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CITY OF BAYSWATER

Car Parking Management Plan for Morley Activity Centre

Final

Luxmoore Parking and Safety
a division of
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GLOSSARY OF TERMS

ACROD	Disabled parking also known as mobility parking
ATV	Average ticket value
Car pooling	An arrangement where more than one person shares a vehicle, usually for commuting
City	City of Bayswater
Churn	Describes how many cars use a bay in a day
CPMP	Car Parking Management Plan
DCP	Development Control Plan
FTE	Full-time equivalent in relation to measurement of employee numbers
GFA	Gross floor area
LGA	Local Government Area
LATM	Local Area Traffic Management – the use of physical devices, streetscaping treatments and other measures (including regulations and other non-physical measures) to influence vehicle operation, in order to create safer and more liveable local streets
Long-term parking	More than four hours
MAC	Morley Activity Centre
MACSP	Morley Activity Centre Structure Plan
Off-street parking	Public and private parking that is not on-street
On-street parking	Kerbside public parking bays which may or may not be linemarked. Includes parallel, angle and 90° parking
pcm	Per calendar month
Reciprocal parking	Parking facilities serving separate uses or a mixed-use development, but not shared concurrently between the users and not necessarily on one site
RMS	Roads and Maritime Services NSW, previously known as Roads and Traffic Authority (RTA)
Shared parking	Parking facilities on one site shared concurrently by a mixed-use development or separate developments
Short-term parking	Less than four hours
SWOT	Strengths, weaknesses, opportunities and threats
TDM	Travel Demand Management, also called transportation demand management or mobility management.

SUMMARY

The key objective of the Car Parking Management Plan (CPMP) for the Morley Activity Centre is to coordinate the transition of the existing parking scenario in each of the five precincts within the centre, to an ultimate parking scenario that supports a medium/high intensity, mixed use urban centre that is serviced by both private vehicles and enhanced alternative transportation modes including public transport, cycling and walking.

The strategic approach of the CPMP is the development of a suite of integrated policy objectives for car parking and sustainable modes of alternative of transport that support the City's broader goals for the Morley Activity Centre Structure Plan (MACSP).

The investigations undertaken in the preparation of the CPMP included surveys, stakeholder meetings, workshops, a SWOT analysis, a review of background documents and an assessment of future parking demand.

This report is comprised of two parts:

Part A – Integrated Parking Strategies. These propose a suite of integrated policy objectives and strategies for car parking and alternative transport modes that will support a medium/high destiny use urban centre served by both private vehicles and enhanced alternative transportation modes; public transport, cycling and walking. They will enable the City to determine the optimum quantity and most appropriate management strategies for parking in the Morley Activity Centre (MAC).

Part B – Precinct Parking Management Plans. These apply the overall parking strategies from Part A into each of the five precincts.

The Appendices after Part B focus on four specific issues:

- Parking control and management plan to be prepared by developers.
- Cost of provision of parking.
- Parking needs assessment.
- Criteria for a manager of parking in the City.

The following table summarises the principles and findings on parking supply and demand in the MAC and lists the recommendations arrived at in **Part A** and the benefits of implementing these recommendations to improve existing parking issues. It includes a prioritised timeline for implementation in categories of

- Urgent – within 3 years
- Necessary – within 5 years
- Desirable – within 10 years.

<table>
<tr><th>Section</th><th>Principle</th><th>Finding</th><th>Recommendations</th><th>Benefits/Opportunities</th><th>Urgent/Necessary/ Desirable</th></tr>
<tr><td>4.1</td><td>Approach to parking</td><td>Parking policy has not been used to optimise mode share targets.</td><td>The City needs to change the approach to parking to reduce the trend in motor vehicle use and ownership. Travel demand management (TDM) technique should be introduced. This technique emphasises the movement of people and goods, rather than vehicles, and gives priority to more efficient travel and communication modes.</td><td>By changing the approach to parking, parking facilities and the existing transport infrastructure will be used more efficiently, instead of expanding roads and parking facilities.</td><td>U</td></tr>
<tr><td>4.2</td><td>Introduce a parking hierarchy</td><td>There is currently an under-utilisation of the public parking bays in several locations.
There are approximately 10,000 parking bays available in MAC excluding unmarked on-street parking bays.
More than 1,000 bays are generally always available.</td><td>Parking Hierarchy
<table>
<tr><th>Priority</th><th colspan="2">Central Core Parking</th><th colspan="2">Outside Central Core Parking</th></tr>
<tr><td></td><td>On-street</td><td>Off-street</td><td>On-street</td><td>Off-street</td></tr>
<tr><td rowspan="8">Essential
↓
Least important</td><td>Loading</td><td>Disability permit holders</td><td>Public transport</td><td>Long-stay/ commuter</td></tr>
<tr><td>Public transport</td><td>Short to medium-stay</td><td>Residents</td><td>Short to medium-stay</td></tr>
<tr><td>Drop-off/pick-up</td><td>Drop-off/pick-up</td><td>Short to medium-stay</td><td>Drop-off/pick-up</td></tr>
<tr><td>Short to medium-stay</td><td>Loading</td><td>Disability permit holders</td><td>Park and Ride</td></tr>
<tr><td></td><td>Motorcycle/scooter</td><td>Loading</td><td>Residents</td></tr>
<tr><td>Motorcycle/scooter & cyclists</td><td>Long-stay/commuter & residents</td><td>Long-stay/ commuter</td><td>Motorcycle/scooter</td></tr>
<tr><td>Disability permit holders</td><td>Cyclists</td><td>Drop-off/pick-up & motorcycle/scooter & cyclists</td><td>Disability permit holders & loading & cyclists</td></tr>
<tr><td rowspan="2">Not allowed in this zone</td><td>Long-stay/commuter & park and ride</td><td>Park and ride</td><td>Park and ride</td><td>Public transport</td></tr>
<tr><td>Residents</td><td>Public transport</td><td></td><td></td></tr>
</table></td><td>More effective use can be made of all public parking facilities. The main benefit of introducing a parking hierarchy is to uphold the safety and convenience of all road users, encourage the use of alternative transport modes such as walking, cycling and the use of public transport, promote equitable and transparent allocation of parking spaces across all user groups and facilitate consistent decision making regarding parking infrastructure.</td><td>U</td></tr>
</table>

Section	Principle	Finding	Recommendations	Benefits/Opportunities	Urgent/Necessary/ Desirable
		There is an ad-hoc approach to the management of long-term parkers which has resulted in parking restrictions applied to areas in isolation. The volume and duration of stay by long-term parkers, especially commuters and local employees, is increasing and spilling over into residential areas.			
6.1	Single authority management	Bayswater does not actively manage the existing supply of parking from an asset management approach.	All of the parking supply, allocation, administration and control at Bayswater is managed by a single authority. There should also be a parking reference group which includes representatives and major stakeholders.	The asset should be used to support economic development, more efficient use of land, support multi-modal network with a variety of transport choices, and foster a sustainable environment with good access for all users.	N
			Responsibilities may be vested in an existing business unit, or a department of traffic and parking or a special parking department or an autonomous parking authority.		N
			Optimise the use of existing parking resources before building new facilities.		N
4.4	Parking Surveys	Surveys of parking demand patterns in June 2015 indicate average current demand at less than 70% of bays in any precinct on weekdays and Saturdays, and overall less than 63% across all precincts. More than 1,000 bays are generally always available.	Conduct parking surveys regularly to support and justify triggers for change in parking controls.	Undertaking regular surveys to assess ongoing issues, determine if there is a high occupancy percentage from long term parkers and vehicles parking overtime, and determine parking trends is essential to identify and justify hotspots and priority areas for changes to regulations or enforcement effort.	U

Section	Principle	Finding	Recommendations	Benefits/Opportunities	Urgent/Necessary/ Desirable
4.3	Focus on public education	Historically there has been a reactive approach by the City to parking complaints, resulting in prescriptive time restrictions in some locations. User information on the City's website about parking options is not customer friendly.	Introduce educational programs. The community need to understand that: 1. drivers cannot expect unlimited parking close to their destination 2. unlimited supply has environmental, social and economic drawbacks 3. parking needs to be sustainable 4. there is a cost for the provision of parking 5. parking users need to help to share the cost of parking infrastructure equitably 6. net surplus from parking services are to be reinvested into improving access and transport infrastructure.	Having a very informative parking website for shoppers, visitors, employees and residents will help to educate the community about considering a range of possible parking options. Having a parking group that includes Council staff and representatives of Business Associations, residents and other stakeholders could be also of a great value.	N
4.6	Implement consistent level of signage and parking restrictions	There is a confusing mix of timed parking restrictions including 15minP and 30minP, 1P, 1½P, 3P, 4P, 5P and 8P. Approximately 4,840 bays have 9 different time based restrictions.	A wayfinding and parking signage package is to be developed which assists drivers to know where to look for parking and obtain the information quickly and without fuss. The system should be applied uniformly across the entire City equally to council and privately owned public car parking areas.	Simplification of time restrictions and fees will result in greater compliance and an increased churn of bays.	U
		Parking restrictions are confusing for a driver to understand and difficult for rangers to enforce.			
		Parking wayfinding and guidance is minimal. There is a lack of information about the number of bays in each parking station.		All MAC users want conveniently located, safe, secure and value-for-money parking with signage to their destination, and restrictions that are clear, consistent and user friendly.	
8.5	Introduce parking controls	All visitor parking is free.	Short term parking should be encouraged and enforcement should be improved. The City is to gradually introduce pay parking based on regular and comparative surveys of usage. Pay parking fees are to be structured to favour short-term users and encourage a high churn of spaces.	Surplus parking income and cash-in-lieu could be used to fund improved access	D

Section	Principle	Finding	Recommendations	Benefits/Opportunities	Urgent/Necessary/ Desirable
8.5	Introduce parking controls	Free/cheap on-street parking encourages drivers to cruise for a vacant space, increasing congestion.	Where parking demand is high, the City should apply various parking restrictions to achieve a target peak occupancy rate (the average of the four highest hours in a day) of 85% for off-street parking in accordance with the Parking Framework in Figure 8.	Parking controls should be used to encourage the use of alternative modes, but should also be set at a level which does not detract from the vitality of the MAC.	D
4.7	Parking Enforcement	Ranger resources are inadequate to monitor compliance for public and private parking facilities.	The City is to offer the provision and enforcement of pay parking in privately owned public car parks and to expand its enforcement resources as appropriate to provide this service. The City is to consider implementing a fee for these services. Enforcement does not need to be uniform across the MAC, but targeted to tackle problem areas.	More effective enforcement resources and technology will assist rangers, e.g. licence plate recognition.	N
		The City controls 807 off-street and 198 on-street public car parking bays. This is only 10% of the total car parking bays in the MAC.		Many landlords are willing to have the City enforce parking restrictions on private land, allowing the City to generate additional income.	
		Minimal and unenforced restrictions in private car parks encourages the use of these by motorists heading to other destinations such as Morley Recreation Centre and the bus station.		The provision of more effective parking enforcement is essential to make the streets safer for all road users (particularly children and other vulnerable pedestrians), to ensure that parking bays are available for their intended use and to make the public roadways a more pleasant environment. More effective monitoring of compliance will create more turnover of spaces in high activity areas and free up more bays for the correct users. This will attract more activity and investment to higher density areas.	
4.9	Sustainable Transport	Bicycle access is poor and few developments provide any end of trip facilities for cyclists. The lack of safe and secure pedestrian and cycling pathways encourages older	The City needs to prioritise access for pedestrians, cyclists, public transport users and people with disabilities, and make the most of public transport infrastructure, balanced with the needs of the MAC road network, including the need to minimise congestion.	Improved facilities for cyclists and pedestrians will encourage these mode-share options.	N

Section	Principle	Finding	Recommendations	Benefits/Opportunities	Urgent/Necessary/ Desirable
		citizens and nearby residents to use a private car to access the MAC.			
		No dedicated park and ride facilities are provided – Many retail parking areas are used by employees and commuters who travel elsewhere.	The MAC's parking strategy is to be identified and coordinated with as part of an integrated transport strategy and the wider local government area. The parking strategy is to incorporate five sustainable parking principles: 1. Focus on people access not vehicle access 2. Provide efficient and effective alternatives to car access 3. Parking policy and strategy must support sustainable transport 4. The appropriate amount of parking for a centre will be well below the unconstrained demand for parking 5. The provision of parking requires a demand management, not a demand satisfaction approach.	Refer to chapter 4.9 Support and encourage different forms of sustainable transport.	N
		Residents are sometimes inconvenienced by commuters parking in their streets.			
		Restrictive and inconvenient public transport options will increase the demand for long-term parking by employees and commuters.			
		The MAC is serviced by several bus services			
5.4.2	Time restrictions	Much on-street parking is occupied by long term parkers and there is minimal churn of bays.	All paid on-street parking be restricted to a maximum of 3P.	This will provide enough time for short-term visitors to conveniently access destinations in the precinct but will discourage long-term parkers.	N
		Off-street parking will not have time restrictions.	All parking outside the core commercial centre but within a 500m straight line walk be free but subject to a 4P time restriction. All on and off-street parking time restrictions only be applicable between 8am-5pm, Monday to Sunday. This should be clearly stated on signs.	This is intended to discourage long-term parkers and provide free medium and short-term parking for users willing to walk a greater distance to popular destinations.	U U
		Residents and visitors to be exempt from time restrictions	Implement a parking permit scheme so that residents and visitors can easily be identified and exempt from time restrictions. This will help to improve the efficient use of on-street parking and increase effective compliance enforcement.	This will help to improve the efficient use of on-street parking and increase effective compliance enforcement.	N

Section	Principle	Finding	Recommendations	Benefits/Opportunities	Urgent/Necessary/ Desirable
6.14.2	Maximum parking standards in other councils	There are no maximum caps on parking provision meaning that developers could introduce excess parking bays without considering the existing supply or the impact on the road network.	In order to achieve an appropriate level of parking supply in some precincts, mandatory maximum and minimum parking requirements will be necessary. Regulations relating to the provision of parking are to include measures to maximise the use of all non-resident parking for the public as shared parking, and the expansion of time limited and pay for parking to encourage turnover (churn) of bays. A maximum is to be set on the total supply of parking in the central core precinct. Additionally, parking maximums are to be established for residential and non-residential developments in other precincts.	Excess additional parking will not be provided.	D
		Significant additional parking for new developments will have a negative effect on road amenity and increase future congestion.			
		Increased development will in the short and medium-terms, create additional demand for long term parking by building contractors.			D
		In the long-term, the City cannot continue to rely on excess parking capacity provided by major retail developments.			
8.6	Off-street parking management	The management of off-street parking facilities is designed to align with the City's strategic objectives, which are focussed on a mode shift towards public transport to help minimise traffic congestion	Where parking demand is high, the City should apply various parking restrictions to achieve a target peak occupancy rate (the average is four highest hours in a day) of 85% for off-street parking in accordance with the Parking Framework in Figure 8-1	The parking resource is well used but people can still easily find a space, thus reducing congestion and frustration.	N
9.6	Other criteria	Cash-in-lieu is inconsistently applied and the current funding available is minimal.	A cash-in-lieu fee for all projects is charged, but with a regular adjustment to the fee. The fee is to be based on a formula which takes into account the land value for each commercial centre set by the City every 2 years and the cost of construction.	Public parking bays built with cash-in-lieu revenue allow shared use among different sites whose peak parking demands may occur at different times and fewer bays are needed to meet the combined peak parking demands.	U

In Part B, Parking Management Plans have been prepared for the five precincts identified in the Morley Activity Centre. The recommended actions are taken from the findings in Part A.

The Plans include recommendations that are common to all precincts. These mainly relate to organisational and policy measures that the City needs to adopt to position itself to manage the travel demands that will come from planned future growth, as outlined by the MASPC.

The parking survey carried out in 2015 revealed that generally, current parking supply is adequate. Accordingly, there is no urgent need for extensive 'on ground' actions. However, these will become necessary as the Activity Centre grows.

Actions in the shorter term are mainly directed towards the Central Core precinct, which is the primary focus, and the most intensively used part of the Activity Centre.

Transport assessment reports prepared by Uloth and Associates have been provided by the City. Traffic modelling provides trip generation figures for the year 2031, based upon anticipated growth under the MAC Structure Plan, showing a 55% trip increase on 2015 figures. Modelling was undertaken for the purpose of determining necessary intersection upgrades and developer contributions.

Data used for the modelling was not precinct based and future parking demand was not modelled, A parking strategy for the MAC was proposed, recognising, both from a capacity and sustainability perspective, the need for reduced car dependency; with a corresponding need to limit future parking supply.

The findings and recommendations in this CPMP have been reviewed and assessed in relation to each MAC precinct (refer Section 15.4 and Precinct Sections Section 18 to 22).

Section 23 considers off-street parking modelling to year 2031. The modelling exercise illustrates that achieving full development potential across the three commercial precincts in the MAC would require a fivefold increase in parking supply, based simply on existing TPS parking to floorspace ratios. This is probably unlikely to occur within the foreseeable future (2031) and is certainly unsustainable.

A more realistic assessment at 50% achievement of development potential, together with a pro-actively managed reduction in car dependency from 80% to 71% (revised MAC Structure Plan target) shows more manageable levels of parking supply. This would see approximately an additional 8,500 parking spaces in the area, roughly double the existing supply.

To ensure maximum efficient use of the parking, approximately 80% bays should be allocated for higher turnover, short-medium term occupancy. In taking a greater role in the provision/management of these additional parking facilities to ensure greater efficiency, Council should look towards owning and/or operating up to 50% of this additional parking.

Key Findings

The City controls only 193 on-street bays and 689 off-street bays. Importantly, this total of 882 bays is less than 10% of the total parking available. This means that improved management of the City's parking bays will only have a small impact on the overall patterns of demand for parking. Nevertheless it is recognised that pro-active management by the City will create spillover into other privately owned car parks which will then be motivated to implement measures of their own to better manage their parking.

The walking distance between car parking locations and a user's intended destination is significant. Generally, the time and distance which drivers are prepared to walk depends on the length of time which will be spent at their destination, and the condition of the pedestrian walkway.

A 10% targeted mode share reduction in drive alone vehicles is a significant objective which requires a pro-active approach to both reducing parking supply and re-directing demand to public transport.

It will be many years before paid parking in the City will produce any significant revenue. While an increased level of enforcement will likely see an increase in the number of infringements issued, the City should not focus on this source. In the longer term, when the MAC reaches its predicted growth level, pay parking will make a valuable contribution towards overall parking and travel demand management.

In addition to pay parking, other opportunities for income include cash-in-lieu, residential permits, parking levies and enforcement. Cash-in-lieu is particularly beneficial when parking needs to be limited which is essential for the long-term sustainability of some of the precincts in the MAC. (These opportunities are all considered under Funding options in Section 5.4).

A number of the recommendations Part B relate to a new approach to parking management and are common to all precincts.

Over 90% of parking supply in the MAC is on private property. A conversation needs to commence with property owners/managers, to get them supportive of, and participating in the implementation of the measures outlined in this CPMP. While there is no benchmark figure or target for the number of bays a city should control, clearly the higher the percentage the more influential will be the parking management action taken by the city. As Bayswater owns less than 10% of all bays in the MAC, the City should offer to manage parking for private owners.

The City needs to build a detailed information/data bank to inform future policy actions.

85% percent occupancy at times of peak demand means that approximately one parking space in every seven should be vacant. When peak parking occupancy (the average of the four highest hours of demand in a day) is regularly above 85%, a change to the parking management approach is necessary. This 85% benchmark is a recognised best practice approach to the management of on-street parking. It means that the parking resource is well used but people can still easily find a space.

Parking provision and management is essential in order to support the economic vitality and sustainability of any activity centre. In order to meet the objectives of the MACSP and implement this strategic CPMP, the City needs to urgently (within 3 years) undertake a range of initiatives which are common to all precincts as summarised in the table below.

Section	Principle	Recommendations	Urgent/Necessary/ Desirable
6.1.1	Statutory planning	Introduce a cap on parking provision for new development of a maximum 20% above minimum standard identified in the Morley Activity Centre Structure Plan. Require a Parking Control and Management Plan be provided for all developments.	U U
6.1.2	Council Operations	Review internal organisation structure with view to establishing a more holistic approach towards parking and travel in general. Provide suitable staff and technology resources in order to increase compliance. Consider creating a manager position for parking operations.	U U U
6.1.3	Data	Build a comprehensive data base on all transport modes relating to the MAC. Conduct regular surveys (every 1-2 years). Examine level of compliance with time restrictions as well as level of occupancy.	U
6.1.4	Policy	Adopt the Parking Hierarchy as presented in Part A as Council policy. Implement simplified and consistent signage and time restrictions to encourage churn, for all Council controlled parking as follows: Quick stop/drop off 15 minutes Short stay 2 hours (2P) Medium stay 4 hours (4P) Long term Unrestricted.	U U
6.1.5	Cash-in-lieu	Charge a rate that reasonable reflects the cost of providing the required bays. Apply policy consistently. Develop a plan for the use of cash-in-lieu funds collected. This may be provision of facilities for alternate transport modes as well as public parking.	U U U

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1 INTRODUCTION

Luxmoore Parking and Safety (Luxmoore) was commissioned by the City of Bayswater (the City) to prepare a CPMP for the Morley Activity Centre in line with the goals of the Morley Activity Centre Structure Plan1 (MACSP). The key objective of this the Car Parking Management Plan (CPMP) for the Morley Activity Centre is to coordinate the transition of the existing parking scenario in each of the five precincts within the centre, to an ultimate parking scenario that supports a medium/high intensity, mixed use urban centre.

The strategic approach of the proposed CPMP is the development of a suite of integrated policy objectives for car parking and sustainable modes of alternative of transport that support the City's broader goals for the MACSP. The recommendations in the CPMP will enable the City to determine the optimum quantity and most appropriate management regimes for car parking in the MACSP, taking into account forecasting of future needs, the need for ready parking access, the encouragement of sustainable modes of transport and the City's desire to continually improve the amenity of the area.

The investigations undertaken in the preparation of the CPMP included surveys, stakeholder meetings, workshops, a SWOT Analysis, a review of background documents and an assessment of future parking demand.

This Plan is comprised of two parts: Part A Integrated Parking Strategies, and Part B, Precinct Parking Management Plans.

Part A Integrated Parking Strategies. These propose a suite of integrated policy objectives and strategies for car parking and alternative transport modes that will support a medium/high destiny use urban centre served by both private vehicles and enhanced alternative transportation modes; public transport, cycling and walking. They will enable the City to determine the optimum quantity and most appropriate management strategies for parking in the Morley Activity Centre (MAC).

Part B applies the overall parking strategies from Part A into each of the five precincts.

The Appendices after Part B focus on four specific issues:

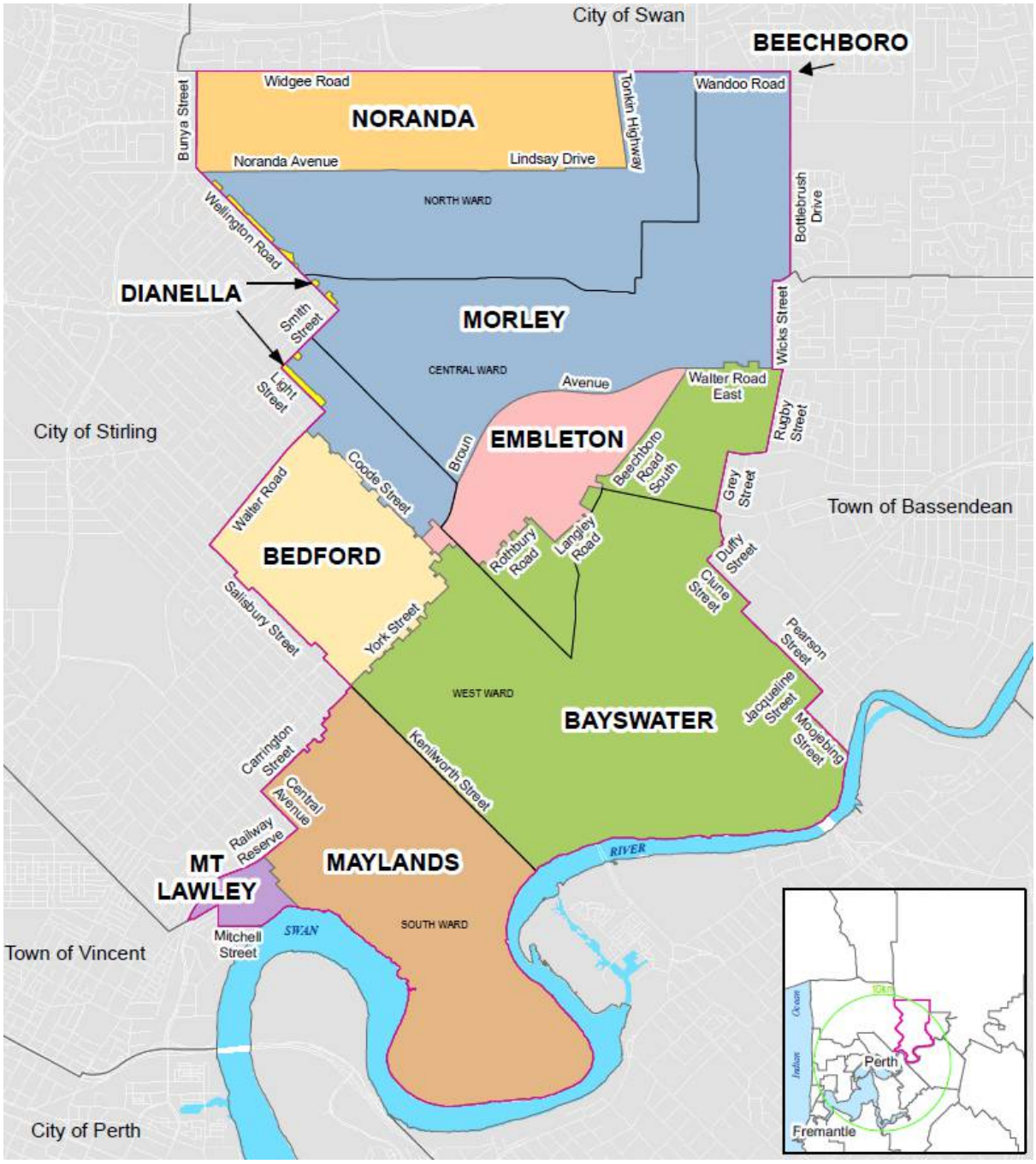
- Proposed Parking Control and Management Plan
- Cost of provision of parking
- Parking needs assessment
- Criteria for manager of parking.

[1] Morley Activity Centre Structure Plan, City of Bayswater, April 2015

2 BACKGROUND

The area covered by the MACSP comprises 2.202 km2 within the 33 km2 City of Bayswater, located 8 km north-east of Perth. It is made up of four wards as shown in Figure 2.1.

Figure 2.1: City of Bayswater boundary



Source: WA Land Information Authority SLIP 2015.

The MAC is identified as a Strategic Metropolitan Centre in Directions 2031 and beyond[2]. A Strategic Metropolitan Centre is defined as a multi-purpose centre that provides mix of retail,

[2] Directions 2031 and beyond, Metropolitan planning beyond the horizon, Department of Planning, Western Australian Planning Commission, August 2010.

office, community, entertainment, residential and employment activities, and is well serviced by high frequency public transport. The purpose of these centres is to provide a range of housing, services, facilities and activities necessary to support the communities within their catchments, thereby reducing the requirement for travel outside the catchment.

The MAC has been highlighted as a top priority for the City to develop into an attractive, vibrant and well connected centre to live, work and play. “The City centre will be home to over 10,000 people and 10,000 jobs and will become the City of Bayswater’s social, economic and civic centre”3.

The MACSP aims to build upon the strengths already present in the City centre and promotes an improved street interface with the Galleria Shopping Centre; Progress Street as the centre’s ‘main street’; and a more efficient and convenient Morley Bus Station. New features will include quality apartment developments; a ‘city park’ as a community gathering place; and an urban piazza surrounded by alfresco dining.

Council, at its Ordinary Meeting of 28 April 2015 Council adopted the MACSP as both a Strategic planning document and as Local planning policy No. TP-P 1.13 Morley Activity Centre Structure Plan.

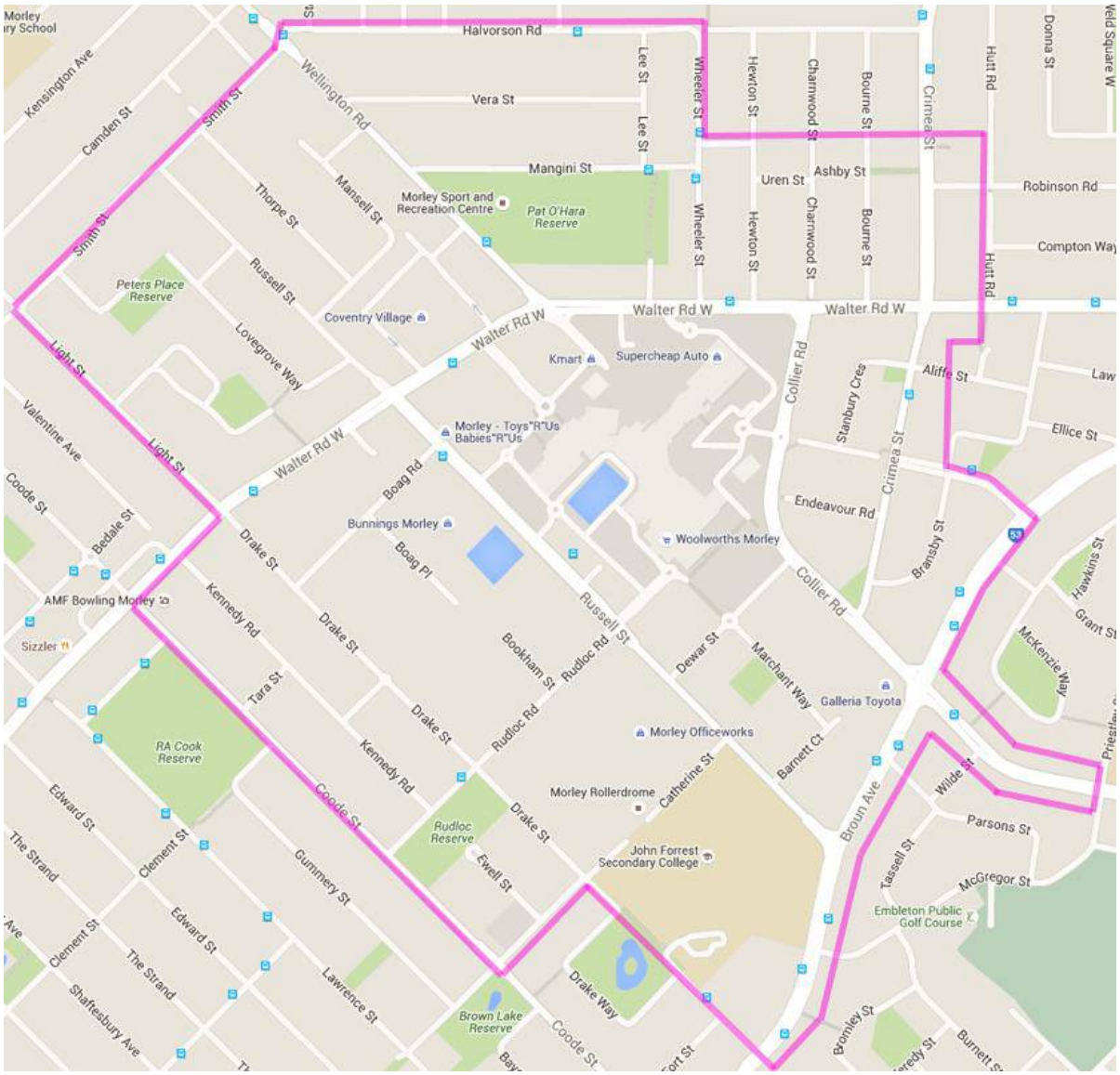
Figure 2.2 and Figure 2.3 show the boundary of the MACSP.

Figure 2.2: MACSP boundary (satellite)

Source: MACSPlan, 2014

[3] Morley Activity Centre Structure Plan, City of Bayswater Vision, April 2015.

Figure 2.3: MACSP street boundary map



Source: Google maps.

3 SWOT ANALYSIS

Parking is a highly subjective topic which gives rise to many issues. Based on surveys, existing documents, site visits and input from meetings with major stakeholders[4], the points below summarise the main parking related issues affecting the MAC in a SWOT analysis.

3.1 Strengths

These include:

1 Plentiful parking is available within a reasonable walking distance (250 m) of several key destinations including the Morley Bus Station.

2 The MAC is serviced by several bus services.

3 Road safety considerations motivate and provide justification for some parking restrictions.

4 The City manages 12 off-street car parks within the MAC comprising a total of 807 public and ACROD bays together with some motorcycle and loading bays.

5 There are approximately 10,000 parking bays available in MAC excluding unmarked on-street parking bays.

6 Surveys of parking demand patterns in June 2015 indicate average current demand at less than 70% of bays in any precinct on weekdays and Saturdays, and overall less than 63% across all precincts.[5]

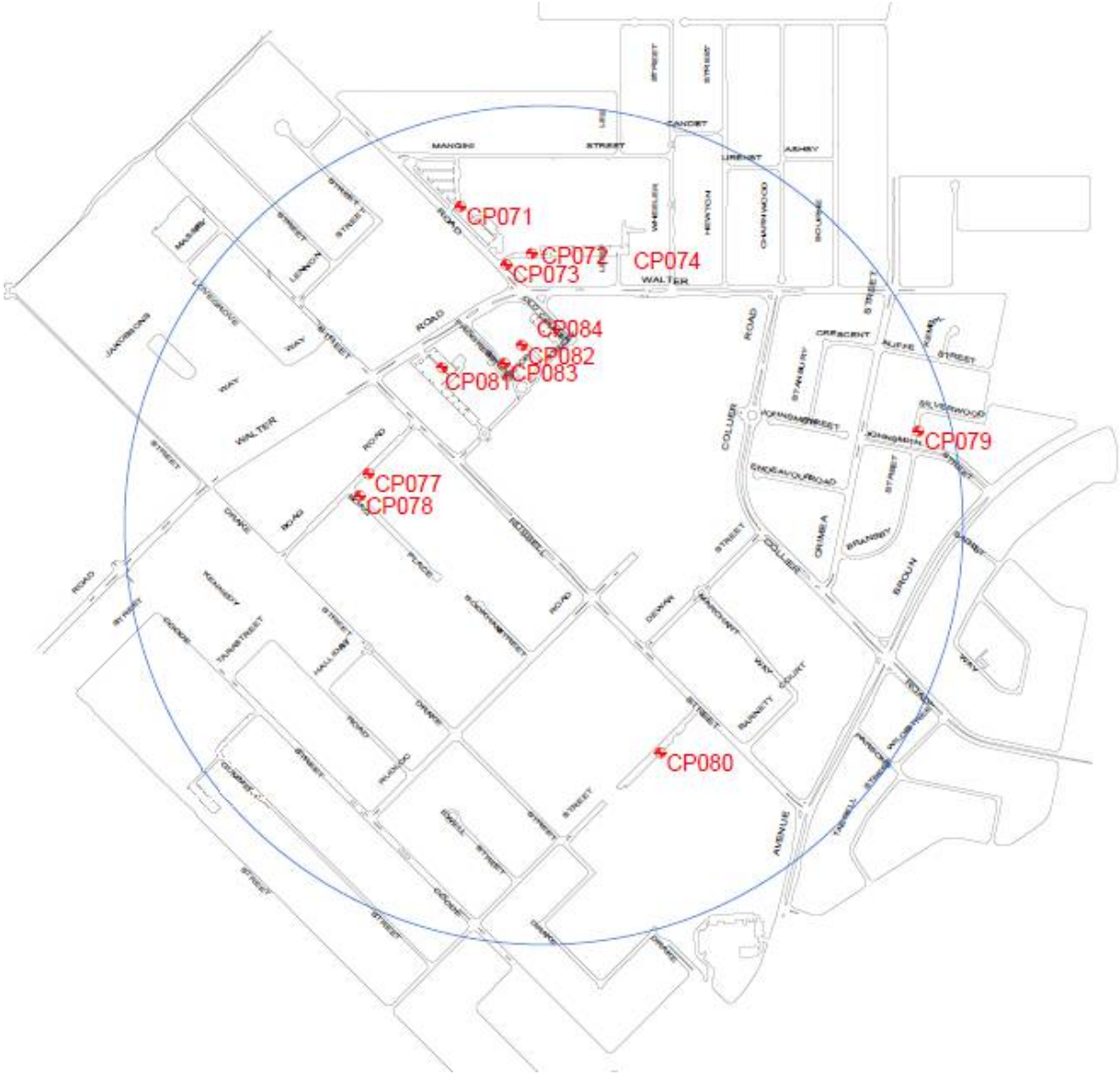
7 There is currently under-utilisation of public parking in several locations.

8 More than 1,000 bays are generally always available.

[4] Representatives of Galleria Shopping Centre, Coventry Village and Central East Business Association.

[5] Refer Section 10 Parking survey.

Figure 3.1: City of Bayswater off-street car parks within 800 m radius of Morley Bus Station



Source: MACSPlan, 2014.

3.2 Weaknesses

1 The City controls 807 off-street and 198 on-street public car parking bays. This is only 10% of the total car parking bays in the MAC.

2 Historically there has been a reactive approach by the City to parking complaints, resulting in prescriptive time restrictions in some locations.

3 There is an ad-hoc approach to the management of long-term parkers which has resulted in parking restrictions applied to areas in isolation.

4 There is a confusing mix of timed parking restrictions including 15minP and 30minP, 1P, 1½P, 3P, 4P, 5P and 8P (Figure 3.2).

Figure 3.2: Confusing signage

5 4,840 bays have 9 different time based restrictions.

6 There is a lack of information about the number of bays in each parking station.

7 Parking wayfinding and guidance is minimal.

8 Visitor parking is free.

9 No dedicated park and ride facilities are provided – Many retail parking areas are used by employees and commuters who travel elsewhere.

10 Parking restrictions are confusing for a driver to understand and difficult for rangers to enforce.

11 Bicycle access is poor and few developments provide any end of trip facilities for cyclists.

12 Inadequate parking for peak demand at the Morley Recreation Centre results in spill-over into retail shopping areas.

13 Cash-in-lieu is inconsistently applied and the current funding available is minimal.

14 Ranger resources are inadequate to monitor compliance for public and private parking facilities.

15 Residents are sometimes inconvenienced by commuters parking in their streets.

16 User information on the City's website about parking options is not customer friendly.

17 Parking policy has not been used to optimise mode share targets.

18 There are no maximum caps on parking provision meaning that developers could introduce excess parking bays without considering the existing supply or the impact on the road network.

3.3 Opportunities

1 More effective use can be made of all public parking facilities.

2 Unbundling the parking supply from residential developments will allow more effective use of the bays.

3 A Parking Control and Management Plan and a TravelSmart Plan for all new developments, will ensure better management of access for staff and visitors.

4 Many landlords are willing to have the City enforce parking restrictions on private land, allowing the City to generate additional income.

5 More effective enforcement resources and technology will assist rangers, e.g. licence plate recognition.

6 Simplification of time restrictions and fees will result in greater compliance and an increased churn of bays.

7 A limited permit scheme would assist residents.

8 Surplus parking income and cash-in-lieu could be used to fund improved access.

9 Improved facilities for cyclists and pedestrians will encourage these mode-share options.

3.4 Threats

1 Significant additional parking for new developments will have a negative effect on road amenity and increase future congestion.

2 The volume and duration of stay by long-term parkers, especially commuters and local employees, is increasing and spilling over into residential areas.

3 Free/cheap on-street parking encourages drivers to cruise for a vacant space, increasing congestion.

4 In the long-term, the City cannot continue to rely on excess parking capacity provided by major retail developments.

5 Minimal and unenforced restrictions in private car parks encourages the use of these by motorists heading to other destinations such as Morley Recreation Centre users and the bus station.

6 Private parking enforcement will expand if the City does not offer this service

7 Increased development will in the short and medium-terms, create additional demand for long term parking by building contractors.

8 Restrictive and inconvenient public transport options will increase the demand for long-term parking by employees and commuters.

9 The lack of safe and secure pedestrian and cycling pathways encourages older citizens and nearby residents to use a private car to access the MAC.

PART A – INTEGRATED PARKING STRATEGIES

4 CAR PARKING MANAGEMENT PLAN (CPMP)

The Car Parking Management Plan aims to ensure the provision of a balanced mix of parking in the MAC to meet the needs of businesses, shoppers, employees, visitors, commuters and residents. This will involve not only the provision of a range of accessible, safe, secure, well-maintained, conveniently located and value-for-money parking, but also the enforcement of regulations controlling where parking should take place to support the needs of people with disabilities and pedestrians, cyclists, public transport users and other motorists. The CPMP will reduce obstructions and improve the flow of traffic, and support the regeneration plans for the MACSP.

Parking provision and management is essential in order to support the economic vitality and sustainability of any activity centre. In order to meet the objectives of the MACSP and implement this strategic CPMP, the City needs to undertake a range of initiatives as outlined in the following section:

4.1 Change the Approach to Parking to Reduce the Trend in Motor Vehicle use and Ownership

The traditional approach to parking has been that motorists should nearly always be able to easily find convenient, free parking at every destination.[6] Under this 'predict and provide' approach, parking planning is based on the premise that 'parking problem' means 'inadequate supply', and consequently more parking is better, every destination should satisfy its own parking needs (minimum ratios), car parks should never fill and parking should always be free or subsidised or incorporated into building costs.

However, in the last ten years there has been an increasing trend towards more efficient use of existing transport infrastructure as an alternative to expanding roads and parking facilities, incorporated in a technique known as travel demand management (TDM). TDM emphasises the movement of people and goods, rather than motor vehicles, and gives priority to more efficient travel and communication modes (such as walking, cycling, car sharing, public transport and telecommuting), particularly under congested conditions.

Under this new 'demand management' approach, as distinct from the unsustainable demand satisfaction (predict and provide) approach, parking facilities should be used more efficiently. This means that car parks at a particular destination may often fill (typically more than once a week), provided that alternative options are available nearby, and drivers have information on these options. It does not mean that car parks should have sufficient capacity to cater to once-a-week peak demand. It requires that motorists have a choice between paid parking nearby (user-pay), or free parking a reasonable distance away. It also requires a high standard of walking conditions between parking facilities and the destinations they may serve. Parking planning should therefore include shared and reciprocal parking, parking pricing and regulations, parking user information, and pedestrian improvements.

6 The concept has been clearly articulated by Littman, T (2006) Parking Management Strategies Evaluation and Planning – Victoria Transport Policy Institute.

4.2 Introduce a Parking Hierarchy

When different parking user groups are competing for the same parking space and demand exceeds the supply there occurs a saturation of parking facilities. Accordingly, there needs to be recognition of different user priorities through the introduction of a parking hierarchy. The objectives of the parking hierarchy are to uphold the safety and convenience of all road users, encourage the use of alternative transport modes such as walking, bus, train and cycling, promote equitable and transparent allocation of parking spaces across all user groups and facilitate consistent decision making regarding parking infrastructure.

The parking user hierarchy should be applied to planning decisions in the MAC. Policies should achieve the parking hierarchy through pricing, time regulations and enforcement. It is noted that parking restrictions required for road safety reasons, pedestrian crossings, emergency purposes and city services take precedence over all other users. For example, disabled parking is inconvenient and unsafe on-street and consequently a low priority in commercial centres. Disabled parking is therefore given a high priority in off-street car parks.

Table 4.1 shows the desirable parking user hierarchy to be used within the MAC. This hierarchy is desirable to support growth and intensification goals. The user groups (explained in 4.11) are reflected in the table. Requests for alterations to kerbside allocation should be reviewed according to Table 4.1 to determine if they fit within the parking hierarchy for the precinct or location.

Table 4.1: Proposed parking user hierarchy for MAC

Priority	Central Core Parking		Outside Central Core Parking	
	On-street	**Off-street**	**On-street**	**Off-street**
Highest ↓	Loading	Disability permit holders	Public transport	Long-stay/ commuter
	Public transport	Short to medium-stay	Residents	Short to medium-stay
	Drop-off/pick-up	Drop-off/pick-up	Short to medium-stay	Drop-off/pick-up
	Short to medium-stay	Loading	Disability permit holders	Park and Ride
		Motorcycle/scooter	Loading	Residents
	Motorcycle/scooter & cyclists	Long-stay/commuter & residents	Long-stay/ commuter	Motorcycle/scooter
Lowest	Disability permit holders	Cyclists	Drop-off/pick-up & motorcycle/scooter & cyclists	Disability permit holders & loading & cyclists
Not allowed in this zone	Long-stay/commuter & park and ride	Park and ride	Park and ride	Public transport
	Residents	Public transport		

4.3 Focus on Public Education of the Broader Impacts of parking, its Environmental and Other Costs, and the Benefits of Sustainable Transport Policies

An education program needs to be aimed at all stakeholders including planners, developers, designers, retailers, tenants, elected officials and council officers, business and community groups, students, residents, visitors, commuters, and the general public. Education and appreciation of the unsustainability of current parking demand should be available and regularly communicated in the City's publications.

The community need to understand that:

1 drivers cannot expect unlimited parking close to their destination;

2 unlimited supply has environmental, social and economic drawbacks;

3 parking needs to be sustainable;

4 there is a cost for the provision of parking;

5 parking users need to help to share the cost of parking infrastructure equitably; and

6 net surplus from parking services are to be reinvested into improving access and transport infrastructure.

Having a very informative parking website for shoppers, visitors, employees and residents will help to educate the community about considering a range of possible parking options. Having a Parking Group that includes Council staff and representatives of Business Associations, residents and other stakeholders could be also of a great value.

4.4 Parking Surveys

Undertake regular parking surveys to assess ongoing issues, determine if there is a high occupancy percentage from long term parkers and vehicles parking overtime, and to determine parking trends. This data is essential to identify and justify triggers and priority areas for changes to regulations or enforcement effort.

4.5 Introduce Parking Controls and Eventually Pay Parking at Identified Hotspots, Particularly in Areas Adjacent to Major Trip Generators

These controls should be used to encourage the use of alternative modes, but should also be set at a level which does not detract from the vitality of the MAC. Short-term parking should be encouraged and enforcement should be improved. Providing dedicated parking for long term parkers in each precinct near public transport facilities will also help to minimise the amount of traffic passing through the City.

It is fundamental to recognise that there is no such thing as free parking; the costs are simply incorporated elsewhere. The true cost of parking is hidden in higher development costs, and consequently higher rents and prices to consumers. Property owners are subsidising parking on valuable land that could be generating income or could be put to other uses. Owners of private vehicles are expected to cover the costs associated with owning and operating a car and constructing and maintaining road infrastructure; however, in most instances, the costs associated with vehicle storage, e.g. parking, are not usually charged directly to users. An example of the cost of provision of parking can be found in Appendix B.

All new parking controls or charges need to be constantly reviewed by the City and amended as necessary depending on the result of regular parking surveys.

4.6 Implement a Consistent Level of Wayfinding, Signage and Parking Restrictions

All MAC users want conveniently located, safe, secure and value-for-money parking with signage to their destination and restrictions that are clear, consistent and user friendly.

Parking wayfinding refers to a system of signs, directories and other design features which provide an early warning navigational aid. Most of the City's public and private parking areas

are advertised by an inconsistent array of signs and 'P' logos which are usually located within 5 m of the car park entrance. They do not assist drivers coming into the commercial centres to plan their route well in advance so as to reduce their search time, and traffic congestion. There is a presumption that 'drivers know where the parking is'.

Drivers want to know where to look for wayfinding information when they need it, understand the way the information is communicated and obtain the information quickly and without fuss.

A single, consistent system should guide drivers to all car parks. Once drivers are at the car park, then individual branding and signage can be used. Similarly, Council maps and the website should show all public parking facilities, not just Council's car parks.

A coherent wayfinding system is a cost-effective means to reduce searching time for bays and unnecessary circulation of cars. Predictable, consistent and authoritative public information is the key to building confidence.

Figure 4.1: Examples of consistent car park and wayfinding signage in Parramatta

4.7 Adopt a Proactive Approach to Parking Management

4.7.1 Parking Enforcement

Parking management includes the enforcement of parking restrictions to monitor and deter parking that is dangerous or inconsiderate to other motorists. The aim of enforcement is to maximise motorists' compliance with policies. The provision of more effective parking enforcement is essential to make the streets safer for all road users (particularly children and other vulnerable pedestrians), to ensure that parking bays are available for their intended use and to make the public roadways a more pleasant environment. Enforcement does not need to be uniform across the MAC, but targeted to tackle problem areas.

Businesses, shoppers, visitors and residents do not want parked vehicles to impede their movements or the movements of public transport. Parking penalties appropriate to the seriousness of the contravention should be introduced, particularly in the high demand areas identified. However, enforcement is not the only mechanism for increasing compliance. Effective communication with the public is essential so they are aware of the rules and regulations (as per 3 above).

There is currently some limited private enforcement of parking time restrictions in retail precincts south of Walter Road and Progress Street. This could expand into other privately owned car parks if the City is not prepared to provide an effective parking management service. This is an opportunity for the City to take a proactive role and also generate income.

4.8 Implement the Requirements for a Parking Control and Management Plan (PCMP) for all New Developments Requiring More Than 5 Parking Bays

This is a tool for developers to commit to, prior to establishing a new parking facility. It is a worthwhile document for the City, for developers, their tenants, and for other parties as it sets out in detail, how parking in a proposed development will be controlled and managed after establishment. It has been implemented in several cities (such as Stirling and Cambridge[7]) and provides clarification for all parties affected by parking at a site. A proposed application form is included in Appendix A.

It places the onus on the developer to give consideration to the proposed practical plans to manage and control the parking on site in order to comply with the planning conditions. Approval of the plan will form part of the Development Approval for the project. Ongoing adherence to the plan will be monitored and enforced.

Discussion of the proposed Parking Control and Management Plan (PCMP) needs to occur together with compliance services, who will be responsible for monitoring compliance with the PCMP after construction.

Reference to the PCMP is to be included in the MACSP together with penalties for non-compliance.

4.9 Support and Encourage Different Forms of Sustainable Transport

The City needs to prioritise access for pedestrians, cyclists, public transport users and people with disabilities, and make the most of public transport infrastructure, balanced with the needs of the MAC road network, including the need to minimise congestion. The existing public realm in MAC for pedestrians, cyclists and public transport user needs to be significantly improved given the current dominance of vehicular traffic.

The provision of convenient public transport is fundamental element of changing mode-share. Unfortunately the City has little influence over the State Government's program for Public Transport to and serving the MAC. If public transport lags development, there will continue to be a high mode share for the use of private vehicles.

It is important to acknowledge that a Parking Strategy is only one part of an Integrated Transport Strategy which should also incorporate a road safety strategy, a green travel plan,

[7] Town of Cambridge, Parking Management Plan Information Sheet, 8 February 2010.

a pedestrian strategy, a bicycle strategy, a local area traffic management plans and a specific parking management plans.

There is increasing recognition that sustainable cities require a balanced multi-modal transport system, and the parking system should support the transport system. In particular, parking supply, utilisation, location and price are primary factors relating to travel behaviour mode choice, and it is worthwhile to set out five parking principles which are to underlie future strategies relating to travel behaviour in the MAC:

1 **Focus on people access not vehicle access.** This requires the development of innovative access programs targeted at a more active community (such as the Your Move travel initiatives in Cockburn and Wanneroo).

2 **Provide efficient and effective alternatives to car access.** This requires the promotion of accessibility such as a park and ride facility or the availability of low fare or free buses, rather than the promotion of parking. The provision of high quality reliable public transport is a fundamental prerequisite for parking policies which seek to maintain supply within acceptable limits, reduce congestion and encourage alternative modes of transport.

3 **Parking policy and strategy must support sustainable transport.** The integration of commuter parking with public transport is a major opportunity to reduce the dependency on cars coming into a centre. Additionally, there is a need for better bicycle paths and quality end-of-trip bicycle facilities, as well as improved bus shelters with real-time information.

4 **The appropriate amount of parking for the centre will be well below the unconstrained demand for parking.** The available parking supply should be adequate, not excessive. It need not cater to occasional peak demand, or ensure that every driver will always be able to find a bay. Rather, it seeks to eliminate over-supply and unused capacity. Consolidated parking is a means of making better use of available supply. Sharing parking between multiple land uses and/ or businesses does not require each of them to provide their own parking. This ensures an adequate rather than excessive supply of parking and is particularly appropriate to the provision of overall parking in the MAC.

5 **The provision of parking requires a demand management, not a demand satisfaction approach.** Controlling parking demand is the counterbalance to the management of parking supply, but it is far easier, more flexible and less expensive to make better use of existing parking capacity than to create additional parking. Parking management strategies recognize different hierarchies of users. Fees can be used to control demand and to encourage alternative modes. Additionally, improvements to transport and access infrastructure can be funded from additional income derived from parking.

4.10 Levy on Car Parking

All new residential developments are likely to have an impact on parking, and if new residents wish to park on the street, this will increase the demand for spaces and the overall competition for parking spaces will increase in the area around the development having a direct impact on congestion, illegal parking and highway safety. Consequently, new developments should contribute to the improvement of the area to enhance the local street environment, improve safety, improve parking facilities and improve the overall amenity of access for businesses, visitors and residents and to encourage sustainable travel modes within the MAC.

Principles relating to a Parking Levy

- The levy shall apply to existing as well as future parking in the prescribed area to ensure future development and existing development make an equitable contribution to transport improvements.
- All revenue from a parking levy shall be hypothecated for expenditure on public transport annual operating costs or for infrastructure improvements for public transport, walking or cycling.
- The levy cost shall be set at a dollar cost per parking bay and adjusted annually in accordance with annual Perth CPI, or as adjusted from time to time by the Minister for Transport following consultation with the City.
- The levy shall apply to all non-residential parking bays (on-street and off-street) within the prescribed parking area, with the following exceptions:
  - Loading bays, bays used for public transport purposes, by emergency services, or set aside for parking of vehicles used by disabled persons.
  - A parking facility that has 5 parking bays or fewer.
  - A parking bay used solely for servicing, inspecting, repairing, fuelling or maintaining vehicles or used solely for a vehicle that forms part of a stock of a business of a motor vehicle dealer.

Developers should work in partnership with the City to improve connectivity and permeability for pedestrians and cyclists whilst minimising the likelihood of conflicts with vehicular traffic and create an attractive, safer and more accessible environment for all users. This can be done by:

1 supporting pedestrian and cyclist movement by creating pedestrian and cyclist priority access and connections;

2 creating bicycle parking areas and signs provided to inform cyclists of areas where cycle parking is provided;

3 supporting improvements to crossing facilities at key junctions;

4 improving/enhancing signage; and

5 ensuring that routes are safe, accessible, well-lit at night and lined by active building frontages.

These contributions are especially applicable in the Central Core and Outer Core precincts.

4.11 Parking User Groups

To enable equitable sharing of parking resources, it is necessary to identify all the different parking user groups and prepare a parking hierarchy. The parking hierarchy assumes there are no other competing interests for the kerbside or off-street parking spaces e.g. pedestrian paths and footpath trading or eating, bus priority or cycle lanes. The following is a list in no specific order of parking user groups, their definitions and priority requirements.

Public transport

Parking restrictions are applied to indicate a bus or taxi zone specifically reserved for these vehicles/users. This user group should generally have priority when considering kerbside allocation.

Loading

Service vehicles are vital to the operation of a commercial centre. They should have a high priority for the allocation of a limited number of on-street parking spaces. However, planning requirements should ensure all new developments provide for service vehicles within the development itself. Loading zones should not be provided unless off-street loading facilities are not available.

They should cater for the needs of legitimate goods-carrying vehicles only. These vehicles are usually permitted to stand in a loading zone for 30 minutes while engaged in picking up or setting down goods. Proper enforcement is necessary to prevent loading zones from becoming private parking for owners or staff of commercial businesses. Private use motor vehicles should not be entitled to park in loading zones during business hours, but signage should permit short-medium stay parking after hours.

Disability permit holders

The Australian Disability Parking Scheme helps eligible people park nearer to their destination. ACROD[8] permit holders in WA are entitled to park:

- in any space provided for a person with a disability in an on-street or off-street parking location, such as shopping centres, hospitals etc.
- in local government metered or regulated parking areas on-street for double the maximum time allowed.

Spaces allocated for persons with a disability should be given particular priority in the immediate vicinity of uses that have a high demand for disability access, such as hospitals and other community services. Wherever possible parking bays for the disabled should be located off-street to provide additional convenience and safety to the driver.

Drop-off/pick-up

Short-term parking for drop-off/pick-up (e.g. 5–15 minute parking) should be given priority in premium parking locations in close proximity to facilities i.e. at schools, public transport nodes and hospitals. Enforcement should ensure the turnover of this parking.

Short to medium-stay

Short to medium-stay parking for business and retail needs. Generally short-stay parking is for up to 2 hours and medium-term parking between 2 and 4 hours. These user classes should be provided for commercial centres, hospitals, sports facilities, entertainment centres and hotels. Enforcement should ensure compliant turnover of this parking.

Long-stay/commuter

Long-stay parking (4–24 hours) is provided to cater for employees, commuters and other long-term parkers. This user class should generally be allocated a relatively low priority, particularly on-street and in areas with high public transport accessibility.

Park and ride

This parking is provided to cater for people transferring to another mode of transport to complete their journey (e.g. catching a bus or train). Park and ride should be given priority at

[8] Formerly the Australian Council for Rehabilitation of Disabled, now renamed National Disability Services Limited.

satellite/remote public transport nodes. This type of parking is generally not considered appropriate in commercial centres or at transit oriented developments.

Residents

Parking for residents and their visitors. Most residential properties in the MAC currently have access to at least one off-street car parking space. However this may not be the case in the future in high density areas. Residential parking policy/permit schemes should manage the demands of resident and visitor parking, whilst discouraging motor vehicle use. Enforcement must ensure that access is not blocked to residents' off-street parking.

Cyclists

Parking for cyclists falls into two broad categories:

- all-day parking for employees and park-and-ride parking at public transport stations
- short-term parking for visitors to shops, restaurants, offices, recreational facilities and other institutions (within 50 m of destination).

Parking for cyclists should be given a high priority and planning requirements should ensure that adequate parking provisions and end-of-trip facilities for cyclists be incorporated into all new developments.

Motorcycle and scooter parking

Motorcycle/scooter parking is generally treated no differently to that of cars. If vehicles are to be charged for parking, this should apply equally to motorcycles if they use spaces allocated to cars. An incentive for these motorcycles is to provide them with free parking in dedicated motorcycle spaces.

As car parking spaces can be easily divided into two motorcycle spaces, there is flexibility to convert spaces depending on demand. Planning provisions should identify the environmental benefits of motorcycle/scooter use over cars and provide developers with incentives to provide motorcycle/ scooter parking in lieu of car spaces.

A program to encourage parking for motorcycles in appropriate locations in the commercial centres should be considered. These parking spaces should be well signed and promoted in Council communications.

5 HIGH LEVEL PARKING STRATEGIES

High level strategies are defined as measures that encapsulate the long-term strategic vision for the provision of parking resources. In many cases these strategies will require regulatory reform of policies and requirements in the Local Planning Schemes. The effective implementation of high-level strategies will deliver benefits over a long time scale that are consistent with the objectives of the local planning and policy framework.

5.1 Funding Car Parking and TDM Initiatives

The construction and maintenance of car parks, cycle paths, cycle lanes, footpaths and bus infrastructure can be economically difficult for the City with restricted income and hence the rate of construction of this infrastructure can seem to take years when it is needed in the present. Programs for planned works for these facilities should be brought forward with increased funding.

The generation of revenue collected through car parking management is an ideal tool that achieves multiple goals. The cost of parking changes the behaviour of the driver, motivating them to consider alternative options and the revenue from the parking can be used to provide these alternatives as well as provide and maintain car parking facilities.

5.2 Build Parking Facilities – Deck Car Park Feasibility

The use of public resources to construct parking facilities has traditionally been the method of addressing parking shortfalls. It has the advantage that the City controls when and where parking supply is added. However it tends to be expensive, is slow to implement and represents a public subsidy for driving. Public Private Partnerships (PPP) may be another potential model for the provision of new car parking infrastructure.

Deck parking usually involves the allocation of public resources to build and manage a public parking facility; however, both the development and ownership can be undertaken by the private sector.

The City needs to develop a plan to identify and prioritise potential sites for the construction of parking decks to serve the commercial centres. The Morley City Centre Transport Assessment[9] proposed additional public parking facilities as shown in Figure 5.1.

[9] Prepared for City of Bayswater by Cardno, Aug 2013 at p.37.

Figure 5.1: Location of proposed additional public parking facilities

Source: Morley City Centre Plan Transport Assessment.

In considering locations for future deck parking, potential options are restricted to those where the City either owns or has long-term tenure over the land. As the cost for each 100-bay deck car park will exceed $4.2 million (in current 2017 dollars), opportunities which will require significant additional expense associated with the purchase of land should be a low priority.

A further factor in considering deck parking is its impact on the urban landscape. Free standing deck car parks are generally not attractive buildings and are best constructed where they can be contained within or above or below other uses, not as single use structures.

In addition to being controlled by the City, potential locations for deck parking must have common characteristics:

- they must have multiple generators of parking
- they should be likely to be utilised during the day, night and on weekends
- their shape must permit a practical layout for a deck parking facility

- it is desirable that there be opportunities for vehicle access to/from more than one street
- they must be capable of linkage with pedestrian pathways to their major generators
- the pedestrian pathways must provide a high standard of convenience and safety.

A review of the design and layout of some on-street parking may also yield a small increase in bays.

The options of revenue from parking come in various forms and are set out below in order of their preference for most stakeholders:

- cash-in-lieu from developers
- a specified area rate
- parking meter charges on-street
- off-street parking fees
- parking fines.

Generally a combination of all five sources of revenue will be necessary for the City to fund increased parking capacity.

Consideration of construction of a deck car park requires careful examination of several issues, as a car park once built, is a risky, long-term investment, which is seldom capable of transformation to other uses.

5.3 Deck or Multi-storey Parking Issues

Multi-storey parking usually involves the allocation of public resources to build and manage a public parking facility; however, both the development and ownership can be undertaken by the private sector. Firstly we examine issues associated with the construction of multi-storey parking and then the additional factors which impact on the private sector's decision to invest in car parks are considered.

5.3.1 Risk Factors

A car park built to service the demand of one particular type of client, such as students, or visitors to a particular activity centre, carries risk if the single generator ceases to trade and there is no alternative creator of demand. Similarly, if cheaper competition becomes available nearby, there is an income risk to the owner.

The following four elements of risk will apply to any investment decision on multi-storey parking made by the private sector. The criteria should be no different for an investment decision by the City:

- It is important for any developer when considering multi-storey parking, to be assured that there are multiple generators of demand. The closer the car park to a commercial centre, the more likely there are many potential demand generators, for short term, commuters, after hour and even residential parkers.
- If the multi-storey car park goes ahead, there would need to be some restrictions on the creation and management of additional public parking facilities within a reasonable perimeter (minimum 300 m) of the new car park. This prohibition would need to cover the temporary use of land for public parking.

- Any developer will require a commitment by the local authority to a high level of compliance monitoring of all on-street public parking in the vicinity. There needs to be a perception of regular enforcement.
- It is unlikely that the private sector will consider the construction of multi-storey parking if pay parking does not already exist. This applies particularly to pay parking on-street. Parkers will only be disposed to pay a fee for parking if they have limited alternatives and if they perceive they are obtaining some value for money.

It is to be noted that the recurrent direct annual costs of maintaining and operating a car park are usually a small percentage of the potential car park income and that any variation in these costs will not usually have much effect on the return from the investment.

5.3.2 Location and Cost of Land

One of the major hurdles faced by any potential car park developer is the location and the cost of land. It is often only viable for local authorities to construct multi-storey parking on land they already own, rather than to purchase land for the purpose. The Les Hansman Centre site (currently operated as CP081) is well located for a multi-storey car park as it serves several destinations. Another potential site is on the eastern side of Barnett Court.

A further significant factor in considering multi-storey parking is its impact on the urban landscape. Car parks are generally not attractive buildings and are best constructed where they can be contained within or above or below other uses or non-prominent sites.

5.3.3 Development of Parking by Council or Private Sector

The principles relating to risk, land, development and operations are the same for both the private sector and for Council. Council will generally have an advantage over the private sector in that they already own the land, and the internal rate of return requirements may be less stringent than for the private sector, but the remaining principles as set out above apply equally to both Council and developers.

Paving land for parking can impose environmental costs, including loss of green space (reduced parkland, garden, playing fields and open space), increased impervious surfaces and related stormwater management costs and aesthetic degradation. Where this has already occurred, as with CP081, the opportunity to construct multi-storey parking will not impose a further environmental cost, and makes use of the already established demand and awareness of the particular site. However, there is also an opportunity cost where valuable land appropriated for parking could be sold off and the income used for alternative purposes.

5.3.4 Private Sector Development

This enables the parking supply to respond to land use changes and market demands. It avoids placing financial burdens on the Council. However, the need to generate a profit may result in an unacceptable supply or standard of parking.

Other than encouraging the construction of high quality parking facilities in buildings, each application for a parking building will need to be dealt with on its merits, with particular cognisance of the various parking generators that will be served by the building. A key criterion is to ensure that there is, or will be at the time of opening, a demonstrable shortfall of parking capacity and that the parking building will not undermine the parking strategy and objectives of the overall parking management plan for the City.

5.3.5 Public Sector Development

This gives Council maximum control over supply, location, price and method of operation. It enables it to respond to the City's needs even where parking will not be financially viable. It requires expertise in design and construction as well as operations and management. If Council wishes to retain the management and operation of certain off-street car parks, or build and operate a car park, it may choose to make use of specialist external consultants to assist in the monitoring, marketing and auditing of income. Regular monthly specialist input is common practice at many councils in Australia. It provides an objective approach and continuity if key staff resign.

5.3.6 Cooperative Public Private Arrangements

This option works best when both parties are able to realise rewards. The public sector may be able to offer land and some protection from competition. The private sector may offer specific development and operating expertise that enables greater efficiencies. It may also offer a political buffer, insulating Council from adverse impacts that may arise from parking development or operations.

The provision of Council owned land at a discounted price, or on a long-term lease, is often used as an incentive if a developer undertakes construction of a building which incorporates a significant component of public parking. Council can select the location at the outset and dictate the principles under which the public parking section of the car park is to operate. This will generally include minimum operating hours, a fee structure that is designed to discourage long term stays, high standards of security and customer service, comprehensive management information and a method for regular review of these issues.

With this cooperative arrangement, there is no need for Council to have a small and often inefficient involvement in the development, operation and management of off-street parking. Instead, Council can focus its resources on parking on-street and enforcement.

The total resource costs attributable to the provision of parking facilities should be communicated to parking stakeholders and to the community. In so doing, the cost/benefit of additional parking can be demonstrated.

In order for Council to attract the interest of private car park developers, it is essential that Council first implements pay parking on-street in the core areas, and charges a fee which fairly reflects the convenience premium attaching to these spaces. The fee will result in the relocation of medium and long-term parkers to off-street car parks and to vacant spaces further away from the core areas. Private developers will only be interested in construction if they perceive increasing demand and a lack of available options, and if they can determine that parkers will pay for the service.

5.3.7 Summary of Benefits and Risks of Deck Car Park Facilities

Benefits

- In commercial centres, where land costs are higher, the cost of at-grade parking is more expensive than deck parking.
- The closer the car park to a centre, the more likely there are many potential demand generators, for short term, commuters, after hour and even residential parkers.
- The direct annual costs of maintaining and operating a deck car park are usually a small percentage of the potential car park income.
- The City of Bayswater owns few sites which are well located for future deck parking.

Risks

- Is a long term investment which requires multiple generators to minimise the financial risks.
- A car park built to service the demand of one particular type of client, such as employees, or visitors to a particular activity centre, carries risk if the single generator ceases to trade and there is no alternative creator of demand.
- If cheaper competition becomes available nearby, there is an income risk to the owner.
- If a deck car park is constructed, there would need to be some restrictions on the creation of additional public parking facilities within a reasonable perimeter (minimum 300 m) of the new car park. This prohibition would need to cover the temporary use of land for public parking.
- It needs a commitment by the local authority to a high level of compliance monitoring at all on-street public parking in the vicinity. There needs to be a perception of regular enforcement.
- It is unlikely that the private sector will consider the construction of deck parking if pay parking does not already exist in the district centre. This applies particularly to pay parking on-street. Parkers will only be disposed to pay a fee for parking if they have limited alternatives and if they perceive they are obtaining some value for money.
- It is only viable for local authorities to construct deck parking on land they already own, rather than to purchase land for the purpose.
- The construction of a deck car park has a great impact on the urban landscape. Deck car parks are generally not attractive buildings and are best constructed where they can be contained within or above or below other uses, not as freestanding, single use structures.

5.3.8 Delivery Models

The selection of the delivery model is a critical decision for any large infrastructure project. The following table describes the various options.

Table 5.1: Different delivery models

Delivery model	Description
Public build, own and operate	The Project is undertaken by Council and the design and construction roles are tendered separately to the private sector.
Design and construct ('D&C')	The design and construction of Project assets are combined into one procurement process which is tendered to one private sector party.
Design, build, maintain ('DBM')	The private sector is contracted to design, construct and maintain the facilities, with Council retaining the operating responsibility.
Design, build, maintain and operate ('DBMO')	The private sector operates the facilities in addition to the provision of design, construction and maintenance roles.
Design, build, finance, maintain ('DBFM')	The private sector is contracted to provide financing in addition to the design, construction and maintenance of the infrastructure.
Build, own, operate, transfer ('BOOT')	Council grants a long term leasehold interest to the private sector to finance, build, operate and maintain the service. Ownership reverts to the Council at expiry of the lease.

The advantages of the BOOT model include:

- Significant risk is transferred to the private sector. Competition in the tendering and negotiation process allows Council to allocate risks to those parties best able to assess and price those risks, resulting in the most efficient outcome.
- The facility is constructed without significant financial outlay or debt for Council.
- There is maximum incentive for the incorporation of whole-of-life design and operational solutions.
- The construction of an efficient and effective facility is based on the full contemplation of requirements over the facility's lifecycle.
- Council receives a share of any excess net income over and above that required to finance the construction.
- It is the most appropriate structure for private procurement of car parks because it provides the best balance between retaining government control over a project.

Macquarie Capital Advisers Limited[10] prepared a detailed report for the NSW Ministry of Transport considering BOOT schemes for commuter car parks. Their analysis and conclusions generally apply equally to other public car parks. Macquarie conclude that:

> A Build, Own, Operate, Transfer (BOOT) mechanism is likely to provide the most appropriate structure for private procurement of commuter car parks. This mechanism provides the best balance between retaining government control over a project that will have significant public impact while providing the ability to leverage private sector experience, innovation and funding sources resulting in efficient risk and resource allocation to appropriate parties. The 'whole of life' approach to design, construction and operation should make the BOOT procurement mechanism a highly successful tool for delivering car parking infrastructure and managing these assets over the long term.

For all of the above reasons, the BOOT option is recommended for the City.

Feedback from successful private car park investors indicates that there is appetite to pursue these opportunities. However, the critical success factor will be the ability to generate sufficient revenues for the private sector to meet equity targets. This is fundamentally dependent on the ability to charge for parking at the multi-storey car park, which in turn depends on the level of parking fees in the vicinity, particularly on-street.

5.4 Funding Options

This section examines income generating options and provides guidelines including appropriate fees for five such funding options:

- User pay parking fees.
- Cash-in-lieu.
- Residential permits.
- Parking levies.
- Enforcement.

[10] Per Macquarie Capital. Review of opportunities for private sector investment in commuter car parks, New South Wales Ministry of Transport, October 2008.

5.4.1 User Pay Guidelines

It is important to define the objectives for user pay parking in order to determine how fees will be structured:

- for traffic management – peak period fees should be high enough to encourage a shift in travel modes or times
- for parking management – fees during peak demand periods and at the most convenient locations should be high enough to generate a maximum 85% occupancy rate. If prices are too low, parking becomes saturated causing motorists to cruise around in search of a space. The target is to ensure that at times of peak demand, 15% of spaces (one in seven) are available.

Paid parking on and off-street is comprehensively implemented as a parking demand management tool across most metropolitan councils around Perth. Best practice is for the introduction of pay parking off and on-street to be considered when regular peak-hour demand is starting to exceed 85%[11] as this will lead to the most efficient use of public parking.

The implementation of pay parking off and on-street is designed to save cruising time, reduce traffic, conserve energy, improve air quality, generate income to the City and influence and contribute to traffic and parking management. The need to introduce paid parking should be related to the level of excessive demand that is required to be managed. It should not be used in a way that could potentially impact on the viability of local businesses or residential amenity.

Regardless of the emotion often surrounding the introduction of paid parking, there is little doubt that it represents an efficient and effective means to manage on and off-street parking demand and encourage churn of bays.

Paid parking is beneficial because:

- it can operate in resident parking permit environments by exempting residents from the requirement to pay
- ticket machines are highly visible and help to reduce non-compliance in areas with signposted time restrictions
- the efficiency of enforcement and the level of compliance in metered areas are significantly higher as rangers only need to attend each vehicle once, rather than chalk a tyre and then return again
- fees can be easily adjusted to allow the parking management system to differentiate between types of parker categories (e.g. customers vs employees) through fee structures
- the revenue from paid parking can be redistributed to benefit the community and improve access infrastructure through the upgrade of signage, enhanced road safety and general improvement of the public realm in the area.

It is also important that the 85% occupancy is occurring with compliant parking. Adequate enforcement resources, both personnel and technology are necessary prior to any decision

[11] The High Cost of Free Parking. Donald Shoup 2005, APA Planners Press.

to implement paid parking. Parking enforcement rosters should include all periods of peak demand.

On-street parking fees should be 15–20% higher than equivalent off-street parking charges in order to reflect the premium nature of kerbside parking and to encourage drivers to use the off-street facilities, where they can usually obtain a longer duration of stay. A higher on-street fee will encourage users to off-street car parks. This is clearly illustrated in the Leederville precinct in the City of Vincent where on-street parking is $2.50/hour compared with nearby off-street car parks where the first hour is free and then the charge is $2.50/hour.

When applying this criterion to a precinct, consideration should be given to adjacent streets where regular peak-hour demand may rise as a result of the implementation of pay parking in areas where demand is currently high. This will require regular surveys of parking demand in these areas. It reinforces the need for comparative parking surveys.

The following guidelines[12] will be applicable to the implementation of paid parking fees in the any precinct:

- Charge drivers directly rather than indirectly.
- Offer convenient locations and options for payment, including as a minimum, acceptance of coin, notes, credit card and mobile phone.
- Use small time units so drivers can avoid paying for more time than they need; e.g. for short-term parking charge in five minute blocks, for long-term charge by the hour rather than the day.
- Charge higher fees at the most convenient spaces (on-street) to encourage high churn.
- Use incremental price structures to favour short-term users, e.g. $2 for first hour then $5 for second hour, etc.
- Daily rates should be set at > 6 x hourly rate.
- Minimise discounts for long-term parking.
- Ensure that fee structures are flexible and can be amended in order to manage changes in demand during the year. It is inefficient to review fees only once a year in accordance with Council's budget timetables.
- Set parking fees with some reference to popular public transport fares, e.g. all day parking should be higher than a two-zone return bus/train fare.
- Encourage businesses to price parking and offer discounts or refunds to their bona fide clients. This can be accommodated with new technologies e.g. for patrons of leisure centres.
- Provide discount parking in short-term areas to multi-passenger vehicles (car sharing).
- Ensure a high level of compliance by means of regular and unpredictable enforcement.
- Implement flexible parking pricing at different times of the day and the week such as on weekends or in the evenings.
- Minimise the exceptions to pay parking, e.g. all loading vehicles, couriers and other parkers using public or designated on-street parking spaces should be required to display a ticket.

[12] With acknowledgement to Todd Litman "Parking Management Best Practices" American Planning Association 2006.

As there is currently no on-street pay parking in Bayswater, it is proposed that where pay parking is introduced, it is implemented as follows:

- On-street bays: $1.50 per hour to a maximum of $4.50 (3 hours).
- Off-street bays: First hour free and thereafter $1.00 per hour to a maximum of $7.00 per day (8 hours).
- First hour free will require a ticket to be displayed in the vehicle.

5.4.2 Time Restrictions

It is recommended that all paid on-street parking be restricted to 3P. This will provide enough time for short-term visitors to conveniently access popular destinations in the precinct but will discourage long-term parkers such as commuters and employees. The 3P time restriction is intended to create a high level of churn meaning that on-street parking will generally be available. Gradually (in 5–10 years) paid on-street parking will not have time restrictions, but the price will discourage long term parking.

Off-street parking will not have time restrictions.

It is recommended that all parking outside the core commercial centre but within a 500 m straight line walk be free but subject to a 4P time restriction. This is intended to discourage long-term parkers and provide free medium and short-term parking for users willing to walk a greater distance to popular destinations.

The implementation of a parking permit scheme is recommended so that residents and visitors can easily be identified and exempt from time restrictions. This will help to improve the efficient use of on-street parking and increase effective compliance enforcement.

It is recommended that all on and off-street parking time restrictions only be applicable between 8am-5pm, Monday to Sunday. This should be clearly stated on signs.

5.4.3 Cash-in-lieu

Cash-in-lieu is funding obtained from developers where all required parking cannot or are not required to be built on the site of a proposed development. It allows the local government to aggregate smaller contributions toward the provision of common parking and improved infrastructure which can provide better access be access for the public and can be managed more effectively.

Based on the formula set out in Part A (Section 9), this will be the major source of funding for Bayswater until other sources begin to generate income to the City.

Cash-in-lieu fees charged in other Perth metropolitan jurisdictions [13] vary considerably. For example, the City of Swan charge for at-grade parking in Midland is calculated on land value and cost of construction, with the recent values being between $27,000 and $28,000.

[13] Department for Planning and Infrastructure Data Collection and Audit of Parking Provisions and Management in Perth Metropolitan Centres – Luxmoore October 2009

If the City applies these fees with minimal discretion and encourages developers to make use of this discounted option, the City can expect income of > $250,000 per annum for each 100 bays not provided by the private sector.

5.4.4 Parking Permits Best Practice

As parking demand in the town centre grows, a residential parking permit scheme will need to be introduced. Very few permit parking schemes are identical. Best practice can be achieved by collating the key findings and procedures implemented at other councils[14]. The key findings include:

1 Permit information documents provide accessible and easy-to-understand information to residents and other interested permit applicants. The most accessible documents have a user-friendly layout and are available in PDF format for download on the Council's website.

2 Some councils include permit terms and conditions in permit application forms. This is an important inclusion as the information relevant to the allocation, use and management of permits is readily accessible to the applicant, who may otherwise be unaware of the information.

3 The holder of the permit is never guaranteed a parking space and this is to be emphasised in all permit documents.

4 A fee is usually charged for permits to recoup the costs of administering, operating and monitoring the permit system and maintaining the signage and to discourage unnecessary applications.

5 A maximum of two residential permits are usually issued to the occupier of a residential property and the number of permits issued is reduced by one permit per off-street parking space. It is not clear whether a permit concession is granted if an off-street space has been converted to another use such as a shed or additional accommodation.

6 Permits are not issued for occupants of high-rise buildings, new multi-unit developments or for dwellings located in the town centre.

7 Residential permits include the vehicle registration number. This assists with monitoring compliance.

8 Permits are assigned to streets or specific precincts via a coding system to protect the residents' privacy.

9 Strict penalties apply for the misuse of permits including fines or the permit being revoked. The risk of cancellation/revocation of the permit is considered to be the most effective sanction to ensure compliance[15].

10 Administration costs are significantly reduced where application of permits is on-line.

11 Labour costs are reduced with technology which provides immediate wireless verification of a valid permit, the vehicle registration it is linked to and the location where it is parked.

[14] City of Subiaco Draft Review of Residential and Visitor Permit Parking Systems. Luxmoore 2014.

[15] Per Leichhardt Council.

Table 5.2: Comparative permit fees

Council	Charge (each permit)	Max no. of Permits	Replacement fee
City of Vincent	Free	4	$25
City of Stonnington	Free	2	Fee
City of Boroondara	Free	3	$15
Leichhardt Council	Free	3	$124
Willoughby City Council	1st – $40 2nd – $80 3rd – $160	3	
City of Subiaco	Free	5	$30
Town of Cambridge	Free	4	$10
City of Perth	$85	1	$25
City of Fremantle	$32	3	$13

The introduction of a fee for all types of residential permits will have the additional incentive of limiting the number of permit applications.

If 1,000 resident parking permits are issued at a fee of $25 each, gross income before administration costs would be $25,000.

5.4.5 Levies

It is the purpose of a parking levy to assist in the management of demand for travel. Therefore the levy in the MAC should be of sufficient magnitude to encourage and support paid parking in the precinct and make a contribution to managing the demand for car travel.

In a report prepared for Stirling City Centre[16] the following principles were developed based on experience in implementing the Perth Parking Policy and it's applicability to the Stirling City Centre:

- The levy shall apply to existing as well as future parking in the prescribed area to ensure future development and existing development make an equitable contribution to transport improvements.
- All revenue from a parking levy shall be hypothecated for expenditure on public transport annual operating costs or for infrastructure improvements for public transport, walking or cycling.
- The levy cost shall be set at a dollar cost per parking bay and adjusted annually in accordance with annual Perth CPI, or as adjusted from time to time by the Minister for Transport following consultation with the City.
- The levy shall apply to all non-residential parking bays (on-street and off-street) within the prescribed parking area, with the following exceptions:
  - Loading bays, bays used for public transport purposes, by emergency services, or set aside for parking of vehicles used by disabled persons.
  - A parking facility that has five parking bays or fewer.

[16] Stirling City Centre Access and Parking Strategy. SKM in association with Luxmoore. July 2010

— A parking bay used solely for servicing, inspecting, repairing, fuelling or maintaining vehicles or used solely for a vehicle that forms part of a stock of a business of a motor vehicle dealer.

It was proposed that the parking levy not apply to residential parking when the levy is to be introduced. However, consideration could be given to applying the levy to residential parking in the future for residential unit owners with more than one bay per unit.

5.4.6 Prescribed Area for Parking Levy

If a levy is to be introduced, it should apply to the MAC area. As a general principle the prescribed area for a parking levy should include the area that will be well served by quality, frequent public transport.

This should include:

- the area within 1km walking distance of a train station
- the area within 600 metres walking distance of high quality public transport service. (Note: this area should only be included in the prescribed parking area for a levy, when the high quality public transport system has been introduced).

A car parking levy charge at Bayswater should be set at between $200 and $250 per bay if introduced between 2019 and 2020. However the rate of any proposed levy would need to relate to the benefit derived from the public transport improvements implemented.

5.4.7 Potential Annual Revenue from a Parking Bay Levy

The surveys in Part 1 estimated approximately 10,000 bays in the MAC area. However it is not known how many of these bays could be subject to exception from a levy (principally because an owner has five bays or fewer).

On the assumption that there are 9,000 non-residential bays in the prescribed area that could be subject to a levy, a levy of $200 per bay could raise gross revenue of $1.8 million per annum.

Assuming 15% of this revenue is consumed in administration and compliance, about $1.5 million per annum could be raised to improve public transport in the region. Over time, the revenue would increase as the MAC grows and the number of parking bays in the prescribed area increases.

5.4.8 Staged Introduction of Parking Levy

It is likely that the necessary legislative changes and set up the system would take up to two years. This time should be used to advise owners of car parking in the area that it is proposed to introduce a parking levy in the area from September 2019. This will provide owners with time to negotiate agreements with their tenants to pass on the cost of the parking levy and to ensure businesses have ample opportunity to plan for parking levy payments by including provision in budgets.

Also by introducing part way through the year, the opportunity could be taken to provide an annual discount through reducing the annual levy charge to 50% for the first year. In the following year the full cost of the levy would apply. In following years the levy could be increased in accordance with the CPI or in accordance with fee changes approved by the Minister for Transport.

5.4.9 Other parking income - enforcement

This will derive from increased enforcement at Council owned parking facilities (per Section 6.14 in Part A and from the entering into contracts for Council to enforce on private property.

Private property enforcement is already being undertaken in the MAC by private agencies who generally charge each landowner a fixed monthly fee for their services, and all infringement income received is collected and retained by the agency.

The demand for this service will expand as the City implements more proactive levels of parking management across each precinct, and spill-over occurs into private car parks. The Coventry Markets have indicated an interest in having the City enforce parking time restrictions on is facilities to discourage all day parkers and non-bona fide drivers who do not visit the markets.

Private enforcement offer the City the opportunity to not only ensure better management of parking in these privately owned areas, but will also provide the City with all of the income generated by these infringements.

While more comprehensive enforcement is necessary to better manager parking in the MAC, the objective is not primarily to generate income, but to ensure a high rate of compliance. Improved enforcement together with increased resource sand appropriate technology is likely to generate revenues in excess of $124,000[17] per annum before costs.

[17] 40 fines/week x $60 each x 52.

6 MANAGEMENT STRATEGIES – ALTERNATIVE OPTIONS TO MANAGE PARKING RESOURCES

Only few management strategies are currently being used in the MAC. When formulating a management strategy, several options and initiatives should be considered to contribute to its sustainable parking goals. A series of initiatives to reduce the demand for parking and make more effective use of the existing supply are discussed below.[18]

Bayswater does not actively manage the existing supply of parking from an asset management approach. It is essential to recognise the value of each on-street and off-street parking bays to the surrounding area's activities, as well as to the city centre as a whole. The asset should be used to support economic development, more efficient use of land, support multi-modal network with a variety of transport choices, and foster a sustainable environment with good access for all users.

6.1 Single Authority Management

There are several administrative options to manage parking more effectively and to assist in the improvement of parking capacity and operation as part of an integrated transport strategy.

Responsibilities may be vested in an existing business unit, or a department of traffic and parking or a special parking department or an autonomous parking authority.

No absolute principles exist for achieving the ideal structure to manage parking activities. Each organisational arrangement needs to be carefully matched to take account of transport and investment strategies, legal authority, political pressures and financial resources. However, responsibility for parking should strive to achieve managerial efficiency, operating and financial autonomy and accountability and to provide essential community services and plan for the community's future.

It is to the success of a sustainable parking strategy that all of the parking at Bayswater is managed by one single authority. As is typical in most local or quasi government areas (such as City of Adelaide), the separation of parking management responsibility for off-street parking, for on-street parking and for enforcement, leads to inefficient use of supply. The parking problems in most Australian cities and large activity centres are more management related than supply based.

It is therefore recommended that in the short term, all of the parking supply, allocation, administration and control at Bayswater is managed by a single authority. This will lead not only to efficiencies in costs of operation, but also to more effective shared usage, more valuable information to drivers and will optimise the use of all of the available supply.

The following considers options for parking management in Bayswater and their associated advantages (+) and disadvantages (-).

[18] With acknowledgement to Draft Commercial Precincts Car Parking Plan – Stage 1 Glenorchy (Glenorchy City 2007).

6.1.1 Internal Department

This can take a variety of forms such as:

Existing business unit or separate department

Placing parking responsibilities within an existing business unit is the simplest way to centralise parking planning, regulation, development, construction, setting fees and the operation of all public parking facilities. It is suitable for a community of more than 100,000 people.

+ focussed application of parking management strategy
+ ensures consistent approach to decision making
+ single reference point for all internal and external queries
- requires knowledge of all related Acts, Codes, Standards and Statutory guidelines
- a small resourced team is unlikely to have all necessary technical expertise

Placing all responsibility in a separate focussed and properly resourced department gives parking activities equal status with other departments. This is the case in the City of Perth with the exception of on-street enforcement which operates independently of City of Perth Parking.

Traffic and parking department

A combined department of traffic and parking has merit for Bayswater since it enables all street related activities to be brought into one unit. As the two are closely related, efficiencies of scale and sharing of expertise would normally apply with such an arrangement. The benefits of combining traffic and parking are mainly related to on-street parking, but there are many common elements in the management of off-street parking which imply that the two types should not be distinguished.

+ ensures that parking demand does not negatively impact on road access
+ facilitates proper integration of parking with street and other transportation elements
+ allows on and off-street parking to be managed and enforced
- its responsibilities are not as extensive as option (i).

This model is used in the Town of Cambridge, WA.

To a greater or lesser extent, each of the above options has the potential advantages of:

+ coordinating Bayswater's parking capacity including on-street spaces
+ regulating parking operations, fees and usage patterns
+ centralising the management of parking.

It is noted that any such department must usually compete with other departments for major capital expenditure.

Place managers

This relatively new local government concept vests a degree of authority in place managers for specific development areas. The concept is intended to make the development process

much more streamlined, but also recognises the diversity between different places and allows them to adopt different solutions. In Parramatta and Central Geelong, place managers have authority over parking planning and operations.

+ place managers focus on the specific requirements of each precinct
+ issues are resolved quickly.

6.1.2 External Authority

Parking reference group

A reference group is formed with several interested business and community stakeholders including representatives who are cognisant of parking issues. They review the parking strategy and use external specialists to assist in the planning and operation of parking facilities. Their role is primarily advisory and the setting of policy.

+ this group gives a voice to stakeholders interested in improving parking conditions
+ it has proved to be effective as a sounding board and reviewer of recommendations by directorates
- it requires interaction and communication with technical staff in the RSA/CoM business directorates
- usually focussed on the price and supply of parking
- requires a clear parking management strategy to be in place.

The City of Bunbury has an effective Parking Committee which reviews all parking associated applications and recommendations by the city. The committee is made up of councillors, staff and representatives from the Chamber of Commerce and other external stakeholders.

Parking action group

The City of Fremantle established a Parking Action Group in November 2011 to review operational parking issues within the CBD. It is a CEO working group which seeks to address inter alia the perception of lack of parking in the Fremantle CBD and behaviour change to provide free parking periods at multi-storey car parks. It seeks to encourage off-street parking and free up on-street parking availability. These changes are also aimed at providing an incentive for improved economic activity, similar to Bayswater.

Manager of parking

Irrespective of the form of a single parking authority, the role of the manager/coordinator of parking requires an understanding of the impacts of parking, an ability to educate users and developers and the need to liaise with all internal and external stakeholders. The management of parking must be responsive to many of special interest groups.

The manager will require an understanding of:

- planning requirements
- the parking strategy
- operations – Installation and maintenance of parking bays, meters and signage
- provision of parking enforcement
- finance

- reporting and data.

The focus of the Manager of Parking will be the provision of an effective and sustainable parking service to the community and co-ordinated and consistent input to all stakeholders. Income maximisation will be important but not the primary consideration.

The Manager of Parking will coordinate technical input, manage parking and provide clear authority in relation to:

- The development, management, operation, fee-setting and marketing of owned or operated on and off-street parking facilities.
- The management and enforcement of on-street parking restrictions and any associated technology, fees or signage.
- The on-going education of all decision makers and stakeholders about parking management strategies, policies and benefits.
- The monitoring of parking on private land in accordance with strategic plans, planning approvals, rules relating to cash-in-lieu and Parking Control and Management Plans.
- The enforcement of compliance with parking regulations by drivers' on-street and on owned land and on private property.
- Guidance on the identification and development of new business opportunities for Bayswater relating to car parking, including the purchase and sale of properties.

The criteria for the Manager of Parking is detailed in Appendix D.

6.2 Regulate Parking

Regulate the supply of public parking to support parking and transportation objectives. To some extent this is already being implemented, but not necessarily achieved, in a number of ways:

- Time restrictions limit the maximum time a vehicle can park in more convenient bays, to encourage turnover and shift long-term parkers to facilities designated for a longer length of stay.
- Regulating users limits the types of vehicles that may use certain parking bays. This includes loading zones, taxi zones, permit bays and bays designated for use by people with a disability.
- Specify the allocation of parking ratios for particular type of developments such as customer or staff parking (short or long-term parking). This will be achieved by the Parking Control and Management Plan (refer to Section 4.8)
- Regulate on-street parking by prohibiting on-street parking on certain routes at certain times (e.g. providing clearways on busy streets during peak periods) to increase traffic lanes.
- Favour higher value uses, e.g. service vehicles, deliveries and access for people with disabilities.

6.3 Shared Parking

Shared parking means that parking bays on the same site are shared concurrently by more than one user, which allows parking facilities to be used more efficiently. Shared parking takes advantage of the fact that most parking bays are only used part time by a particular group, and many parking facilities have a significant portion of unused bays, with utilisation

patterns that follow predictable daily, weekly and annual cycles. Efficient sharing of bays can allow parking requirements to be reduced significantly.

There are various degrees of shared parking. A reserved parking space assigned to a specific user is not shared at all. This includes loading bays, which could be shared by making them available to all drivers outside of normal business hours. Loading bays in the MAC are time limited, but drivers are not well aware that they can be freely used outside these hours. Partial sharing occurs when arrangements are made by one facility to use another's parking facilities at certain times.

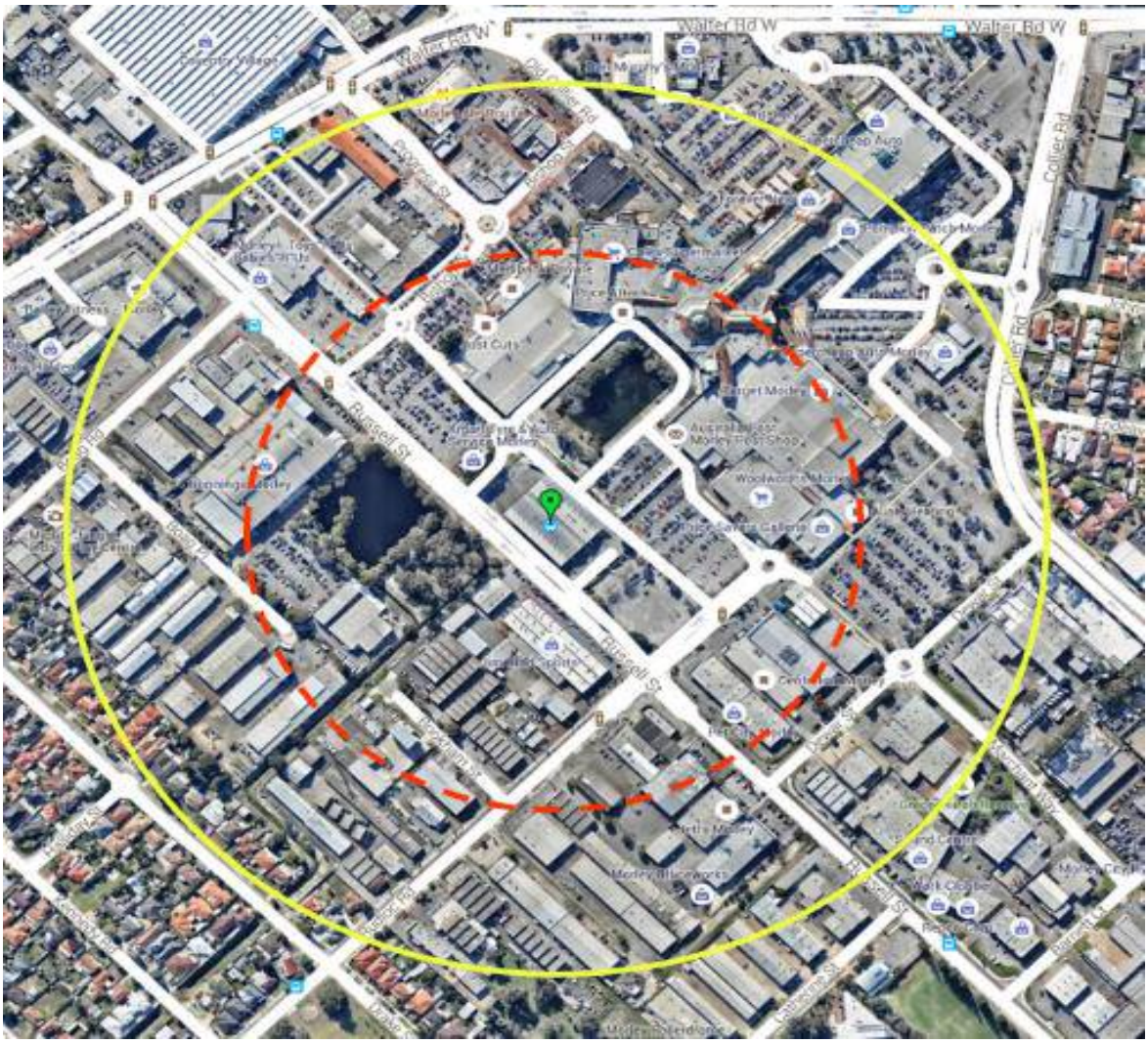
For example, opportunities for shared and reciprocal parking will be in bays in nearby apartment parking facilities which are vacant during business hours and could be utilised by local employees.

Another significant shared parking opportunity which will make more efficient use of many unused additional bays is in residential streets near train station/bus routes. For example on-street bays either side of Coode Street could be used between 8 am and 5 pm by many employees in business within a reasonable walking distance. It will of course be necessary to ensure strict compliance with the 5 pm cut-off time in order to provide unrestricted parking to local residents. Such shared use of existing bays is much cheaper and more flexible than constructing new bays.

6.4 Walking Distance

It is worthwhile to clearly indicate to all users of the Morley Bus Station the walking distance to/from their destination. Most people can walk 250 m in less than 5 minutes and 400 m in less than 10 minutes. The following map indicates a 250 m and 400 m straight line radius from the bus interchange. This information adjusted for network distance, can assist parkers to seek alternative parking areas.

Figure 6.1: 250 m and 400 m straight line walking distances from Morley bus station



6.5 Improved User Information

This involves the provision of information on parking availability using signage, brochures, maps, websites and apps (smartphone applications). Parking information and the negative messages currently available on the City's website, as illustrated in Figure 6.2, can be substantially improved and made easier to access and print for motorists.

Figure 6.2: Extract on parking from current City of Bayswater website

Parking

Ranger Services take a proactive approach to the enforcement of parking local laws within the City of Bayswater.

We deal with a variety of parking issues, including parking on footpaths and verges, vehicles noted for sale on reserves, school parking patrols, ACROD and disabled bays and timed parking around areas such as the Galleria Shopping Centre.

Rangers issue a large number of parking infringement and cautions within our boundaries each week.

Please note: as some areas relating to parking fall under different authorities, Ranger Services are not always able to attend. This includes areas such as private property and railway station car parks, which are the responsibility of the Public Transport Authority.

Issues of parking on private property can be resolved by entering into either a Private Parking Agreement or a Verge Parking Agreement with the City of Bayswater. As these fees and charges are subject to change, please contact Ranger Services on 9272 0972 if you would like to find out more.

The City no longer has the old registered lawn system – this has been replaced by the verge parking agreement. Again, please contact Ranger Services on the number shown above.

There are also opportunities to provide real-time information on the location of available parking bays although providing this information can be difficult and expensive. Good parking information tends to reduce motorist delay and frustration, and increase the satisfaction of drivers visiting and parking in an area. An example of good practice in the provision of positive parking information is the City of Bunbury website www.bunbury.wa.gov.au.

6.6 Encourage Use of Remote Parking

This involves encouraging long-term parkers to use off-site or at-fringe parking facilities through regulation and pricing for example at car park no. 080. It can free up significant quantities of parking for short-term visitors to a commercial centre.

6.7 Pedestrian Improvements

Pedestrian improvements to paths and footpaths, creating or improving shortcuts, ensuring weather protection through continuous building awnings and street trees, pedestrian crossings and addressing security concerns, all contribute to increasing the range of parking facilities that can serve as a destination if they create a safer and more pleasant experience for users. Principles of crime prevention through environmental design (CPTED) can help create more open and pedestrian-friendly streetscapes.

6.8 Access Management

Access management refers to improved coordination between roadway design and land use to reduce traffic problems. It results in fewer driveways and improved pedestrian connections by converting car-orientated strip development into more clustered development, and allowing for shared parking to occur. Examples of poor access management are the adjacent multi-lane driveways off Boag Road.

6.9 Overflow Parking Plans

This involves developing plans to deal with occasional periods of high demand (e.g. peak retail sales periods or Saturday morning demand at the Morley Recreation Centre). The plans may include prioritising the use of parking (e.g. for parents with children), information for motorists on where to find additional parking, the provision of free shuttle bus services between remote parking and the destination and special programs to encourage the use of alternative travel modes. The development of overflow parking plans can be a quick and cost-effective solution to occasional parking problems.

6.10 Flexible Pricing Parking

Parking prices should be structured to achieve particular objectives, e.g. more convenient parking bays priced to favour customers and clients, other parking priced to favour long-term parkers (refer to Section 8). Flexible parking pricing is an effective demand management measure. It involves setting different fee structures at different times to manage different types of demand. It addresses parking congestion problems and supports objectives to reduce private vehicle travel. It typically results in parking demand reduction as well as reducing traffic volumes. It can be used to some extent by the City in some streets where the time restrictions and fee structure can be different at night and on weekends in response to changing demand patterns. A flat fee could be available in these areas after 4 pm and on weekends.

6.11 Parking Taxes

Special parking taxes or levies can be used to reduce total parking demand, create a disincentive to drive and raise revenue. Although these schemes have encountered considerable opposition from the private sector, in many cities such as Sydney, Melbourne and Perth however, where the income from the tax has been transparently hypothecated to improving public transport (e.g. the Perth central area transit bus) the levy has been more acceptable to owners of parking bays.

Changing tax policies to support parking management objectives typically results in parking demand reduction as well as reducing traffic volumes. The introduction of these will require new legislation.

6.12 Alternative Employee Benefits

This means that employees in MAC are offered an alternative to parking subsidies, which is an effective way to reduce parking demand. Options could include:

1 Parking cash out means that employees are offered the cash equivalent if they regularly use alternative travel modes. The system is offered by the City of Subiaco to its employees.

2 Travel allowances are a financial payment to employees to cover commuting costs instead of using free parking. Employees can use this money towards the cost of another travel mode.

These types of solution can be implemented by the City as part of employment contracts with staff and encouraged in the private sector as workplace travel planning initiatives. They could also be used by developers completing the Parking Control and Management Plan.

6.13 Reduce Parking Supply

Reducing the physical capacity of parking supply can be achieved in many ways and can help to achieve strategic transportation and land-use objectives.

Specific strategies for reducing parking supply (some of which are described above) include:

- reducing the minimum parking requirements in planning schemes and development policies
- reducing minimum parking requirements for developments in more accessible locations, such as near bus stations, in areas with good walking facilities, etc.
- reducing minimum requirements if developers install travel demand management programs
- using cash-in-lieu to fund shared parking instead of each site having its own off-street parking
- limiting the maximum amount of parking that can be built, either at individual sites, or by establishing a cap on total parking in an area.

6.14 Compliance

Parking restrictions throughout the City are enforced by a team equivalent to 5 FTE officers none of whom is dedicated to parking enforcement. They undertake many roles including traffic management at schools and enforcement at some private car parks and are responsible for inspecting more than 807 Council parking bays.

In most parking facilities in the MAC the current system of monitoring compliance is inefficient. The system whereby a parking enforcement officer must patrol an area twice in order to firstly chalk mark a tyre and then return one or two hours later to check the tyre, is an expensive use of labour resources. The efforts of the officers are often thwarted by technology such as email and SMS, which allow long-term users (e.g. employees) of short-term bays to shift their vehicles.

Increased compliance is not a reason for expanded implementation of parking meters, but it is certainly a benefit as it allows an enforcement officer to patrol once and to easily determine whether a vehicle has parked in excess of any time restrictions.

The current $60/$80 fine for overstaying the time or contravening other parking restrictions is a sufficient deterrent for many drivers. Surveys have not been undertaken on the level of compliance with parking restrictions. These should be undertaken to assess the effectiveness of the parking enforcement regime. The benefit of more efficient and simplified parking enforcement is the creation of additional capacity and improvement in the churn of on-street parking bays.

As enforcement is already being undertaken by private enforcement companies at some sites, the City should consider charging a fee for monitoring compliance on private property. It is also worthwhile to consider a reciprocal monitoring arrangement whereby private parking is permitted to be used by any user outside of business hours.

6.15 Parking 'Caps' and Maximum Parking Standards

Minimum parking ratios are generally set in isolation of broader policy objectives. In their current form they do not explicitly take into account accessibility by alternative modes of travel and other factors that might reduce demand for travel by car. Consequently, they may encourage an oversupply of parking and the use of cars in locations where good alternatives exist.

While it is generally recognised that parking ratios need to be reviewed, the possible replacement of minimum parking ratios with maximum (permitted) parking standards (parking caps) for new developments does not appear to have been given very much detailed consideration in the Perth Metropolitan area[19].

Maximum standards (without any associated minimums) are a more market-driven approach as they permit developers to determine how much parking they wish to provide in a new development up to the maximum amount. Over time, and as a longer term goal, replacing minimum parking standards with maximum standards would reduce the incentives to the use of the car resulting from the oversupply and underpricing of parking. It is likely to be most appropriate for those centres where public transport offers a good alternative to the car. It should however be noted that parking maximums are not compatible with cash-in-lieu as developers are no longer required to provide parking for the land uses concerned.

6.15.1 Parking Caps

The current approach to development applications in the MAC sets minimum parking ratios based on measures such as the net floor area of the proposed development. The overall capacity of the road network providing access to the MAC and especially the central core precinct has not yet been taken into account.

Scenarios of increased traffic associated with potential increased development in the MAC and the impact of providing parking based on the current parking ratios and new reduced ratios have been examined by Cardno[20]. The forecasts in Section 9.1 of Cardno's report, based on future trip generation and traffic growth, clearly indicate that it will be necessary to limit parking supply in this precinct.

Setting a cap (maximum) on the supply of parking within the core precinct is an appropriate parking management and supply policy for the City.[21]

Uloth has recommended maximums in their Transport Assessment Report for MAC.[22]

6.15.2 Maximum Parking Standards in Other Councils

In Rockingham, the initial Rockingham Village Policy included a proposed parking policy with a combination of minimum and maximum parking standards plus cash-in-lieu, although the approach has since been replaced with minimum standards (combined with compulsory cash-in-lieu for a proportion of the required parking).

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19 Data Collection and Audit of Parking Provisions and Management in Perth Metropolitan Centres – Dept for Planning and Infrastructure ARRB Report, 20 Oct 2009. Section 2.4.

20 Morley City Centre Transport Assessment, Cardno August 2013.

21 Discussed further in this Luxmoore report in Section 15.4.1.

22 Morley Activity Centre Structure Plan – Transport Assessment Report. Uloth and Associates 30 May 2016 at Section 7.2

The Access and Parking Strategy[23] for the proposed Stirling City Centre found that if a restraint on parking supply is not applied, it will be necessary to significantly limit the floor spaces and dwelling units to below that currently envisaged.[24]

The Strategy for the Stirling City Centre proposes that the maximum amount of parking on all land within the city centre be regulated on a hectare-of-land basis similar to the City of Perth's Parking Policy regulations. The Strategy recommends a maximum of 250 bays per hectare and 200 around the Stirling train station.

Maximum parking standards have been introduced in the UK, and are included in the recently published Auckland Regional Parking Strategy (ARPS) where they apply only to non-residential development in the designated high density (mixed use) commercial centres and corridors. In the latter case it has been suggested that maximum parking standards initially be set at the same level as current minimum standards for the land uses concerned. According to the ARPS, maximum standards should be introduced as an integral part of the implementation of a comprehensive parking management plan for each commercial centre concerned.

Recommended

In order to achieve an appropriate level of parking supply in some precincts, mandatory maximum and minimum parking requirements will be necessary.

Regulations relating to the provision of parking are to include measures to maximise the use of all non-resident parking for the public as shared parking, and the expansion of time limited and pay for parking to encourage turnover (churn) of bays.

A maximum is to be set on the total supply of parking in the central core precinct. Additionally, parking maximums are to be established for residential and non-residential developments in other precincts.

Further clarification and recommended maximums for each precinct is provided in Part B of this report.

[23] City of Stirling – Stirling City Centre Access and Parking Strategy – SKM, 13 Aug 2010.

[24] City of Stirling – Stirling City Centre Access and Parking Strategy – SKM, 13 Aug 2010, at p.2.

7 PARKING RATIOS

There are 14 parking ratios currently applicable to the MAC as set out in TPS 23 and Table 7.1.

Table 7.1: Car parking ratios

City of Bayswater Town Planning Scheme No 23
Morley City Centre Scheme

TABLE 1: CAR PARKING REQUIREMENTS

Development	Minimum Car Parking Spaces Required
Residential	In accordance with the R Codes
Offices	1 per 25m² NLA
Medical Centre, Consulting Rooms	4 bays per practitioner plus 1 bay per staff member
Shop, Convenience Store, Markets	6 bays per 100m² NLA
Hotel, tavern	1 per 5m² of bar and public area plus 1 per bedroom
Restaurant	1 per 10m² of NLA
Research & Development	1 per 25m² NLA
Cinema, theatre, hall, Cultural/Arts Centre, club premises	1 per 5m² of auditorium area
Child Care Centre	1 per 8 children attending, 1 per 2 staff members
Fast Food Outlet	1 per 10m² NLA
Recreation Facility	1 per 10m² NLA
Service Station	8 bays
Showroom	1 per 30m² NLA
Warehouse, Factory	1 per 50m² NLA

7.1 MACSP

Section 7.2 of the MACSP deals with 12 statutory parking requirements at pages 7–8 and as shown in Table 7.2.

Parking

7.2.1 Car parking and bicycle parking shall be provided in accordance with Table No. 2.

7.2.2 Where the discretion of the local government is required in Table No. 2, the local government shall determine the parking rate having due regard to the following:

a) The provision of parking for similar land uses in this Structure Plan area;
b) The availability of public parking in the vicinity of the subject site; and
c) The objectives of this Structure Plan.

7.2.3 To establish parking rates for a use which is not listed in Table No. 1, the local government may:

a) Determine that the use falls within one of the categories listed in Table No. 2 and apply those parking rates accordingly; or
b) Determine parking rates at its discretion having due regard to the factors listed in Clause 7.2.2 of this Structure Plan.

For each of the other Precincts car parking and bicycle parking shall generally be in accordance with Section 7.2 of the MACSP with some precinct specific requirements in regard to access and location of parking on the site. (Sections 9.9, 10.8, 11.8, 12.6 and 13.7).

Table 7.2: MACSP Table 2 – Car parking and Bicycle parking standards

LAND USE	MINIMUM CAR PARKING REQUIREMENT	BIYCYCLE PARKING REQUIREMENT	
		Minimum Employee Spaces (Long Term)	Minimum Visitor Spaces (Short Term)
Residential	As per Residential Design Codes	As per Residential Design Codes	As per Residential Design Codes
Short Term Accommodation	1 bay per 4 beds provided	1 per 40 bedrooms	2 spaces
Community Uses	At the discretion of the local government	At the discretion of the local government	At the discretion of the local government
Education	1 bays per 10 students	1 per 5 students over year 4	N/A
Retail	1 bay per 25m² NLA	1 per 300m² NLA	1 per 500m² NLA
Office	1 bays per 50m² NLA	1 per 200m² NLA	1 per 750m² NLA
Entertainment	1 bay per 25m² NLA	1 per 4 staff members	1 per 200m² NLA
Dining	1 bay per 25m² NLA	1 per 100m² NLA	2 spaces
Recreation	1 bay per 20m² NLA	1 per 4 staff members	1 per 200m² NLA
Health	3 bays per practitioner plus 1 bay per staff member	1 bay per 400m² GFA	1 bay per 200m² GFA
Bulky Goods, Showrooms and Services	1 bay per 50m² NLA	1 per 750m² NLA	1 per 1000m² NLA
Industrial	1 bay per 50m² NLA	1 per 150m² NLA	N/A

Notes:
1. *On site parking requirements to be rounded up to the nearest whole number.*
2. *'Staff member' and 'practitioner' relates to the full-time equivalent.*
3. *NLA = Net Lettable Area*
4. *GFA = Gross Floor Area*

Specifically, the MACSP provides for minimum parking rates less than those in TPS 23. Modified parking rates as proposed in MAC Structure Plan[25] (Ref 14.3) have been adopted by the City. Table 17.1, Action 6.1.1 recommends no more than 20% excess parking above minimum standard.

[25] Morley Activity Centre Structure Plan, City of Bayswater Vision, April 2015.

8 PAY PARKING

8.1 General Principles

Pay parking is one of the most effective ways of influencing parking and travel demand. Pay parking can influence parking location, destination, mode, travel time and, in particular, parking duration. The impacts vary depending on the price structure and the relative convenience of alternative parking facilities and modes.

As pay parking generally results in reductions in car use and traffic congestion among other environmental benefits, it is one of the essential transport measures necessary to ensure the long-term viability of commercial centres.

Pay parking increases equity by charging users (user pay) for their parking costs and by reducing the parking costs imposed on non-drivers. Paying directly rather than indirectly benefits consumers because it reduces parking and traffic problems and allows individuals to decide how much parking to purchase giving them an opportunity to save money. Drivers may use a space as long as they want, as long as they are prepared to pay for it. Several attendees at the stakeholder workshop indicated expansion of pay parking areas as an acceptable method of management of scarce parking facilities.

8.2 Pay Parking Objectives

It is important to define the objectives for pay parking in order to determine how fees will be structured:

- For traffic management – peak period fees should be high enough to encourage a shift in travel modes or times.
- For parking management – fees during peak demand periods and at the most convenient locations should be high enough to generate a maximum 85% occupancy rate. If prices are too low, parking becomes saturated causing motorists to cruise around in search of a space. The target is to ensure that at times of peak demand, 15% spaces (one in seven) are available.

8.3 Guidelines to Efficient Pay Parking Pricing[26]

The following guidelines are separated into what is currently implemented and what should be implemented in the future in the City.

8.3.1 Currently Applied in the City

Currently there is no pay parking in the City.

8.4 Private Parking Areas

The introduction of pay parking is expensive requiring specialised control and ongoing monitoring. Once the City develops expertise for its on-street parking facilities, these capabilities should be offered to small, privately owned car park owners that wish to provide better management of their parking and minimise abuse by unauthorised parkers. As better managed parking will create greater availability of spaces for private drivers, consideration should be given by the City to charging a fee for these services.

[26] With acknowledgement to Todd Litman "Parking Management Best Practices" American Planning Association 2006.

Recommended

The City is to gradually introduce pay parking based on regular and comparative surveys of usage. Pay parking fees are to be structured to favour short-term users and encourage a high churn of spaces.

8.5 On-street Parking Management

On-street parking plays an important role in the effective functioning of commercial centres and access to residential areas. Many businesses rely on on-street parking to provide access for their customers and meet their loading requirements. On-street parking also caters for specific uses such as dedicated space for taxis and mobility parking for people with impaired mobility.

On-street parking management broadly consists of the following:

- **Unrestricted**: where there are no limitations on parking
- **Time restricted**: with a range of time limitations and enforcement used to ensure compliance
- **Reserved parking**: reserved for a certain type of user, such as mobility card holders, or taxis, or for loading zones
- **Priced parking**: with varying rates applying sometimes alongside a time restriction.

Table 8.1 outlines types of parking restrictions that will be used by the City. There is also a description on where and why each restriction is used.

Table 8.1: Types of parking restrictions and their policies

Restriction	Description	Policy
▪ Loading zones	Parking areas designated solely for loading or unloading goods or passengers This includes: general purpose loading zone goods vehicles only loading zone	▪ Loading zones will be provided in convenient locations to serve local business, commercial and retail activities ▪ Goods vehicle loading zones are designated for vehicles of any size, weight and usage that deliver goods in the course of trade ▪ Goods vehicle loading zones should be used in areas of high parking demand and a high density of retail and commercial premises ▪ General purpose loading zones should be used in all other areas where there is a general need for loading or unloading ▪ All loading zones will have a time restriction. This is usually five minutes. A user may stay longer than the time restriction if observed to be in the activity of loading or unloading ▪ Loading zones should be avoided in angle parking bays to prevent larger vehicles overhanging into the carriageway

Restriction	Description	Policy
ACROD parking	Parking areas reserved for the exclusive use of vehicles displaying a valid ACROD parking permit A valid ACROD parking permit must be displayed at all times in the vehicle while it is parked in a ACROD parking space	▪ Provide ACROD parking which is physically accessible, affordable and safe to use ▪ ACROD parking should be provided, where practical, in angled parking as a preference to parallel parking spaces to enhance safety and accessibility ▪ Time restrictions should be applied to ACROD parking spaces ▪ In general, ACROD parking will not be provided if there are existing and available ACROD parking spaces within 200 m of an accessible route to the destination ▪ ACROD parking spaces will only be considered in commercial and mixed use areas. As a general rule ACROD parking will not be provided in residential areas ▪ Vehicles displaying a ACROD parking permit can remain in time restricted on-street parking spaces for double the posted time. This concession does not apply to areas where the time restriction is longer than P120 ▪ In all on-street paid parking areas vehicles displaying a ACROD parking permit are given one hour free parking upon payment of the minimum tariff e.g. if a pay and display receipt shows parking is paid until 10:15am, then a ACROD card holder can stay until 11:15 am ▪ A consistent zero tolerance approach will apply to the illegal use of ACROD parking spaces. Offending vehicles will be ticketed
Motorcycle parking	On-street parking set aside for exclusive use of motorcycles or motorised scooters	▪ Motorcycle parking will sometimes be provided in on-street space that is not suitable for regular car parking ▪ Long-stay motorcycle parking should be encouraged in off-street parking buildings ▪ On-street motorcycle parking may be time restricted or priced to prioritise short-term parking ▪ Pricing may be introduced to manage high demand. The price to park in on-street motorcycle parking spaces will be less than for a car in recognition of the lower impact on congestion and kerbside space ▪ Motorcycles are not allowed to park on the footpath
Taxi/ride share stands	On-street parking reserved for the exclusive use of taxis or ride-share vehicles (Uber)	▪ Taxi/ride share stands are considered where there is high public demand for taxis/ride share. Any new t stand must be no closer than 400 m from an existing taxi stand ▪ The length of taxi/ride share stand should reflect the turnover of the space but generally stands should be kept to less than three car lengths ▪ Taxi/ride share stands should not be located adjacent to bus stops and loading zones as the taxis/ride share vehicles will creep into this space. Where possible stands should be located in a separate parking bay where no creep can occur ▪ In general, taxi/ride share stands will not be considered in residential streets

Restriction	Description	Policy
Car share parking	On-street parking reserved for car share operator's vehicles	▪ Car share organisations must have membership available to all local residents and businesses, and 24-hour booking systems ▪ The City will support approved car share organisations by providing dedicated on-street parking spaces ▪ The City reserves the right to charge for the establishment and on-going provision of on-street car share parking spaces ▪ Car share organisations may be required to regularly report back to the City on the uptake and membership in each area that car share parking spaces are installed
Car-pool parking	On-street parking reserved for vehicles carrying two or more occupants This is sometimes referred to as High Occupancy Vehicle (HOV) parking	▪ Car-pool parking is often provided in Park and Ride car parks or on-street parking adjacent to high-frequency public transport stations to encourage carpooling and obtain greater benefit from the parking space ▪ Car-pool parking should be provided at convenient locations to further encourage carpooling ▪ Vehicles must be carrying two or more occupants when parking to comply with the carpool restriction. The vehicle may have one occupant when exiting the parking space
Time restrictions	General parking space whereby a maximum permitted time is posted Parking time restrictions are used to encourage turnover in areas that experience high parking demand	▪ There should be some consistency with the time restrictions used around the City to allow for greater legibility ▪ The following time restrictions should be used: P5, P15, 1P , 2P, 3P ▪ 2P is recommended for shopping high streets where paid parking is not suitable ▪ Longer time restrictions such as 3P are suitable for the fringes of a commercial centre ▪ Time restriction above three hours should be avoided as they are difficult to enforce
Bicycle parking	Space reserved for bicycles provided within an on-street parking space or on the footpath	▪ Bicycle parking in place of car parking can provide a vastly more efficient use of the parking resource. Typically 10 bicycles can be parked in a standard car space ▪ Bike parking infrastructure will be prioritised in commercial centres and in locations that support public transport use such as transport interchanges and rail stations

8.6 Off-street Parking Management and Intervention Triggers

The management of off-street parking facilities is designed to align with the City's strategic objectives, which are focussed on a mode shift towards public transport to help minimise traffic congestion. To achieve this, the City's policies should prioritise short-stay parking over employee and commuter parking and achieve a consistent approach to setting parking rates.

Public off-street parking provides an important shared parking resource that ultimately results in less overall parking compared with individual sites providing for the parking demand.

Two main parking regimes apply to the management of off-street parking:

- Long-stay commuter parking provides parking for the working day. Commuter parking travel generally occurs during morning and evening peak periods.

- Short-stay parking involves the provision of parking for shorter duration activities, such as shopping, entertainment, personal or business visits. Short-stay parking travel generally occurs outside peak periods.

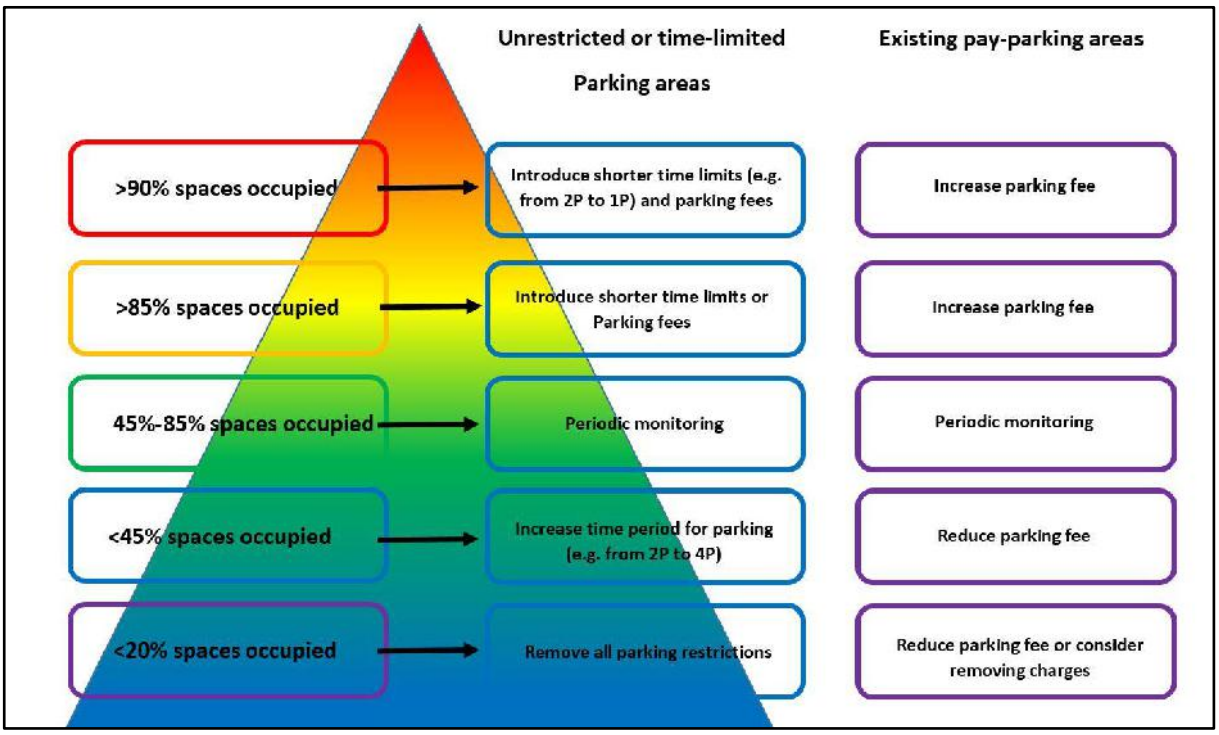
As with on-street parking, a proactive management approach to off-street car parking is proposed. Most off-street parking under the control of the City acts as an extension to on-street parking and forms part of the overall parking supply in a precinct.

Figure 8.1 provides the trigger points where a new parking management control will be recommended to manage an increase in demand for parking. However, areas that experience low-demand, or no change in demand, and don't reach the trigger points, will not require any change.

It is recommended that where parking demand is high, the City should apply various parking restrictions to achieve a target peak occupancy rate (the average of the four highest hours in a day) of 85% for off-street parking in accordance with the Parking Framework in Figure 8.1.

This means that the parking resource is well used but people can still easily find a space, thus reducing congestion and frustration. When peak parking occupancy is regularly above 85%, a change to the parking management approach is recommended.

Figure 8.1: Parking framework



8.7 Parking on Residential Streets

It is important to note that on-street parking on residential streets is part of the public road that is under the jurisdiction of the City.

Some residents have given the City feedback that they are increasingly being impacted by commuter parking in their streets. Residents may propose residential permit schemes to manage the parking pressures.

8.7.1 Increasing Intensity of Land-use and Parking Demand

1 **Residential parking zone**: this approach is to be used in older suburbs where parking demand is high across a larger area and many properties have limited off-street parking. Applying restrictions across a larger area is more effective in reducing the commuter parking problems.

2 **Apply time restrictions to sections of a street (approximately 25%)**: this approach should be used when the parking problems are limited to a few streets and most of the properties have off-street parking. It will initially be used in residential streets around some public transport stations. Typically 2P time restrictions are used and no permits are issued under this approach.

8.7.2 Residential Parking Zones

Residential parking zones will have a time limit across the zone to prioritise short-term parking and deter commuter parking. Residents will be able to purchase parking permits to allow an exemption to the time restriction. Due to the permit applying to the zone it doesn't guarantee a parking space in the residents street and there will be a cap on the total number of permits available (as a percentage of overall spaces within a zone) to ensure that the scheme is sustainable.

To cater for local businesses, residential visitors and tradespeople, there will be the ability to pay for a full days parking within a residential parking zone. A residential parking zone will also free up parking space for customers of local businesses. The daily price will be adjusted either up or down using the principles of demand responsive pricing.

8.7.3 Parking Permit Allocation and Fees

When consulting on the introduction of a residential parking zone the City should invite expressions of interest to determine likely parking permit demand. Parking permits will then be allocated based on a priority system. One permit will be allocated to each priority category before issuing a second permit. This will continue if required until the total cap on permits is reached.

Parking permits are for residents in the applicable area and proof of address and registration details will be required. Residential parking permits will be issued on an annual basis. The fee for parking in a residential parking zone will be set to recover the costs of administering the scheme including regular enforcement.

8.7.4 New Developments

To protect the sustainability of residential parking schemes, new developments within residential parking zones should not be eligible for parking permits. This will avoid developers passing on the costs of providing parking to ratepayers. Developers and new residents associated with new developments have a responsibility to ensure they have sufficient off-street parking to meet their needs.

The City should prepare information to assist developers, new buyers and tenants in understanding the new restrictions.

8.7.5 Technology and Enforcement

The City should make use of new technology to ensure that residential parking zones remain an effective solution for managing parking demand and reducing the impact on residents.

The linking of permits to vehicle registration reduces the potential for misuse and allows for the implementation of technology, such as licence plate recognition (LPR) cameras for enforcement. LPR consists of an in-vehicle camera that reads and recognises each vehicle's licence plate. LPR can identify whether the vehicle has overstayed the time restriction and if the vehicle has a permit. LPR therefore has the potential to become a key element of an effective, automated enforcement system that protects permit holders.

The City should implement new technology to transform the customer experience and allow for effective management of residential parking schemes.

8.7.6 Implementing Residential Parking Zones

The implementation of a residential parking zone should be considered when:

- parking occupancy is regularly above 85% occupancy at peak times
- multiple requests are received for a parking zone.

A residential parking zone should have the following components:

- a time restriction across the zone, typically two hours
- restrictions will apply at different times depending on the specific situation, but typically Monday to Friday (excluding public holidays)
- the number of residential permits will be capped at a percentage of the total number of parking spaces
- parking permits will be issued based on priority
- a daily parking charge with an exemption to give local residents and their visitors the ability to stay longer than the time restriction
- residents will receive 50 free days per year for visitors.

9 CASH-IN-LIEU

Many cities give developers the option to pay a fee in-lieu of providing the required number of parking bays imposed by parking ratios. Cash-in-lieu is particularly beneficial when parking needs to be limited.

9.1 Benefits of Cash-in-lieu

Cash-in-lieu provides many benefits (as summarised by Shoup[27]):

Flexibility: Developers gain a new option. If providing all the required parking bays on-site would be difficult or too expensive, developers can pay the cash-in-lieu fee instead of constructing bays.

Shared parking: Public parking bays built with cash-in-lieu revenue allow shared use among different sites whose peak parking demands may occur at different times (e.g. a bank and a bar), and fewer bays are needed to meet the combined peak parking demands.

Park once: When all businesses have individual parking bays (as is currently the case in the MAC), they want only their own customers to park there. Once customers have left the premises, the owners want them out of the parking bays as soon as possible, requiring the customers to drive to another parking area in order to make a second stop in a nearby business. Shared public parking allows drivers to park once and visit multiple sites on foot, thereby reducing vehicle traffic and increasing pedestrian traffic.

Consolidation: Some cities also allow developers and property owners to pay cash-in-lieu fees to remove existing required parking bays. This option consolidates scattered parking bays, assists infill development, improves urban design, and encourages conversion of parking areas to higher-and-better uses that provide more services, yield more revenue, and employ more people. All property owners, not just developers, can use more of their land for buildings and less for parking.

Fewer variances: Where providing the required parking is difficult, developers often request variances to reduce the parking requirements for their sites. These variances weaken the general plan, require administration, and can create unearned economic windfalls for some developers but not others. By making fewer variances necessary, cash-in-lieu fees allow cities to create a level playing field for all developers.

Better urban design: Parking requirements typically result in at-grade parking for smaller buildings that cannot support the expense associated with providing their own deck parking. Because cash-in-lieu fees allow businesses to meet their parking requirements without on-site parking, they allow continuous storefronts without ‘dead’ gaps created by parking or parking driveways. Public parking structures consume less land than would be required if each site provided its own on-site parking, and cities can place the structures where they interfere least with vehicle and pedestrian circulation. The cash-in-lieu policy thus contributes to a better-looking, safer and more walkable environment.

True value: Another important purpose of cash-in-lieu is that it reveals the high cost of providing parking bays especially if they will be subject to a low parking fee or are expected to be provided at no charge. Developers have the choice to pay for or provide their own parking and the flexibility to charge a fee for its use, or provide it for free. Note that

[27] The High Cost of Free Parking by Donald C Shoup. American Planning Association 2005. Chapter 9 at p.231.

developers who pay the cash-in-lieu do not subsidise the commercial centre, and the commercial centre does not subsidise developers. Instead, developers subsidise parking.

9.2 Concerns

It is recognised[28] that there are drawbacks to cash-in-lieu. However, developers' concerns as well as potential solutions are summarised below:

Lack of on-site parking: Parking is a valuable asset for any development, and a lack of on-site, owner-controlled parking can reduce a development's ability to attract tenants and customers and thereby reduce the value of the investment. This may be a valid objection, but its solution is simple: developers can provide the required parking rather than pay the cash-in-lieu fee.

High fees: Cities may not build and operate parking facilities as cheaply as the private sector. Cities may pay extra to improve the architectural design of parking structures and these higher costs may increase the cash-in-lieu fees. Although this might happen, most cities set their cash-in-lieu fees lower than the full cost of providing a public parking space.

No guarantees: Cities use the cash-in-lieu fee revenue to finance public parking, but they do not guarantee when or where the bays will be provided. To address this concern, some cities build the public parking first and accept cash-in-lieu fees only for the number of public bays already provided. The cities then use the cash-in-lieu fees to retire the debt incurred to finance the bays. Other cities, such as the City of Vincent, are obliged to refund the in-lieu fees if they have not built the public parking within a certain time. Cities can also allow developers to defer payment of the cash-in-lieu fees until the public parking bays are built.

Fewer parking bays: Cities use cash-in-lieu fees to finance public parking bays, but they do not commit to provide one public space for every private space not provided. Often they provide fewer. Some provide two public parking bays for each three cash-in-lieu fees paid. When this happens, the cash-in-lieu programs reduce the total number of parking bays. A smaller parking supply may lead to fewer customers and put businesses at a competitive disadvantage. There are two responses to this last concern. First, the more efficient use of shared public parking enables a smaller parking supply to meet the combined peak parking demand. Instead of many individual parking areas being underused much of the time, the city has fewer but larger parking facilities used throughout the day. Second, if the city collects cash-in-lieu fees to finance public parking bays instead of granting variances to reduce parking requirements, the cash-in-lieu policy actually increases the parking supply.

9.3 Options for Calculation of the Fee

There are two basic approaches to setting cash-in-lieu fees. The first is to calculate an appropriate fee on a case-by-case basis for each development or change in land use. The second is to charge a uniform fee for all projects. The case-by-case approach is complicated, time consuming and expensive to administer. It also creates uncertainty for developers.

The issue that then needs to be addressed is the actual fee.

[28] The High Cost of Free Parking by Donald C Shoup. American Planning Association 2005. Chapter 9 at p.232.

9.3.1 City of Bayswater

Cash-in-lieu payments, received by the City to 28 February 2017 amount to $193,000. This will not fund the supply of many parking bays if land must be purchased. Even where land is already owned by the City, this will not fund more than a few bays in a deck car park.

9.3.2 Use of Formula

The following formula is proposed for the calculation of the fee in Bayswater[29].

$$C = (A1 \times (((A2/A3) \times A4) + (A5 \times A6)))$$

The six variables for the formula are set out in Table 9.1. It requires a land value for each precinct and a construction cost per space. The land value should be based on a valuation for each precinct set by the City every 2 years.

Table 9.1: Variables for formula

Variable name	Unit	Variable description
C	$	Total cash-in-lieu contribution
A1	spaces	Number of parking spaces required under planning scheme which are not being supplied
A2	m^2	Land area per space
A3	levels	Number of building levels (including parking levels)
A4	$/$m^2$	Land value per m^2
A5	m^2	Floor area per parking space
A6	$/$m^2$	Construction cost per parking space

9.4 Options for Bayswater

The City has several options to raise funds for the construction of shared parking in existing developed areas:

- amend the cash-in-lieu formula to exclude land costs as it varies from location to location and requires regular valuations
- charge a fee based on land and construction but with significant discounts (up to 50%)
- implement compulsory cash-in-lieu for all new developers merits based on construction only
- offer a discount on the true cost. This varies from nil to 30% (Stirling City Centre) to 50% (Subiaco)
- offer 80% of the true land and construction cost for 50% of the bays claimed as cash-in-lieu, and then at the construction cost only for the remaining bays claimed. This will encourage developers to build less bays
- allow Council discretion to discount the cash-in-lieu fee (based on true land and construction cost) from a minimum 20% to a maximum of 50% subject to specific criteria.

[29] ACT Government, Parking Supply Option Study, Luxmoore Parking Consulting Report No. 001239, 24 May 2010.

The value of the land should be obtained and provided by the developers prior to lodging an application, together with the provision of details of the incremental cost per parking bay (provided by a registered quantity surveyor).

It would be practical for the fee to be discounted by the City to a maximum of 50%, subject to the development meeting any of the following criteria:

- The developer can show access to alternative options to accommodate the transport access requirements of those potential users of the development for whom on-site parking will not be provided.
- There exists adequate provision for car parking in the proximity of the proposed development.
- The development will contribute significantly to the streetscape and will encourage the upgrading of the locality.
- The City is satisfied that public transport facilities are available to satisfy the transport access demands of employees, residents and visitors to the development.

This discount would provide a benefit to both the City and the developer, and thereby encourage investment.

Note: A developer shall not receive the benefit of both a reduction in the parking ratios and the discount on the cash-in-lieu fee. The city may grant a reduction of up to a maximum of 50% either under the planning ratios or under cash-in-lieu but not both.

9.4.1 Compulsory Cash-in-lieu

Another option is to implement compulsory cash-in-lieu for all new developments as recommended for the new Stirling City Centre where parking supply will be severely constrained by the capacity of the road network. For the Stirling City Centre, SKM[30] in association with Luxmoore Parking Consulting proposed the following principles for cash-in-lieu:

- All cash-in-lieu revenue shall be hypothecated for improvements to transport infrastructure for public transport, walking or cycling, or for the provision of public parking within the city centre.
- The cash-in-lieu payment shall be based on a proportion of the cost of provision of a parking bay, including the cost of land.
- The benefit of the cash-in-lieu payment shall increase as the level of on-site parking is decreased in a manner that ensures the overall cost to the developer is reduced.

9.4.2 Residential Cash-in-lieu

Cash-in-lieu for each residential dwelling in the Stirling City Centre is proposed to be based on a fixed cost and a variable cost. The costs will be taken as a proportion of the discounted cost of a parking bay and indexed each year. It is proposed that two charges are introduced:

- A fixed cash-in-lieu is based on 10% of the discounted cost of a parking bay.
- A variable cash-in-lieu, which increases as the amount of parking provided decreases below 1 bay/unit. The cash-in-lieu payment to be set at 30% of the cost saving from the reduced level of parking provided, e.g. if 0.6 parking bays/unit is provided on site, the

[30] Stirling City Centre Access and Parking Strategy PB50196. SKM 13/08/2011.

variable cash-in-lieu is calculated at 0.4 bays of the discounted indexed cost of a parking bay.

9.4.3 Non-residential Cash-in-lieu

Cash-in-lieu for non-residential development in the Stirling City Centre would contain a fixed and a variable component:

- A fixed cash-in-lieu payment to be set at 50% of the discounted cost of a parking bay[31].
- A variable cash-in-lieu which increases as the amount of parking is reduced below the maximum level of parking permitted. The variable cash-in-lieu payment is to be set at 50% of the saving from the reduced level of parking at the discount rate.

9.5 Use of Funds

Most councils specify that the funds be used to provide off-street public car parking, either in the vicinity or anywhere in the commercial centre or precinct. Fremantle states that the funds may also be used for transport infrastructure; Mandurah allows 10% to be used for alternative mode facilities; and Stirling allows the funds to also be used for public transport infrastructure 'where it would reduce parking demand'.

Limiting the use of cash-in-lieu generated funds to provide public parking is restrictive and assumes that additional parking is both necessary and desirable. In view of the importance of integrating transport policy and management and the competition for limited funding, it is clearly desirable that the funds raised be available for transport purposes in general. This should include services and infrastructure, such as funding a shuttle bus to serve the commercial centres.

9.6 Other Criteria

Most councils state that cash-in-lieu may only be considered where the council has public parking available in the vicinity and/or has firm proposals to provide such a facility.

The City of Subiaco must be satisfied that public parking or public transport services are available to satisfy the parking demands. Fremantle states simply that the Council must have adopted a policy detailing the costs of providing car parking in the area and the uses of funds.

It is preferable that councils do not link cash-in-lieu policy solely to the availability or planned availability of public car parking in the vicinity of the proposed development. Such a limitation is inconsistent with a policy enabling wider application of the funds generated.

When a cash-in-lieu submission is provided for consideration it must be signed by the owner of the premises and not by any business owner or tenant as it is the owner who will obtain the long-term benefit of any cash-in-lieu concession.

It is recommended that the following are incorporated into the parking cash-in-lieu policy for the City.

[31] Discounted cost is 75% of construction and land cost to the developer.

Recommended

A cash-in-lieu fee for all projects is charged, but with a regular adjustment to the fee. The fee is to be based on a formula which takes into account the land value for each commercial centre set by the City every 2 years and the cost of construction.

Criteria

Property owners/developers may apply to make payments to a parking cash-in-lieu fund as an alternative to providing a proportion of required on-site parking in cases where:

- **The City may consider it undesirable for efficiency, traffic operation, pedestrian amenity, traffic demand management, achievement of transport objectives or other reasons for the specified parking to be provided totally on-site, or**
- **The physical constraints of the site (including geophysical constraints, small block size, etc.) make on-site provision impracticable, or**
- **It is impractical, because of the need to construct basement parking lower than two levels, owing to the significant cost associated with deep basement parking spaces.**

All applications are to be signed by the owner of the premises and accompanied by a parking management plan.

Payment basis

Property owners/developers complying with the criteria shall make payments in lieu of providing a proportion of required on-site parking in accordance with the following:

- **Not less than the sum of the construction cost to the owner plus the value of that area of the applicant's land that would have been allocated to parking spaces including access and manoeuvring areas.**
- **The value of the land shall be based on an independent valuation that is current at the time of the application.**
- **The cash-in-lieu fee shall be based on the formula as set out below.**

$$C = (A1 \times (((A2/A3) \times A4) + (A5 \times A6)))$$

The six variables for the formula are set out in Table 9.1. It requires a land value for each precinct and commercial centre and a construction cost per space. The land value would need to be reviewed every two years.

This fee sets the benchmark for the true cost that would otherwise be incurred by the lessee/developer:

- **The fee may be discounted by the City to a maximum of 50%, subject to the development meeting any of the following criteria and no other reduction on parking supply having been permitted.**

- **The developer can show[32] access to alternative options to accommodate the transport access requirements of those potential users of the development for whom on-site parking will not be provided.**
- **There exists adequate provision for car parking in the proximity of the proposed development.**
- **The development will contribute significantly to the streetscape and will encourage the upgrading of the locality.**
- **The City is satisfied that public transport facilities are available to satisfy the transport access demands of employees, residents and visitors to the development.**
- **The agreed fee shall be paid in two equal instalments, one immediately prior to commencement of the development and the balance prior to practical completion of the development.**

Allocation of income

Income received as parking cash-in-lieu be allocated to a special fund for accessibility improvements including:

- **purchase of land for parking**
- **construction of parking spaces by council or within a joint venture**
- **a shuttle bus service in the City**
- **improving parking information systems**
- **real-time transit information system**
- **security lights and improved pathways to access parking area**
- **cycle paths and other cycling support facilities**
- **upgrading the design of on-street parking facilities.**

[32] Refer recommendation 6.1.1

10 PARKING SURVEY

A car parking data collection exercise was undertaken[33] to identify:

- the quantum of existing parking within the MACSP area
- the patronage levels of existing parking within the MACSP area
- the typologies of existing parking within the MACSP area.

10.1 Process

The quantum of existing parking incorporated the latest high quality aerial imagery from Nearmaps[34] and a site visit conducted in June 2015 to corroborate the information obtained from the aerial image.

The patronage levels of existing parking within the MACSP area was identified through site visits conducted on separate occasions on an average weekday and on average Saturday.

The weekday site visits were conducted between 11 am–2 pm during school term time on Wednesday 10 June 2015, Thursday 11 June 2015 and Tuesday 16 June 2015.

The weekend site visit was conducted between 11 am–2 pm on Saturday 13 June 2015.

The typologies of existing parking within the MACSP area were recorded during a subsequent site visit on Thursday 9 July 2015. The following data was collected:

- location and details of car parking bays subject to existing signposted time restrictions
- all car parking bays identified as either off-street or on-street parking
- the broad land use which each car parking bay serves, with land uses classified as:
  - car yard
  - child care
  - civic
  - commercial
  - education
  - health
  - leisure
  - light Industrial
  - on-street parking
  - retail
  - residential aged care.

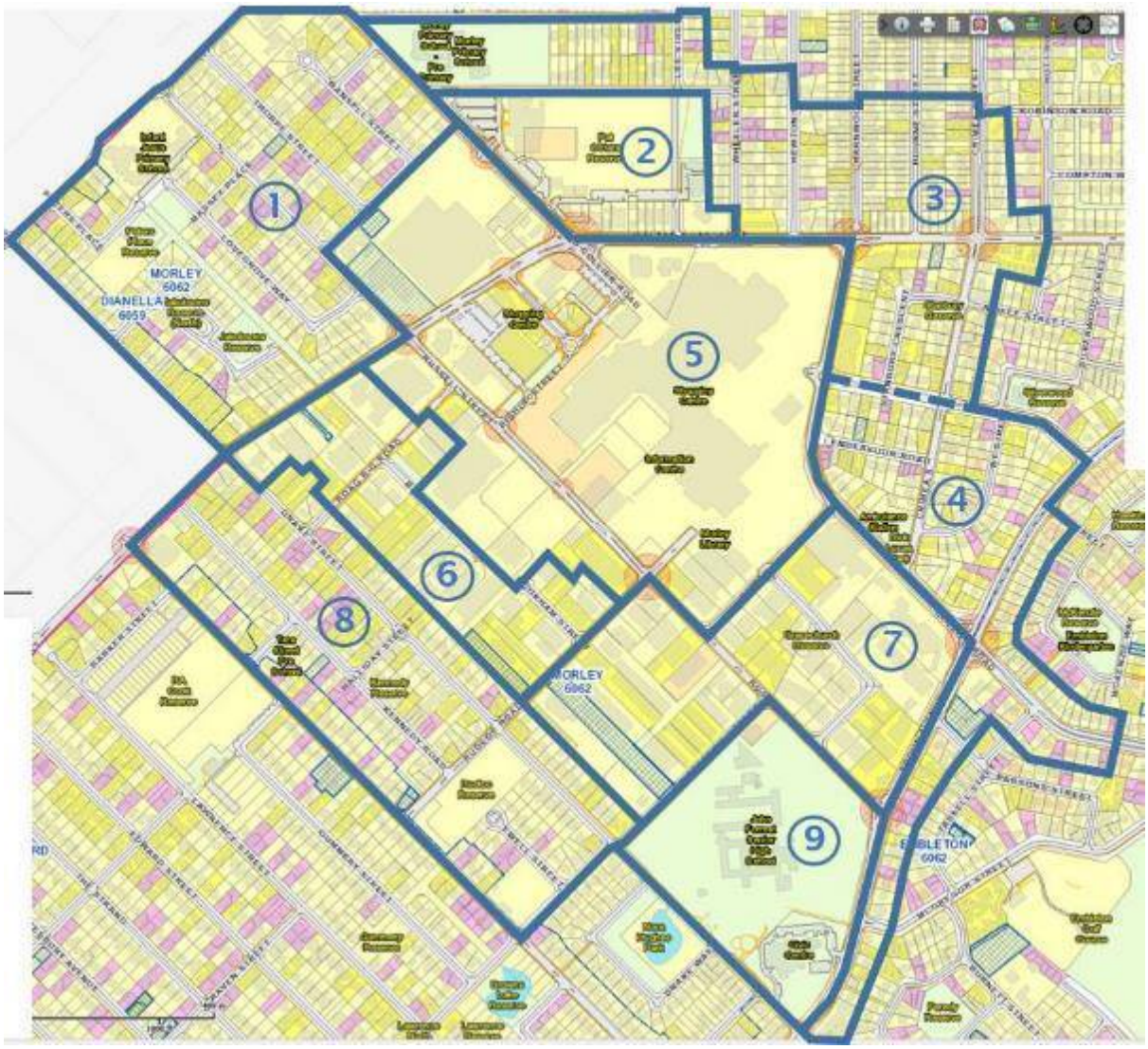
[33] By Flyt – a specialist WA Transport Planning and Modelling company.

[34] April 2015 aerial images.

10.2 Data Collection Results

Figure 10.1 shows a plan of the data collection precincts across the MACSP area.

Figure 10.1: MACSP area – data collection precinct plan



10.3 Quantum of Parking and Patronage Levels of Parking

Table 10.1 shows the total number of car parking bays within each MACSP Precinct and the number of occupied car parking bays during an average weekday[35].

Table 10.2 shows the total number of car parking bays within each MACSP Precinct and the number of occupied car parking bays during an average Saturday.

The data collection does not include off-street car parking associated with private residential developments, nor does it include unmarked on-street parking across the Activity Centre.

[35] Based on data collection from June 2015, which provides a snapshot of car parking utilisation.

The data shows that close to 10,000 car parking bays exist within the MACSP area. Car parking occupancy during the middle part of the day is similar for an average weekday and average Saturday with approximately 6,100 bays in use (61% of bays in use).

In general the data shows that precincts which contain predominantly commercial/light industrial land uses (employment generating land uses) have a higher level of car parking bays utilised during an average weekday compared to an average Saturday, whereas precincts which contain predominantly retail or civic uses (shopping/leisure activity based land uses) have a higher level of car parking bays utilised during an average Saturday compared to an average weekday.

Table 10.1: MACSP area – Weekday car parking occupancy by precinct (June 2015)

MACSP precinct	No. of bays	Occupied bays	% Occupied bays
1	318	76	24%
2	480	164	34%
3	266	183	69%
4	75	43	57%
5	6344	4360	69%
6	680	343	50%
7	1251	644	51%
8	127	37	29%
9	342	215	63%
Total	**9883**	**6065**	**61%**

Table 10.2: MACSP area – Saturday car parking occupancy by precinct (June 2015)

MACSP precinct	No. of bays	Occupied bays	% Occupied bays
1	318	41	13%
2	480	306	64%
3	266	80	30%
4	75	37	49%
5	6344	4776	75%
6	680	217	32%
7	1251	540	43%
8	127	62	49%
9	342	69	20%
Total	**9883**	**6128**	**62%**

10.4 Typologies of Parking

Table 10.3 shows the time restrictions relating to car parking bays within MACSP area.

The data shows that of the total 9,883 car parking bays within the MACSP area, 5,020 bays (51%) have no time restriction and 4,863 bays (49%) are subject to some form of time restriction. This information is summarised in Table 10.4.

Table 10.3: MACSP area – Car parking bay time restrictions by precinct (July 2015)

MACSP precinct	Total number of car parking bays subject to time restrictions									Total
	Nil	15min	30min	1P	1.5P	3P	4P	5P	8P	
1	318									318
2	480									480
3	266									266
4	75									75
5	1528	3	58	198	155	1980	2126	99	162	6344
6	661				19					680
7	1251									1251
8	99				28					127
9	342									342
Total	**5020**	**3**	**58**	**198**	**202**	**1980**	**2161**	**99**	**162**	**9883**
%	**50.8%**	**0.0%**	**0.6%**	**2.0%**	**2.0%**	**20.0%**	**21.9%**	**1.0%**	**1.6%**	**100%**

The data in Table 10.4 shows that of the total 9,883 car parking bays within the MACSP area, 9,690 bays (98%) are provided in the form of off-street parking and 193 bays (2%) are provided in the form of on-street parking.

Table 10.4 shows the total number of off-street and on-street car parking bays within each MACSP precinct as well as by per land use. Table 10.5 shows the total number of off-street and on-street car parking bays and their time restrictions

Table 10.4: MACSP area – off-street and on-street car parking bays by precinct and land use

Precinct		No. of bays	Off-street bays	On-street bays	% off-street	% on-street
1		**318**	**318**	**0**	**100%**	**0%**
	Civic	136	136	0	100%	0%
	Commercial	12	12	0	100%	0%
	Education	93	93	0	100%	0%
	Health	66	66	0	100%	0%
	Retail	11	11	0	100%	0%
2		**480**	**480**	**0**	**100%**	**0%**
	Civic	247	247	0	100%	0%
	Retail	233	233	0	100%	0%
3		**266**	**266**	**0**	**100%**	**0%**
	Commercial	168	168	0	100%	0%
	Education	24	24	0	100%	0%
	Health	74	74	0	100%	0%
4		**75**	**75**	**0**	**100%**	**0%**
	Civic	28	28	0	100%	0%
	Commercial	6	6	0	100%	0%
	Health	6	6	0	100%	0%
	Residential aged care	35	35	0	100%	0%
5		**6344**	**6296**	**48**	**99%**	**1%**
	Car Yard	10	10	0	100%	0%

Precinct		No. of bays	Off-street bays	On-street bays	% off-street	% on-street
	Civic	8	8	0	100%	0%
	Commercial	32	32	0	100%	0%
	Health	120	120	0	100%	0%
	Light Industrial	6	6	0	100%	0%
	On-street parking	48	0	48	0%	100%
	Retail	6120	6120	0	100%	0%
6		**680**	**661**	**19**	**97%**	**3%**
	Car Yard	82	82	0	100%	0%
	Commercial	173	173	0	100%	0%
	Leisure	12	12	0	100%	0%
	Light Industrial	247	247	0	100%	0%
	On-Street Parking	19	0	19	0%	100%
	Retail	147	147	0	100%	0%
7		**1251**	**1191**	**60**	**95%**	**5%**
	Car Yard	108	108	0	100%	0%
	Commercial	260	260	0	100%	0%
	Leisure	62	62	0	100%	0%
	Light Industrial	276	276	0	100%	0%
	On-Street Parking	60	0	60	0%	100%
	Retail	485	485	0	100%	0%
8		**127**	**99**	**28**	**78%**	**22%**
	Child Care	11	11	0	100%	0%
	Commercial	11	11	0	100%	0%
	Leisure	68	68	0	100%	0%
	Light Industrial	9	9	0	100%	0%
	On-Street Parking	28	0	28	0%	100%
9		**342**	**304**	**38**	**89%**	**11%**
	Civic	125	125	0	100%	0%
	Education	146	146	0	100%	0%
	Health	33	33	0	100%	0%
	On-street parking	38	0	38	0%	100%
Grand total		**9883**	**9690**	**193**	**98%**	**2%**

Table 10.5: MACSP area – Car parking bay time restrictions by precinct and land use

Precinct		Nil	15min	30min	1P	1.5P	3P	4P	5P	8P	Total
1		**318**									**318**
	Civic	136									136
	Commercial	12									12
	Education	93									93
	Health	66									66
	Retail	11									11
2		**480**									**480**
	Civic	247									247

Precinct		Nil	15min	30min	1P	1.5P	3P	4P	5P	8P	Total
	Retail	233									233
3		**266**									**266**
	Commercial	168									168
	Education	24									24
	Health	74									74
4		**75**									**75**
	Civic	28									28
	Commercial	6									6
	Health	6									6
	Residential aged care	35									35
5		**1528**	**3**	**58**	**198**	**155**	**1980**	**2161**	**99**	**162**	**6344**
	Car Yard	10									10
	Civic	8									8
	Commercial	32									32
	Health	120									120
	Light Industrial	6									6
	On-Street Parking	24	3		21						48
	Retail	1328		58	177	155	1980	2161	99	162	6120
6		**661**				**19**					**680**
	Car Yard	82									82
	Commercial	173									173
	Leisure	12									12
	Light Industrial	247									247
	On-Street Parking					19					19
	Retail	147									147
7		**1251**									**1251**
	Car Yard	108									108
	Commercial	260									260
	Leisure	62									62
	Light Industrial	276									276
	On-Street Parking	60									60
	Retail	485									485
8		**99**				**28**					**127**
	Child Care	11									11
	Commercial	11									11
	Leisure	68									68
	Light Industrial	9									9
	On-street parking					28					28
9		**342**									**342**
	Civic	125									125
	Education	146									146
	Health	33									33
	On-street parking	38									38
Grand total		**5020**	**3**	**58**	**198**	**202**	**1980**	**2161**	**99**	**162**	**9883**

10.5 Key Findings

Three key findings of the surveys are significant:

1 Firstly, there is generally a high level of vacancy across all precincts. On weekdays, occupancy in any one area does not exceed 69% and on Saturdays the highest occupancy is 75%. There are generally more than 1,500 bays available in the Central Core precinct on a Saturday.

2 Secondly, although 49% (4,863 bays) are subject to some form of posted parking restriction, compliance with restrictions is seldom enforced. Some private enforcement occurs in a few areas.

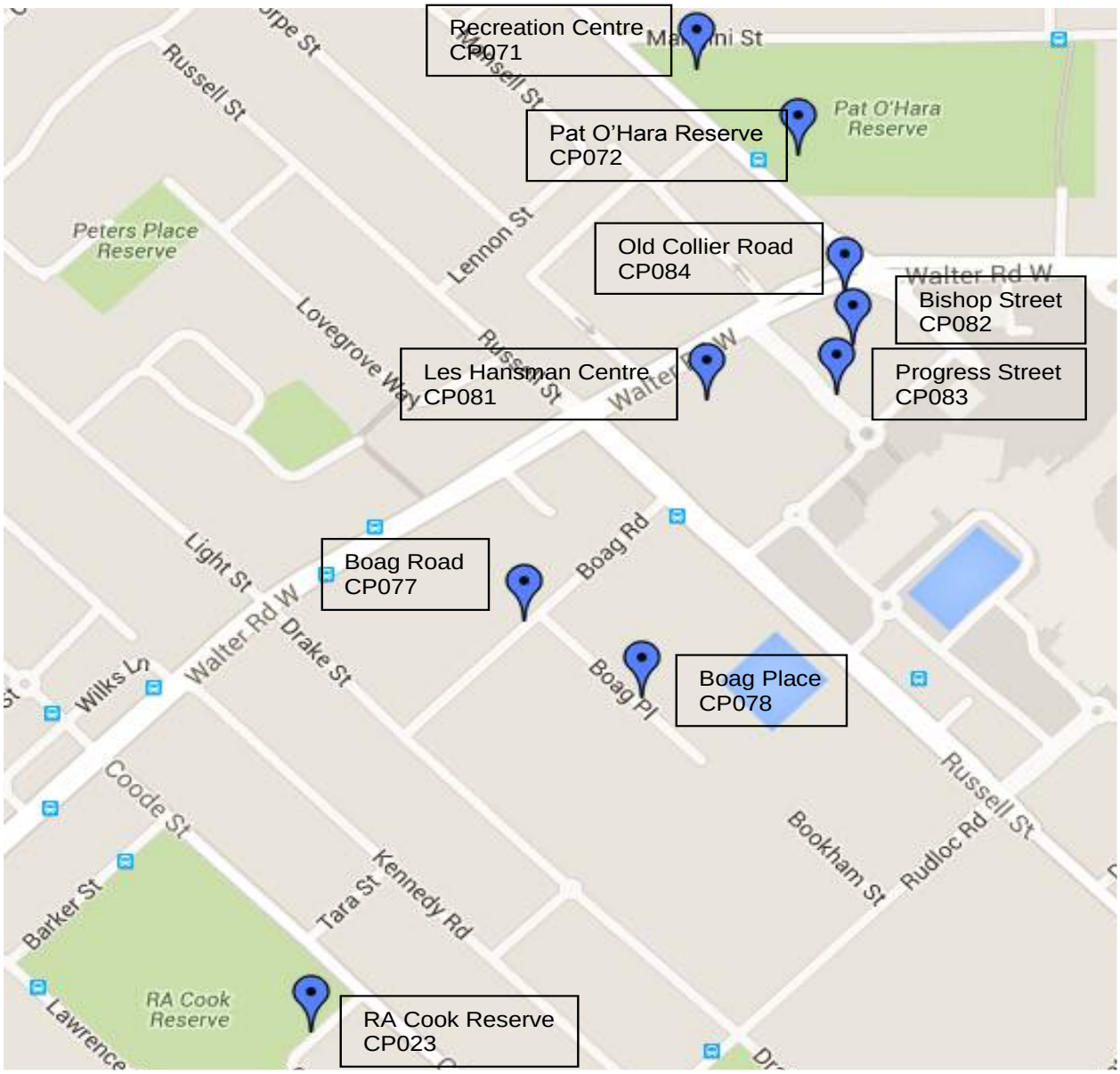
3 Thirdly, the City only controls 193 on-street bays and 689 off-street bays. This total of 882 bays is less than 10% of the total parking available. This means that improved management of the City's parking bays will only have a small impact on the overall patterns of demand for parking. Nevertheless it is recognised that pro-active management by the City will create spill over into other privately owned car parks who will then be motivated to implement measures of their own to better manage their parking.

In the immediate term, it is considered that the Central Core precinct should be subject to further, more detailed annual surveys, to gain a broader understanding of parking usage; level of compliance with parking restrictions, parking habits around the bus station and identified hotspots. Conduct of these surveys over a similar period to that undertaken in 2015 (i.e. June) would allow for meaningful year-on-year comparison. This data is important in identifying/informing both short and longer term policy and management measures and would provide a base for future monitoring and action.

City owned car parks

The City owns nine car parks comprising 689 bays as shown in Figure 10.2. This excludes four dedicated car parks CP73, 74, 79 and 80). Table 10.6 details the facilities and restrictions on each site. The majority are unrestricted while others have posted signs with 1P, 90 mins and 3P. There is no information available on the level of compliance at each site.

Figure 10.2: City owned car parks



The following table details the City car parks. Four dedicated car parks were excluded from the survey:

- CP073 – Wellington Road shops, Wellington Road
- CP074 – Olive Tree house, Lee Street
- CP079 – Silverwood Day Care, Silverwood Street
- CP080 – John Forrest S.H.S, Catherine Street

Table 10.6: Council owned car parks

Car park ID	Location	Time restriction	Street	Suburb	No. bays	ACROD bays	Other bays	Angle	Estimated occupancy	Notes
CP023	RA Cook Reserve	None	Wellington Road	Bedford	27	0	0	90 deg	20%	Bays are only 3.5 m long
CP071	Recreation Centre	None	Wellington Road	Morley	232	8	7	90 deg	60%	Other: 4 m/c bays, 2 bus
CP072	Pat O'Hara Reserve	None	Wellington Road	Morley	107	3	0	90 deg	5%	
CP077	Boag Road shops	90 mins	Boag Road	Morley	46	0	0	Parallel	60%	
CP078	Boag Place shops	90 mins	Boag Place	Morley	24	0	0	Parallel	40%	
CP081	Les Hansman	3P	Walter Road West	Morley	182	10	3	90 deg	30%	Other: 3 loading bays
CP082	Morley shops	3P/Private	Bishop Street	Morley	9	0	1	90 deg	30%	Other: 1 loading bay
CP083	Morley shops	1P	Progress Street	Morley	19	2	0	45 deg	40%	
CP084	Morley shops	3P	Old Collier Road	Morley	43	2	5	90 deg	20%	Other: 4 m/c bays, 1 No
Total					**689**	**25**	**16**			

* Based on observation on 3 days

11 RECOMMENDATIONS AND IMPACT OF THE CURRENT APPROACH TO SUPPLY AND MANAGEMENT

This section considers the impacts of not taking a fundamentally different approach to both the supply and management of parking and then lists all of the recommendations.

11.1 Impacts of the Current Demand Satisfaction and Passive Management Approach to Parking

11.1.1 Effect of Minimum Parking Requirements

As referred to in Section 4.1 the City's approach to parking has been based on a 'predict and provide' approach where 'parking problem' means 'inadequate supply' and consequently, more parking is better, every destination should satisfy its own parking needs (minimum ratios), car parks should never fill and parking should always be free or subsidised or incorporated into building costs. This is known as a demand satisfaction approach.

Urban planners typically set the minimum parking requirements for every land use to satisfy the peak demand for free parking. As a result, parking is free for the great majority of parking trips. Minimum parking requirements increase the supply and reduce the price – but not the cost of parking. They bundle the cost of parking spaces into the cost of development, and thereby increase the prices of all the goods and services sold at the sites that offer free parking.

Requiring all new buildings to have ample (minimum) on-site parking resolves one problem; it reduces the demand for on-street parking, but rigid application of the solution creates new problems. Off-street parking requirements do not have a solid theoretical and empirical basis, they cost an enormous amount of money and in many cases discourage development and urban renewal.

The usual interpretation of a parking requirement is that it specifies the number of bays a new building must provide; that is the land use decision comes first and the required parking depends on use. For older buildings, which often cannot provide more onsite parking the situation is reversed. In some cases, the parking requirements limit the uses a city will allow because the building's use must conform to the available parking. It is therefore in the interest of cities to encourage infill development by exempting small commercial buildings from parking requirements[36].

The approach to development applications in the City sets minimum parking ratios based on measures such as the gross floor area including 1 bay per 25m^2 for 'Retail', 1 bay per 50m^2 for 'Office', 1 bay per 25m^2 for 'Entertainment and Dining', and 1 bay per 20m^2 for 'Recreation'. The overall capacity of the road network providing access to the commercial precinct has not yet been taken into account.

To a large extent, minimum parking requirements are a historical by-product of plentiful and inexpensive land and a lack of convenient payment technologies. The requirements were

[36] Shoup. Chapter 5 p.153

seen as a means for shifting responsibility for catering for parking demand onto private developers, thereby ensuring the safe and efficient operation of the local road network[37].

The methodology underlying minimum parking requirements is considered to lack accuracy and efficiency in the following ways:

- It uses conservative design standards: Minimum parking requirements are typically designed so as to cater for most peak demands. This considers developments independently of the surrounding urban environment and ignores the potential to share parking resources between adjacent developments, leading to an oversupply of under-utilised parking (as evidenced in many of the areas surveyed in June 2015 Section 10).
- Results in fragmented parking supplies: Because of the requirement for individual developments to cater for their parking demands, urban areas are increasingly dominated by fragmented parking areas (e.g. the businesses on the west of Russell Road precinct).
- Ignores value: Minimum parking requirements are ignorant of value and give no consideration to the marginal benefits and costs provided by additional parking spaces. The costs of meeting minimum parking requirements tend to increase in district centres and growth corridors where land values are higher (Walter Road), thereby preventing intensification and redevelopment. This works against regional, and local strategies designed to intensify development.
- Is unresponsive to demand management: There are numerous examples of cost-effective parking management measures that do not require increasing the supply of parking. Examples include end-of-trip facilities for employees who walk or cycle, unbundling employee parking from salary packages, providing free public transport for employees, and developing workplace travel plans. Minimum parking requirements fail to account for demand management strategies and therefore provide no incentive for consideration of alternative transport modes.

Additionally, the 'predict and provide' (minimum requirement) takes no account of road capacity. It is clearly stated in the Morley Activity Centre Structure Plan[38] that:

> "This traditional method for specifying parking requirements is generally suitable for stand-alone developments, and can also be appropriate for the initial stages of development of an Activity Centre or Town Centre. However, it becomes unsustainable as the Activity Centre matures, since it results in an ever-increasing provision of parking infrastructure that is inefficient and generally unmanaged. It also implies that there can be an ever-increasing level of road capacity to cope with the corresponding increases in traffic."

For all of these reasons, minimum parking requirements are considered to be inaccurate and inefficient. It is also significant that the costs associated with minimum parking requirements have become disproportionately high in relation to their benefits such as where the area required as the minimum parking requirement for a restaurant exceeds the size of the restaurant.

It is necessary for the City to gradually reduce the minimum parking ratios and make far more effective use of all alternative parking as well other access options.

[37] Strategic Parking Report for Waitakere City Council - McCormick Rankin Cagney – Feb. 2008.

[38] Morley Activity Centre Structure Plan Transport Assessment Report. Section 7.1 – Uloth and Associates 30 May 2016.

11.1.2 Passive Parking Management

In addition to the unsustainability of the demand satisfaction planning approach to parking supply in the City, the current passive approach to parking management leads to inefficient use of the existing supply of parking. This is confirmed by the high level of available parking across all precincts; minimum 31% on weekdays and 25% on Saturdays (refer section 10.5).

This inefficiency is caused not only by excess capacity but also by:

- confusing timed parking restrictions (more than 9 different restrictions) which have been implemented on a reactive basis rather than in accordance with a clear strategy and defined objectives
- a lack of wayfinding signage and parking guidance information on access options, resulting in congestion in certain areas even while there is available parking nearby
- ineffective enforcement, which has led to the appointment of private enforcement agencies by some property owners
- inconsistent and erratic application of cash-in-lieu which has yielded minimum income to the City
- inconvenient access for other modes such as walking and cycling.

Unless there is a fundamental change in approach to both the planning and the management of parking, all of the above negative effects will escalate and lead to even more inefficient use of parking, minimal income and further enhance the incorrect perception of a shortage of parking.

11.1.3 Consequences of Growth without a Changed Approach

The estimated future requirement for parking bays based on the current parking ratios is unrealistic, in addition to the issues this will create in terms of future traffic on the network. In a managed parking scenario, the estimates are more sustainable. The future strategy for the City must therefore contain recommendations not only to curtail the supply of parking, but also to supply and pro-actively manage parking so as to significantly alter current modes of travel.

Unless changed, the existing approach to parking will result in a continuation of existing high levels of traffic generation. With the indicative level of yield being considered by the City, this will result in several thousand additional vehicles per day travelling to and through the different precincts.

This level of increase in traffic cannot be achieved on the existing local road network within the precincts. Furthermore, traffic increases of this level would have a significant negative impact on regional traffic routes. This leads to the conclusion that, if parking were to continue to be managed as it is at present, then the future development potential of the precincts would need to be much less than currently envisaged.

Growth at the scale proposed by the City is likely to take between 10 and 20 years. During this time, dependence on car use is likely to decrease with better options for cycling and public transport increasing the share of travel by these modes. In addition, denser, mixed-use developments will increase opportunities for more walking as the primary means of transport.

This opens the way for a staged implementation of a parking policy that will assist in managing down the demand for traffic associated with future development.

The future parking and access strategies for the City must curtail the supply of parking and also offer opportunities for developers near public transport facilities to be able to receive concessions and provide less parking so as to curtail travel demand.

A change to the way parking is managed (both pricing and supply) is essential, if growth of the commercial and business centres is to be achieved at the scale currently being considered by the City over the next 20 years.

11.1.4 Need to Change to a Demand Management Approach

Under a new 'demand management' approach, as distinct from the unsustainable demand satisfaction (predict and provide) approach, parking facilities should be used more efficiently. This means that car parks at a particular destination may often fill (typically more than once a week), provided that alternative options are available nearby, and drivers have information on these options. It does not mean that car parks should have sufficient capacity to cater to once-a-week peak demand. It requires that motorists have a choice between paid parking nearby (user-pay), or free parking a reasonable distance away. It also requires a high standard of walking conditions between parking facilities and the destinations they may serve. Parking planning should therefore include shared and reciprocal parking, parking pricing and regulations, parking user information, and pedestrian improvements.

The City clearly requires a revenue stream to assist in funding the construction of one and eventually more deck parking facilities. The cost of construction requires that the funds available from cash-in-lieu are significantly increased over the next 10 years. Funding is also necessary to improve parking information and signage which will improve the perception of parking availability and make it easier for drivers to access the precincts. This additional income can also be derived from user-pay parking and enforcement.

In order to fundamentally change its approach in the short term, the City needs to focus on:

- prioritisation of allocation of bays (Section 4.2)
- provision of information on parking and other access options (Section 4.6)
- simplification of time restrictions (Section 5.4.2)
- implementation of user-pay parking on-street according to surveyed patterns of demand (Section 4.6)
- establishment of a departmental structure with responsibility to implement the parking strategy and pro-actively manage parking (Section 6.1)
- increased enforcement to ensure a high level of compliance with parking regulations (Section 4.7)
- consistent application of cash-in-lieu (Section 9.6)
- more effective use of all parking supply
- maintaining a survey database to justify proactive management of timed parking (Section 8.5) and pay parking.

While it is recognised that the initial impact of this new approach will be limited, because the City currently controls less than 10% of all parking, implementation of these measures will ensure more effective use of current parking supply and will gradually result in more active and sustainable parking management by private property owners and developers.

11.1.5 Benefits of Better Managed Parking

Changes to the management of parking and to existing attitudes of stakeholders towards parking supply cannot be changed quickly. Small changes are necessary to alter the mindset of stakeholders and to create a long term, more sustainable, transport and access environment in the City.

The City has many opportunities to better manage the parking facilities in the commercial centres. Implementation of these will have many positive benefits:

- Economic – they support increased development in the MAC with more efficient use of land for both parking and other land uses. The user pay principle is likely to mean businesses will pay for parking spaces which are more likely to be available. Development opportunities will increase and become more cost-effective when parking costs can be minimised and congestion is managed.
- Social – they support a shift to higher density development which allows for a higher concentration of housing and jobs which are easily accessible, because at-grade parking may be converted to building, which may or may not incorporate parking.
- Cultural – more effective monitoring of compliance will create more turnover of spaces in high activity areas and free up more bays for the correct users. This will attract more activity and investment to higher density areas.
- Environmental – until cars become electric and do not emit pollution, emissions would be less than if an increased parking supply was provided. This will attract more vehicles to the City Centre.

11.2 Recommendations for the City

- The following Table 11.1 consolidates the recommendations and prioritises them into Urgent (within 3 years) Necessary, (within 5 years) and Desirable (within 10 years).

Table 11.1: Principle, Finding, Recommendation and Benefits

Section	Principle	Finding	Recommendations	Benefits/Opportunities	Urgent/Necessary /Desirable
4.1	Approach to parking	Parking policy has not been used to optimise mode share targets.	The City needs to change the approach to parking to reduce the trend in motor vehicle use and ownership. Travel demand management (TDM) technique should be introduced. This technique emphasises the movement of people and goods, rather than vehicles, and gives priority to more efficient travel and communication modes.	By changing the approach to parking, parking facilities and the existing transport infrastructure will be used more efficiently, instead of expanding roads and parking facilities.	U

<table>
<tr><th>Section</th><th>Principle</th><th>Finding</th><th>Recommendations</th><th>Benefits/Opportunities</th><th>Urgent/Necessary /Desirable</th></tr>
<tr>
<td>4.2</td>
<td>Introduce a parking hierarchy</td>
<td>There is currently an under-utilisation of the public parking bays in several locations.
There are approximately 10,000 parking bays available in MAC excluding unmarked on-street parking bays.
More than 1,000 bays are generally always available.</td>
<td>Parking Hierarchy
<table>
<tr><th>Priority</th><th colspan="2">Central Core Parking</th><th colspan="2">Outside Central Core Parking</th></tr>
<tr><td></td><td>On-street</td><td>Off-street</td><td>On-street</td><td>Off-street</td></tr>
<tr><td rowspan="8">Essential
↓
Least important</td><td>Loading</td><td>Disability permit holders</td><td>Public transport</td><td>Long-stay/ commuter</td></tr>
<tr><td>Public transport</td><td>Short to medium-stay</td><td>Residents</td><td>Short to medium-stay</td></tr>
<tr><td>Drop-off/pick-up</td><td>Drop-off/pick-up</td><td>Short to medium-stay</td><td>Drop-off/pick-up</td></tr>
<tr><td>Short to medium-stay</td><td>Loading</td><td>Disability permit holders</td><td>Park and Ride</td></tr>
<tr><td></td><td>Motorcycle/scooter</td><td>Loading</td><td>Residents</td></tr>
<tr><td>Motorcycle/scooter & cyclists</td><td>Long-stay/commuter & residents</td><td>Long-stay/ commuter</td><td>Motorcycle/scooter</td></tr>
<tr><td>Disability permit holders</td><td>Cyclists</td><td>Drop-off/pick-up & motorcycle/scooter & cyclists</td><td>Disability permit holders & loading & cyclists</td></tr>
<tr><td rowspan="2">Not allowed in this zone</td><td>Long-stay/commuter & park and ride</td><td>Park and ride</td><td>Park and ride</td><td>Public transport</td></tr>
<tr><td>Residents</td><td>Public transport</td><td></td><td></td></tr>
</table></td>
<td>More effective use can be made of all public parking facilities. The main benefit of introducing a parking hierarchy is to uphold the safety and convenience of all road users, encourage the use of alternative transport modes such as walking, cycling and the use of public transport, promote equitable and transparent allocation of parking spaces across all user groups and facilitate consistent decision making regarding parking infrastructure.</td>
<td>U</td>
</tr>
</table>

Section	Principle	Finding	Recommendations	Benefits/Opportunities	Urgent/Necessary /Desirable
		There is an ad-hoc approach to the management of long-term parkers which has resulted in parking restrictions applied to areas in isolation. The volume and duration of stay by long-term parkers, especially commuters and local employees, is increasing and spilling over into residential areas.			
6.1	Single authority management	Bayswater does not actively manage the existing supply of parking from an asset management approach.	All of the parking supply, allocation, administration and control at Bayswater is managed by a single authority. The City should encourage and facilitate the coordination of parking management between major stakeholders on a regular basis. . There should also be a parking reference group which includes representatives and major stakeholders. .This group should monitor the implementation of the integrated parking strategy for Bayswater.	The asset should be used to support economic development, more efficient use of land, support multi-modal network with a variety of transport choices, and foster a sustainable environment with good access for all users.	N
			Responsibilities may be vested in an existing business unit, or a department of traffic and parking or a special parking department or an autonomous parking authority.		N
			Optimise the use of existing parking resources before building new facilities.		N
4.4	Parking Surveys	Surveys of parking demand patterns in June 2015 indicate average current demand at less than 70% of bays in any precinct on weekdays and Saturdays, and overall less than 63% across all precincts. More	Conduct parking surveys regularly to support and justify triggers for change in parking controls.	Undertaking regular surveys to assess ongoing issues, determine if there is a high occupancy percentage from long term parkers and vehicles parking overtime, and determine parking trends is essential to identify and justify hotspots and priority areas	U

Section	Principle	Finding	Recommendations	Benefits/Opportunities	Urgent/Necessary /Desirable
		than 1,000 bays are generally always available.		for changes to regulations or enforcement effort.	
4.3	Focus on public education	Historically there has been a reactive approach by the City to parking complaints, resulting in prescriptive time restrictions in some locations. User information on the City's website about parking options is not customer friendly.	Introduce educational programs. The community need to understand that: 1.drivers cannot expect unlimited parking close to their destination 2. unlimited supply has environmental, social and economic drawbacks 3. parking needs to be sustainable 4. there is a cost for the provision of parking 5. parking users need to help to share the cost of parking infrastructure equitably 6. net surplus from parking services are to be reinvested into improving access and transport infrastructure.	Having a very informative parking website for shoppers, visitors, employees and residents will help to educate the community about considering a range of possible parking options. Having a Parking group that includes Council staff and representatives of Business Associations, residents and other stakeholders could be also of a great value.	N
4.6	Implement consistent level of signage and parking restrictions	There is a confusing mix of timed parking restrictions including 15minP and 30minP, 1P, 1½P, 3P, 4P, 5P and 8P. Approximately 4,840 bays have 9 different time based restrictions.	A wayfinding and parking signage package is to be developed which assists drivers to know where to look for parking and obtain the information quickly and without fuss. The system should be applied uniformly across the entire City equally to council and privately owned public car parking areas.	Simplification of time restrictions and fees will result in greater compliance and an increased churn of bays.	U
		Parking restrictions are confusing for a driver to understand and difficult for rangers to enforce.			
		Parking wayfinding and guidance is minimal. There is a lack of information about the number of bays in each parking station.		All MAC users want conveniently located, safe, secure and value-for-money parking with signage to their destination, and restrictions that are clear, consistent and user friendly.	

Section	Principle	Finding	Recommendations	Benefits/Opportunities	Urgent/Necessary /Desirable
8.5	Introduce parking controls	All visitor parking is free.	Short term parking should be encouraged and enforcement should be improved. The City is to gradually introduce pay parking based on regular and comparative surveys of usage. Pay parking fees are to be structured to favour short-term users and encourage a high churn of spaces. Where parking demand is high, the City should apply various parking restrictions to achieve a target peak occupancy rate (the average of the four highest hours in a day) of 85% for off-street parking in accordance with the Parking Framework in Figure 8.	Surplus parking income and cash-in-lieu could be used to fund improved access	D
		Free/cheap on-street parking encourages drivers to cruise for a vacant space, increasing congestion.		Parking controls should be used to encourage the use of alternative modes, but should also be set at a level which does not detract from the vitality of the MAC.	D
4.7	Parking Enforcement	Ranger resources are inadequate to monitor compliance for public and private parking facilities.	The City is to offer the provision and enforcement of pay parking in privately owned public car parks and to expand its enforcement resources as appropriate to provide this service. The City is to consider implementing a fee for these services. Enforcement does not need to be uniform across the MAC, but targeted to tackle problem areas.	More effective enforcement resources and technology will assist rangers, e.g. licence plate recognition.	N
		The City controls 807 off-street and 198 on-street public car parking bays. This is only 10% of the total car parking bays in the MAC.		Many landlords are willing to have the City enforce parking restrictions on private land, allowing the City to generate additional income.	
		Minimal and unenforced restrictions in private car parks encourages the use of these by motorists heading to other destinations such as Morley Recreation Centre and the bus station.		The provision of more effective parking enforcement is essential to make the streets safer for all road users (particularly children and other vulnerable pedestrians), to ensure that parking bays are available for their intended use and to make the public roadways a more pleasant environment. More effective monitoring of compliance will create more turnover of spaces in high activity	

Section	Principle	Finding	Recommendations	Benefits/Opportunities	Urgent/Necessary /Desirable
				areas and free up more bays for the correct users. This will attract more activity and investment to higher density areas.	
4.9	Sustainable Transport	Bicycle access is poor and few developments provide any end of trip facilities for cyclists. The lack of safe and secure pedestrian and cycling pathways encourages older citizens and nearby residents to use a private car to access the MAC.	The City needs to prioritise access for pedestrians, cyclists, public transport users and people with disabilities, and make the most of public transport infrastructure, balanced with the needs of the MAC road network, including the need to minimise congestion.	Improved facilities for cyclists and pedestrians will encourage these mode-share options.	N
		No dedicated park and ride facilities are provided – Many retail parking areas are used by employees and commuters who travel elsewhere.	The MAC's parking strategy is to be identified and coordinated with as part of an integrated transport strategy and the wider local government area. The parking strategy is to incorporate five sustainable parking principles: 1. Focus on people access not vehicle access 2. Provide efficient and effective alternatives to car access 3. Parking policy and strategy must support sustainable transport 4. The appropriate amount of parking for a centre will be well below the unconstrained demand for parking 5. The provision of parking requires a demand management, not a demand satisfaction approach.	Refer to chapter 4.9 Support and encourage different forms of sustainable transport.	N
		Residents are sometimes inconvenienced by commuters parking in their streets.			
		Restrictive and inconvenient public transport options will increase the demand for long-term parking by employees and commuters.			
		The MAC is serviced by several bus services			

Section	Principle	Finding	Recommendations	Benefits/Opportunities	Urgent/Necessary /Desirable
5.4.2	Time restrictions	Much on-street parking is occupied by long term parkers and there is minimal churn of bays.	All paid on-street parking be restricted to a maximum of 3P.	This will provide enough time for short-term visitors to conveniently access destinations in the precinct but will discourage long-term parkers.	N
		Off-street parking will not have time restrictions.	All parking outside the core commercial centre but within a 500m straight line walk be free but subject to a 4P time restriction. All on and off-street parking time restrictions only be applicable between 8am-5pm, Monday to Sunday. This should be clearly stated on signs.	This is intended to discourage long-term parkers and provide free medium and short-term parking for users willing to walk a greater distance to popular destinations.	U U
5.4.2	Time restrictions	Residents and visitors to be easily be identified and exempt from time restrictions.	Implement a parking permit scheme so that residents and visitors can easily be identified and exempt from time restrictions. This will help to improve the efficient use of on-street parking and increase effective compliance enforcement.	This will help to improve the efficient use of on-street parking and increase effective compliance enforcement	N
6.14.2	Maximum parking standards in other councils	There are no maximum caps on parking provision meaning that developers could introduce excess parking bays without considering the existing supply or the impact on the road network.	In order to achieve an appropriate level of parking supply in some precincts, mandatory maximum and minimum parking requirements will be necessary. Regulations relating to the provision of parking are to include measures to maximise the use of all non-resident parking for the public as shared parking, and the expansion of time limited and pay for parking to encourage turnover (churn) of bays. A maximum is to be set on the total supply of parking in the central core precinct. Additionally, parking maximums are to be established for residential and non-residential developments in other precincts.	Excess additional parking will not be provided.	D
		Significant additional parking for new developments will have a negative effect on road amenity and increase future congestion.			
		Increased development will in the short and medium-terms, create additional demand for long-term parking by building contractors.			U
		In the long-term, the City cannot continue to rely on			

Section	Principle	Finding	Recommendations	Benefits/Opportunities	Urgent/Necessary /Desirable
		excess parking capacity provided by major retail developments.			
8.6	Off-street parking management		Where parking demand is high, the City should apply various parking restrictions to achieve a target peak occupancy rate (the average is four highest hours in a day) of 85% for off-street parking in accordance with the Parking Framework in Figure 8-1	The parking resource is well used but people can still easily find a space, thus reducing congestion and frustration.	N
9.6	Other criteria	Cash-in-lieu is inconsistently applied and the current funding available is minimal.	A cash-in-lieu fee for all projects is charged, but with a regular adjustment to the fee. The fee is to be based on a formula which takes into account the land value for each commercial centre set by the City every 2 years and the cost of construction.	Public parking bays built with cash-in-lieu revenue allow shared use among different sites whose peak parking demands may occur at different times and fewer bays are needed to meet the combined peak parking demands.	N

PART B – PRECINCT PARKING MANAGEMENT PLANS

12 PRECINCT BOUNDARIES

The Draft Part A[39] for the Morley Activity Centre (MAC) proposes a suite of integrated policy objectives and strategies for car parking and alternative transport modes that will support a medium/high density use urban centre served by both private vehicles and enhanced alternative transportation modes; public transport, cycling and walking.

The MAC boundaries have been guided by an 800 m catchment around the Morley Bus Interchange.

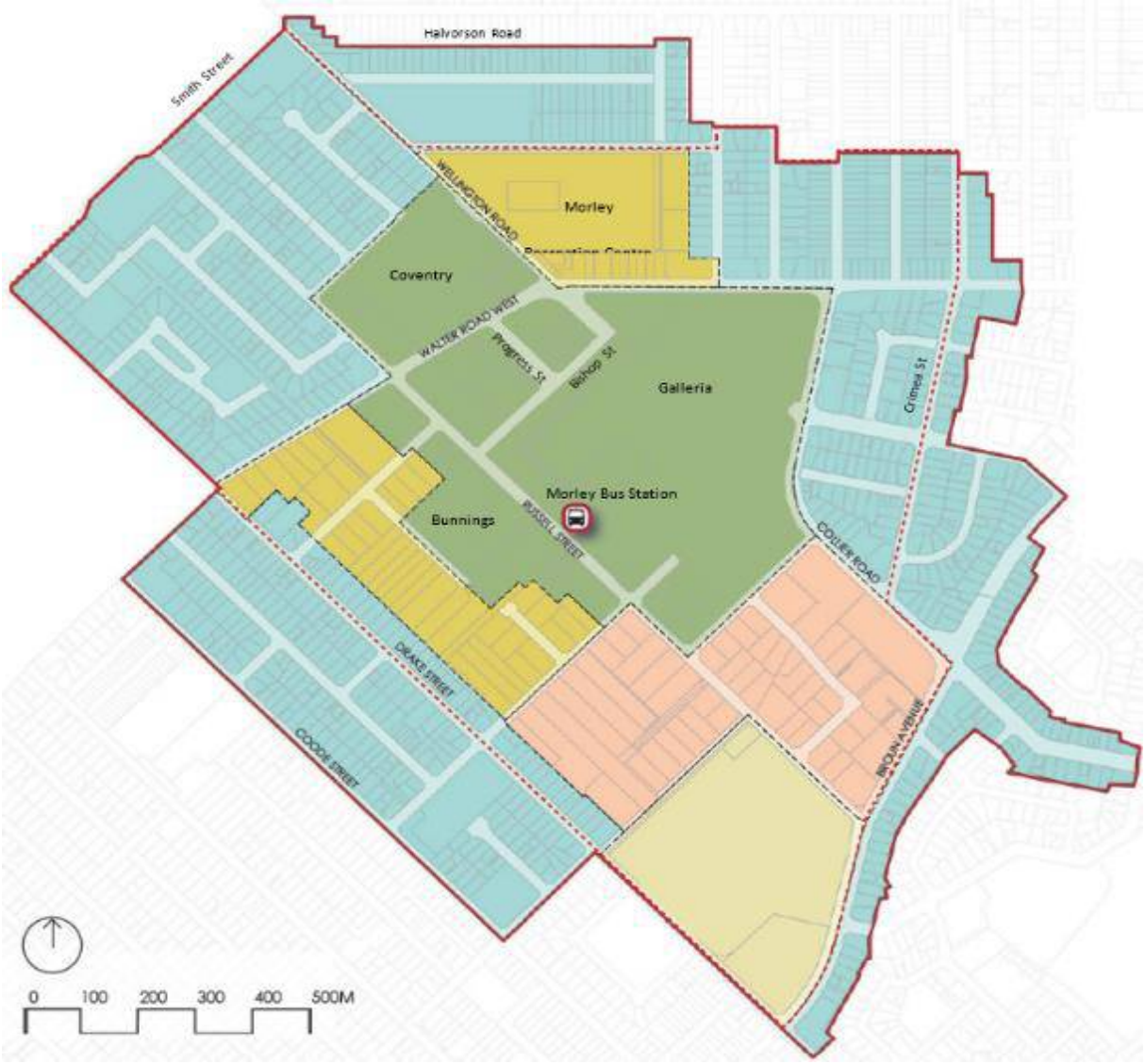
The Morley Activity Centre Structure Plan[40] prepares for substantial expansion of both commercial floor space and residential accommodation. 'The City centre will be home to over 10,000 people and 10,000 jobs and will become the City of Bayswater's social, economic and civic centre'.

The adopted Structure Plan divides the MAC into five precincts as shown in Figure 12.1:

- Central Core
- Outer Core
- Mixed Business
- Civic and Education
- Inner City Residential.

[39] Draft Part A, Section 11, Luxmoore Parking and Safety 11 November 2015.
[40] Morley Activity Centre Structure Plan, City of Bayswater Vision, April 2015.

Figure 12.1: Morley Activity Centre precincts



Key

1. Central Core
2. Outer Core
3. Mixed Business
4. Civic & Education
5. Inner City Residential

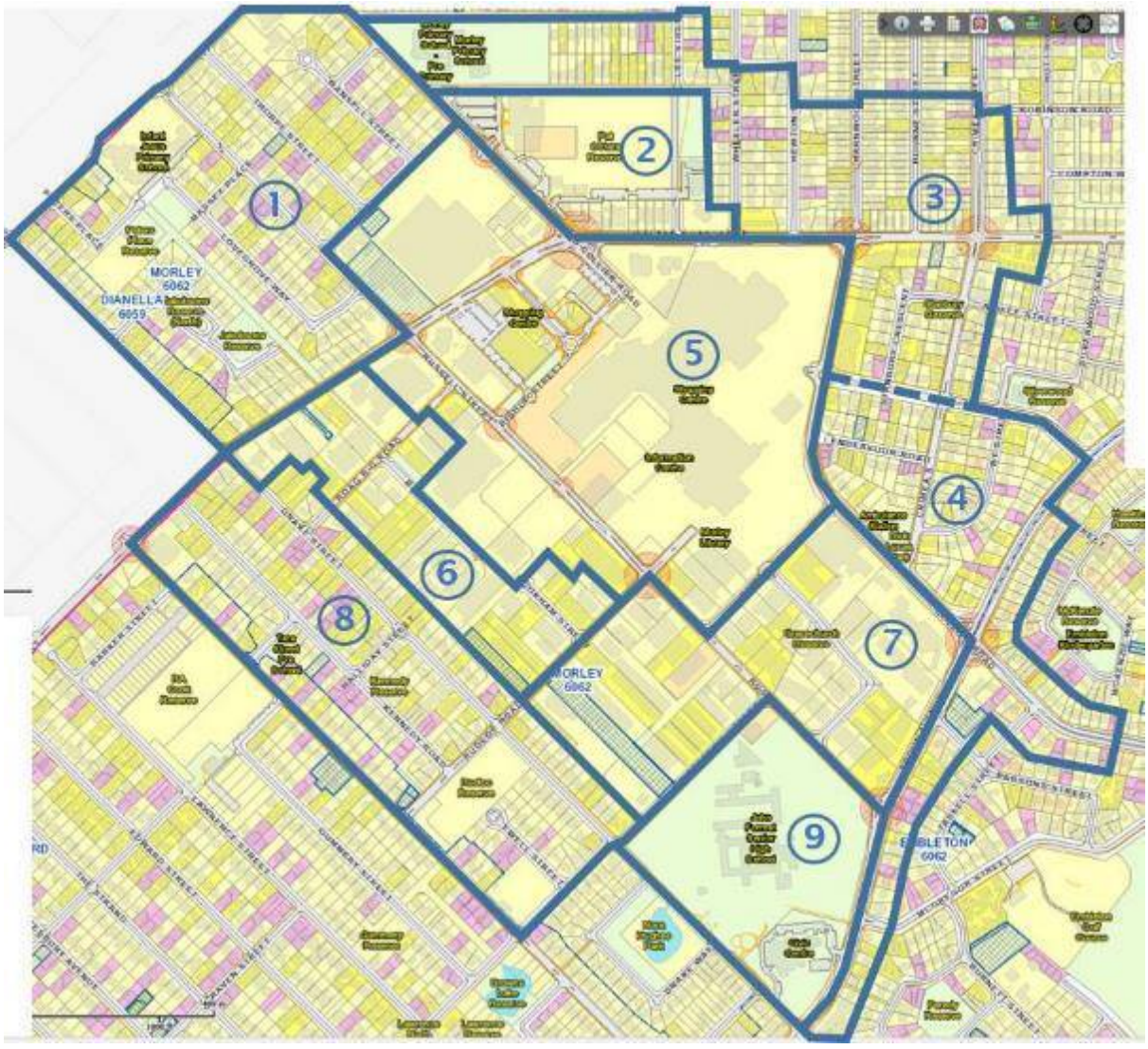
13 PRECINCT SURVEYS

In 2015, the City obtained data on parking capacity and patterns of demand in each precinct. The information was updated by Luxmoore and FLYT who undertook detailed surveys of supply and occupancy across all precincts. Details of the survey are included in Section 10 of Part A.

13.1 Surveyed Areas

For the purpose of the surveys the five parking precincts were separated into nine zones as shown in Figure 13.1. The results are summarised in Table 13.1.

Figure 13.1: Surveyed parking zones



The parking survey was conducted in June 2015. The survey involved site visits over three weekdays and a Saturday and identified:

- the total number of parking bays

- occupancy levels
- on-street/off-street bays and time restrictions
- car parking bays serving different land uses.

A total of 9,883 parking bays were counted across the MAC; comprising 9,690 off-street bays and 193 on-street bays.

13.2 Key Findings

Three key findings of the surveys are significant. They are illustrated by the survey results in Table 10.1 and Table 10.2 in Part A.

Firstly, there is generally a high level of vacancy across all precincts. On weekdays, occupancy in any one area does not exceed 69% and on Saturdays the highest occupancy is 75%. There are generally more than 1,500 bays available in the Central Core precinct on a Saturday.

Secondly, although 49% (4,863 bays) are subject to some form of posted parking restriction, compliance with restrictions is seldom enforced. Some private enforcement occurs in a few areas.

Thirdly, the City only controls 193 on-street bays and 689 off-street bays. This total of 882 bays is less than 10% of the total parking available. This means that improved management of the City's parking bays will only have a small impact on the overall patterns of demand for parking. Nevertheless it is recognised that pro-active management by the City will create spill over into other privately owned car parks who will then be motivated to implement measures of their own to better manage their parking.

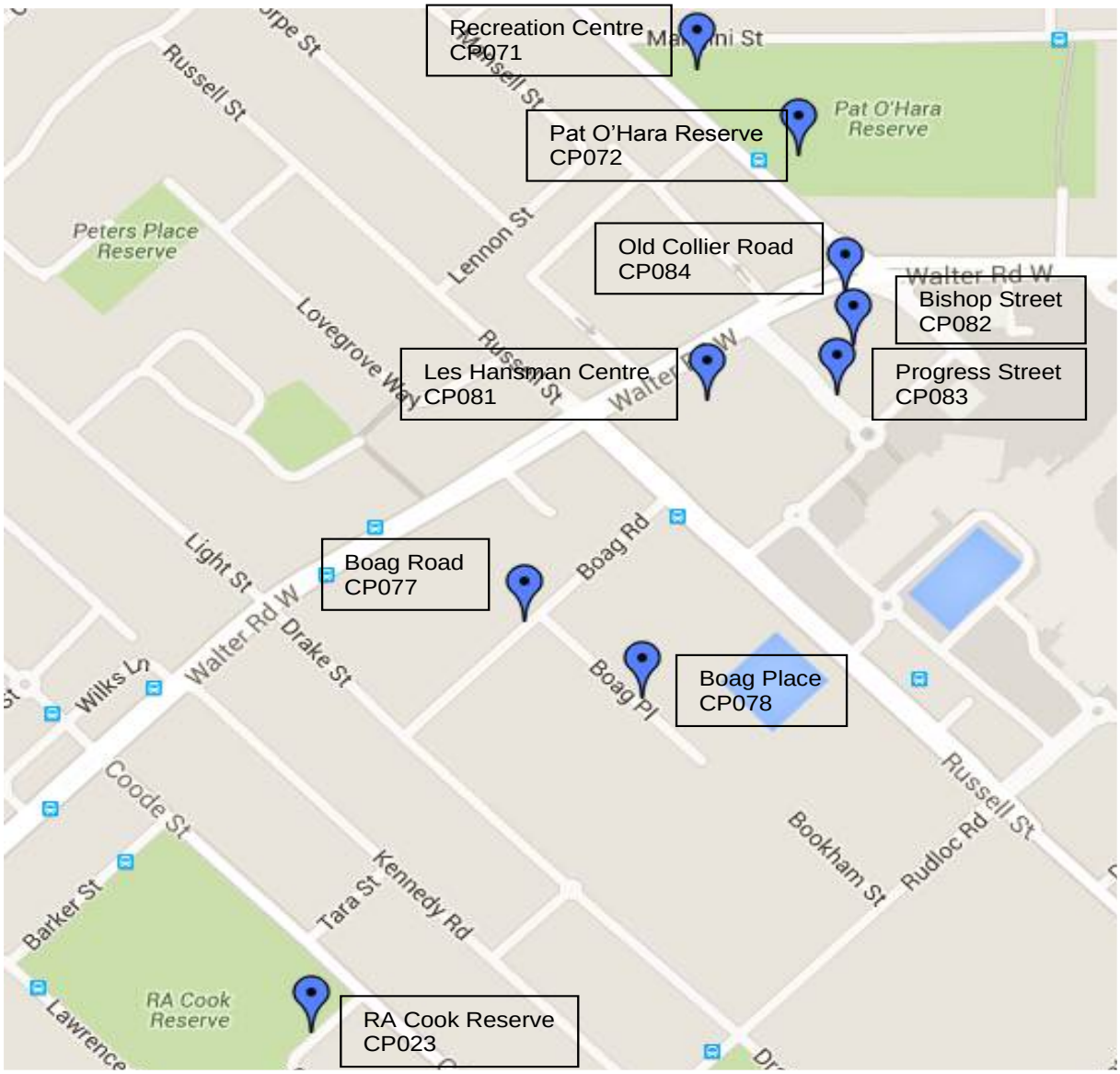
In the immediate term, it is recommended that the Central Core precinct should be subject to further, more detailed annual surveys, to gain a broader understanding of parking usage; level of compliance with parking restrictions, parking habits around the bus station and identified hotspots.

Conduct of these surveys over a similar period to that undertaken in 2015 (i.e. June) would allow for meaningful year-on-year comparison. This data is important in identifying/informing both short and longer term policy and management measures and would provide a base for future monitoring and action.

13.3 City Owned Car Parks

The City owns nine car parks comprising 689 bays as shown in Figure 13.2. This excludes four dedicated car parks (CP73, 74, 79 and 80). Table 13-1 details the facilities and restrictions on each site. The majority are unrestricted while others have posted signs with 1P, 90 mins and 3P. There is no information available on the level of compliance at each site.

Figure 13.2: City owned car parks



The following table details the City car parks. Four dedicated car parks were excluded from the survey:

- CP073 – Wellington Road shops, Wellington Road
- CP074 – Olive Tree house, Lee Street
- CP079 – Silverwood Day Care, Silverwood Street
- CP080 – John Forrest S.H.S, Catherine Street.

Table 13.1: Council owned car parks

Car park ID	Location	Time restriction	Street	Suburb	No. bays	ACROD bays	Other bays	Angle	Estimated occupancy *	Notes
CP023	RA Cook Reserve	None	Wellington Road	Bedford	27	0	0	90 deg	20%	Bays are only 3.5 m long
CP071	Recreation Centre	None	Wellington Road	Morley	232	8	7	90 deg	60%	Other: 4 m/c bays, 2 bus bays
CP072	Pat O'Hara Reserve	None	Wellington Road	Morley	107	3	0	90 deg	5%	
CP077	Boag Road shops	90 mins	Boag Road	Morley	46	0	0	Parallel	60%	
CP078	Boag Place shops	90 mins	Boag Place	Morley	24	0	0	Parallel	40%	
CP081	Les Hansman Centre	3P	Walter Road West	Morley	182	10	3	90 deg	30%	Other: 3 loading bays
CP082	Morley shops	3P/Private	Bishop Street	Morley	9	0	1	90 deg	30%	Other: 1 loading bay
CP083	Morley shops	1P	Progress Street	Morley	19	2	0	45 deg	40%	
CP084	Morley shops	3P	Old Collier Road	Morley	43	2	5	90 deg	20%	Other: 4 m/c bays, 1 No Parking
Total					**689**	**25**	**16**			

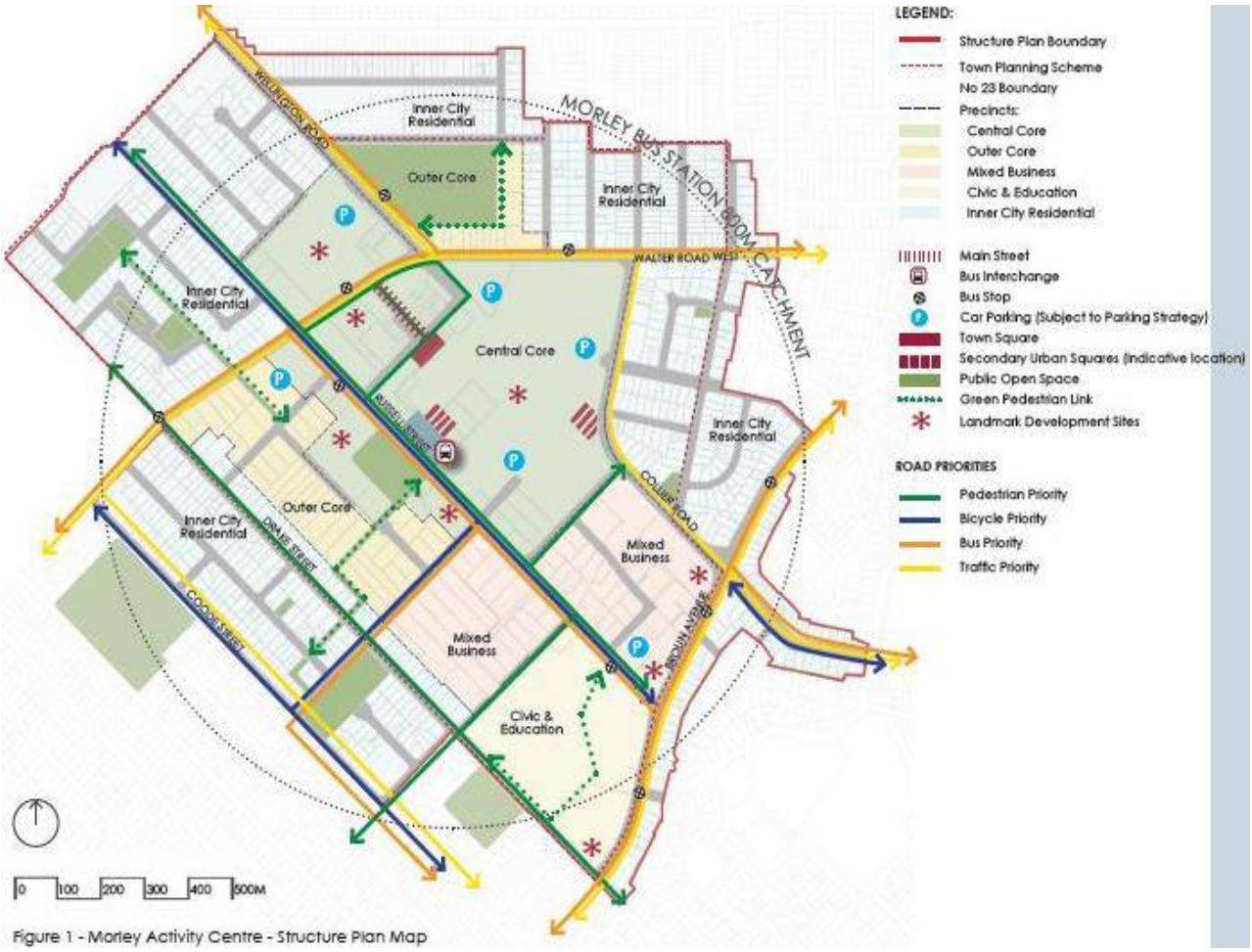
*Based on 3 days observation

14 MORLEY ACTIVITY CENTRE STRUCTURE PLAN

The five precincts have been identified principally in relation to land use and function as part of the overall activity centre as shown in Figure 14.1.

The Outer Core and Inner City Residential precincts comprise separate (sub) areas.

Figure 14.1: Morley Activity Centre Structure Plan



14.1 Statutory

Pending the approval and gazettal of Amendment No. 61 (scheduled for late 2016), the provisions and standards of the MACSP will be consolidated into Town Planning Scheme No. 24.

14.2 Morley Activity Centre Strategy

Part 2, Section 4.2 'Future Movement Network' of the MAC Structure Plan identifies the introduction of more efficient and sustainable transport as key to accommodating the future growth of an efficient and attractive Activity Centre. This relies upon the creation of a well-connected transport network with reduced reliance upon the private motor vehicle to access the Centre in favour of alternative transport modes; public transport, cycling and

walking, and the management of traffic through street design which reflects their intended function.

A movement network is proposed, identifying key routes for the various transport modes, referred to as a "Future Transpiority Map". (ref Fig 40 of MAC Structure Plan) From this Transpiority Map, a range of improvements are proposed to the existing network, summarised in Fig 41 of the MAC Structure Plan; Representative Road Cross Sections. The following mode share targets have been adopted in the MAC Structure Plan:

Table 14.1: Mode share targets

Mode	Future share % target	Current %
Drive alone	74%	85%
Car pool	8%	7%
Public transport	12%	4%
Cycling	3%	1%
Pedestrian	3%	2%

The 11% targeted mode share reduction in drive alone vehicles is a significant objective which requires a pro-active approach on both reducing parking supply and re-directing demand to public transport.

Key measures include:

- a pedestrian activation zone around the Morley Bus Station to better integrate with the surrounding uses, including built connection with the Galleria Shopping Centre.
- establish a 'Transpriority' map assigning desirable transport modes to individual streets to create a network hierarchy.
- following on from the 'Transpriority' map, street improvement plans have been developed, reflecting their intended function.
- reduce floor space ratio for the provision of on-site car parking.
- adopt a range of parking management principles to provide a more targeted and effective service (as reflected in Section 4 of Part A).
- locate large-scale parking facilities towards the periphery of the core.
- provide bicycle parking, both on-street and off-street.

14.3 Car Parking and Bicycle Parking Standards (Ratios)

These standards are listed in Table 2 of Part 1 – Statutory, of the MAC Structure Plan.

Table 14.2: Parking requirements

Land use	Minimum car parking requirement	Bicycle parking requirement Minimum employee spaces (Long term)	Bicycle parking requirement Minimum visitor spaces (Short term)
Residential	As per Residential Design Codes	As per Residential Design Codes	As per Residential Design Codes

Land use	Minimum car parking requirement	Bicycle parking requirement Minimum employee spaces (Long term)	Bicycle parking requirement Minimum visitor spaces (Short term)
Short term accommodation	1 bay per 4 beds provided	1 per 40 bedrooms	2 spaces
Community uses	At the discretion of the local government	At the discretion of the local government	At the discretion of the local government
Education	1 bay per 10 students	1 per 5 students over year 4	N/A
Retail	1 bay per 25 m^2 NLA	1 per 300 m^2 NLA	1 per 500 m^2 NLA
Office	1 bay per 50 m^2 NLA	1 per 200 m^2 NLA	1 per 750 m^2 NLA
Entertainment	1 bay per 25 m^2 NLA	1 per 4 staff members	1 per 200 m^2 NLA
Dining	1 bay per 25 m^2 NLA	1 per 100 m^2 NLA	2 spaces
Recreation	1 bay per 20 m^2 NLA	1 per 4 staff members	1 per 200 m^2 NLA
Health	3 bays per practitioner plus 1 bay per staff member	1 bay per 400 m^2 GFA	1 bay per 200 m^2
Bulky goods, showrooms and services	1 bay per 50 m^2 NLA	1 per 750 m^2 NLA	1 per 1000 m^2 NLA
Industrial	1 bay per 50 m^2 NLA	1 per 150 m^2 NLA	N/A

Notes:

1 On-site parking requirements to be rounded up to the nearest whole number.
2 'Staff member' and 'practitioner' relates to the full-time equivalent.
3 NLA = Net Lettable Area.
4 GFA = Gross Floor Area.

The floor space to parking ratios in the MACSP are higher than those listed in the Town Planning Scheme 23, (TPS 23) reflecting the intent for reduced reliance on travel to the Centre by private vehicle.

Notably:

Retail – 1 bay per 25 m^2 of NLA (4/100m^2), compared to 1 bay per 15.6 m (6/100m^2) in TPS 23.

Office – 1 bay per 50 m^2 of NLA, compared to 1 bay per 25 m^2 in TPS 23.

Dining – 1 bay per 25 m^2 of NLA compared to 1 bay per 10 m^2 in TPS 23.

15 TRANSITION AND IMPLEMENTATION PLAN

The transition plan framework provides a prioritised program for each of the five precincts and provide practical recommendations to make more efficient use of current parking supply.

15.1 Objectives of Precinct Management Plans

The parking precinct plans are designed to make the most effective and efficient use of parking facilities.

Key objectives of parking precinct plans include:

- adequately catering to the demand generated by trip attractors in each precinct
- identifying parking supply and management policies and actions to support the short and longer term development of each precinct
- integrating parking location with the rail, bus, pedestrian and cycle networks
- integrating parking with urban design objectives.

Comprehensive parking management plans for each precinct will analyse alternative options and provide practical recommendations to implement the Parking Strategy and manage the City's parking supply more effectively.

The plans need to address all elements of the Strategy in Part 1 at a precinct level. The plans will:

- Consider parking controls for the City's current parking facilities
- Support objectives defined in the Strategy.
- Examine viability for introducing residential permits.
- Comment on current and proposed enforcement, technology and processes.
- Set out the short, medium and long-term future impacts of development within each precinct.

As the precincts develop and evolve over time, the plans will also consider:

- The type of parking control measures, such as length of stay and hours of operation.
- Provision of parking facilities that encourage use of scooters and motorbikes.
- Even distribution of parking controls to best service the need of user groups in the area.
- Ease of use, communication and understanding from a parker's perspective.
- Paid parking, considering ticket machines and convenient methods of payment including pay-by-phone.
- Enforcement of parking controls and compliance priorities.
- Methodology for evaluating the success of the implemented changes.

15.2 Parking Management Implementation Framework

Parking management plans for each precinct will vary, but adopting a consistent framework for the implementation of demand management controls in each precinct will ensure greater

availability of parking. Linking this with parking and access information in many different forms, as well as improved compliance will not only ensure a better perception of parking, but will result in a more equitable allocation of scarce parking bays to all user groups.

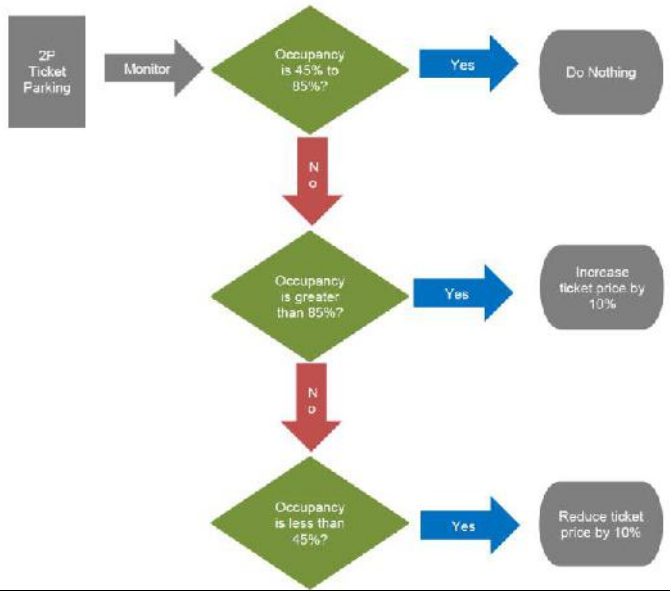
Table 15.1 sets out broad guidelines for the ongoing development of parking management plans in the City's precincts.

Table 15.1: Parking management implementation framework

<table>
<tr><th>Steps</th><th>Recommendations</th><th>Ref Section Part 1</th></tr>
<tr><td>Survey parking occupancy in each precinct</td><td>Occupancy surveys need to be conducted so that parking management plans can be based on empirical data and not a reactive approach to perceived issues. Results of occupancy surveys will determine what parking controls if any need to be implemented including whether paid parking and resident parking permits are required.
It is important that parking surveys are performed periodically so that comparative analyses of occupancy rates can be performed. The following shows the frequency at which the City should perform parking surveys according to previously measured peak time occupancy.
<table><tr><th>Peak occupancy rate</th><th>Survey frequency</th></tr><tr><td>< 50%</td><td>3 years</td></tr><tr><td>50–80%</td><td>2 years</td></tr><tr><td>80%</td><td>1 year</td></tr></table>
Comparative surveys are essential in determining the effectiveness of parking management plans and are the basis for introducing or changing parking control measures.
Implementation of parking restrictions based on surveys (a 'demand management' approach) is a more effective and transparent method than using the older 'predict and provide' approach.

When different parking user groups are competing for the same parking space and demand exceeds the supply, a saturation of parking facilities occurs. There needs to be recognition of different user priorities through the introduction of a parking hierarchy. Section 4.3.1 details each parking user group and their priority requirements.
The objectives of the parking hierarchy are to uphold the safety and convenience of all road users, encourage the use of alternative transport modes such as walking, bus, train and cycling, promote equitable and transparent allocation of parking spaces across all user groups and facilitate consistent decision-making regarding parking infrastructure.
Table 15.2 details the priority that each user group should be given for on and off-street parking within and outside commercial centres.</td><td>4.4</td></tr>
</table>

<table>
<tr><th>Steps</th><th>Recommendations</th><th>Ref Section Part 1</th></tr>
<tr><td>Determine user groups that need to be catered for in each precinct</td><td>
Table 15.2: Parking user group hierarchy
<table>
<tr><th>Priority</th><th colspan="2">Commercial centre</th><th colspan="2">Outside commercial centre</th></tr>
<tr><td></td><td>On-street</td><td>Off-street</td><td>On-street</td><td>Off-street</td></tr>
<tr><td rowspan="8">Essential
↓
Least important</td><td>Loading</td><td>Disability permit holders</td><td>Public transport</td><td>Long-stay/ commuter</td></tr>
<tr><td>Public transport</td><td>Short to medium-stay</td><td>Residents</td><td>Short to medium-stay</td></tr>
<tr><td>Drop-off/pick-up</td><td>Drop-off/pick-up</td><td>Short to medium-stay</td><td>Drop-off/pick-up</td></tr>
<tr><td>Short to medium-stay</td><td>Loading</td><td>Disability permit holders</td><td>Park and Ride</td></tr>
<tr><td></td><td>Motorcycle/scooter</td><td>Loading</td><td>Residents</td></tr>
<tr><td>Motorcycle/scooter & cyclists</td><td>Long-stay/commuter & residents</td><td>Long-stay/ commuter</td><td>Motorcycle/scooter</td></tr>
<tr><td>Disability permit holders</td><td>Cyclists</td><td>Drop-off/pick-up & motorcycle/scooter & cyclists</td><td>Disability permit holders & loading & cyclists</td></tr>
<tr><td rowspan="2">Not allowed in this zone</td><td>Long-stay/commuter & park and ride</td><td>Park and ride</td><td>Park and ride</td><td>Public transport</td></tr>
<tr><td>Residents</td><td>Public transport</td><td></td><td></td></tr>
</table>
</td><td>4.3</td></tr>
<tr><td>Introduce parking controls in line with survey findings</td><td>
Where parking demand is high, the City should apply various parking restrictions (based on the Parking Framework Section 8.6 of Part A and Figure 8-1) to achieve a target peak occupancy rate of 85% for on and off-street parking. An occupancy rate of 85% means that the parking resource is well used but people can still easily find a space, thus reducing customer frustration. It will also save cruising time, reduce traffic, conserve energy, improve air quality and influence and contribute to traffic calming and parking management. In some precincts in may also generate income to the City. Parking management controls should be related to the level of excess demand that is required to be managed.
It is important to define the objectives for parking controls in order to determine how controls will be structured:
▪ for traffic management – peak period parking controls should be structured to encourage a shift in travel modes or times.
▪ for parking management – parking controls during peak demand periods and at the most convenient locations should be structured to generate a maximum 85% occupancy rate.
Demand-responsive control means that the fees and time restriction placed on parking will be adjusted based on parking demand data. Fees and time restrictions will be adjusted up or down with the goal of maintaining on average 85% occupancy at peak times.
Each precinct should be divided into smaller zones. These zones will be a collection of streets with broadly similar parking demand profiles. The zones may change over time in order to better manage demand. The parking controls should be uniform across each zone within the precinct's.
</td><td>8.6</td></tr>
</table>

Steps	Recommendations	Ref Section Part 1
	To achieve effective demand responsive controls, comparative occupancy surveys need to be performed periodically as explained in step 1 above.	
Demand-responsive parking controls	Figure 15.1 shows an example of demand responsive pricing for 2P paid ticket parking. **Figure 15.1: Demand responsive pricing**  	4.4

Where parking demand is high, the City should apply various parking restrictions to achieve a target peak occupancy rate of 85% for on- and off-street parking. This accords with Parking Strategy No. 8.6 as detailed within Part A.

Eighty-five percent occupancy at times of peak demand means that approximately one parking space in every seven should be vacant. When peak parking occupancy (the average of the four highest hours of demand in a day) is regularly above 85%, a change to the parking management approach is necessary. This 85% benchmark is a recognised best practice approach to the management of on-street parking. It means that the parking resource is well used but people can still easily find a space, thus reducing customer frustration and congestion.

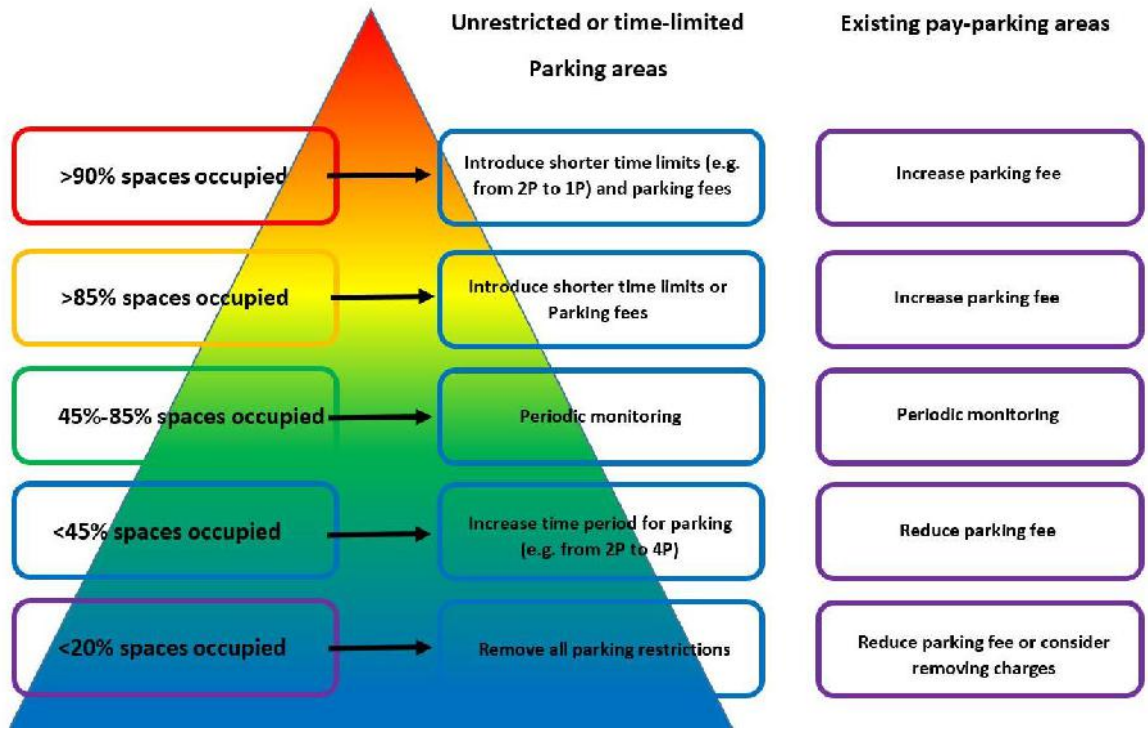
There are different parking controls that can be used to manage on-street and off-street parking. It is important that decisions by the City to change controls are based on policy principles and empirical (survey) data rather than a reactive approach to complaints. It is also useful for the public to understand how decisions to amend parking controls are made.

Table 15.3 shows the trigger points where a new parking management control is recommended to manage a change in demand and Figure 15.2 (a repeat of Figure 8.1 in Part A) illustrates this by way of a diagram. Areas which experience low demand, or no change in demand, and do not reach the trigger points, will not require any change.

Table 15.3: On-street parking intervention triggers

Issue	Trigger point	Response
Demand pressure in currently unrestricted areas.	Demand for on-street parking regularly exceeds 85% at peak times.	▪ Introduce time restrictions suitable to local demand or paid parking to encourage turnover of spaces. ▪ Establish new residential parking permit schemes. Where all day parkers use residential streets.
Demand pressure in residential areas.	Parking demand regularly exceeds 85% of available supply in residential areas at peak times where off-street parking options are constrained (e.g. areas where off-street parking is not readily available).	▪ Introduce or alter time restrictions (suited to local demand) to encourage turnover of spaces (with resident parking permit schemes where appropriate). ▪ Establish new residential parking schemes. ▪ Introduce paid parking areas to manage the high demand.
Demand pressure in areas with time restrictions.	Occupancy levels for time-restricted spaces regularly exceed 85% at peak times.	▪ Investigate opportunities to decrease the time restriction and/or introduce additional time restrictions on adjacent streets. ▪ Introduce paid parking and use demand-responsive pricing to discourage longer stays.
Demand pressure in areas with paid parking.	Occupancy rates for paid parking in on-street spaces regularly exceed 85% at peak times.	▪ Increase parking charges. ▪ Consider provision of additional off-street paid parking.

Figure 15.2: Parking framework



Parking management plans for each precinct need to address the above framework while also adhering to all recommendations set out in the Strategy. These are additional to the precinct recommendations that follow.

The framework for the development of parking management plans set out above will ensure that parking in each precinct is consistently, effectively and efficiently managed. This will result in users generally being able to find parking close to their destination, improve the perception of parking availability, improve traffic management and reduce congestion.

15.3 Walking Distances

The walking distance between car parking locations and a user's intended destination is significant. Generally, the time and distance which drivers are prepared to walk depends on the length of time which will be spent at their destination, and the condition of the pedestrian walkway.

The Canadian Victorian Transport Policy Institute (VTPI)[41] provides appropriate walking distances for various activities. Table 15.4 shows that the destinations whose customers stay for the shortest time typically accept the shortest walking distances and as the time each user expects to spend at the destination increases, the longer they find it acceptable to walk. For example a customer who simply wishes to buy a coffee would only accept a walk of a few minutes, however a person shopping or visiting a hairdresser or professional services would be more inclined to accept a longer walk.

Table 15.4: Acceptable walking distances (adapted from VTPI)

Adjacent (less than 50 m or 1 minute walking time)	**Short (less than 250 m or 5 minute walking time)**	**Medium (less than 400 m or 8 minute walking time)**	**Long (less than 500 m or 10 minute walking time)**
People with disabilities	Supermarket	General retail	Airport parking
Deliveries and loading	Professional services	Restaurants	Major sport or cultural event
Emergency services	Medical clinic	Employees	Overflow parking
Convenience store	Residents	Entertainment centre	
		Religious institution	

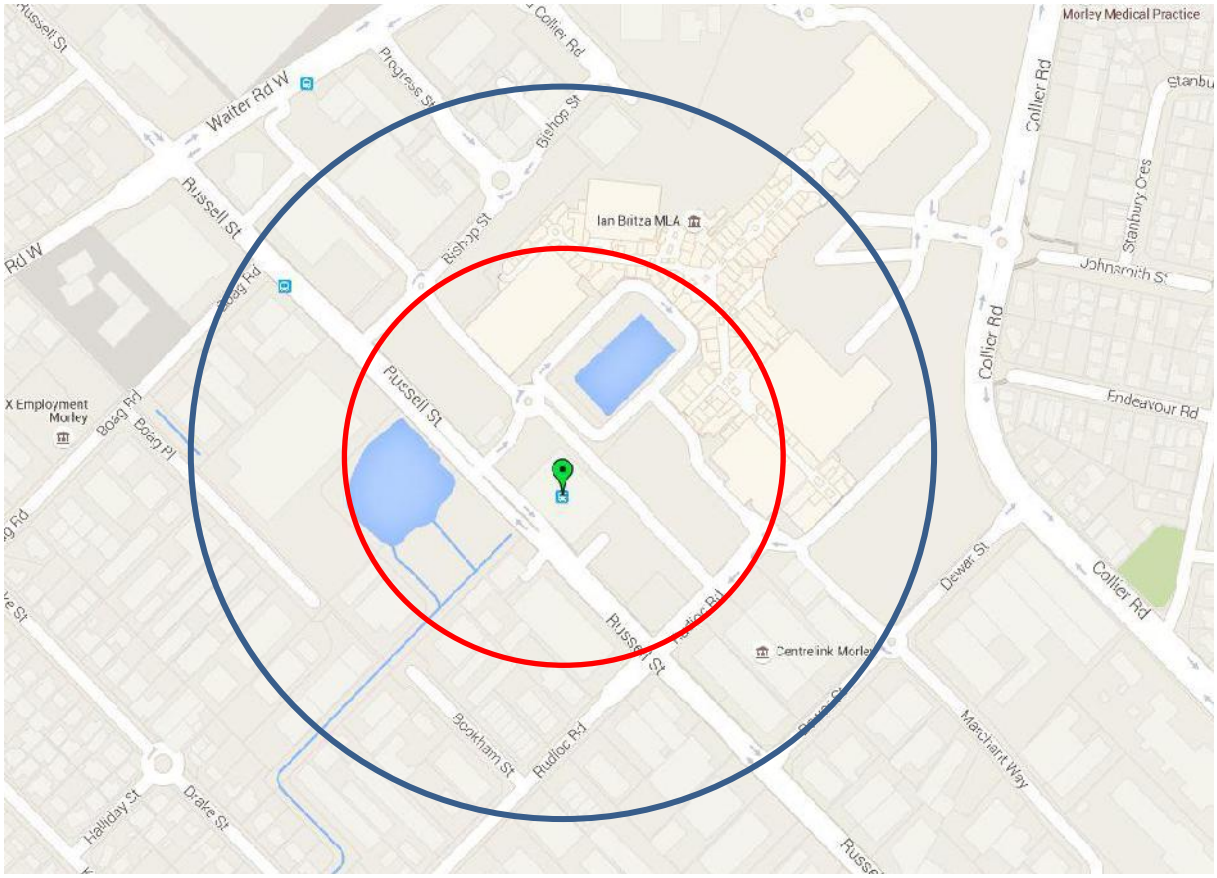
Note: This table assumes 'good' pedestrian conditions which include level ground and good quality footpath, pram crossings and mild weather.

Identifying the Bus Station as a key intersection point for the Core Centre Precinct, a straight line 250 m (< 5 minutes) and 400 m (< 10 minutes) walk is shown within the circles in Figure 15.3. This information adjusted for network distance[42] should be easily available to drivers and pedestrians.

[41] http://www.vtpi.org/ British Columbia, Canada.

[42] https://www.walkscore.com/score/progress-st-morley-wa-australia

Figure 15.3: Illustration of 250 m (5 minutes) and 400 m (10 minutes) straight line walking distance from Morley Bus Station



15.4 Transport Assessment Reports – Uloth

The City has provided Luxmoore with two reports prepared by Uloth and Associates, who have recently completed traffic modelling and analysis for finalisation of the MAC Structure Plan. A further report prepared by Uloth for to accompany the current development application for the redevelopment/expansion of the Galleria Shopping Centre has not been provided. The three reports are:

1 Morley Activity Centre Structure Plan – Transport Assessment Report prepared for the City of Bayswater and Vicinity Centres. Uloth and Associates 30 May 2016[43] (Uloth Report 1) 30 May 2016.

2 Galleria Shopping Centre Redevelopment – Transport Assessment Report for Development Application prepared for the City of Bayswater and Vicinity Centres[44]. Uloth and Associates (Uloth Report 2).

[43] Morley Activity Centre Structure Plan, Transport Assessment Report, prepared for City of Bayswater by Uloth and associates, 30 May 2016

[44] Source to go in

3 Morley Activity Centre Structure Plan and Galleria Shopping Centre – Traffic Modelling Report prepared for the City of Bayswater and Vicinity Centres[45]. Uloth and Associates (Uloth Report 3). 30 June 2016.

The above reports are centred around traffic modelling undertaken to predict trip generation for the year 2031, as affected by anticipated future development of the MAC. A 55% increase in daily trip generation is predicted for the MAC; from 91,160 vehicle trips in 2015 to 142,000 trips in 2031. The primary objective of the modelling exercise was to determine required intersection upgrades and an equitable method for requiring developer contributions. However, Uloth Report 1, also uses the information in its overall transport assessment for the MAC; public transport, walking and cycling and car parking.

Table 15.5 (or Table B.4) in Uloth Report 1 (below) distributes predicted trips amongst 15 zones within the MAC. The zones (illustrated in the figure below – Uloth Report 1 (Figure 15.4) are defined by street boundaries. In most cases, they can be matched up with the MAC Precincts, however, there is some overlap.

Table 15.5: Extract from Uloth Report 1 – (Table B4) Existing and Proposed Overall Traffic Generation – Galleria Shopping Centre Development

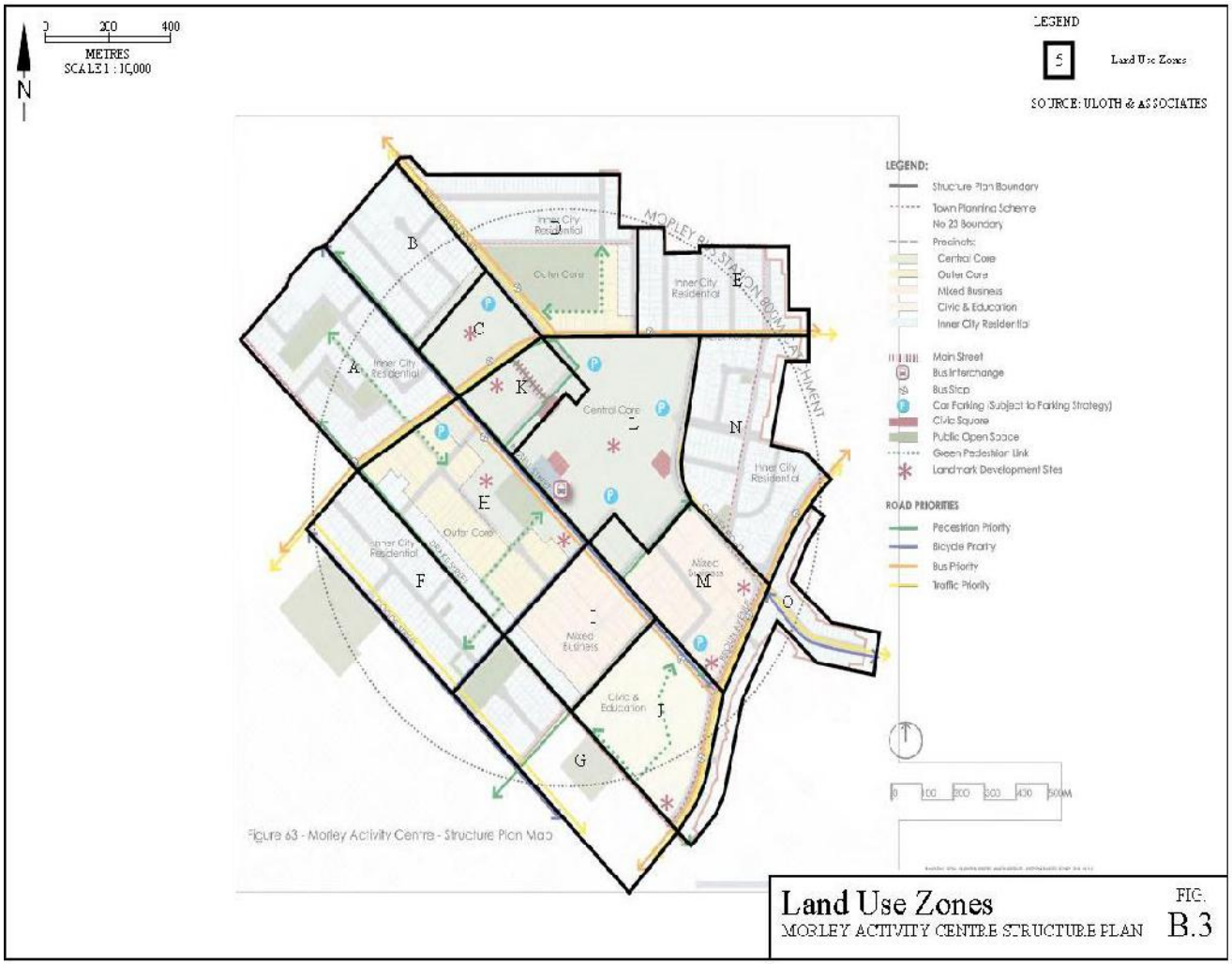
TABLE B.4
EXISTING AND PROPOSED OVERALL TRAFFIC GENERATION
GALLERIA SHOPPING CENTRE REDEVELOPMENT

ZONE	DAILY TRAFFIC GENERATION	
	Existing (2015)	Future (2031)
A	3,520	4,400
B	4,530	5,300
C	6,830	10,070
D	3,050	4,440
E	2,000	2,740
F	2,540	3,420
G	1,410	2,390
H	7,140	9,920
I	5,080	6,540
J	610	1,040
K	5,410	9,830
L	37,430	67,120
M	3,590	5,130
N	5,670	6,800
O	2,350	2,860
Total MAC	91,160	142,000

Source: Uloth and Associates

[45] Source to go in

Figure 15.4: Extract from Uloth Report 1 – (Figure B3) Land Use Zones



The zones illustrated above came from land use data used for base modelling. The data provides residential population and employment figures for 2011 and forecast figures for 2031, see Uloth Report 1 Table 15.6 (or Table B.1) below.

Table 15.6: Extract from Uloth Report 1 – (Table B1) Existing and Future Land Use Data

TABLE B.1
EXISTING AND FUTURE LAND USE DATA (FROM STEM MODEL)
MORLEY ACTIVITY CENTRE STRUCTURE PLAN - EXCLUDING GALLERIA SHOPPING CENTRE

	2011				2031			
ZONE[1)]	No. Dwellings	Population	Employ-ment	Enrolment	No. Dwellings	Population	Employ-ment	Enrolment
A	220	480	50	216	335	758	66	74
B	145	316	73	142	290	656	94	64
C	0	0	575	0	300	679	684	67
D	63	137	183	62	315	713	303	70
E	210	458	28	206	290	656	37	64
F	230	501	56	225	260	588	75	58
G	180	392	77	176	225	509	83	50
H	10	22	582	10	505	1,142	781	112
I	0	0	421	0	220	498	502	49
J	0	0	320	0	0	0	465	0
K	0	0	801	0	310	701	1,007	69
L[2)]	-	-	-	-	-	-	-	-
M	0	0	490	0	190	430	586	42
N	210	458	77	206	365	826	192	81
O	100	218	48	98	160	362	70	36
Total	1,368	2,982	3,781	1,342	3,765	8,518	4,945	836

Notes: 1) Land Use Zones as shown in Figure B.4.
2) Data for Zone L (Galleria Shopping Centre) is excluded, since it was replaced in the traffic model by more specific data presented in Chapter B.2.

Source: Uloth and Associates

As mentioned above, all modes of transport are considered in addressing future access needs for the MAC. The following quote from Uloth Report 1 sums up their aim for a balanced mode share:

> "By promoting a more efficient public transport system, improved cycling infrastructure and a more attractive pedestrian environment, it is possible to achieve a more balanced mode share, reducing the reliance on private car trips to and from *the Activity Centre. However, road and intersection upgrades are also important to achieve sufficient traffic capacity on roads identified for traffic priority, enabling other roads to be downgraded for bus, bicycle and pedestrian priority."* Uloth Report 1 p4, 4.1 Overall Structure Plan

15.4.1 Proposed Parking Strategy

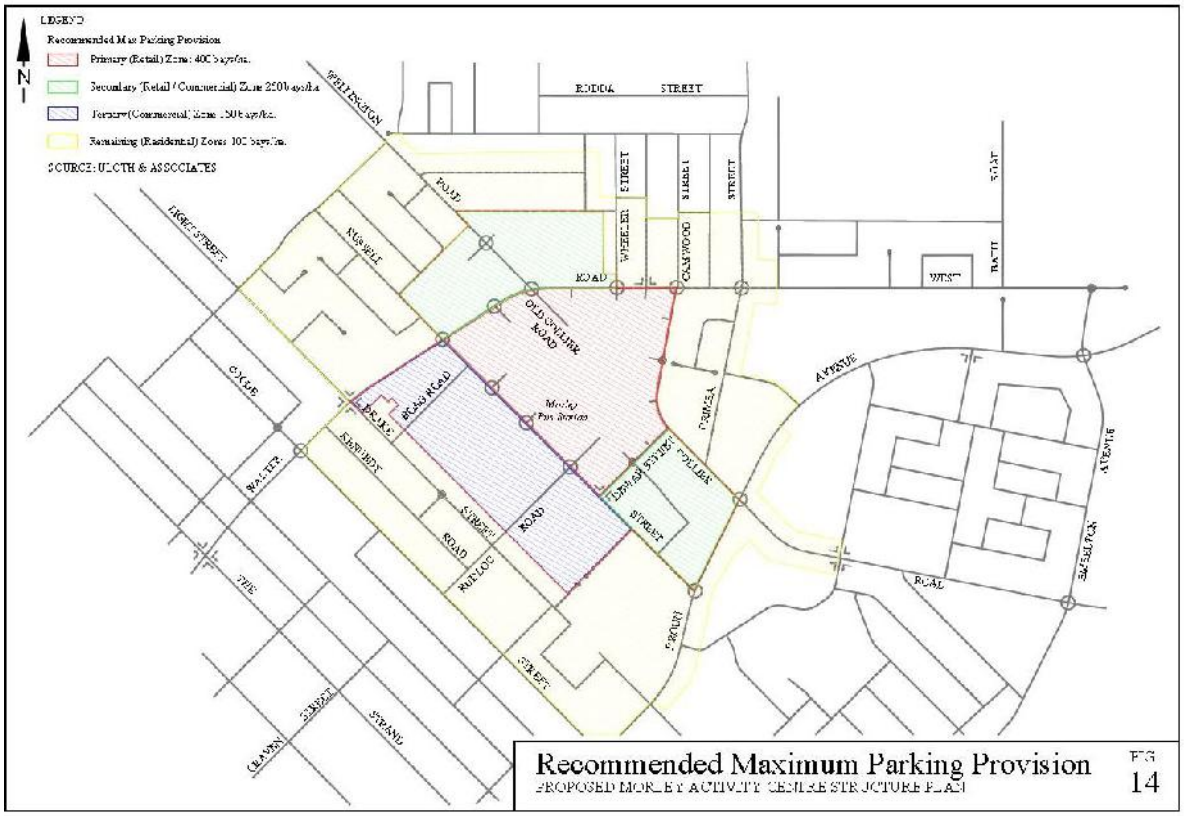
Uloth Report 1 includes a proposed parking strategy for allocation of parking across the MAC. It proposes minimum parking requirements of 1 bay per 25 sqm for retail floorspace and 1 bay per 50 sqm for other non-residential floorspace (office etc.). These ratios are similar to, but, a simplification of those recommended in the MAC Structure Plan.

The strategy goes further, to propose an overlaying maximum parking provision (cap), to limit the ultimate parking supply in the MAC, as it proceeds towards its planned growth. The proposed cap is based on site area, as follows:

Primary Retail (Galleria)	Maximum 400 spaces per Hectare of site area
Secondary Retail/Commercial	Maximum 250 spaces per Hectare of site area
Tertiary Commercial	Maximum 150 spaces per Hectare of site area
Remaining (Residential)	Maximum 100 spaces per Hectare of site area

The above mentioned zones are illustrated in Figure 15.5, Uloth Report 1, below:

Figure 15.5: Extract from Uloth Report 1 – (Figure 14) Recommended Maximum Parking Provision



The parking cap zones have been defined, having regard for their accessibility to the road network, future road capacity and also by making an assumption on the extent of development (plot ratio) likely to occur there. Taking into consideration these factors, the highest allocation of parking is centred on the Galleria Shopping Centre, recognising its current, proposed major expansion and significance as the focus of the MAC, underpinning its future growth.

A further element of the proposed strategy is that at least 50% of the bays are provided in Council managed public carparks.

In principle, the proposed strategy in Uloth Report 1 is consistent with the principles recommended in the Car Parking Management Plan. The floorspace ratios are generally consistent with those recommended in the MAC Structure Plan and the proposed site area parking maximums recognise the need to contain future parking provision.

To implement the strategy, suitable provisions would have to be placed in the Town Planning Scheme. The existing parking table may be simplified, the parking cap overlay being added and appropriate clauses inserted regarding the provision for public parking. Before doing so, however, these measures need to be tested, to determine their affect on property development and how this aligns with the objectives in the MAC Structure Plan.

In the case of the proposed parking cap, assuming minimum parking ratios are met, resulting development potential (plot ratio) would be as follows:

Bays per Ha	Plot Ratio (Retail)	Other commercial
400 bays per Ha	1:1	2:1
250 bays per Ha	0.625:1	1.5:1
150 bays per Ha	0.375:1	0.75:1
100 bays per Ha	0.25:1	0.5:1

Some of these limits might prove to be unduly restrictive, reducing incentive for property development. This can be overcome by allowing a relaxation of minimum parking ratios, relying upon greater use of alternate transport modes.

The strategy of 50% of parking being provided in (Council operated) public carparks poses a particular challenge. An effective cash-in-lieu policy to fund these facilities is critical. In the longer term, other avenues; pay parking, enforcement and possibly a parking levy, will contribute towards paying for these facilities. As raised in this Car Parking Management Plan (see Section 9 and 16), identifying potential sites and developing a plan for delivering public carparks is fundamental to implementing cash-in-lieu policy. Without a clear plan and indicative timetable by the City, landowners/developers are going to be reluctant to contribute cash-in-lieu. Further, this strategy reinforces the importance of Council taking a greater role in the supply and management of car parking, both public and private. In addition to Council securing adequate funding, finding suitable, available sites is likely to prove difficult. A 50% target may prove to be beyond reach. This target needs to be carefully examined before considering adoption.

15.4.2 MAC Precincts

The transport assessment is also examined in relation to each MAC Precinct later on in this report (ref individual precinct Section 18–22). It is to be noted that the precincts are defined in terms of their land use function and do not exactly match up with the 15 street boundary zones identified for traffic/access assessment.

16 APPLICATION OF CASH-IN-LIEU

Section 9 in Part A addresses the issue of charging cash-in-lieu instead of providing onsite parking. Cash-in-lieu is particularly beneficial when parking needs to be limited which is essential for the long term sustainability of some of the precincts in the MAC. Some of the key benefits are listed in Section 9.1 of Part A:[46]

Cash-in-lieu payments, received by the City to 28 February 2017 amounted to $193,000. This will not fund the supply of many parking bays if land must be purchased. Even where land is already owned by the City, this will not fund more than a few bays in a deck car park.

If adopting and implementing a cash-in-lieu policy, and in order for it to have any meaningful effect, the City should:

- charge a rate that reasonably reflects the cost of otherwise providing the required bays (a recommended formula is contained in Section 9.3.2 of Part A); and Section 16.1.1.
- apply the policy consistently.

It is also important to have a plan for the use of cash-in-lieu funds collected. This may be for provision of public parking or investment in improved access or facilities for alternate transport modes.

Although Figure 61 of the MAC Structure Plan identifies potential locations for long term and short term facilities, it is considered that there is no need to build any carparks in the next 5 years.

16.1.1 Cash-In-Lieu Formula

The following formula is proposed for the calculation of the fee in the City[47]:

$$C = (A1 \times (((A2/A3) \times A4) + A5 \times A6)))$$

The six variables for the formula are set out in Table 9.1. It requires a land value for each precinct and a construction cost per space. The land value should be based on a valuation for each precinct set by the City every 2 years. As an example, the formula has been applied in the right hand column to 20 bays within an 8 storey building.

Table 16.1: Variables for formula

Variable	Unit	Variable description	Example
C	$	Total cash-in-lieu contribution	–
A1	Spaces	Number of parking spaces required under planning scheme which are not being supplied	20 spaces
A2	m^2	Land area per space	32 m^2
A3	Levels	Number of building levels (including parking levels)	8 levels
A4	$/$m^2$	Land value per m^2	$1200/$m^2$
A5	m^2	Floor area per parking space	25m^2
A6	$/$m^2$	Construction cost per parking space	$1000/$m^2$

[46] Part A, Section 9

[47] ACT Government, Parking Supply Option Study, Luxmoore Parking Consulting Report No. 001239, 24 May 2010.

Using the example figures, the cash-in-lieu formula would yield a fee of $596,000 ($29,800 per space) prior to any discounts.

16.1.2 Discount

The fee may be discounted by the City to a maximum of 50%, subject to the development meeting any of the following criteria and no other reduction on parking supply having been permitted:

- the developer can show access to alternative options to accommodate the transport access requirements of those potential users of the development for whom on-site parking will not be provided;
- there exists adequate provision for car parking in the proximity of the proposed development;
- the development will contribute significantly to the streetscape and will encourage the upgrading of the locality; and
- the City is satisfied that public transport facilities are available to satisfy the transport access demands of employees, residents and visitors to the development.

16.2 Allocation of Income

The agreed fee shall be paid in two equal instalments, one immediately prior to commencement of the development and the balance prior to practical completion of the development.

Income received as parking cash-in-lieu is to be allocated to a special fund for accessibility infrastructure improvements including:

- purchase of land for parking;
- construction of parking bays by the City or within a joint venture;
- a shuttle bus service in the City;
- improving parking information systems;
- a real-time transit information system;
- security lighting and improved pathways to access parking area;
- cycle paths and other cycling support facilities; and
- upgrading the design of on-street parking facilities.

There should be no guarantee that income generated from cash-in-lieu will be used to provide additional parking supply.

16.3 Other Revenue Sources

It will be many years before paid parking in the City will produce any significant revenue. While an increased level of enforcement will likely see an increase in the number of infringements issued, the City should not focus on this source. In the longer term, when the MAC reaches its predicted growth level, pay parking will make a valuable contribution towards overall parking and travel demand management.

17 RECOMMENDATIONS COMMON TO ALL PRECINCTS

The following comprises recommendations common to all five precincts with a prioritised timeline for implementation being Urgent, Necessary and Desirable. The specific recommendations are detailed and referenced to Part A.

Table 17.1: Urgent 1-3 Years

ACTION	PART A
6.1.1 Statutory planning ▪ Introduce a cap on parking provision for new development of a maximum 20% above minimum standard (as set out in Table 3-2) ▪ Require Parking Control and Management Plan to be provided for all developments	6.15.1 Appendix A1
6.1.2 Council operations ▪ Review internal organisation structure with view to establishing a more holistic approach towards parking and travel management in general ▪ Provide suitable staff and technology resources in order to increase compliance Consider creating manager position for parking operations Aim for Council to achieve up to 50% ownership or operation of parking in commercial areas.	4.1 4.7 Appendix D
6.1.3 Data ▪ Build a comprehensive data base on all transport modes relating to the MAC ▪ Conduct selected regular surveys (every 1-2 years). Examine level of compliance with time restrictions as well as level of occupancy	4.4 4.4
6.1.4 Policy – parking hierarchy/consistent regime ▪ Adopt Parking Hierarchy as presented in Part A as Council policy ▪ Implement simplified and consistent wayfinding signage and time restrictions to encourage churn, for all Council controlled parking, as follows: – Quick stop/drop off 15 minutes – Short stay 2 hours (2P) – Medium stay 4 hours (4P) – Long term Unrestricted ▪ Short-Medium term bays generally make up 80% of all available parking.	4.2 4.6
6.1.5 Cash-in-lieu (ref Recommendations Section 5 and 9 Part A) ▪ Charge a rate that reasonably reflects the cost of otherwise providing the required bays (recommended formula per Part A). ▪ Apply the policy consistently. ▪ Develop a plan for the use of cash-in-lieu funds collected. This may be for provision of public parking or investment in facilities for alternative transport modes as well as parking.	9.6 9.6 9.6

Table 17.2: Necessary 3–5 Years

ACTION	PART A
6.2.1 Parking controls ▪ Introduce on - and off-street pay parking, as need arises, as a measure to control use and maintain peak demand below 85%	8.4
6.2.2 Enforcement ▪ Offer compliance monitoring/enforcement service for large privately owned business centres	4.7
6.2.3 Alternative modes ▪ Encourage different forms of alternative transport through pricing and amenity measures (ref MAC Structure Plan proposals)	4.9

Table 17.3: Desirable 5 Years and Beyond

ACTION	PART A
6.3.1 Travel demand management ▪ Established, resourced parking management structure in the Council. ▪ Established functioning Parking Reference Group with representation from major stakeholders.	4.1, 4.7
6.3.2 Alternative modes ▪ Parking pricing policy which reflects promotion of alternative modes. ▪ Implementation of MAC Structure Plan proposals for "Transpriority"	

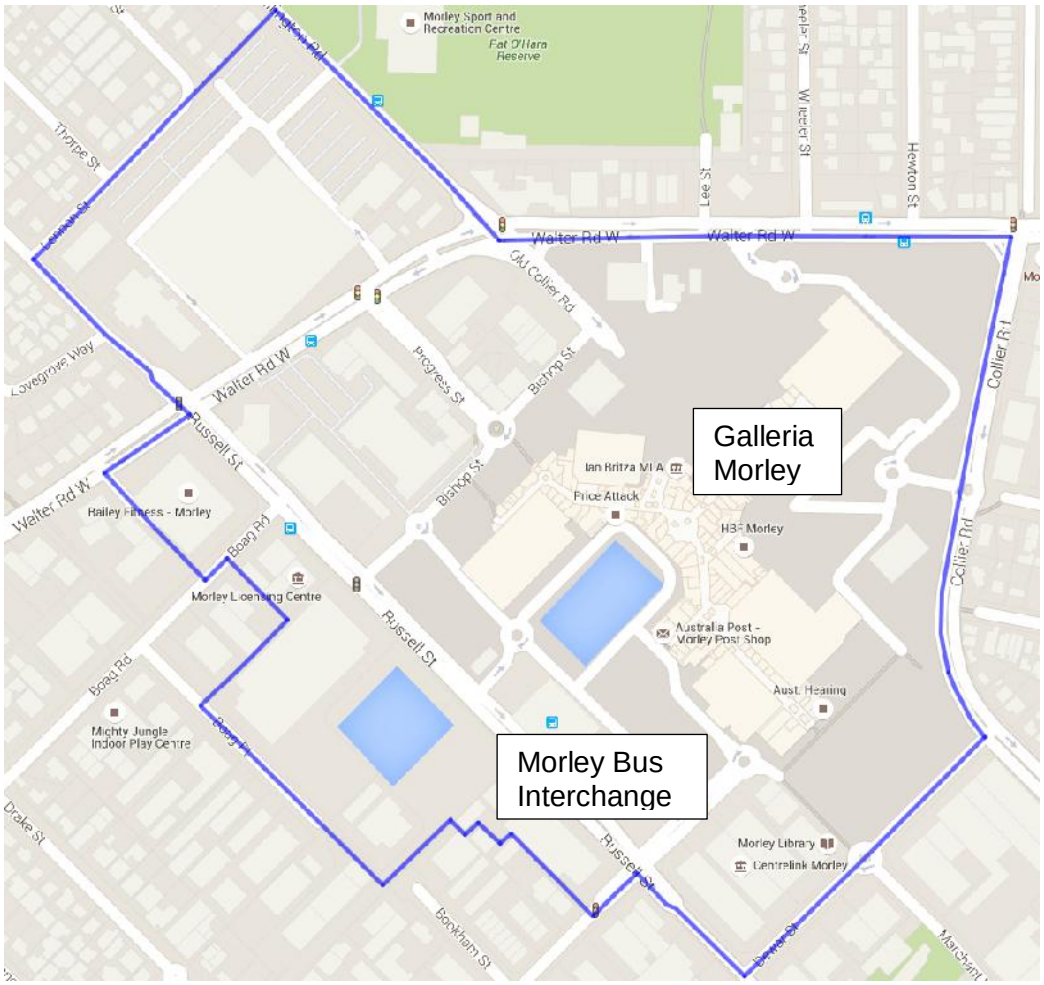
18 CENTRAL CORE PRECINCT

The Central Core precinct comprises a large commercial complex. The Galleria Shopping Centre with a current floor space of 64,550 m^2 served by > 4,200 parking bays is the dominant use and primary focus within the precinct. Significant growth in commercial and mixed use development is planned in the future.

Complementing the commercial centre is the Morley Bus Interchange, also located within the precinct, illustrated in Figure 18.1.

18.1 Precinct Map

Figure 18.1: Central Core precinct



Source: Nearmaps.

The intent of the Precinct Parking Management Plans is to apply the objectives and strategies set out in Part A to the individual needs of the precincts within the centre.

18.2 Objectives

The precinct objectives have been outlined as follows within the MAC Structure Plan:

- convenient, comfortable, safe access for residents, employees and particularly visitors is paramount to the success of the precinct
- encourage a retail environment with active street frontages and high quality streetscapes which provide a strong sense of place
- promote Progress Street as the 'Main Street' within the Precinct and encourage retail diversity and community activity around the town square/piazza
- encourage residential land uses as a vital component of the central core, whilst ensuring that these do not replace active ground floor uses
- encourage land uses which generate activity outside normal business hours and which allow interaction of the street, such as alfresco dining
- allow the Morley Activity Centre to develop as a destination and an iconic tourist attraction
- create vibrant community meeting places
- ensure appropriate transition in development form and intensity between Central Core precinct and adjacent Inner City Residential precincts
- **encourage development which is compatibly located with the Morley Bus Station and encourages the use of public transport, walking and cycling**
- **reduce the amount of visual dominance of expansive at-grade parking areas.**

The last two bullet points shown (in bold) refer specifically to accessibility/car parking. The general intent of all of the objectives however, relies upon balanced and well-managed parking policy.

18.3 Survey Findings

Data collected for the Central Core precinct has been extracted and is presented below.

The Central Core precinct accounts for 6,344 (64%) of all MAC bays; comprising 6,296 off-treet and 48 on-street bays. The Galleria Shopping Centre accounts for > 4,200 of the bays in the precinct.

Survey summary for Central Core precinct:

Table 18.1: Observed occupancy

Time of occupancy	Occupancy	Total % used
Weekday	4390	69%
Saturday	4776	75%

Table 18.2: Parking type – time restrictions

Parking type	Restrictions	Total
Long term	No restrictions and 8P	1690

Parking type	Restrictions	Total
Medium term	3P, 4P, 5P	4240
Short term	15 mins, 30 mins, 1P, 1.5P	414
Total		**6344**

Table 18.3: Parking bays serving different land uses

Land use	Total	Long term bays		Medium term bays		Short term usage	
Retail	6120	1490	24%	4240	69%	390	6%
Car yard	10	10	100%	–		–	
Civic	8	8	100%	–		–	
Commercial	32	32	100%	–		–	
Health	120	120	100%	–		–	
Light industrial	6	6	100%	–		–	
On-street	48	24	50%	24	50%	–	
Total	6344	1690	–	4264		390	

The above data illustrates that, in general terms, the precinct currently has adequate parking provision. Occupancy figures of 69% for weekday and 75% Saturday indicate substantial use, but there is no immediate need to introduce significant new management measures such as ticket machines and paid parking. However, as identified in the MAC Structure Plan and Part A, the City needs to put itself in a position to be able to manage future travel/access as the Central Core precinct expands and matures. In doing so, with the vast majority of parking in the precinct being under private ownership, it is essential that the City engages with major stakeholders at the earliest stage to ensure that they are on board with implementing parking controls and monitoring to match and reinforce the City's new parking management approach.

In the immediate term, it is considered that the precinct be subject to further, more detailed annual surveys, to gain a broader understanding of parking usage; level of compliance with parking restrictions, parking habits around the bus station and identified hotspots. Conduct of these surveys over a similar period to that undertaken in 2015 (i.e. June) would allow for meaningful comparison. This data is important in identifying/informing both short and longer term policy and management measures and would provide a base for future monitoring and action.

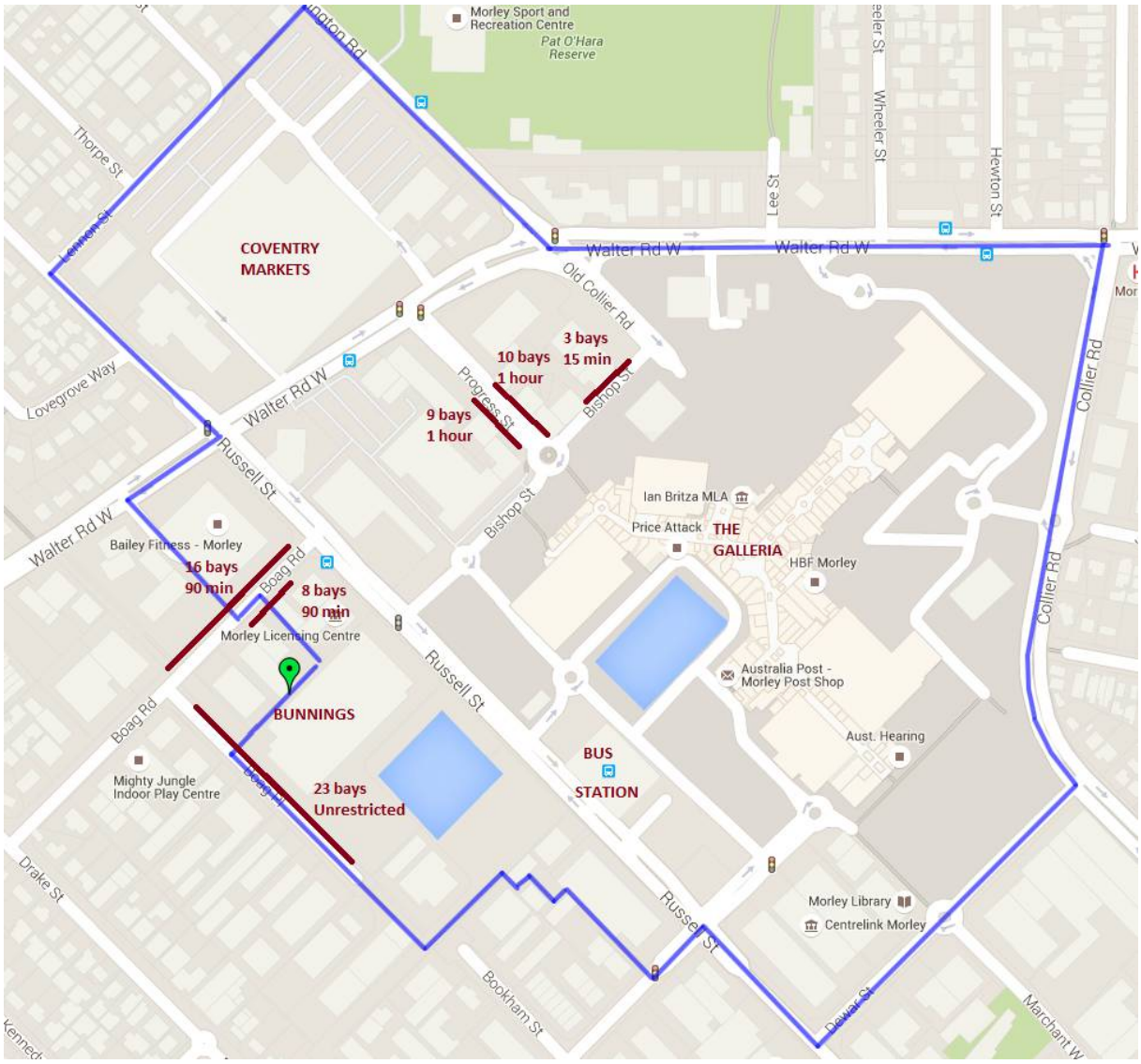
18.3.1 On-street Parking

The 48 on-street parking bays within the precinct are shown on Figure 18.2 below. Within this core area, under the MAC Structure Plan, this is not going to change significantly.

While the survey does not provide any detail on the extent of their occupancy casual observation indicates that the 1-hour bays on Progress Street and the 15-minute bays on Bishop Street are heavily used. Further surveys should include occupancy information, which will assist in whether these time restriction periods need refining. Recognising of course that Progress Street is identified in the MAC Structure as an urban square and may eventually

have no parking. There may be some potential to change some parking on Progress Street to 30 minutes to increase churn at peak times. To be effective, this time restriction must be monitored and enforced.

Figure 18.2: On-street parking in Central Core precinct



18.3.2 Council Carparks

There are five Council owned carparks located within the Central Core precinct. Four are located within the area between Bishop Street and Walter Road West.

Table 18.4: Table 18-4 Council owned car parks

Car Park ID	Location	Time restriction	Street	Suburb	No. bays	ACROD Bays	Other bays	Angle	Estimated occupancy	Notes
CP077	Boag Road Shops	90 Mins	Boag Road	Morley	46	0	0	Parallel	60%	

Car Park ID	Location	Time restriction	Street	Suburb	No. bays	ACROD Bays	Other bays	Angle	Estimated occupancy	Notes
CP081	Les Hansman Centre	3P	Walter Road West	Morley	182	10	3	90 deg	30%	Other: 3 loading bays
CP082	Morley Shops	3P/Private	Bishop Street	Morley	9	0	1	90 deg	30%	Other: 1 loading bay
CP083	Morley Shops	1P	Progress Street	Morley	19	2	0	45 deg	40%	
CP084	Morley Shops	3P	Old Collier Road	Morley	43	2	5	90 deg	20%	Other: 4m/c bays, 1 No Parking
Total					**689**	**25**	**16**			

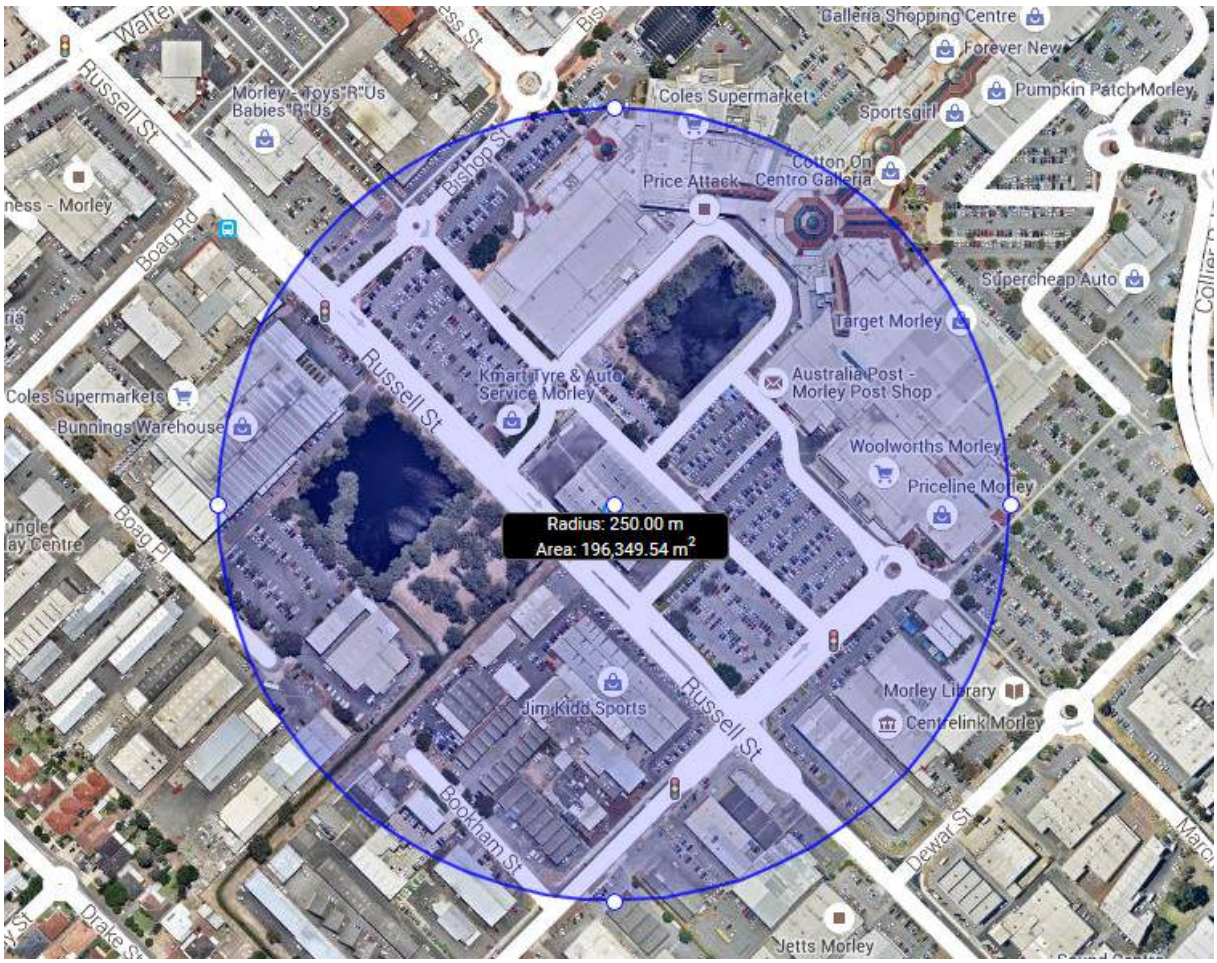
CP081 is a large carpark, intended to serve the Les Hansman Community Centre and operates in a shared parking arrangement with adjacent shopping carparks. It has been identified in the MAC Structure Plan as a potential commuter carpark that may be considered by the City as part of the Les Hansman redevelopment.

The other four carparks appear to be remnants of a past era, when local governments sometimes provided parking to serve local shopping areas (usually traditional strip centres). These assets appear to have limited potential for expansion as car parks, however, they can potentially be sold to provide funding for other parking or transport facilities. The sale will have only a small impact on the City influence over parking.

Current time restrictions may require revision when implementing a simplified regime.

18.4 Walking Distances

Figure 18.3: Central Core 250 m walking distance from bus station



The Draft (CPMP) for the MAC proposes a number of recommendations/actions that are aimed at positioning the City to better manage future travel demand, as the centre expands towards its predicted growth. In addition to the recommendations common to all precincts as set out in Section 6, Table 18.5 lists precinct specific actions. The recommended actions are referenced back to Part A.

18.5 Parking Management Recommendations

In addition with the recommendations below, reference is made to Section 17 Recommendations Common to all Precincts. Implementation of the measures contained within these recommendations will equip the Council to respond to new demands on parking and access as conditions are seen to be changing.

Table 18.5: Urgent 1–3 years

ACTION	PART A
1. Data	4.4
(a) Map all on-street and off-street car parking as well as alternative mode facilities.	
(b) Using the above information, undertake comprehensive parking survey to understand usage patterns of various bay types. Quantify park and ride demand. Surveying at a similar period to the 2015 survey will provide some useful comparisons.	
2. Enforcement	4.1, 4.7
(a) Focus renewed level of enforcement on Central Core.	
(b) Commence dialogue with managers for the Galleria Shopping Centre and Coventry Markets (as largest centres) regarding consistent approach to parking/travel management.	
3. On-street parking	4.6
(a) Change Boag Road on-street parking from 90 minutes to 2P - monitor compliance. (b) Assess function of Progress Street and Bishop Street on-street parking. Speak with adjacent traders and if considered necessary conduct occupancy period survey and change some bays to 30 minutes	
4. Public education	4.3
(a) With information gathered from detailed mapping and further surveys, build a coherent picture of centre access to guide public use – website, flyers.	
5. Sustainable transport	4.9
(a) Explore opportunities for simple improvements to facilities for users of alternative transport modes (e.g. signage, seating, bike racks and lockers). Note that the MAC Structure Plan proposes grander scale measures over the longer term.	

Table 18.6: Necessary 3-5 years

ACTION	PART A
1. Policy	4.2, 4,6
(a) Simplified, consistent range of time restrictions across all car parking in Central Core. This requires participation from key stakeholders	
(b) Introduce information/way finding package to assist drivers and other mode users in effectively accessing centre.	
(c) Move long term parking away from precinct, except for potential deck parking at Les Hansman,	
2. Enforcement	4.1, 4.7
(a) Establish consistent enforcement arrangements for all major parking providers.	

Table 18.7: Desirable 5 years and beyond

ACTION	PART A
1. Adopt Travel Demand Management (a) Focus on people access not vehicle access (b) Provide efficient and effective alternatives to car access (c) Parking policy and strategy must support sustainable transport (d) The appropriate amount of parking for the centre will be well below the unconstrained demand for parking	

18.6 Future development scenario – parking bay target for year 2031

In Section 23 of this report, scenarios have been examined for the commercial based precincts under scenarios where all available land is developed to its full plot ratio potential and secondly to 50% of the development potential. Future parking requirements have then been calculated on the basis of the current parking to floorspace ratios, as proposed in the MAC Structure Plan.

The scenario of 50% plot ratio development (which includes existing development) is considered a more realistic outcome that could be achieved by the year 2031. Additionally, a reduced mode share of 71% for private vehicles has been applied.

For the Central Core Precinct, a maximum allowable plot ratio of 3.0:1 was applied. The following table illustrates potential parking numbers for the above scenarios.

***Note:** For the 50% scenario, actual figures for the current approved redevelopment proposal for the Galleria Shopping Centre are used, as opposed to those calculated for potential plot ratio.

Table 18.8: Parking Provision Scenarios

Area	Commercial parking @ 100% PR	*Commercial parking @ 50% PR 71% mode share	Current parking available	Additional parking required at 100% PR	Additional parking required at 50% PR
*Galleria Shopping Centre	22,545	8,800	4,200	18,345	4,600
Progress Street Block	4,047	1,437			
Coventry Markets Block	5,398	1,916 **(4,951)****	**2,144	**3,254	**2,807
Russell Street Frontage	4,500	1,598			
Total	**36,490**	**15,349**	**6,344**	**15,225**	**7,407**

**Combined available parking for the Progress, Coventry and Russell precincts.

As identified in Section 23, the additional 15,255 parking bays required at full potential growth is clearly unsustainable. However, in the foreseeable future, this is unlikely to occur.

Assuming the rate of development over the next 15 years reaches 50% of full plot ratio potential, current parking standards, as proposed in the MAC Structure Plan, and reduced reliance on the car, approximately an additional 7,400 parking bays would be provided in the Central Core Precinct. (It is noted that included in this figure is an additional 4,600 bays currently proposed in approved plans for redevelopment/expansion of Galleria Shopping Centre). This number is considered sustainable in overall transport terms, so long as parking is managed so as to ensure maximum efficient use.

To ensure maximum efficient use of parking bays, approximately 80% should be provided for higher turnover, short-medium term occupancy. To enable this to occur, Council should position itself to provide and/or operate up to 50% of these additional parking bays i.e.1403.

18.7 Uloth Transport Assessment

The Uloth transport assessment (Refer to Section 15.4 traffic modelling and analysis reports) uses data divided into 15 zones (A – O) within the MAC.

The Central Core Precinct includes zones C, K and L and also extends into part of zones H and M (H – Bunnings, Water Corp, M – cnr Russell/Dewer Streets).

Zone L occupied by the Galleria Shopping Centre**,** is the predominant occupant in the precinct and indeed in the whole MAC, it has been analysed separately from all other zones.

Trip generation:

2015 37,430

2031 67,120

It is of note that there is a predicted 80% increase in trip generation for this zone, compared to the overall predicted increase of 55% for the MAC, placing even greater pressure on this area for active access and parking management.

Shopping Centre Floorspace:

The following table from Uloth Report 1, Table 18.9 (or Table B.2), below, shows existing and proposed floorspace figures for the shopping centre.

Table 18.9: Extract from Uloth Report 1 (Table B2) Existing and Future Floorspace

TABLE B.2
EXISTING AND FUTURE FLOORSPACE
PROPOSED GALLERIA SHOPPING CENTRE PRIMARY DEVELOPMENT

ITEM	EXISTING FLOORSPACE (m^2 NLA)	FUTURE FLOORSPACE (m^2 NLA)
Department Stores	18,844	30,232
Discount Department Stores	15,965	23,210
Mini-Majors	3,834	29,335
Supermarkets	7,127	11,233
Speciality Shops	20,583	66,880 [1)]
Offices/Business/Health	176	1,375
Total (Shopping Centre Proper)	66,529	162,265
Cinema	4,046	7,281
Office Tower	0	7,252
Freestanding (Existing):		
- Dan Murphy's Liquor Store	1,622	1,622
- Fast Eddy's	600	600
- Oporto	395	395
- K-Mart Auto	232	-
- Super Cheap Auto	913	-
- No Limits FMX (currently vacant)	288	-
- The Wash (Car Wash Facility)	85	-
- Total	4,135	2,617
Grand Total Commercial Development	74,710	179,415
Hotel/Serviced Apartments	-	142 Apartments

Notes: 1) Includes 3,335m^2 Non-Retail

Source: The Buchan Group

Applying the parking ratios in the MAC Structure Plan, this would generate a requirement for around 7,000 parking bays, plus around an extra 100 bays for the hotel/serviced apartments. The centre currently has approximately 4,200 bays. Given that the centre is proposed to almost triple in size, and that over half of the overall requirement is already on site, it is plainly evident that available parking will have to be well managed and that the mode share of alternative forms of transport will have to increase. Of particular note in this regard is the proximity of the bus station and catering for park and riders. On the other hand, the bus station is an enormous asset for public access to the shopping centre, as well as to the activity centre as a whole.

The proposed strategy cap of 400 bays per Ha permits a total of 8,800 bays over the 22 Ha Galleria site. Whilst acknowledging the prominence of the shopping centre within the overall activity centre, this figure would appear to be overly generous. As indicated above, the substantial expansion proposed for the centre results in a requirement for roughly 7,000 parking bays, equivalent to less than 350 bays per Ha. Situated at the centre of all alternate transport mode facilities, Galleria is the most accessible part of the activity centre and consideration could be given to reducing the parking cap to 300 bays per Ha, allowing a total of 6,600 bays.

Zone K, is the area between Galleria and Walter Road West, with Progress Street forming a connection through to the Coventry Village Market across Walter Road West.

Trip generation:

2015 5,410

2031 9,830

It is of note that there is a predicted 80% increase in trip generation for this zone, compared to the overall predicted increase of 55% for the MAC, placing even greater pressure on this area for active access and parking management Land use data used in the transport assessment for zone K is as follows:

	2011	2031
Dwellings	nil	310
Population	nil	701
Employment	801	1007

The zone has substantial areas of open air, ground level carparks, which have potential for redevelopment. Current parking facilities are somewhat fragmented and spread among multiple property owners. As this area grows, consolidation of parking should be sought, however, unlike the Galleria Shopping Centre, the provision of large, consolidated parking areas will be difficult to achieve. The Council owned Les Hansman Centre provides one (potential) opportunity for a multi-level carpark and should be earmarked for future development.

Zone C is located to the west of Walter Road west and is mostly occupied by the Coventry Village Markets.

Trip generation:

2015 6,830

2031 10,070

Land use data used in the transport assessment for zone C is as follows:

	2011	2031
Dwellings	nil	300
Population	nil	679
Employment	575	679

The markets site is over four hectares in area, with a large area of open air parking; it presents potential for substantial redevelopment. If this is to occur, the matter of parking and access will require careful attention. Consideration should be given to inclusion of a public parking facility. In the meantime, Council should seriously consider taking on the management of the existing carpark. The markets are already a busy place and as noted earlier in this report, management of parking overspill from the adjacent recreation facilities may have to be dealt with.

The proposed parking strategy for zone C is 250 bays per Ha (as opposed to 400 bays per Ha for the remainder of the precinct). The Coventry Village site has an area of 4.68 Ha. A strict application of the proposed parking strategy would allow the equivalent of approximately 30,000 sqm of retail floorspace. This may prove restrictive in future for such a large site. Reciprocal use of parking across the precinct and access to alternative modes would warrant consideration of some relaxation of parking requirements.

Part Zone H, properties fronting onto Russell Street form part of the Central Core Precinct. Most notably, in this area are the large land holdings occupied by Bunnings and the Water Corporation. These sites offer vast development potential. In addition, the property on the corner of Russell and Rudloc Streets (JA Kidd) is identified in the MAC Structure Plan as a landmark site.

The parking strategy proposes a cap of 150 bays per Ha, which is considerably less than for zones L and K on the opposite side of Russell Street (400 bays per Ha) and for zone C (250 bays per Ha). Whilst appreciating that Russell Street is to become a bus priority route, the proposed parking cap might disadvantage this part of the precinct and perhaps consideration should be given to increasing the cap to 250 bays per Ha (like zone C).

Residential; the addition of residents into the precinct (1,000 dwellings, 2,200+ residents) introduces an added parking management need.

19 OUTER CORE PRECINCT

The Outer Core precinct of the MAC is a transition area from the intensive Central Core, with a current mix of generally smaller scale commercial/light industrial uses. It comprises two separate areas, to the north and south of the Central Core. The northern area includes the Pat O'Hara Reserve and Morley Sport and Recreation Centre.

19.1 Precinct Maps

Figure 19.1: Outer Core Precinct (Wellington Street)

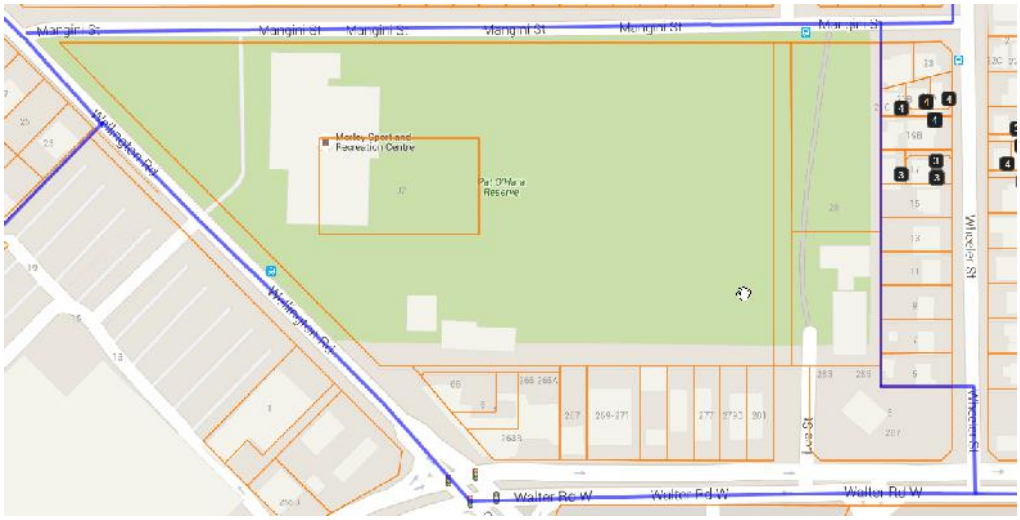
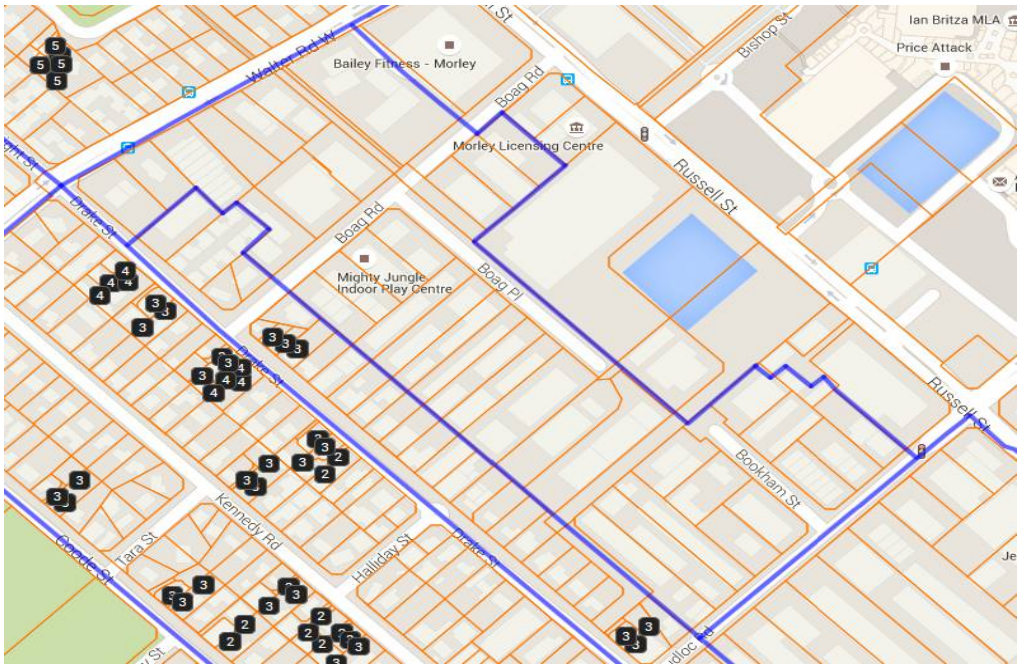


Figure 19.2: Outer Core Precinct (Boag Road)



19.2 Objectives

The precinct objectives have been outlined as follows within the MAC Structure Plan:

- encourage medium to large scale development characterised by a mix of commercial and residential uses.
- encourage active land uses fronting Walter Road West and Wellington Road.
- facilitate a seamless link between the Outer Core precinct and the Morley Bus Station.
- ensure appropriate transition in development form and intensity between the Outer Core precinct and adjacent Inner City Residential precincts.

Access and travel management will leverage off the Central Core facilities and the Morley Bus Station.

19.3 Survey Findings

The Outer Core precinct accounts for 1,160 (12%) of all Morley Activity Centre parking bays; comprising 1,141 off-street and 19 marked on-street bays. The on-street bays have a 90 minute time restriction.

The following is a summary of the survey results for the two precinct areas:

Observed occupancy

Table 19.1: Sub-area North – Total 480 bays

Time of occupancy	Occupancy	Total % used
Weekday	164	34%
Saturday	306	64%

We are advised that in winter months occupancy gets up to 90% plus on Saturdays due to heavy use by the Rugby Club and Coventry's. If the City does take on the management of parking at the Coventry Markets site, a 3P limit at Pat O Hara will need to be implemented, monitored and enforced.

Table 19.2: Sub-area South – Total 680 bays (including 19 marked on-street bays)

Time of occupancy	Occupancy	Total % used
Weekday	343	50%
Saturday	217	32%

Parking type – time restrictions

All off-street parking is unrestricted. The 19 on-street bays in sub-area south are 90-minute bays.

Parking bays serving different land uses

Table 19.3: Sub-area North

Land use	Total
Retail	233
Civic	247

Table 19.4: Sub-area South

Land use	Total
Car Yard	82
Commercial	173
Leisure	12
Light Industrial	247
On-street	19

The above data illustrates that, in general terms, the precinct areas currently appear to have plenty of available parking.

Understandably, use of the recreational facilities on Saturdays increases parking occupancy. The demand for, parking at these facilities can spillover into surrounding areas, particularly into the Coventry Markets carpark. Only the Markets can introduce measures to curtail this usage by non-bonafide patrons. The Markets have installed 3P restrictions in their car park. The City should offer to enforce this time restriction. This will discourage long-term parkers from using the site. Alternatively the markets will need to implement some form of validation to ensure their parkers are also patrons of their business.

The location of the recreation facilities within this sub-area raises the possibility of shared use of parking areas with the neighbouring commercial uses, however, there is also the possibility of conflicting demand at certain periods. Whilst not evident from the survey data, there is anecdotal evidence to suggest parking congestion occurs at certain times. For example, when rugby is played on a Saturday. To manage this situation, it is up to the Council to facilitate discussion with the sports bodies and businesses, to reach an understanding as to how they can function together. As part of this process, it may be necessary for the sporting clubs to develop access/parking management plans for their members, which might involve more strategic scheduling of events/matches, ride sharing, use of alternative modes and identification of alternative available parking options. This can only be resolved through consultation with the parties involved.

19.3.1 On-Street Parking

As indicated above, there are 19 marked on-street parking bays in the southern section of the precinct. These are located on Boag Road and have a 90 minute time restriction. Casual observation indicates that these bays are not used to capacity.

19.3.2 Council Carparks

In the northern area of the precinct, the recreation centre carpark (CP071) has 247 bays, plus 4 motorcycle bays, two bus bays and 51 metres of kerbside space and the carpark for the reserve (CP072) has 110 bays. A small carpark (CP074) with 18 bays serves community

facility; Olive Tree House. Additionally, there is CP079, which has 25 bays serving the Wellington Road shops.

In the southern area of the precinct, (CP078) “Boag Road shops” has 24 bays. As with CP079, mentioned above, this carpark is a remnant of a past era, when local governments sometimes provided parking to serve local shopping areas (usually traditional strip centres). These assets can potentially provide a funding source for other parking or transport facilities.

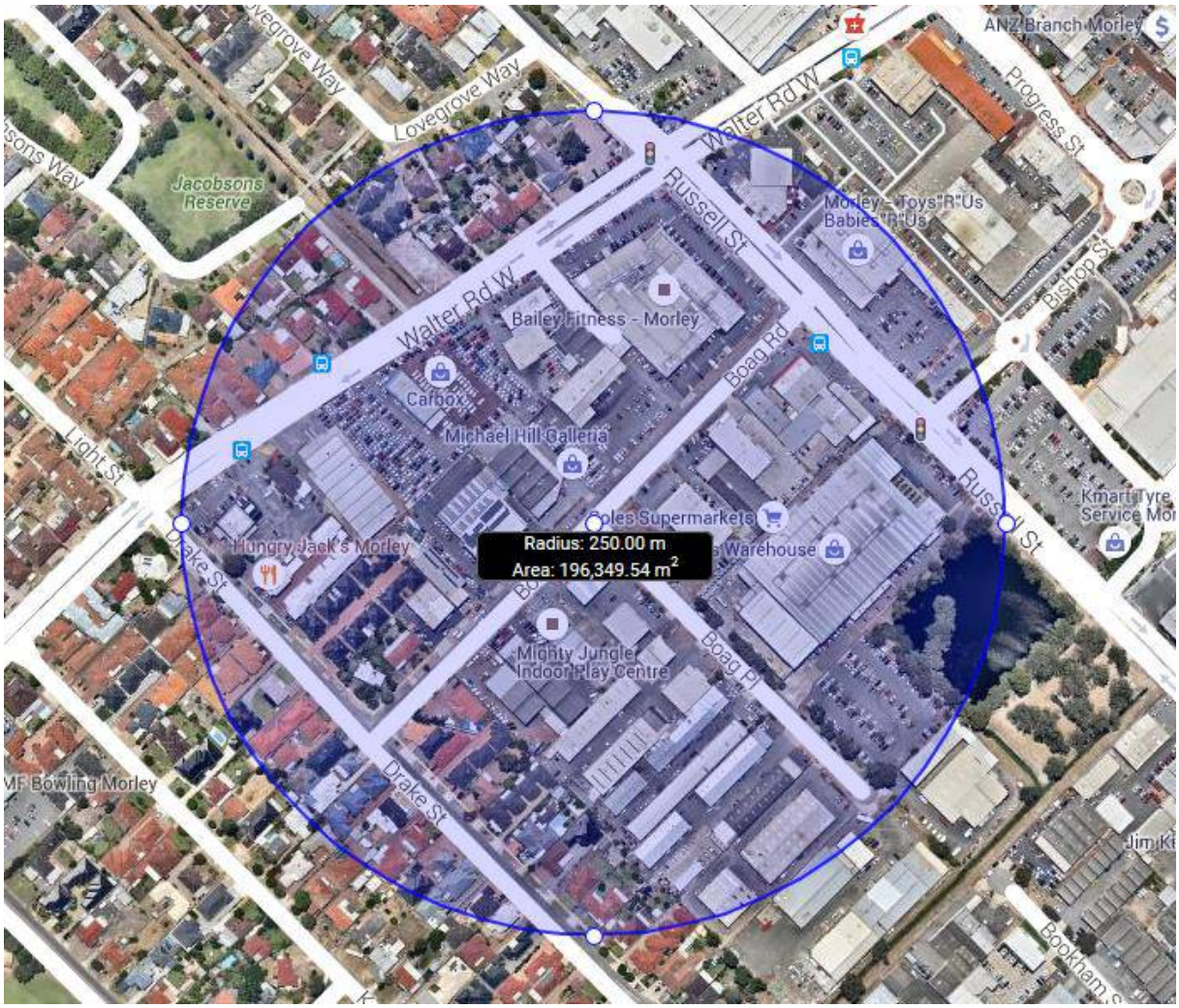
None of these carparks presently has time restrictions. At some point, restrictions will need to be implemented and enforced. This should be either 2P or 4P, to ensure that the bays are available for those to whom they are intended and not to all day parkers.

19.4 Walking Distances

Figure 19.3: 250 m Walking distance from Pat O’Hara Reserve car park

Source: Nearmaps.

Figure 19.4: 250 m Walking distance from Boag Place



Source: Nearmaps

19.5 Parking Management Recommendations

Refer to Section 17 Recommendations Common to all Precincts. Implementation of the measures contained within these recommendations will equip the Council to respond to new demands on parking and access as conditions are seen to be changing.

While parking remains readily available in this precinct, introduction of measures beyond those identified in Section 17 are unlikely to have any significant impact on travel habits. Ongoing monitoring might identify certain hot spots requiring attention, otherwise actions specific to the precinct are dependent on the rate of growth that occurs, as guided by the MAC Structure Plan.

Urgent Action

With regard to the northern part of the precinct, further to discussion in Section 19.3 above concerning possible conflicts between users of the recreation facilities and the adjacent commercial uses (principally Coventry Markets), it is recommended that Council commence dialogue with those responsible for the administration of the various user bodies of the

recreation facilities and to seek comment from nearby business operators as to their perception of how different activities function together.

19.6 Future development scenario – parking bay target for year 2031

In Section 23 of this report, scenarios have been examined for the commercial based precincts under scenarios where all available land is developed to its full plot ratio potential and secondly to 50% of the development potential. Future parking requirements have then been calculated on the basis of the current parking to floorspace ratios, as proposed in the MAC Structure Plan.

The scenario of 50% plot ratio development (which includes existing development) is considered a more realistic outcome that could be achieved by the year 2031. Additionally, a reduced mode share of 71% for private vehicles has been applied.

Table 19.5: Parking Provision Scenarios

Area	Commercial parking @ 100% PR	Commercial parking @ 50% PR 71% mode share	Current parking available	Additional parking required at 100% PR	Additional parking required at 50% PR
Outer Core north	1,104	392	480	624	(88)
Outer Core south	2,894	1,027	661	2,223	366
Total	**3,998**	**1,419**	**1,141**	**2,847**	**278**

The excess parking figure for the Outer Core north area is skewed by the parking provided for the recreational facilities located there. Council carparks serving public recreation facilities are:

CP71 247 car bays, 2 bus bays, 4 m/c bays, approx. 8 unmarked kerbside bays
CP72 110 car bays
CP74 18 car bays.

As discussed in the report, a clearer understanding of the utilisation of these bays (together with nearby commercial bays) by recreational users and shoppers needs to be gained through discussion with sporting clubs and business proprietors. Future use of this parking requires further examination.

The additional 366 bays at 50% growth potential in the Outer Core south area is a 55% increase in parking spaces.

Whilst current parking bay occupancy rates are relatively low, as the Activity Centre grows, there will be greater demand, both from within and possibly from overspill from the Central Core Precinct, requiring more efficient usage. As identified earlier, the potential of the small Council owned carparks should be considered in catering for future demand.

19.7 Uloth Transport Assessment

Refer to Section 15.4. The Uloth transport assessment uses data divided into 15 zones (A–O) within the MAC.

The two zones comprising the Outer Core Precinct, D and H are located on the northern and southern sides of the Central Core Precinct.

Zone D (North) comprises the Morley Sport and Recreation Centre and Pat O'Hara playing fields, with residential to the north and a small strip of commercial fronting Wellington Road.

Trip generation:

2015 3,050

2031 4,440

Land use data used in the transport assessment for zone D is as follows:

	2011	2031
Dwellings	63	315
Population	137	713
Employment	183	303

The primary concern in this zone is to ensure that any competing demand for parking that might arise between the three different land uses is well managed.

Zone H (South), south of Russell Street, extends across two streetblocks; from Walter Road West, crossing over Boag Road, through to Rudloc Road. As mentioned above, the Central Core Precinct extends into this zone. Further, a strip of residential along the southern side (Drake Street) is located in the Inner City Residential Precinct.

Trip generation:

2015 7,140

2031 9,920

Land use data used in the transport assessment for zone D is as follows:

	2011	2031
Dwellings	10	505
Population	22	1142
Employment	582	781

The existing subdivision pattern exhibits relatively large lots, offering considerable development potential. The projected increase in residential population will generate greater demand for on-street parking, which will also be sought by employees and visitors of the commercial uses. Existing parking bay numbers are relatively low. This can be expected to greatly increase as new development occurs.

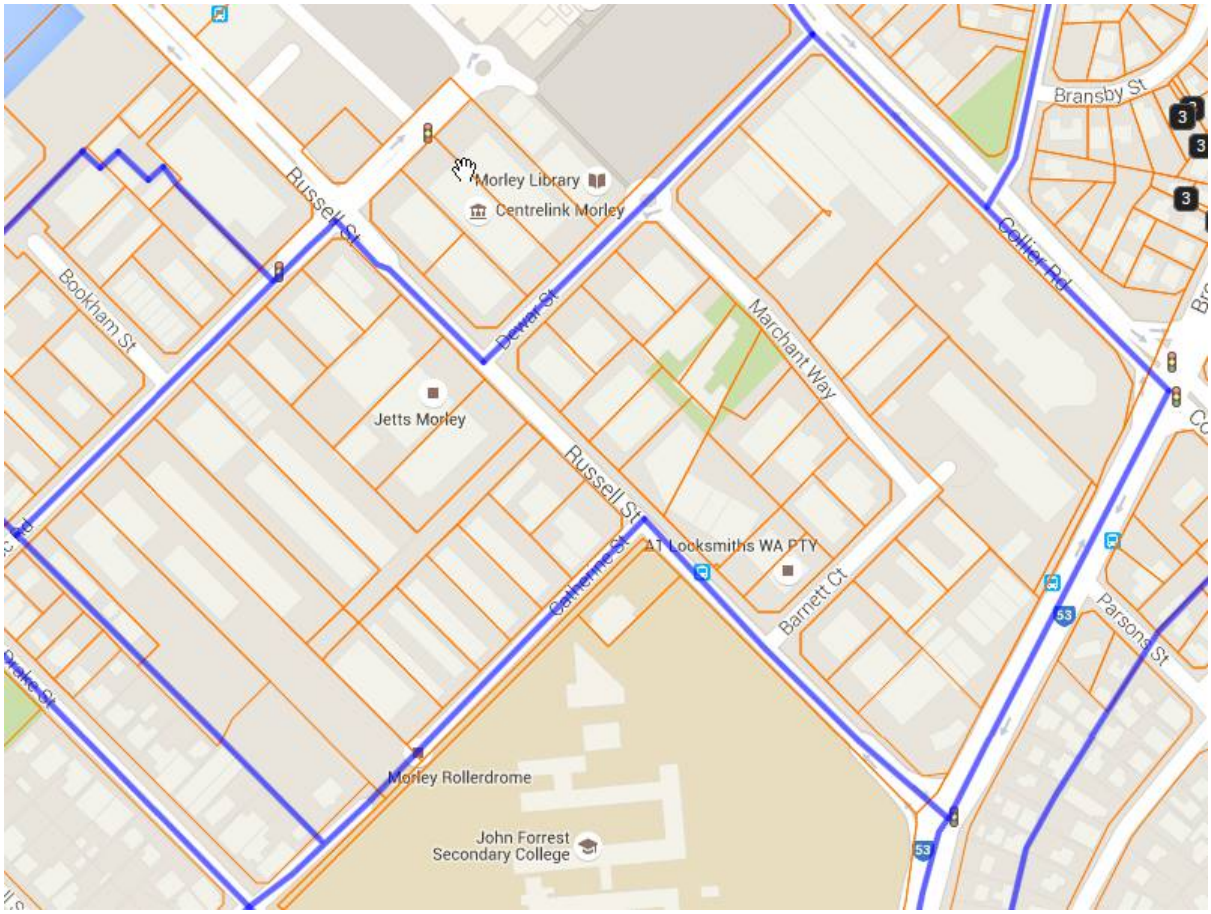
The parking strategy proposes a cap of 150 bays per Ha. Given lower parking demand for residential and general commercial use, this may be appropriate

20 MIXED BUSINESS PRECINCT

20.1 Precinct Map

The Mixed Business precinct of the MAC comprises established bulky goods (showroom sales) and low scale light industry area. The MAC Structure plan reinforces this character.

Figure 20.1: Mixed Business precinct map



20.2 Objectives

The precinct objectives have been outlined as follows within the Morley Activity Centre Structure Plan:

- offer an environment which is suitable for showrooms, sale of bulky goods and small scale light industry
- encourage a transition towards mixed use office, recreation, entertainment and multiple dwellings in the area
- continue to recognise the importance of bulky goods retail along Russell Street
- encourage the replacement of inappropriate industrial uses
- ensure that new developments maintain a suitable buffer and interface with existing industrial uses

- facilitate pedestrian links between the Mixed Business Precinct and the Morley bus station.

Access and travel management will leverage off the Central Core facilities and the Morley Bus Station.

20.3 Survey Findings

The Mixed Business precinct accounts for 1,251 (12.6%) of all Morley Activity Centre bays comprising 1,191 off-street and 60 marked on-street bays. There are no time restrictions on any of the parking bays.

The following is a summary of the survey results:

Table 20.1: Observed occupancy

Time of occupancy	Occupancy	Total % used
Weekday	644	51%
Saturday	540	43%

Parking type – time restrictions

All parking, both off-street and on-street, is unrestricted.

Table 20.2: Parking bays serving different land uses

Land use	Total
Car yard	108
Commercial	260
Leisure	62
Light Industrial	276
On-street	60
Retail	485

The above data illustrates that, in general terms, the precinct currently appears to have plenty of available parking. It is perhaps a little surprising with a precinct of this nature that parking occupancy is higher on weekdays than on Saturdays.

As the activity centre grows, it can be expected that parking will become more congested. Customers of the bulky goods uses located here often rely upon vehicle access to collect their purchases. It is essential that parking that is provided is managed so that it is available to those shopping/trading in the area.

20.3.1 On-street parking

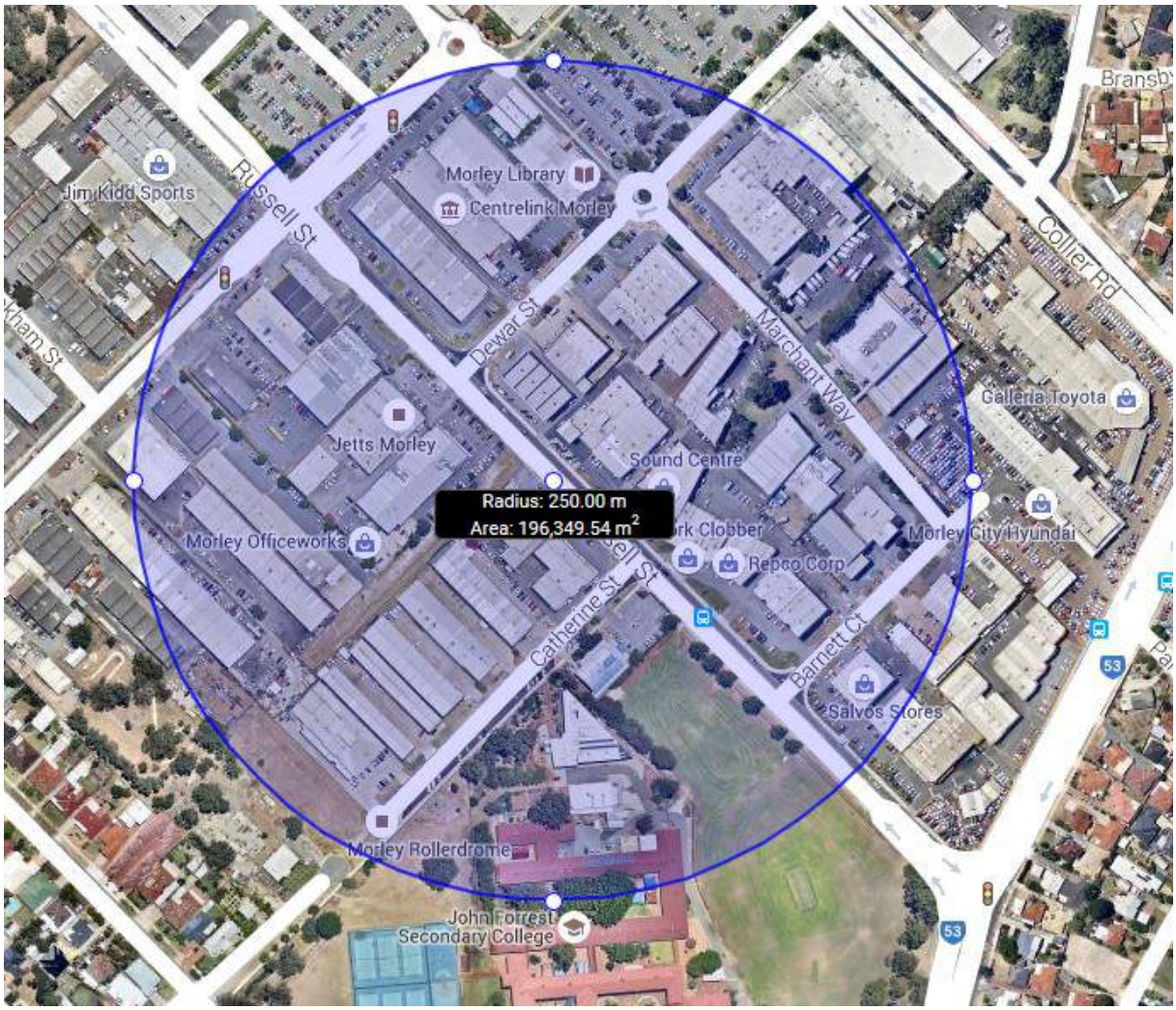
As identified above, there are 60 marked on-street parking bays in the precinct. There is no time restriction on these bays.

20.3.2 Council Carparks

There are no Council owned carparks in this precinct.

20.4 Walking Distances

Figure 20.2: 250 m Walking distance (from between Catherine and Dewar streets Russell St, Mixed Business precinct)



Source: Nearmaps.

20.5 Parking Management Recommendations

Refer to Section 17 Recommendations Common to all Precincts. Implementation of the measures contained within these recommendations will equip the Council to respond to new demands on parking and access as conditions are seen to be changing.

While parking remains readily available in this precinct, introduction of measures beyond those identified in Section 17 are unlikely to have any impact on travel habits. Ongoing monitoring might identify certain spots requiring attention, otherwise specific to the precinct are dependent on the rate of growth that occurs, as guided by the MAC Structure Plan.

In this precinct, the objective in the MAC Structure Plan of transitioning towards a wider range of uses, including residential, will see over time competing demand for available parking which will require closer management. Further, as conditions become more congested in the Central Core, if allowed to happen, parking will spill over into the precinct.

Urgent Action

Examine use of kerbside parking to determine if time restrictions required.

20.6 Future development scenario – parking bay target for year 2031

In Section 23 of this report, scenarios have been examined for the commercial based precincts under scenarios where all available land is developed to its full plot ratio potential and secondly to 50% of the development potential. Future parking requirements have then been calculated on the basis of the current parking to floorspace ratios, as proposed in the MAC Structure Plan.

The scenario of 50% plot ratio development (which includes existing development) is considered a more realistic outcome that could be achieved by the year 2031. Additionally, a reduced mode share of 71% for private vehicles has been applied.

Table 20.3: Parking Provision Scenarios

Area	Commercial parking @ 100% PR	Commercial parking @ 50% PR 71% mode share	Current parking available	Additional parking required at 100% PR	Additional parking required at 50% PR
Mixed Business	5752	2,024	1,191	4,561	833
Total	**5752**	**2,024**	**1,191**	**4,561**	**833**

As identified in Section 23, the additional 15,255 parking bays required at full potential growth is clearly unsustainable. However, in the foreseeable future, this is unlikely to occur.

The additional 833 bays at 50% growth potential is a 70% increase in parking spaces.

Whilst current parking bay occupancy rates are relatively low, as the Activity Centre grows, there will be greater demand, both from within and possibly from overspill from the Central Core Precinct, requiring more efficient usage. As identified earlier, as the precinct transitions towards a wider range of uses, including residential, there will be competing demand for available parking. Council will need to take a proactive role in managing the use of available parking to ensure it serves its intended purpose. To enable this to occur, Council should position itself to provide and/or operate up to 50% of these additional parking bays i.e.416.

General principles have been outlined in the report above[48]. Specific sites will depend on when land becomes available

20.7 Uloth Transport Assessment

Refer to Section 15.4. The Uloth transport assessment uses data divided into 15 zones (A – O) within the MAC.

The two zones comprising the Mixed Business Precinct, I and M, are located either side of Russell Street south of Rudloc/Dewer Streets.

Zone I, is located west of Russell Street, between Rudloc and Catherine Streets.

Trip generation:

2015 5,080

2031 6,540

Land use data used in the transport assessment for zone D is as follows:

	2011	2031
Dwellings	Nil	220
Population	Nil	498
Employment	421	502

Zone M, is located opposite zone I on the eastern side of Russell Street, between Dewer. Street and Broun Avenue.

Trip generation:

2015 5,080

2031 6,540

Land use data used in the transport assessment for zone D is as follows:

	2011	2031
Dwellings	Nil	190
Population	Nil	430
Employment	490	586

As with the Outer Core Precinct, land parcels are relatively large, offering potential for significant redevelopment schemes. The showroom uses which characterise the precinct are dependent to a large degree on available parking for customers. As new development, with

[48] Sections 4.7, 11.1.4

other planned uses, move into the area, there will be greater competition for available parking.

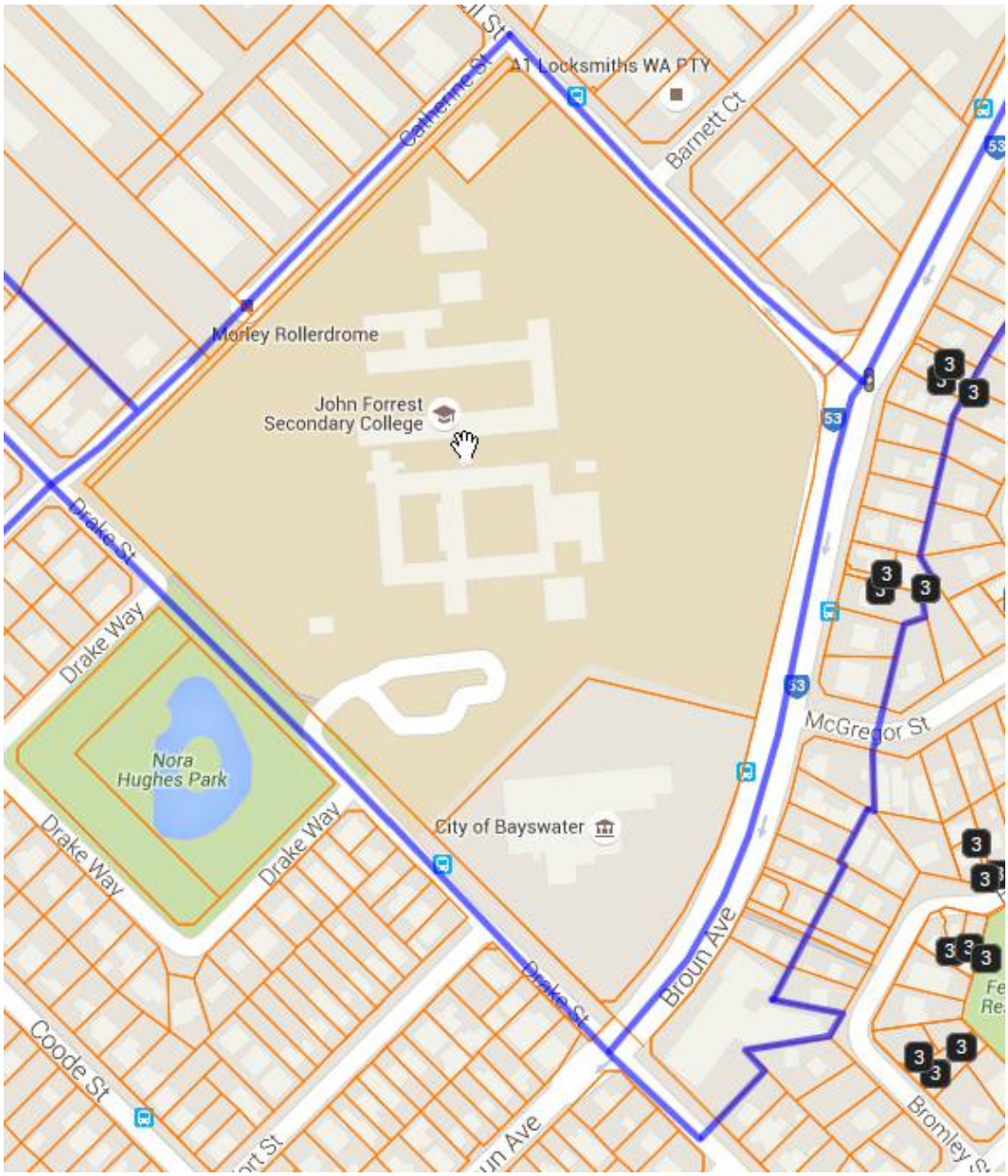
The parking strategy proposed cap has different site area limits for the two zones in this precinct; 150 bays per Ha for zone I and 250 bays per Ha for zone M. These limits are based on better road accessibility for zone M, however, this inconsistency is likely to adversely affect achieving the planning objectives of the precinct as a whole. If Council is to adopt the strategy of a site area parking cap, consideration should be given to zone I having the same limit as zone M, i.e. 250 bays per Ha.

21 CIVIC AND EDUCATION PRECINCT

The Civic and Education precinct of the MAC comprises the John Forrest High School and the City of Bayswater offices and civic centre.

21.1 Precinct Map

Figure 21.1: Civic and Education precinct



21.2 Objectives

The Precinct objectives have been outlined as follows within the Morley Activity Centre Structure Plan:

- encourage the introduction of land uses which support the civic role of the precinct and activate the precinct outside of normal business hours
- encourage public open space which promotes surveillance and safety within the precinct
- provide a seamless and comfortable connection with the core of the Morley Activity Centre
- improve the quality and safety of existing pedestrian linkages within the precinct
- minimise the incidence of blank walls and areas with limited or no surveillance
- incorporate public art and high quality landscape elements

These objectives continue the general theme throughout the MAC Structure Plan for enhanced connectivity between precincts, with reduced dominance of the private motor vehicle.

21.3 Survey Findings

The Civic and Education precinct accounts for 342 (3.5%) of all Morley Activity Centre bays; comprising 304 off-street and 38 marked on-street bays. There are no time restrictions on any of the parking bays. Unlike the remainder of the MAC, Council controls a large part of the available parking in this precinct.

The following is a summary of the survey results for this precinct:

Table 21.1: Observed occupancy

Time of occupancy	Occupancy	Total % used
Weekday	215	63%
Saturday	69	20%

All parking, both off-street and on-street, is unrestricted.

Table 21.2: Parking bays serving different land uses

Land use	Total
Civic	125
Education	146
Health	33
On-street	38
Total	**342**

The above data illustrates that, in general terms, the precinct currently appears to have plenty of available parking. Access and parking congestion may occur around the school at drop-off or pick-up times, but this must be managed by the school, not City staff.

21.3.1 On-street Parking

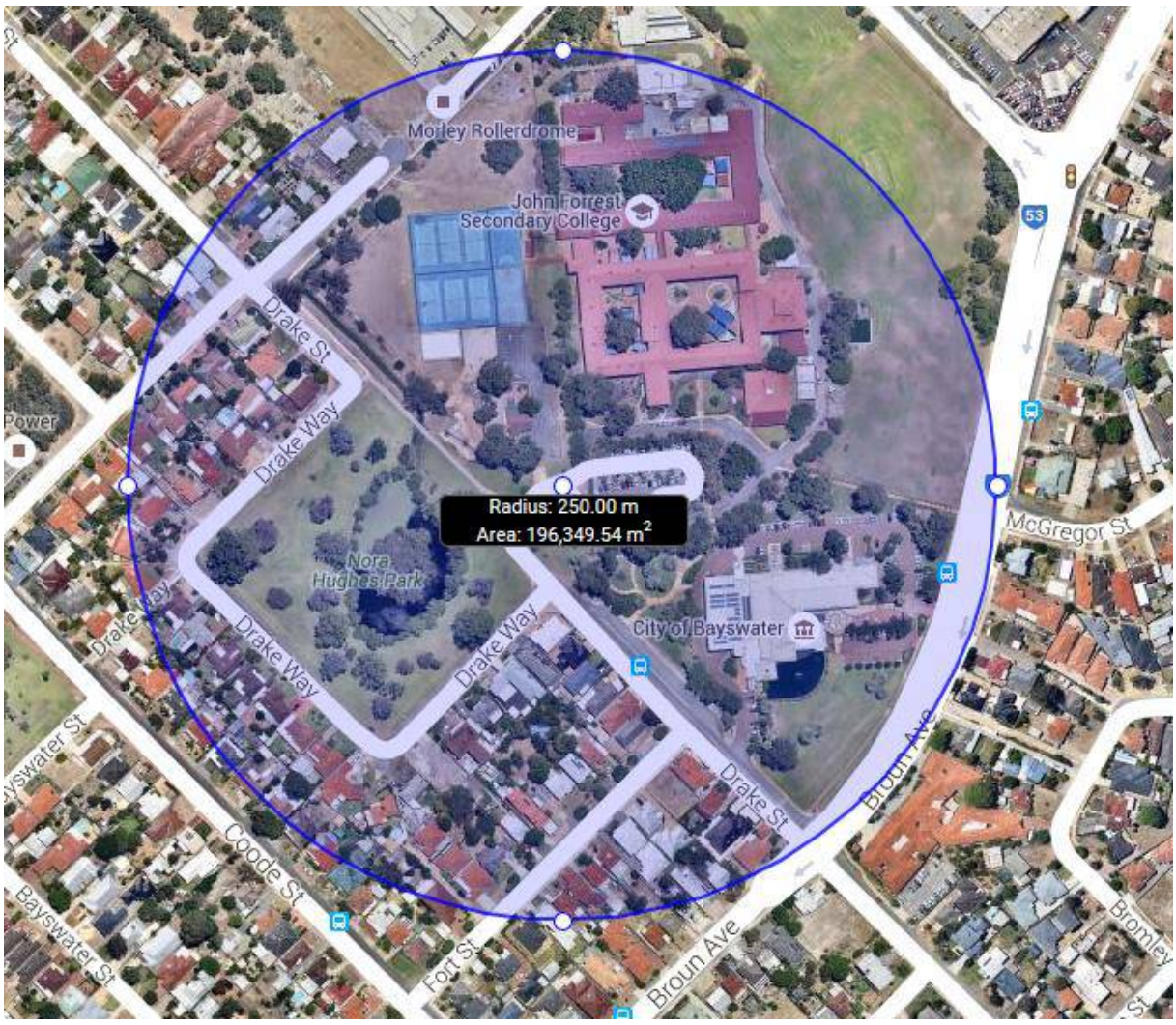
As identified above, there are 60 marked on-street parking bays in the precinct.

21.3.2 Council Carparks

Council owned carpark CP080 provides 42 unrestricted parking bays, serving the high school. Currently there are no time restrictions required at this car park.

21.4 Walking Distances

Figure 21.2: 250 m Walking distance from Council staff car park in Drake Street (Civic and Education precinct)



Source: Nearmaps.

21.5 Parking Management Recommendations

Recommendations Common to all Precincts. Implementation of the measures contained within these recommendations will equip the Council to respond to new demands on parking and access as conditions are seen to be changing.

21.6 Uloth Transport Assessment

Refer to Section 15.4. The Uloth transport assessment uses data divided into 15 zones (A – O) within the MAC.

The precinct comprises John Forrest High School and the City of Bayswater offices and civic centre.

Zone J covers the entire precinct.

Trip generation:

2015 610

2031 1,040

Land use data used in the transport assessment for zone D is as follows:

	2011	2031
Dwellings	Nil	nil
Population	Nil	nil
Employment	421	465

The precinct has minimal projected growth. Parking management would be required in the event of overspill from the adjacent Mixed Business Precinct as it grows. Management of school parking/access is an ongoing matter.

22 INNER CITY RESIDENTIAL PRECINCT

22.1 Precinct Map

The inner city residential precinct of the MAC comprises four separate areas within or adjacent to the 800 m Morley Bus station catchment. These areas are located to the west, north, east and south edges of the commercial precincts.

Figure 22.1: Inner City Residential precinct

Source: Nearmaps.

22.2 Objectives

The precinct objectives have been outlined as follows within the Morley Activity Centre Structure Plan:

- provide a wide range of dwelling size and type throughout the precinct
- encourage higher densities along major entry points to the activity centre to create a sense of arrival
- encourage compatible mixed use activities, particularly along major roads, which are complementary to residential uses
- encourage the amalgamation of sites to facilitate the development of multiple dwellings in close proximity to the city centre
- provide a sought after, pedestrian-friendly precinct which attracts a diverse housing market

Traffic and parking in these areas should be primarily local, consistent with the last objective above; pedestrian-friendly precinct.

22.3 Survey Findings

The Inner City Residential precinct accounts for 786 (8%) of all Morley Activity Centre bays; comprising 758 off-street and 28 marked on-street bays. Note: There are a number of streets within this precinct with unrestricted, unmarked on-street parking. These were not counted in the survey.

The following is a summary of the survey results for precinct areas:

Table 22.1: Sub-area West – Total 318 bays

Time of occupancy	Occupancy	Total % used
Weekday	76	24%
Saturday	41	13%

Table 22.2: Sub-area North – Total 266 bays

Time of occupancy	Occupancy	Total % used
Weekday	183	69%
Saturday	80	30%

Table 22.3: Sub-area East – Total 75 bays

Time of occupancy	Occupancy	Total % used
Weekday	43	57%
Saturday	37	49%

Table 22.4: Sub-area South – Total 127 bays (including 28 marked on-street bays)

Time of occupancy	Occupancy	Total % used
Weekday	37	29%

Time of occupancy	Occupancy	Total % used
Saturday	62	49%

Parking bays serving different land uses

Table 22.5: Sub-area West

Land use	Total
Retail	11
Civic	136
Commercial	12
Health	66
Education	93
Total	318

Table 22.6: Sub-area North

Land use	Total
Commercial	168
Health	74
Education	24
Total	266

Table 22.7: Sub-area East

Land use	Total
Civic	28
Commercial	6
Health	6
Aged Care	35
Total	75

Table 22.8: Sub-area South

Land use	Total
Child Care	11
Commercial	11
Leisure	68
Light Industrial	9
On-street	28
Total	127

The above data illustrates that, in general terms, the precinct areas currently appear to have adequate parking provision. Apart from the southern area, bay occupancy is greater on weekdays than on Saturdays.

Residential areas are sensitive to spillover parking and while there are no apparent problems in this regard, parking in these areas should be monitored and Council needs to be equipped to respond to any future problem that might arise especially all day on-street parking in the northern areas. Based on survey results at some future stage, as the Centre grows and higher density housing is developed, Council will have to consider introducing and enforcing time restrictions (2P or 4P) on all streets. This may need to be accompanied by a residential parking permit system. This will be an integral part of overall travel demand for the Activity Centre

22.3.1 On-street Parking

The 28 marked on-street bays in the southern sub-area primarily serve local businesses. Unmarked on-street parking is available in most residential streets.

22.3.2 Council Owned Carparks

There are no Council owned carparks in this precinct.

22.4 Parking Management Recommendations

Recommendations Common to all Precincts. Implementation of the measures contained within these recommendations will equip the Council to respond to new demands on parking and access as conditions are seen to be changing.

Parking management measures, such as residential parking schemes are unlikely to be necessary while parking remains relatively available in the adjacent commercial area.

22.5 Uloth Transport Assessment

Refer to Section 15.4. The Uloth transport assessment uses data divided into 15 zones (A – O) within the MAC.

This precinct comprises six separate zones around the periphery of the Activity Centre. Zones A and B to the west, zone E and N to the north and zones F and G to the south. In addition, Inner City Residential occurs in zones D and H. Land use data from Table 15.6 (or Table B.1) is grouped accordingly.

Zones A and B (West)

Trip generation:

2015 8,050

2031 9,700

Land use data used in the transport assessment for zone D is as follows:

	2011	2031
Dwellings	365	625
Population	796	1414
Employment	123	160

Zones E and N (North)

Trip generation:

2015 7,670

2031 9,540

Land use data used in the transport assessment for zone D is as follows:

	2011	2031
Dwellings	420	655
Population	916	1482
Employment	105	229

Zones F and G (South)

Trip generation:

2015 3,950

2031 5,810

Land use data used in the transport assessment for zone D is as follows:

	2011	2031
Dwellings	410	485
Population	893	1017
Employment	133	158

The projected growth in these zones, together with potential overspill parking from adjacent precincts, will cause the eventual need for on-street parking management.

The parking strategy proposes a cap of 100 bays per Ha. This only relates to non-residential development which is unlikely to be prevalent.

23 OFF STREET PARKING MODELLING - YEAR 2031

This modelling exercise illustrates that achieving full development potential across the three commercial precincts in the MAC would require a fivefold increase in parking supply, based simply on existing TPS parking to floorspace ratios. This is probably unlikely to occur within the foreseeable future (2031) and is certainly unsustainable.

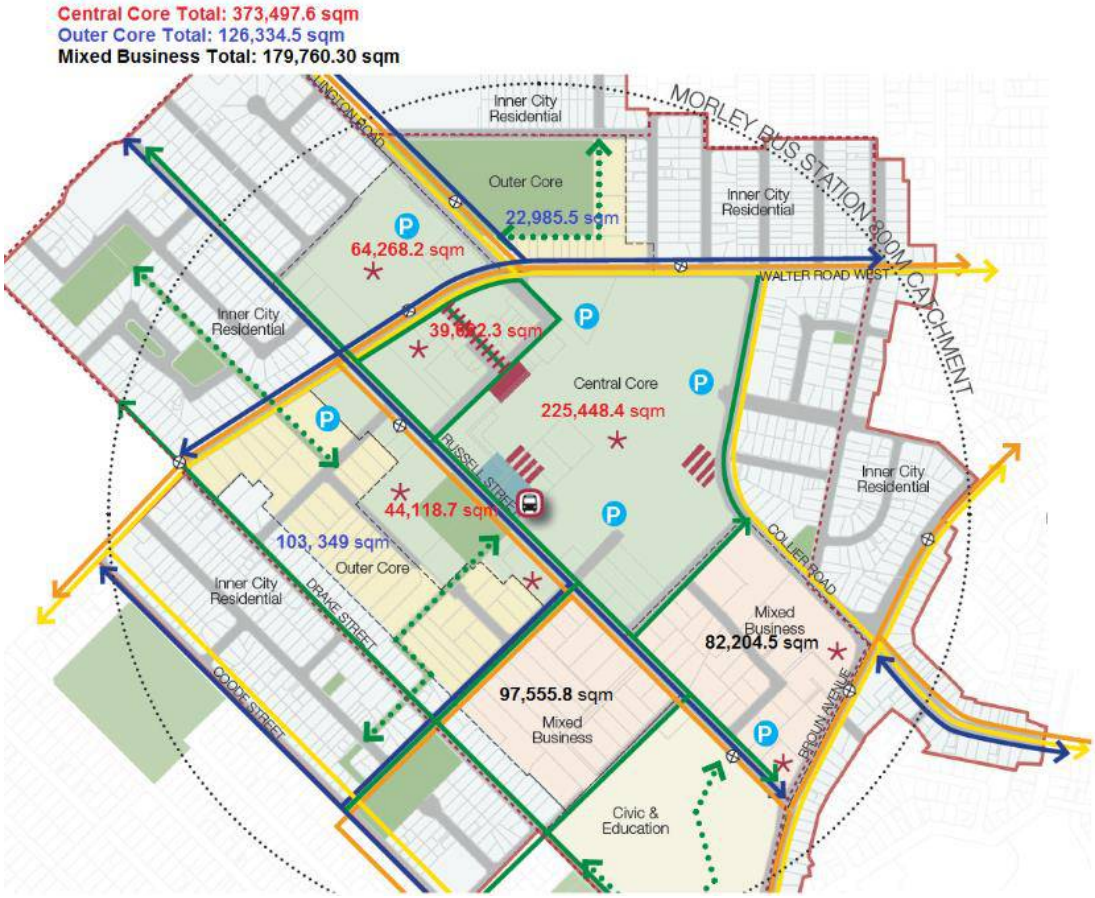
A more realistic assessment at 50% achievement of development potential, together with a pro-actively managed reduction in car dependency from 80% to 71% (revised MAC Structure Plan target) shows more manageable levels of parking supply. This would see approximately an additional 8,500 parking spaces in the area, roughly double the existing supply.

To ensure maximum efficient use of the parking, approximately 80% bays should be allocated for higher turnover, short-medium term occupancy. In taking a greater role in the provision/management of these additional parking facilities to ensure greater efficiency, Council should look towards owning and/or operating up to 50% of this additional parking.

23.1 Methodology

This modelling exercise has been undertaken for the three commercial based precincts: Central Core, Outer Core and Mixed Business, as the primary drivers of future parking/access demand.

Figure 23.1: Development potential of three commercial based precincts



Based on current parking standards, this is a simple measure to gauge what future parking numbers could ultimately be, assuming a certain land use mix and that all available land is developed. Two scenarios are examined; firstly, development to the maximum allowable plot ratio and secondly, parking requirements for development at 50% of maximum potential.

Whilst the MAC Structure Plan does not specify plot ratios for these precincts, they have been estimated based on intended built form and activity as follows:

	Minimum height	
Central core	No height maximum, minimum height 2-3 storeys	PR 3.0:1
Outer core	Maximum height 8 storeys, minimum height 2 storeys	PR 2.0:1
Mixed business	Maximum height 5-8 storeys, no minimum height	PR 2.0:1

Parking numbers are calculated according to the floor area ratios prescribed in the MAC Structure Plan (Table 2 Part 1 Statutory) as shown in Section 14 of this report (Table14.2)

For land use types, only primary uses (retail, showroom/light industry, entertainment/dining, office and residential) are considered. Other intended uses, such as health/medical and hotel/short stay accommodation are not included as for the purposes of this exercise, they are unlikely to greatly influence overall parking numbers.

To estimate dwelling numbers, an average floor area of 70 sqm is applied.

23.2 Central Core Precinct

Plot Ratio

A plot ratio of 3.0:1 has been applied for development in this precinct.

Land area: 373,497 sqm

The Central Core comprises four distinct areas, broadly defined as; Galleria Shopping Centre, Progress Street block, Coventry Markets block and Russell Street frontage (Bunnings, Water Corp). Three of these areas are characterised by large land holdings. These areas are examined independently, as well as collectively.

Galleria Shopping Centre

Land area: 225,448 sqm

Land use/Floorspace (@ PR 3.0:1)

*Note: Land use types are based on MACSP Objectives and Use Table. (Uloth modelling uses actual floorspace figures for the current redevelopment proposal for the shopping centre).

		Land area	Floor area
Retail	50%	112,724 sqm	338,172 sqm
Mixed office	20%	45,090 sqm	135,269 sqm
Entertainment/dining	30%	67,634 sqm	202,903 sqm

23.2.1 Parking for Non-residential Uses

*Note: floor area ratios per MACSP.

		Land area	Floor area
Retail	50%	112,724 sqm	338,172 sqm
Mixed office	20%	45,090 sqm	135,269 sqm
Entertainment/dining	30%	67,634 sqm	202,903 sqm

	Land area	Ratio	Bays
Retail	338,172 sqm	@ 1bay/25 sqm	13,527
Mixed office	45,090 sqm	@ 1bay/50 sqm	902
Entertainment/dining	202,903 sqm	@ 1 bay/25 sqm	8,116
Total no. of off-street bays required			**22,545**
Current provision			**4,200**

***** The current proposal for expansion of Galleria has 7,200 bays, with a longer term (ultimate) proposal for 8,880 bays.

Progress Street Block

Land area: 39,662 sqm

Land use/Floorspace (@ PR 3.0:1)

*Note: Use types based on MACSP Objectives and Use Table.

		Land area	Floor area
Retail	50%	19,831 sqm	59,493 sqm
Mixed office	10%	3,966 sqm	11,898 sqm
Recreation/entertainment (dining)	30%	11,899 sqm	35,696 sqm
Residential	10%	3,966 sqm	11,898 sqm

23.2.2 Parking for Non-residential Uses

*Note: floor area ratios per MACSP.

	Land area	Ratio	Bays
Retail	59,493 sqm	@ 1bay/25 sqm	2,380
Mixed office	11,898 sqm	@ 1bay/50 sqm	239
Entertainment/dining	35,696 sqm	@ 1 bay/25 sqm	1,428
Total no. of off-street bays required			**4,047**
Current provision			**not available**

23.2.3 Residential Parking

	Land area	Ratio	Bays
Multiple dwellings	11,898 sqm	@ 70sqm/Dw 170 Dw's	170

Coventry Markets Block

Land area: 64,268 sqm

Land use/Floorspace (@ PR 3.0:1)

*Note: Use types based on MACSP Objectives and Use Table.

		Land area	Floor area
Retail	50%	32,134 sqm	96,402 sqm
Mixed office	20%	12,854 sqm	38,561 sqm
Recreation/entertainment (dining)	10%	6,427 sqm	19,281 sqm
Residential	20%	12,854 sqm	38,561 sqm

23.2.4 Parking for Non-residential Uses

*Note: floor area ratios per MACSP.

	Land area	Ratio	Bays
Retail	96,402 sqm	@ 1bay/25 sqm	3,856
Mixed office	38,561 sqm	@ 1bay/50 sqm	771
Entertainment/dining	19,281 sqm	@ 1 bay/25 sqm	771
Total no. of off-street bays required			**5,398**
Current provision			**not available**

23.2.5 Residential Parking

	Land area	Ratio	Bays
Multiple dwellings	38,561 sqm	@ 70sqm/Dw 550 Dw's	**550**

Russell Street Frontage

Land area: 44,119 sqm

Land uses/Floorspace (@ PR 3.0:1)

*Note: Use types based on MACSP Objectives and Use Table.

		Land area	Floor area
Retail	50%	22,060 sqm	66,179 sqm
Mixed office	20%	8,824 sqm	26,471 sqm
Entertainment/dining	25%	11,030 sqm	33,090 sqm
Residential	5%	2,206 sqm	6,618 sqm

23.2.6 Parking for Non-residential Uses

*Note: floor area ratios per MACSP.

	Land area	Ratio	Bays
Retail	66,179 sqm	@ 1bay/25 sqm	2,647
Mixed office	26,471 sqm	@ 1bay/50 sqm	529
Entertainment/dining	33,090 sqm	@ 1 bay/25 sqm	1,324
Total no. of off-street bays required			**4,500**
Current provision			**not available**

23.2.7 Residential Parking

Multiple dwellings 6,618 sqm @ 70sqm/Dw ave 95 Dw's **95 bays**

	Land area	Ratio	Bays
Multiple dwellings	6,618 sqm	@ 70sqm/Dw Ave 95 Dw's	**95**

Summary of Parking Requirements for Central Core Precinct at 100% Plot Ratio Development

Table 23.1: Total Parking for Central Core at Maximum Plot Ratio

Area	Commercial parking required	Current parking available	Residential parking required
Galleria Shopping Centre	22,545	4,200	Nil
Progress Street Block	4,047		170
Coventry Markets Block	5,398	(2,144)*	550
Russell Street Frontage	4,500		95
Total	**36,490**	**6,344**	**815**

* Combined available parking for the Progress, Coventry and Russell precincts.

Summary of Parking Requirements for Central Core Precinct at 50% Plot Ratio Development

Table 23.2: Total Parking for Central Core at 50% of Maximum Plot Ratio

Area	Commercial parking required	Current parking available	Residential parking required
Galleria Shopping Centre	11,272	4,200	Nil
Progress Street Block	2,024		85
Coventry Markets Block	2,699	(2,144)*	225
Russell Street Frontage	2,250		47
Total	**18,245**	**6,344**	**407**

* Combined available parking for the Progress, Coventry and Russell precincts.

23.3 Outer Core Precinct

Plot Ratio

A plot ratio of 2.0:1 has been applied for development in this precinct.

Land Area: 126,335 sqm

The Outer Core precinct comprises two separate areas; immediately to the north (Wellington-street) and south (Boag Road) of the Central Core. These areas are examined independently, as well as collectively.

North (Wellington Street)

Land Area: 22,985 sqm (excludes recreation centre and reserve)

Land uses/Floorspace (@ PR 2.0:1)

*Note: Use types based on MACSP Objectives and Use Table.

		Land area	Floor area
Retail	20%	4,597 sqm	9,194 sqm
Showrooms/bulky goods	20%	4,597 sqm	9,194 sqm
Mixed office	20%	4,597 sqm	9,194 sqm
Entertainment/dining	20%	4,597 sqm	9,194 sqm
Residential	20%	4,597 sqm	9,194 sqm

23.3.1 Parking for Non-residential Uses

*Note: floor area ratios per MACSP.

	Land area	Ratio	Bays
Retail	9,194 sqm	@ 1bay/25 sqm	368
Showrooms/bulky goods	9,194 sqm	@ 1bay/50 sqm	184
Mixed office	9,194 sqm	@ 1bay/50 sqm	184
Entertainment/dining	9,194 sqm	@ 1 bay/25 sqm	368
Total no. of off-street bays required			1,104

	Land area	Ratio	Bays
Current provision			**480**

23.3.2 Residential Parking

	Land area	Ratio	Bays
Multiple dwellings	9,194 sqm	@ 70sqm/dw ave 131 dw's	131

South (Boag Road)

Land Area: 103,349 sqm

Land uses/Floorspace (@ PR 2.0:1)

*Note: Use types based on MACSP Objectives and Use Table.

		Land area	Floor area
Retail	5%	5,167 sqm	10,335 sqm
Showrooms/bulky goods	25%	25,837 sqm	51,675 sqm
Mixed office	25%	25,837 sqm	51,675 sqm
Entertainment/dining	5%	5,167 sqm	10,335 sqm
Residential	40%	41,340 sqm	82,680 sqm

23.3.3 Parking for non-residential uses

*Note: floor area ratios per MACSP.

	Land area	Ratio	Bays
Retail	10,335 sqm	@ 1bay/25 sqm	413
Showrooms/bulky goods	51,675 sqm	@ 1bay/50 sqm	1,034
Mixed office	51,675 sqm	@ 1bay/50 sqm	1,034
Entertainment/dining	10,335 sqm	@ 1 bay/25 sqm	413
Total no. of off-street bays required			**2,894**
Current provision			**661**

23.3.4 Residential Parking

	Land area	Ratio	Bays
Multiple dwellings	82,680 sqm	@ 70sqm/dw ave 1,181 dw's	1181

Summary of Parking Requirements for Outer Core Precinct at 100% Plot Ratio Development

Table 23.3: Total Parking for Outer Core at Maximum Plot Ratio

Area	Commercial parking required	Current parking available	Residential parking required
North (Wellington St)	1,104	480	131

Area	Commercial parking required	Current parking available	Residential parking required
South (Boag Rd)	2,894	661	1,181
Total	**3,998**	**1,141**	**815**

Summary of Parking Requirements for Outer Core Precinct at 50% Plot Ratio Development

Table 23.4: Total Parking for Outer Core at 50% Plot Ratio

Area	Commercial parking required	Current parking available	Residential parking required
North (Wellington St)	552	480	65
South (Boag Rd)	1,447	661	591
Total	**1,999**	**1,141**	**656**

23.4 Mixed Business Precinct

Plot Ratio

A plot ratio of 2.0:1 has been applied for development in this precinct.

Land Area: 179,760 sqm

The Mixed Business precinct comprises two contiguous areas; either side of Russell Street.

Land uses/Floorspace (@ PR 2.0:1)

* Note: Use types based on MACSP Objectives and Use Table.

		Land area	Floor area
Showrooms/bulky goods	30%	53,928 sqm	107,856 sqm
Mixed office	30%	53,928 sqm	107,856 sqm
Entertainment/dining	10%	17,976 sqm	35,952 sqm
Residential	40%	53,928 sqm	107,856 sqm

23.4.1 Parking for Non-residential Uses

*Note: floor area ratios per MACSP.

	Land area	Ratio	Bays
Showrooms/bulky goods	107,856 sqm	@ 1bay/50 sqm	2,157
Mixed office	107,856 sqm	@ 1bay/50 sqm	2,157
Entertainment/dining	35,952 sqm	@ 1 bay/25 sqm	1,438
Total no. of off-street bays required			**5,752**
Current provision			**1,191**

23.4.2 Residential Parking

	Land area	Ratio	Bays
Multiple dwellings	107,856 sqm	@ 70sqm/Dw ave 1,541 Dw's	**1,541**

Summary of Parking Requirements for Mixed Business Precinct at 100% Plot Ratio Development

Table 23.5: Total Parking for Mixed Business at Maximum Plot Ratio

Area	Commercial parking required	Current parking available	Residential parking required
Mixed Business	5752	1,191	1,541

Summary of Parking Requirements for Outer Core Precinct at 50% Plot Ratio Development

Table 23.6: Total Parking for Mixed Business at 50% Plot Ratio

Area	Commercial parking required	Current parking available	Residential parking required
Mixed Business	2,876	1,191	770

Summary of Total Parking Requirements for All Three Commercial Based Precincts

Table 23.7: Total Parking for Three Commercial Based Precincts at Maximum Plot Ratio

Precinct	Commercial parking required	Current available bays	Residential parking required
Central core	6,490	6,344	815
Outer core north	1,104	480	131
Outer core south	2,894	661	1,181
Mixed business	5,752	1,191	1,541
Total	**16,240**	**8,676**	**3,668**

Table 23.8: Total Parking for Three Commercial Based Precincts at 50% Plot Ratio

Precinct	Commercial parking required	Current available bays	Residential parking required
Central core	18,245	6,344	407
Outer core north	552	480	65
Outer core south	1,447	661	591
Mixed business	2,876	1,191	770
Total	**23,120**	**8,676**	**1,833**

23.5 Findings for 100% Development Scenario

The parking numbers at 100% plot ratio development are extreme and the prospect of this level of development occurring over the foreseeable future (by 2031) is highly remote. They far exceed the traffic modelling findings in the Uloth report (Ref Section 15.4), nevertheless, they represent, conceivably, what the Town Planning Scheme would allow.

With a greater than fivefold increase in parking supply, this illustrates the impossible traffic and supply situation that would arise across these precincts, if the parking and access management strategies outlined in this report were not implemented.

At this rate, clearly a 'business as usual' approach to parking provision is not sustainable and will create immense traffic congestion, amenity and environmental problems. The transition to more finely, demand management, focused parking and access policy must begin now.

23.6 Parking Provision for 2031 at 50% Maximum Plot Ratio

To consider future parking provision for commercial uses, for the year 2031, on the basis of development potential, it is reasonable to assume a 50% take up of full plot ratio potential (this includes existing development). Further, measures taken to reduce the mode share by the private motor vehicle should be taken into consideration. Mode share targets, as identified in the revised MAC Structure Plan are:

Mode share	Target	Currently
Car - Driver	71%	84%
Car - Passenger	8%	7.5%
Public Transport	12%	5.5%
Cycling	4%	1%
Pedestrian	5%	2%

The following table shows potential parking needs for 2031, based on 50% of maximum plot ratio and reduced reliance on private vehicles.

***Note:** For the Galleria Shopping Centre, actual figures for the current approved redevelopment proposal are used, as opposed to those calculated by potential plot ratio.

Table 23.9: Future Parking for Commercial Uses at 50% PR and 71% Car Mode Share

Area/Precinct	Parking Req	Mode Share 71%	Current Bays Available	Additional Bays 2031
Central Core	16,173	13,749	6,344	6,610
Outer Core nth	552	392	480	(88)
Outer Core sth	1,447	1,027	661	366
Mixed Business	2,851	2,024	1,191	833
Total	**21,023**	**17,192**	**8,676**	**8,516**

This same table with the Central Core Precinct broken down into the four sub-areas assessed is shown below:

Area/Precinct	Parking Req	Mode Share 71%	Current Bays Available	Additional Bays 2031
Galleria*	9,200	8,800	4,200	4,600
Progress Street	2,024	1,437		
Coventry	2,699	1,916 (4,949)**	(2,144)**	2,805
Russell Street	2,250	1,598		
Outer Core nth	552	392	480	(88)
Outer Core sth	1,447	1,027	661	366
Mixed Business	2,851	2,024	1,191	833
Total	**21,023**	**17,192**	**8,676**	**8,516**

**Totals for Progress Street area, Coventry Markets area and Russell Street frontage, components of Central Core Precinct.

Then excess figure for the Inner Core nth area is skewed by the parking provided for the recreational facilities located there.

23.7 Comparison with Parking Cap Proposed by Uloth and Associates

The figures in the above table are compared with a proposed cap (maximum) allowance on parking provision, put forward by Uloth and Associates in their MAC Structure Plan Transport Strategy, which is based on the proposed function of the various streets. The cap would be applied according site land areas. See Table 23.10 below.

The overall cap for the three commercial based precincts is (in round figures) 20,000 parking bays. This is on the (improbable) basis of every square metre in the precincts being redeveloped.

Table 23.10: Comparison with Parking Cap (Uloth MAC Structure Plan Transport Strategy

Area/Precinct	Land Area Sqm	Parking Cap Bays Per Ha	Max Bays Under Cap	Current No. Of Bays	Bays For 100% PR (No Max)	Bays For 50% PR & Reduced Mode Share
Galleria	225,448	400	9,018	4,200	22,545	8,800
Progress Street	39,662	400	1,586		4,047	
Coventry	64,268	250	1,607	2,144**	5,398	4,949**
Russell Street	44,118	200	882		4,500	
Outer Core nth	22,985	250	575	480	1,104	392
Outer Core sth	103,349	200	2,067	661	2,894	1,027
Mixed Business	179,760	200/250	4,493	1,191	2,876	2,024
TOTAL			20,228	8,676	34,203	17,192

** Combined available parking for the Progress, Coventry and Russell precincts.

This comparison illustrates that an overall parking provision for 2031 of approximately 17,000 bays for the three commercial based precincts is consistent with forecast traffic targets identified by Uloth.

23.8 A Target for 2031

Based on the above, an overall supply of approximately 17,000 parking bays for the three commercial based precincts examined is considered a manageable target.

In identifying this number of bays as a target, however, it needs to be recognised that over the course of the next 15 years (to 2031), conditions need to be regularly monitored and parking policy/targets revised where identified as being necessary.

To ensure maximum efficient use of the bays, approximately 80% should be provided for higher turnover, short-medium term occupancy. As recommended elsewhere in this report, Council should consider taking a greater role in the provision/management of these additional parking facilities.

In the Uloth report, it is recommended that Council should aim at owning/operating 50% of available. As mentioned in the review of their report, this will be challenging to achieve, however, it is considered to be a desirable target. It would involve provision of Council owned facilities as well as providing operating/management services for privately owned carparks. As mentioned elsewhere in this report, an effective cash-in-lieu policy is vital for Council to provide its own public parking facilities.

APPENDICES

APPENDIX A PROPOSED PARKING CONTROL AND MANAGEMENT PLAN

Proposed Parking Control and Management Plan to accompany Development Application

1. Background

- Describe objective of this Parking Control and Management Plan
- Property address
- Property description

Number of parking bays per category, e.g. tenant bays, short stay bays, mobility bays etc.

Number and category of bicycle bays to be managed (if applicable)

Other property details

- Operational Responsibilities and Contact Details

Landlord

Day to day management of car park

Day to day management of all parking including motorcycles, bicycles and mobility bays

2. Conditions

- General Conditions relating to the District Parking Plan

  Examples include:
  - Short stay turnovers
  - Tenant and public parking bays used for those purposes in accordance with the Planning Approval
  - Mobility bays clearly marked and set aside for exclusive use
  - Loading/unloading bays clearly marked and set aside for exclusive use
  - Leasing of tenant bays to off-site tenants
  - On-going availability of bicycle end of trip facilities

3. Surrounding area

Details of parking on properties within 250 m of the pedestrian entry to the premises located on the property.

Property name and address	Type & No. bays	Method of control	Fee (if any)
1.	Reserved Tenant All day Short-term Loading Mobility Other TOTAL		
2.			
3. etc.			

Proposed Parking Control and Management Plan to accompany Development Application

4. Details of Public Transport and pedestrian facilities serving the premises

5. Proposed strategies to achieve conditions

- Achievement of short stay turnover rates

Methods are likely to include pricing and advertising.

- Non-conversion of public parking bays for tenant purposes

Methods could include: clear colour coding of tenant and public parking and locating tenant and public parking on different levels.

- Exclusive usage of mobility bays by mobility permit holders

Daily/weekly activities to ensure exclusive usage

Other activities, such as inspection of mobility marking on half yearly basis

- Exclusive use of loading bays for loading purposes

Daily/weekly activities to ensure exclusive usage

Irregular activities, such as inspection of loading bay markings on half-yearly basis

- Signage discouraging other use and directing couriers and other users towards special purpose bays. Outline policies on central loading activities or loading booking system if applicable.
- On-going availability of bicycle end of trip facilities

Proposed measures to ensure that unused bicycle bays are not converted into storage and visitors are aware of bicycle bays and are able to access these.

- On-going provision of safe access and internal route to the bicycle end of trip facilities

The safe entry/exit and internal route should be shown on drawings. In addition, the plan should indicate how on-going provision is ensured, e.g. regular remarking of bicycle lane logos etc.

- Spare parking on site to be offered to the tenants or occupants of buildings not part of the complex unless the parking is to be used for private residential purposes. For example, outlining options for reciprocal or shared parking, especially outside of business hours.

APPENDIX B COST OF PROVISION OF PARKING

Each on-street kerbside parking space requires 15.6 m² of land and encroaches 2.4 m into the roadway, effectively reducing the roadway by one lane. Off-street surface parking, generally requires 25 m² per space, which includes an allowance for aisles and vehicle access. The cost of constructing above-ground deck parking is at least $33,000 per space, plus the cost of land. The cost of below-ground parking is even higher at > $40,000 per space, plus the cost of land[49].

Based on recent land sales, the price of commercial land in the MAC is conservatively estimated at $1,000 per m²[50]. Table B 1 is an estimate of the cost of provision of different types of parking in the precinct.

Table B 1: Estimated cost of providing one public parking bay in the Central core

Type of parking	Land per bay	Land cost /m² $1,000	Floor area per bay	Construction cost per bay	Est. min cost per bay
Off-street surface (at-grade)	25 m²	$25,000	25 m²	$3,000	$28,000
Deck – 2 level	16 m²	$16,000	32 m²	$33,000	$49,000
Deck – 4 level	8 m²	$8,000	32 m²	$33,000	$41,000
Basement – 2 level	8 m²	$8,000	32 m²	$40,000	$48,000

The provision of free parking (or parking at a very low fee) has an opportunity cost which can be measured in terms of the value of an alternative use of the land. For example the land used for all day parking at Car Park 80 on the corner of Russell and Catherine Streets could generate significant income if a portion was sold for development. The provision of cheap parking has an opportunity cost to ratepayers as the car park generates far less income per annum than the interest that could be earned on the sale of the land.

[49] Based on Rawlinsons. Australian Construction Handbook 2015. Edition 33. Rawlinsons Publishing.

[50] Estimates provided by Council Commercial Property Section based on recent land sales in the area.

APPENDIX C PARKING NEEDS ASSESSMENT

C.1 Methodology

A parking demand model has been developed by Cardno[51] for the City Centre which incorporates the theoretical parking generation of the individual land uses within the existing and proposed developments and calibrates this model to the observed parking demand for a design day scenario. As part of this analysis the impacts of shared and reciprocal parking have been included.

C.2 Nomenclature

Parking Supply

Parking supply is the total quantum of parking spaces that are built or available within the study area, regardless of whether or not they are utilised. Parking supply only includes marked spaces and does not include areas designated for standing vehicles.

Parking Demand

Parking demand is the number of vehicles needing to be parked within the study area at any point in time. Parking demand includes all parking associated with the associated land uses, whether in an off-street facility, parked illegally, parked on-street or in remote parking lots. Parking demand does not include standing vehicles awaiting the pick-up or drop-off of passengers.

Shared Parking

Shared parking is parking that is used by 2 or more land uses instead of restricting parking to the exclusive use of a single land use – the more exclusive the parking is, the less effective it becomes for the development as a whole.

Reciprocal Parking

Reciprocal parking occurs when a visitor has more than one purpose within an area and hence only one trip is required to serve two or more purposes. As the Centre is a substantial mixed-use development with retail, office, residential and entertainment venues, there is likely to be a high degree of reciprocity at all times. The degree of reciprocal parking occurring depends on the type of land use in the vicinity and the time of day.

For the purpose of this assessment, reciprocal parking rates have been taken from the *National Cooperative Highway Research Program (NCHRP) Report 684* (March 2011).

The most important component to determine the rates of reciprocal parking is the proximity of the land use pairs. As all developments within the Centre are generally located within acceptable walking distances, and all parking within the Centre will be managed through paid parking or supply management, the reciprocal parking rates given in the NCHRP Report can therefore be considered to be reasonable estimates. By accommodating reciprocal parking a lower total parking supply will therefore be required to satisfy demand for the Centre.

[51] Prepared by Cardno. Morley City Centre Transport Assessment, August 2013.

Efficiency

The efficiency of parking is a measure of the practical maximum utilization rate of parking within a study area. An efficiency factor of less than 100% reflects a perception by drivers that all available parking within the study area is occupied, when in fact there may be parking spaces available. This may be in the form of parking spaces that are available only for some purposes, allocated to individual businesses, difficult to find or in the wrong location.

Increasing the efficiency of parking can be accomplished by better signage to inform drivers of the locations of parking spaces, or by introducing a method (through technology or dynamic signage) of alerting drivers when parking becomes available.

C.3 Theoretical Calculation of Existing Demand

The existing theoretical parking demand for the Morley Activity Centre was calculated by using the floor areas, residential dwelling numbers, employment opportunities and student enrolments provided by the City of Bayswater through their *Morley City Centre Masterplan* and development capacity modelling completed by the project economic consultant for the 2011, 2021 and 2031 horizon years, as described in Table 9.1.

This information was then used to calculate the theoretical parking demand based on parking demand rates published in *Parking Generation, 3rd Edition* by the Institute of Transportation Engineers, along with time-of day utilisation rates for the different land uses. Based on this methodology, the gross theoretical peak parking demand for the existing (2011) land uses was determined to be 8,136 bays. This assumes exclusive parking associated with each land use (no reciprocal parking) and not calibrated to any observed data.

C.4 Calibration to Observations

Data calibration was performed to establish a theoretical peak parking demand, using a comparison of theoretical daily trip generation for the existing Centre to observed vehicle movements.

Main Roads ROM data was obtained in the form of cordon matrices for existing (2013), and future 2021 and 2031 projections. Traffic was disaggregated into local traffic and background (traffic not associated with the Centre). The resulting desktop model was then calibrated to ROM link count outputs, SCATS data and pneumatic link count information to establish a representative existing (2013) traffic model.

The scaling factor used to calibrate trip generation was then applied to the theoretical parking demand as determined above. The results showed that the Centre currently generates approximately 8% more vehicle trips than the theoretical assessment, suggesting an existing peak demand of 8,755 bays. This scaling factor was separated into an ‘over-trading’ proportion and a mode share proportion based on ABS data, which determined that the existing non-residential land uses currently generate approximately 20% more trips (and therefore parking) than the theoretical assessment. The ‘overtrading’ proportion is assumed to represent the attractiveness of the Centre and so has been carried forward into future analysis, creating a conservative demand assessment for the future scenarios.

C.5 Shared Parking

It is acknowledged that there is significantly more parking than this quantum currently available across the Centre, almost exclusively in private car parks associated with individual

developments. As a result the efficiency of existing parking is very low. However if a proportion of parking, particularly the quantum associated with retail, restaurant and entertainment uses can be shared and efficiency thereby increased.

C.6 Anticipated Future Parking Demand

The 2021 and 2031 parking demands were determined using the methodology described above, with land use and dwelling yields as defined in the *Morley City Centre Masterplan* and by economic capacity analysis undertaken by the project economic consultant. Based on this information, uncalibrated gross peak parking demand of 12,785 and 15,395 bays was calculated for the 2021 and 2031 scenarios, respectively.

By including the effects of mode shift, over-trading, reciprocal and shared parking effects, the anticipated parking demand was reduced to 9,687 bays by 2021 and 10,974 bays for the 2031 development scenario.

It should be noted that parking in the Centre will not be able to achieve 100% efficiency since drivers do not have perfect information on parking availability, so additional parking will need to be provided to accommodate localised demand. Using a 90% overall efficiency as a goal, a parking supply of 13,400 bays consistent with the proposed parking maximum rates, should be sufficient to accommodate the demand at the target mode shares through to the 2031 development scenario. Given that parking demand rates are contingent on infrastructure provision, environmental and behavioural factors, an interim 2021 parking quantum of approximately 11,100 bays would be expected.

C.7 Parking Management

C.7.1 Parking Management Principles

As the Centre has a large commercial precinct at present with significant growth in commercial and mixed use development planned in the future, it is expected that there will be a high demand for both short-stay and commuter parking, in addition to the residential needs of the proposed development. However, a higher provision of car parking will result in an increase in private vehicle mode use, potentially beyond the capacity of the road network to support it and to the detriment of the social, environmental, cultural and economic goals of the Morley City Centre Masterplan.

Car parking management methodologies will need to be introduced to maintain a level of supply and demand which can be sustained by the local road network. The following fundamental principles have been considered for the proposed parking scenario:

C.8 Parking Priorities

A public parking supply can be managed to provide parking for a range of needs. The two broadest categories for non-residential parking consist of commuter and retail parking. These have overlapping but separate demand profiles and should be managed in different ways.

Retail and entertainment parking should be provided centrally, close to destination areas and easily accessible from the development. Within the City Centre, Centro Galleria provides the greatest quantum of retail/entertainment parking. The scale and location of this parking means that it is used by visitors to a variety of destinations. However, short-stay retail and entertainment parking is ideally supplied on-street or in multi-deck car parking with a demand

responsive parking fee that promotes turnover. This is not currently feasible in the Centre, as the large quantum of parking is sufficient to satisfy all drivers, even at no cost.

Commuter parking tends to be of lesser value to the City Centre and should ideally be supplied on the periphery of the City in large-scale parking structures priced to support all-day parking. However, due to the low fees attached to all-day parking in an area such as Morley, there is very little chance that capital costs can be recouped from fees. This implies that an alternative mechanism is necessary to make all-day parking economically feasible and that most of the office/commercial car parking will ultimately be provided on-site.

The effort to create a communal all-day parking supply is considered worthwhile, since commuters tend to arrive during the roadway peak and have the greatest impact on traffic operations. Removing this demographic from the main activity areas improves pedestrian and cycling safety, public transport efficiency and intersection operation. Commuters are also more willing to walk long distances, particularly if the pedestrian environment is attractive.

Other specialised parking categories are also important and should be included in the on- and off-site parking supply. This includes:

- Disabled parking, demand for which will increase markedly over the next 20 years and should represent 2–3% of the overall non-residential supply;
- Loading bays adjacent to retail and entertainment or mixed-use developments which do not include onsite provision for service/delivery;
- Bus stops along service routes;
- Taxi stands in areas with high demand;
- Other types of very short-stay parking (ATM, post boxes, emergency service zones, etc.)

C.9 Distribution of Parking

Preliminary assessment of potential parking structure locations has been undertaken by the City of Bayswater and reassessed for the proposed development scenario. Figure 8.1 shows potential locations for large public (and de-facto public) and private parking, to be supplemented by smaller-scale parking at the individual development level.

C.10 Commuter Parking

Location

Commuter parking is proposed to be provided on the periphery of the City in large-scale parking structures priced to support all-day parking. Commuters tend to arrive during the roadway peak and have a significant impact on traffic operations. Removing this demographic from the main activity zones improves pedestrian and cycling safety, public transport efficiency and intersection operation. Commuters are also willing to walk longer distances, particularly if the pedestrian environment is attractive.

Quantum

Parking analysis shows that the peak unrestrained demand for commuter parking is approximately 5,500 spaces. The parking supply rates recommended by the WAPC, and adopted in this strategy as a reasonable target, result in a total office/commercial supply of 4,400 bays. Assuming that parking is utilised at 90% efficiency, this creates an ‘effective’

long-stay supply of 3,960 bays. Ideally, 15–20% of the total long-stay supply (approximately 600–900 bays) would be available in communal parking areas, allowing efficiency at these locations to approach 100%. The nature of long-stay parking would also mean that these structures would be available during the peak destination entertainment demand, which tends to occur outside of standard business hours.

Under the above scenario, while actual bay numbers would remain at 4,400 bays, effective long-stay supply would increase to 4,050. This would require a mode shift for commuters from 85% car-as-driver down to 62%. The magnitude of this shift is considered feasible, based on the scale of the City Centre residential development, and appropriate improvements in alternative transport provision.

Access

Access to commuter parking will be primarily via major approach roads (Walter Road West and Broun Avenue) on the boundaries of the City Centre, to minimise the impact of commuter traffic on the operation of the internal road network.

Price

While it has been shown that the unrestrained demand for commuter parking exceeds the proposed supply, the willingness of commuters in the Morley area to pay for parking has not been satisfactorily demonstrated.

Anecdotal evidence suggests that it is unlikely that the workforce will support commuter parking prices at economically sustainable levels, capable of funding the construction of commercial car parks. However, assuming that attractive cash-in-lieu policies are put in place, it is possibly that daily parking rates could meet or exceed levels sufficient to pay for upkeep and maintenance of public facilities. (i.e. $5–$8 per day).

C.11 Residential Parking

Parking Rates

Residential traffic is generally not considered to impact significantly on the Activity Centre road network due to its prevailing contra-flow direction. However, Morley is situated between a large residential catchment and the primary employment node of the Perth CBD, and as such residential traffic will tend to run with the primary traffic flow. Therefore, to ensure that residential traffic does not become an issue in the future, restraining parking provision to a minimum of one bay per unit would assist in supporting sustainable transport through reduction in private vehicle trip generation.

Unbundled Parking

The cost of parking for residential and commercial units is usually passed on to the occupants indirectly through the rent or purchase price (bundled) rather than through a separate transaction. This means that tenants or owners are not able to purchase additional parking if required or given the opportunity to save money by reducing their parking demand. Giving the tenants or owners the opportunity to rent or sell the parking spaces separately may also reduce the total amount of parking required for a development. The unbundling of parking can be introduced in several different ways:

- Facility managers can unbundle parking when renting building space;
- Developers can make some or all parking optional when selling buildings;

- Renters can be offered a discount on their rent for not using some or all of their allocated parking spaces;
- Parking costs can be listed as a separate line item in the lease agreement to show tenants the cost and enable them to negotiate reductions.
- Providing tenants or owners with the opportunity of unbundled parking is also likely to create a market for available parking spaces. It should be noted that if an unbundled parking policy is introduced, it is important to consider the cost of alternative parking in the nearby area. If there is a supply of free or low-cost parking nearby, there may be an incentive for tenants or owners to find other places to park their cars to avoid the parking charge, potentially resulting in spill-over effects.

C.12 Short-Stay/Visitor Parking

Currently, visitor parking within the Centre is almost exclusively free and provided by on-street and off-street retail parking facilities.

Location

Retail parking is proposed to be located adjacent to, but outside of, areas with high levels of activation. Parking would be primarily provided in public or private multi-deck parking facilities adjacent to these areas. Centro Galleria will likely remain the primary site for retail parking, and will continue to operate as a de-facto public car park. The remainder of short-stay parking bays would be distributed across the Centre.

The on-street parking supply should be reserved for visitor parking, through the use of parking pricing and timing restrictions. On-street parking within the Centre is encouraged in the majority of access streets, as well as along Rudloc Road and Coode Street. Parking along Russell Street is acceptable only beyond Walter Road West. Embayed on-street parking is preferred, to minimise pedestrian crossing distances and allow street trees to be planted closer to the traffic lanes.

Quantum

Outside of Centro Galleria, Coventry Markets and a few other large-scale retailers, on-site parking numbers for individual developments are likely to be small in scale. This creates significant efficiency issues where the parking supply is unevenly and inequitably spread across the City. Larger car parks are much more efficient, more legible and more manageable than a distributed system, particularly when parking is controlled by the City itself.

It is anticipated that there is a peak unrestrained demand for approximately 5,900 short-stay parking bays under the 2031 scenario. This assumes an equivalent percentage mode shift to commuters for external trips. However, it is noted that short-stay/visitor parking does not have the same impact on the road network as commuter parking, and a lesser mode shift is acceptable in this instance. It should also be noted that parking demand is reduced by as much as 1,300 bays due to reciprocal use (people walking from their office to get lunch, etc.).

However, the guidelines for parking supply, stipulating 4–5 bays per 100 sqm for retail uses, suggest that overall parking supply could end up being between 8,200 and 9,500 bays. This actually represents an oversupply of parking based on parking analysis and would support private vehicle mode shares at or above the existing rate. It is therefore recommended that some of the existing and future retail supply be allocated on a flexible basis to either

short-stay or commuter parking, perhaps by introducing a small hourly fee equivalent to the day rate.

It is also suggested that the existing cash-in-lieu policy be modified to allow the City to attract and manage communal parking at a reduced overall rate. This will assist in improving the distribution of parking, maximising the effective use of land resources, and limit the upward pressure on private vehicle modes.

C.13 Park 'n' Ride

Exclusive park 'n' ride facilities are not currently provided, though nearby private commercial parking may be used as de-facto park 'n' ride, depending on the level of enforcement. The provision of park 'n' ride parking for exclusive commuter use is not supported for the Morley Bus Station as this parking would attract a significant quantity of private vehicle trips into the Centre, with no associated benefit to the community.

C.14 Maximum Parking Rates

The constraints associated with road capacity and commercial sustainability for public parking support the modification of the existing standard parking minimum rates, as set out in Local Government Policy, to a simplified set of parking maximums. It is envisioned that land uses would be categorised according to simple criteria: Retail, Food, Commercial, Office, Residential and Entertainment. Any other non-standard uses would be assessed with respect to the goals of the City and Department of Planning.

Broad maximum parking rates are proposed in the DoT *Activity Centres Parking Discussion Paper* and provide a benchmark for development as follows:

- Retail: 4–5 bays per 100 sqm
- Office/Showroom: 1–2 bays per 100 sqm.

These have been applied in the context of the proposed plan, with some additional detail to assist in determining overall parking quantum and private vehicle trip constraint:

- Retail: 5.0 bays per 100 sqm
- Commercial: 2.00 bays per 100 sqm
- Office: 2.00 bays per 100 sqm
- Restaurant*: 10.00 bays per 100 sqm
- Entertainment*: 4.50 bays per 100 sqm.

*not stipulated in SPP 4.2

Calculations show that at the application of these rates to the proposed land uses creates the desired ultimate parking quantum, with a total parking supply across the Centre of approximately 13,400 bays at a representative 90% efficiency. However, a transitional plan which allows additional interim parking on a mandated schedule will be necessary to reflect the commercial realities of development.

Public car parking allows a more efficient and equitable allocation of parking resources across multiple land uses. Therefore, a proportion of public car parking is beneficial to the operation of the Activity Centre and should be supported by legislation.

A public parking quantum of approximately 1,000–1,500 bays across the Centre (including on-street provisions) would likely be sufficient to provide the necessary flexibility. This is additional to the de-facto public parking already provided in large-scale retail parking.

C.15 Parking Pricing

Parking infrastructure is expensive to construct and maintain. Where unrestrained parking demand rates significantly exceed the supply rate, the market price for hourly or daily parking can support the construction of public car parking on commercial grounds. However, market pricing of parking will have a significant impact on demand, with effects felt at relatively low rates. While there may be localised hotspots where parking is in sufficient demand to justify cost recovery pricing, it is likely that the majority of public parking will be unable to pay for itself through fees. This suggests that alternative funding methodologies will be necessary.

It should also be noted that parking management, enforcement and compliance is essential to the successful implementation of the parking management regime.

C.16 Cash-in-Lieu of Parking

Cash-in-lieu of parking is a mechanism by which developers contribute towards public parking and/or sustainable transport initiatives. This mechanism allows public infrastructure to be funded by development, without the requirements for a Development Contributions Scheme.

An attractive cash-in-lieu policy allows developers to fund a proportion of their maximum parking requirement in off-site parking to be constructed by the City, and to fund additional sustainable transport initiatives such as cycling infrastructure and public transport improvements. Demonstrated synergies within a development which would reduce their parking demand could also be supported to reduce on-site supplies.

By this mechanism, public parking rates need only fund maintenance of infrastructure, rather than recover the costs of capital works. However, a Parking Implementation plan will be necessary to provide certainty to developers, and to satisfy the requirements of the City's cash-in-lieu policy.

Only minor modifications to the City's existing cash-in-lieu policy are recommended, allowing for a reduction in the contribution to encourage cash-in-lieu, and to acknowledge the improvements in efficiency associated with public infrastructure.

Record-keeping

To maximise developer buy-in and ensure a streamlined process, it is important to ensure that there is an effective record-keeping process to manage cash-in-lieu contributions. This system would track payments by developers, current land and construction costs, infrastructure works and planning. Maintaining a transparent process of cash-in-lieu through which developers can see direct value will assist in achieving both mandatory and voluntary contributions.

C.17 Use of On-street Parking

Residential Parking

On-street parking for residential uses is not supported except for visitor parking. It is expected that residential development will provide sufficient parking on-site. This will minimise conflicts over on-street supply and retain it for valuable short-stay parking.

Visitor/Retail Parking

The primary use of on-street parking will be for short-stay visitor parking, particularly in and around activated streets. This parking should be time-restricted to avoid illegitimate commuter parking or priced on a demand-sensitive basis to promote vacancies.

Loading Zones and Service/Delivery Docks

Deliveries will be enabled through an increase in on-road loading zone areas, particularly in 'main street' precincts and where smaller office/retail development is located. Larger office/commercial buildings will be serviced via on-site docks connected to basement or undercroft parking structures. Access to dock areas through a laneway network is supported to minimise the impact of service/delivery vehicles on pedestrian, cycling and bus modes.

ACROD Parking

It is recommended in the short term to promote ACROD parking rates above the stipulated rate given in the Building Code Australia (BCA). This reflects the growing mobility of people with disabilities and is consistent with the increasing uptake in ACROD permits in the Perth metropolitan region. Notwithstanding any provision in the BCA or AS2890, it is recommended that parking spaces for people with disabilities are to comprise 2–3% of the total number of parking spaces in non-residential development, with a higher provision rate required for car parks serving health facilities or which provide specific services for aged persons and people with disabilities. Location and accessibility of ACROD parking is also critical to its effective application.

Bus Stops and Layover

The location of bus stops will be dictated primarily by the associated road environment. Priority bus lanes on Russell Street, and Broun Avenue will be supplemented through in-lane stops throughout the Centre. This will ensure minimal disruption to bus services to ensure that services run on schedule.

Russell Street's full time bus lane is designed to encourage cars to use boundary corridors to travel around the Centre rather than through it. The Broun Avenue priority bus lanes are likely to be part time lanes intended for use in the prevailing flow direction during peak times, likely to be between 7:00 am to 9:00 am.

The location of bus stops will be dictated primarily by the associated road environment. Priority bus lanes on Russell Street, and Broun Avenue will be supplemented through in-lane stops throughout the Centre. This will ensure minimal disruption to bus services to ensure that services run on schedule. Russell Street's full time bus lane is designed to encourage cars to use boundary corridors to travel around the Centre rather than through it. The Broun Avenue priority bus lanes are likely to be part time lanes intended for use in the prevailing flow direction during peak times, likely to be between 7:00 am to 9:00 am and 4:00 pm to 6:00 pm. There is the potential for this bus lane to transition to a full-time lane, following from the progression of infrastructure further to the south.

Bicycle Parking

In activated streets, or any streets with on-road cycling facilities, cycle parking would ideally be located in on-street corrals, as shown in **Figure 8-2**. This has the advantage of keeping cyclists away from pedestrian conflict and is a very effective way of creating cycle parking. It also functions as a promotion of cycling as a viable travel mode.

Other Critical Short-Stay Parking

Consideration for other specialty uses should be undertaken, depending on the requirements of adjacent land uses. As on-street parking is expected to be in high demand, dedicated parking for emergency and postal vehicles may be necessary. Dedicated taxi stands will also be desirable in entertainment precincts and other high-demand areas. Specific land uses such as banks may require very short-stay parking (15 minutes) to facilitate customer needs.

C.18 Public Paid Parking

A Paid Car Parking Implementation Plan should be developed to guide the gradual introduction of pay and display meters in the Centre. The roll-out of paid parking will need to begin in locations with identified demand hot-spots and transition through the Centre in concert with development progression.

The introduction of paid parking allows for fine-grained control of parking demand on a precinct or road-specific basis. Ideally, parking rates would vary as required and set to a level which generates a vacancy on each block. A good example of this mechanism is provided by the SFPark system currently being trialled in

San Francisco

Public car parking, particularly multi-deck parking stations, should be also constructed in concert with development. Therefore, the nexus for public parking need should be roughly simultaneous with the funds to construct public facilities (through cash-in-lieu). However, there may need to be a transitional form of public parking which satisfies the requirements of development in the medium-term. At-grade parking stations can be utilised during this transition period, before being employed as development sites later on. This should also be encapsulated in a Parking Implementation Plan, as it enables cash-in-lieu to be accepted under existing City of Bayswater policies.

C.19 Enforcement

Due to the increased attractiveness of parking within the activity centre, the enforcement of parking restrictions both within the Morley Activity Centre and in the periphery is essential to a successful outcome of the parking strategy.

APPENDIX D CRITERIA FOR THE MANAGER OF PARKING

The position of a Manager of Parking in Bayswater will be necessary in the medium to long-term (+3 years) and should be seen in the context of eventually being responsible for a business which provides a service 24/7 to a large number of clients; a business that if operated efficiently, could provide a much higher level of service to all stakeholders and yield RSA significant income.

The role will require a leader who is a champion of best practice in parking and is enthusiastic about long-term strategies and practical initiatives to implement sustainable and efficient parking throughout Bayswater. As this business will expand in the future, the selection of an experienced coordinator, supported by a strong team of supervisory, service, maintenance, audit and accounting staff will be necessary.

The Manager of Parking and the team supporting the role will require a background or understanding of:

- Planning and Traffic Management. An appreciation of where parking fits in to broader transport and infrastructure strategies.
- The availability and understanding of parking data. The significance of survey data, average ticket values, missing tickets, average length of stay and occupancy levels. This requires experience in obtaining and interpreting statistics.
- Security. Ensuring the safety and security of parkers, their goods and their vehicles.
- Contract Management. A service and maintenance contract with suppliers will require more than experience in dealing with contracts. Issues of vandalism and software upgrade could severely impact on the uptime of the machines, and therefore the service to the community and costs and income to RSA.
- Monitoring the output from a Central Management System. This is important for accuracy, reliability, and operational and management reporting. The system may be hosted at the suppliers' premises, so complete understanding of how it works and all that it should provide is necessary.
- The administration of a Residential Parking Permit System may be an integral part of the on-street management role and needs to be controlled by the same department.
- Provision of a customer oriented Service and Information facility to deal with complaints, residents, businesses, event parking, special requests and vandalism.
- Cash Control. This extends beyond the simple checking of cash collected with banking reconciliation as many customers may pay by non-cash methods such as credit card or smart card. Unless the systems are well defined and comprehensive, shortages could occur.
- Internal Audit. Bayswater is likely to generate several thousand dollars per day, every day from pay parking. This is a substantial cash flow, without any measurable relationship to stock or to volumes. Cash deficiencies occur from a number of sources – staff, equipment, cash collection, administration error and from parkers themselves. Even a 1% variation in cash collected would be equivalent to a substantial loss annum. Unless the city has expertise in parking revenue audit systems, there will be shortages in the income collected.

- Benchmarking Bayswater's overall on and off-street parking performance against those of other similar developments and the expectations of stakeholders.

The Manager of Parking will be responsible for all management and operational issues while relevant business departments will still have responsibility for specific technical duties.