliveries and loading Emergency services Convenience store | Grocery store Professional services Medical clinic Residents | General retail Restaurant Employees Entertainment centre Religious institution | Airport parking Major sport or cultural event Overflow parking |

Note: This table assumes good pedestrian conditions.

[1] Source: Adapted from the Victorian Transport Policy Institute, Canada.

Table 5.2 shows that the uses whose customers would stay for the shortest time, typically accept the shortest walking distances. Conversely, the greater the time each user expects to spend at the destination, the longer they find it acceptable to walk. It is recognised that gradients within

Korumburra between parking areas and land uses are not always ideal to support easy walking. As such it could be considered that the distances identified within Table 5.2 Table 5.1 represent upper limits.

5.2 Car Parking Management Strategies

5.2.1 Modification of Parking Restrictions

As discussed previously, while Korumburra 'overall' experiences moderate peak parking demands, there are isolated areas which experience greater levels of congestion. To ensure the turnover of parking spaces in such areas is increased and appropriate user priority is given, the following modifications to car parking restrictions are recommended:

- Provide an additional two 15 minute parking spaces on Commercial Street immediately south of the signalised pedestrian crossing. The introduction of additional short term parking will also assist to provide for the loading needs of adjacent uses given the high utilisation of the existing loading zone that was recorded during car parking surveys.
- Provide an additional two 15 minute parking spaces within the off-street car park adjacent to the post office and bakery to prioritise very short term car parking near key parking demand generators. Such a short restriction promotes turnover within these high priority areas and minimises the likelihood of these parking events serving multi-purpose trips which can inadvertently extend beyond their intended duration.
- Convert all 2 hour parking spaces on Commercial Street to a 1 hour parking restrictions (unless other restriction has been specified). Commercial Street currently represents the priority parking area within the town centre and restrictions should be reflective of this and encourage parking turnover.
- Modify car parking restrictions within the Little Commercial Street off-street car parking areas including:
 - Introduce additional 2 hour parking restrictions in areas closest to Radovick Street. This will provide short term parking areas closest to convenient pedestrian links to Commercial Street (at present this parking is being used for staff parking, which results in customers having to park at more distant less desirable locations).
 - Convert some existing angled 2 hour spaces between Radovick Street and Bridge Street to unrestricted parking spaces to off-set loss of converted spaces recommended above.

These recommendations are also shown in Figure 5.1.

In association with modifications

- Continue to monitor car parking conditions in these areas and with particular regard to future/changed land uses and make additional changes as required.
- Continue and increase parking enforcement to ensure parking is being used as intended by the posted parking restrictions.

Figure 5.1: Car Parking Management Recommendations



5.2.2 Car Parking Enforcement

Parking enforcement is important to ensure the parking system is used as designed (i.e. drivers are using appropriately restricted spaces). This encourages car parking turnover and the efficient use of parking spaces for multiple users in short term parking areas proximate to retail activity areas.

While car parking surveys did not specifically identify driver duration of stay (and as such compliance to restrictions) it is recommended that regular enforcement patrols should be continued to maintain and improve where possible existing driver compliance.

5.2.3 Car Parking Signage

On-site observations by GTA indicate that car parking signage (identifying key off-street car parking locations) throughout the town is limited/poor, in particular the visibility of Little Commercial Street car park as a car parking area (for visitors to Korumburra in particular). Every car journey consists of a number of key components. However most important in terms of car parking is near the end of the journey when a driver has reached their general destination (e.g. Korumburra Town Centre) and circulates to find a car parking space before walking from their car park to their intended destination. If the time spent circulating to find a car park can be minimised, it is likely that a driver will accept a greater walking distance to their final destination. However a driver who spends a long time circulating

due to high parking demands or poor visibility of vacant spaces before being forced to park on the periphery of the area is less likely to accept a greater walking distance as appropriate.

Wayfinding signage is therefore an important tool in car parking management by:

- ensuring the most efficient use of all available spaces by highlighting parking areas which may not be initially visible or known to drivers
- reducing road network congestion caused by vehicles circulating to find a car space
- assisting drivers to reach their parking location as quickly as possible.

On-site observations by GTA indicate that car parking signage identifying key off-street car parking locations throughout the town is poor, in particular the visibility of Little Commercial Street car park as a car parking area. In particular visitors to Korumburra are unlikely to be aware of that car park.

As such, improvements to car parking signage are recommended as follows:

- Provide coordinated parking signage in the Town Centre.
- Highlight location of key parking areas (i.e. Little Commercial Street).
- Design and position signage to maximise visibility and preparation of drivers for parking decisions that they are made in a safe and timely manner; (note that signage should make key areas and access points more visible from both the South Gippsland Highway and from other streets such as Radovick Street, King Street and Bridge Street).
- Highlight the type and quantum of parking which is available within particular areas.

Typical signage concepts which could be considered are shown in Figure 5.2.

Figure 5.2: Car Parking Signage Concepts



Figure 5.3 indicates recommended car parking signage locations and the typical sign type (referenced from Figure 5.2) which may be considered at each location. The sign type and design will however ultimately be required to be integrated with the existing and future signage for the town centre.

Figure 5.3: Recommended Car Parking Signage Locations



5.3 Recreational Vehicle / Caravan / Trailer Parking

Located on the route between Melbourne and tourist destinations further east (e.g. Wilsons Promontory, the Gippsland Lakes) and as part of the 'alternate route' to Sydney, Korumburra benefits from tourist trade. While tourists can in most part be catered for by short term parking, such parking does not typically accommodate the needs of tourists requiring caravan, boat trailer or recreational vehicle parking.

In response to this need, a caravan parking area was created in 2010 in the Little Commercial Street parking area (between Radovick Street and King Street).

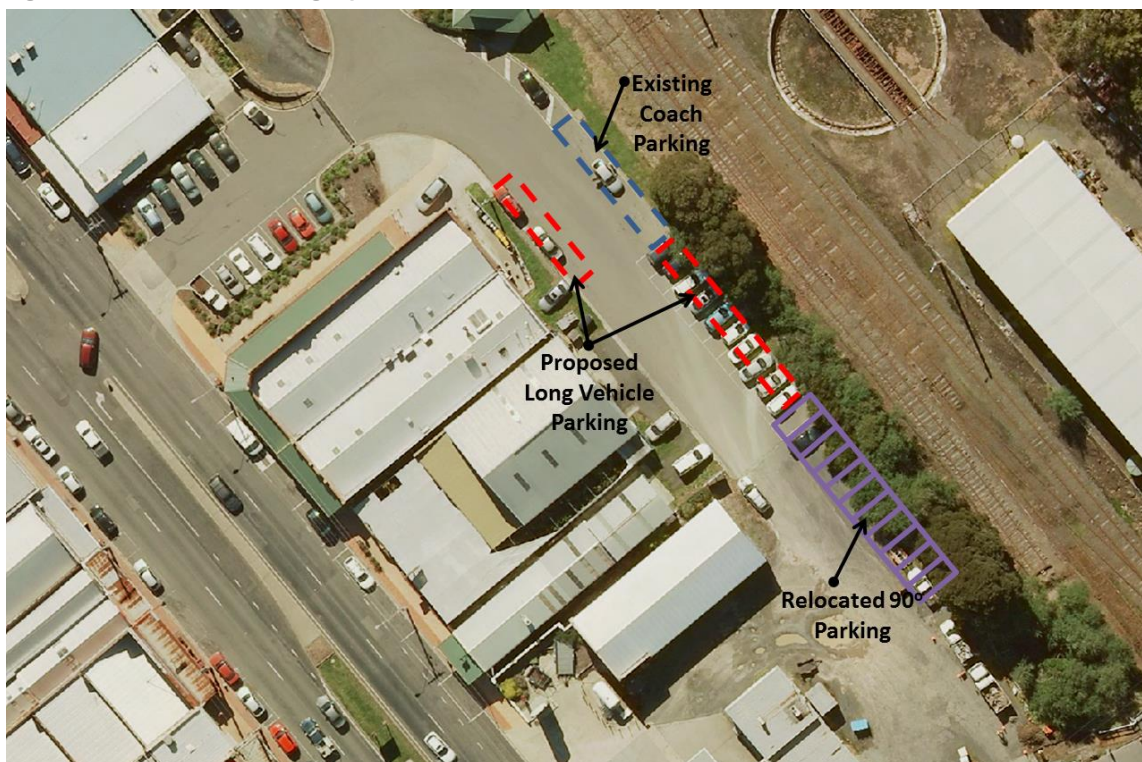
This long vehicle parking area is identified by small blue signs on South Gippsland Highway at Radovick Street and King Street intersections, however there are no follow up signs or signs within the Little Commercial Street car park to further direct to this parking area. Additionally, the caravan parking area is not located close to the public toilet facilities, the information centre, the take-away food retailers or the grocery retailer in the town.

Consequently, improvements to the caravan parking facilities are recommended as follows:

- Install clear caravan parking directional signage along Commercial Street at Radovick Street and King Street. This could be incorporated within the recommended overall car parking signage improvements identified above.
- Install caravan parking directional signage in both Radovick and King Streets at access locations to the caravan parking areas. This could be incorporated within the recommended overall car parking signage improvements identified above.
- Install caravan parking directional signage along Commercial Street at access locations to new caravan parking locations as discussed below.
- Line mark and / or sign the designated caravan parking area within Little Commercial Street as being designated for caravan parking.
- Line mark two new parking bays for caravan parking within the vicinity of the existing visitor centre (adjacent to existing bus parking). A loss of formalised/marked car parking bays could be compensated by relocating formal marked parking bays in this area further south toward Bridge Street. This concept is shown within Figure 5.4
- Access to the new area could be considered through two potential entry options as follows:
 - Via Bridge Street, or
 - Using the access road to the railway car park (access from Commercial Street just north of retail shopping strip). This option would however require additional engineering investigations by Council to ensure this access road provides a suitable turning radius, gradient and pavement sealing / finish.
 - It is recommended that entry movements to this new caravan parking area not be permitted through the car park between the post office and bakery. Long vehicle entry through that access would result in conflicts both between the long vehicles and short term parking vehicles and entry queuing by long vehicles congesting southbound through traffic on Commercial Street.
 - Such access could also be considered for utilisation by Coaches accessing the area to minimise vehicle and pedestrian conflicts when turning through the Post Office car park area.
- In lieu of providing additional caravan parking near the visitor centre, consideration could be given to providing new toilet facilities in the immediate vicinity of the existing caravan parking spaces to make them more attractive to caravan owners.

Given their size, it is difficult for caravans to turn around or make last minute turns. Consequently it is important to provide clear and timely information to drivers about the location of caravan parking areas. Improved signage and additional caravan parking spaces will assist caravan owners in finding suitable car parking within the Korumburra town centre.

Figure 5.4: Caravan Parking Option



5.3.1 Pedestrian Connections

Appropriate pedestrian connections need to be provided between parking areas and land use attractors.

These connections can help to reduce (at least in part) the walking distance between a user's parking location and their destination.

It is however recognised that it is not the role of this parking strategy to identify and make recommendations in respect of the pedestrian and access network within Korumburra. This will form part of the overall framework plan preparation and the separate access and circulation considerations.

Notwithstanding this parking strategy intends to highlight that there is a need to create quality pedestrian connections between all parking areas to the land use attractors and currently a number of issues exist which limit these connections being provided. In this regard the following comments are made:

- A lack of mid-block pedestrian connections exist between Little Commercial Street parking areas and Commercial Street resulting in longer pedestrian journeys between shopping and parking areas.
- There is a lack of pedestrian facilities (paths and lighting) within Little Commercial Street parking areas linking to the external road network and surrounding pedestrian infrastructure.

In light of the above, the following connections are recommended for providing or (if already existing) formalising and improving:

- Midblock links between Little Commercial Street parking areas and Commercial Street. This is needed to minimise walking distance from car parking location to destination.

- Pedestrian paths connecting Little Commercial Street parking areas to King, Radovick and Bridge Streets. This acknowledges that it may be difficult to create connections through private buildings directly to Commercial Street and therefore we need to create quality all weather connections from the car parks to the road network footpath system.
- The quality of the pedestrian environment from a lighting perspective within the Little Commercial Street parking areas also needs to be improved.

These pedestrian routes are demonstrated within Figure 5.5.

Figure 5.5: Recommended Pedestrian Connections



5.4 Car Parking Layout

As part of this study consideration has been given to the sufficiency of car park layouts throughout the study area. Given the sufficiency of existing car parking provisions (in respect of quantum) a focus has not been made on modifying layouts to increase the supply of parking, rather improving the layout of parking and if necessary potentially losing small amounts of car parking to facilitate such improvements. In this respect the following improvements are recommended to Korumburra Town Centre’s parking area:

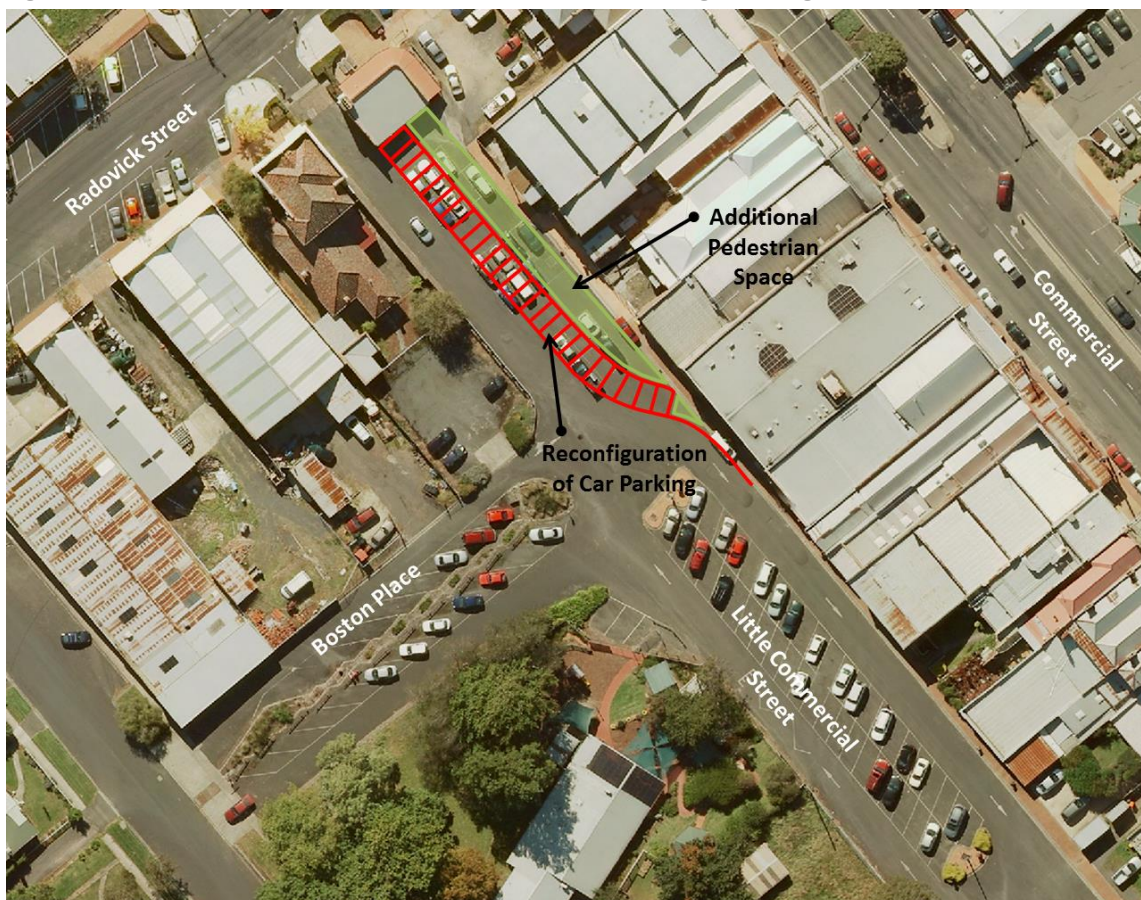
Rear of Commercial Street Shops (near Visitor Centre)

- Seal car parking area at the rear of north side Commercial Street shops and service station between the public toilets and Bridge Street. Line mark additional 90 degree parking spaces (approx. 9 spaces) to maximise and designate car parking spaces in order to make space for a new caravan parking area.

Little Commercial Street

- Reconfigure the car parking within Little Commercial Street immediately south of Radovick Street. This applies to the area which has dead end parking aisles. Figure 5.6 shows an indicative sketch of the concept with the existing two way access aisle to be retained and the provision of one row of 90 degree car parking spaces (4.9m long, 2.6m wide with an adjacent 6.6m wide aisle). It is noted that re-alignment of this car parking area would likely result in a limited loss of car parking spaces (assuming that a disabled car parking space is to be retained with an associated shared zone). This reconfiguration would provide for improved operation and circulation within the area, greater opportunities to provide for north south pedestrian movements and provides a more consistent car parking configuration with the rest of the parking areas.

Figure 5.6: Recommended Little Commercial Street Car Parking Reconfiguration



- Crossovers from Little Commercial Street to Bridge Street, Radovick Street and King Street to be formalised as road crossings (as opposed to being configured as driveway crossovers) with Australian Standard DDA treatments (i.e. tactile markers) for pedestrians crossing the

access points. Additionally, it is recommended that Council investigate upgrading the quality of the road surface of the access points/roadways leading to the Little Commercial Street car parking area. The formalisation of road crossings and the provision of additional car parking signage as discussed earlier within this report will assist to highlight these car parking access points clearly to motorists.

- Formalise all parking off Little Commercial Street with kerb and channel including entire areas at the rear of shops to better delineate safe passage for vehicles and pedestrians.

6. Accommodating Future Parking Demands

6.1 Future Parking Demand

As discussed in Section 4, future car parking demands have been estimated based on predicted commercial growth in the town centre with a 'sensitivity test' applied to allow a safety margin in the event of both future increased trip generation and car usage being higher than the current rates.

It was established that based on current average car parking generation rates the town centre could be expected to generate an additional car parking demand in the order of some 75 and 163 spaces in 2021 and 2031 respectively.

As a point of comparison a sensitivity test adopting high car parking generation rates indicated an additional car parking demand of 111 spaces and 240 spaces in 2021 and 2031 respectively. This equates to an additional car parking demand of 36 and 77 spaces for 2021 and 2031 respectively over and above those anticipated by utilising the surveyed peak car parking demands.

Accommodation of the future car parking demands is considered in the following sections.

6.2 Ability to Use Existing Parking Vacancies

Existing vacant car parking represents a parking resource which should be included when designing a car parking system. This spare parking capacity can often represent the most proximate and attractive parking for visitors to developments and can effectively and efficiently be shared between multiple land uses, particularly if their peak parking requirements occur at different times of the day.

By excluding spare parking capacity from calculations of the parking spaces required for a new development, there is a risk that car parking provided on-site will be underutilised. As such, in establishing the most appropriate way in which to cater for the future car parking demands, some reliance on existing vacant parking should be considered.

Given the spare capacity of Korumburra's existing car parking, it is recommended that existing vacant car parking could satisfy future development car parking demands.

In this regard consideration must be given to the existing conditions car parking situation within Korumburra, as discussed earlier within this report to understand the availability of car parking to accommodate future parking needs.

Car parking data for the overall study area as discussed within Section 3 indicates at the peak time of parking a total car parking supply of 831 spaces, a peak car parking demand of 433 spaces and subsequently 398 vacant car parking spaces.

As identified within Section 3.3.4 this supply and demand data does however include some car parking which exists within private land at the rear of shops and parking spaces within some Public Acquisition Overlay areas which could be removed and therefore no longer be available for car parking purposes in the future.

Removing parking vacancies recorded within these areas described above results in a revised quantum of 328 public parking vacancies within the town centre.

On the basis that no additional car parking is provided in conjunction with new development in the town centre, the existing available car parking vacancies would be sufficient to accommodate the likely future generated demands (based on the existing average town centre parking rate and the sensitivity rate tested). On this basis, there does not appear to be any warrants for Council to investigate or initiate the planning for any significant future car parking supply increases.

6.3 Future Land Use Development

Notwithstanding the above discussions which identify that sufficient car parking exists to accommodate future parking demands, it must be recognised that significant future land use developments (such as a supermarket) is likely to seek to provide at least a portion of its parking needs on its own site.

Such a parking provision provides an amenity and convenience to customers which are often considered important by developers. In particular this is likely in the context of Korumburra, given the gradients associated with nearby parking areas and the ability to provide an attractive environment for trolley users.

As such it is likely that additional car parking would be provided as a part of at least some new development within the study area, meaning that not all the existing vacancies would be used to accommodate the future parking demands.

6.4 Need to Retain Public Acquisition Overlay

A number of years ago a public acquisition overlay was introduced within the area along Little Commercial Street to facilitate the provision of car parking within this area. A majority of the area has since been developed to provide formal car parking areas. It is however understood that a number of areas are yet to be acquired or developed and as such Council is seeking comment as part of this study whether an acquisition overlay is needed to remain on these land areas.

On the basis of the above discussions which indicate the sufficiency of existing car parking to accommodate future car parking demands, it is unlikely that there is a fundamental car parking need to retain the existing Public Acquisition Overlay (PAO) areas which are currently not being used to provide formal car parking facilities.

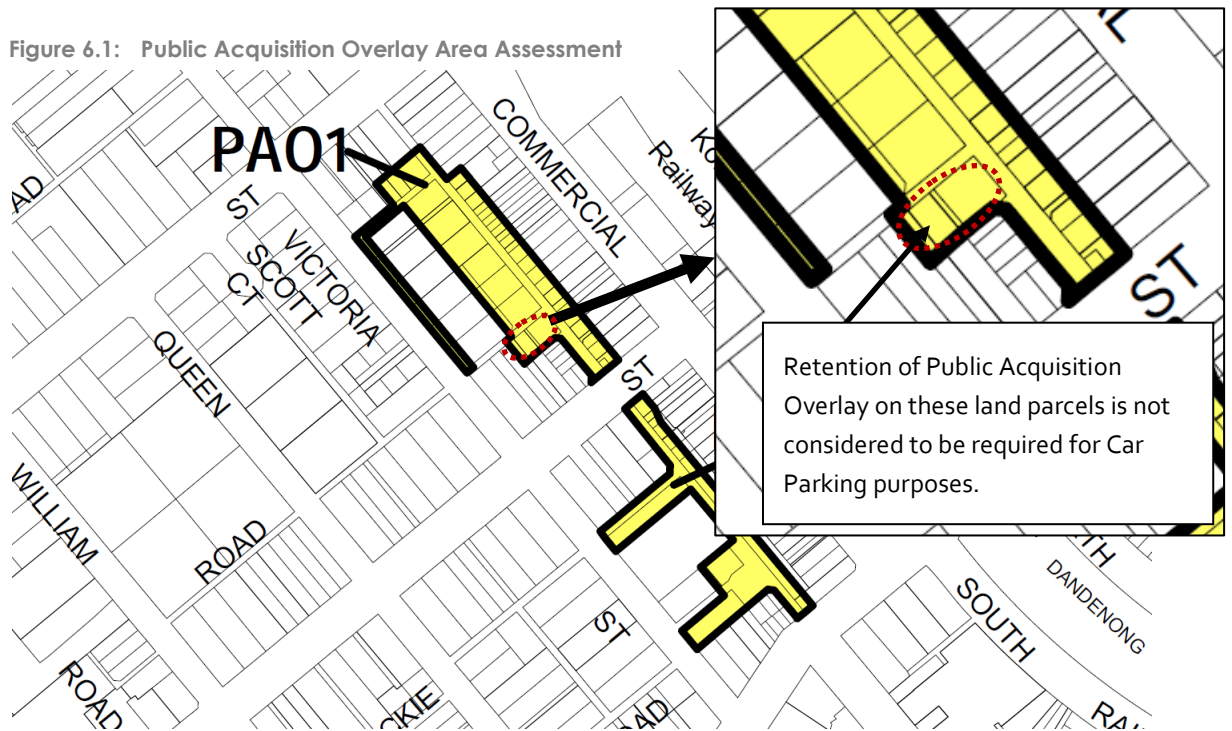
There may however be other reasons from the overall planning or framework plan development perspective that governs the need to retain the PAO to improve pedestrian connections, provide buffer zones to adjacent residential properties or to provide parking because of significant parking loss to achieve other benefits for the area.

It could be most relevant to retain the PAO nearest King Street to provide some greater flexibility in considerations of supermarket type developments (should it be determined that a supermarket be most appropriately located in this area) and any provision of parking.

It could also be relevant to retain the PAO along the rear of buildings along Little Commercial Street to hopefully in the future be able to formalise parking within this area and provide improved pedestrian connections.

As such Figure 6.1 identifies the PAO area which could be considered to be removed from a car parking perspective.

Figure 6.1: Public Acquisition Overlay Area Assessment



7. Summary and Conclusions

From the discussions and analysis presented within this report the following summary of car parking conditions and subsequent recommendations can be made:

Car Parking Conditions

- Car ownership and journey to work statistics indicate a high reliance on the private motor car within Korumburra, emphasising the need to appropriately provide car parking facilities to serve the town.
- A supply of 831 car parking spaces exist within the town centre being made up of a mix of time restrictions and on-street and off-street locations. Removing private parking vacancies recorded within these areas described above results in a revised quantum of 328 public parking vacancies within the town centre.
- A peak car parking demand across the overall study area of 433 spaces was recorded at 3:00pm which reflects a 52% occupancy of car parking spaces.
- While the overall area demonstrates an occupancy of 52%, it is also recognised that individual pockets of parking (either locations or types of parking) exist which may experience higher occupancies.
- Applying the existing overall town centre floor space of 21,231 sqm to the peak parking demands of the centre indicate that the current town centre generates car parking at an average rate of 2.04 spaces per 100 sqm.
- Applying the average centre car parking rates of 2.04 spaces per 100 sqm to the anticipated future net growth of the town centre (Year 2021 – 3700 sqm, Year 2031 – 8000 sqm) a future additional car parking demand of 75 spaces and 163 spaces could be expected in years 2021 and 2031 respectively.
- A sensitivity test applying a rate of 3.0 spaces per 100 sqm modifies this to 111 spaces and 240 spaces in 2021 and 2031 respectively.
- Suitable car parking vacancies exist in order to accommodate the future car parking demands which could be generated by increased development within the town centre.
- It is recognised that some developments will seek to provide a level of on-site parking to provide a greater level of amenity to their staff and customers.
- The sufficiency of existing car parking to accommodate future car parking demands indicates that it is unlikely that there is a fundamental car parking need to retain the existing Public Acquisition Overlay (PAO) areas which are currently not being used to provide formal car parking facilities.

Key Recommendations

- In order to manage existing car parking demands, recommended actions include:
 - Modifications to parking restrictions to increase the turnover of car parking in car parking areas which are currently congested during periods of the day and as such increase the availability of car parking in these areas.
 - Implementation of an improved parking signage to highlight key car parking locations and types of parking available.

- Provision of caravan parking facilities around the existing visitor centre and public toilet facilities and improvements to existing caravan parking spaces.
 - Improvements to pedestrian connections to minimise walking distances and increase amenity between parking areas and key destinations locations.
 - Improvements to car parking layouts in the Little Commercial Street car park.
- Consider the removal of the Public Acquisition Overlay from land parcels as shown in Figure 6.1.

Appendix A

Appendix A

Existing Car Parking Survey Results

| Street | Side | Between | | Restriction | | | Demand | | | | | |
|--------------------------------------|----------------|----------------------------------|---|--------------------------------------|----------------|---------|--------|-------------------------|---------|--------|--------|--------|
| | | | | Type | Hour | Day | Supply | Friday 15 February 2013 | | | | |
| | | | | | | | | 9:00am | 11:00am | 1:00pm | 3:00pm | 5:00pm |
| Elizabeth Street / Commercial Street | E | Opp. King Street | Ped Signals near Radovick Street | Loading Zone | | | 2 | 0 | 2 | 2 | 1 | 0 |
| | | | | 2P | 9:30am-5:30pm | Mon-Fri | 8 | 3 | 8 | 5 | 1 | 5 |
| | | Ped Signals near Radovick Street | Bridge Street | 2P | 9:30am-5:30pm | Mon-Fri | 7 | 2 | 7 | 7 | 7 | 1 |
| | | | | | 9:00am-12:15pm | Sat | | | | | | |
| | | | | 2P | 9:00am-5:30pm | Mon-Fri | 4 | 2 | 2 | 2 | 3 | 0 |
| | | | | | 9:00am-12:00pm | Sat | | | | | | |
| | W | Bridge Street | Radovick Street | Taxi Zone | | | 1 | 0 | 0 | 0 | 0 | 0 |
| | | | | 1/4P | 9:30am-5:30pm | Mon-Fri | 2 | 1 | 1 | 0 | 2 | 1 |
| | | | 9:00am-12:15pm | Sat | | | | | | | | |
| | | 2P | 9:30am-5:30pm | Mon-Fri | 20 | 8 | 15 | 12 | 17 | 5 | | |
| | | | 9:00am-12:15pm | Sat | | | | | | | | |
| | | Radovick Street | King Street | 2P | 9:30am-5:30pm | Mon-Fri | 3 | 0 | 1 | 0 | 3 | 1 |
| | | | | | 9:00am-12:15pm | Sat | | | | | | |
| | | | | P (Disabled) | | | 1 | 0 | 1 | 0 | 0 | 0 |
| Loading Zone | | | | | 2 | 0 | 0 | 0 | 0 | 0 | | |
| 2P | 9:30am-5:30pm | | | Mon-Fri | 21 | 10 | 18 | 13 | 14 | 7 | | |
| | 9:00am-12:15pm | | | Sat | | | | | | | | |
| South Railway Crescent | E | Bridge Street | End of 90 Degree Parking Area near Henry Street | Unrestricted | | | 48 | 11 | 15 | 18 | 16 | 11 |
| | | | | Unrestricted | | | 6 | 0 | 0 | 0 | 0 | 0 |
| | W | Henry Street | Bridge Street | Unrestricted | | | 8 | 3 | 3 | 3 | 0 | 2 |
| | | | | P (Disabled) | | | 1 | 0 | 0 | 0 | 0 | 0 |
| | | | | Unrestricted | | | 2 | 0 | 0 | 0 | 0 | 0 |
| | | | | Unrestricted | | | 2 | 0 | 0 | 0 | 0 | 0 |
| Mine Road | E | Bridge Street | No.17 Mine Road (opp. John Street) | 2P | 9:00am-5:30pm | Mon-Fri | 5 | 4 | 4 | 2 | 5 | 0 |
| | | | | | 9:00am-12:00pm | Sat | | | | | | |
| | | | | 1/4P | 9:00am-5:30pm | Mon-Fri | 2 | 0 | 0 | 0 | 1 | 0 |
| | | | | | 9:00am-12:00pm | Sat | | | | | | |
| | W | John Street | Wrenchs Lane | No Standing when flags are displayed | | | 8 | 0 | 1 | 0 | 6 | 2 |
| | | | | 2P | 9:30am-5:30pm | Mon-Fri | | | | | | |
| | | | | | 8:00am-12:00pm | Sat | | | | | | |
| | | | | Unrestricted | | | 3 | 1 | 1 | 0 | 3 | 0 |
| | | | | Unrestricted | | | 4 | 0 | 0 | 0 | 3 | 1 |
| | | | | No Standing when flags are displayed | | | 1 | 0 | 0 | 0 | 1 | 0 |
| James Street | E | Bridge Street | Wrenchs Lane | Unrestricted | | | 12 | 11 | 3 | 3 | 13 | 1 |
| | | | | Unrestricted | | | 6 | 4 | 0 | 0 | 6 | 0 |
| King Street | N | Victoria Street | Sports Lane | Unrestricted | | | 5 | 1 | 0 | 1 | 1 | 0 |
| | | | | Unrestricted | | | 1 | 0 | 0 | 0 | 0 | 0 |
| | | | | Unrestricted | | | 2 | 1 | 1 | 1 | 0 | 0 |
| | | Elizabeth Street | Little Commercial Street | No Standing (Library Staff Excepted) | 8:30am-5:30pm | Mon-Fri | 1 | 1 | 1 | 1 | 1 | 0 |

| | | | | | | Demand | | | | | | | |
|--------------------|--|--------------------------|--------------|---------------------------------------|--------------------------------------|-------------------------|----------------|---------|---------|--------|--------|--------|---|
| | | | | | | Friday 15 February 2013 | | | | | | | |
| Street | Side | Between | | Restriction | | | Supply | 9:00am | 11:00am | 1:00pm | 3:00pm | 5:00pm | |
| | | | | Type | Hour | Day | | | | | | | |
| | S | Elizabeth Street | | Little Commercial Street | 2P | | | 4 | 1 | 1 | 2 | 2 | 1 |
| | | Little Commercial Street | | Victoria Street | Unrestricted | | | 7 | 0 | 0 | 1 | 0 | 0 |
| Broughton Place | S | Victoria Street | | Little Commercial Street | Unrestricted | | | 7 | 1 | 0 | 0 | 1 | 5 |
| Radovick Street | N | Victoria Street | | Little Commercial Street | 2P | 9:00am-5:30pm | Mon-Fri | 10 | 3 | 6 | 6 | 3 | 0 |
| | | Little Commercial Street | | Commercial Street | 2P | 9:00am-5:30pm | Mon-Fri | 7 | 4 | 5 | 4 | 5 | 6 |
| | S | Commercial Street | | Little Commercial Street | 2P | 9:00am-5:30pm | Mon-Fri | 4 | 1 | 4 | 4 | 3 | 2 |
| | | | | | P (Disabled) | | | 1 | 1 | 1 | 1 | 0 | 0 |
| | | Little Commercial Street | | Victoria Street | 2P | 9:30am-5:30pm | Mon-Fri | 10 | 7 | 6 | 6 | 7 | 0 |
| | | | | | | | 9:00am-12:00pm | Sat | | | | | |
| Boston Place | North side of median | Victoria Street | | Little Commercial Street | Unrestricted | | | 8 | 6 | 6 | 6 | 5 | 2 |
| | South side of median | Little Commercial Street | | Victoria Street | Unrestricted | | | 11 | 10 | 10 | 11 | 9 | 2 |
| Bridge Street | N | Opp. James Street | | Victoria Street | Unrestricted | | | 12 | 3 | 3 | 3 | 3 | 1 |
| | | Victoria Street | | Little Commercial Street | 2P | 9:00am-5:30pm | Mon-Fri | 6 | 1 | 2 | 2 | 2 | 1 |
| | | | | | | 9:00am-12:00pm | Sat | | | | | | |
| | | | | | | 2P | 9:00am-5:30pm | Mon-Fri | 6 | 0 | 0 | 0 | 1 |
| | | | | | No Standing when flags are displayed | | | | | | | | |
| | S | Little Commercial Street | | Commercial Street | 2P | 9:30am-5:30pm | Mon-Fri | 4 | 3 | 3 | 2 | 2 | 2 |
| | | | | | | 9:00am-12:15pm | Sat | | | | | | |
| | | South Railway Crescent | | Mine Road | Loading Zone | 3:00am-6:00pm | | 2 | 0 | 0 | 0 | 0 | 0 |
| Mine Road | | | James Street | Taxi Zone | 6:00pm-3:00am | | | | | | | | |
| Car Parking Area A | Uniting Church Car Park | | | Unrestricted | | | 17 | 13 | 6 | 5 | 17 | 1 | |
| | | | | P (Disabled) | | | 1 | 1 | 0 | 1 | 1 | 0 | |
| Car Parking Area B | Primary School | | | Church Only Parking | | | 2 | 1 | 0 | 0 | 2 | 0 | |
| | | | | Unrestricted | | | 19 | 19 | 19 | 19 | 19 | 5 | |
| | | | | P (Disabled) | | | 1 | 1 | 1 | 1 | 1 | 0 | |
| Car Parking Area C | Police Station | | | Deliveries Only | | | 2 | 0 | 0 | 1 | 0 | 0 | |
| | | | | Unrestricted | | | 6 | 0 | 1 | 2 | 2 | 1 | |
| Car Parking Area D | Austral Hotel | | | P (Disabled) | | | 1 | 0 | 0 | 0 | 0 | 0 | |
| | | | | Unrestricted (Marked Bays) | | | 11 | 2 | 2 | 7 | 4 | 4 | |
| Car Parking Area E | Austral Hotel | | | Unrestricted (Gravel Car Park) | | | 12 | 7 | 12 | 15 | 12 | 9 | |
| Car Parking Area F | Car Park off Mine Road | | | Unrestricted (Marked Bays) | | | 13 | 5 | 8 | 8 | 12 | 2 | |
| Car Parking Area G | Car Park at rear of Italian Club | | | Unrestricted (Unmarked Bays) | | | 12 | 5 | 6 | 7 | 7 | 4 | |
| Car Parking Area H | IGA Car Park | | | Unrestricted | | | 65 | 13 | 32 | 25 | 50 | 47 | |
| | | | | P (Disabled) | | | 2 | 0 | 1 | 2 | 0 | 0 | |
| Car Parking Area I | Italian Club Car Park off Bridge Street | | | Unrestricted | | | 9 | 2 | 2 | 4 | 4 | 4 | |
| Car Parking Area K | Senior Citizens Centre | | | 3P (tagged seniors vehicles only) | | Tuesday | 22 | 0 | 0 | 0 | 1 | 0 | |
| | | | | P (Disabled) | | | 3 | 0 | 0 | 0 | 0 | 0 | |
| Car Parking Area L | Gravel Car Park at rear of Lucy Mays Café | | | Unrestricted (Gravel Car Park) | | | 19 | 0 | 1 | 2 | 0 | 0 | |
| Car Parking Area M | Off-street sealed car park | | | Unrestricted (Marked Bays) | | | 22 | 17 | 19 | 19 | 15 | 3 | |
| | | | | Unrestricted (Unmarked Bays) | | | 9 | 1 | 1 | 1 | 0 | 0 | |
| Car Parking Area N | Little Commercial Street off-street parking area | | | 2P | 9:00am-5:30pm | Mon-Fri | 50 | 17 | 28 | 25 | 14 | 6 | |
| | | | | | 9:00am-12:00pm | Sat | | | | | | | |
| | | | | 1/4P | 9:00am-5:30pm | Mon-Fri | 2 | 0 | 0 | 2 | 0 | 0 | |
| | | | | | 9:00am-12:00pm | Sat | | | | | | | |
| Car Parking Area O | Little Commercial Street off-street parking area (further north of Boston Place) | | | Unrestricted (Marked Bays) | | | 21 | 15 | 14 | 19 | 14 | 3 | |
| | | | | P (Disabled) | | | 1 | 0 | 0 | 0 | 0 | 0 | |
| Car Parking Area P | Gravel Car Park | | | Unrestricted (Unmarked Bays) | | | 6 | 5 | 5 | 6 | 5 | 4 | |
| Car Parking Area Q | Vacant Land (Inaccessible to vehicles) | | | Unrestricted | | | 0 | 0 | 0 | 0 | 0 | 0 | |
| Car Parking Area R | Off-street car park | | | Unrestricted (individual marked bays) | | | 58 | 30 | 43 | 26 | 18 | 5 | |
| | | | | Unrestricted (single long marked bay) | | | 16 | 0 | 0 | 1 | 0 | 0 | |
| | | | | Unmarked bays | | | 6 | 5 | 3 | 4 | 4 | 2 | |
| Car Parking Area S | Off-street car park | | | 2P | 9:00am-5:30pm | Mon-Fri | 7 | 7 | 7 | 7 | 4 | 3 | |
| | | | | | 9:00am-12:00pm | Sat | | | | | | | |
| | | | | 1/4P | 9:00am-5:30pm | Mon-Fri | 4 | 2 | 3 | 2 | 4 | 4 | |
| | | | | | 9:00am-12:00pm | Sat | | | | | | | |
| | | | | P (Disabled) | | | 1 | 0 | 0 | 0 | 0 | 0 | |
| | | | | Unrestricted (Unmarked Bays) | | | 0 | 15 | 15 | 11 | 9 | 3 | |

| Street | Side | Between | Restriction | | | Demand | | | | | |
|---------------------|------|----------------------------------|------------------------------|------|-----|-------------------------|--------|---------|--------|--------|--------|
| | | | Type | Hour | Day | Friday 15 February 2013 | | | | | |
| | | | | | | Supply | 9:00am | 11:00am | 1:00pm | 3:00pm | 5:00pm |
| Car Parking Area T | | Railway Station | 1/2P | | | 0 | 0 | 2 | 3 | 3 | 2 |
| | | | P (Disabled) | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Car Parking Area U | | Off-street car parking area | Unrestricted (Marked Bays) | | | 11 | 4 | 11 | 9 | 5 | 3 |
| | | | Unrestricted (Unmarked Bays) | | | 20 | 2 | 2 | 5 | 5 | 4 |
| Car Parking Area W | | Gravel/grass car park | Unrestricted | | | 0 | 4 | 6 | 6 | 4 | 1 |
| Car Parking Area X | | Car Parking area outside Vinnies | Unrestricted | | | 4 | 2 | 2 | 4 | 0 | 0 |
| Car Parking Area Y | | Parking within businesses | Unrestricted | | | 40 | 17 | 20 | 23 | 21 | 12 |
| Car Parking Area Z | | Parking within businesses | Unrestricted | | | 7 | 4 | 4 | 4 | 4 | 2 |
| Car Parking Area AA | | Grassed Area | Unrestricted | | | 6 | 2 | 4 | 4 | 4 | 1 |
| Car Parking Area AB | | Gravel Area | Unrestricted | | | 11 | 4 | 4 | 4 | 4 | 2 |

Figure A.1: Off-Street Parking Survey Areas



Melbourne

A 87 High Street South
PO Box 684
KEW VIC 3101
P +613 9851 9600
F +613 9851 9610
E melbourne@gta.com.au

Sydney

A Level 2, 815 Pacific Highway
CHATSWOOD NSW 2067
PO Box 5254
WEST CHATSWOOD NSW 1515
P +612 8448 1800
F +612 8448 1810
E sydney@gta.com.au

Brisbane

A Level 3, 527 Gregory Terrace
BOWEN HILLS QLD 4006
PO Box 555
FORTITUDE VALLEY QLD 4006
P +617 3113 5000
F +617 3113 5010
E brisbane@gta.com.au

Canberra

A Level 11, 60 Marcus Clarke Street
CANBERRA ACT 2601
PO Box 1109
CIVIC SQUARE ACT 2608
P +612 6243 4826
F +612 6243 4848
E canberra@gta.com.au

Adelaide

A Suite 4, Level 1, 136 The Parade
PO Box 3421
NORWOOD SA 5000
P +618 83343600
F +618 83343610
E adelaide@gta.com.au

Gold Coast

A Level 9, Corporate Centre 2
Box 37
1 Corporate Court
BUNDALL QLD 4217
P +61755104800
F +61755104814
E goldcoast@gta.com.au

Townsville

A Level 1, 25 Sturt Street
PO Box 1064
TOWNSVILLE QLD 4810
P +61747222765
F +61747222761
E townsville@gta.com.au