Bairnsdale CBD
Car Parking Strategy

Data Analysis

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1. Introduction

SALT has been engaged by the East Gippsland Shire Council to assist in preparing the Bairnsdale Central Business District (CBD) Car Parking Strategy.

The Bairnsdale CBD Car Parking Strategy reviews the current issues and opportunities regarding parking and access to parking within the CBD, as well as the existing public transport, cycling, walking and mobility needs.

This report is to be read in conjunction with:

- Bairnsdale CBD Car Parking Strategy – Parking Plan; and
- Bairnsdale CBD Car Parking Strategy – Implementation Plan.

The Bairnsdale CBD Car Parking Strategy – Data Analysis provides the background information, survey results and analysis that have been used to prepare the findings, outcomes and recommendations of the Bairnsdale CBD Car Parking Strategy – Parking Plan.

The Bairnsdale CBD Car Parking Strategy – Parking Plan, sets the strategic direction for parking within the Bairnsdale CBD and is used as the basis for the development of the Bairnsdale CBD Car Parking Strategy – Implementation Strategy. The implementation plan provides the road map for how the outcome of the parking plan will be achieved.

2. Background Studies and Previous Reports

A number of different studies have been prepared for Bairnsdale over recent years, with the most recent being the Improving Wayfinding and Walkability in the Bairnsdale CBD dated May 2011.

A summary of the relevant studies and reports are as follows:

2.1 Bairnsdale Growth Strategy

The Bairnsdale Growth Strategy dated November 2009 was prepared by the East Gippsland Shire and CPG Australia Pty Ltd.

The purpose of the strategy was to provide clear direction for the East Gippsland Shire Council and the local community, with regards to the sustainable growth and development of Bairnsdale over the next 20 years.

With regards parking within the CBD the strategy provides the following:

- Creating Accessible Communities;
- Revitalising Bairnsdale CBD; and
- Developing a Sustainable Transport Network.

2.1.1 Creating Accessible Communities

The principles of accessible communities, seek to maximise the opportunity of the resident population, by increasing reasonable walking distance accessibility to key services and infrastructure. The principle aims to focus neighbourhood design in a way that shops, open space and community facilities are centrally located in neighbourhoods connected via easily accessible road and open space networks. By designing a neighbourhood on these principles communities can develop sustainable transport patterns and habits.

2.1.2 Revitalising Bairnsdale CBD

Access, Traffic and Movement

The framework for effective access and movement around the CBD is provided by the highly legible grid network of streets, but the performance of the network and traffic / transport based issues are matters to be addressed by this CBD plan.

Parking

CBD parking is usually a subject for debate and criticism. There never seems to be enough in the right location for some members of the community and users of the CBD. As a result of a series of informal surveys and observations regarding parking and user behaviour in the CBD, the following conclusions were drawn.

- Typical of country towns and regional cities, the on street, kerbside and centre median parking is heavily used and seemingly constantly occupied, particularly in the retail core but also along Macleod Street.
- Some of the off-street car parks such as around Spotlight are well used, and fully occupied from early in the morning but it appears a proportion of the demand is staff working in the CBD, placing greater priority upon their convenience, than the access of their customers.

- The more remote and yet conveniently located parks such as the Kmart and ALDI carpark will be only 50% - 60% occupied while the car parks in the next block are at 90% - 100% full.

The circulation between and access to the short term car parks north of the highway is disjointed and ill-conceived and a considerable body of vehicle movement through the shopping streets, is vehicles trying to move between car parks looking for that most convenient space. Car parks north of the highway have also tended to be intrusive, ill sited and conceived, probably unwittingly, so that they disrupt retail frontage, create conflict points with the main pedestrian movement, or occupy a prominent location, such as the outlook over the Mitchell River flood plain, where a better and more effective use of land is warranted.

The parking “problem” will not be “solved” by acquiring more land in and around the retail core or by the costly investment in a multi-storey car park, in a location where the returns on such an investment are questionable. Not only do such solutions tend to further fragment and remove retail and community land, but also the car becomes even more dominant, in the one location where the pedestrian should be the priority and where their comfortable and safe movement should be the focus.

There are management and land availability options, particularly to the south of the highway, that can serve to strengthen the overall performance of the centre, as well as make the most effective and sustainable use of CBD land and resources.

Car Parking Strategy

The Bairnsdale Growth Strategy proposes the following Car Parking Strategy.

Provide a car parking strategy that supports the balanced development and restructure of the CBD and addresses current car parking issues to the north of Main Street.

The preferred parking strategy for public land and major off street private car parks for the CBD, should apply the following principles:

- The removal of business and residential building stock to provide additional off street car parking should be avoided, as this will dissipate the consolidation and fragment the structure of the CBD, increasing the dominance of the car in a principally pedestrian space.
- Insure the efficient and highest utilisation of the body of available short term parking spaces through effective enforcement.
- Parking in and around the retail core should give priority to short term parking needs (maximum 2 hours).
- A body of short term parking should be available and proximate to the businesses south of the highway.
- The opportunity for staff working in evenings and at night, to park close to their place of employment should be provided.
- Longer term parking (in excess of 2 hours) should be strongly discouraged in the retail core.
- An ample supply of long term parking proximate and convenient to the business area should be provided.
- The amenity of adjacent residential streets should be protected.
- Specific provision should be made for coaches and vehicles pulling trailers.

Features of the recommended parking strategy:

- The loss of approximately 44 spaces in Service Street and 18 spaces from the Spotlight car park.
- The addition of approximately 20 spaces in Nicholson Street.
- Short term management of all on and off street car parks in and around the retail core, north of Main Street.
- Regular and consistent monitoring and enforcement of the parking restrictions in the retail core and short-term spaces south of the highway.
- The creation of 326 long term spaces in new car parks on former VicTrack land between Service Street and Wood Street.
- Coach and extended vehicle parking located in the centre median and adjacent to the station.
- Additional kerb side angle parking in Dalmahoy Street.

A copy of the Bairnsdale Growth Strategy Action Plan 5 is shown in Figure 1.

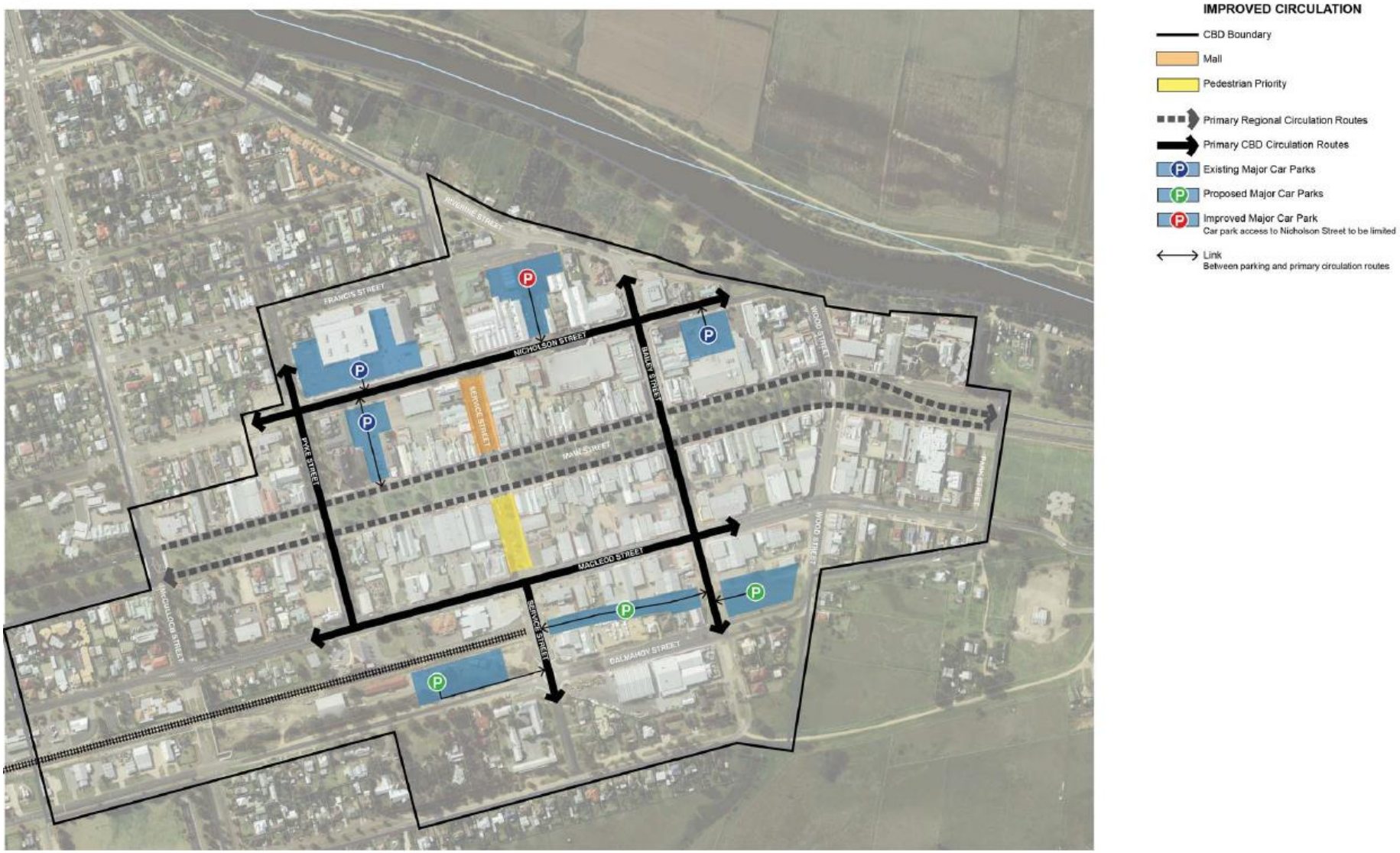
Pedestrian Movement and Conflict

The potential for conflict between pedestrians, use and enjoyment of the centre and vehicles is increased by poor resolution of circulation issues, poorly sited or managed crossings and disruptive traffic movements. While there is scope for detailed design improvements to the pedestrian space and greater attention to the needs and circulation of the equitable access, there are two issues that warrant particular direction by this report.

The first is the role and future function of Nicholson Street. Directly or indirectly most of the major / larger retailers are located along or have access off its access (e.g. Woolworths / Coles / Target / Kmart / ALDI as well as a series of smaller stores). It also serves as an access to most of the retail core car parks. This arrangement has inherent conflict that warrants direction, as to whether greater priority should be placed upon safe pedestrian movement or vehicle circulation.

The role and function of Nicholson Street is further complicated by two features, the part pedestrianisation of the street in front of Woolworths and the disruptive and potentially dangerous conflict between the use of the Woolworths loading dock and the operation of the street for a range of other purposes.

Figure 1 – Bairnsdale Growth Strategy – Action Plan 5



2.1.3 Developing a Sustainable Transport Network

Like many regional cities, Bairnsdale is heavily reliant upon the private vehicle for transport. Existing public transport services are limited in both network coverage and operational timeframes. Whilst the established areas of Bairnsdale are quite flat and therefore conducive to walking and cycling, the existing infrastructure for pedestrians and cyclists, outside the Bairnsdale CBD, is generally of a poor standard. In many places within established residential areas there are no footpaths.

As Bairnsdale's population ages, there will be a greater proportion of non-drivers living within Bairnsdale and nearby towns, such as Paynesville, Lakes Entrance and Metung. In addition, with the future focus on sustainability and providing healthy, safe and well-connected communities, the importance of adequate walking, cycling and public transport infrastructure is essential.

Another aspect of sustainable transport management is Travel Demand Management or Travel Behaviour Change, where people are encouraged to consider how they travel and how they might either, reduce their total number of daily trips or convert some car-based trips to non-motorised modes, such as walking, cycling and public transport.

As well as providing the necessary infrastructure to promote this change, the East Gippsland Shire Council can also provide education and information to the community, which allows them to consider the impacts of their current transport choices.

2.1.4 The Re-Imagining Bairnsdale Master Plan (Volume 1)

The Re-Imagining Bairnsdale Master Plan was prepared by East Gippsland Shire Council and Message Consultants in 2013 and aims to create a contemporary, vibrant urban centre in Bairnsdale with public spaces that support commercial and social activity and a more sustainable city.

The study area is the main central business district (CBD) with a focus on the core retail area. The extent of the CBD and core retail areas, is indicated in Figure 2.

The CBD is highly accessible and legible due to the clear grid pattern of local streets with the Princes Highway (Main Street) forming the central spine. Main Street forms a wide boulevard that divides the town into two core precincts, located north and south of the central spine.

The Re-imagining Bairnsdale Master Plan identifies that approximately 60% of land area within the CBD retail core is allocated to roads and parking, with 30% allocated to buildings and 10% to footpaths and open spaces as shown in Figure 3.

The Re-Imagining Bairnsdale Master Plan identifies that initiatives to tame the place of vehicles will include:

- Slowing traffic through the town;
- Creating pleasant streetscapes that encourage people to walk and cycle along, as well as linger;
- Closing the vehicular access ways that run mid-block in the Main Street gardens (between Service and Bailey Streets);
- Redefining the laneway widths along Main Street to give easier door openings to the street;
- Introducing a parking strategy to reduce long term parking in the core retail area of the town; and

- Encouraging owners and traders to open their shops to the laneways and to remove their cars from the laneways.

Figure 2 – Re-Imagining Bairnsdale Study Area

Figure 3 – Roads and Car Parks within the CBD Retail Core

2.2 Improving Walking and Wayfinding in the Bairnsdale CBD

The Improving Walking and Wayfinding in the Bairnsdale CBD report was prepared by Dr John Grant on behalf of the East Gippsland Shire Council in May 2011.

The report identifies a number of recommendations which will have more effect if implemented in entirety rather than in piecemeal. It is anticipated in the report that the package could be fully implemented over the next 3-5 financial years, depending on the allocation of resources to this project's components.

The recommendations are:

2.2.1 Recommendation 1

Develop a complete new 'Bairnsdale / East Gippsland Family of Signs' consisting of Map-based Panel Signs (MBS) 'Independent Directional Pointer Signs' (IDS) and a new street name blade;

Develop a new hand-held map of central Bairnsdale, covering all of the CBD, but also including the links from the CBD to the Mitchell River walks and the Rail Trail; and

Rationalise existing signage in the CBD so that the new system is not compromised by the old and incorrect signage is removed, relocated or amended.

2.2.2 Recommendation 2

Maintain all existing footpaths so they are flat and even. Repair sections of footpath where needed. Install new footpath sections where required. Extend footpaths as 'continuous paths of travel' (CPT) over some roads to improve safety and access.

2.2.3 Recommendation 3

Improve the capacity of pedestrians to cross roads:

- at traffic lights and pedestrian operated signals;
- at roundabouts; and
- at locations where it is difficult to do so – outside the station and at Wood / Macleod Streets.

Reduce the signed traffic speed in the most densely used shopping areas.

2.2.4 Recommendation 4

Improve the general level of amenity on streets and public places; and

Improve public safety and amenity in car parks.

2.2.5 Recommendation 5

Support the local public transport system and encourage its expansion and development. Promote walking for transport in Bairnsdale, through involvement in programs and events.

Bairnsdale Town Centre Hand Held Map – Extract

2.3 Bairnsdale Parking Study (2000)

In 2000 / 2001 East Gippsland Shire Council commissioned Ashton Traffic Services to undertake the "Bairnsdale Parking Study". The study was a directive of the 1999 - 2004 Corporate Plan and underpinned significantly by a number of key recommendations of the 1991 Bairnsdale Strategy Plan, which referred directly to increasing the number of short and long term parking spaces within the CBD, and devising an equitable basis upon which to fund their development. A further basis for the study was user's perceptions, that there were inadequate car parking spaces particularly at peak times and a need to enhance the competitive nature of the centre by ensuring maximum accessibility.

The study provides a review of public on-street and off-street car parking within the Bairnsdale CBD, with a primary focus on establishing parking turnover and demand, and assessing the provision of parking against the gross leasable floor space.

Parking spaces within the study area were surveyed on Friday May 11th 2000.

2.3.1 Key Outcomes for the Study Showed:

- Parking north of Main Street is severely strained and that additional car parking is required to satisfy the demand;
- Additional parking south of Main Street will not solve the parking problem to the north, unless new retail development occurs to the south;
- The study determined a demand of 1761 parking spaces, an additional 271 spaces;
- Significant proportions of long term parkers are parking in short terms spaces, rather than parking in long term parking spaces of the periphery of the CBD;
- Spaces need to be rationed by time and time limits enforced to allow for their most efficient use;
- A large proportion of short term spaces are "illegally" occupied. Unless there is a significant change in motorists habits or an increased level of enforcement then this situation will continue;
- The only effective method of enforcing time restrictions is through some system of pay parking. Whilst revenue from pay parking can be significant, the main purpose of charging for parking is to maximise the utilisation of the existing parking spaces; and
- If enforcement was effective, then this could negate the need for additional spaces being provided in the core area of Bairnsdale.

2.3.2 Key Actions:

- A number of parallel one hour spaces to be converted to half hour;
- The Shire area of McDonalds Car Park be converted to 2 hour time limit and Council to negotiate with McDonalds to enforce time limits in their area;
- Parking adjacent to the median in Main Street be converted to All Day, to reduce the risk of accidents on the State Highway;
- Parking in Francis Street between Pyke Street and Service Street and in Pyke Street between Nicholson and Francis Street, should be used for unrestricted parking;
- Investigate the feasibility of a decked car park to provide an additional 200 spaces. Areas of interest include Spotlight and Coles car parks;

- Preparation of a Parking Precinct Plan which form part of the Planning Scheme and make provision for land to be set aside for parking and how this parking will be achieved in fiscal terms; and
- Preparation of a Signage Strategy to ensure uniformity of signage across the CBD.

3. VicRoads Road Hierarchy

VicRoads in conjunction with the East Gippsland Shire Council are developing the draft SmartRoads – Road Use Hierarchy dated August 2014.

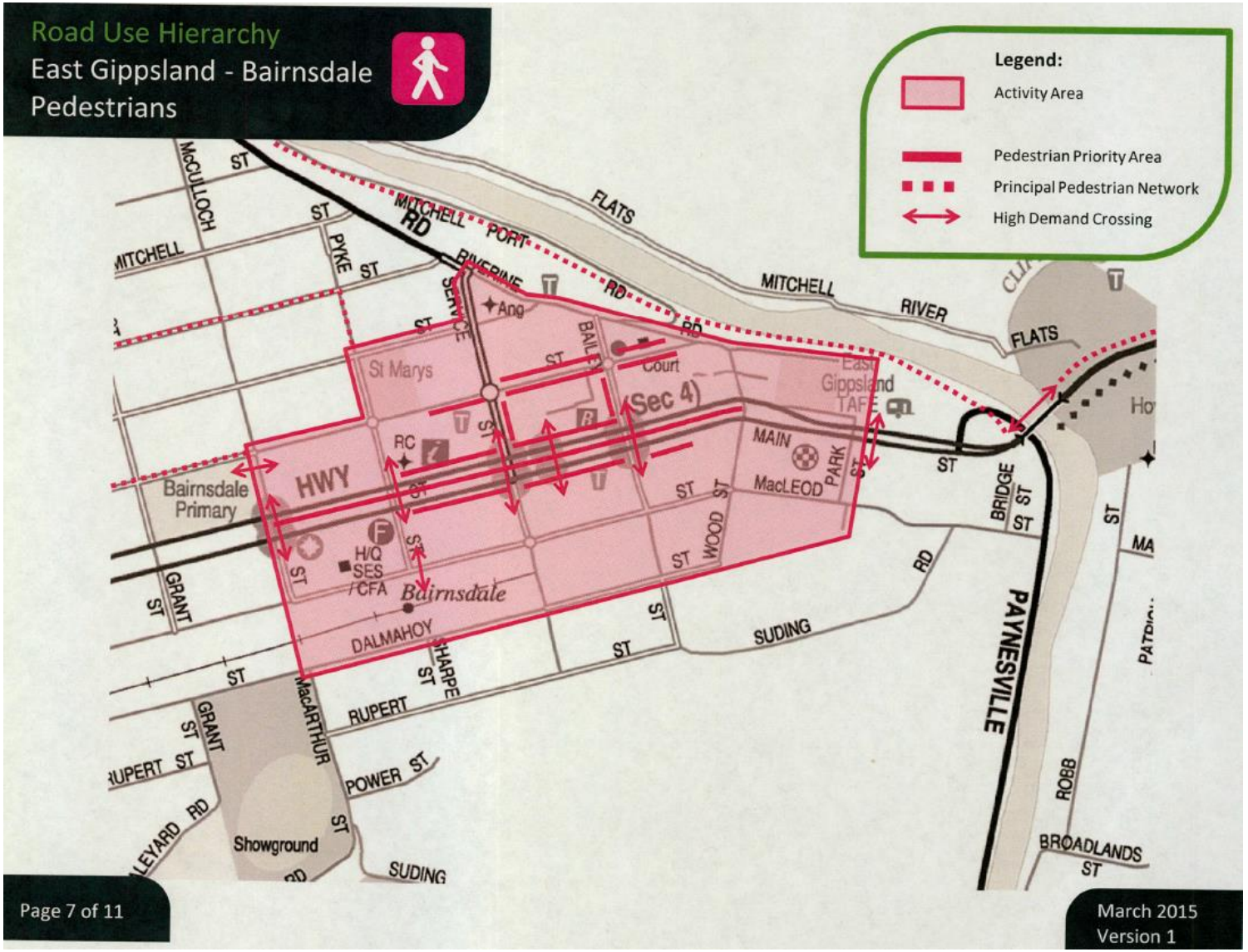
SmartRoads is an approach that manages competing interests for limited road space, by giving priority use of the road to different transport modes at particular times of the day.

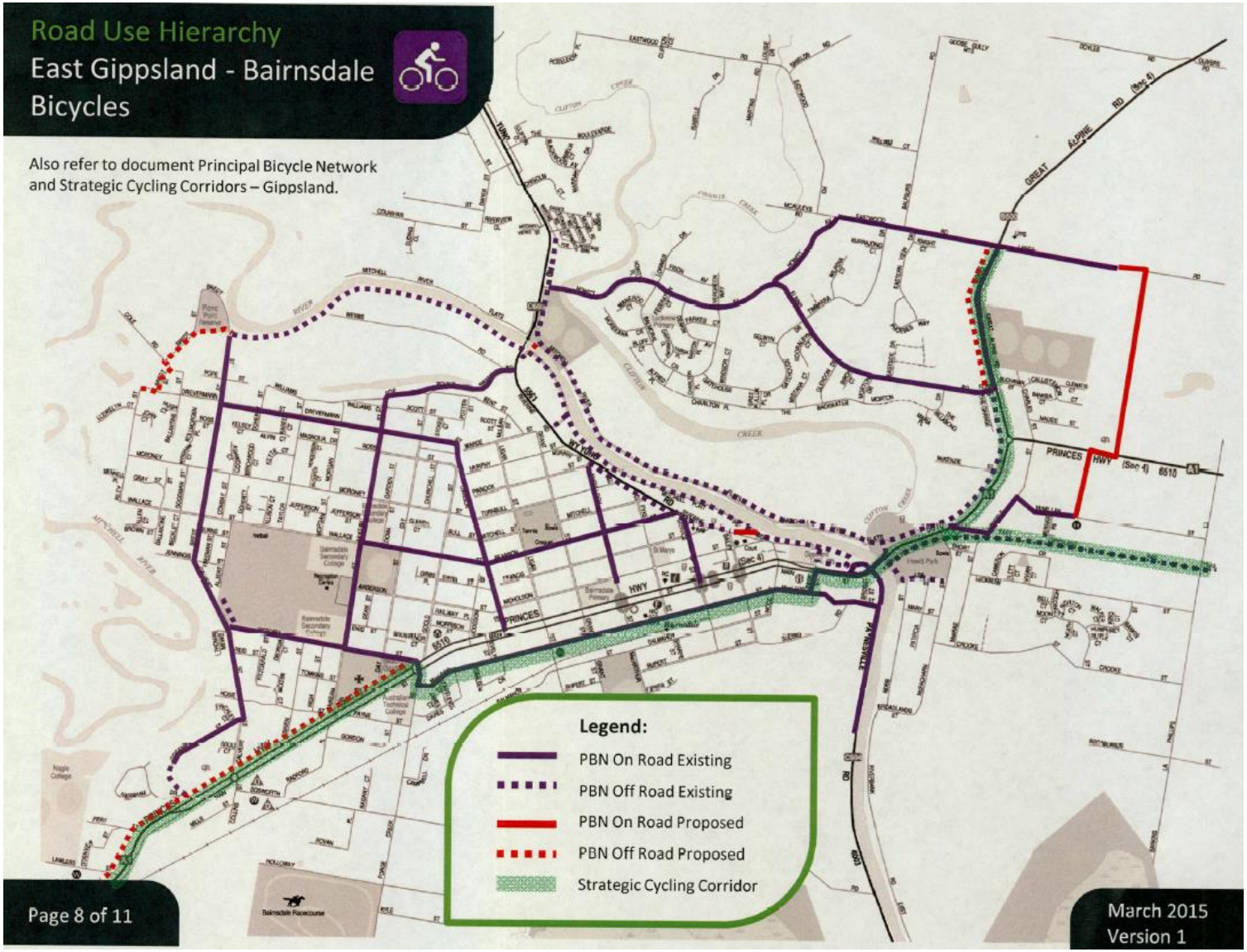
SmartRoads Road Use Hierarchy can be used to inform decisions that affect the way the arterial road network operates. SmartRoads will be used by VicRoads and East Gippsland Shire Council to underpin future on road transport strategies and respond to land use changes and community aspirations in a growing and changing state.

Road hierarchy principles include:

- Pedestrians – Promote walking in areas of high pedestrian activity;
- Cycling – Promote cycling links to activities areas – reduce conflict;
- Public Transport – Linking with activity areas (PTV Regional buses);
- Freight - unrestricted access across arterial network and priority on PFB; and
- Car – Promote preferred traffic routes to avoid conflicts with abutting land use.

Road Hierarchy plans including the Bairnsdale CBD are as follows:




Road Use Hierarchy
East Gippsland - Bairnsdale
Bicycles
Also refer to document Principal Bicycle Network and Strategic Cycling Corridors – Gippsland.
Legend:
PBN On Road Existing
PBN Off Road Existing
PBN On Road Proposed
PBN Off Road Proposed
Strategic Cycling Corridor
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Road Use Hierarchy
East Gippsland - Bairnsdale Freight
Legend:
Key Freight Route Existing
Key Freight Route Proposed
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Road Use Hierarchy
East Gippsland - Bairnsdale
Traffic
Legend:
Preferred Traffic Route
Traffic Route
Page 10 of 11
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Road Use Hierarchy
East Gippsland - Bairnsdale
Buses
Legend:
Daily Services
Information based on PTV Web Page
Routes and Timetables (Regional Buses)
Page 9 of 11
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4. Sustainable Transport

4.1 General

A sustainable transport network is an integral part of any town, as it provides a variety of travel modes other than private vehicle travel, which reduces the impacts of private car ownership within the towns centre. A sustainable transport system typically includes walking, cycling, and public transport (train and bus) alternatives.

While traditional transport planning aims to improve mobility for vehicles, a sustainable transport system, considers the wider impacts and seeks to provide improved access for all mode choices, while reducing the environmental and social impacts associated with traffic congestion.

The various modes of travel used by residents within the Bairnsdale census district of East Gippsland (which includes the Bairnsdale CBD) to access work for 2011, have been sourced from the Department of Transport and are shown in Table 1.

A review of Table 1 indicates that the vast majority of people currently rely on the motor vehicle (84.3%) to get to work, with less than 1% using train, bus or taxi. Approximately 10% of people either walk or cycle to work.

The existing sustainable transport network associated with the Bairnsdale CBD is described in the following sections.

Table 1 – Travel Modes to Work for Residents in Bairnsdale

Mode	Mode Choice	Modal Share
Train	0	0.0%
Bus	5	0.2%
Taxi	9	0.3%
Car, as driver	1944	76.7%
Car, as passenger	194	7.6%
Truck	35	1.4%
Motorbike / scooter	10	0.4%
Bicycle	79	3.1%
Other	47	1.9%
Walked Only	158	6.2%
Not Stated	55	2.2%
TOTAL	**2536**	**100%**

Source: Australian Bureau of Statistics

4.2 Pedestrians

Walking is a fundamental and direct means of access to most places and to goods and services. It is an ecologically sustainable form of transport and can have sustainable health benefits. Walking can be an ideal substitute for short car trips, including those to public transport stops.

Walking is also a fundamental part of every trip, either for the entire journey or as a connecting trip to public transport or parked vehicles.

Places for walking should be designed to maximise personal security with good sightlines and lighting, scaled to pedestrian needs. 'Safety in numbers' can be achieved by encouraging more street activity and the natural surveillance of pedestrian spaces by other walkers.

The Bairnsdale CBD has good walking facilities in place along the main streets with wide footpaths on both sides of streets. There is also good lighting and active street frontages particularly along Princes Highway which contribute to the feeling of safety.

While formal crossing points are provided along the Princes Highway, at the 3 signalised intersections and midblock between Pyke Street and Service Street, Princes Highway remains a significant barrier between the north and south sides of the Bairnsdale CBD.

The CBD has a number of Right of Ways (ROW) that link the rear of businesses fronting Princes Highway to adjacent local streets. These ROW are located in prime locations close to busy streets and shopping precincts.

Currently ROW are generally used for delivery by businesses and for informal parking. Some ROW widen into an open area behind shops and businesses that are used for informal parking.

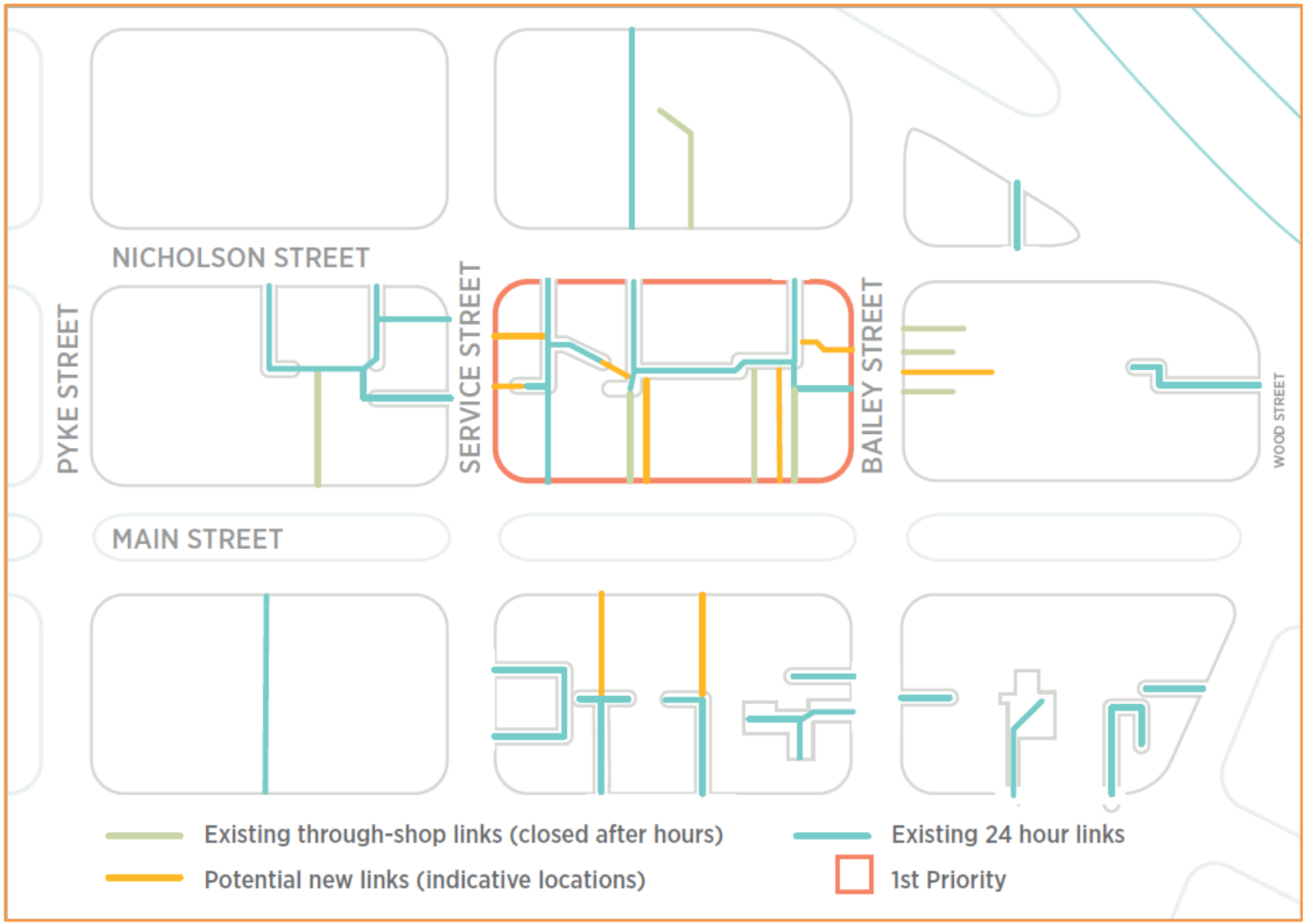
There are some existing connections via Campbells Arcade and through some of the coffee shops and banks, however these connections are limited to business hours and open onto a laneway system that is full of parked cars and in some cases are poorly paved.

Current issues include:

- ROW and arcades are underutilised assets with many having poor amenity;
- Lack of consistent surface treatments with many having uneven paving and poor drainage;
- Spaces dominated by parked cars and delivery vehicles resulting in numerous conflict points;
- Poor or no lighting;
- A lack of safety within the ROW at night resulting in them not being utilised; and
- Poor active surveillance opportunities anecdotally resulting in undesirable activities.

The future ROW activation and improved pedestrian connections with the main retail core as detailed within the Re-Imagining Bairnsdale Master Plan – Volume 2 are shown in Figure 4.

Figure 4 – Improved Pedestrian Network



A review has been conducted of VicRoads 'Crashstats' data base, for the most recent five year period of available data from 1 July 2008 to 30 June 2013, for any reported pedestrian casualty crashes within the study area. This analysis reveals that there has been 3 recorded casualty crashes, as follows:

- a 'near side' (1 seventy six year old female pedestrians hit from the right) collision on Princes Highway between Pyke Street and Service Street (2009);
- a 'far side' (1 nine year old male pedestrian hit from the left) collision at intersection of Princes Highway and Service Street (2011); and
- a 'near side' (1 seventy two year old female pedestrians hit from the right) collision on Service Street between Main Street and Macleod Street (2009).

4.3 Cyclists

Bicycles are an excellent form of transport. They have almost no impact on the environment, produce no greenhouse gases, make no noise and consume no fossil fuels. Cycling is also good for people's health and fitness and is an enjoyable pastime.

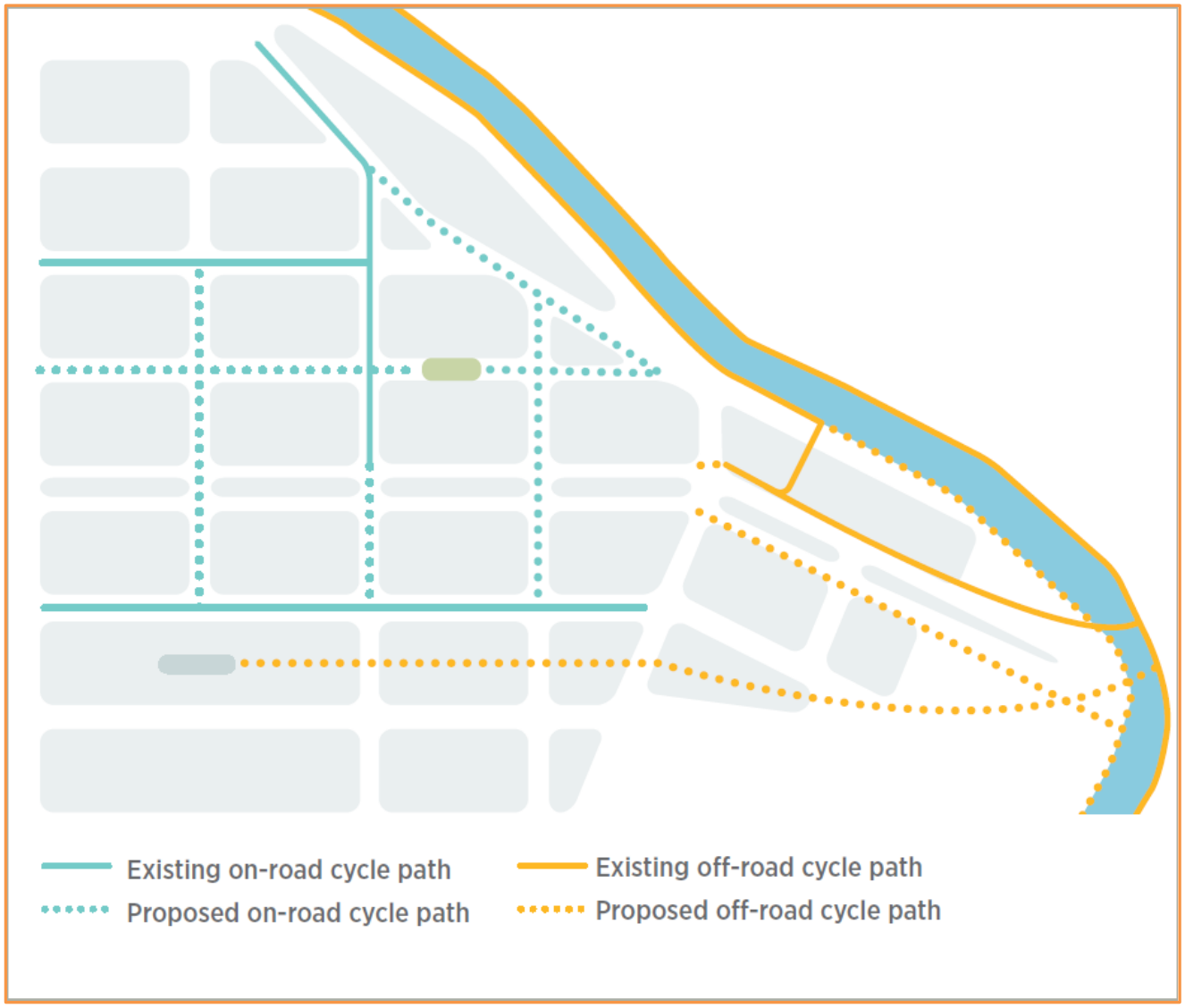
As such, cycling is an important component of a sustainable and integrated transport system.

However, this being said, while the topography of the Study area is generally flat, further from the CBD the undulating, sometimes steep, topography (particularly to the north) of the surrounding area places certain constraints on the ease to which cycling can be undertaken.

The existing bicycle network and proposed network as identified within the Re-Imagining Bairnsdale Master Plan – Volume 1 is shown Figure 5.

A review has been conducted of VicRoads 'Crashstats' data base for the most recent five year period of available data from 1 July 2008 to 30 June 2013 for any reported cyclists casualty crashes within the study area. This analysis reveals that there has been no recorded casualty crashes in the past 5 years.

Figure 5 – Existing & Proposed Cycle Network



4.4 Bus

Buses form a key part of a sustainable transport network, as they generally act as feeders to railway stations and generally are the only form of sustainable transport provided in a rural setting.

School bus services also operate right across Bairnsdale, but they only run on school days and most services do not carry the general public.

The Bairnsdale CBD has 'average' access to bus services with the 'major' bus stop located on Princes Highway east of Service Street adjacent the supermarket.

Three bus routes service Bairnsdale (excluding V/Line) with the following services operating:

- Bairnsdale to Gelantipy twice per week (Wednesday and Friday Only);
- Bairnsdale to Omeo daily (Monday to Friday); and
- Bairnsdale to Paynesville five time per day (Monday to Friday and once on Saturday).

An additional V/Line bus stop is located adjacent the railway station located approximately 650 metres from the Nicholson Street mall.

The following V/Line bus services operate from this bus stop:

- Traralgon to Sale and Bairnsdale 1 to 6 times per day;
- Bairnsdale to Lakes Entrance, Orbost and Marlo 1 to 4 times daily;
- Bairnsdale to Batemans Bay daily; and
- Bairnsdale to Canberra, three times per week.

4.5 Train

Fixed rail services (trains) provide the most efficient and reliable public transport services throughout Victoria. Trains allow longer distances to be covered in shorter periods of time and are especially targeted towards commuter journeys.

The Bairnsdale Railway Station is located towards the southern edge of Bairnsdale, fronting Macleod Street and opposite McCulloch Street.

V/Line operates passenger services between Melbourne and Bairnsdale with the available services shown in Table 2.

Table 2 – Daily Rail Services to and from Melbourne

	Monday to Friday	Saturday	Sunday
Departing Bairnsdale	4:35am[1]		
	6:10am	6:30am	7:50am
	12:45pm	12:22pm	12:55pm
	3:15pm[1]	4:37pm	4:37pm
	6:20pm		
Arriving Bairnsdale	11:13am	11:13am	11:42am
	12:45pm[2]		
	5:09pm	3:41pm	3:00pm
	9:05pm[2]	10:04pm	10:04pm
	10:18pm		

1 – Coach from Bairnsdale to Traralgon

2 – Coach from Traralgon to Bairnsdale

4.6 Taxi

Taxis provide a safe, convenient and affordable way to get around and are an important part of a sustainable transport network for some people. They operate 24 hours a day, seven days a week and are continually available for hire. They are a practical alternative to private vehicle travel for many trips.

Due to the limited public transport in Bairnsdale taxis are sometimes used for trip between Bairnsdale and other regional locations including Paynesville, Metung and Lakes Entrance.

A relocated taxi rank is located on the eastern end of the Nicholson Street Mall as shown in Figure 6.

Figure 6 – Relocated Taxi Rank

5. Existing Concerns within Bairnsdale CBD

5.1 Constituents

A review of Councils data base has indicated that the following concerns have been raised by constituents over the past 12 – 18 months:

5.2 Safety

- Intersection of Riverine Street / Francis Street and car park access; and
- Access into private property along Macleod Street.

5.3 Equitable Access Parking Spaces

- More equitable access parking spaces near Spotlight; and
- More equitable access parking near Woolworths and ALDI.

5.4 Parking Availability

- Lack of parking spots near Woolworths;
- Lack of parking near Spotlight;
- Additional parking required near the TAFE;
- Overflow parking of TAFE students in Wood Street; and
- Complaint / Submissions regarding lack of parking and effects of new Cells Café in Pyke Street.

5.5 Parking Time Limits

- Nicholson Street Mall equitable access parking time limit extension 30min to 1hr;
- Time limit on car parking in CBD; and
- Need for long term parking in Bairnsdale CBD.

5.6 Illegal Parking Complaints

- Illegal parking in Main Street Bairnsdale (Saturday); and
- Illegal parking near Kmart, Terminus Hotel.

5.7 Access

- Improved access near Easy Eats; and
- Difficult access to driveways in Wood Street.

5.8 Other

- Francis Street Masonic Centre - complaint regarding appearance, maintenance and lack of pedestrian walkways; and

- Increased presence of parking inspector/s in Main Street around Van Berkel Florist & Bairnsdale Nutritional Centre, to book vehicles parked illegally (including over staying parking time limits).

5.9 East Gippsland Shire Council

Following discussions with Council officers the following concerns have been noted with regards to parking within the Bairnsdale Study area:

- Safety concerns with regards to the intersection of Riverine Street / Francis Street and car park access (a concept design addressing this concert has previously been prepared as shown in Figure 7, which also provides additional parking opportunities);
- Lack of enforcement of car parking restrictions particularly in the off-street car parking between the Target and Spotlight;
- Perceived need for more equitable access parking spaces;
- Safety concerns with regards to the intersection of Francis Street / Service Street (a concept design addressing this concept has previously been prepared as shown in Figure 8); and
- Lack of staff parking (long term parking) within the Study Area.

5.10 Site Inspections

During a number of site inspections the following additional points have been noted:

- The off street car park adjacent Spotlight is used for long term staff parking with staff observed from Australia Post, Woolworths, Reject Shop, ALDI, Easy Eats, The Wooden Squirrel and Target;
- The existing car parking arrangements within this off-street parking area are not enforced / enforceable;
- No covered pedestrian walkway is provided across the recently constructed Nicholson Street mall;
- The Right of Way to the rear of Woolworths is used as a ‘rat run’ to go around the mall; and
- Pedestrian access along the Right of Ways are restricted due to long term parking including parking from non-adjacent businesses.

Figure 7 – Off-Street Car Park Concept Design

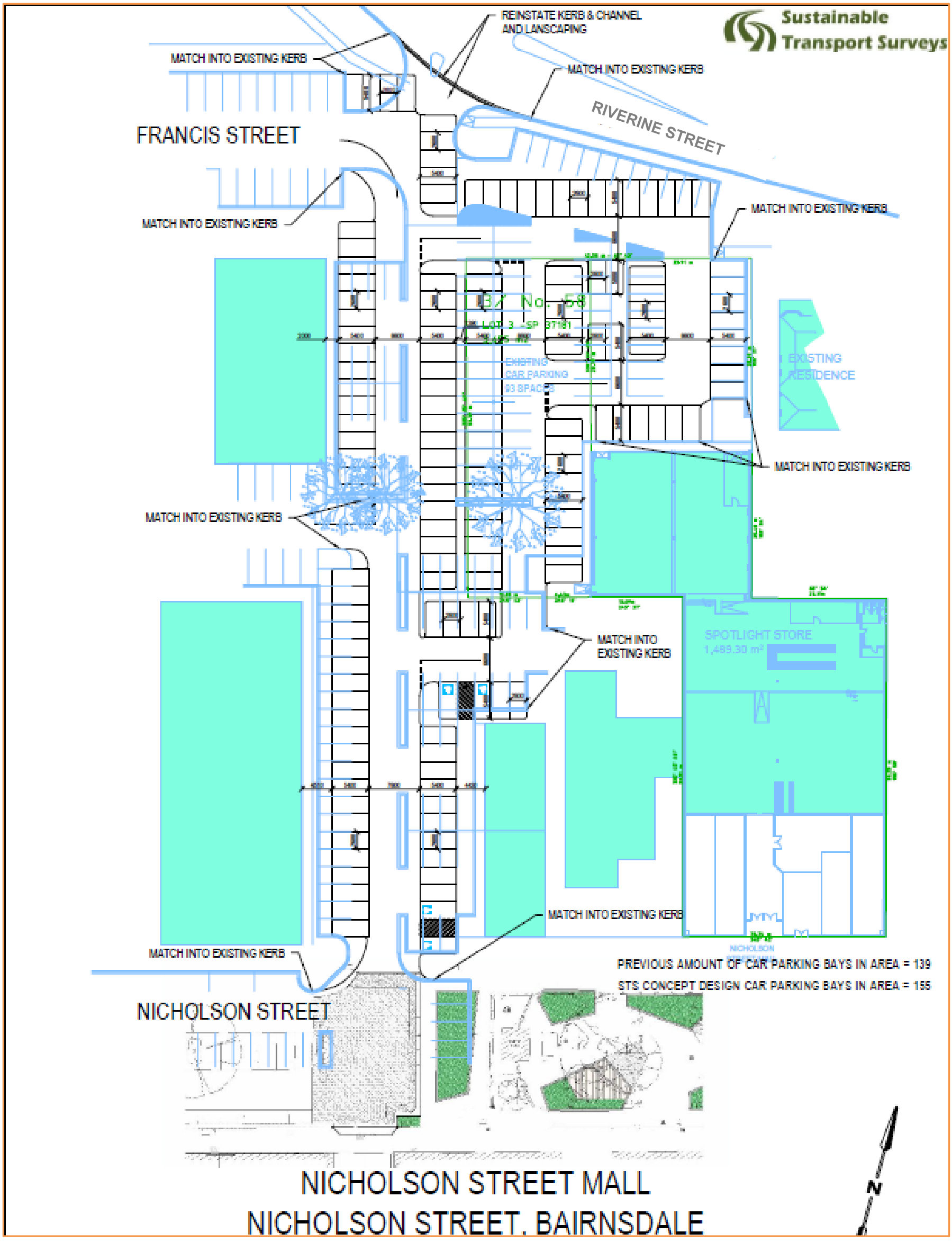
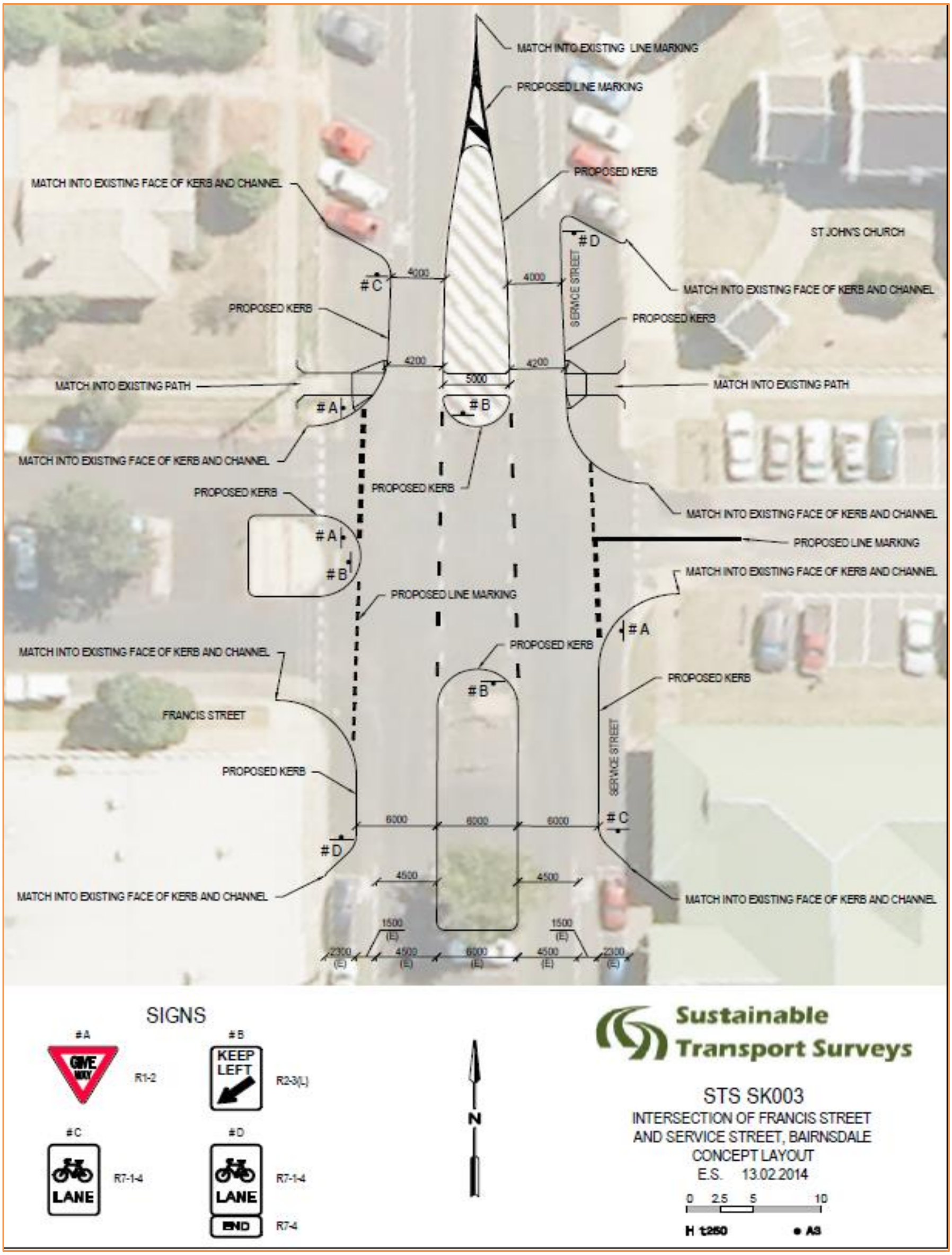


Figure 8 – Francis Street / Services Street Concept Design



6. Car Parking Strategies

6.1 Impacts of Parking Strategies

6.1.1 General

Providing a generous parking supply is costly, however costs are typically only associated with land purchase and construction costs. These costs, however, do not include the indirect costs that municipalities face, such as: increased sprawl, impervious surface and associated stormwater management costs, reduced design flexibility, reduced efficiency of alternative modes (walking and public transit use) and increased traffic issues.

Historically development patterns have created a landscape that is often dominated by the car. Since a car spends most of its life parked, much of the landscape has been turned into car parking. In many cases, residents would like to have more transportation options, but the low-density associated with rural living makes this unfeasible. In many cases residents who are opposed to new developments with increased density often cite fears of increased traffic and parking difficulties. Unfortunately, the reality is that rural development patterns have historically precluded transit options and force many people to drive.

Parking management strategies can be used to break this cycle, by changing development patterns and improving travel options.

The impacts of parking management strategies will vary depending on a number of factors, and they will be higher when travellers have alternative transportation options. But even in the absence of transit, it is still possible to use parking strategies to effect land use, congestion, and environmental degradation.

6.1.2 Traffic

If the provision of parking spaces were left entirely up to the market, we would live in a very different society. The market would only supply parking where it is profitable, and there would be fewer spaces and people could live closer together, walk more, and drive less. A large under-priced supply of parking does not necessarily create traffic, but it does reduce the cost of travel by car. Parking management strategies, particularly pricing, have the effect of forcing users to 'economise' when it comes to parking. Many drivers will shift to different modes, different times of day, or combine trips. These actions will help to reduce traffic congestion, roadway costs and pollution.

Parking management strategies, tailored to specific town centres could price on-street spaces so that they maintain 85% occupancy. Drivers who are willing to pay the cost of on-street parking will no longer find themselves 'cruising' for a spot. This will significantly reduce traffic within a town centre such as the Bairnsdale CBD. Programs that encourage alternative modes of travel, whilst charging for parking, will also have the effect of reducing single-occupant drivers.

6.1.3 Economic

There are very few land uses that generate less revenue than surface parking lots; in fact, they are more likely to reduce the economic success of a town centre than to improve it. From an overall state perspective, limiting the parking supply would be a boom to the economy. Local Councils and retail centres typically see the situation differently. If one town centre offers free parking at a shopping / entertainment destination and the next one does not, customers will probably pick the centre with free parking. But as town centres compete, it becomes a zero-sum game at the state level because increasing the parking supply everywhere does not increase the total regional sales volume, although there may be marginal changes near the boundaries of retail centres.

An integrated parking management strategy including paid parking, can be used to increase the attractiveness of retail centres by reinvesting the parking revenue into street improvements. With agreement from local traders and the wider community, parking meters can be used to manage traffic congestion with the revenue used for both capital and recurrent expenditure of street furniture and trees, a greater number of parking officer patrols, better lighting, more street cleaning, pedestrian improvements, and marketing (including way finding signage to show local attractions and parking facilities).

6.1.4 Environmental

The two biggest environmental impacts of parking are a result of vehicle miles travelled and increased impervious surfaces. As stated previously, an over-supply of under-priced parking encourages driving and congests our roads. Compact development with a mix of uses can reduce driving and the need for parking; design can be used to minimise the impacts of parking on impervious surfaces. The typical design of car parking areas could include the following to reduce / limit the environmental impacts of parking:

- Reduce the dimensions of parking spaces and encourage inclusion of small car spaces (as shown in AS/NZS 2890.1:2004 Section 2.4 Design of Parking Module);
- Use pervious surfaces for low-volume at-grade parking areas to allow infiltration of stormwater (*unlike what is currently being considered in the Infrastructure Design Manual*);
- Require significant landscaping to provide shade and improve air quality;
- Use bio-retention basins or rain gardens to treat and infiltrate storm water (Water Sensitive Urban Design);
- Build parking garages with green roofs to capture stormwater and mitigate heat island effects; and
- Include car share spaces in all new car parking areas to reduce the reliance on individual car ownership.

Construction of parking often involves paving over land that once served as a filtration mechanism for rainwater. The paved area increases flood risks and degrades water quality, as oil and other pollutants are washed into the water system. Dark pavement absorbs heat from the sun and results in the ‘urban heat island’ effect with increased air temperatures. Parking management strategies to encourage better utilisation of existing facilities and pricing parking to match its cost will have the effect of reducing storm water management costs, reducing the urban heat island effect, reducing land consumption as well as creating a possible cash infusion from parking revenue.

6.1.5 Cost

There are many costs associated with parking spaces. There are costs to developers and Council to construct the spaces, costs to drivers who occupy them, ‘opportunity costs' of the land used for parking, and external costs. The free parking that is provided within the Bairnsdale CBD is highly subsidised, or automatically included with building purchases and rents. This forces consumers to pay for parking whether or not they use it, typically businesses will often pass on these costs of parking lots to consumers in the prices of goods they sell.

Prices per space vary significantly between the type of structure (surface lot, above-ground, or basement) and the efficiency with which it is built.

In December 1988 the East Gippsland Shire Council prepared the City of Bairnsdale Cash-in-lieu Policy which required developer contributions for parking that cannot be met on individual sites of $8,500 per space.

Accordingly, off-street parking within the Bairnsdale CBD is substantially subsidised by all ratepayers from within in East Gippsland.

Calculating on-street costs of parking is slightly more complex, as it is generally wrapped into the cost of road construction. Consider the example of a 16.6 metres wide street with 45 degree parking adjacent each kerb. Allowing for two 3.5 meters wide through lanes and two 4.8 meters wide parking lanes: kerb parking takes up approximate 60% of the road space (based on the *AS/NZS 2890.5-1993 Section 2 Parking Bay Dimensions*). Since a car parks on-street for free with the Bairnsdale CBD, and roads are a significant portion of public infrastructure costs, on-street parking is a major subsidy provided to drivers.

Reducing the requirements for parking spaces will equal a significant reduction in public expenditures; charging for the cost of parking would help reduce parking congestion and demand whilst improving the East Gippsland Shire Council budgets.

Reduced parking requirements will also encourage infill development since developers will typically encounter reduced development costs. Employers will have a reduced burden of subsidising parking. Also, some revenue from parking management strategies can be put toward the cost of providing parking facilities or transportation improvements.

The introduction of paid parking schemes result in the cost of parking being paid for by the motorists that use them and with a reduced reliance on subsidies from the wider local community.

6.2 Parking Pricing

6.2.1 Advantages and Disadvantages

Paid parking (also called parking pricing, user pay and metered parking) refers to the direct charges for using a parking space. This can include on-street and off-street parking areas. Appropriately priced parking can provide numerous benefits including:

- Increased turnover of parking spaces and the associated improvement in user convenience;
- Reduced number of spaces needed to meet demand, reducing total parking costs and allowing more compact development;
- Encouraging long-term parkers to use underutilised parking spaces (such as off-street and fringe parking areas);
- Parking facility cost saving to Council / rate payers;
- Reduced total vehicle traffic which in turn reduces traffic congestion, accidents, energy consumption and pollution emissions; and
- Increased revenue which ultimately provides better facilities / amenities. This ensures users pay their share of municipal roads and parking costs, particularly for non-East Gippsland residents (tourist who visit the town).

Car parking is never really free. The choice is really between paying directly or indirectly for parking facilities. Currently there is a substantial subsidy provided by the East Gippsland Shire and ultimately rate payers associated with the provision of 'free' parking. This means that all ratepayers within the Shire of East Gippsland contribute to parking within the Bairnsdale CBD whether they choose to visit the town centre or not.

The introduction of paid parking seeks to pass the costs associated with providing parking to the end users that utilise these spaces.

Parking pricing is generally considered appropriate anywhere, where the parking is congested or above the 85% occupancy level. If implemented with good user information such as signs, maps and brochures that indicate the parking location and price, motorists can choose between more convenient but costly parking or cheaper parking a short distance away. Efficient pricing is particularly important for on-street parking as it is the most visible and convenient spaces.

Various methods can be used to price parking which differ in their costs, convenience and adjustability as summarised in Table 3.

Newer electronic systems tend to be more convenient, allow pricing adjustability and can be more efficient and equitable.

While there are many sound reasons for the introduction of paid parking schemes in areas of high parking demand, there are also a number of obstacles that need to be considered. These are briefly discussed below:

Inconvenience – Paying for parking can be inconvenient, particularly with older meters that only accept certain coins and require motorists to pre pay for a limited time period. Newer systems accommodate more payment options and some only charge for the time a vehicle is actually parked.

Cost inefficiencies – Paid parking incurs costs for equipment and administration that often absorbs a significant proportion of revenue. Newer meters typically serve multiple spaces and reduce enforcement costs compared with older meters.

Spill over Impacts – Motorists may park illegally at nearby 'free' parking areas or cause congestion problems on nearby residential streets where parking is unrestricted or unpriced. This can be addressed by improving parking regulations, user information and enforcement.

Discourage Customers and Reduce Economic Activity – Paid parking can be perceived to discourage some customers from shopping in an area if nearby competitors offer free parking. However, user pay parking provides business benefits as well as costs. It can ensure motorists can find a convenient space, reduce delivery costs, and revenues can finance additional services within the Activity Centre. Many economically successful retail precincts particularly in Metropolitan Melbourne have priced parking while many shopping centres that promote free parking are less successful. Many customers, particularly wealthier consumers, are willing to pay for parking provided there is a benefit, such as increase in convenience or a more attractive shopping environment.

Sunk Parking Costs – Where there is abundant parking supply, it may seem inefficient to impose paid parking to further reduce parking demands as this may result in even more unoccupied spaces. However, as most parking facilities have opportunity costs and unused parking can be rented, leased, or converted to other uses to overcome loss of revenue or sunk costs.

Inequity – Because most parking is unpriced many people consider it unfair to charge for parking in just a few locations and times. However, overall, user pay parking is fairer than financing parking facilities indirectly which means parking costs are borne by non-users.

Burden on Lower Income Motorists – A set parking fee represents a greater share of income, to a lower income motorist than a higher-income motorist. This is a matter which required greater consideration by Council if it chooses to explore parking pricing.

Table 3 – Examples of Parking Pricing Methods

Type of Paid Parking	Description	Capital Costs	Operational Costs	Convenience	Enforceability
Pass	Users purchase and display a pass	Low	Low	Medium	Good
Time-coded ticket	Users purchase a ticket for a certain period of time	Low	Medium	Medium	Good
Single Space Meters	Users prepay at a mechanical or electronic meter located at each space	High	High	Medium	Mechanical meters: poor Electronic meters: good
Smart Meters	Users prepay electronic meters which automatically reset when vehicle leaves	High	High	Medium	Good
M-Parking	Users use smart phone with associate apps top pay for parking	High	High	High	Good

Pay and Display Meters	Users prepay a meter which prints a ticket that is displayed in their vehicle	Medium	Medium	Medium	Good
Attendant	Users pay an attendant when entering or leaving a parking lot	High	High	High	Good
Controlled Access	Users pay a machine when entering or exiting a parking lot	High	Moderate	High	Good

7. Parking Rates for Retail, Office & Restaurant Uses in the Study Area

7.1 Methodology

To establish parking demand rates for retail, office and restaurant uses within the study area the following methodology was adopted:

- Customers were interviewed on their mode of travel and whether they were visiting other facilities within the area as part of their visit to Bairnsdale;
- Occupancy levels within individual uses were recorded at half hourly intervals;
- Employees / staff were also interviewed to establish their travel mode; and
- Postcode information was collected from all visitors to retails and restaurant uses.

In establishing the car-parking rate per 100 square metres of floor area for the retail outlets and per seat for the restaurants the following assumptions were made:

- The percentage of patron car drivers was established from analysis of the interview surveys;
- Peak occupancy levels at the premises were established through the patron movement surveys;
- The car driver ratio was multiplied by the peak occupancy level to establish a patron parking demand;
- The staff car parking demand was added to the patron parking demand and then divided by the floor area of the shop, or the number of seats in the restaurant;
- This provided car parking ratios per 100 square metres of retail floor area for the shops / office and per seat for the restaurant; and
- In adopting this approach, no allowance is made for the time taken to get to and from the parked vehicle or for multiple shopping visits.

7.2 Establishments Surveyed

The following outlets were surveyed as part of the Bairnsdale Car Parking Study. Surveys were conducted on Friday, 5th December 2014 between 10:00am and 3:00pm.

The restaurant, retail and office business are shown in Table 4, Table 5 and Table 6 respectively.

Table 4 – Restaurant Businesses

Restaurant	Address	Floor Area (m^2)	Number of Seats
Easy Eats	76 Nicholson Street	268.5	92 Inside 10 Outside
The Wooden Squirrel	142 Main Street	132.5	40 Inside 50 Outside
Two Spoons	85 Nicholson Street	202.7	42 Inside 12 Outside

Table 5 – Retail Businesses

Retail	Description	Address	Floor Area (m^2)
Nick's Bairnsdale	Clothing	93 Main Street	455.1
Bairnsdale Camping and Outdoors	Camping	220 Main Street	228.8
Leading Edge	Music / Electrical	137 Main Street	244.0
Mirror Image	Hairdresser	76 Main Street	254.0
House and Gift	Homewares	14 Bailey Street	262.3
Tasters Wine and Foods	Food / Wine	25 Service Street	205.0

Table 6 – Office Businesses

Office	Address	Floor Area (m^2)
Crowther & Sadler	152 Macleod Street	254.9
Accounting Solutions Victoria Pty Ltd	116 Macleod Street	347.8
Financial Solutions Victoria Pty Ltd	119 Main Street	284.4
Slap Architects	Level 1, 111 Main Street	258.9
Warren, Graham & Murphy Lawyers Pty Ltd	119 Main Street	568.7
James Yates Printing and Design	65 Macleod Street	350.0

Due to inconsistencies in the available information with regards to 65 Macleod Street, including data collection misrepresentation, the survey results for this business have been excluded from the survey analysis.

7.3 Survey Results

Table 7 provides details of the parking rates that were calculated for retail, restaurant and office using the method outlined in Section 7.1.

Table 7 – Friday 5th of December 2014 – Retail / Restaurant / Office Rates

Retail	Peak Patronage	Car Parking Demand / Patron	Peak Staff	Car Parking Demand / Staff	Floor Area	Car Spaces per 100m^2
Nick's Bairnsdale	7	0.542	4	1.0	455.1	1.70
Bairnsdale Camping and Outdoors	3	0.500	2	0.5	228.8	1.53
Leading Edge	3	0.676	4	0.57	244.0	1.77
Mirror Image	10	0.720	11	0.83	254.0	6.44
House and Gift	7	0.597	3	1	262.3	2.74
Tasters Wine and Foods	2	0.727	1	1	205.0	1.20
Restaurant	**Peak Patronage**	**Car Parking Demand / Seat**	**Peak Staff**	**Car Parking Demand / Staff**	**No. of Seats**	**Car Spaces per Seat**
Easy Eats	24	0.363	7	1.0	92	0.17
The Wooden Squirrel	16	0.510	5	0.83	40	0.31
Two Spoons	22	0.465	4	0.75	42	0.32

Office	Peak Patronage	Car Parking Demand / Patron	Peak Staff	Car Parking Demand / Staff	Floor Area (m^2)	Car Spaces per $100m^2$
Crowther & Sadler	1	0.80	11	1.0	254.9	4.63
Accounting Solutions Victoria Pty Ltd	2	0.25	6	1.0	347.8	1.87
Financial Solutions Victoria Pty Ltd	2	0.25	2	1.0	284.4	0.44
Slap Architects	0	0	4	1.0	258.9	1.55
Warren, Graham & Murphy Lawyers Pty Ltd	2	0.33	10	1.0	568.7	1.88

A review of Table 7 indicates the following (weighted) average parking demands per 100m^2:

- Retail (including Hair / Beauty) 3.02 per 100m^2
- Retail (excluding Hair / Beauty) 1.93 per 100m^2
- Retail (Hair / Beauty only) 6.44 per 100m^2
- Café / Restaurant 0.27 per seat
- Office 2.66 per 100m^2

Based on these rates, it is considered that a separate rate should be established for Hairdressers / Hair and Beauty based on the number of seats (work stations).

At the time of the surveys, Mirror Image comprised 13 work stations with a peak parking demand for 21 parking spaces.

Accordingly, Mirror Image is generating a parking demand at a rate of 1.6 spaces per work station.

8. Origin of Customers to Bairnsdale CBD

In association with the interview surveys, the postcode of the origin of all visitors was obtained from participants.

Of the 383 participants who provided post code information, only 48% of respondents (184) originated in Bairnsdale (postcode 3875).

The remaining 52% originated from areas outside Bairnsdale including:

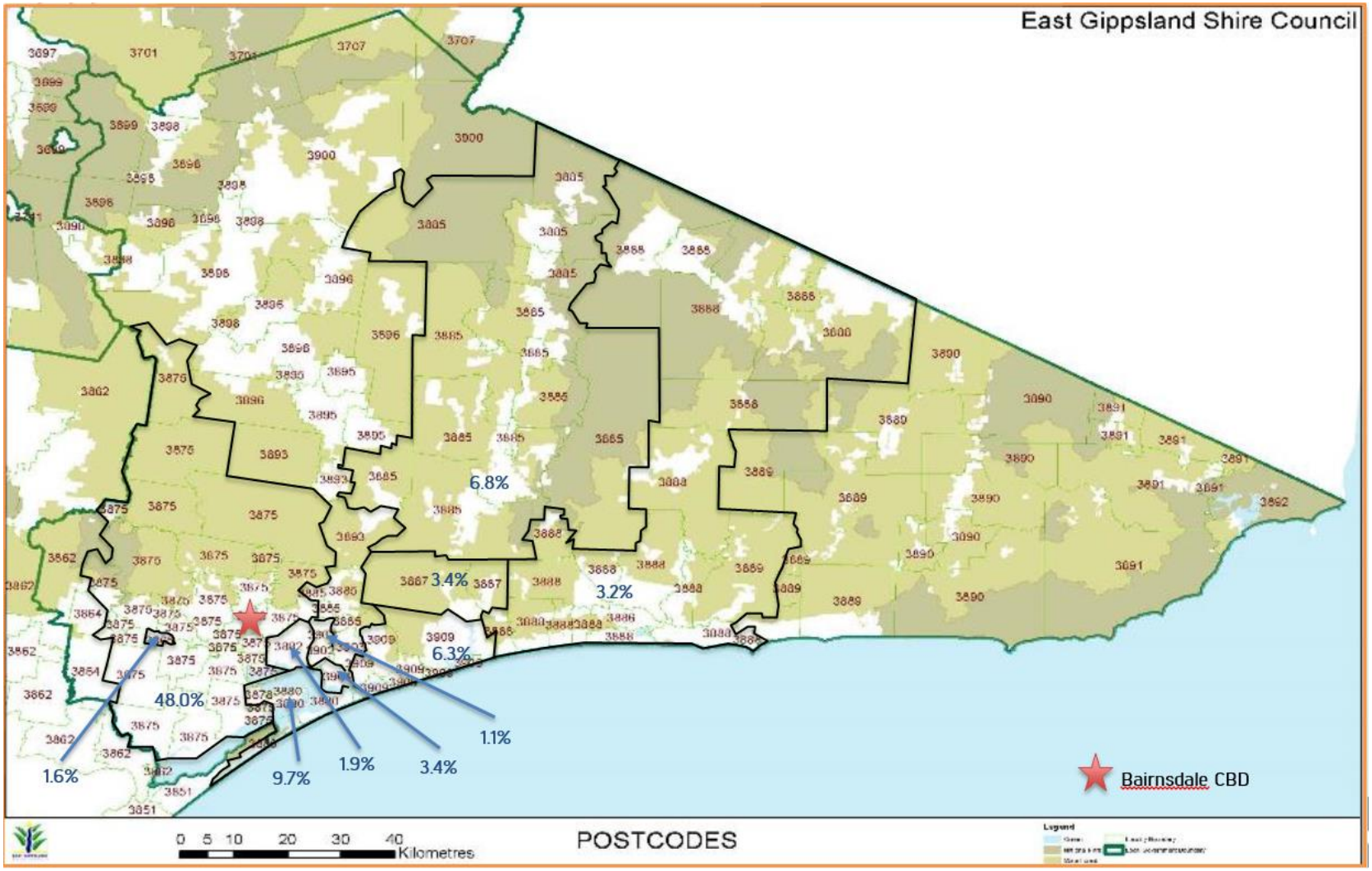
- Yarram, Victoria;
- Nyora, Victoria;
- Griffin, Queensland;
- Bombala, New South Wales; and
- Switzerland.

Based on the post code data, it is apparent that the more than half of visitors to the Bairnsdale CBD are from areas outside Bairnsdale.

Given the poor public transport available to these customers, visitors to the Bairnsdale CBD will be quite car dependent.

The top 10 origins of visitors to the Bairnsdale CBD from within East Gippsland are shown in Figure 9.

Figure 9 – Top 10 Origins for Visitors to Bairnsdale



9. Parking Occupancy

9.1 Parking Supply Inventory

There are a total of 3,387 parking spaces available within the Bairnsdale study area. Of the 3,387 parking spaces available within the study area, 2,002 spaces are located on-street with the remaining 1,385 spaces located off-street.

Parking within the study area is a mix of unrestricted and restricted parking. Parking restrictions include time limited (typically 1 and 2 hours) parking, permit / commuter zone, loading zones, taxi zones, or equitable access parking. Parking within the study area is typically unrestricted after 6:00pm Monday to Friday and 1:00pm Saturdays.

Most parking restrictions place limits on the amount of time that a vehicle may be parked in a parking bay. Other parking restrictions place limits on what type of vehicle may use a parking bay (e.g. bus or taxi) or what activity the parking bay may be used for (e.g. Loading Zone for the unloading or loading of goods, commuter parking or permit parking).

Parking restrictions are applied in streets and in car parks to assist in regulating and controlling the movement of traffic and parked vehicles. Time restrictions generally apply in areas where the parking demand exceeds the available number of parking bays. The aim of parking restrictions is to share the available parking bays with as many vehicles as practicable, thus maximising the vehicle turnover rate.

Parking time restrictions are used to encourage motorists who want to park for long periods, to use car parks further away from the highest demand areas, leaving the closest spaces available for short stay customer parking.

While parking time restrictions may be inconvenient at times, their application ensures that motorists have a more equal opportunity to park their vehicle close to their destination. Parking time restrictions therefore support strong and profitable local business, employment and job security.

The typical parking restrictions within the study area prior to 6:00pm are as following:

- 1 hour parking 540 spaces
- 2 hour parking 740 spaces
- 3 hour parking 240 spaces
- Unrestricted parking 1644 spaces
- Taxi Zone 6 spaces

- Loading Zones 5 spaces
- Equitable Access Parking Spaces 53 spaces
- Permit / Reserved 80 spaces
- Other 79 spaces

A breakdown of the restrictions by survey area is shown in Table 8.

In order to assist in the analysis of the current parking demands within the Bairnsdale study area, the area has been divided into six precincts. These precincts have been obtained from previous East Gippsland Shire Council Reports and are:

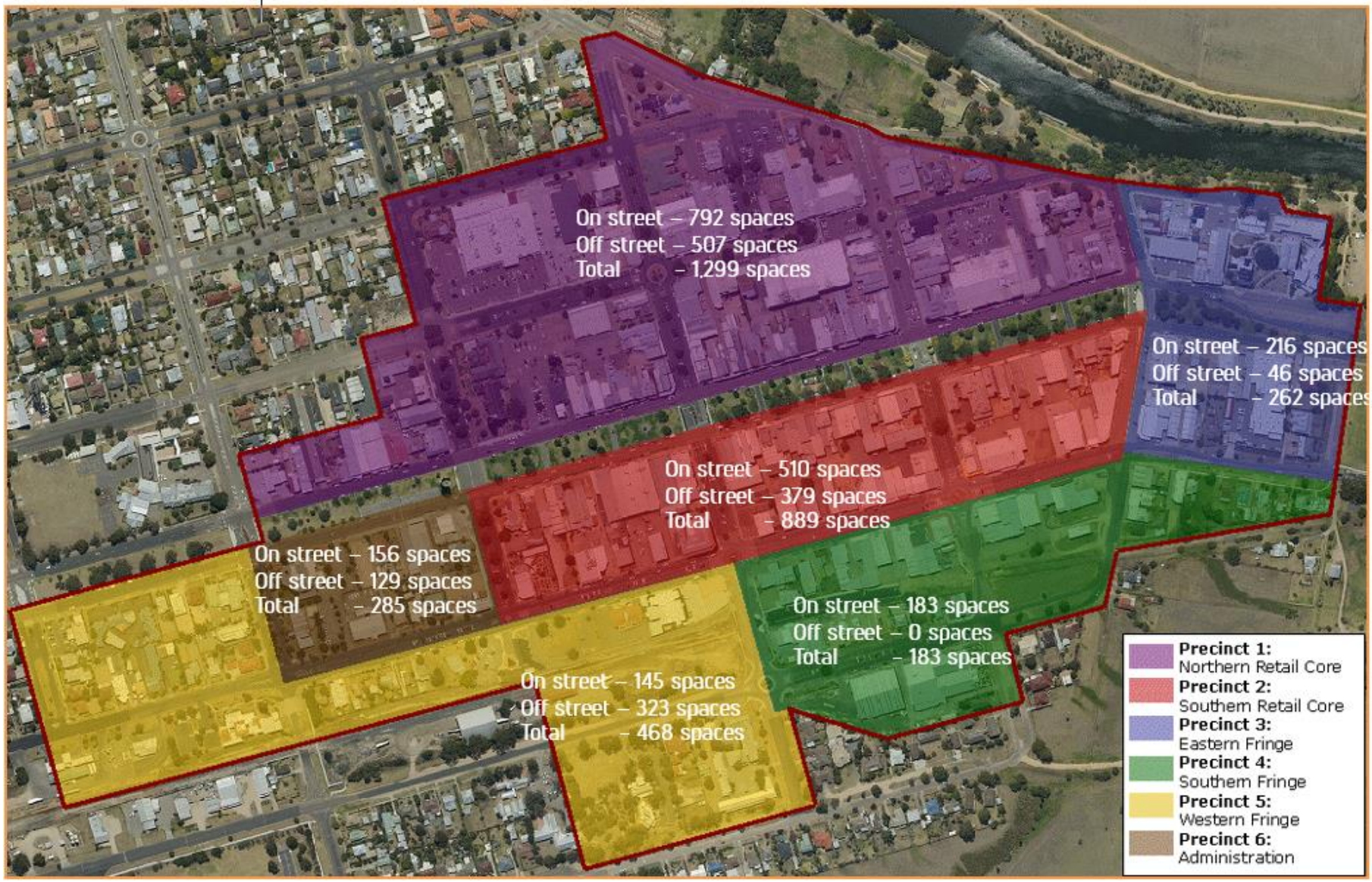
- Precinct 1 Northern Retail Core 1299 spaces
- Precinct 2 Southern Retail Core 889 spaces
- Precinct 3 Eastern Fringe 262 spaces
- Precinct 4 Southern Fringe 183 spaces
- Precinct 5 Western Fringe 468 spaces
- Precinct 6 Administration 286 spaces

The location of the various precincts including the parking supply in each area is shown in Figure 10.

Table 8 – Parking Restrictions by Precinct

Restrictions	Precinct 1	Precinct 2	Precinct 3	Precinct 4	Precinct 5	Precinct 6	Total
1P	352	164	11	-	-	13	**540**
2P	402	286	26	8	8	10	**740**
3P	240	-	-	-	-	-	**240**
Unrestricted	222	384	203	174	450	211	**1644**
Taxi Zone	5	-	-	-	-	1	**6**
Loading Zone	2	2	-	-	1	-	**5**
Equitable Access Parking	21	9	11	1	9	2	**53**
Permit / Reserved	12	12	11	-	-	45	**80**
Other	43	32	-	-	-	4	**79**
Total	**1299**	**889**	**262**	**183**	**468**	**286**	

Figure 10 – Study Area Precincts



9.2 Methodology

Due to timing constraints associated with the preparation of the study, a car parking survey was undertaken on Friday the 12th of December. Car parking surveys are generally undertaken on a 'typical' day to reflect the average / typical parking demands. Absolute peak activity generally occurs in the week prior to Christmas, the Friday / Saturday before Mother's Day and Father's Day, special anniversary days and days of major promotions. It is recognised that these occasions are typical and therefore centres are not designed to cater for these occasions.

Typically, the 85th percentile is used for traffic design purposes and is an occurrence that is exceeded on only eight Fridays of the year. The 85th percentile is referred to the 'design' day.

The car parking occupancy surveys involved recording the number of vehicles parked within the various precincts at half hourly intervals between 10:00am and 3:00pm.

Measuring the parking occupancy indicates the ease with which a driver is able to find a car parking space within a particular area. Donald Shroup, Professor in Urban Planning at the University of California and author of the High Cost of Free Parking (2005), cites an occupancy of 85% as a common point at which parking occupancy should be targeted (at typical peak times). Greater than 85% occupancy can result in driver frustration while less than 85% occupancy could be considered an unnecessarily inefficient use of resources. Given this, an 85% occupancy will be adopted within this report.

9.3 Survey Results

9.3.1 Total Parking Demand

A review of the survey results indicates that the peak parking demand within the study area occurred at 11:30am, with 2,321 occupied spaces (a peak occupancy of 68.5%) as shown in Figure 11.

Figure 11 illustrates that the peak demand for parking was observed at 11:30am, with a peak occupancy of 68.5%. Accordingly it is considered that the overall parking supply within the study area is appropriate to accommodate the peak demands for parking.

The variation in parking demand for on-street and off-street car parking demands are shown in Figure 12 and Figure 13 respectively.

A review of Figure 12 indicates that the demand for on-street car parking was reasonably constant between 11:00am and 12:30pm, with a peak occupancy of 1,373 vehicles or 68.7%.

With regards to off-street car parking demands, Figure 13 indicates that the peak parking demand occurred at 11:30am, with an occupancy of 968 vehicles or 69.9%.

Accordingly it is considered that the overall parking supply both on-street and off-street within the study area, is appropriate to accommodate the peak demands for parking.

However, this being said, it is important to ensure that parking is appropriately located throughout the study area, to ensure that various precincts are not at or nearing capacity while other precincts are underutilised. The parking demands in the various precincts are discussed as follows.

Figure 11 – Variation in total Parking Demand

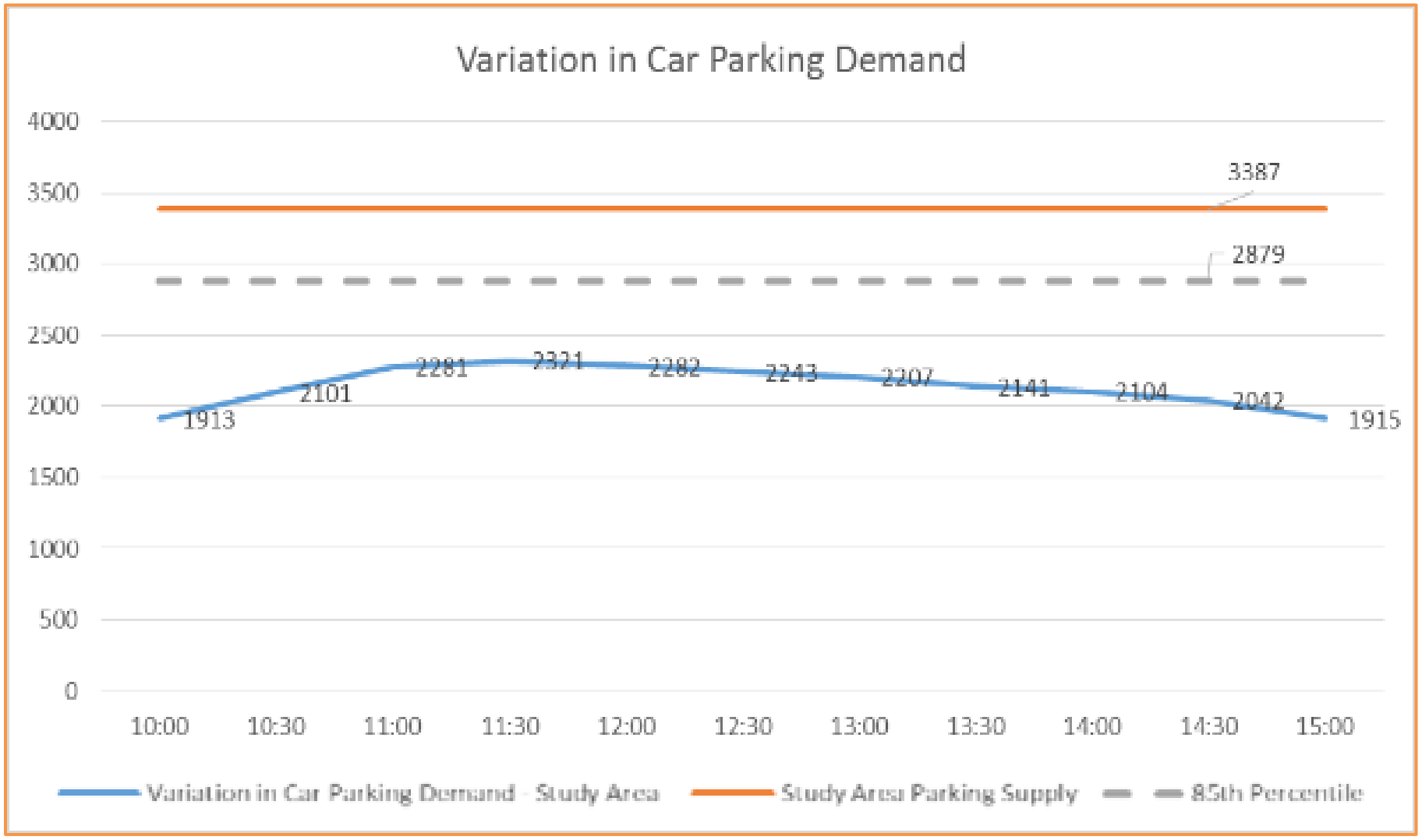


Figure 12 – Variation in On-Street Parking Demand

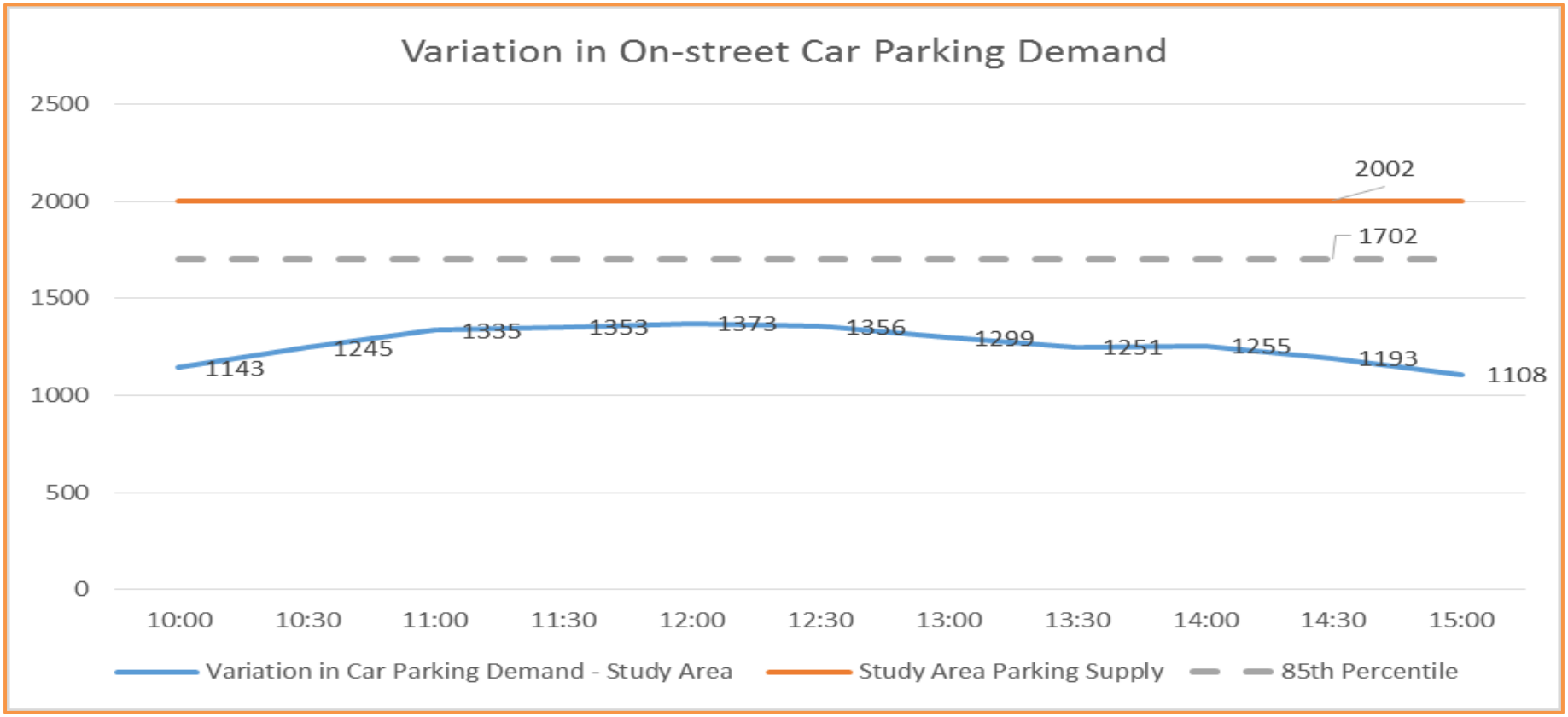
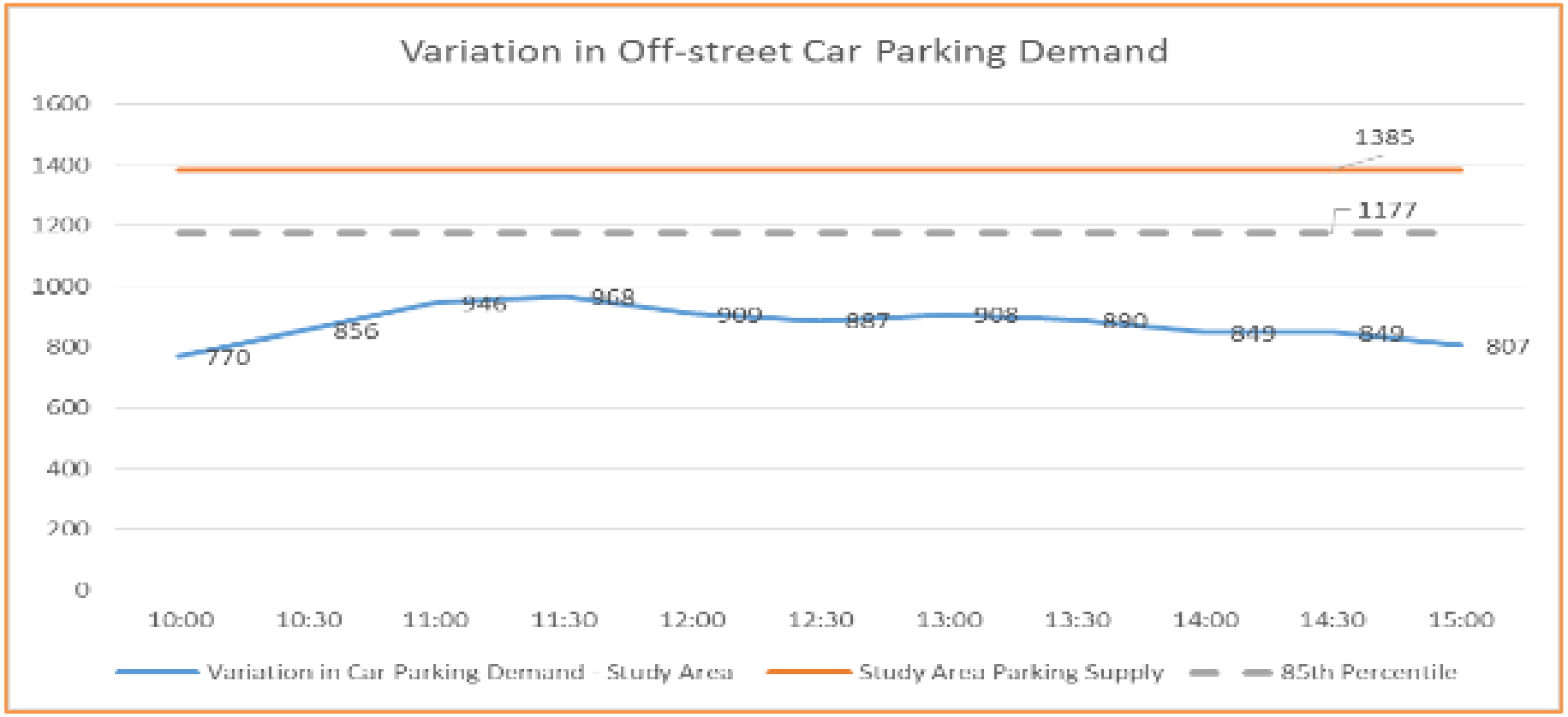


Figure 13 – Variation in Off-Street Parking Demand



9.3.2 Precinct 1 – Northern Retail Core

The northern retail core comprises some 1,299 parking with an 85th percentile of 1,104 parking spaces and has the following restrictions:

- 1 hour parking 352 spaces
- 2 hour parking 402 spaces
- 3 hour parking 240 spaces
- Unrestricted parking 222 spaces
- Equitable Access Parking Spaces 21 spaces
- Other (taxi zone, loading zone, 15 minute parking, etc) 62 spaces

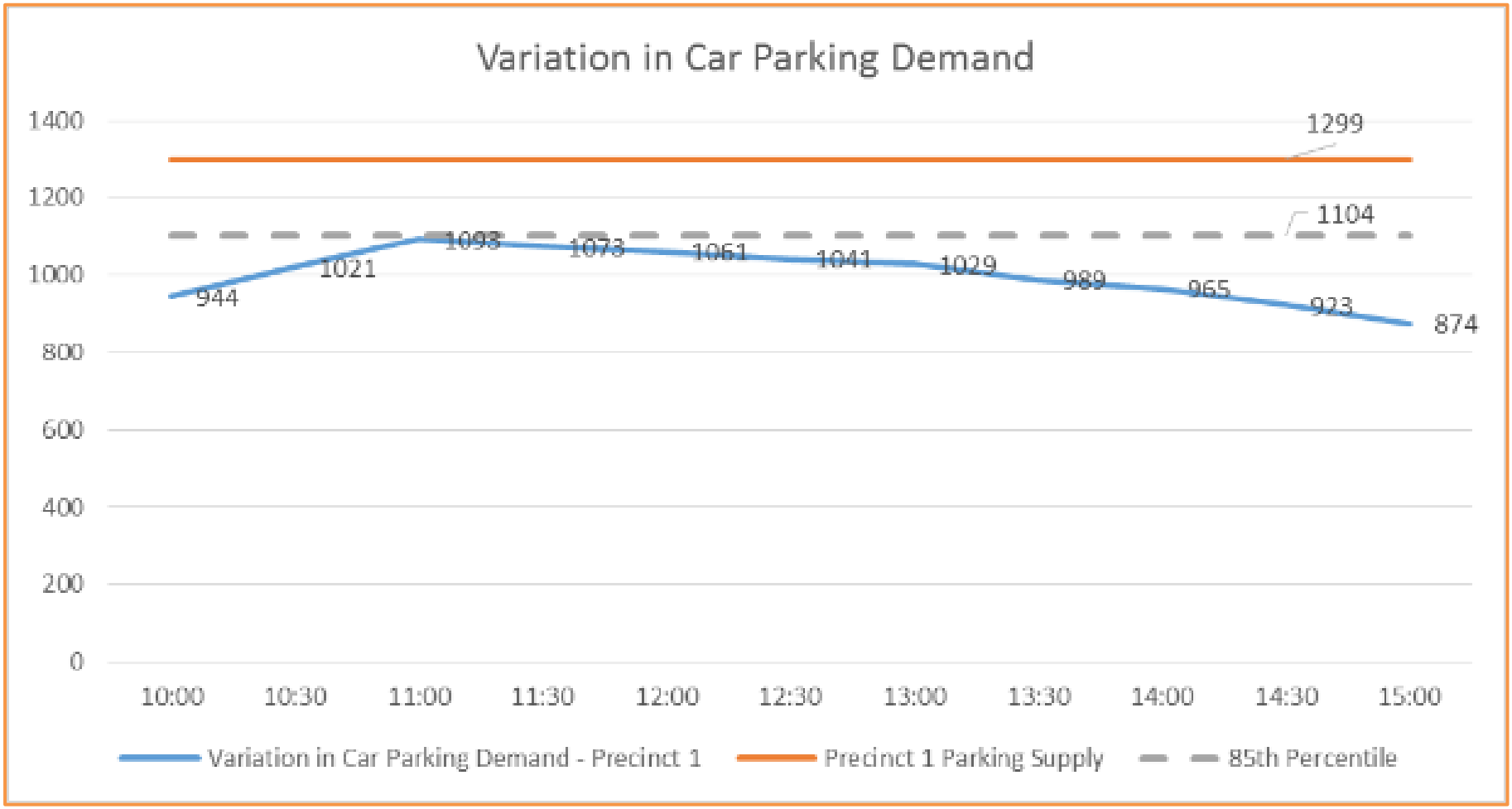
Of the 1,299 parking spaces 792 spaces are provided on-street and 507 are provided off-street.

The variation in total parking demand within Precinct 1 is shown in Figure 14.

A review of Figure 14 indicates that the parking demand rose from the start of the survey period, until the peak demand for 1,093 spaces was observed at 11:00am. After this time the demand for parking decreased steadily, until the end of the survey when 849 vehicles were observed.

With a peak parking demand for 1,093 spaces at 11:00am (11 vacant spaces before reaching 85% capacity), it is considered that parking within Precinct 1 is highly sought-after, with motorists prepared to circulate within the precinct to find an available parking space.

Figure 14 – Variation in Parking Demand Precinct



Accordingly, motorists within this Precinct will become frustrated with the perceived lack of parking within the immediate area, particularly around 11:30am. This will also result in additional traffic movements within the Precinct as motorists search for an available parking space during peak times.

Given that parking is nearing practical capacity within Precinct 1, the variation in parking demands for on-street and off-street parking are shown in Figure 15 and Figure 16 respectively.

A review of Figure 15 indicates that the peak car parking demand occurred at 11:00am, when 467 of the available 507 car parking spaces were occupied (peak occupancy of 92.1%), resulting in a minimum of 40 vacant spaces.

A further review of Figure 15 indicates that the demand for off-street car parking exceeded the 85th percentile (392 spaces), from 10:30am to 1:30pm. After 1:30pm the demand ranged from 372 to 390 spaces.

Accordingly it is considered that motorists looking for an off-street car parking space will become frustrated as they are required to search for an available space.

A review of Figure 16 indicates that the peak demand for on-street car parking occurred at 11:00am with the demand being relatively constant between 11:00am – 1:00pm (demand for 602 – 626 spaces).

With a peak parking demand for 626 spaces at 11:00am (48 vacant spaces before reaching 85% capacity), it is considered that on-street parking is readily available.

Accordingly it is considered that on-street parking within Precinct 1 is easily accessible, with little if any need for motorist to circulate to find an available parking space.

Figure 15 – Precinct 1 – Off-Street Parking Demand

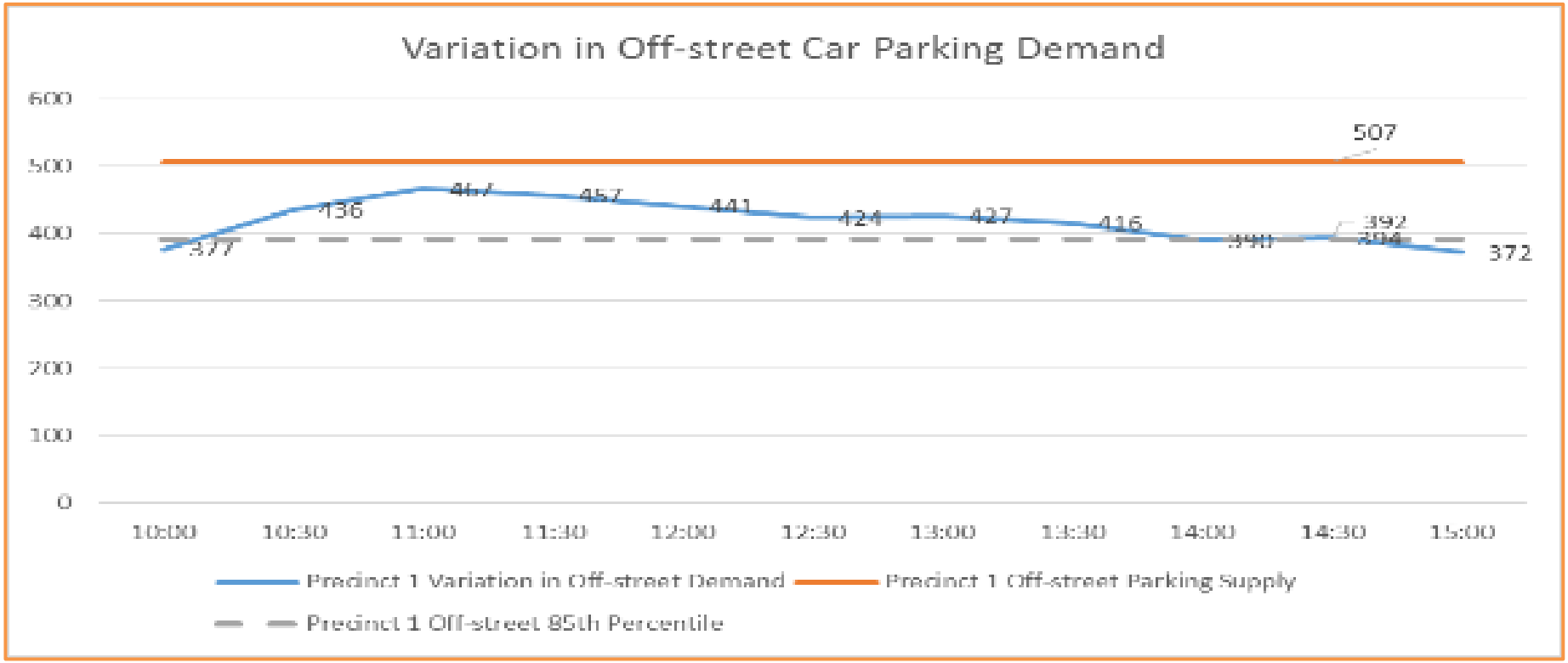
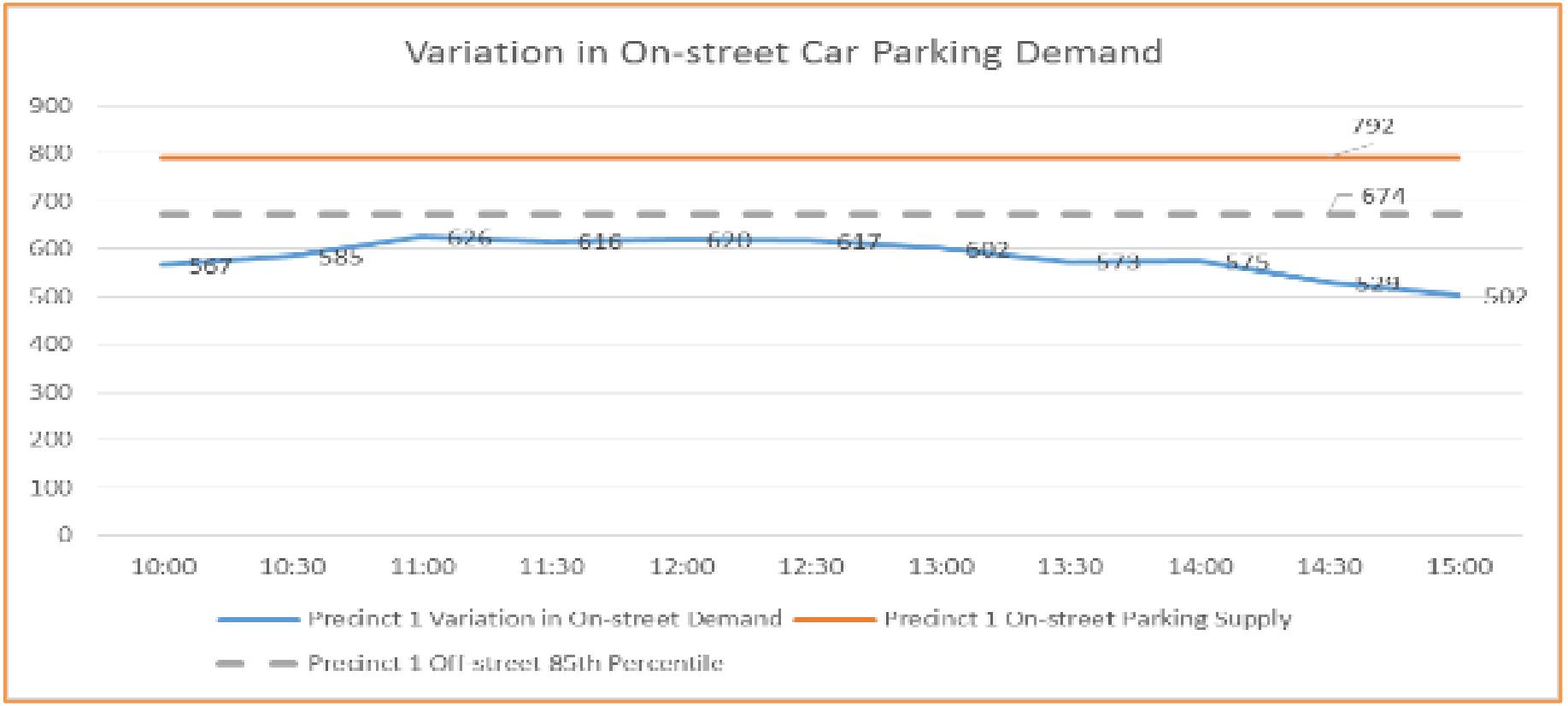


Figure 16 – Precinct 1 – On-Street Parking Demand



9.3.3 Precinct 2 – Southern Retail Core

The southern retail core comprises some 889 parking with an 85th percentile of 756 parking spaces and has the following restrictions:

- 1 hour parking 164 spaces
- 2 hour parking 286 spaces
- Unrestricted parking 384 spaces
- Equitable Access Parking Spaces 9 spaces
- Other (loading zone etc) 46 spaces

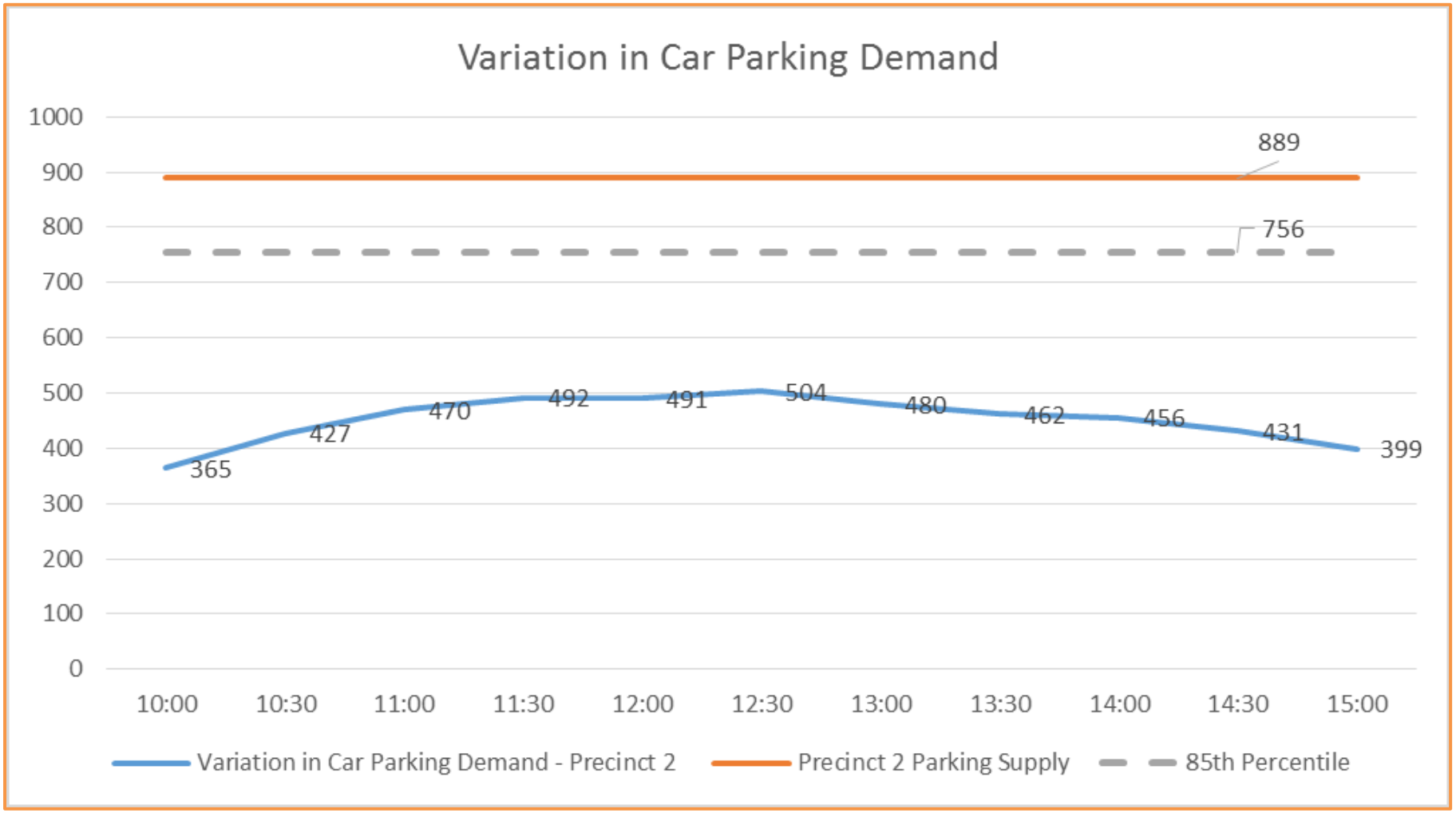
Of the 889 parking spaces 510 spaces are provided on-street and 379 are provided off-street.

The variation in total parking demand within Precinct 2 is shown in Figure 17.

A review of Figure 17 indicates that the parking demand rose from the start of the survey period, until the peak demand for 504 spaces was observed at 12:30pm. After this time the demand for parking decreased steadily until the end of the survey, when 399 vehicles were observed.

With a peak parking demand for 504 spaces at 12:30am (252 vacant spaces before reaching 85% capacity), it is considered that parking within Precinct 2 is easily accessible, with little if any need for motorist to circulate to find an available parking space.

Figure 17 – Variation in Parking Demand Precinct 2



9.3.4 Precinct 3 – Eastern Fringe

The eastern fringe comprises some 262 parking with an 85th percentile of 223 parking spaces and has the following restrictions:

- 1 hour parking 11 spaces
- 2 hour parking 26 spaces
- Unrestricted parking 203 spaces
- Equitable Access Parking Spaces 11 spaces
- Permit Zone 4 spaces
- Other (reserved) 7 spaces

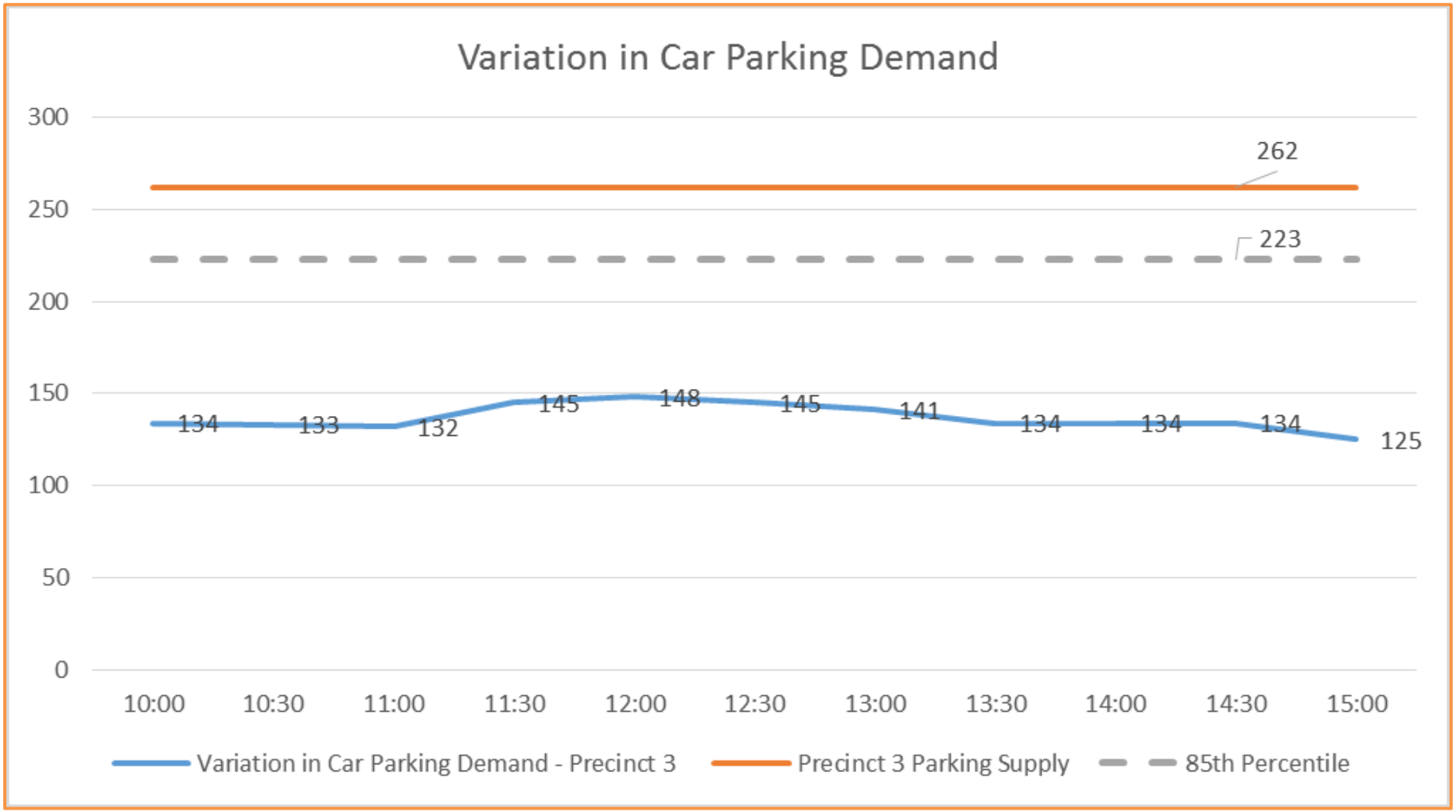
Of the 262 parking spaces 216 spaces are provided on-street and 46 are provided off-street.

The variation in total parking demand within Precinct 3 is shown in Figure 18.

A review of Figure 18 indicates that the parking demand was relatively constant throughout the survey period, with between 125 and 148 vehicles observed within the precinct. The peak parking demand occurred at 12noon with 148 vehicles observed, after this time the demand for parking decreased slightly until the end of the survey, when 125 vehicles were observed.

With a peak parking demand for 148 spaces at 12noon (75 vacant spaces before reaching 85% capacity), it is considered that parking within Precinct 3 is easily accessible, with little if any need for motorist to circulate to find an available parking space.

Figure 18 – Variation in Parking Demand Precinct 3



9.3.5 Precinct 4 – Southern Fringe

The southern fringe comprises some 183 parking with an 85th percentile of 156 parking spaces and has the following restrictions:

- 2 hour parking 8 spaces
- Unrestricted parking 174 spaces
- Equitable Access Parking Spaces 1 space

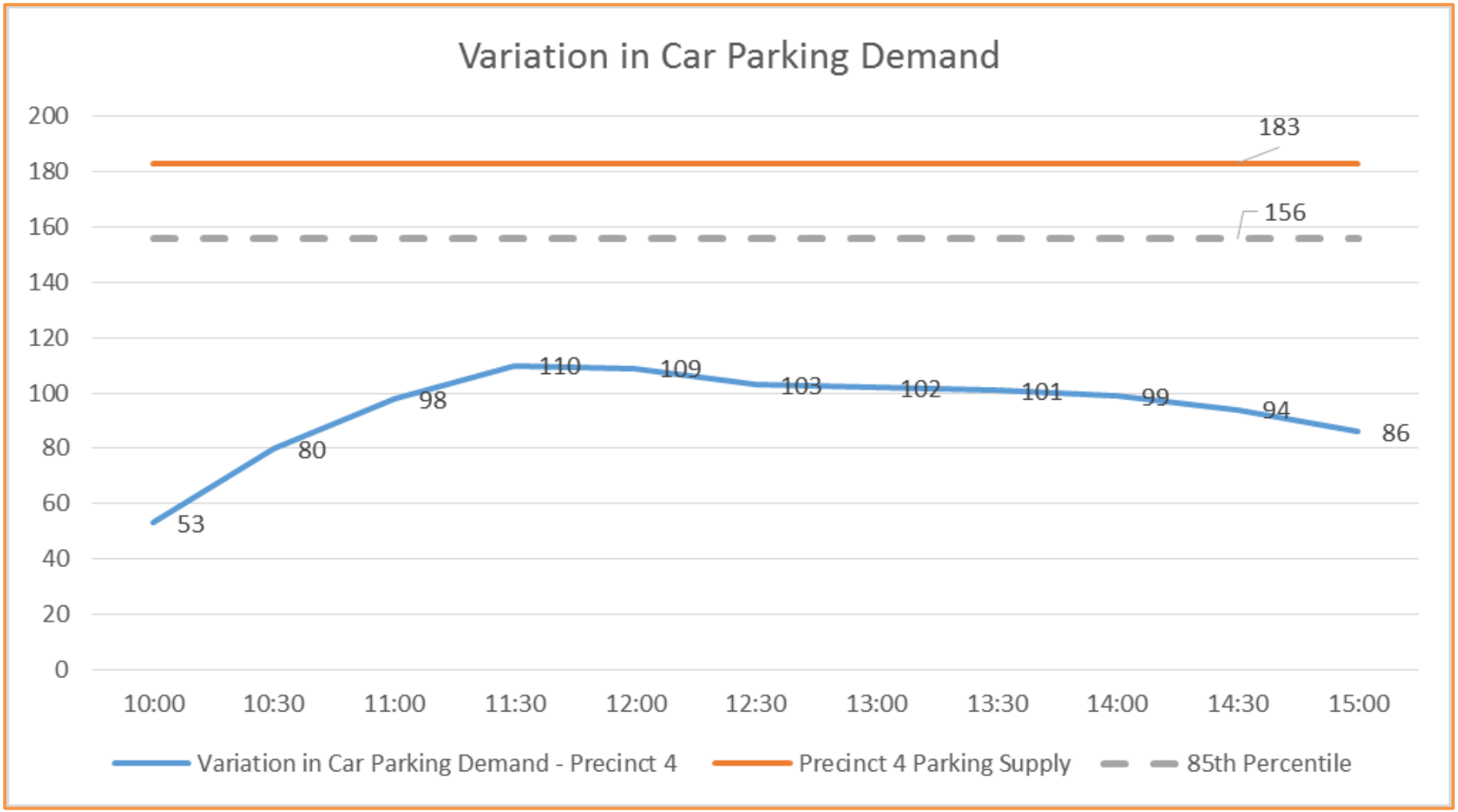
All 183 spaces are provided on-street.

The variation in total parking demand within Precinct 4 is shown in Figure 19.

A review of Figure 19 indicates that the parking demand rose sharply from 11:00am to 11:30am, when the peak parking demand for 110 spaces was observed. After 11:30am the demand for parking decreased steadily until the end of the survey period.

With a peak parking demand for 110 spaces at 11:30am (46 vacant spaces before reaching 85% capacity), it is considered that parking within Precinct 4 is easily accessible, with little if any need for motorist to circulate to find an available parking space.

Figure 19 – Variation in Parking Demand Precinct 4



9.3.6 Precinct 5 – Western Fringe

The western fringe comprises some 468 parking with an 85th percentile of 398 parking spaces and has the following restrictions:

- 2 hour parking 8 spaces
- Unrestricted parking 450 spaces
- Equitable Access Parking Spaces 9 spaces
- Loading Zone 1 space

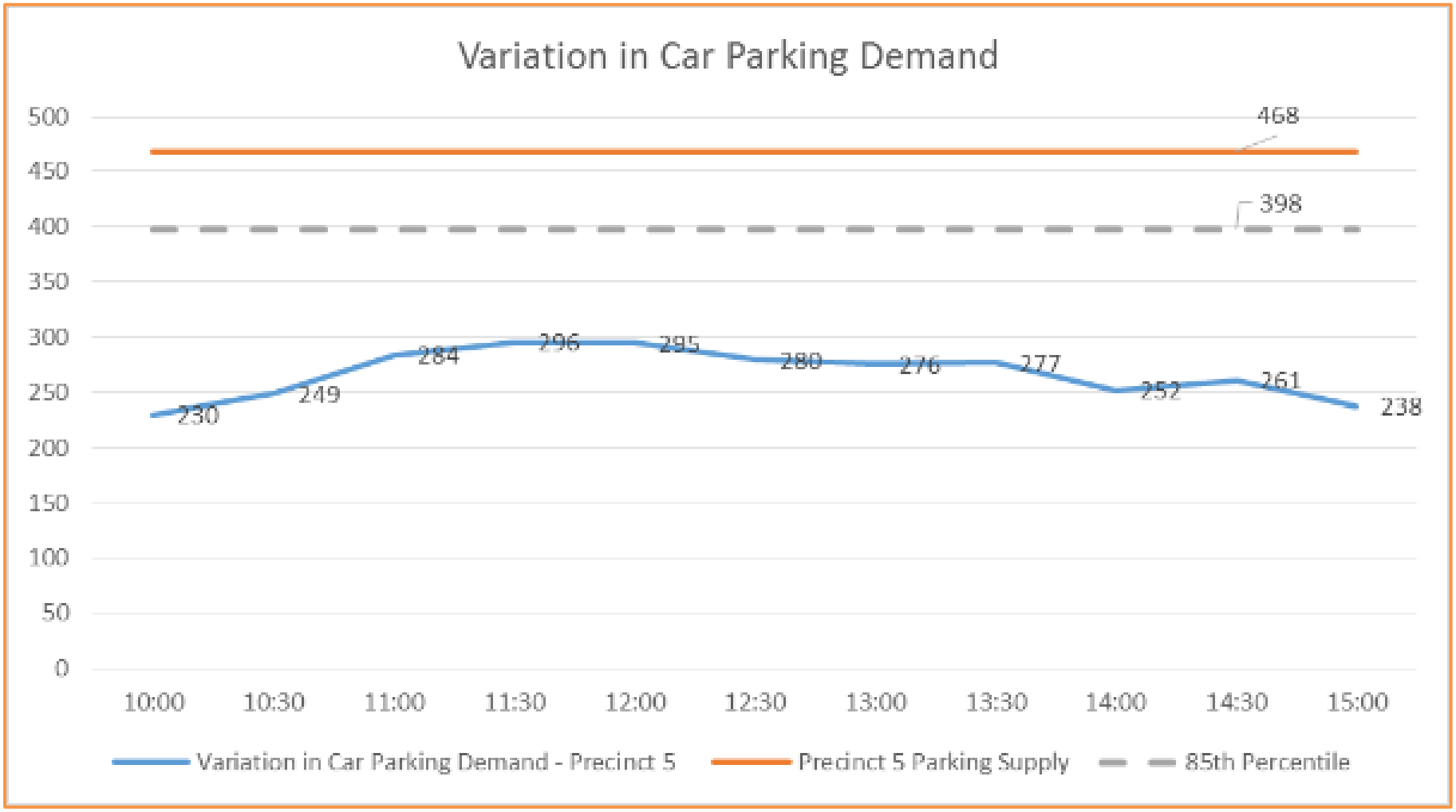
Of the 468 parking spaces 145 spaces are provided on-street and 323 are provided off-street.

The variation in total parking demand within Precinct 5 is shown in Figure 20.

A review of Figure 20 indicates that the parking demand rose steadily from 10:00am to 11:30am, when the peak parking demand for 296 spaces was observed. After 11:30am the demand for parking decreased steadily until the end of the survey period.

With a peak parking demand for 296 spaces at 11:30am (102 vacant spaces before reaching 85% capacity), it is considered that parking within Precinct 5 is easily accessible, with little if any need for motorist to circulate to find an available parking space.

Figure 20 – Variation in Parking Demand Precinct 5



9.3.7 Precinct 6 - Administration

The Administration Precinct comprises some 285 parking with an 85th percentile of 242 parking spaces and has the following restrictions:

- 1 hour parking 13 spaces
- 2 hour parking 10 spaces
- Unrestricted parking 211 spaces
- Equitable access Parking Spaces 2 spaces
- Reserved / Permit 45 spaces
- Other parking 5 spaces

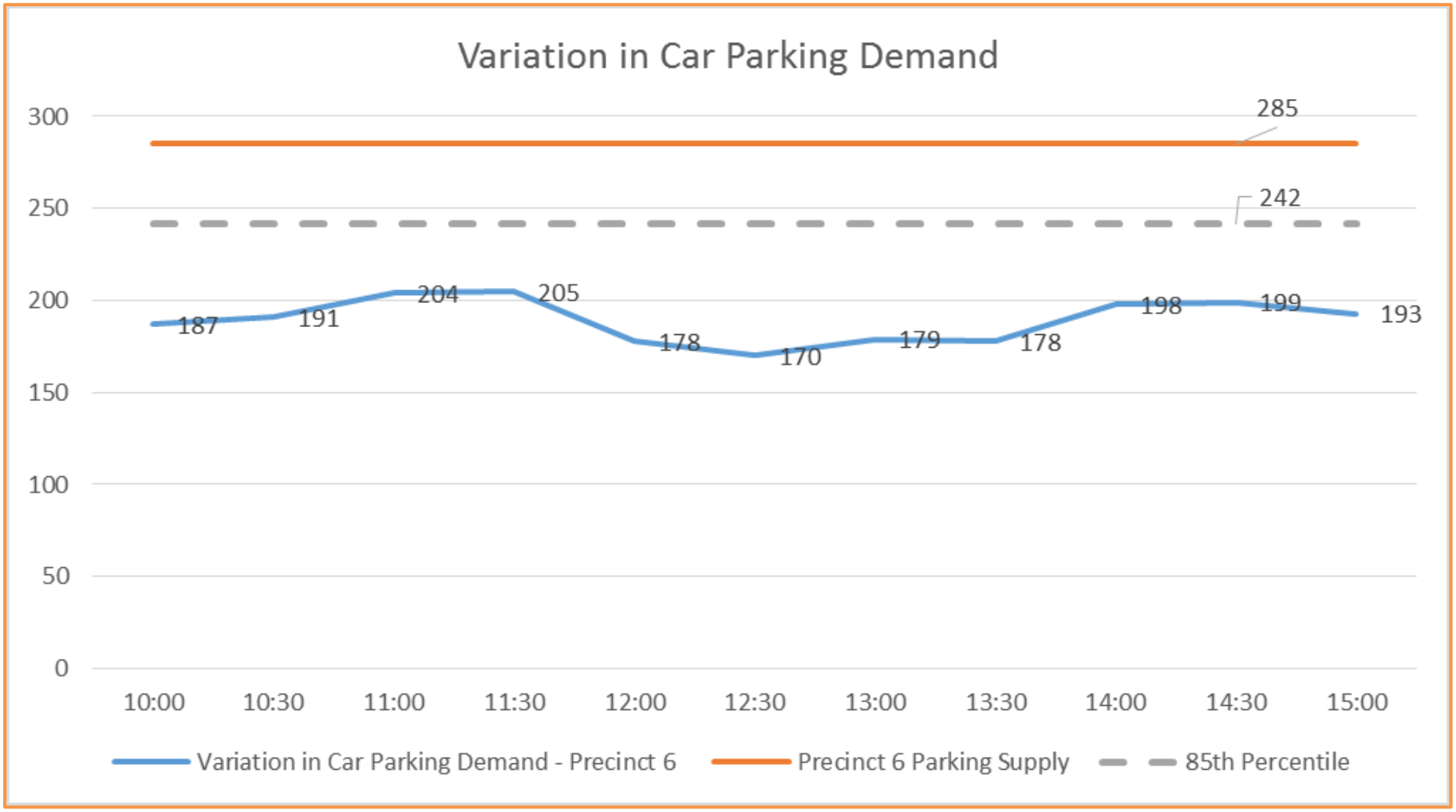
Of the 286 parking spaces 156 spaces are provided on-street and 129 are provided off-street.

The variation in total parking demand within Precinct 6 is shown in Figure 21.

A review of Figure 21 indicates that the parking demand rose steadily from 10:00am to 11:30am, when the peak parking demand for 205 spaces was observed. After 11:30am the demand for parking decreased steadily until 12:30pm, before increasing again until 2:30pm when 199 vehicles were observed.

With a peak parking demand for 205 spaces at 11:30am (37 vacant spaces before reaching 85% capacity), it is considered that parking within Precinct 6 is easily accessible, with little if any need for motorist to circulate to find an available parking space.

Figure 21 – Variation in Parking Demand Precinct 6



9.3.8 All Unrestricted Parking Spaces

Within the study area there are a total of 1,644 unrestricted car parking spaces with an 85th percentile of 1,397 spaces including:

- Precinct 1 222 spaces
- Precinct 2 384 spaces
- Precinct 3 203 spaces
- Precinct 4 174 spaces
- Precinct 5 450 spaces
- Precinct 6 211 spaces

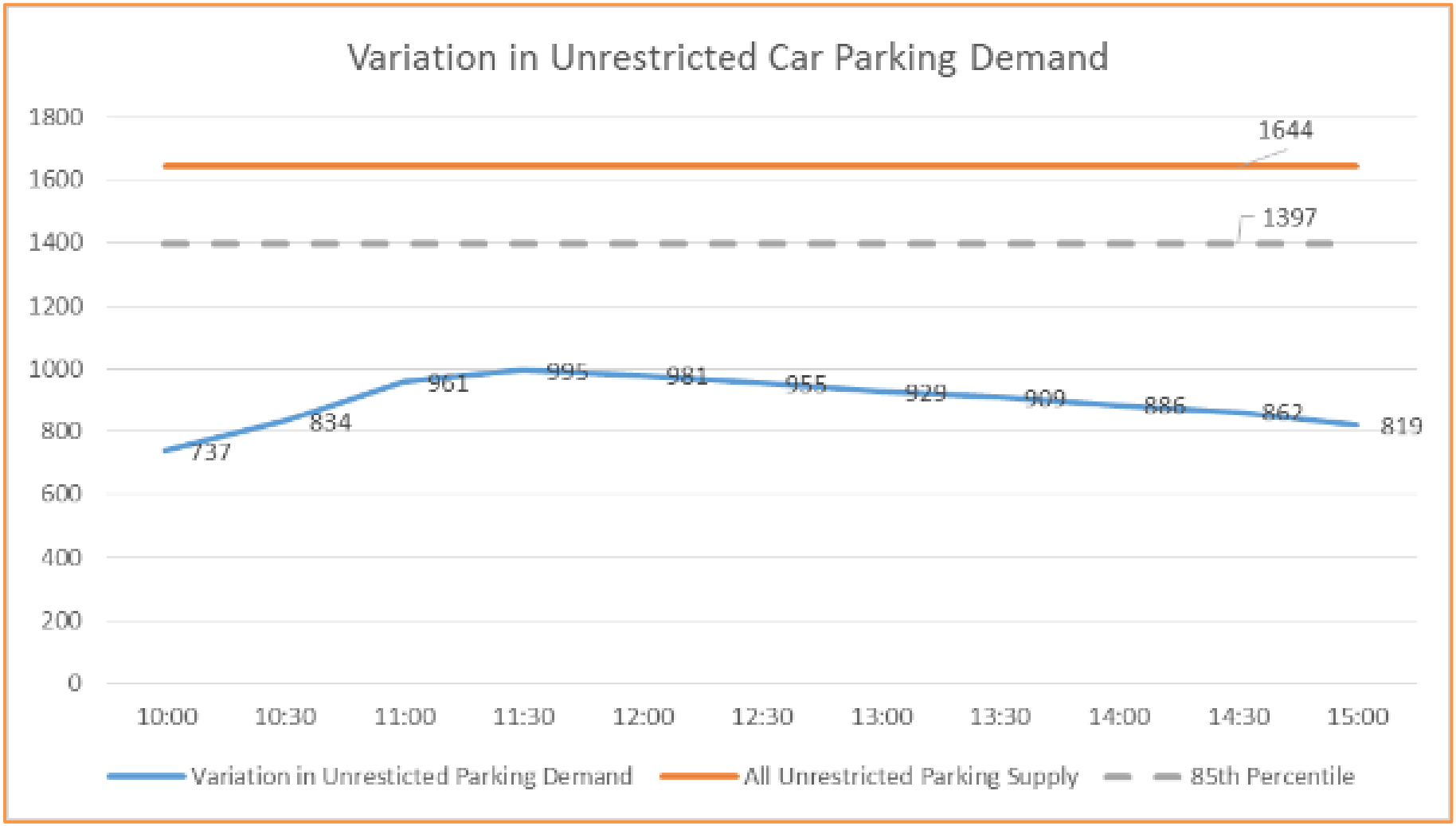
Of the 1,644 parking spaces 956 spaces are provided on-street and 688 are provided off-street.

The variation in total parking demand for unrestricted parking is shown in Figure 22.

A review of Figure 22 indicates that the parking demand rose steadily from 10:00am to 11:30am, when the peak parking demand for 995 spaces was observed. After 11:30am the demand for parking decreased steadily until the end of the survey period, when 819 vehicles were observed within unrestricted parking spaces.

With a peak parking demand for 995 spaces at 11:30am (402 vacant spaces before reaching 85% capacity), it is considered that unrestricted parking is easily accessible.

Figure 22 – Variation in All Unrestricted Parking



9.3.9 On-street Unrestricted Parking Spaces

Within the study area there are a total of 956 unrestricted car parking spaces provided on-street with an 85th percentile of 812 spaces including:

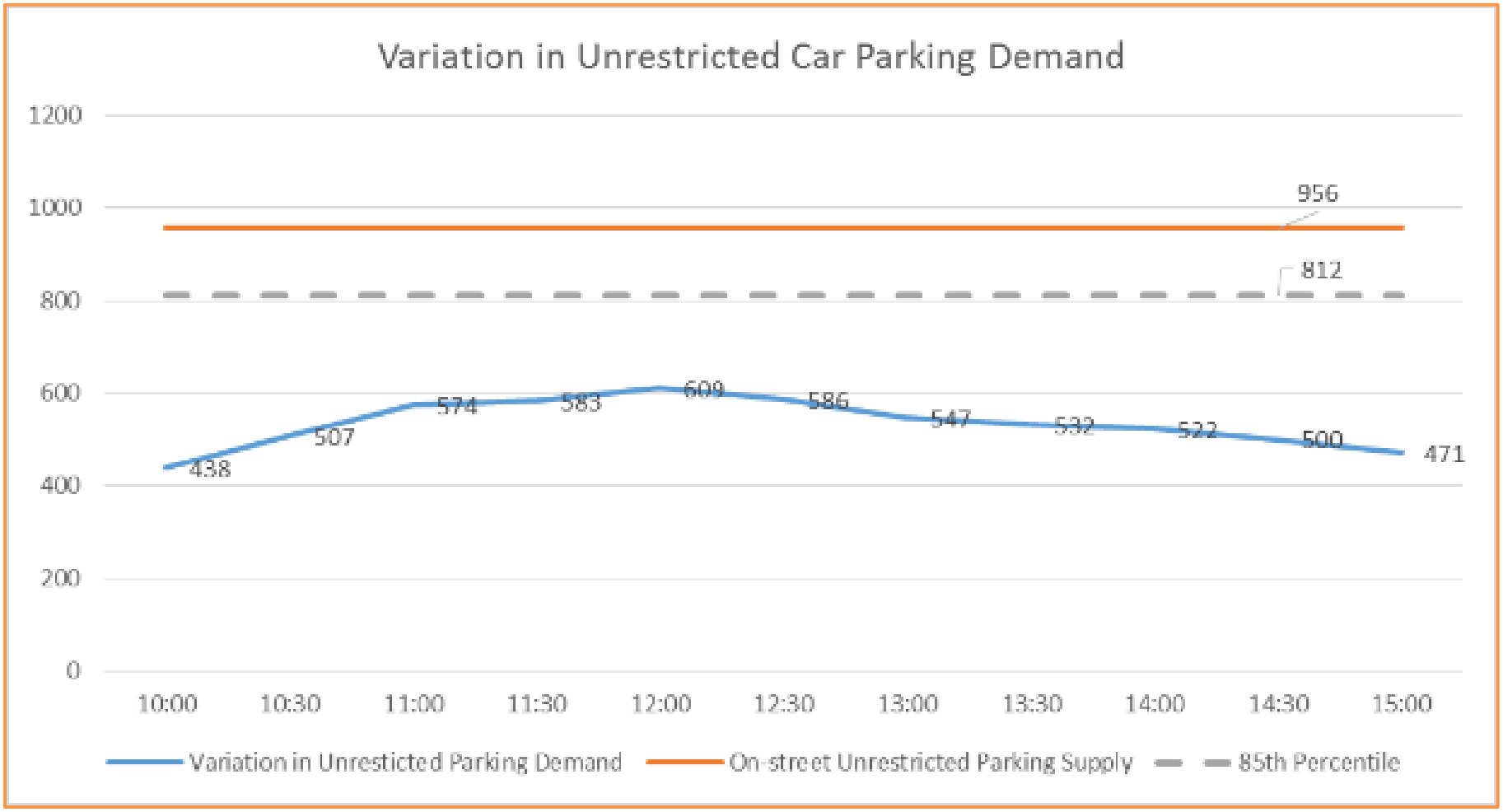
- Precinct 1 222 spaces
- Precinct 2 137 spaces
- Precinct 3 166 spaces
- Precinct 4 133 spaces
- Precinct 5 177 spaces
- Precinct 6 121 spaces

The variation in demand for on-street unrestricted parking is shown in Figure 23.

A review of Figure 23 indicates that the parking demand rose steadily from 10:00am to 12noon, when the peak parking demand for 609 spaces was observed. After 12noon the demand for on-street unrestricted parking decreased steadily until the end of the survey period, when 471 vehicles were observed within unrestricted parking spaces.

With a peak parking demand for 609 spaces at 12noon (203 vacant spaces before reaching 85% capacity), it is considered that unrestricted parking is easily accessible on-street.

Figure 23 – Variation in On-Street Unrestricted Parking



9.3.10 Off-street Unrestricted Parking Spaces

Within the study area there are a total of 688 unrestricted car parking spaces with an 85th percentile of 585 spaces including:

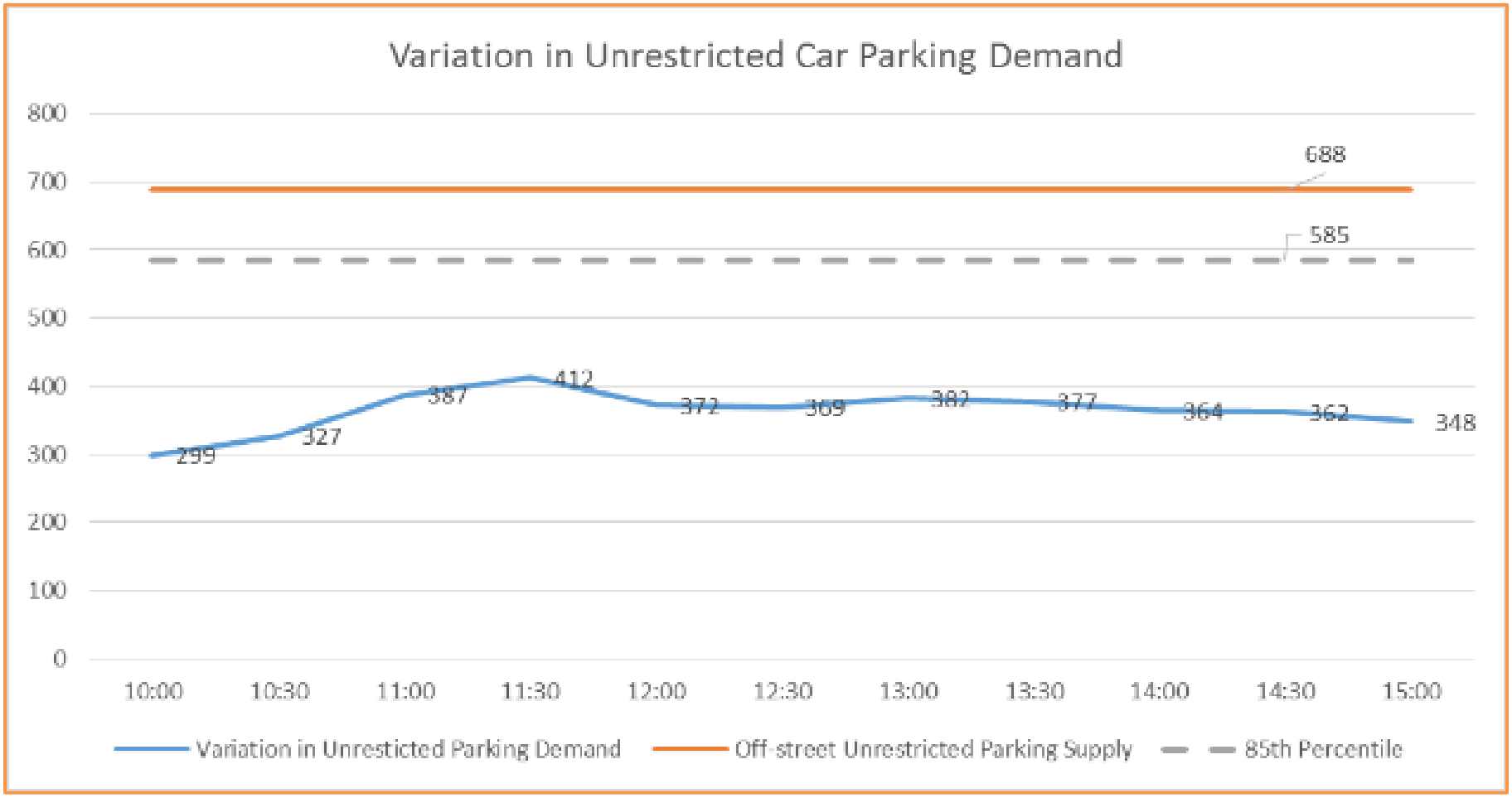
- Precinct 1 0 spaces
- Precinct 2 247 spaces
- Precinct 3 37 spaces
- Precinct 4 41 spaces
- Precinct 5 273 spaces
- Precinct 6 90 spaces

The variation in demand for off-street unrestricted parking is shown in Figure 24.

A review of Figure 24 indicates that the parking demand rose steadily from 10:00am to 11:30am, when the peak parking demand for 412 spaces was observed. After 11:30am the demand for off-street unrestricted parking remained relatively constant until the end of the survey period, when 348 vehicles were observed within unrestricted parking spaces.

With a peak parking demand for 412 spaces at 11:30am (173 vacant spaces before reaching 85% capacity), it is considered that on-street unrestricted parking is easily accessible.

Figure 24 – Variation in Off-Street Unrestricted Parking



9.3.11 All One Hour Parking Spaces

Within the study area there are a total of 540 one hour parking spaces with an 85th percentile of 459 spaces including:

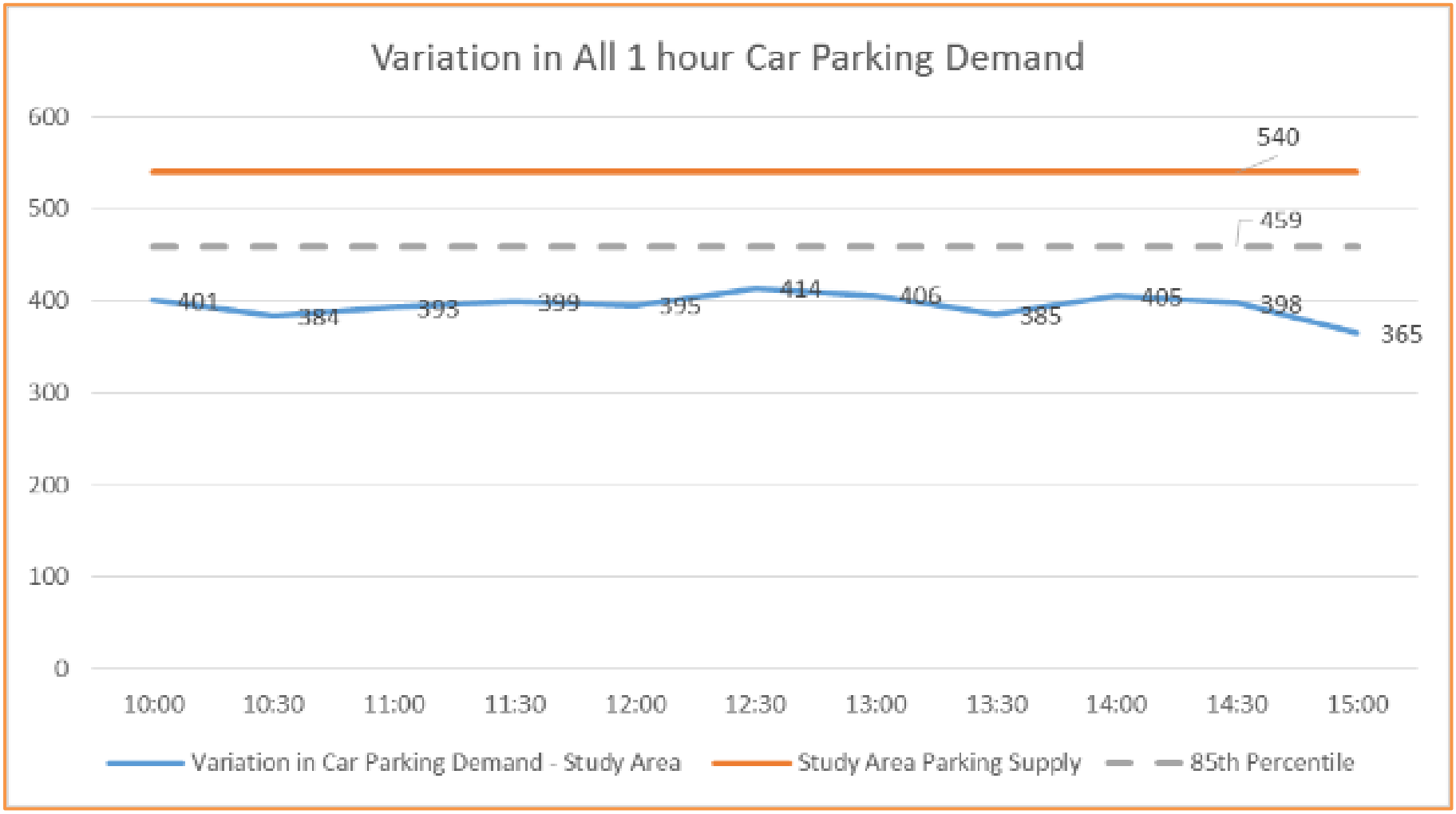
- Precinct 1 352 spaces
- Precinct 2 164 spaces
- Precinct 3 11 spaces
- Precinct 4 0 spaces
- Precinct 5 0 spaces
- Precinct 6 13 spaces

The variation in demand for 1 hour parking is shown in Figure 25.

A review of Figure 25 indicates that the parking demand was relatively steady throughout the survey period, with between 365 and 414 vehicles recorded within 1 hour parking spaces. The peak parking demand for 414 spaces occurred at 12:30pm.

With a peak parking demand for 414 spaces at 12:30pm (45 vacant spaces before reaching 85% capacity), it is considered that 1 hour parking is generally easily accessible.

Figure 25 – Variation in 1 Hour Parking



9.3.12 On-Street One Hour Parking

Within the study area there are a total of 502 one hour parking spaces are provided on street with an 85th percentile of 427 spaces including:

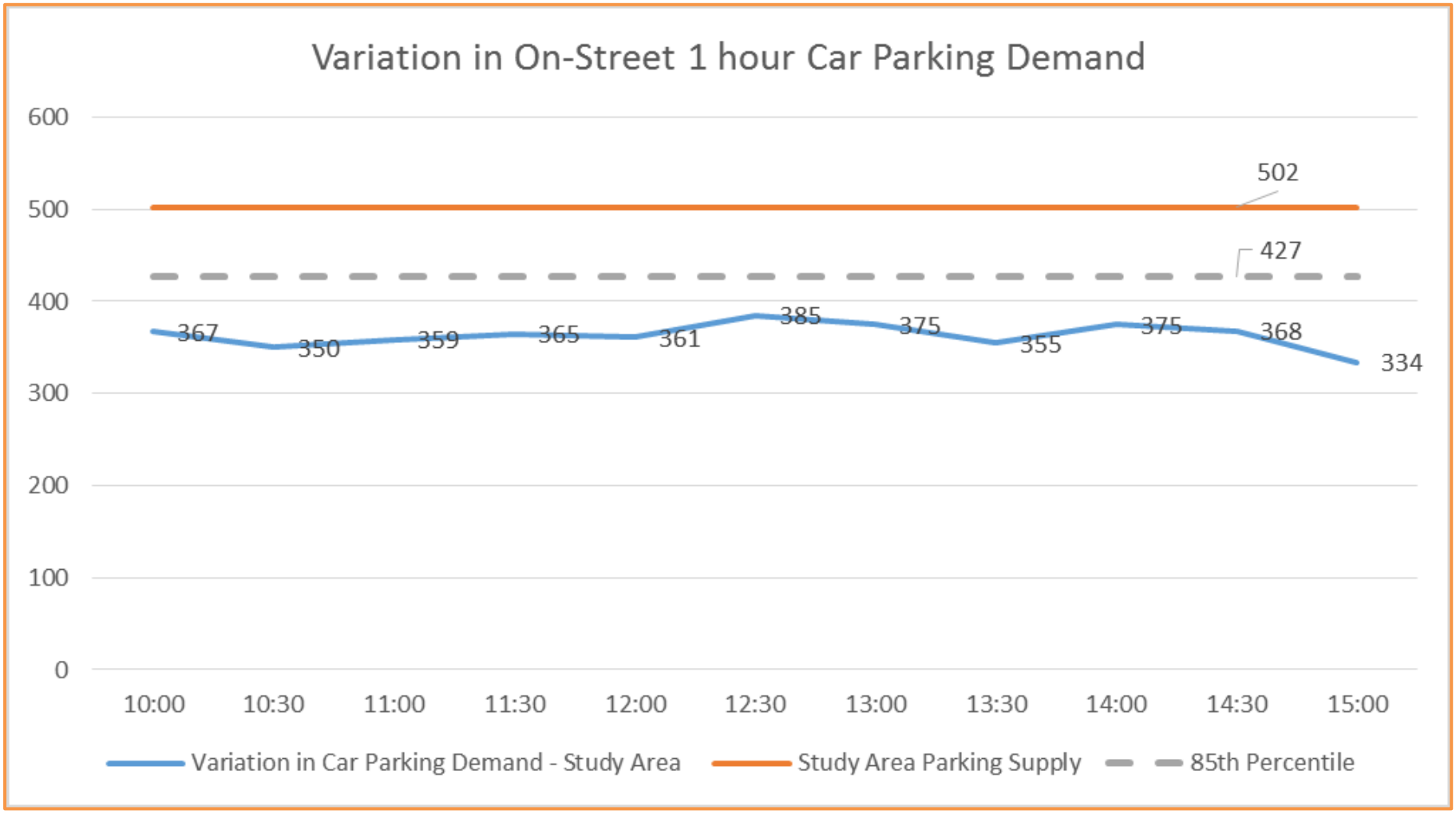
- Precinct 1 314 spaces
- Precinct 2 164 spaces
- Precinct 3 11 spaces
- Precinct 4 0 spaces
- Precinct 5 0 spaces
- Precinct 6 13 spaces

The variation in demand for 1 hour on-street parking is shown in Figure 26.

A review of Figure 26 indicates that the parking demand was relatively steady throughout the survey period, with between 334 and 385 vehicles recorded within the on-street 1 hour parking spaces. The peak parking demand for 385 on-street spaces occurred at 12:30pm.

With a peak parking demand for 385 spaces at 12:30pm (42 vacant spaces before reaching 85% capacity), it is considered that 1 hour parking on-street is generally easily accessible.

Figure 26 – Variation in 1 Hour On-Street Parking



9.3.13 Off-Street One Hour Parking

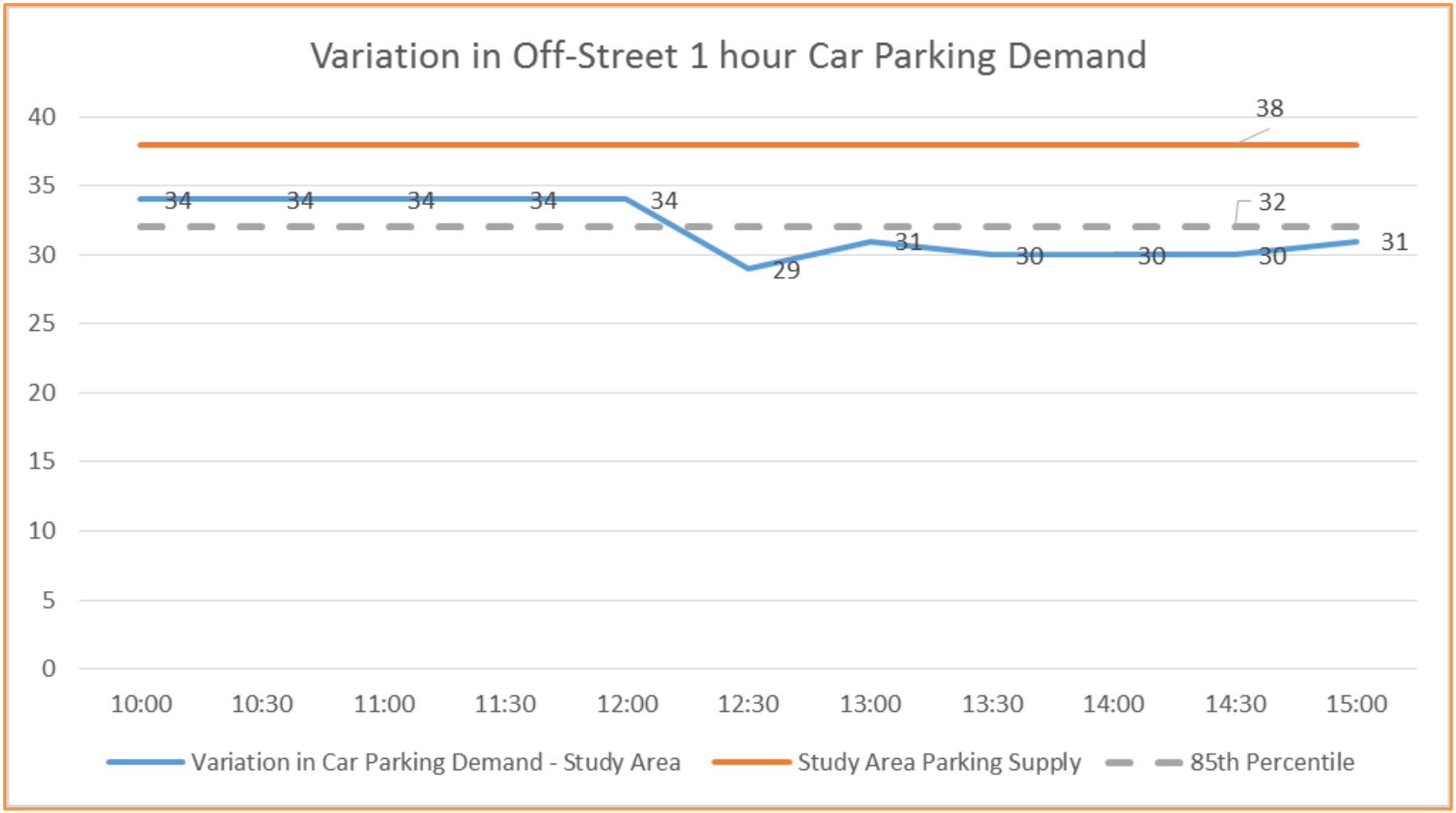
Thirty eight (38) off-street car parking spaces are provided within Precinct 1 (within the Chemist / Workways carpark), with an 85th percentile of 32 spaces including:

The variation in demand for 1 hour off-street parking is shown in Figure 27.

A review of Figure 27 indicates that the parking demand was constant from the start of the survey to 12noon, with 34 vehicles recorded. Following 12noon, the demand for 1 hour off-street parking decreased, with between 29 and 31 vehicles recorded to the end of the survey period.

With a peak parking demand for 34 spaces dropping at 12:30pm (2 spaces more than the 85% capacity), it is considered that 1 hour parking off-street is highly sort after.

Figure 27 – Variation in 1 Hour Off-Street Parking



9.3.14 All Two Hour Parking

Within the study area there are a total of 740 two hour parking spaces with an 85th percentile of 629 spaces including:

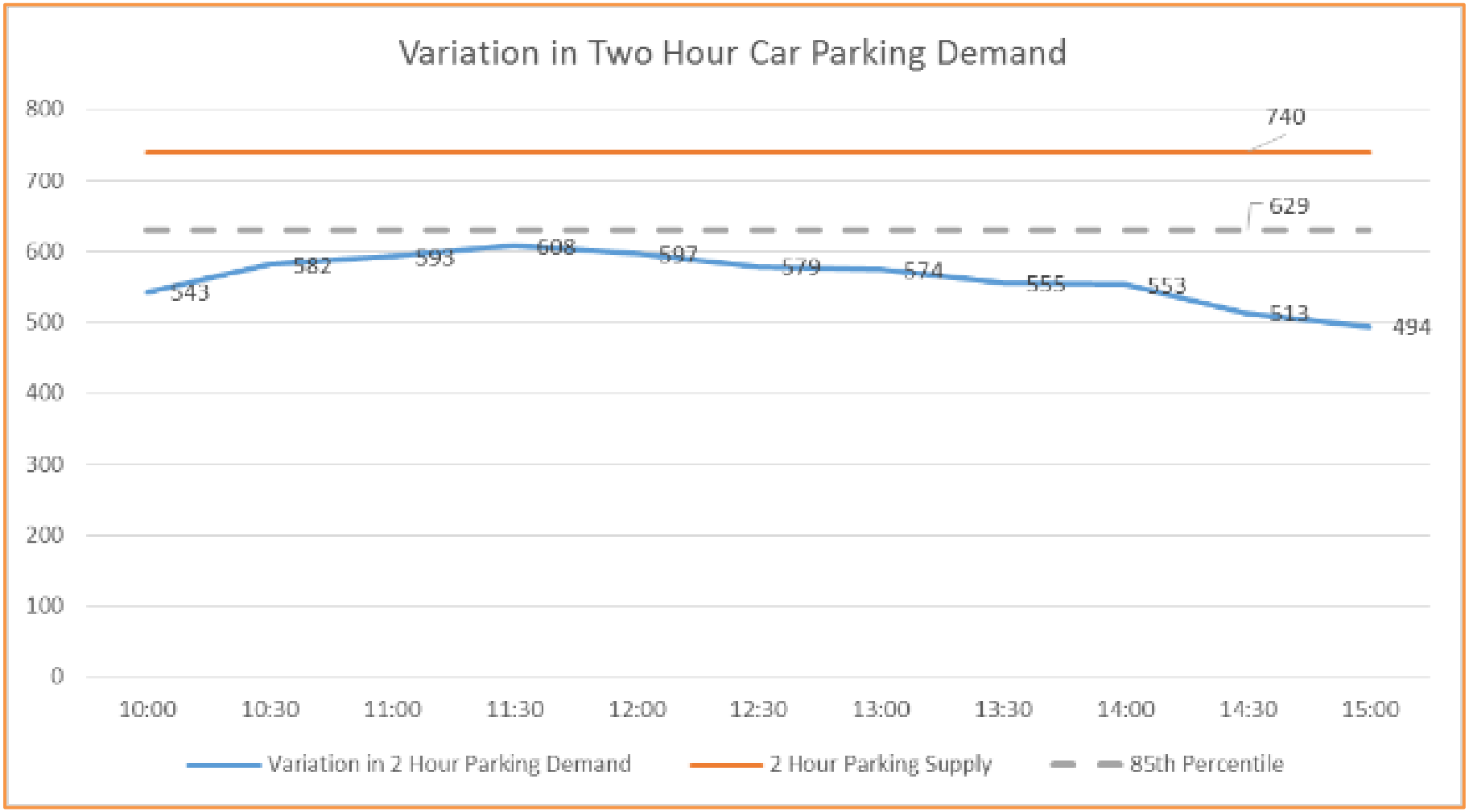
- Precinct 1 402 spaces
- Precinct 2 286 spaces
- Precinct 3 26 spaces
- Precinct 4 8 spaces
- Precinct 5 8 spaces
- Precinct 6 10 spaces

The variation in demand for 2 hour parking is shown in Figure 28.

A review of Figure 28 indicates that the parking demand increased steadily from 10:00am to 11:30am, when the peak demand for 608 spaces was observed. Following 11:30am the demand for parking decreased until the end of the survey period, when 494 vehicles were observed within 2 hour parking spaces.

With a peak parking demand for 608 spaces at 11:30am (21 vacant spaces before reaching 85% capacity), it is considered that 2 hour parking is generally accessible.

Figure 28 – Variation in Two Hour Parking



9.3.15 On-Street Two Hour Parking

Within the study area there are a total of 452 two hour parking spaces on-street with an 85th percentile of 384 spaces including:

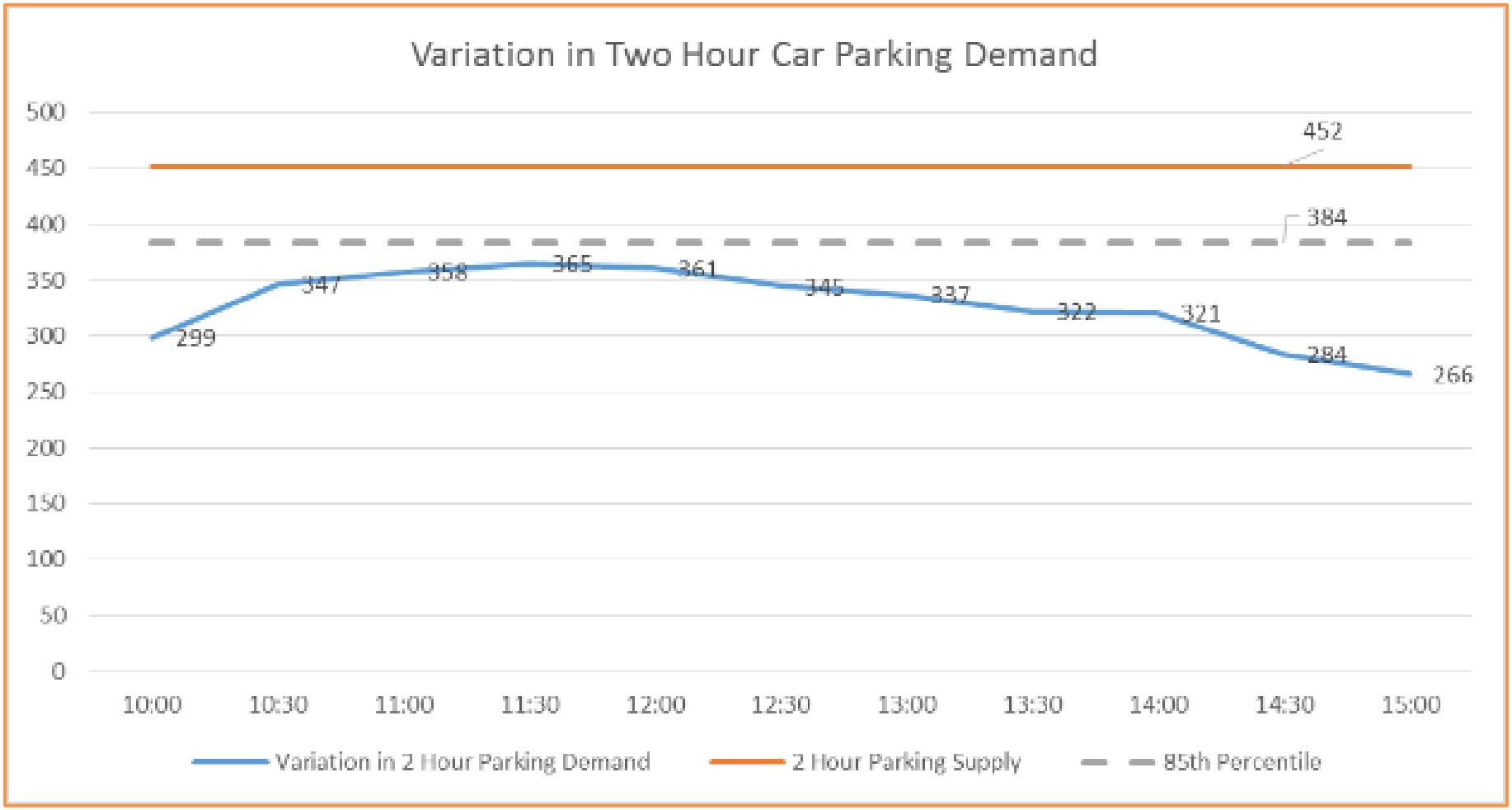
- Precinct 1 198 spaces
- Precinct 2 202 spaces
- Precinct 3 26 spaces
- Precinct 4 8 spaces
- Precinct 5 8 spaces
- Precinct 6 10 spaces

The variation in demand for 2 hour parking is shown in Figure 29.

A review of Figure 29 indicates that the parking demand increased steadily from 10:00am to 11:30am, when the peak demand for 365 on-street spaces was observed. Following 11:30am the demand for parking decreased until the end of the survey period, when 266 vehicles were observed within 2 hour parking spaces on-street.

With a peak parking demand for 365 spaces at 11:30am (19 vacant spaces before reaching 85% capacity), it is considered that 2 hour parking is accessible.

Figure 29 – Variation in Two Hour On-Street Parking



9.3.16 Off-Street Two Hour Parking

Within the study area there are a total of 288 two hour parking spaces off-street with an 85th percentile of 245 spaces including:

- Precinct 1 204 spaces
- Precinct 2 84 spaces
- Precinct 3 0 spaces
- Precinct 4 0 spaces
- Precinct 5 0 spaces
- Precinct 6 0 spaces

The variation in demand for 2 hour parking is shown in Figure 30.

A review of Figure 30 indicates that the demand for 2 hour parking was relatively constant throughout the survey with between 228 and 244 vehicles observed parked within the 2 hour off-street parking areas.

With a peak parking demand for 244 spaces at 10:00am (1 vacant space before reaching 85% capacity), it is considered that there may be difficulty in finding 2 hour parking within the study area (Precinct 1 and 2).

A review of 2 hour parking associated with the Target / Spotlight car park indicated that demand within this area exceeds the 85th percentile throughout the survey period, as shown in Figure 31.

Figure 30 – Variation in Two Hour Off-Street Parking

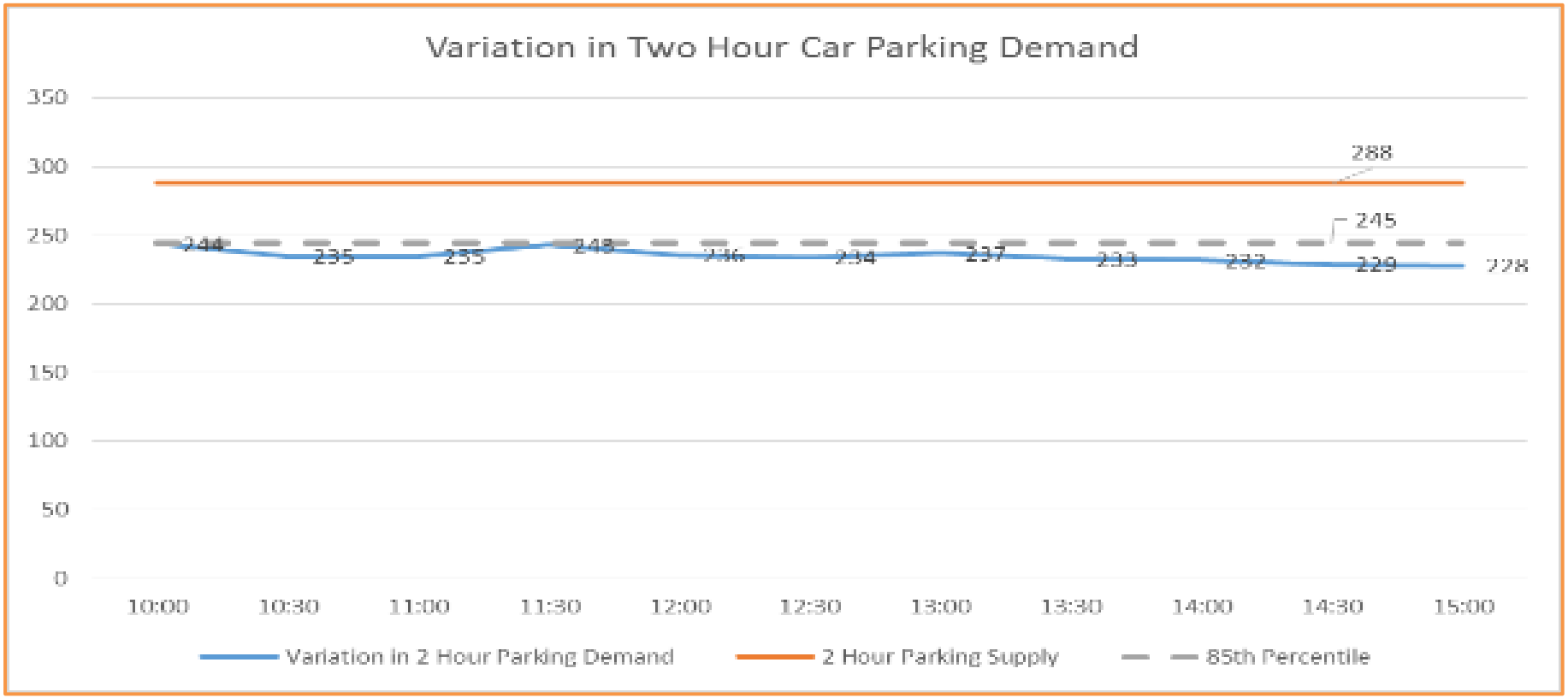
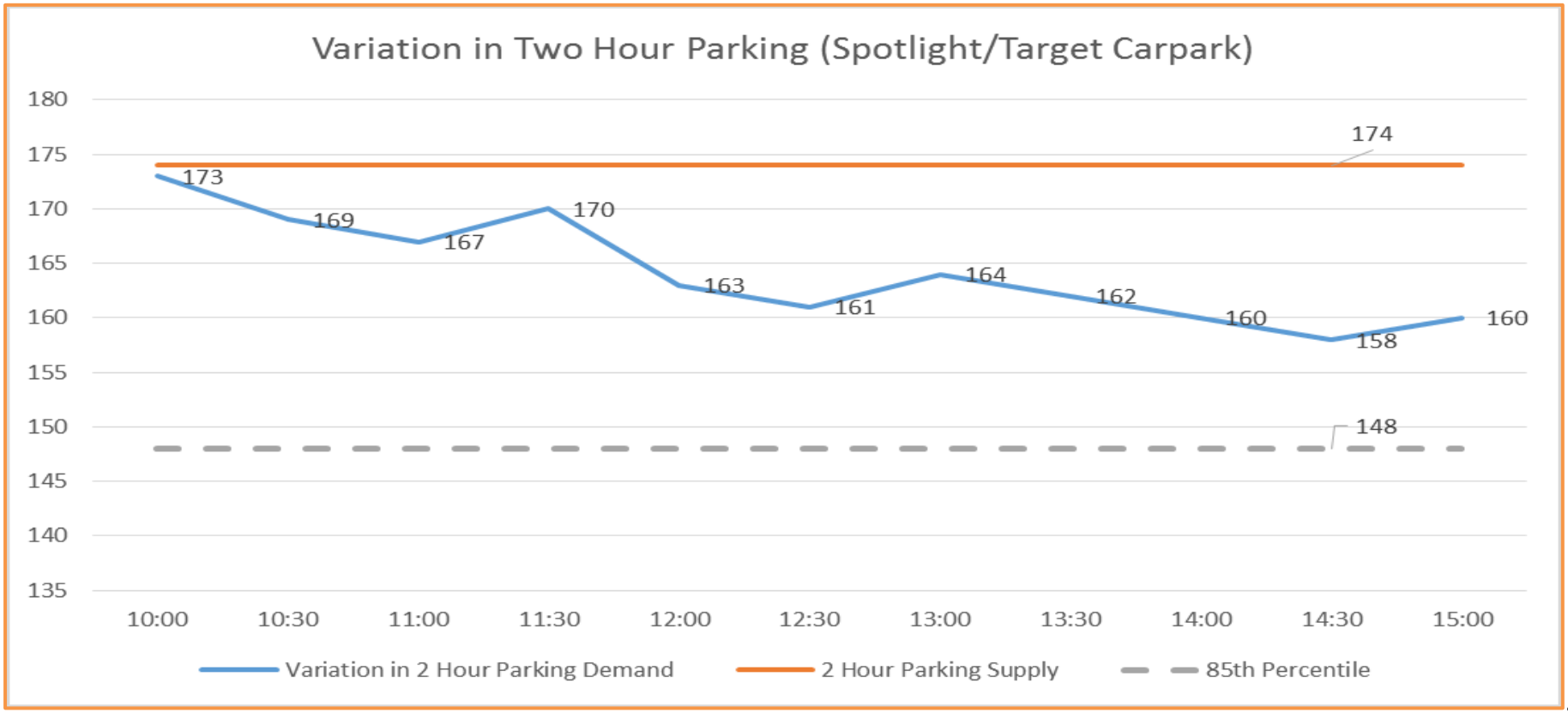


Figure 31 – Variation in Target / Spotlight Off-Street Car Park



9.3.17 Equitable Access Car Parking

Within the study area there are a total of 53 equitable access car parking spaces including:

- Precinct 1 21 spaces
- Precinct 2 9 spaces
- Precinct 3 11 spaces
- Precinct 4 1 spaces
- Precinct 5 9 spaces
- Precinct 6 2 spaces

The variation in demand for equitable access parking spaces is shown in Figure 32.

A review of Figure 32 indicates that the demand for equitable access parking was between 12 and 19 spaces throughout the surveys period, with a peak demand for 19 spaces observed at 11:30am and 1:00pm. Accordingly there was between 34 and 41 vacant equitable access parking spaces available throughout the survey period.

This being said, the variation in demand for equitable access car parking in individual precincts has been reviewed as shown in Figure 33.

A review of Figure 33 indicated that equitable access parking is most highly utilised in Precincts 1, 2 and 5, with the greatest demand observed in Precinct 1.

It is worth nothing that while the demand for equitable access parking is greatest in Precinct 1, there are no equitable access parking spaces provided within the Target / Spotlight off-street car parking area.

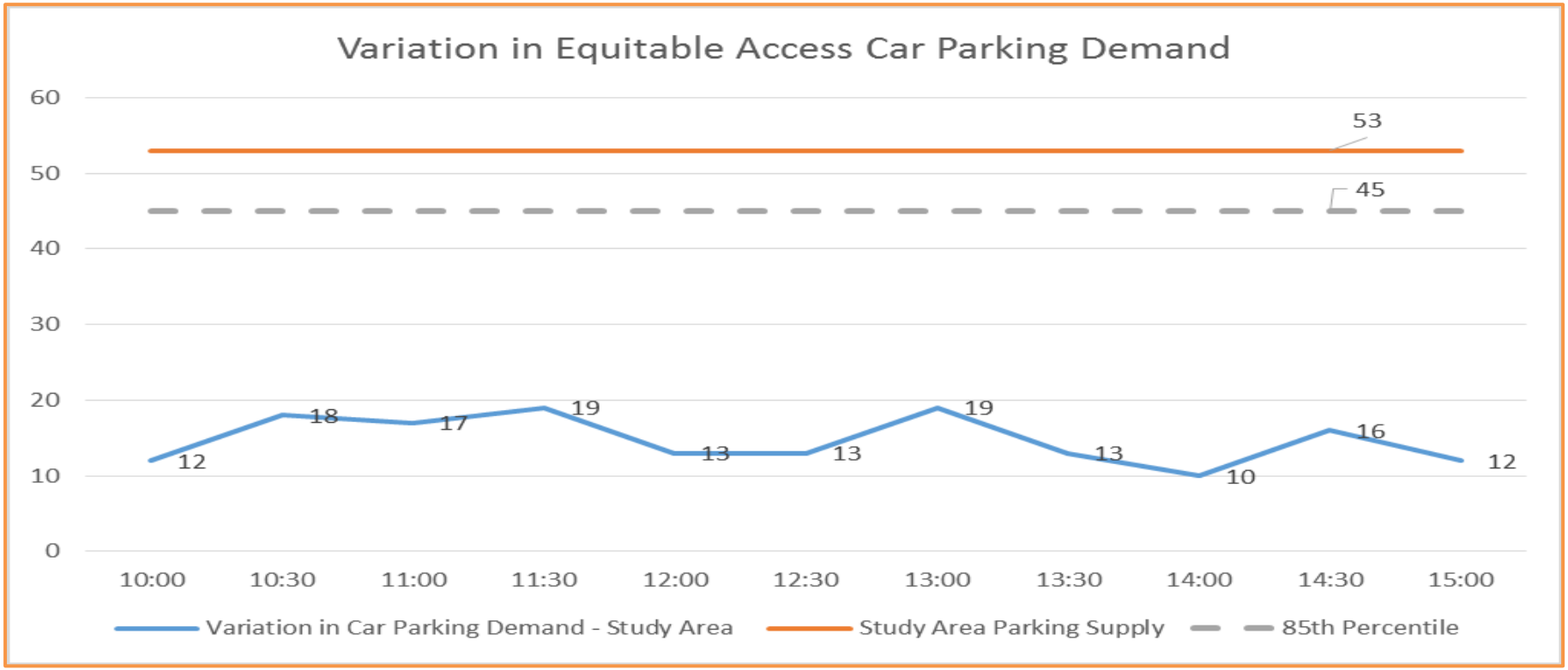
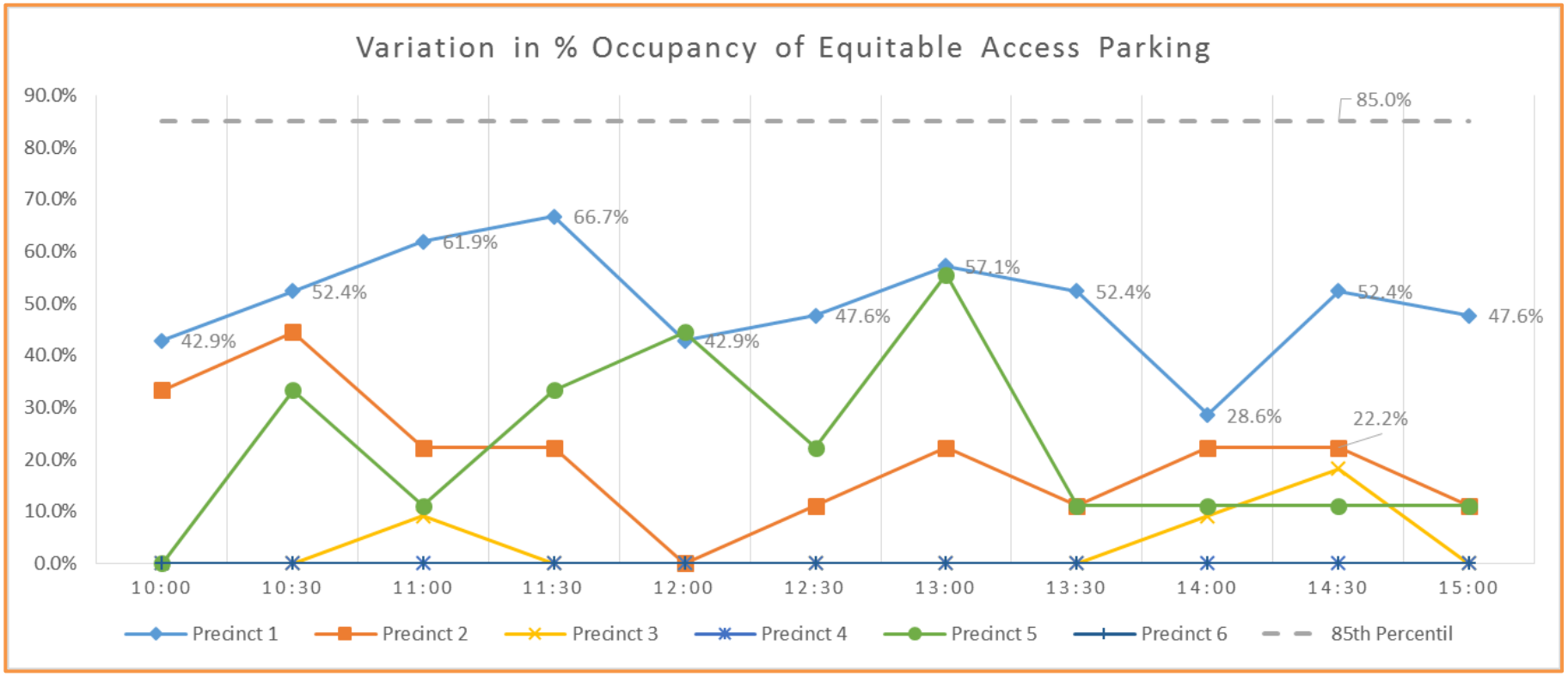


Figure 32 – Variation in Equitable Access Car Parking Demand

Figure 33 – Variation in Equitable Access Car Parking Demand by Precinct



10. Parking Duration of Stay

10.1 Methodology

As part of the car parking occupancy surveys, duration of stay surveys were undertaken for on-street spaces in the retail core and within the Target / Spotlight off street parking area.

The duration of stay surveys involved recording the first four digits of number plates for vehicles parked within individual parking spaces, at half hourly intervals within the study area. On-street spaces where recorded from 10:00am – 3:00pm while off-street spaces where recorded from 6:00am – 6:00pm on Friday 13 December 2013.

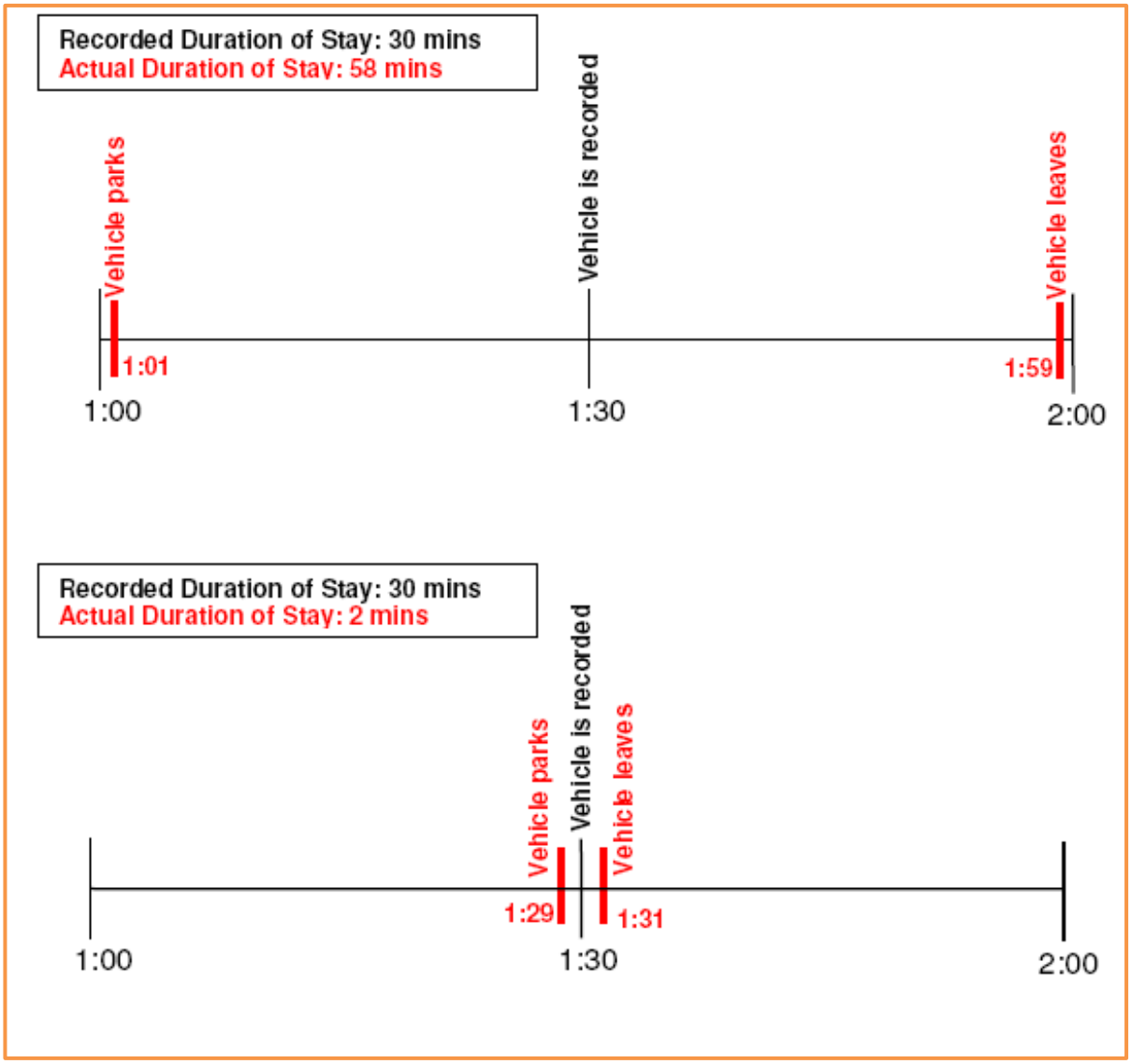
The results of the surveys allowed the length of time that a vehicle was parked within a designated parking bay to be determined and relative compliance or otherwise with the associated parking restrictions assessed.

10.2 Data Margin of Error

Due to the 30 minute interval, each recording has a built in degree of error, which varies depending on the actual time a vehicle enters and exits a parking space. For the purpose of this analysis it has been adopted that each individual recording represents a 30 minute duration of stay.

The variation in this degree of error is illustrated in Figure 34.

Figure 34 – Variation in Degree of Error



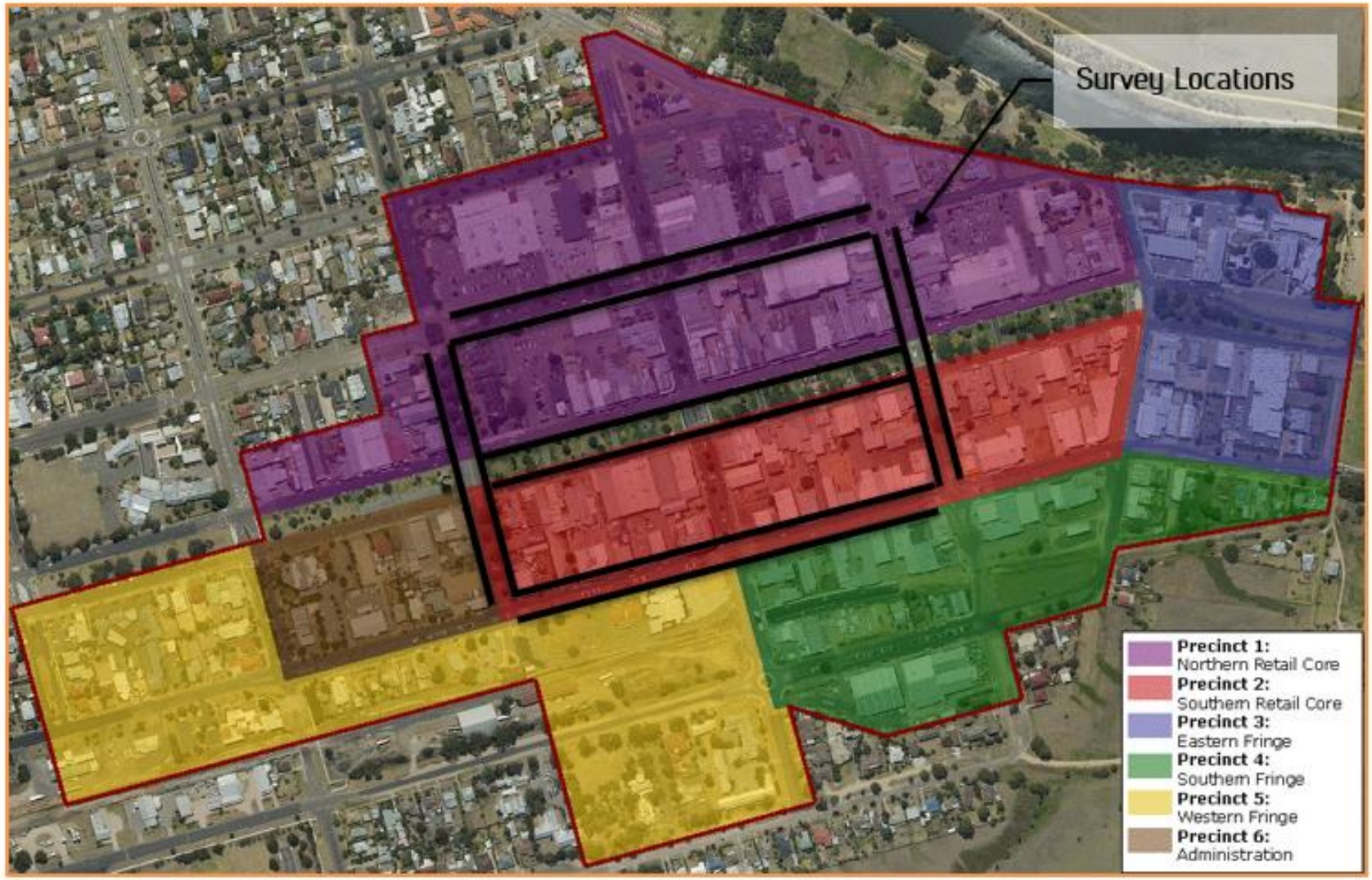
10.3 Location of On-Street Duration of Stay Surveys

In order to better understand how the on-street car parking is being utilised within the study area, surveys were undertaken on Nicholson Street, Princes Highway, Macleod Street, Service Street and McCulloch Street as shown in Figure 35.

The surveys included a total of 697 spaces including:

- Precinct 1 291 spaces
- Precinct 2 383 spaces
- Precinct 6 23 spaces

Figure 35 – On-Street Duration of Stay Locations



10.4 Surveys Results – On Street

10.4.1 Precinct 1

The on-street duration of Stay Surveys in Precinct 1 comprised a total of 291 car parking spaces with spaces predominantly being 1 hour parking.

Four (4) 15 minute spaces are located on Nicholson Street between Bailey Street and the Mall with 3 and 4 spaces occupied throughout the survey period.

The length of time that motorists parked within these spaces (10:00am – 3:00pm) is shown in Table 9.

A review of Table 9 indicates that at least 9 vehicle or 30% of vehicles who parked in these spaces overstayed the 15 minute parking restrictions.

Within Precinct 1 there are 254 one hour parking spaces provided on-street within the duration of stay surveys area.

The length of time that motorists parked within 1 hour spaces (10:00am – 3:00pm) is shown in Table 10.

A review of Table 10 indicates that between 10:00am – 3:00pm the 254 one hour on-street parking spaces accommodated a total of 1,363 vehicles, a turnover rate of 5.37 times, with the majority of motorists parked for 30 minutes to 1 hour (1,179) vehicles or 86.5%).

The remaining 184 vehicles exceeded the parking restricts, including 5 vehicles that were observed parked within the same 1 hour parking space throughout the surveys period.

Within Precinct 1 there are 20 unrestricted parking spaces provided on-street within the duration of stay surveys area.

The length of time that motorists parked within 2 hour on-street spaces (10:00am – 3:00pm) is shown in Table 11.

Table 11 illustrates that the 20 unrestricted parking spaces accommodated 22 vehicles during the survey period, a turnover rate of 1.1 times.

Of the 22 vehicles observed, only 7 vehicles parked for 4 hours, with all other vehicles observed to park for less than this. No vehicles were observed to park in the same space throughout the surveys period.

This compared to the 5 vehicles parked in the same 1 hour parking space, anecdotally indicating that motorists do not feel they will be fined for parking in a restricted space for longer than the signed time limit (particularly given the availability of unrestricted parking within the vicinity).

Table 9 – Duration of Stay 15 Minute Spaces – Precinct 1

Durations (Hrs)	# Vehicles	% Vehicles
< 0:30	0	0.0%
0:30	21	70.0%
1:00	9	30.0%
1:30	0	0.0%
2:00	0	0.0%
2:30	0	0.0%
3:00	0	0.0%
3:30	0	0.0%
4:00	0	0.0%
4:30	0	0.0%
5:00	0	0.0%
5:30	0	0.0%
Total	**30**	**100%**

Table 10 – Duration of Stay One Hour Spaces – Precinct 1

Durations (Hrs)	# Vehicles	% Vehicles
< 0:30	0	0.0%
0:30	799	58.6%
1:00	380	27.9%
1:30	119	8.7%
2:00	41	3.0%
2:30	11	0.8%
3:00	5	0.4%
3:30	2	0.1%
4:00	0	0.0%
4:30	1	0.1%
5:00	0	0.0%
5:30	5	0.4%
Total	**1363**	**100%**

Table 11 – Duration of Stay Unrestricted Spaces – Precinct 1

Durations (Hrs)	# Vehicles	% Vehicles
< 0:30	0	0.0%
0:30	3	13.6%
1:00	6	27.3%
1:30	2	9.1%
2:00	0	0.0%
2:30	1	4.5%
3:00	3	13.6%
3:30	0	0.0%
4:00	7	31.8%
4:30	0	0.0%
5:00	0	0.0%
5:30	0	0.0%
Total	**22**	**100%**

10.4.2 Precinct 2

The duration of Stay Surveys in Precinct 2, comprised a total of 383 car parking spaces, with spaces predominantly being 1 hour (119 spaces) and 2 hour (163 spaces) parking.

The length of time that motorists parked within 1 hour on-street spaces (10:00am – 3:00pm) is shown in Table 12.

A review of Table 12 indicates that between 10:00am – 3:00pm the 119, 1 hour on-street spaces accommodated a total of 438 vehicles, a turnover rate of 3.68 times, with the majority of motorists parked for 30 minutes to 1 hour (375) vehicles or 85.6%.

The remaining 63 vehicles exceeded the parking restricts, including 1 vehicle that was observed parked within the same 1 hour parking space throughout the surveys period.

Within Precinct 2 there are 163 two hour parking spaces provided on-street within the Duration of Stay Surveys area.

The length of time that motorists parked within 2 hour on-street spaces (10:00am – 3:00pm) is shown in Table 13.

A review of Table 13 indicates that between 10:00am – 3:00pm the 163 on-street spaces accommodated a total of 438 vehicles, a turnover rate of 3.18 times, with the majority of motorists parked for 30 minutes to 1 hour (404 vehicles or 77.8%).

Seventy (70) vehicles then parked for 1 to 2 hours with the remaining 45 vehicles exceeding the signed time limit, including 9 vehicles that were observed parked within the same 1 hour parking space throughout the surveys period.

Within Precinct 2 there are 96 unrestricted parking spaces provided on-street within the duration of stay surveys area.

The length of time that motorists parked within 1 hour on-street spaces (10:00am – 3:00pm) is shown in Table 14.

Table 14 illustrates that the 96 unrestricted parking spaces accommodated 179 vehicles during the survey period, a turnover rate of 1.86 times.

Of the 179 vehicles observed only 18 vehicles parked for 4 hours or more, with 15 vehicles observed to park within the same space throughout the surveys period.

This compared to the 10 vehicles parked in the same 1 or 2 hour parking space, anecdotally indicating that motorists do not feel they will be fined for parking in a restricted space for longer than the signed time limit.

Table 12 – Duration of Stay One Hour Spaces – Precinct 2

Durations (Hrs)	# Vehicles	% Vehicles
< 0:30	0	0.0%
0:30	220	50.2%
1:00	155	35.4%
1:30	39	8.9%
2:00	12	2.7%
2:30	5	1.1%
3:00	2	0.5%
3:30	0	0.0%
4:00	1	0.2%
4:30	0	0.0%
5:00	3	0.7%
5:30	1	0.2%
Total	**438**	**100%**

Table 13 – Duration of Stay Two Hour Spaces – Precinct 2

Durations (Hrs)	# Vehicles	% Vehicles
< 0:30	0	0.0%
0:30	255	49.1%
1:00	149	28.7%
1:30	38	7.3%
2:00	32	6.2%
2:30	16	3.1%
3:00	13	2.5%
3:30	4	0.8%
4:00	3	0.6%
4:30	0	0.0%
5:00	0	0.0%
5:30	9	1.7%
Total	**519**	**100%**

Table 14 – Duration of Stay Unrestricted Spaces – Precinct 2

Durations (Hrs)	# Vehicles	% Vehicles
< 0:30	0	0.0%
0:30	65	36.3%
1:00	42	23.5%
1:30	28	15.7%
2:00	7	3.9%
2:30	4	2.2%
3:00	11	6.1%
3:30	4	2.2%
4:00	2	1.1%
4:30	0	0.0%
5:00	1	0.6%
5:30	15	8.4%
Total	**179**	**100%**

10.4.3 Precinct 6

The duration of Stay Surveys in Precinct 6 comprised a total of 23 car parking spaces, including 13 one hour spaces and 10 unrestricted spaces.

The length of time that motorists parked within 1 hour on-street spaces (10:00am – 3:00pm) is shown in Table 15.

A review of Table 15 indicates that between 10:00am – 3:00pm the 13 on-street spaces accommodated a total of 23 vehicles, a turnover rate of 1.77 times, with 10 (45.5%) motorists parked for 30 minutes to 1 hour.

The remaining 13 vehicles exceeded the parking restricts, including 5 vehicles that was observed to park for 3 hours 30 minutes within the same 1 hour parking space.

Table 15 – Duration of Stay One Hour Spaces – Precinct 6

Durations	*# Vehicles*	% Vehicles
0:30	2	8.7%
1:00	8	34.8%
1:30	6	26.1%
2:00	0	0.0%
2:30	2	8.7%
3:00	0	0.0%
3:30	5	21.7%
4:00	0	0.0%
4:30	0	0.0%
5:00	0	0.0%
5:30	0	0.0%
Total	**23**	**100.0%**

Within Precinct 6 there are 10 unrestricted parking spaces provided on-street within the duration of stay surveys area.

The length of time that motorists parked within the unrestricted on-street spaces (10:00am – 3:00pm) is shown in Table 16.

Table 16 – Duration of Stay Two Hour Spaces – Precinct 6

Durations	*# Vehicles*	% Vehicles
< 0.5 hrs	0	0.0%
0:30	0	0.0%
1:00	0	0.0%
1:30	1	14.3%
2:00	0	0.0%
2:30	1	14.3%
3:00	2	28.6%
3:30	0	0.0%
4:00	1	14.3%
4:30	0	0.0%
5:00	0	0.0%
5:30	2	28.6%
Total	**7**	**100.0%**

Table 16 illustrates that the 10 unrestricted parking spaces accommodated 7 vehicles during the survey period, a turnover rate of 0.70 times.

Of the 7 vehicles observed, all vehicles were observed to stay for 90 minutes or longer, with 2 vehicles observed within the same parking space throughout the survey period.

10.4.4 Summary Of Over Stayed Parking

A summary of the number of vehicles that overstayed the relevant parking restrictions are shown in Table 17.

Table 17 – On-Street Parking Over-stays

Precinct	Restriction	Number Vehicles Parked	Number overstays	% Overstays
1	15 min	30	9	30.0%
	1 hour	1,363	184	13.5%
2	1 hour	438	63	14.4%
	2 hour	519	45	8.7%
6	1 hour	23	13	56.5%
	2 hour	7	2	28.6%
Total		**2,380**	**316**	**13.3%**

A review of Table 17 indicates that of the 2,380 vehicles observed to park on street, within a space with a time restriction of 15 minutes, 1 hour or 2 hours, 316 vehicles or 13.3% overstayed the signed parking restriction.

10.5 Survey Results – Off-street

10.5.1 Location of Off-street Parking Surveys

As a result of specific feedback associated with the area referred to as the Target / Spotlight carpark during the interview surveys, extended duration of stay surveys were undertaken between 6:00am – 6:00pm on Friday 12 December 2014.

The Target / Spotlight off-street car park survey area comprised 179 parking spaces, access via Nicholson Street, Riverine Street and Francis Street. The car parking area is located within a 2 hour parking area 9:00am – 5:00pm Monday – Friday.

The parking area is made up of a number of different titles. Motorist parking within the area would not be aware of the various titles and would most likely considered the area an East Gippsland Shire Council car park.

Within the off-street car parking area, 8 car parking spaces are signed as “Spotlight” staff parking. These spaces have been excluded from the survey results for analysis purposes (in this section).

The location of the off-street car parking surveys is shown in Figure 36.

Figure 36 – Off Street Duration of Stay Survey Location

10.5.2 Survey Results Off-Street

Time Period (6:00am – 6:00pm)

The length of time that motorists parked within individual spaces between 6:00am – 6:00pm, within the Target / Spotlight survey area is illustrated in Table 18.

A review of Table 18 indicates that between 6:00am – 6:00pm the 171 parking spaces within the off-street area accommodated a total of 1,040 vehicles between, a turnover rate of 6.08 times, with the majority of motorists parked for 1.5 hours or less (852 vehicles or 81.9%).

Business Hours (9:00am – 5:00pm)

The length of time that motorists parked within individual spaces between 9:00am – 5:00pm, within the Target / Spotlight survey area is illustrated in Table 19.

A review of Table 19 indicates that between 9:00am – 5:00pm, the 171 parking spaces within the off-street area accommodated a total of 911 vehicles, a turnover rate of 5.09 times, with the majority of motorists parked for 1.5 hours or less (740 vehicles or 81.1%).

A further review of Table 19 indicates that long term parking (staff parking) utilises a significant proportion of the available parking supply as follows:

- 5+ hours 75 spaces (48.9% of supply)
- 6+ hours 60 spaces (35.9% of supply)
- 7+ hours 44 spaces (25.7% of supply)
- 8+ hours 36 spaces (21.1% of supply)

Table 18 – Summary of Length of Time Parked (12hrs)

Durations	*# Vehicles*	% Vehicles
< 0.5 hrs	0	0.0%
0:30	544	52.3%
1:00	211	20.3%
1:30	97	9.3%
2:00	41	3.9%
2:30	20	1.9%
3:00	13	1.3%
3:30	8	0.8%
4:00	9	0.9%
4:30	8	0.8%
5:00	8	0.8%
5:30	5	0.5%
6:00	7	0.7%
6:30	9	0.9%
7:00	4	0.4%
7:30	3	0.3%
8:00	7	0.7%
8:30	8	0.8%
9:00	11	1.1%
9:30	13	1.3%
10:00	8	0.8%
10:30	1	0.1%
11:00	2	0.2%
11:30	0	0.0%
12:00	3	0.3%
Total	**1,040**	**100.0%**

Table 19 – Summary of Length of Time Parked (8hrs)

Durations	*# Vehicles*	% Vehicles
< 0.5 hrs	0	0.0%
0:30	460	50.4%
1:00	185	20.3%
1:30	95	10.4%
2:00	35	3.8%
2:30	16	1.8%
3:00	14	1.5%
3:30	16	1.8%
4:00	11	1.2%
4:30	4	0.4%
5:00	7	0.8%
5:30	9	1.0%
6:00	4	0.4%
6:30	12	1.3%
7:00	6	0.7%
7:30	2	0.2%
8:00	11	1.2%
8:30	24	2.6%
Total	**911**	**100.0%**

Accordingly it is reasonable to determine that the perceived lack of parking in this vicinity is a direct result of long term parking (staff parking within this off- street parking area).

This was confirmed on-site with staff vehicles observed within prime parking spaces prior to 9:00am on Friday 13 December 2013.

10.5.3 Locations of Off-Street Staff Parking

The locations of long term staff parking (5+ hours) within the Target / Spotlight area between 9:00am and 5:00pm are illustrated in Figure 37.

A review of Figure 37 clearly illustrates that a proportion of staff working in the Bairnsdale CBD, placing a far greater priority upon their own individual convenience for parking, rather than the parking needs of their clients / customers.

This long term staff parking, resulting in a significant amount of parking being unavailable to clients / customers, resulting in the perceived lack of convenient parking within the Target / Spotlight parking area.

Figure 37 – Location of 'Staff' Parking 9am – 5pm

11. Conclusion

Based on the initial view of the survey data:

- There is adequate parking with the Bairnsdale CBD to accommodate the peak parking demands;
- Opportunities could be explored to improve utilisation of existing parking supply by improving :
  - Parking Restrictions; and
  - Enforcement of parking restrictions.
- Explore the introduction of a Planning Scheme Overlay to priorities development in key areas; and
- Continue to introduce improvements to the street scape to enhance the walkability of the CBD.

Contact us

East Gippsland Shire Council

Telephone
Residents' Information Line: 1300 555 886 (business hours)
Citizen Service Centre: (03) 5153 9500 (business hours)
National Relay Service: 133 677

Post
East Gippsland Shire Council, PO Box 1618
Bairnsdale 3875 Australia
Fax (03) 5153 9576
Web www.eastgippsland.vic.gov.au
Email feedback@egipps.vic.gov.au

In person
Bairnsdale: 273 Main Street
Lakes Entrance: 18 Mechanics Street
Mallacoota: 70 Maurice Avenue
Omeo: 179 Day Avenue
Orbost: 1 Ruskin Street
Paynesville: 55 The Esplanade

Outreach Centres
Bendoc Outreach Centre - 18 Dowling Street
Buchan Resource Centre - 6 Centre Road
Cann River Community Centre - Princes Highway