



traralgon activity centre plan: background reports car parking assessment

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executive summary

Cardno Grogan Richards have been engaged by hansen partnership to undertake a background car parking management study of the Traralgon Activity Centre (TAC) for the Latrobe City Council. The purpose of this report is to provide Latrobe Council with the information and analysis required to inform the Key Directions report for the TAC which is part of Stage 2 of the study.

The preparation of this report has involved:

- An inspection of the Traralgon Activity Centre and its environs;
- A review of all relevant Council reports previously undertaken in Traralgon;
- Public consultation to determine community issues and concerns relating to car parking;
- Parking occupancy and duration surveys for a typical Friday and Saturday within the study area; and
- Analysis of survey results to make recommendations for improved management of the existing car parking assets and future parking needs for the TAC.

The study area covered by the Traralgon Activity Centre Plan (TACP) is more expansive than previous studies which focused on the Traralgon CBD core. Therefore for comparative purposes, survey data has been analysed separately for the CBD core, as well as the overall TAC.

The following summarises the main findings of this report:

- Peak parking demand for the TAC on the Friday occurred at 11:00am with 3219 spaces out of the 5884 spaces surveyed occupied, equivalent to an occupancy level of 55%. For the CBD core, 2954 spaces out of 4664 were occupied also at 11am, equivalent to an occupancy level of 63%.
- Peak parking demand on the Saturday occurred at 11:00am with 1942 spaces out of the 5884 spaces surveyed occupied, equivalent to an occupancy level of 33%. For the CBD core, 1753 spaces out of 4664 were occupied also at 11am, equivalent to an occupancy level of 38%.
- A comparison of weekday to weekend survey results indicate that on-street occupancy rates show little variance from Friday to Saturday, however, off-street occupancy rates drop significantly on the weekend.
- High levels of occupancy (>85%) were recorded across the weekday and weekend surveys in some on-street sections within the heart of the CBD with convenient access to shop frontages and cafés. These spaces receive a high turnover due to the 1 hour restriction and high level of enforcement. This high turnover induces an expectation for drivers to be able to find a convenient parking space which causes traffic congestion with cars circulating for a space. Potential options to rectify this problem include:



- Increasing the restrictions from 1-hour to 2-hour parking to reduce turnover by removing the 'expectation' to find an available parking space.
- Reintroducing metered parking in these highly utilised sections to more evenly distribute demand to surrounding street sections with much lower occupancy rates.
- Although off-street parking occupancy rates were relatively low across the survey periods, high levels of occupancy (>85%) were recorded on Friday in both of the two public off-street long term car parks provided within the CBD, being the multi-level Seymour Street Car Park and the Church Street car park. This indicates that private parking spaces along with 'customer only' spaces and time restricted off-street spaces are generally underutilised.
- From responses received during the consultation process and the results of the surveys it appears there is a shortage of longer term parking available for the centre that is free-of-charge. However, spare long term parking capacity exists in permit only spaces. Council needs to decide whether it is appropriate for employees to pay for permit spaces to park all day within the CDB or whether free-of-charge spaces should be provided as has historically been the case. Employees currently do not have the option to leave their car at home, as public transport facilities are limited.
- Options which could be considered to rectify the shortage of free-of-charge all day parking include the following:
 - Converting the mid level of the multi-deck Seymour Street Car Park to all day parking (currently a mix of permit parking and 3 hour parking).
 - Construct an additional level above the existing top level of the multi-deck car park. This would provide approximately 100 additional spaces. The structure has also been designed to cater for this additional level.



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1 introduction

Cardno Grogan Richards have been engaged by hansen partnership to undertake a background car parking management study of the Traralgon Activity Centre (TAC) for the Latrobe City Council. The purpose of this report is to provide Latrobe Council with the information and analysis required to inform the Key Directions report for the TAC which is part of Stage 2 of the study.

Specific recommendations and solutions including the preparation of a Parking Precinct Plan will be undertaken as part of Stage 2 of the project.

In the course of preparing this report, the subject site has been inspected, previous studies reviewed and parking survey's undertaken and analysed.

2 scope of works

The scope of works for this report is as follows:

- Review all relevant Council reports previously undertaken in Traralgon;
- Undertake parking occupancy and duration surveys for a typical Friday and Saturday within the study area to develop a profile of parking usage;
- Analyse the layout of parking within the TAC and report on its adequacy taking into consideration the following:
 - parking restrictions provided
 - duration of stay
 - control measures (parking restriction enforcement)
 - location of special parking bays
 - preferred occupancy rates for key parking types
 - provision and location of future car parking in and around the TAC;
- Make recommendations for improved management of the existing car parking assets and future parking needs for the TAC;
- Provide analysis that supports findings and recommendations;
- Review the existing provisions within the Latrobe Planning Scheme and make recommendations to parking related planning scheme provisions; and
- Incorporate the survey data and analysis into a background car parking management study.



3 objective of the car parking management study

3.1 general

The objective of this study is to provide an analysis of the current provision of public car parking in the TAC and explore opportunities to improve upon the management of the existing car parking assets. Accordingly, this report will explore whether additional car parking is currently required and list actions that Council may take to better manage TAC parking.

One of the key objectives of this report is to aid in the development of a Parking Precinct Plan for the TAC.

Car parking facilities are not only a major land use within an activity centre, but also a major determinant of the experience of visitors when they visit the centre. An appropriate supply of car parking is an important issue for any town centre as inadequate car parking can result in frustration for visitors and contributes to congestion as drivers search for convenient parking. Conversely, oversupply of car parking results in inefficient land use.

This report addresses parking supply and demand, characteristics of public car parking and reviews the findings of previous relevant studies.

For the purposes of this report, public car parking is defined as parking that is available without restriction of entry, regardless of who provided the car parking facility. Private parking is privately owned and is provided for the use of employees only.

The findings of this study, used in conjunction with other policy tools are intended to provide Council with the background required to inform the Key Directions report for the Traralgon Activity Centre Plan (TACP) which is part of Stage 2 of the TACP study.

3.2 principles

The principles used to guide the development of any parking strategy are:

- Management of public car parking is critical to the economic and social well being of the TAC;
- All forms of mobility (cars, buses, trains, bicycles and walking) in the TAC are important and inter-related;
- Effective management of car parking assets will ensure a balance is met between supply and demand of car parking spaces.



3.3 brief history of car parking management in the TAC

The City of Latrobe commissioned Arup in 2003 to carry out a parking study in the Traralgon Central Business District (CBD). The purpose of the study was to develop a parking strategy for parking within the Traralgon CBD that would assist in addressing current and future parking requirements for 15 years as a result of the then anticipated development of the CBD.

The key conclusions from the 2003 parking study were as follows:

- Overall on-street parking reached a peak of 71% on Friday and 47% on Saturday, while off-street parking peaked at 66% on Friday and 45% on Saturday;
- Specific areas reached capacity at times during the survey periods, notably Post Office Place, Franklin Street, Seymour Street and the at-ground parking within Stockland;
- Congestion of circulating traffic in the CBD core (Franklin, Seymour, Hotham) was a consequence of the short term parking demands in these streets; and
- The need for additional parking was not warranted but more an issue of managing the current supply to satisfy demands.

Prior to this, the then City of Traralgon carried out parking utilisation surveys in May 1991 for a 12 hour period on a typical Thursday, Friday and Saturday. The survey findings were not dissimilar to the 2003 findings.

A significant change came to parking management in the Traralgon CBD when the use of parking meters for on-street spaces was ceased following statewide amalgamation of local government in 1994. The decision that was taken at that time was to remove parking meters from Traralgon rather than install them in Moe and Morwell. In all there were approximately 600 parking meters located in Franklin, Seymour, Hotham, Church and Post Office Place. Therefore parking meters were in place for on-street parking during the 1991 surveys. Despite parking meters being in place during these surveys, full occupancy rates (>90%) were still recorded in sections of Franklin Street, Church Street, Post Office Place, Seymour Street and Hotham Street, which is similar to survey results following the removal of parking meters (2003/ 2010).

Additionally, Council has previously attempted to consult with local traders regarding alterations to time restrictions for on-street parking in the CBD. The preference of local traders has historically been to maintain 1 hour restrictions to promote a high turnover of vehicles.



4 study area

The study area is bound by Gordon Crescent to the north, Princes Highway to the east, Shakespeare Street to the South and Mabel Street and Byron Streets to the west as shown in Figure 1. The Traralgon Station Precinct is not included in the survey area. The study area is generally consistent with previous mobility studies of the TAC and includes all on-street and off-street private and public parking. The 2003 Arup study area is also highlighted for comparative purposes.

Figure 1: Traralgon Activity Centre (TAC) Parking Study Area





4.1 existing conditions and land use

The Traralgon Activity Centre consists of a mix of business, retail, office and commercial land uses, with some residential land use on the periphery of the study area to the north, west and southeast.

The retail core is situated around Church Street, Franklin Street, Seymour Street and Hotham Street, with the Stockland Shopping Centre located on the northeast corner of the study area.

Reserves border the area on the east side, while Hubert Osborne Park reserve is located just west of Breed Street. Kay Street is a boulevard with a wide grassed median planted with trees. Located east of Hubert Osborne Park is St Michaels Catholic Church and primary School. Grey Street Primary School is located north of Grey Street on the north side of the study area.

4.2 road network

Traralgon is located in the centre of the Latrobe Valley, approximately 160km from Melbourne. The Princes Highway skirts the south side of the study area and carries approximately 30% through traffic volumes to Sale and beyond (based on information supplied by VicRoads). The road network within the TAC is of a grid pattern, with most streets running north-south or east-west. Grey Street to the north of the study area is a main road that carries through traffic to Tyers, and provides a link to Morwell.

4.3 transport modes

The Traralgon Railway Station is situated in the south side of the study area with VLine services providing 7day services to Melbourne. Daily commuters using the train to Melbourne can park in the car park adjacent to the railway station just outside the study area on the south side of Princes Highway. As part of the ongoing Traralgon Station Precinct Masterplan, proposed parking for commuters has been identified in the area of land between Princes Highway and Shakespeare Street.

Buses operate along Franklin Street adjacent to Stockland Shopping Centre and taxi stands are provided on Seymour Street near Franklin Street and on Franklin Street near Post Office Place. School buses also operate along Church Street next to the primary school picking up and dropping off students from surrounding areas in morning and afternoon peaks.

In regional Victoria, the greater distances between attractors may produce a higher dependency on cars than in the metropolitan area. It was observed that parking demands fall and rise around lunch time as movements to and from home occur.



A number of parked motorcycles and bicycles were observed but their usage was considered to be relatively low. While there was no provision for on-road bicycle facilities in the CBD, the width of some streets and the speed of traffic in the CBD area would make cycling an easier proposition than would be the case away from the CBD environment.

4.4 parking supply

The total parking supply in the TAC area comprises almost 6000 spaces including on-street, off-street and private only spaces as follows:

- 2305 on-street spaces
- 2722 off-street public spaces
- 857 off-street private only spaces

The off-street car parks are shown in Figure 2. Note that each off-street car parking area has been assigned a number and throughout the report this number is used to reference the off-street car parking location.

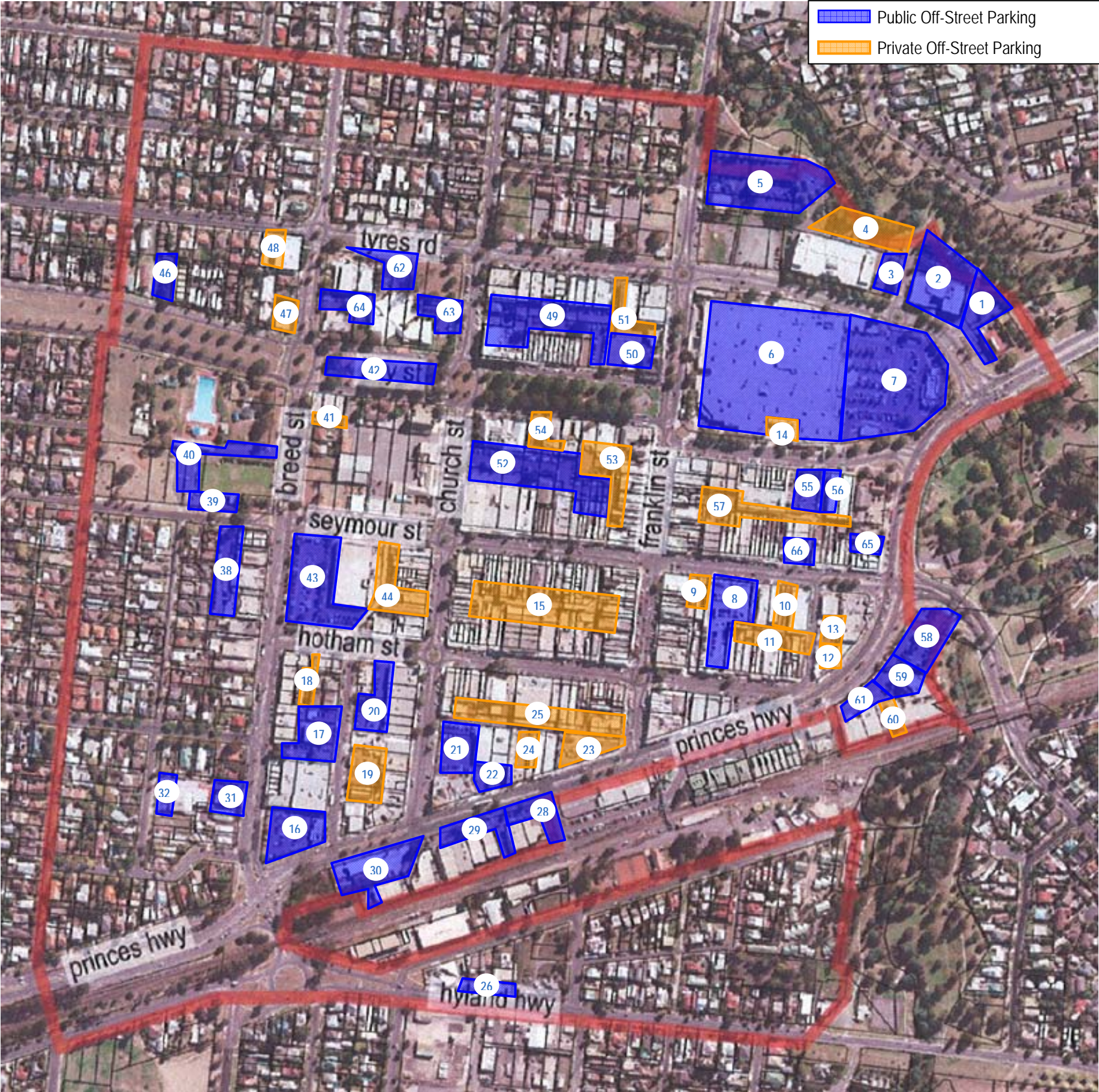
4.4.1 comparison to 2003 Arup survey parking supply

The parking surveys undertaken by Arup in 2003 focused on the Traralgon CBD and surveyed a total of marginally more than 5000 spaces comprising of the following:

- 1360 on-street spaces
- 2560 off-street public spaces
- 1100 off-street private only spaces

The 2003 surveys did not include on-street spaces outside of the Traralgon CBD as illustrated in Figure 1 which indicates the expanded study area of the TAC.

Figure 2: Traralgon Activity Centre (TAC) Off-Street Car Parks





On-Street Parking

On-Street parking spaces are available to the general public with loading zones, disabled spaces, parents only, taxi spaces and police only spaces included in the mix of parking. The majority of on-street parking is line marked as 45 degree angle parking, however, parallel parking has been provided in some locations.

Off-Street Public Parking

Off-Street parking is provided generally in open areas behind shops or in defined areas such as at Stockland Shopping Centre. This type of parking is either provided by Council or on privately owned land provided for public use.

Off-Street Private Parking

Private parking provision for employee use is required under the planning scheme and is provided by businesses. Access is generally via rights-of-way off the main streets. There are no restrictions for this type of parking, however occasional loading zone signs were noticed behind shops for trucks to load/unload their goods. This ensures that, for the most part, these rights-of-way are kept clear for traffic accessing the rear of premises.

If the parking requirements of the planning scheme are unable to be satisfied by the developer then cash-in-lieu payments can be required by Council if stipulated in the Planning Scheme via a Parking Precinct Plan (PPP) or Developers Contribution Plan (DCP). Developer contributions have historically been in the form of cash-in-lieu payments where the Council has collected and pooled funds from a number of new developments (where on-site parking cannot be provided) to construct a car park.

Currently the Latrobe Planning Scheme does not include a PPP or DCP for car parking which limits Councils ability to require cash-in-lieu payments from developers.



5 parking occupancy and duration of stay surveys

5.1 survey conduct

The parking surveys were conducted over two days (weekday and weekend) as agreed with Council and to conform with Arup's 2003 parking study. The following time periods were selected in order to obtain peak parking demands for a weekday and weekend respectively:

- 8am-8pm Friday 19 February 2010 (12 hours)
- 9am-2pm Saturday 20 February 2010 (6 hours)

Staff were allocated areas to monitor parking characteristics on an hourly basis over the survey periods. Friday was chosen in order to survey the general weekday parking demand as well as to observe the usage of parking relating to evening shopping in the TAC. The Saturday survey continued until 2pm to ascertain the level of parking utilised when the late morning rush was over.

Two shifts of six hours each were allotted on the Friday to minimise the physical demands on the survey staff. All survey areas were designed to be covered in less than the full hour so that sufficient rest was provided for staff prior to restarting each hour.

5.2 survey description

The objectives of the parking survey was to determine the following parameters:

- Utilisation rate of each parking space / street / area
- Duration of stay of each vehicle in each space

The survey identified each individual space with monitoring occurring on an hourly basis. On the survey form the last four characters of the number plate of each vehicle parked in each space was recorded. If the same car was in the same space in the following hour, a tick was recorded. If the space was empty, a dot was used. The process of analysis does not allow identification of individual number plates i.e. to ascertain if vehicles are moved to escape 'restriction' periods. This is only possible by reviewing individual survey sheet records. For this survey the latter was not undertaken. Analysis of number plate data enables the average duration of stay of vehicles parked in each space over the survey period to be determined as well as the utilisation rate of each space.



6 survey findings

The survey data for the Friday and Saturday was collected and analysed to determine the utilisation and average duration of stay of vehicles in each individual space in the survey area. The on-street parking data was then summarised into separate streets and further summarised into sections along each street. The off-street parking was summarised for each car parking area and separated into public and private car parks.

As the survey was carried out on a typical Friday and Saturday, this was used as the basis of discussion for a typical weekday and weekend.

The entire survey area of the TAC is more expansive than the 2003 Arup survey and covers parking located outside of the Traralgon CBD as illustrated in Figure 1. Thus for comparative purposes the survey findings for the core CBD area are detailed separately in each of the following sections. The core CBD area is bounded by Grey Street, Breed Street and the Princes Highway.

6.1 weekday parking patterns

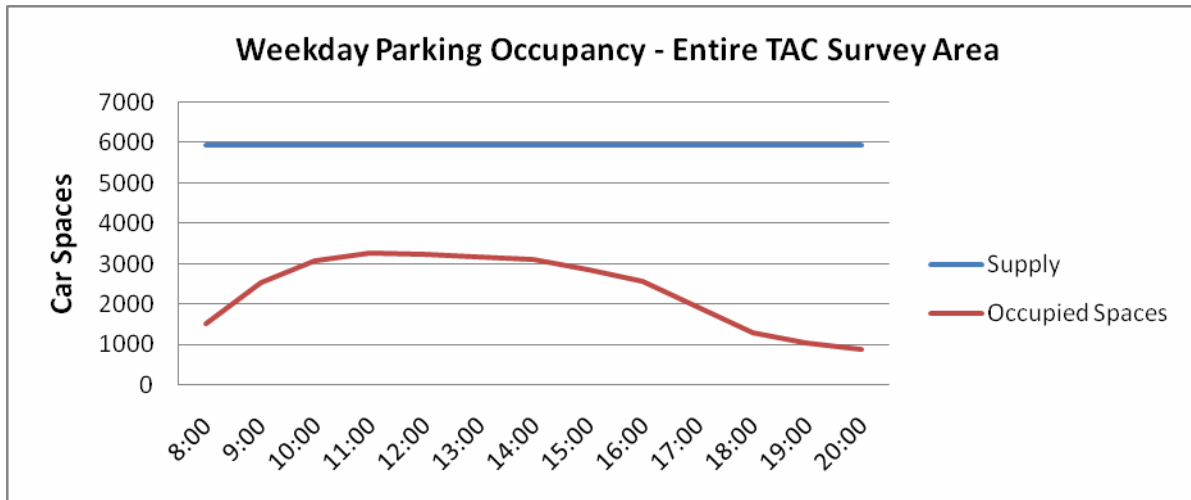
The survey was carried out between 8am-8pm on Friday 19th February 2010.

6.1.1 weekday utilisation rate

The peak weekday utilisation for all parking spaces located within the TAC occurred at 11am whereby 3219 spaces were occupied (55%). The parking demand was relatively consistent from 9am-4pm whereby occupancy rates stayed above 43%. Parking demand was at its lowest point after 7pm when occupancy rates diminished to 17% and reduced further to 15% recorded at the conclusion of the survey period (8pm).

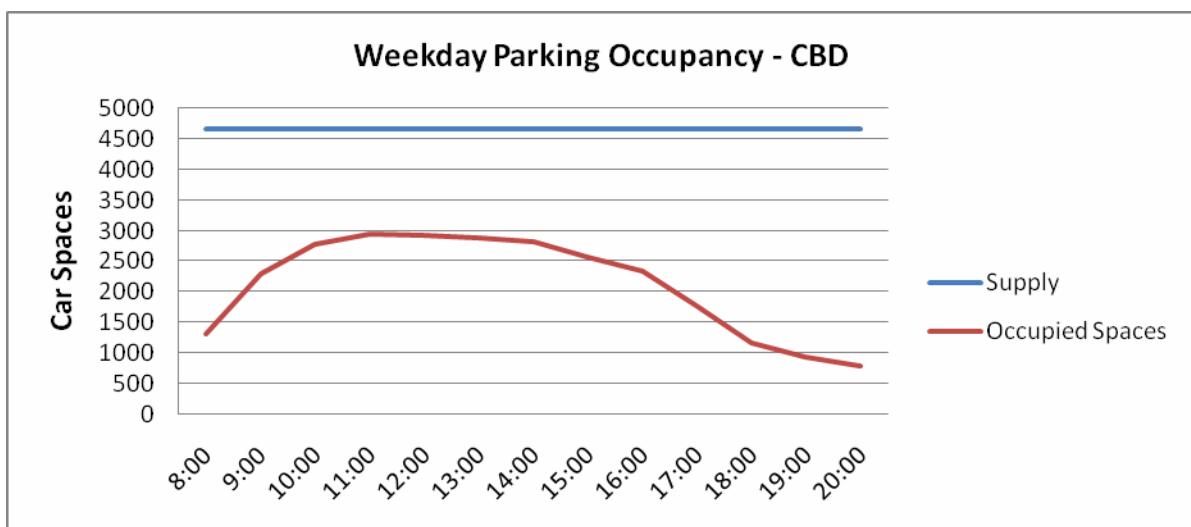


Figure 3: Overall Weekday Parking Occupancy



The peak weekday utilisation for parking spaces located solely within the CBD also occurred at 11am whereby 2954 spaces were occupied (63%). Figure 4 shows a graph of the CBD weekday parking occupancy.

Figure 4: CBD Weekday Parking Occupancy



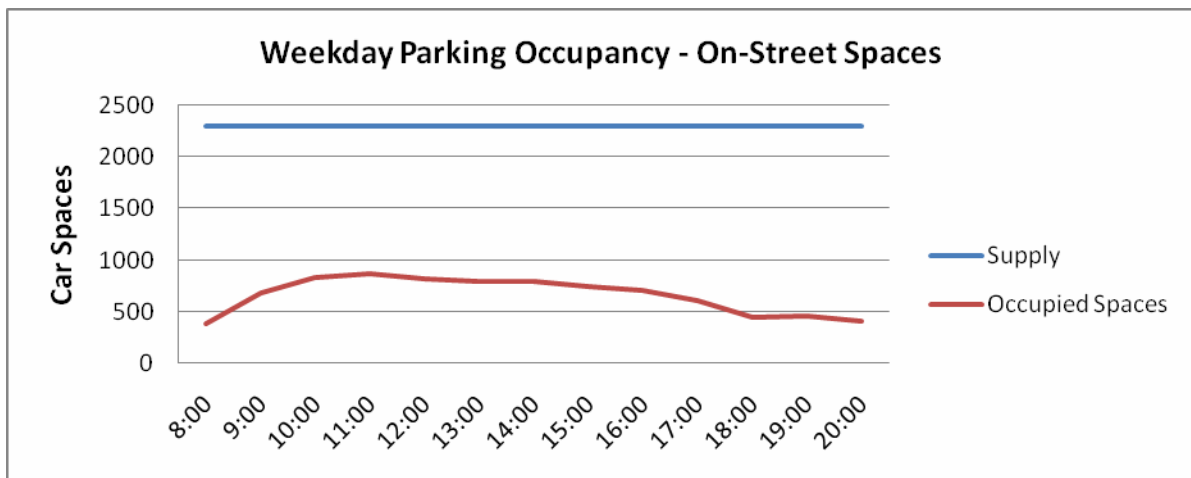
Figures 3 and 4 illustrate the weekday parking occupancy for the TAC and CBD respectively. Weekday parking occupancy graphs for individual streets and car parks are provided in full in Appendix 1. Figures 3 and 4 confirm that for the survey areas as a whole, parking utilisation is not “stressed” as full occupancy, considered to occur if utilisation rises above 90%, did not occur.



6.1.2 weekday utilisation rate – on-street spaces

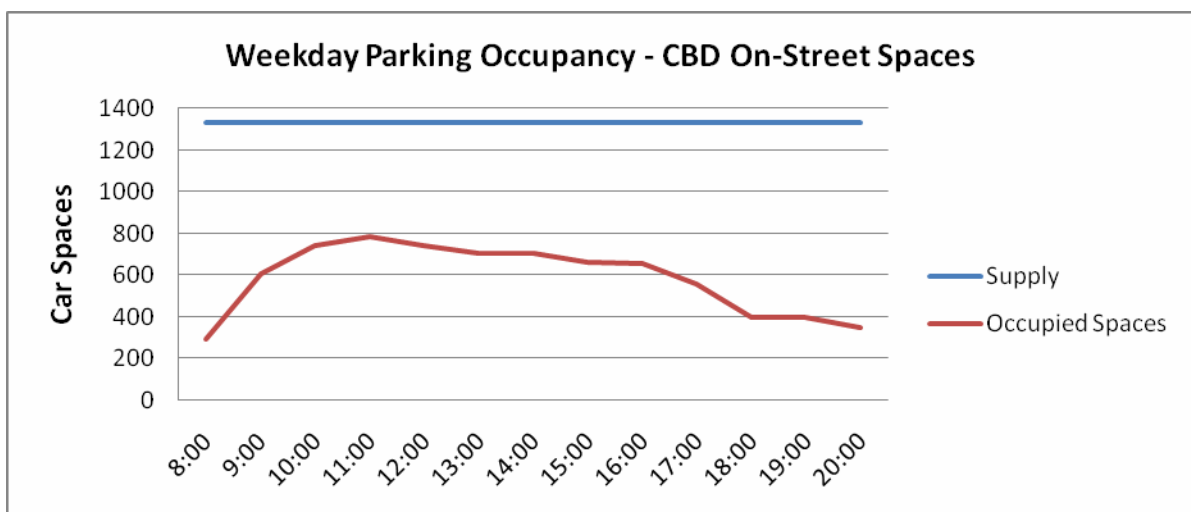
The peak weekday utilisation for on-street spaces located within the TAC also occurred at 11am whereby 868 spaces were occupied (38%). The parking demand was relatively consistent during business hours 9am-4pm whereby occupancy rates stayed above 30%. Occupancy rates diminish to below 20% after 6pm. Again, on-street parking utilisation for the TAC as a whole, is not “stressed”. Figure 5 shows a graph of the on-street weekday parking occupancy for the TAC.

Figure 5: TAC On-Street Weekday Parking Occupancy



The peak weekday utilisation for on-street spaces located within the CBD also occurred at 11am whereby 786 spaces were occupied (59%). Figure 6 shows a graph of the on-street weekday parking occupancy for the CBD.

Figure 6: On-Street Weekday Parking Occupancy in the CBD



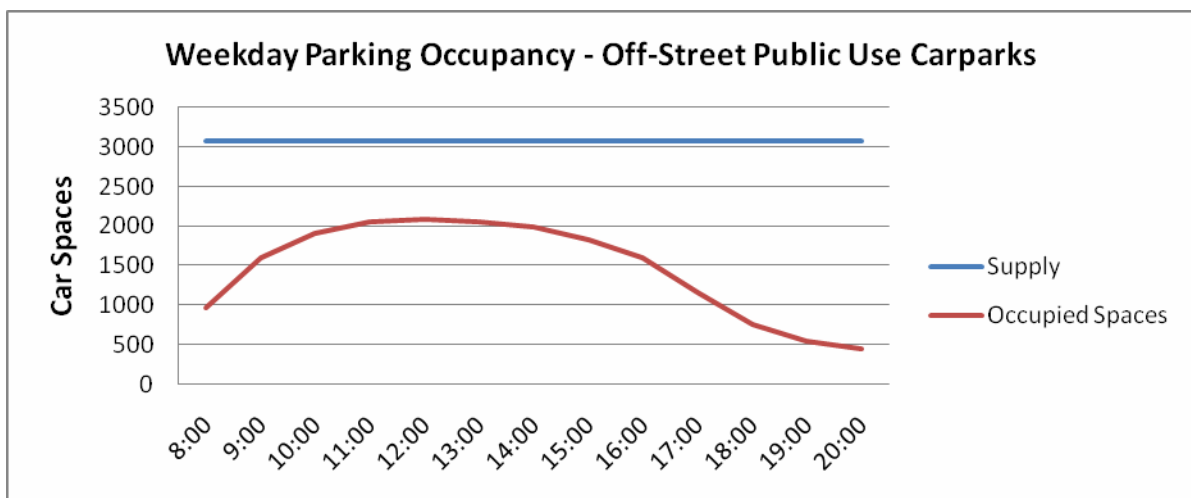


6.1.3 weekday utilisation rate – off-street public spaces

The peak weekday utilisation for off-street public use spaces located within the TAC occurred at midday whereby 1877 spaces were occupied (69%). The parking demand was relatively consistent during business hours (9am-4pm) whereby occupancy rates stayed above 52%. Occupancy rates diminish to below 18% after 7pm. Again, off-street public parking utilisation is not “stressed” for the TAC overall.

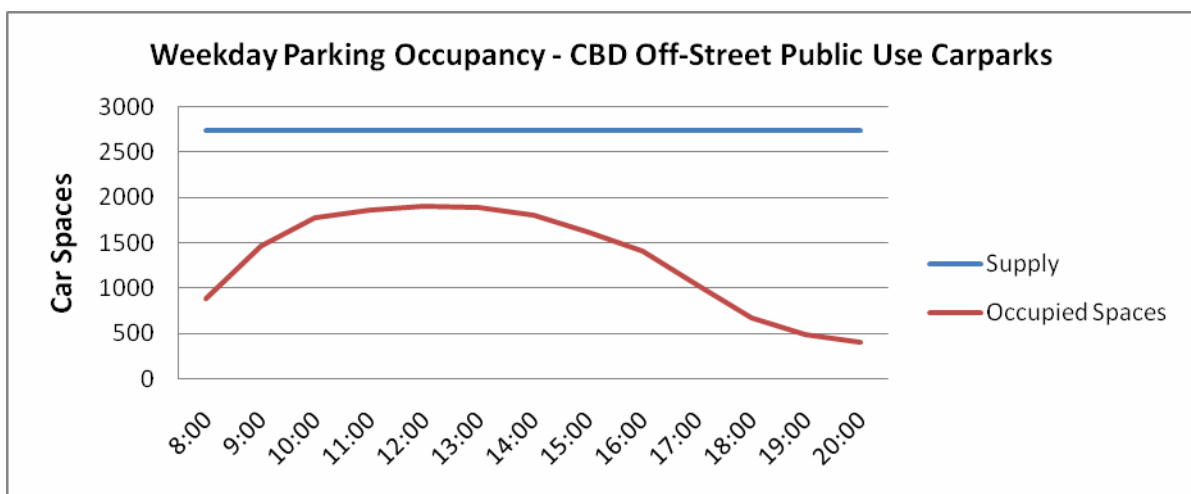
Figure 7 shows a graph of the off-street public use weekday parking occupancy for the TAC.

Figure 7: Off-Street Weekday Parking Occupancy – Public Spaces



The peak weekday utilisation for off-street public use spaces located within the CBD also occurred at midday whereby 1741 spaces were occupied (69%). Figure 8 shows a graph of the public off-street weekday parking occupancy for the CBD.

Figure 8: Off-Street Weekday Parking Occupancy in the CBD – Public Spaces

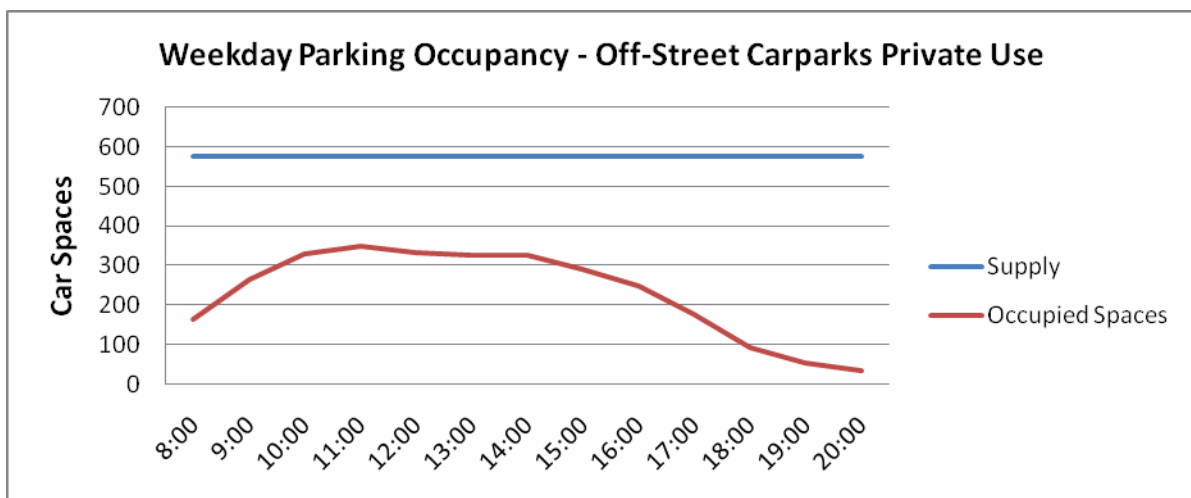




6.1.4 weekday utilisation rate – off-street private spaces

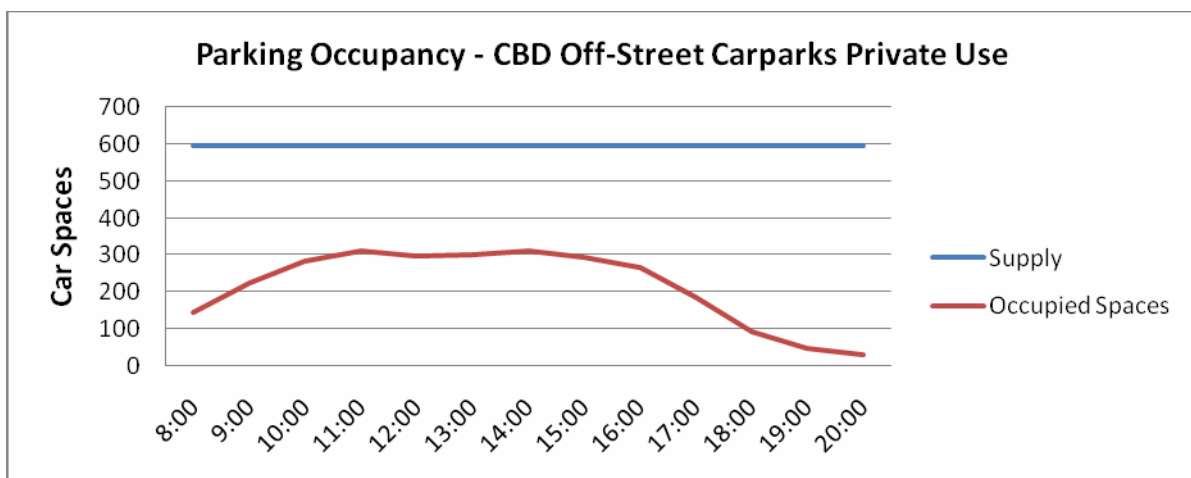
The peak weekday utilisation for off-street private use only spaces located within the TAC occurred at 11am whereby 507 spaces were occupied (59%). The parking demand was relatively consistent from 10am-3pm whereby occupancy rates stayed above 50%. Occupancy rates diminish to 8% after 7pm as can be expected for staff/employee only parking on a weekday. Again, off-street private parking utilisation is not “stressed”. Figure 9 shows a graph of the weekday off-street private parking occupancy for the TAC.

Figure 9: Off-Street Weekday Parking Occupancy – Private Spaces



The peak weekday utilisation for off-street private only use spaces located within the CBD occurred at 11am whereby 470 spaces were occupied (58%). Figure 10 shows a graph of the private off-street weekday parking occupancy for the CBD.

Figure 10: Off-Street Weekday Parking Occupancy in the CBD – Private Spaces





6.1.5 weekday utilisation rate – individual streets and car parks

While overall weekday parking utilisation peaked at about 55% for the TAC and 63% for the CBD, individual on-street sections and off-street car parks within the TAC were “fully” occupied at times. Full occupancy is considered to have occurred if utilisation rises above 90%. These sections (with general parking restrictions) included:

- Church Street between Kay St & Seymour St (2P)
- Church Street between Grey St & Kay St (unrestricted)
- Franklin Street between Kay St & Seymour St (1P)
- Franklin Street between Seymour St & Hotham St (1P)
- Livingston Street between Seymour St & Hotham St (unrestricted)
- Seymour Street between Franklin St & & Methodist Ln (1P)
- Car Park 04 (Private Parking) – behind ASIC
- Car Park 08 (Public Parking) – Seymour St Carpark (unrestricted spaces only)
- Car Park 20 (Public Parking) – behind Home Hardware
- Car Park 21 (Public Parking) – next to Dan Murphys
- Car Park 32 (Public Parking) – behind Kath Techyenne Centre
- Car Park 39 (Public Parking) – behind croquet club
- Car Park 40 (Public Parking) – next to swimming pool
- Car Park 48 (Private Parking) – behind Grey St business cente
- Car Park 49 (Public Parking) – behind Premier Function Room
- Car Park 52 (Public Parking) – behind Haris Scarfe (off Church St)
- Car Park 58 (Public Parking) – cnr Princes Hwy / Whittakers Rd
- Car Park 60 (Private Parking) – near Clark Rubber
- Car Park 61 (Public Parking) – front of Clark Rubber
- Car Park 64 (Public Parking) – west side Council offices

Other locations that recorded peak occupancy just below these levels (85-89%) included:

- Franklin Street between Hotham St & Princes Hwy



- Hotham Street between Breed St & Feeley Lane
- Post Office Place between Franklin St & Princes Hwy
- Seymour Street between Church St & Post Office Ln
- Car Park 5 (Public Parking) – north of ASIC adjacent Franklin St
- Car Park 11 (Private Parking) – behind WGCMA / Beverage Williams
- Car Park 28 (Public Parking) – Bob Jane
- Car Park 31 (Public Parking) – front of Neighbourhood House
- Car Park 42 (Public Parking) – Kay St median strip

Figure 11 shows those locations which recorded 85% usage or higher at any time during Friday's survey.



Figure 11: Weekday parking areas considered to be “stressed” (utilisation rates > 85%)



The primary point of concern highlighted by Figure 11 is that off-street ‘all day’ public parking areas are highly utilised throughout the TAC and specifically within the CBD. This is contrary to the relatively low overall off-street occupancy rates (<66%) recorded by the surveys.

This indicates that the majority of private off-street parking areas along with ‘customer only’ spaces and time restricted off-street spaces are generally underutilised, while an insufficient supply of free-of-charge all day parking is provided for staff and employees working within the Traralgon CBD.



Utilisation rates of other notable car parks within the TAC include Stockland Traralgon which peaked at midday with 564 spaces occupied out of 800 (71%). Basement parking peaked between midday and 2pm with 78% of spaces occupied while the at-ground parking peaked at midday with 57% of spaces occupied. Outside of business hours (9am-5pm) utilisation of the basement parking drops to below 20%, while the at-grade parking remains reasonably busy with occupancy rates still at 33% after 8pm.

The new multilevel public car park on Seymour Street peaked at 1pm whereby 225 of the 289 spaces were occupied (78%). Outside of business hours utilisation of this car park drops to 13% and below. It is necessary to separate this car park into differing restrictions for analysis as it comprises a mix of 2P, 3P, permit and unrestricted spaces. The 115 unrestricted spaces available within this car park were fully occupied (96%) between 10am and 2pm. Consideration should be given to altering the 3 hour restricted spaces to unrestricted spaces.

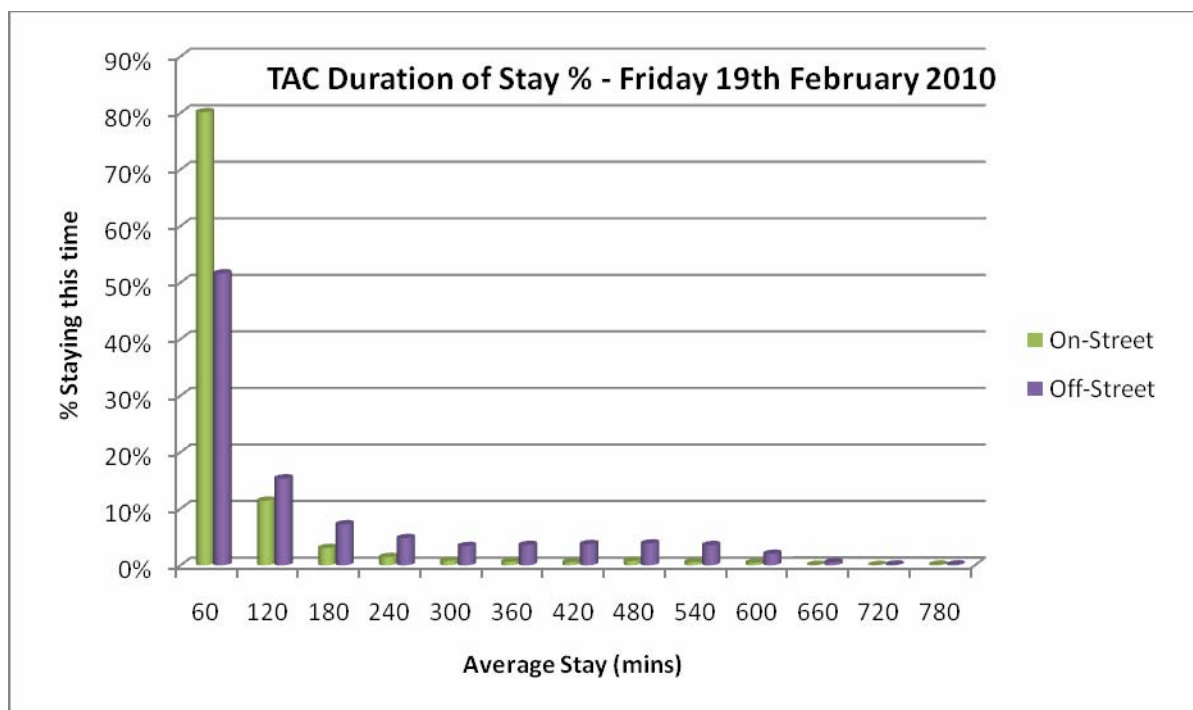
The Safeway car park peaked at 2pm whereby 121 of the 178 spaces were occupied (68%).



6.1.6 weekday duration of stay

Analysis of the duration of stay results showed approximately 79% of on-street observations were recorded once i.e. the vehicle stayed for one hour or less (on average). A further 11% of observations were recorded twice. The survey was conducted in hourly passes so that a vehicle recorded once may have stayed anywhere between 1 minute and 1 hour 59 minutes. Figure 12 shows the percentage of all vehicles staying for an average of 1 hour, 2 hours etc.

Figure 12: Duration of Stay – Friday Survey



These proportions are within the expected range where short stay parking largely occurs in a central business area i.e. around 90% of on-street traffic staying for two hours or less. It should be noted that after 5:30pm parking becomes unrestricted in the majority of the study area and vehicles staying longer into the evening can do so without contravening the parking restrictions. It is likely that some theoretical "overstayers" are doing so legally within this period.

Assuming all vehicles recorded once stayed for 1 hour, those recorded twice stayed for 2 hours etc. it is possible to ascertain the average stay for vehicles for each parking restriction along each section of road. Table 1 summarises the average stay in each street within the TAC on the Friday.



Table 1: Duration of Stay - Summary of Streets (Friday)

Albert Street	120	Unrestricted	-
Banks Street	73	Unrestricted	-
Breed Street	132	2P	12
Bridges Street	210	Unrestricted	-
Byron Street	360	Unrestricted	-
Church Street	108	1P	48
Coates Street	300	Unrestricted	-
Collins Street	280	Unrestricted	-
Deakin Street	180	2P	60
Franklin Street	70	1P	10
Gordon Street	113	Unrestricted	-
Henry Street	65	Unrestricted	-
Hotham Street	76	1P	16
Kay Street	78	2P	-42
Livingston Street	348	Unrestricted	-
Mabel Street	258	Unrestricted	-
Meredith Street	200	Unrestricted	-
Moore Street	175	Unrestricted	-
Post Office Place	70	1P	10
Princes Highway	138	2P	18
Queens Parade	163	Unrestricted	-
Service Street	236	2P	116
Seymour Street	70	1P	10
Shakespeare Street	108	Unrestricted	-
Grey Street	119	2P	-1
Wright Street	0	Unrestricted	-

Table 2 summarises the average duration of stay in each off-street car park within the TAC on the Friday (refer Figure 2 for off-street car park locations).



Table 2: Duration of Stay - Summary of Off-Street Car Parks (Friday)

Car Park #	Use / Restriction	Average Duration of Stay (mins)	Car Park #	Use / Restriction	Average Duration of Stay (mins)
Car Park 01	Customer parking	156	Car Park 32	Public parking	167
Car Park 02	Customer parking	440	Car Park 38	Customer parking	124
Car Park 03	Customer parking	383	Car Park 39	Public parking	315
Car Park 04	Private staff/tenants only	278	Car Park 40	Public parking	205
Car Park 05	Customer parking	388	Car Park 41	Private staff/tenants only	240
Car Park 06	Customer parking / Permit parking	137	Car Park 42	Public parking	135
Car Park 07	Customer parking (3P) / Permit parking	86	Car Park 43	Customer parking	89
Car Park 08	Public parking (2P / 3P / unrestricted / permit)	192	Car Park 44	Private staff/tenants only	458
Car Park 09	Customer parking / Permit parking	245	Car Park 46	Public parking	60
Car Park 10	Permit parking (1P)	200	Car Park 47	Private staff/tenants only	305
Car Park 11	Private staff/tenants only	426	Car Park 48	Private staff/tenants only	307
Car Park 12	Private staff/tenants only	439	Car Park 49	Public parking	307
Car Park 13	Private staff/tenants only	565	Car Park 50	Public parking	182
Car Park 14	Private staff/tenants only	231	Car Park 51	Private staff/tenants only	249
Car Park 15	Private staff/tenants only	141	Car Park 52	Public parking	345
Car Park 16	Customer parking	98	Car Park 53	Private staff/tenants only	365
Car Park 17	Customer parking	254	Car Park 54	Private staff/tenants only	278
Car Park 18	Private staff/tenants only	333	Car Park 55	Customer parking	93
Car Park 19	Private staff/tenants only	368	Car Park 56	Customer parking (2P)	380
Car Park 20	Customer parking	379	Car Park 57	Private staff/tenants only	359
Car Park 21	Customer parking	157	Car Park 58	Customer parking	333
Car Park 22	Customer parking	92	Car Park 59	Customer parking	106
Car Park 23	Private staff/tenants only	367	Car Park 60	Customer parking	491
Car Park 24	Private staff/tenants only	168	Car Park 61	Customer parking	325
Car Park 25	Private staff/tenants only	299	Car Park 62	Public parking	160
Car Park 26	Customer parking	109	Car Park 63	Public parking	324
Car Park 28	Public parking (1P)	68	Car Park 64	Public parking	393
Car Park 29	Public parking	60	Car Park 65	Customer parking	80
Car Park 30	Public parking	81	Car Park 66	Customer parking	456
Car Park 31	Public parking	127	TAC Overall Off-Street Average Duration of Stay (mins)		250



It can be seen from Tables 1 and 2 that the average duration of stay for vehicles parking on-street equates to 162 minutes, while vehicles parking in off-street car parks stay for an average of 250 minutes.

The results indicate that the duration of stay of vehicles in most streets corresponds reasonably well with the parking restrictions enforced, with the exception of some two hour restricted spaces, specifically Service Street whereby vehicles are overstaying the 2 hour restrictions, on average, by an additional 2 hours (116 mins) and Deakin Street whereby vehicles are overstaying by an average of 1 hour. This indicates a shortfall in conveniently located longer term parking spaces within the CBD.

A major contributing factor to the cooperation of time restrictions in the one hour spaces can be attributed to the high level of parking enforcement applied to these spaces throughout the CBD (2 officers daily). The only exception appears to be Church Street, where the average overstay is recorded as being 48 minutes, however, this figure is largely influenced by an average duration of stay of approximately 5 hours north of Kay Street whereby parking is typically unrestricted.



6.1.7 duration of stay in “stressed” areas

The average duration of stay for vehicles within the areas identified as being under stress in Section 6.1.5 can now be examined to determine whether there is a problem with “overstaying” vehicles or if the parking restrictions governing these areas needs reviewing.

Table 3: Duration of Stay – “Stressed” On-Street Sections (Friday)

Street Section	Average Duration of Stay (mins)		Modal Parking Restriction (9am-5.30pm)	Average Overstay (mins)
Fully Occupied (>90%)				
Church Street (Kay Street - Seymour Street)	95		2P	-25
Church Street (Grey Street - Kay Street)	237		Unrestricted	-
Franklin Street (Kay Street - Seymour Street)	65		1P	5
Franklin Street (Seymour Street - Hotham Street)	68		1P	8
Livingston Street (Seymour Street - Hotham Street)	348		Unrestricted	-
Seymour Street (Franklin Street - Methodist Lane)	69		1P	9
Near full occupancy (85-89%)				
Franklin Street (Hotham St - Princes Hwy)	78		1P	18
Hotham Street (Breed Street – Feeley Ln)	North Side	134	Unrestricted	-
	South Side	196	2P	76
Post Office Pl (Franklin St – Princes Hwy)	70		1P	10
Seymour St (Church St – Post Office Ln)	64		1P	4

Table 3 indicates that on-street areas, where parking utilisation is high, typically do not have a problem with “overstaying” vehicles, with the exception of the south side of Hotham Street between Breed Street and Feeley Lane whereby vehicles are overstaying the 2 hour restrictions by an average of 76 minutes. The reason behind vehicles generally obeying the time restrictions is likely attributed to the high degree of enforcement, specifically within the 1 hour restricted spaces, which helps to maintain a reasonable availability of on-street parking at all times.

Parking in these areas is highly sort after because it is the most convenient parking to shop fronts and other land uses which generate a high parking demand. The sections of road on Livingston Street and Church Street between Gray Street and Kay Street, should be reviewed to determine if parking restrictions should be put in place to free up some spaces if required. Currently, these street sections



are being used for all day parking.

The ten unrestricted spaces on the west side of Livingston Street should be considered for 2P restrictions to free up additional short term spaces for the surrounding retail land uses and take some pressure off the east end of Seymour Street which is also fully occupied at times. The average duration of stay for these spaces on Livingston Street is nearly 6 hours which indicates they are being utilised by local staff parking all day.

6.1.8 weekday parking survey conclusions

Overall the parking capacity within the TAC far exceeds the demand on a typical weekday. However, this capacity includes areas outside of the CBD that are less convenient. Upon closer inspection of individual street sections and off-street car parks, specific areas are saturated resulting in scarce availability of convenient parking. However, the surveys show that suitable parking spaces are always available within a reasonable walking distance to any point within the TAC.

Short term on-street angle spaces in the heart of the CBD on Seymour and Franklin Streets remain highly utilised throughout the day, with the duration of stay analysis indicating a high turnover of vehicles occurs, possibly due to the 1 hour restrictions in place and the high degree of enforcement. The 45 degree angle parking is easier to manoeuvre in and out of than parallel parking, encouraging users to “look” for a space in the hope that one will become available close to where they wish to shop. Anecdotally this results in high volumes of traffic circulating around the block looking for a vacant space. Consideration should be given to increasing the length of stay restrictions from 1 hour to 2 hour parking in order to decrease this negative effect on traffic flow.

Off-street public car parks suitable for the use of staff for all day parking within the heart of the CBD are also under stress. While there is limited availability of all day parking convenient to the CBD and free of charge, surveys show that some free of charge all day parking is available outside of the CBD and permit spaces conveniently located within the CBD are available for purchase. Time restricted spaces within the Seymour Street multilevel car park are currently underutilised and consideration should be given to altering the 3 hour restricted spaces on the 1st floor level to unrestricted spaces suitable for all day parking.

The expectation in Traralgon is that convenient and ‘free-of-charge’ parking should be available at all times. A decision needs to be made by Council as to whether this should be the case for both short and long term demands, or whether it is reasonable to expect users to walk a short distance and/or pay for parking.



6.2 weekend parking patterns

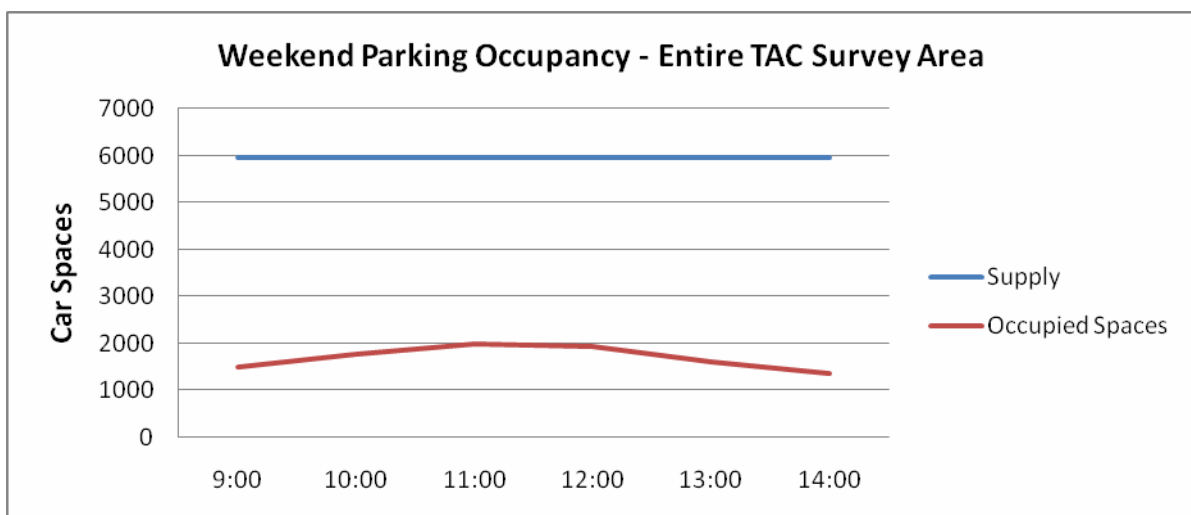
The survey was carried out between 9am-2pm on Saturday 20th February 2010.

6.2.1 weekend utilisation rate – overall

The peak weekend utilisation for all parking spaces located within the TAC occurred at 11am whereby 1942 spaces were occupied (33%). The parking demand diminished to 25% and below outside of the morning/lunch peak period. This data indicates that a significant proportion of parking within the TAC is not utilised on weekends.

Figure 13 shows a graph of the overall weekend parking occupancy for the TAC. Weekend parking occupancy graphs for individual streets and car parks are provided in full in Appendix 2.

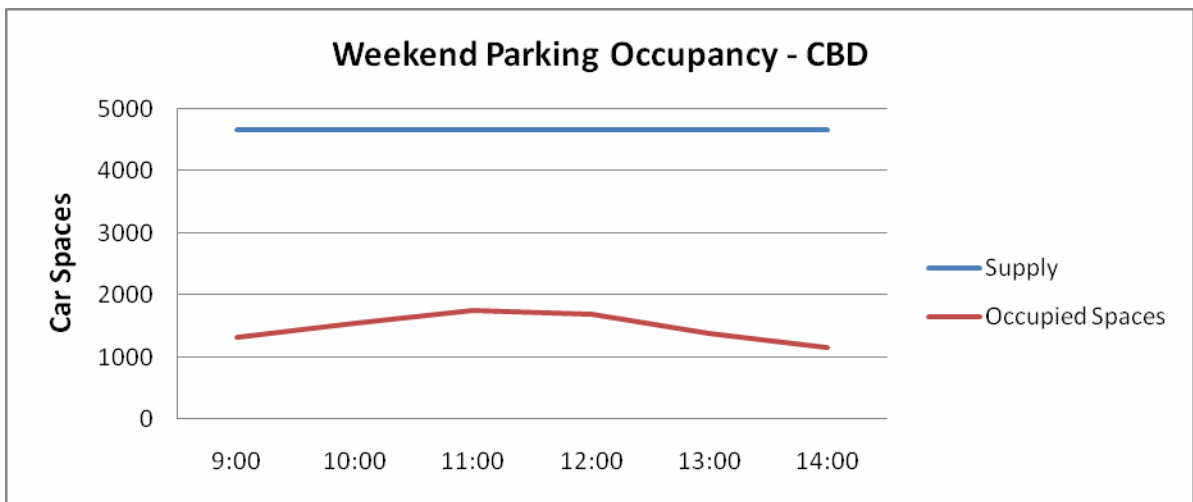
Figure 13: Overall Weekend Parking Occupancy



The peak weekend utilisation for parking spaces located solely within the CBD also occurred at 11am whereby 1753 spaces were occupied (38%). Figure 14 shows a graph of the CBD weekend parking occupancy.



Figure 14: CBD Weekend Parking Occupancy



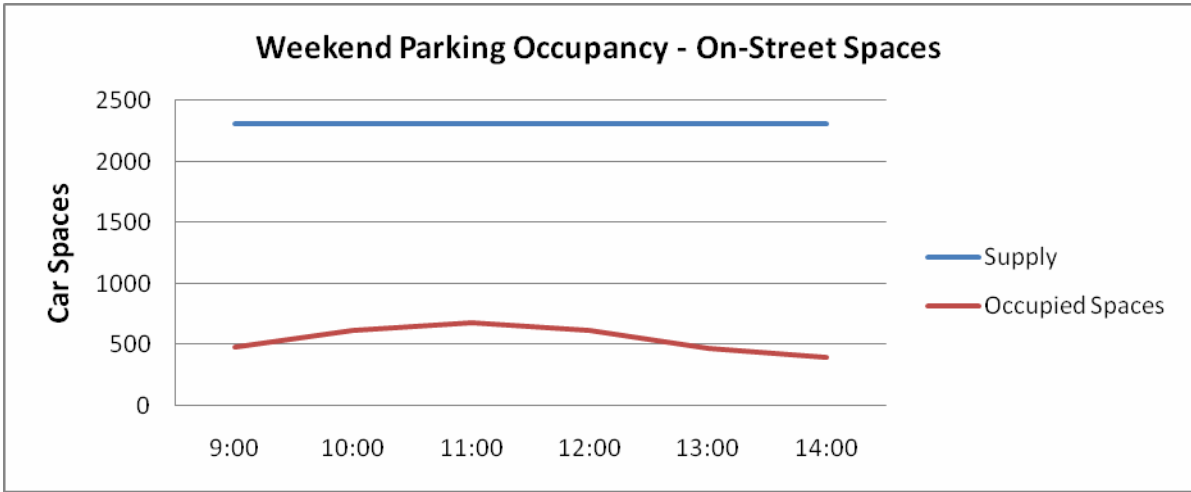
Figures 13 and 14 illustrate the weekend parking occupancy for the TAC and CBD respectively. Weekend parking occupancy graphs for individual streets and car parks are provided in full in Appendix 1. Figures 13 and 14 confirm that for the survey areas as a whole, parking utilisation is not “stressed” as full occupancy, considered to occur if utilisation rises above 90%, did not occur.



6.2.2 weekend utilisation rate – on-street spaces

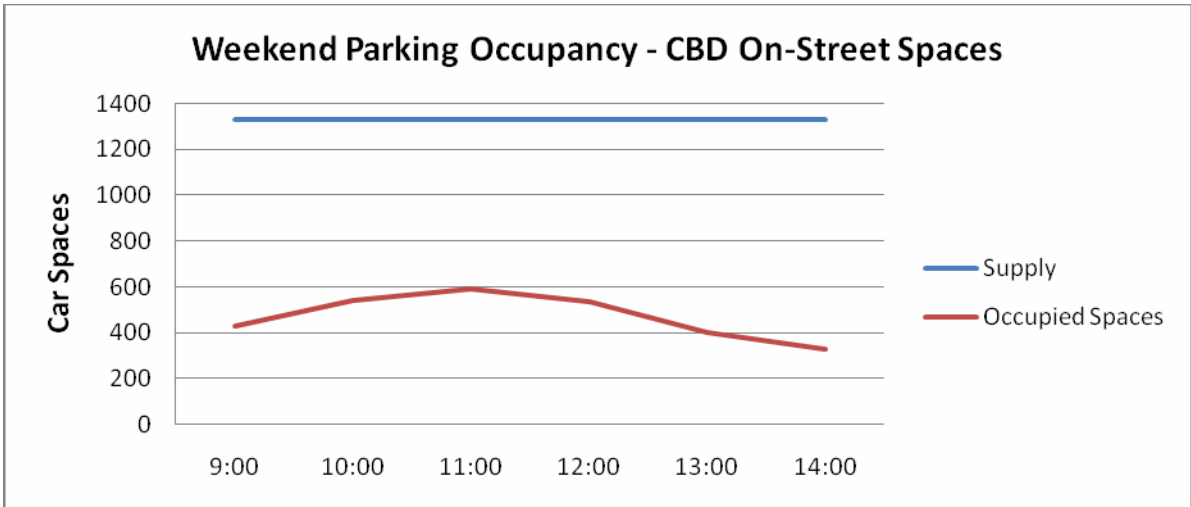
The peak weekend utilisation for on-street spaces located within the TAC also occurred at 11am whereby 676 spaces were occupied (29%). Occupancy rates diminish to below 25% outside of the morning/lunch peak period. Figure 15 shows a graph of the on-street weekend parking occupancy for the TAC.

Figure 15: On-Street Weekend Parking Occupancy



The peak weekend utilisation for on-street spaces located within the CBD also occurred at 11am whereby 591 spaces were occupied (44%). Figure 16 shows a graph of the on-street weekend parking occupancy for the CBD.

Figure 16: On-Street Weekend Parking Occupancy in the CBD

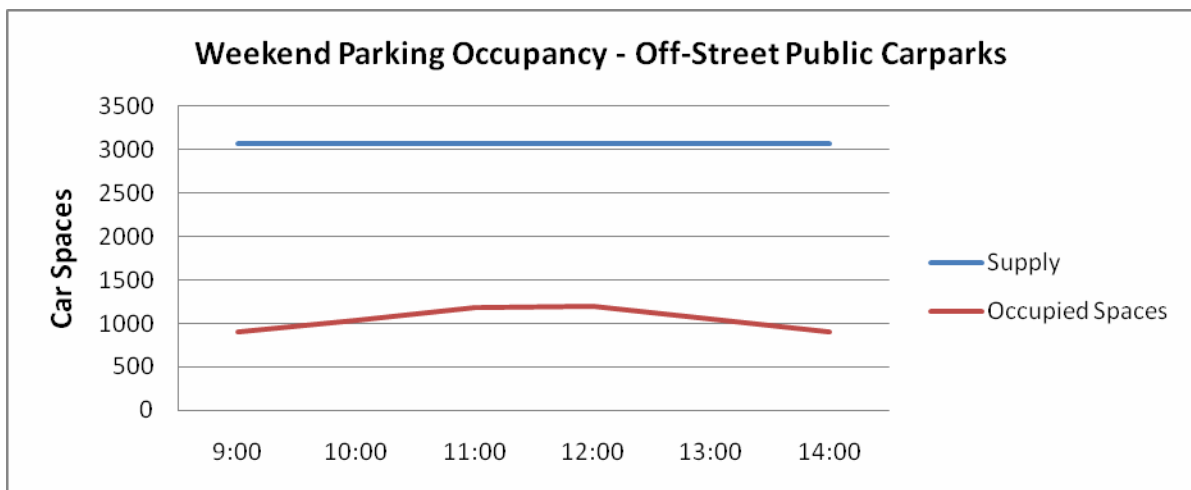




6.2.3 weekend utilisation rate – off-street public spaces

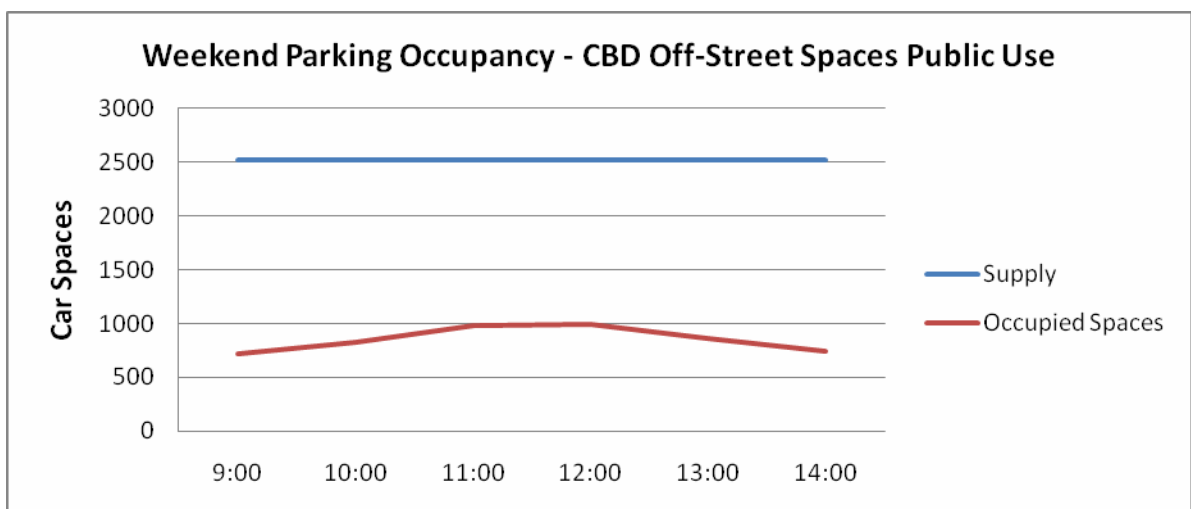
The peak weekend utilisation for off-street public use spaces located within the TAC occurred at midday whereby 1098 spaces were occupied (40%). Occupancy rates remained reasonably consistent throughout the survey period never dropping below 29%. Figure 17 shows a graph of the off-street public use weekend parking occupancy for the TAC.

Figure 17: Off-Street Weekend Parking Occupancy – Public Spaces



The peak weekend utilisation for off-street public use spaces located within the CBD also occurred at midday whereby 996 spaces were occupied (39%). Figure 18 shows a graph of the public off-street weekend parking occupancy for the CBD.

Figure 18: Off-Street Weekend Parking Occupancy in the CBD – Public Spaces

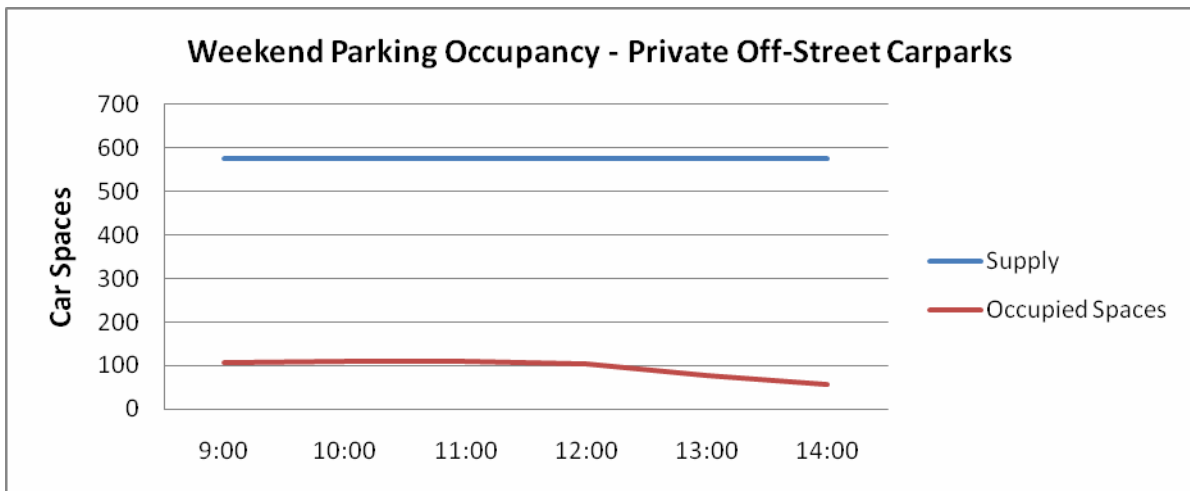




6.2.4 weekend utilisation rate – off-street private spaces

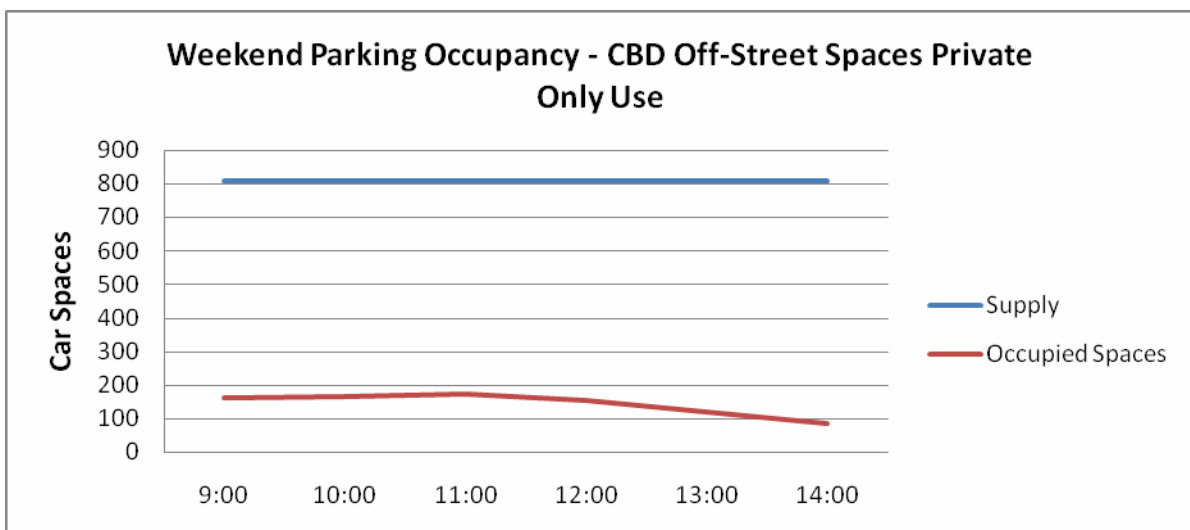
Weekend utilisation for off-street private use only spaces located within the TAC peaked at 11am whereby 111 spaces were occupied (19%), however remained consistently low throughout. Such low occupancy rates can be expected on a weekend for staff/employee only parking. Figure 19 shows a graph of the weekend off-street private parking occupancy for the TAC.

Figure 19: Off-Street Weekend Parking Occupancy – Private Spaces



The peak weekend utilisation for off-street private only use spaces located within the CBD occurred at 11am whereby 173 spaces were occupied (21%). Figure 20 shows a graph of the private off-street weekend parking occupancy for the CBD.

Figure 20: Off-Street Weekend Parking Occupancy in the CBD – Private Spaces





6.2.5 weekend utilisation rate – individual streets and car parks

While overall TAC parking utilisation peaked at about 33%, individual on-street sections and off-street car parks within the TAC were “fully” occupied at times. These sections (with general Saturday parking restrictions) included:

- **Franklin Street** between Seymour St & Hotham St (1P)
- **Post Office Place** between Franklin St & Princes Hwy (1P)
- **Seymour Street** between Church St & Post Office Ln (1P)
- Car Park **39** (Public Parking) – behind croquet club
- Car Park **40** (Public Parking) – next to swimming pool
- Car Park **56** (Public Parking) – adjacent Manny’s Market

Other locations that recorded peak occupancy just below these levels (85-89%) included:

- **Franklin Street** between Hotham St & Princes Hwy
- **Franklin Street** between Kay Street & Seymour St

Figure 21 shows those locations which recorded 85% occupancy or higher at any time during Saturday’s survey.



Figure 21: Weekend parking areas considered to be “stressed” (utilisation rates > 90%)



The off-street car parks (#39 & #40) located adjacent the community swimming pool and croquet club indicate that these recreational areas were in full use during the Saturday survey. Unrestricted parking within close walking distance is available however, therefore this high utilisation does not indicate any parking problems exist within the area on weekends.

Utilisation rates of other notable car parks within the TAC include Stockland Traralgon which peaked at midday with 564 spaces occupied out of 800 (71%) and remained reasonably consistent throughout the survey period. Basement parking peaked at midday with 78% of spaces occupied while the at-ground



parking peaked at 11am with 61% of spaces occupied. The new multilevel public car park on Seymour Street was recorded as having very low utilisation rates with a peak occupancy of 21% between 11am and midday. The Safeway car park peaked at 11am whereby 104 of the 178 spaces were occupied (58%).

6.2.6 weekend duration of stay

Analysis of the duration of stay results showed approximately 83% of on-street observations were recorded once i.e. the vehicle stayed for one hour or less (on average). A further 8% of observations were recorded twice. Figure 22 shows the percentage of all vehicles staying for an average of 1 hour, 2 hours etc.

Figure 22: Duration of Stay – Saturday Survey

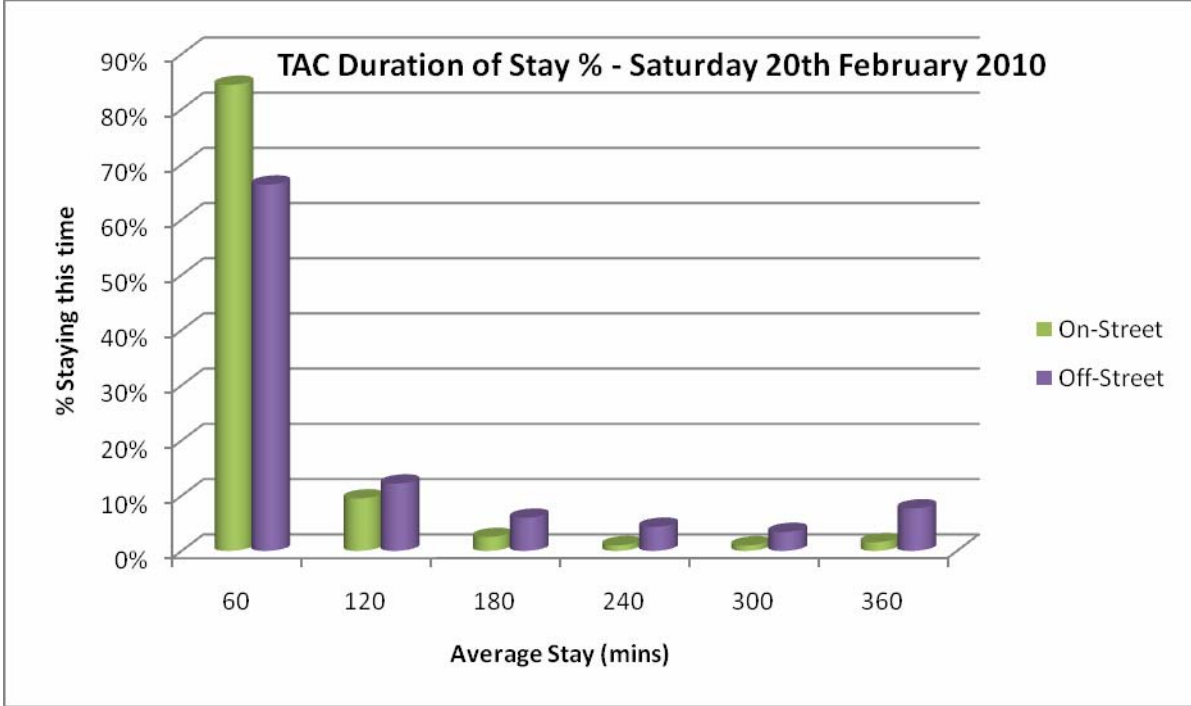


Table 4 shows the average duration of stay for vehicles in each street within the TAC.



Table 4: Duration of Stay - Summary of Streets (Saturday)

Albert Street	152	Unrestricted	-
Banks Street	120	Unrestricted	-
Breed Street	183	2P	63
Bridges Street	220	Unrestricted	-
Byron Street	285	Unrestricted	-
Church Street	70	1P	10
Coates Street	200	Unrestricted	-
Collins Street	168	Unrestricted	-
Deakin Street	80	2P	-40
Franklin Street	67	1P	7
Gordon Street	197	Unrestricted	-
Henry Street	120	Unrestricted	-
Hotham Street	73	1P	13
Kay Street	78	2P	-42
Livingston Street	192	Unrestricted	-
Mabel Street	154	Unrestricted	-
Meredith Street	180	Unrestricted	-
Moore Street	198	Unrestricted	-
Post Office Place	65	1P	5
Princes Highway	88	2P	-32
Queens Parade	240	Unrestricted	-
Service Street	160	2P	40
Seymour Street	70	1P	10
Shakespeare Street	66	Unrestricted	-
Grey Street	73	2P	-47
Wright Street	0	Unrestricted	-

Table 5 summarises the average duration of stay in each off-street car park within the TAC on the Saturday (refer Figure 2 for off-street car park locations).



Table 5: Duration of Stay - Summary of Off-Street Car Parks (Saturday)

Car Park #	Use / Restriction	Average Duration of Stay (mins)	Car Park #	Use / Restriction	Average Duration of Stay (mins)
Car Park 01	Customer parking	75	Car Park 32	Public parking	80
Car Park 02	Customer parking	0	Car Park 38	Customer parking	126
Car Park 03	Customer parking	100	Car Park 39	Public parking	303
Car Park 04	Private staff/tenants only	0	Car Park 40	Public parking	259
Car Park 05	Customer parking	0	Car Park 41	Private staff/tenants only	60
Car Park 06	Customer parking / Permit parking	96	Car Park 42	Public parking	146
Car Park 07	Customer parking (3P) / Permit parking	79	Car Park 43	Customer parking	90
Car Park 08	Public parking (2P / 3P / unrestricted / permit)	131	Car Park 44	Private staff/tenants only	222
Car Park 09	Customer parking / Permit parking	173	Car Park 46	Public parking	0
Car Park 10	Permit parking (1P)	0	Car Park 47	Private staff/tenants only	300
Car Park 11	Private staff/tenants only	270	Car Park 48	Private staff/tenants only	360
Car Park 12	Private staff/tenants only	0	Car Park 49	Public parking	360
Car Park 13	Private staff/tenants only	0	Car Park 50	Public parking	167
Car Park 14	Private staff/tenants only	360	Car Park 51	Private staff/tenants only	170
Car Park 15	Private staff/tenants only	306	Car Park 52	Public parking	195
Car Park 16	Customer parking	101	Car Park 53	Private staff/tenants only	210
Car Park 17	Customer parking	0	Car Park 54	Private staff/tenants only	360
Car Park 18	Private staff/tenants only	0	Car Park 55	Customer parking	73
Car Park 19	Private staff/tenants only	205	Car Park 56	Customer parking (2P)	62
Car Park 20	Customer parking	0	Car Park 57	Private staff/tenants only	235
Car Park 21	Customer parking	126	Car Park 58	Customer parking	117
Car Park 22	Customer parking	193	Car Park 59	Customer parking	160
Car Park 23	Private staff/tenants only	210	Car Park 60	Customer parking	60
Car Park 24	Private staff/tenants only	0	Car Park 61	Customer parking	210
Car Park 25	Private staff/tenants only	0	Car Park 62	Public parking	80
Car Park 26	Customer parking	260	Car Park 63	Public parking	60
Car Park 28	Public parking (1P)	86	Car Park 64	Public parking	168
Car Park 29	Public parking	120	Car Park 65	Customer parking	0
Car Park 30	Public parking	120	Car Park 66	Customer parking	0
Car Park 31	Public parking	246	TAC Overall Off-Street Average Duration of Stay (mins)		173



It can be seen from Tables 4 and 5 that the average duration of stay for vehicles parking on-street equates to 140 minutes, while vehicles parking in off-street car parks stay for an average of 173 minutes.

The results indicate that the duration of stay of vehicles in most streets corresponds reasonably well with the parking restrictions enforced, with the exception of Breed Street and Service Street whereby vehicles are overstaying the 2 hour restrictions, on average, by an additional 63 and 40 minutes respectively. Two hour restrictions on Deakin Street, Kay Street, Princes Highway and Grey Street all appear to be generous, with the majority of vehicles staying, on average, marginally more than 1 hour.

6.2.7 duration of stay in “stressed” areas

The average duration of stay for vehicles within the areas identified as being under stress in Section 6.2.5 can now be examined to determine whether there is a problem with “overstaying” vehicles or if the parking restrictions governing these areas needs reviewing.

Table 6: Duration of Stay – “Stressed” On-Street Sections (Saturday)

Street Section	Average Duration of Stay (mins)	Modal Parking Restriction (9am-5.30pm)	Average Overstay (mins)
Fully occupied (>90%)			
Franklin Street (Seymour Street - Hotham Street)	64	1P	4
Post Office Place (Franklin Street – Princes Highway)	65	1P	5
Seymour Street (Church Street – Post Office Lane)	67	1P	7
Near full occupancy (85-89%)			
Franklin Street (Hotham Street - Princes Highway)	76	1P	16
Franklin Street (Kay Street – Seymour Street)	64	1P	4

Table 6 indicates that on-street areas where parking utilisation is high (>85% occupancy at times) do not have a significant problem with “overstaying” vehicles. The reason behind vehicles generally obeying the time restrictions is likely attributed to the high degree of enforcement (1 officer on duty Saturdays).



6.2.8 weekend parking survey conclusions

The Saturday survey indicates that parking within all areas of the TAC on weekends remains readily available at all times, with the exception of a few street sections listed in Section 6.2.5. Franklin and Seymour Streets along with Post Office Place receive high utilisation from 10am – midday due to their close proximity to shop fronts and cafes, however, ample spaces remain available a short walking distance away.

6.3 loading bay locations

On-street loading bays are provided throughout the TAC in locations shown in Table 7.

Table 7: On-Street Loading Bay Locations

Street	Between	Side	Restriction
Church St	Hotham Street - Service Street	W	Loading Zone
Franklin St	Hotham Street - Princes Highway	E	Loading Zone
Hotham St	Church Street - Franklin Street	N	Loading Zone
Hotham St	Franklin Street - Livingston Street	N	Loading Zone
Post Office Pl	Franklin Street - Princes Highway	S	Loading Zone
Service St	Church Street - Franklin Street	N	Loading Zone
Service St	Church Street - Franklin Street	S	Loading Zone
Seymour St	Church Street - Post Office Lane	S	Loading Zone
Seymour St	Franklin Street - Methodist Lane	N	Loading Zone
Seymour St	Post Office Lane - Franklin Street	S	Loading Zone
Franklin St	Seymour Street - Hotham Street	E	Loading Zone (Taxi's Accepted)
Franklin St	Hotham Street - Princes Highway	W	Loading Zone 15 mins
Franklin St	Kay Street - Seymour Street	W	Loading Zone 15 mins
Franklin St	Seymour Street - Hotham Street	W	Loading Zone 15 mins
Deakin St	Hotham Street - Princes Highway	E	Loading Zone 30 mins

The utilisation of these bays is difficult to ascertain due to the average duration of stay typical for loading vehicles (<1hour). The duration of stay analysis does indicate that there is no problem with unauthorised vehicles parking in designated loading zones and loading bays remain vacant and available for use as required.

6.4 comparison of weekday and weekend parking patterns

On-street parking spaces receive similar utilisation rates on weekdays when compared to weekends, with high utilisation rates recorded in the heart of the CBD on Franklin and Seymour Streets throughout both the Friday and Saturday surveys. This is because the majority of demand is generated by retail



land use which has a high parking demand during these time periods. The spaces on these streets are generally restricted to 1 hour parking and receive a high turnover of vehicles. These spaces are the most convenient to local shops and cafes and hence represent the first choice for shoppers.

Off-street car park utilisation differs greatly from weekday to weekends, with weekday surveys highlighting a significant shortage of 'all-day' staff parking within the TAC. On weekends, off-street car parks are very much underutilised having plenty of capacity at all times throughout the survey period.

6.5 past survey results

Previous car parking occupancy surveys have been undertaken in Traralgon, specifically within the CBD. Arup undertook a parking study of the Traralgon CBD in June 2003 which included Friday and Saturday surveys over the same time periods as the current survey. In May 1991, the then City of Traralgon carried out a survey of on and off-street parking spaces within the area bounded by Grey Street, Breed Street and the Princes Highway over a Thursday, Friday and Saturday 8:30am-8:30pm each day.

The results of each of the previous surveys generally followed the same patterns observed in the most recent surveys. On-street parking in the CBD was highly utilised on weekdays and weekends, while public off-street car parks designated for 'all-day' parking were at full capacity during business hours midweek. Table 8 shows a comparison of the recent survey with the 2003 Arup survey (within the Traralgon CBD).

Table 8: Comparison to 2003 Arup Survey

Surveyed Spaces	Occupancy		Difference (+/-)
	2003 Arup Survey	2010 Survey	
Weekday Surveys			
On-Street	71%	59%	-12%
Off-Street Public	66%	69%	+3%
Off-Street Private	55%	58%	+3%
Weekend Surveys			
On-Street	47%	44%	-3%
Off-Street Public	45%	39%	-6%
Off-Street Private	21%	21%	-

As shown in Table 8, the only notable difference in parking patterns within the Traralgon CBD is the drop in utilisation of on-street spaces (12%). This is likely a result of the new multilevel Seymour Street Car Park which effectively takes the demand of up to 225 spaces off-street at peak times.



7 transit city principles

7.1 transit oriented development

Transit cities are based on the principles of Transit Oriented Development. This is a form of urban development that clusters a greater mixture of land uses around a high quality transport service. The transport node, which in this case is the Traralgon Railway Station, is designed to be the focus for the development and ideally becomes the community 'heart'. It is where people shop, work, meet, relax and live.

Transit Oriented Development is gaining currency worldwide as a key tool to reduce car dependence, boost public transport use and hence reduce reliance on fossil fuels. Australian cities, especially rural towns such as Traralgon, are exceptionally dispersed and thus more reliant on cars for travel and have a comparatively high level of transport energy use.

The Victorian Government has recognised the importance of a more compact city with a greater diversity of housing types as a part of the Melbourne 2030 metropolitan strategy. Transit Cities fits within a suite of policies designed to limit outward expansion of the metropolitan area. Activity centre policy aims to concentrate development in existing activity nodes around the city and the Urban Growth Boundary shapes and limits greenfield development on the fringe of the metropolitan area.

The Transit Cities project is the responsibility of the Department of Planning and Community Development and is implemented by the Department in partnership with Councils, government authorities, developers and the community.

7.2 general principles of transit cities and the urban renewal of centres

General Principles

- Promote a positive centre image
- Protect and enhance local character
- Introduce a diversity of housing
- Ensure an active public realm
- Create pedestrian-friendly streets and spaces

Movement Network



- Create permeable street networks and legible built environments
- Provide cycling facilities
- Bring traffic in, carefully
- Encourage travel behaviour change

High Quality Public Transport & Facilities

- Provide effective and inviting public transport services
- Provide direct and inviting links to public transport nodes
- Enhance connectivity between different travel modes
- Give public transport a high public profile

Transit-Centred & Urban Lifestyle Development

- Promote higher-density, mixed use development around public transport and urban lifestyle amenities
- Create an urban lifestyle hub



8 issues relating to the current parking provision

As a result of the survey findings detailed in this report, a number of key issues arise for discussion on how best to proceed with parking provision in Traralgon. The primary concern is the expectation for drivers to find a convenient and free-of-charge parking space at all times. The following two options relate to this issue:

- Utilisation of available parking which is currently underutilised
- Proposal for an additional level to the Seymour Street Car Park

The following discussion investigates the opportunities and constraints associated with each option.

8.1 utilisation of available underutilised parking

On-Street Parking

The survey findings indicate that the majority of parking areas in the TAC were underutilised, however, specific areas are subject to high utilisation. This is due to an expectation locally that drivers should be able to park close to their destination. This is reinforced by the fact that drivers will circulate on-street until a space becomes available, despite the fact that parking marginally further away may be freely available.

On-street survey data found that the 1 hour angle parking closest to shop frontages on Franklin Street, Seymour Street and Post Office Place was fully occupied with a high turnover of vehicles at times during the middle of the day on weekdays and weekends, while parking slightly further down the road or on other streets within a short walking distance were very much underutilised.

Consideration should be given to extending these spaces from 1 hour to 2 hour restrictions to reduce the high turnover of vehicles and prevent the 'expectation' for a more convenient spot to become available. This option also aids local 'service' businesses to more readily accommodate their customers. There are also economic benefits associated with shoppers 'walking past other shops not just their one of destination and spending more money'.

Another option would be to reintroduce metered parking, not widespread, but specifically within the highly utilised on-street sections only. The impact of this would be to encourage the use of free-of-charge parking slightly further away and more evenly distribute on-street parking around the CBD. It would also serve to reduce the levels of circulating traffic in these busy streets and have economic benefits associated with people walking past shops and cafés, rather than going directly to their destination.



The cost to Council for the implementation of metered parking is in the order of \$8,000 per machine for the newest 'Pay By Plate' technology which requires the motorist to enter their registration number on a keypad and therefore does not require them to return to their car and display the ticket as per the 'Pay & Display' option [approximately \$7,500 per machine]. A greater spacing of these machines can therefore be obtained and the cost reduced with less machine purchases being necessary.

However, these options pose as a problem for local traders who traditionally prefer a higher turnover of parking spaces with a set 1 hour restriction. Therefore the benefits of a high turnover of parking need to be weighed up against the traffic congestion caused by people circulating for a convenient space and the frustration caused by the apparent 'lack of parking'. Additionally, metered parking is rarely well received by the general public and would potentially generate as much concern as the current 'lack of parking' and traffic congestion in these streets.

Off-Street Parking

Free-of-charge off-street public parking areas which enable drivers to park all day without restriction are fully occupied midweek during business hours, however, the occupancy of all off-street public car parks in the TAC peaked at just 68%. This implies that private car parks for public use (customers) are providing an excessive supply, while on the other hand, some businesses are supplying little to no on-site parking which is creating a cumulatively high demand off-site in public parking spaces not reserved for customers only. A review of the Latrobe Planning Scheme (LPS) parking requirements for specific land uses is warranted based on these findings.

Consideration should be given to ascertaining realistic parking requirements for specific land uses and enforcing minimum and maximum car parking requirements within the TAC under the LPS.

It is recommended that Council investigate the potential to lease private parking spaces in underutilised car parks intended for customer use only, such as with the permit zones leased out of Stockland Traralgon.



8.2 proposal for an additional level to the seymour street car park

The surveys indicated a shortage of free-of-charge all-day parking for staff on weekdays within the CBD. The proposal for an additional level and approximately 115 additional spaces to the Seymour Street Car Park would help relieve a lot of the stress on all-day parking, however, the cost to Council is significant. The addition of these parking spaces would also deter the public from purchasing permit spaces which could expect a drop in the utilisation rate. Currently, there are 5 permit spaces located on the ground floor and 74 permit spaces on the 1st floor. Of these 79 permit spaces, 59 are currently leased (75%). The cost to subscribe to a permit space is \$1000 + GST per annum.

One option already discussed involves altering the 3 hour parking spaces within this car park to all-day parking spaces, which would increase supply by 34 spaces. At the same time some of the 2 hour restricted spaces on the ground floor level could be altered to 3 hour spaces. These 2 and 3 hour restricted spaces have a low utilisation rate for the majority of the day, and upon closer inspection of the survey findings, some vehicles are parking in one space for half a day and then moving their vehicle to another space to avoid the restrictions. This further indicates the need for all-day parking rather than 2-3 hour restricted spaces.

The location of the 3 hour restricted spaces on the 1st floor level of a large off-street car park opposes the inclination to find a more convenient space when parking short term. Therefore the majority of vehicles parking for a duration of around 3 hours are doing so in 2 hour restricted on-street spaces closer to their destination. This is indicated by the survey data which highlights overstaying of vehicles in 2 hour restricted spaces on Breed, Deakin and Service Street.

The decision to construct an additional level hinges on whether or not Council considers it fair to expect staff to pay for all-day permit spaces, or if all day parking should be supplied free-of-charge.



9 public consultation process

As part of the public consultation process the public were invited to attend a public information session held between 7pm-8.30pm at the DSE Offices on Hotham Street on Wednesday 17th March through advertisements placed in the public classifieds in the Latrobe Valley Express in three issues in February/March 2010. The public were also invited through community bulletins and poster displays throughout the town centre and residents within and around the TAC were invited through a letter mail-out.

A number of issues relating to car parking were brought up by the general public in this session and are discussed in the following response to public concerns.

9.1 response to public concerns

The public concerns in relation to car parking included:

- Need for an all day employee car park, could be at edge of CBD or the Traralgon Recreation Reserve which would include the provision of a shuttle bus
- 2-3hr parks rather than 1 hour parks
- Need for new floor on Seymour Street and more decked parking
- Accessibility spaces (wheelchairs and prams)
- Relationship between car parking and congestion (people circling for car spaces)

Need for an all day employee car park, could be at edge of CBD or the Traralgon Recreation Reserve which would include the provision of a shuttle bus

As highlighted in Section 6.1.5, there is currently a shortage of free-of-charge all day public parking within the TAC on weekdays. There is however, spare capacity in permit only spaces located within the Seymour Street Car Park and Stockland Traralgon due to the expectation that all day parking should be free-of-charge as has historically been the case. Therefore, the need for additional free-of-charge all day parking should be reviewed by Council as to whether users should be expected to pay for a permit space, or whether free-of-charge all day parking should be provided for employees.

The addition of an all day employee car park on the edge of the CBD would help ease parking congestion within the CBD, however, going forward it will likely have a negative influence on the use of more sustainable modes of transport (i.e. public transport and bicycle use) as facilities improve. This



option opposes the principles outlined in Section 7 – Transit City Principles.

A new long term car park outside the CBD would also come at a considerable cost to Council. A suitable location cannot be identified within close vicinity of the CBD, therefore any such car park would likely comprise decked parking. The most appropriate option is to add a new floor to the Seymour Street Car Park (see 3rd dot point) which is conveniently located in the heart of the CBD and was initially constructed with the option to build up. The option to provide decked parking at the Church Street car park would come at an even greater cost.

The option to construct a long term employee car park at the Traralgon Recreation Reserve and provide a shuttle bus to and from the CBD has the same pros and cons. It might also be difficult to obtain a high utilisation rate of this car park as users would effectively be without a car during the day and lose that flexibility with which they are accustomed. This option also opposes the principles outlined in Section 7 – Transit City Principles.

2-3hr parks rather than 1 hour parks

As discussed in Section 7.1, altering some on-street spaces in highly utilised streets of the CBD from 1 hour restrictions to 2 hour restrictions would reduce the turnover of vehicles and the expectation for drivers to find a convenient parking space at any given time. This would help ease traffic congestion in these streets by reducing the amount of circulating traffic. This option also aids local 'service' businesses to more readily accommodate their customers and provides economic benefits associated with people walking past shops and cafés which are not their specific destination.

However, these options pose a problem for local traders who traditionally prefer a higher turnover of parking spaces with a set 1 hour restriction. Therefore the benefits of a high turnover of parking need to be weighed up against the traffic congestion caused by people circulating for a convenient space and the frustration caused by the apparent 'lack of parking'.

Need for new floor on Seymour Street and more decked parking

As previously discussed, there is currently a shortage of free-of-charge all day public parking within the TAC on weekdays. However, the uptake on permit only spaces is low and spare capacity exists within the Seymour Street Car Park and Stockland Traralgon. This is due to the expectation that all day parking should be free-of-charge as has historically been the case. Therefore, the need for additional free-of-charge all day parking should be reviewed by Council as to whether users should be expected to pay for a permit space, or whether free-of-charge all day parking should be provided for employees.



The addition of a new floor on the Seymour Street Car Park or other additional decked parking would help ease parking congestion within the CBD, however, it would also come at a considerable cost to Council. Going forward it will likely have a negative influence on the use of more sustainable modes of transport (i.e. public transport and bicycle use) as facilities improve. At the moment, employees typically don't have the option to take public transport as facilities are limited.

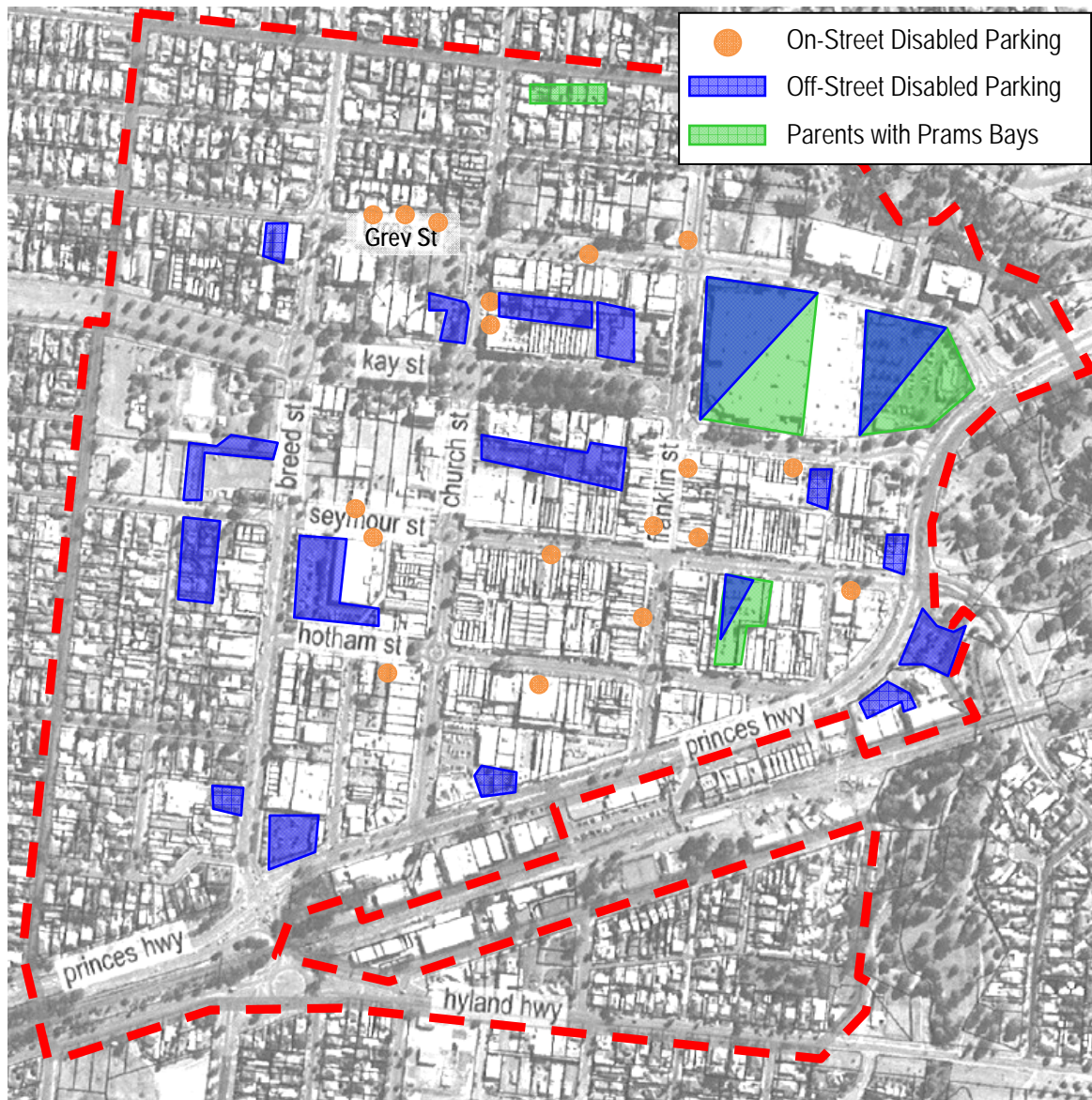
Consideration should be given to providing free-of-charge all day parking for employees until such time that public transport services are improved and people can be encouraged not to drive to work.

Accessibility spaces (wheelchairs and prams)

In total there are 18 on-street disabled parking bays, 35 off-street disabled parking bays and 17 bays allocated to parents with prams in locations as shown in Figure 23 below.



Figure 23: Parking areas allocated to Disabled and Parents with Prams



The peak weekday utilisation for on-street disabled parking occurred at 11:00am whereby 7 out of 18 spaces were occupied (39%) and peak weekend utilisation for on-street disabled parking also occurred at 11:00am whereby 4 spaces were occupied (22%).

The following 7 on-street disabled bays were not utilised at any point during the survey periods:

- Church Street x 1 (Grey St – Kay Street)
- Franklin Street (Moore St – Grey St)
- Hotham Street (Deakin St – Church St)



- Seymour Street (Methodist Ln – Princes Hwy)
- Grey St x 3 (Breed St – Church St)

Council should further review these spaces to determine if their location is optimal. While there is a low utilisation of some disabled bays, they are still likely required to provide appropriate access to all areas throughout the TAC. The utilisation and associated necessity of disabled parking, where multiple disabled bays are provided in the one location, should be further reviewed.

The peak weekday utilisation for off-street disabled parking occurred at 12:00pm whereby 20 out of 35 spaces were occupied (57%) and utilisation for parking allocated for parents with prams occurred at 11:00am whereby 9 out of 17 spaces were occupied (53%).

The peak weekend utilisation for off-street disabled parking occurred at 11:00am whereby 16 out of 35 spaces were occupied (46%) and utilisation for parking allocated for parents with prams occurred at 11:00am whereby 8 out of 17 spaces were occupied (47%). Council should further review the necessity of the following 8 off-street disabled bays which were not utilised at any point during the survey periods:

- Car Park 08 x 2 (Seymour Street Multilevel Car Park)
- Car Park 49 x 2 (behind Premier Function Centre)
- Car Park 50 x 2 (behind Ryan's Hotel)
- Car Park 52 x 2 (behind Harris Scarfe off Church Street)

The location of these accessibility spaces is deemed appropriate as Figure 23 illustrates a good reach throughout the TAC. The occupancy rates recorded indicate the supply is sufficient to provide an appropriate availability of spaces at any given time.

Relationship between car parking and congestion (people circling for car spaces)

As discussed in Section 7.1, altering some on-street spaces in highly utilised streets of the CBD from 1 hour restrictions to 2 hour restrictions could help reduce the turnover of vehicles and the expectation for drivers to find a convenient parking space.

Similarly, reintroducing metered parking within these highly utilised on-street sections would encourage the use of free parking slightly further away and more evenly distribute on-street parking around the CBD.

Both of these options would help ease traffic congestion in these streets by reducing the amount of circulating traffic.



10 conclusions

Based on the investigations and analysis summarised in this report it is concluded that:

- The study area covered by the Traralgon Activity Centre Plan (TACP) is more expansive than previous studies which focused on the Traralgon CBD core. Therefore for comparative purposes, survey data has been analysed separately for the CBD core, as well as the overall TAC.
- Peak parking demand for the TAC on the Friday occurred at 11:00am with 3219 spaces out of the 5884 spaces surveyed occupied, equivalent to an occupancy level of 55%. For the CBD core, 2954 spaces out of 4664 were occupied also at 11am, equivalent to an occupancy level of 63%.
- Peak parking demand on the Saturday occurred at 11:00am with 1942 spaces out of the 5884 spaces surveyed occupied, equivalent to an occupancy level of 33%. For the CBD core, 1753 spaces out of 4664 were occupied also at 11am, equivalent to an occupancy level of 38%.
- High levels of occupancy (>85%) were recorded in some on-street sections within the heart of the CBD with convenient access to shop frontages and cafés. These spaces receive a high turnover due to the 1 hour restriction and high level of enforcement. This high turnover induces an expectation for drivers to be able to find a convenient parking space which causes traffic congestion with cars circulating for a space. Potential options to rectify this problem include:
 - Increasing the restrictions from 1 hour to 2 hour parking to reduce turnover.
 - Reintroducing metered parking in these highly utilised sections to more evenly distribute demand to surrounding street sections with much lower occupancy rates.
- Although off-street parking occupancy rates were relatively low across the survey periods, high levels of occupancy (>85%) were recorded on Friday in both of the two public off-street long term car parks provided within the CBD, being the multi-level Seymour Street Car Park (CP08) and the Church Street car park (CP52). This indicates that 'customer only' parking spaces and time restricted off-street spaces are generally underutilised.
- From responses received during the consultation process and the results of the surveys it appears there is a shortage of longer term parking available for the centre that is free-of-charge. Council needs to decide whether it is appropriate for employees to pay for permit spaces to park all day within the CDB or whether free-of-charge spaces should be provided as has historically been the case. Employees currently do not have the option to leave their car at home as public transport facilities are limited.



- Options which could be considered to rectify the shortage of free-of-charge all day parking include the following:
 - Converting the mid level of the multi-deck Seymour Street Car Park to all day parking (currently a mix of permit parking and 3 hour parking).
 - Construct an additional level above the existing top level of the multi-deck car park. This would provide approximately 100 additional spaces. The structure has also been designed to cater for this additional level.
- There is evidence from the duration of stay surveys that some visitors to the centre are staying longer than the signed time limits. Consideration should be given to extending some of the 2 hour parking restrictions to 3 hour limits instead, to accommodate this need where appropriate.
- Surveys indicated that peak demand for on-street disabled parking areas occurred at 11:00am on Friday with 7 spaces occupied and at 11:00am on Saturday with 4 spaces occupied equivalent to occupancy levels of 39% and 22% respectively.
- Peak demand for off-street disabled parking areas occurred at 12:00pm on Friday with 20 spaces occupied and at 11:00am on Saturday with 16 spaces occupied equivalent to occupancy levels of 57% and 46% respectively.
- Peak demand for off-street areas allocated for parents with prams occurred at 11:00am on Friday with 9 spaces occupied and at 11:00am on Saturday with 8 spaces occupied equivalent to an occupancy level of 52% and 47% respectively.



appendix 1
weekday parking occupancy results

Location	Total Spaces	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied			
Albert Street (Henry Street - Bridges Street	28	0	28	0%	1	27	4%	2	26	7%	0	28	0%	1	27	4%	3	25	11%	2	26	7%	1	27	4%	0	28	0%	0	28	0%	0	28	0%	0	28	0%	0	28	0%
Albert Street (Seymour Street - Henry Street)	43	1	42	2%	2	41	5%	2	41	5%	3	40	7%	3	40	7%	2	41	5%	2	41	5%	0	43	0%	0	43	0%	0	43	0%	0	43	0%	0	43	0%	0	43	0%
Albert Street Total	71	1	70	1%	3	68	4%	4	67	6%	3	68	4%	4	67	6%	5	66	7%	4	67	6%	1	70	1%	0	71	0%	0	71	0%	0	71	0%	0	71	0%	0	71	0%
Banks Street (Francis Street - Hickcox Street)	41	0	41	0%	0	41	0%	0	41	0%	0	41	0%	0	41	0%	1	40	2%	1	40	2%	1	40	2%	3	38	7%	0	41	0%	0	41	0%	0	41	0%	2	39	5%
Banks Street Total	41	0	41	0%	0	41	0%	0	41	0%	0	41	0%	0	41	0%	1	40	2%	1	40	2%	1	40	2%	3	38	7%	0	41	0%	0	41	0%	0	41	0%	2	39	5%
Breed Street (Grey Street - Moore Street)	8	0	8	0%	0	8	0%	0	8	0%	1	7	13%	3	5	38%	0	8	0%	0	8	0%	1	7	13%	0	8	0%	0	8	0%	0	8	0%	0	8	0%	0	8	0%
Breed Street (Grey Street - Kay Street)	15	9	6	60%	11	4	73%	12	3	80%	11	4	73%	9	6	60%	10	5	67%	9	6	60%	9	6	60%	8	7	53%	3	12	20%	1	14	7%	0	15	0%	2	13	13%
Breed Street (Moore Street - Gordon Crescent)	11	0	11	0%	0	11	0%	0	11	0%	0	11	0%	0	11	0%	0	11	0%	0	11	0%	0	11	0%	1	10	9%	0	11	0%	1	10	9%	1	10	9%	1	10	9%
Breed Street (Bridges Street - Princess Highway/Princes Street)	5	0	5	0%	1	4	20%	4	1	80%	4	1	80%	1	4	20%	1	4	20%	2	3	40%	0	5	0%	0	5	0%	0	5	0%	0	5	0%	0	5	0%	0	5	0%
Breed Street (Henry Street - Bridges Street)	13	1	12	8%	4	9	31%	6	7	46%	5	8	38%	5	8	38%	5	8	38%	4	9	31%	1	12	8%	1	12	8%	3	10	23%	0	13	0%	1	12	8%	2	11	15%
Breed Street (Hotham Street - Henry Street)	21	4	17	19%	10	11	48%	10	11	48%	14	7	67%	14	7	67%	11	10	52%	17	4	81%	8	13	38%	3	18	14%	1	20	5%	0	21	0%	0	21	0%	0	21	0%
Breed Street (Kay Street - Seymour Street)	18	10	8	56%	12	6	67%	11	7	61%	11	7	61%	8	10	44%	8	10	44%	7	11	39%	7	11	39%	1	17	6%	1	17	6%	1	17	6%	0	18	0%	0	18	0%
Breed Street (Seymour Street - Hotham Street)	19	11	8	58%	13	6	68%	9	10	47%	8	11	42%	8	11	42%	10	9	53%	6	13	32%	6	13	32%	6	13	32%	1	18	5%	0	19	0%	0	19	0%	0	19	0%
Breed Street Total	110	35	75	32%	51	59	46%	52	58	47%	54	56	49%	48	62	44%	45	65	41%	45	65	41%	32	78	29%	20	90	18%	14	96	13%	3	107	3%	2	108	2%	5	105	5%
Bridges Street (Mabel Street - Albert Street)	20	1	19	5%	2	18	10%	4	16	20%	4	16	20%	3	17	15%	2	18	10%	3	17	15%	2	18	10%	2	18	10%	2	18	10%	2	18	10%	2	18	10%	2	18	10%
Bridges Street Total	20	1	19	5%	2	18	10%	4	16	20%	4	16	20%	3	17	15%	2	18	10%	3	17	15%	2	18	10%	2	18	10%	2	18	10%	2	18	10%	2	18	10%	2	18	10%
Byron Street (Gordon Crescent - Moore Street)	17	1	16	6%	0	17	0%	0	17	0%	0	17	0%	1	16	6%	1	16	6%	1	16	6%	1	16	6%	0	17	0%	1	16	6%	3	14	18%	3	14	18%	3	14	18%
Byron Street (Moore Street - Grey Street)	10	1	9	10%	0	10	0%	0	10	0%	1	9	10%	1	9	10%	2	8	20%	1	9	10%	2	8	20%	2	8	20%	2	8	20%	2	8	20%	1	9	10%	1	9	10%
Byron Street Total	27	2	25	7%	0	27	0%	0	27	0%	1	26	4%	2	25	7%	3	24	11%	2	25	7%	3	24	11%	2	25	7%	3	24	11%	5	22	19%	5	22	19%	4	23	15%
Church Street (Gordon Crescent - Moore Street)	11	1	10	9%	1	10	9%	1	10	9%	2	9	18%	2	9	18%	2	9	18%	2	9	18%	1	10	9%	1	10	9%	0	11	0%	2	9	18%	2	9	18%	2	9	18%
Church Street (Moore Street - Grey Street)	25	20	5	80%	19	6	76%	19	6	76%	21	4	84%	21	4	84%	21	4	84%	19	6	76%	7	18	28%	2	23	8%	2	23	8%	0	25	0%	0	25	0%	0	25	0%
Church Street (Hotham Street - Service Street)	19	1	18	5%	8	11	42%	9	10	47%	9	10	47%	9	10	47%	6	13	32%	11	8	58%	10	9	53%	6	13	32%	5	14	26%	1	18	5%	0	19	0%	0	19	0%
Church Street (Journal Lane - Hotham Street)	21	4	17	19%	11	10	52%	11	10	52%	11	10	52%	17	4	81%	16	5	76%	15	6	71%	9	12	43%	8	13	38%	4	17	19%	8	13	38%	4	17	19%	4	17	19%
Church Street (Kay Street - Seymour Street)	37	6	31	16%	11	26	30%	36	1	97%	36	1	97%	15	22	41%	11	26	30%	9	28	24%	9	28	24%	6	31	16%	3	34	8%	12	25	32%	9	28	24%	9	28	24%
Church Street (Service Street - Princes Highway/Princes Street)	49	7	42	14%	7	42	14%	14	35	29%	8	41	16%	12	37	24%	13	36	27%	17	32	35%	16	33	33%	20	29	41%	18											



appendix 2
weekend parking occupancy results

On-Street Car Parking Occupancy		9:00			10:00			11:00			12:00			13:00			14:00		
	Total Spaces	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied
Location																			
Albert Street (Henry Street - Bridges Street)	28	1	27	4%	1	27	4%	2	26	7%	1	27	4%	1	27	4%	1	27	4%
Albert Street (Seymour Street - Henry Street)	43	1	42	2%	6	37	14%	6	37	14%	3	40	7%	6	37	14%	4	39	9%
Albert Street Total	71	2	69	3%	7	64	10%	8	63	11%	4	67	6%	7	64	10%	5	66	7%
Banks Street (Francis Street - Hickcox Street)	41	1	40	2%	1	40	2%	1	40	2%	1	40	2%	1	40	2%	1	40	2%
Banks Street Total	41	1	40	2%	1	40	2%	1	40	2%	1	40	2%	1	40	2%	1	40	2%
Breed Street (Grey Street - Moore Street)	8	0	8	0%	0	8	0%	0	8	0%	0	8	0%	0	8	0%	0	8	0%
Breed Street (Grey Street - Kay Street)	15	2	13	13%	1	14	7%	1	14	7%	0	15	0%	0	15	0%	0	15	0%
Breed Street (Moore Street - Gordon Crescent)	11	0	11	0%	0	11	0%	0	11	0%	0	11	0%	0	11	0%	0	11	0%
Breed Street (Bridges Street - Princess Highway/Princes Street)	5	0	5	0%	0	5	0%	0	5	0%	0	5	0%	1	4	20%	0	5	0%
Breed Street (Henry Street - Bridges Street)	13	4	9	31%	2	11	15%	1	12	8%	2	11	15%	0	13	0%	0	13	0%
Breed Street (Hotham Street - Henry Street)	21	1	20	5%	1	20	5%	2	19	10%	0	21	0%	0	21	0%	1	20	5%
Breed Street (Kay Street - Seymour Street)	18	11	7	61%	15	3	83%	14	4	78%	15	3	83%	14	4	78%	13	5	72%
Breed Street (Seymour Street - Hotham Street)	19	0	19	0%	0	19	0%	0	19	0%	1	18	5%	1	18	5%	0	19	0%
Breed Street Total	110	18	92	16%	19	91	17%	18	92	16%	18	92	16%	16	94	15%	14	96	13%
Bridges Street (Mabel Street - Albert Street)	20	2	18	10%	3	17	15%	3	17	15%	3	17	15%	3	17	15%	3	17	15%
Bridges Street Total	20	2	18	10%	3	17	15%	3	17	15%	3	17	15%	3	17	15%	3	17	15%
Byron Street (Gordon Crescent - Moore Street)	17	2	15	12%	2	15	12%	2	15	12%	1	16	6%	1	16	6%	1	16	6%
Byron Street (Moore Street - Grey Street)	10	1	9	10%	1	9	10%	1	9	10%	1	9	10%	0	10	0%	1	9	10%
Byron Street Total	27	3	24	11%	3	24	11%	3	24	11%	2	25	7%	1	26	4%	2	25	7%
Church Street (Gordon Crescent - Moore Street)	11	1	10	9%	1	10	9%	1	10	9%	0	11	0%	0	11	0%	3	8	27%
Church Street (Moore Street - Grey Street)	25	0	25	0%	0	25	0%	0	25	0%	0	25	0%	1	24	4%	1	24	4%
Church Street (Hotham Street - Service Street)	19	0	19	0%	1	18	5%	1	18	5%	1	18	5%	0	19	0%	0	19	0%
Church Street (Journal Lane - Hotham Street)	21	14	7	67%	13	8	62%	16	5	76%	10	11	48%	3	18	14%	1	20	5%
Church Street (Kay Street - Seymour Street)	37	14	23	38%	19	18	51%	23	14	62%	14	23	38%	6	31	16%	3	34	8%
Church Street (Service Street - Princes Highway/Princes Street)	49	1	48	2%	0	49	0%	7	42	14%	4	45	8%	0	49	0%	0	49	0%
Church Street (Seymour Street - Journal Lane)	22	8	14	36%	12	10	55%	14	8	64%	7	15	32%	4	18	18%	4	18	18%
Church Street (Tyers Road - Kay Street)	32	0	32	0%	0	32	0%	2	30	6%	0	32	0%	1	31	3%	1	31	3%
Church Street Total	216	38	178	18%	46	170	21%	64	152	30%	36	180	17%	15	201	7%	13	203	6%
Coates Street (Queens Parade - Meredith Street)	17	4	13	24%	2	15	12%	3	14	18%	3	14	18%	3	14	18%	2	15	12%
Coates Street Total	17	4	13	24%	2	15	12%	3	14	18%	3	14	18%	3	14	18%	2	15	12%
Collins Street (Queens Parade - Hyland Way)	21	3	18	14%	1	20	5%	2	19	10%	2	19	10%	3	18	14%	3	18	14%
Collins Street Total	21	3	18	14%	1	20	5%	2	19	10%	2	19	10%	3	18	14%	3	18	14%
Deakin Street (Hotham Street - Princes Hghihway)	32	4	28	13%	2	30	6%	2	30	6%	2	30	6%	2	30	6%	0	32	0%
Deakin Street Total	32	4	28	13%	2	30	6%	2	30	6%	2	30	6%	2	30	6%	0	32	0%
Franklin Street (Gordon Crescent - Moore Street)	7	0	7	0%	0	7	0%	0	7	0%	0	7	0%	0	7	0%	0	7	0%
Franklin Street (Moore Street - Grey Street)	38	0	38	0%	0	38	0%	0	38	0%	0	38	0%	0	38	0%	0	38	0%
Franklin Street (Hotham Street - Princes Highway)	18	6	12	33%	9	9	50%	15	3	83%	14	4	78%	13	5	72%	16	2	89%
Franklin Street (Kay Street - Seymour Street)	47	21	26	45%	36	11	77%	40	7	85%	39	8	83%	34	13	72%	16	31	34%
Franklin Street (Seymour Street - Hotham Street)	49	33	16	67%	44	5	90%	44	5	90%	45	4	92%	29	20	59%	35	14	71%
Franklin Street (Tyers Road - Kay Street)	21	9	12	43%	8	13	38%	11	10	52%	8	13	38%	6	15	29%	7	14	33%
Franklin Street Total	180	69	111	38%	97	83	54%	110	70	61%	106	74	59%	82	98	46%	74	106	41%
Gordon Street (Breed Street - Church Street)	28	1	27	4%	1	27	4%	1	27	4%	1	27	4%	1	27	4%	1	27	4%
Gordon Street Byron Street - Osborne Street)	26	0	26	0%	0	26	0%	0	26	0%	0	26	0%	0	26	0%	1	25	4%
Gordon Street (Church Street - Franklin Street)	38	2	36	5%	3	35	8%	3	35	8%	2	36	5%	3	35	8%	3	35	8%
Gordon Street (Osborne Street - Breed Street)	10	0	10	0%	0	10	0%	0	10	0%	0	10	0%	0	10	0%	0	10	0%
Gordon Street Total	102	3	99	3%	4	98	4%	4	98	4%	3	99	3%	4	98	4%	5	97	5%
Henry Street (Albert Street - Breed Street)	15	0	15	0%	1	14	7%	2	13	13%	2	13	13%	2	13	13%	2	13	13%
Henry Street (Mabel Street - Albert Street)	18	1	17	6%	0	18	0%	2	16	11%	2	16	11%	1	17	6%	1	17	6%
Henry Street Total	33	1	32	3%	1	32	3%	4	29	12%	4	29	12%	3	30	9%	3	30	9%
Hotham Street (Breed Street - Feeley Lane/Deakin Street)	26	0	26	0%	0	26	0%	0	26	0%	0	26	0%	0	26	0%	0	26	0%
Hotham Street (Church Street - Franklin Street)	102	60	42	59%	78	24	76%	66	36	65%	49	53	48%	33	69	32%	25	77	25%
Hotham Street (Deakin Street - Church Street)	22	0	22	0%	0	22	0%	0	22	0%	0	22	0%	0	22	0%	0	22	0%
Hotham Street (Franklin Street - Livingston Street)	67	11	56	16%	20	47	30%	34	33	51%	37	30	55%	30	37	45%	21	46	31%
Hotham Street Total	217	71	146	33%	98	119	45%	100	117	46%	86	131	40%	63	154	29%	46	171	21%
Kay Street (Mabel Street - Breed Street)	17	1	16	6%	4	13	24%	3	14	18%	4	13	24%	2	15	12%	2	15	12%
Kay Street (Breed Street - Church Street)	56	25	31	45%	22	34	39%	19	37	34%	17	39	30%	8	48	14%	6	50	11%
Kay Street (Church Street - Franklin Street)	103	7	96	7%	14	89	14%	19	84	18%	15	88	15%	7	96	7%	6	97	6%
Kay Street (Mabel Street - Breed Street)	28	0	28	0%	0	28	0%	0	28	0%	0	28	0%	0	28	0%	0	28	0%
Kay Street Total	204	33	171	16%	40	164	20%	41	163	20%	36	168	18%	17	187	8%	14	190	7%
Livingston Street (Seymour Street - Hotham Street)	10	1	9	10%	4	6	40%	5	5	50%	3	7	30%	3	7	30%	0	10	0%
Livingston Street Total	10	1	9	10%	4	6	40%	5	5	50%	3	7	30%	3	7	30%	0	10	0%
Mabel Street (Bridges Street - Princes Highway)	17	1	16	6%	1	16	6%	2	15	12%	2	15	12%	2	15	12%	2	15	12%
Mabel Street (Greenwood Grove - Seymour Street)	16	1	15	6%	2	14	13%	3	13	19%	5	11	31%	2	14	13%	0	16	0%
Mabel Street (Henry Street - Bridges Street)	28	1	27	4%	1	27	4%	1	27	4%	0	28	0%	2	26	7%	2	26	7%
Mabel Street (Kay Street - Greenwood Grove)	22	1	21	5%	1	21	5%	2	20	9%	2	20	9%	2	20	9%	1	21	5%
Mabel Street (Seymour Street - Henry Street)	41	3	38	7%	5	36	12%	7	34	17%	2	39	5%	4	37	10%	2	39	5%
Mabel Street Total	124	7	117	6%	10	114	8%	15	109	12%	11	113	9%	12	112	10%	7	117	6%
Meredith Street (Collins Street - dead end)	25	2	23	8%	2	23	8%	1	24	4%	1	24	4%	1	24	4%	2	23	8%
Meredith Street Total	25	2	23	8%	2	23	8%	1	24	4%	1	24	4%	1	24	4%	2	23	8%
Moore Street (Breed Street - Church Street)	26	0	26	0%	1	25	4%	1	25	4%	2	24	8%	2	24	8%	2	24	8%
Moore Street (Byron Street - Breed Street)	38	2	36	5%	2	36	5%	3	35	8%	3	35	8%	4	34	11%	4	34	11%
Moore Street (Church Street - Franklin Street)	39	4	35	10%	4	35	10%	4	35	10%	4	35	10%	0	39	0%	1	38	3%
Moore Street Total	103	6	97	6%	7	96	7%	8	95	8%	9	94	9%	6	97	6%	7	96	7%
Post Office Place (Franklin Street - Princes Highway)	76	63	13	83%	68	8	89%	71	5	93%	69	7	91%	54	22	71%	56	20	74%
Post Office Place Total	76	63	13	83%	68	8	89%	71	5	93%	69	7	91%	54	22	71%	56	20	74%
Princes Street / Princes Highway (Mabel Street - Breed Street)	9	1	8	11%	2	7	22%	2	7	22%	3	6	33%	1	8	11%	1	8	11%
Princes Street / Princes Highway (Church Street - Franklin Street)	14	7	7	50%	5	9	36%	5	9	36%	9	5	64%	8	6	57%	10	4	71%
Princes Street / Princes Highway (Breed Street - Deakin Street)	7	0	7	0%	0	7	0%	0	7	0%	0	7	0%	0	7	0%	0	7	0%
Princes Street / Princes Highway (Church Street - Franklin Street)	8	0	8	0%	0	8	0%	0	8	0%	0	8	0%	0	8	0%	0	8	0%
Princes Street / Princes Highway (Deakin Street - Church Street)	7	0	7	0%	1	6	14%	0	7	0%	0	7	0%	0	7	0%	0	7	0%
Princes Street / Princes Highway (Franklin Street - Hotham Street)	11	1	10	9%	0	11	0%	0	11	0%	1	10	9%	0	11	0%	0	11	0%
Princes Street / Princes Highway (Post Office Place - Grey Street / Tyers Road)	17	0	17	0%	3	14	18%	3	14	18%	1	16	6%	4	13	24%	2	15	12%
Princes Street / Princes Highway (Seymour Street - Post Office Place)	10	2	8	20%	2	8	20%	2	8	20%	2	8	20%	2	8	20%	2	8	20%
Princes Street / Princes Highway Total	83	11	72	13%	13	70	16%	12	71	14%	16	67							

Off-Street Car Parking Occupancy		9:00			10:00			11:00			12:00			13:00			14:00		
	Total Spaces	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied	Occupied Spaces	Free Spaces	% Occupied
Location																			
Car Park 01	34	1	33	3%	2	32	6%	1	33	3%	1	33	3%	0	34	0%	0	34	0%
Car Park 02	74	0	74	0%	0	74	0%	0	74	0%	0	74	0%	0	74	0%	0	74	0%
Car Park 03	26	1	25	4%	2	24	8%	1	25	4%	1	25	4%	0	26	0%	0	26	0%
Car Park 04	52	0	52	0%	0	52	0%	0	52	0%	0	52	0%	0	52	0%	0	52	0%
Car Park 05	132	0	132	0%	0	132	0%	0	132	0%	0	132	0%	0	132	0%	0	132	0%
Car Park 06	512	220	292	43%	278	234	54%	357	155	70%	399	113	78%	337	175	66%	307	205	60%
Car Park 07	288	134	154	47%	144	144	50%	177	111	61%	165	123	57%	146	142	51%	130	158	45%
Car Park 08	289	46	243	16%	53	236	18%	62	227	21%	61	228	21%	59	230	20%	48	241	17%
Car Park 09	26	8	18	31%	10	16	38%	9	17	35%	10	16	38%	9	17	35%	6	20	23%
Car Park 10	8	0	8	0%	0	8	0%	0	8	0%	0	8	0%	0	8	0%	0	8	0%
Car Park 11	53	7	46	13%	7	46	13%	8	45	15%	8	45	15%	8	45	15%	7	46	13%
Car Park 12	28	0	28	0%	0	28	0%	0	28	0%	0	28	0%	0	28	0%	0	28	0%
Car Park 13	19	0	19	0%	0	19	0%	0	19	0%	0	19	0%	0	19	0%	0	19	0%
Car Park 14	5	1	4	20%	1	4	20%	1	4	20%	1	4	20%	1	4	20%	1	4	20%
Car Park 15	81	48	33	59%	48	33	59%	48	33	59%	44	37	54%	39	42	48%	28	53	35%
Car Park 16	82	15	67	18%	23	59	28%	27	55	33%	39	43	48%	49	33	60%	21	61	26%
Car Park 17	27	0	27	0%	0	27	0%	0	27	0%	0	27	0%	0	27	0%	0	27	0%
Car Park 18	28	0	28	0%	0	28	0%	0	28	0%	0	28	0%	0	28	0%	0	28	0%
Car Park 19	45	8	37	18%	8	37	18%	8	37	18%	8	37	18%	2	43	4%	2	43	4%
Car Park 20	50	0	50	0%	0	50	0%	0	50	0%	0	50	0%	0	50	0%	0	50	0%
Car Park 21	63	12	51	19%	11	52	17%	13	50	21%	24	39	38%	34	29	54%	36	27	57%
Car Park 22	32	13	19	41%	13	19	41%	13	19	41%	9	23	28%	5	27	16%	8	24	25%
Car Park 23	58	7	51	12%	8	50	14%	8	50	14%	7	51	12%	3	55	5%	2	56	3%
Car Park 24	26	0	26	0%	0	26	0%	0	26	0%	0	26	0%	0	26	0%	0	26	0%
Car Park 25	87	0	87	0%	0	87	0%	0	87	0%	0	87	0%	0	87	0%	0	87	0%
Car Park 26	12	2	10	17%	2	10	17%	2	10	17%	3	9	25%	2	10	17%	2	10	17%
Car Park 28	13	5	8	38%	5	8	38%	8	5	62%	3	10	23%	5	8	38%	7	6	54%
Car Park 29	5	3	2	60%	3	2	60%	4	1	80%	3	2	60%	3	2	60%	4	1	80%
Car Park 30	13	4	9	31%	7	6	54%	8	5	62%	4	9	31%	6	7	46%	7	6	54%
Car Park 31	25	0	25	0%	6	19	24%	8	17	32%	9	16	36%	10	15	40%	8	17	32%
Car Park 32	13	1	12	8%	2	11	15%	0	13	0%	0	13	0%	0	13	0%	1	12	8%
Car Park 38	54	9	45	17%	11	43	20%	6	48	11%	8	46	15%	5	49	9%	3	51	6%
Car Park 39	20	16	4	80%	20	0	100%	20	0	100%	20	0	100%	20	0	100%	20	0	100%
Car Park 40	65	61	4	94%	64	1	98%	64	1	98%	62	3	95%	62	3	95%	63	2	97%
Car Park 41	5	0	5	0%	0	5	0%	0	5	0%	0	5	0%	0	5	0%	0	5	0%
Car Park 42	26	3	23	12%	8	18	31%	8	18	31%	9	17	35%	6	20	23%	6	20	23%
Car Park 43	178	67	111	38%	87	91	49%	104	74	58%	92	86	52%	83	95	47%	71	107	40%
Car Park 44	20	7	13	35%	7	13	35%	9	11	45%	6	14	30%	4	16	20%	4	16	20%
Car Park 46	11	0	11	0%	0	11	0%	0	11	0%	0	11	0%	0	11	0%	0	11	0%
Car Park 47	21	2	19	10%	2	19	10%	2	19	10%	2	19	10%	1	20	5%	1	20	5%
Car Park 48	25	2	23	8%	2	23	8%	2	23	8%	2	23	8%	2	23	8%	2	23	8%
Car Park 49	156	38	118	24%	36	120	23%	37	119	24%	31	125	20%	25	131	16%	19	137	12%
Car Park 50	57	10	47	18%	10	47	18%	10	47	18%	10	47	18%	6	51	11%	4	53	7%
Car Park 51	32	4	28	13%	4	28	13%	3	29	9%	3	29	9%	2	30	6%	1	31	3%
Car Park 52	131	61	70	47%	68	63	52%	83	48	63%	74	57	56%	41	90	31%	28	103	21%
Car Park 53	85	19	66	22%	19	66	22%	19	66	22%	18	67	21%	11	74	13%	5	80	6%
Car Park 54	18	1	17	6%	1	17	6%	1	17	6%	1	17	6%	1	17	6%	1	17	6%
Car Park 55	67	44	23	66%	49	18	73%	48	19	72%	44	23	66%	33	34	49%	21	46	31%
Car Park 56	14	14	0	100%	13	1	93%	12	2	86%	14	0	100%	5	9	36%	1	13	7%
Car Park 57	124	52	72	42%	52	72	42%	59	65	48%	48	76	39%	41	83	33%	30	94	24%
Car Park 58	100	17	83	17%	10	90	10%	11	89	11%	8	92	8%	13	87	13%	9	91	9%
Car Park 59	34	1	33	3%	2	32	6%	2	32	6%	1	33	3%	1	33	3%	1	33	3%
Car Park 60	11	1	10	9%	0	11	0%	0	11	0%	0	11	0%	0	11	0%	0	11	0%
Car Park 61	17	2	15	12%	1	16	6%	1	16	6%	1	16	6%	1	16	6%	1	16	6%
Car Park 62	21	1	20	5%	3	18	14%	0	21	0%	0	21	0%	0	21	0%	0	21	0%
Car Park 63	37	0	37	0%	0	37	0%	1	36	3%	0	37	0%	0	37	0%	0	37	0%
Car Park 64	20	1	19	5%	1	19	5%	1	19	5%	3	17	15%	4	16	20%	4	16	20%
Car Park 65	13	0	13	0%	0	13	0%	0	13	0%	0	13	0%	0	13	0%	0	13	0%
Car Park 66	11	0	11	0%	0	11	0%	0	11	0%	0	11	0%	0	11	0%	0	11	0%