

West Melbourne Car Parking Plan



Residential parking facility under construction Railway Place West Melbourne

City of Melbourne

February 2018

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Executive Summary

Over several decades, the Melbourne Planning Scheme (MPS) has required more off-street parking bays than are needed by the residents, employees and visitors.

The consequence is a significant oversupply of off-street parking across the municipality. Direct impacts include overly expensive new dwellings, stranded assets in private buildings and reduced economic development and activity.

Further harm is caused by related rules and practices that require households and businesses to purchase bays. Parking bay owners are likely to maintain motor vehicle ownership, as their asset will have zero value if they exit motor vehicle ownership. Motor vehicle trips are supported and alternative transport choices are penalised through the same process. Such a penalty is inconsistent with the strategic directions that apply in the City of Melbourne.

Analysis found that the MPS requirements related to off-street parking in West Melbourne are misaligned for the three main land uses: residential, commercial employment and retail/entertainment activity. In all three instances the MPS requires significantly more parking than is required.

This has led to a significant oversupply of parking in the precinct (an oversupply of around 900 off-street parking bays for residents). This amounts to an unnecessary increase in the cost of housing in West Melbourne of \$46 million. From the perspective of an individual purchaser, an off-street parking bay adds two to four years of payments to the cost of purchase.

Five other areas in proximity to West Melbourne were analysed in a similar way. The analysis found significant oversupply of parking in residential, retail and commercial buildings in these other areas.

Negative impacts of the MPS parking provisions include the impact on footpaths, kerbside areas and roads. The oversupply of parking in and around West Melbourne also leads to lower parking prices, and increased traffic congestion on the arterial road network leading to Melbourne. This directly undermines many legislative instruments, the objectives of planning in Victoria and the Local Planning Policy Framework in the MPS.

This project developed a suite of planning controls (most importantly a Schedule to the Parking Overlay) that will improve how the MPS caters for parking within West Melbourne. These controls align with current observed behaviour and seek to minimise the negative consequences that have occurred and will arise from the current parking controls.

The draft Parking Overlay applies a rate of provision that better reflects observed demand. This will allow the amount of parking to increase in proportion to increasing activity and ensure that efficiencies of larger parking areas can be leveraged to benefit the wider community. Small building developments are expected to not provide any on-site parking. Larger developments are expected to provide parking facilities accessible to all members of the community (including visitors). Decision guidelines will require proponents and the Responsible Authority to consider, and take advantage of, the pool of existing off-street parking bays that are not in use.

As drafted, the Parking Overlay will maximise the benefits of best practice parking management techniques and minimise the negative impacts that occur when the provision and use of off-street parking bays is misaligned.

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1. Introduction

A fundamental assumption within the Victorian Planning Provisions is that growth and development must be matched with off-street parking bays. The link between these two factors is long standing¹ and it is assumed that an increase in one factor will require growth in the other.

Planning schemes identify ‘growth’ not by measuring actual jobs, actual retail customers and actual residents, but through floor area and dwellings. This approach contains a fundamental weakness. If businesses become more space efficient, then the number of jobs might increase while the floor area simultaneously decreases. If households become larger (or smaller) then a count of dwellings will under (or over) estimate the population. These societal changes will cause the planning scheme to become misaligned.

Planning schemes contain another assumption – that motor vehicle ownership and use is an unchanging factor. The assumption is that that twice as many people will own or use twice as many cars. The number of off-street parking bays required is derived from these measures.

However, mode choice can and does change over time. The resident population, commercial activity and the workforce could all grow while simultaneously switching modes. These societal changes cause the planning scheme to become misaligned, with expectations not matching reality.

The evidence gathered in this report suggests that in the City of Melbourne in general, and the West Melbourne precinct, there is a misalignment between the assumptions on which the planning scheme is based and what is happening.

The resident population in the City of Melbourne has lower level of car ownership and use than has been assumed in creating the Melbourne Planning Scheme (MPS). It appears that the requirements for offices² and commercial off-street parking bays are also misaligned.

The consequence of this misalignment is that the MPS is producing an ever-increasing number of parking bays when there are already more than are needed, – like Goethe’s *The Sorcerer’s Apprentice*³.

Chapter Two identifies the weaknesses in the planning scheme as it applies in the City of Melbourne.

In Chapter Three West Melbourne precinct is investigated in detail to understand whether the planning scheme is misaligned in this area.

Other nearby areas are investigated to understand if the situation in West Melbourne is typical or anomalous. These findings are summarised in Chapter Four and provided in detail in Appendix Two.

Chapter Five identifies the aims that underpin a realignment of the planning scheme, describes a scenario that realises the aims and provides draft Decision Guidelines for a Parking Overlay appropriate to West Melbourne.

Chapter Six proposes a Parking Overlay for West Melbourne that would align with the strategies that apply in the City of Melbourne and the observed rate of car park use.

2. How oversupply of off-street parking bays can occur

This section explores how misalignment in a planning scheme can result in oversupply.

The City of Melbourne Transport Strategy 2012 identified two issues that are in tension. On the one hand ‘many existing and new city residents do not own a car. Much of the city has good to excellent public transport services and many dwellings can access shopping and fulfil their other needs easily by walking or cycling.’ On the other hand, ‘There is evidence to suggest that off-street parking in many residential areas is over-supplied, with vacancy rates in residential body corporate garages of up to 30 per cent. With a cost to build of approximately \$40,000 per space, parking significantly increases the cost of city housing. Many developers have sought waivers to reduce the rate of provision below the amount prescribed by the planning regulations.’ A recent Transport Strategy discussion paper prepared for the City of Melbourne suggested that the additional cost of parking bay in a residential building may be as high as \$80,000 on occasions and the proportion of unused bays may be as high as 41%.⁴

A relevant and appropriate planning scheme would strike the right balance between these two trends – ensuring that suitable off-street parking is provided but avoiding the negative impacts of oversupply. In order to develop a relevant and appropriate precinct parking plan for West Melbourne, this investigation explored the two conflicting issues.

2.1 THE PLANNING SCHEME DOES NOT REFLECT THE LEVEL OF CAR OWNERSHIP

Rather than population, the optimum number parking bays required for a population is directly related to car ownership and use. A population with low levels of car ownership will use fewer bays than a population with higher levels of ownership.

Car ownership and population are generally described by ‘motorisation’ – the number of vehicles owned per 100 people. Motorisation can be derived from the ABS Census and compared globally. Table 1 below shows some local and international rates of motorisation.

TABLE 1: MOTORISATION

AREA	RESIDENT CARS	POPULATION	MOTORISATION: CARS PER 100 PEOPLE
Australia			69
European Union			52
City of Port Phillip (2016)	51,000	101,000	50
City of Yarra (2016)	40,000	87,000	46
City of Sydney (2011)	55,000	169,000	33
City of Melbourne (2011)	31,000	94,000	33
City of Sydney (2016)	63,000	208,000	30
City of Melbourne (2016)	37,000	136,000	27
Singapore	1,000,000	5,000,000	20

Source: 2011 and 2016 ABS Census with PBA analysis

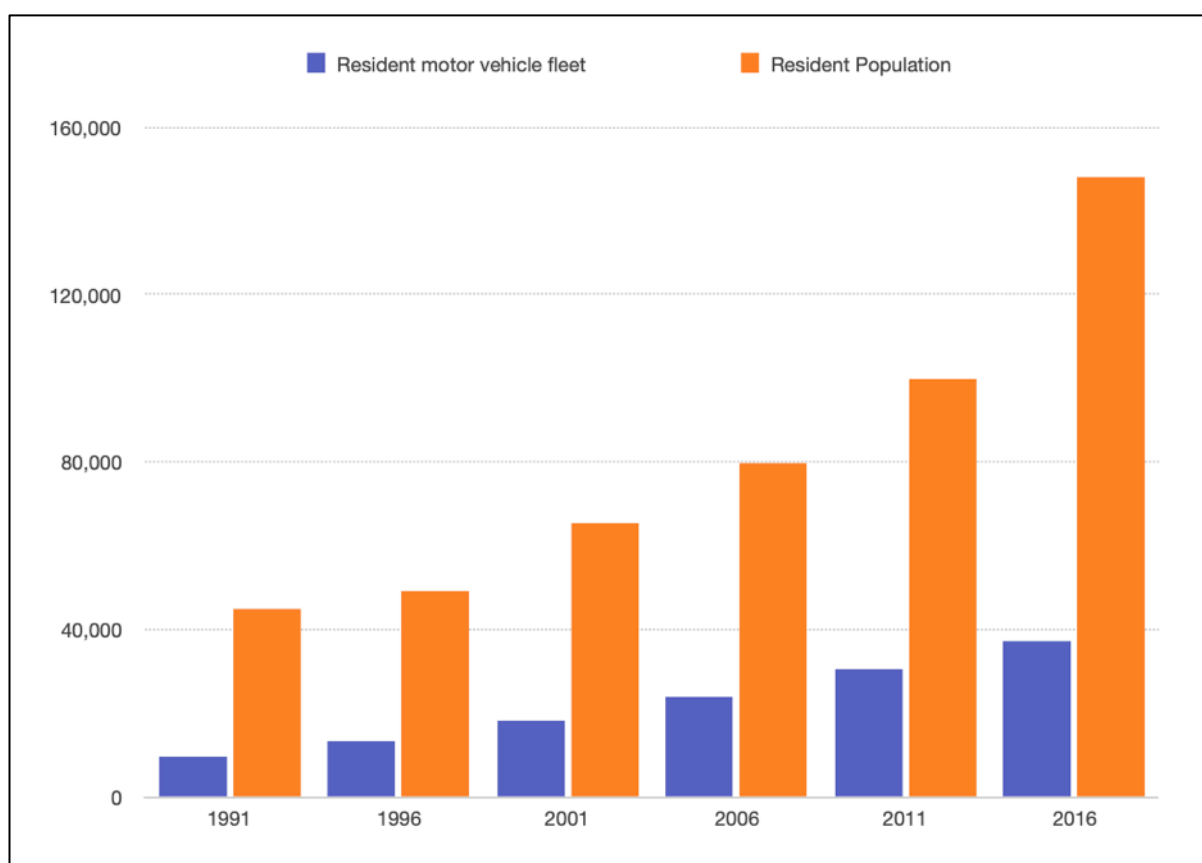
The level of car ownership (motorisation rate) in the City of Melbourne is significantly lower than it was in 2011. Similarly, the motorisation rate has fallen in the City of Sydney. Motorisation in the City of Melbourne is substantially lower than in abutting municipalities.

On this basis, it is likely that the optimum number of parking bays for the population in the City of Melbourne will be lower than these other areas.

Resident population and resident vehicle storage

The relatively low level of car ownership is a long-established trend in the City of Melbourne. Figure 1 below shows that the population (orange) has grown faster than the resident vehicle fleet (purple).

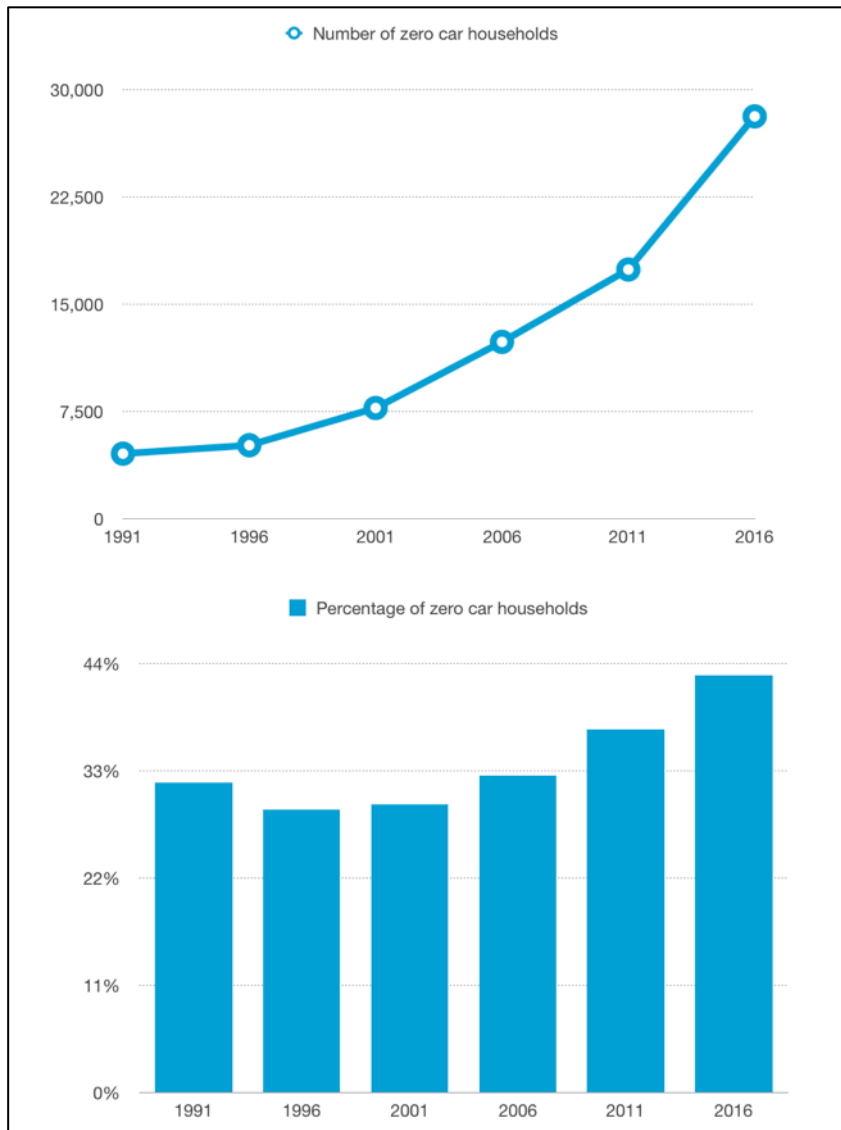
FIGURE 1 – THE POPULATION HAS GROWN FASTER THAN THE RESIDENT VEHICLE FLEET



Source: ABS Census enumerated population (1991 – 2001) City of Melbourne Daily Population Estimates and Forecasts 2017 Update (2006 – 2016)

Many households in the City of Melbourne do not own a motor vehicle. Figure 2 below shows that since the 1990s the proportion and number of zero car households has grown four-fold. This is due to the transport alternatives available to residents of inner Melbourne and the relative accessibility that is provided by other modes when compared with private car ownership.

FIGURE 2 – ZERO CAR HOUSEHOLDS IN THE CITY OF MELBOURNE

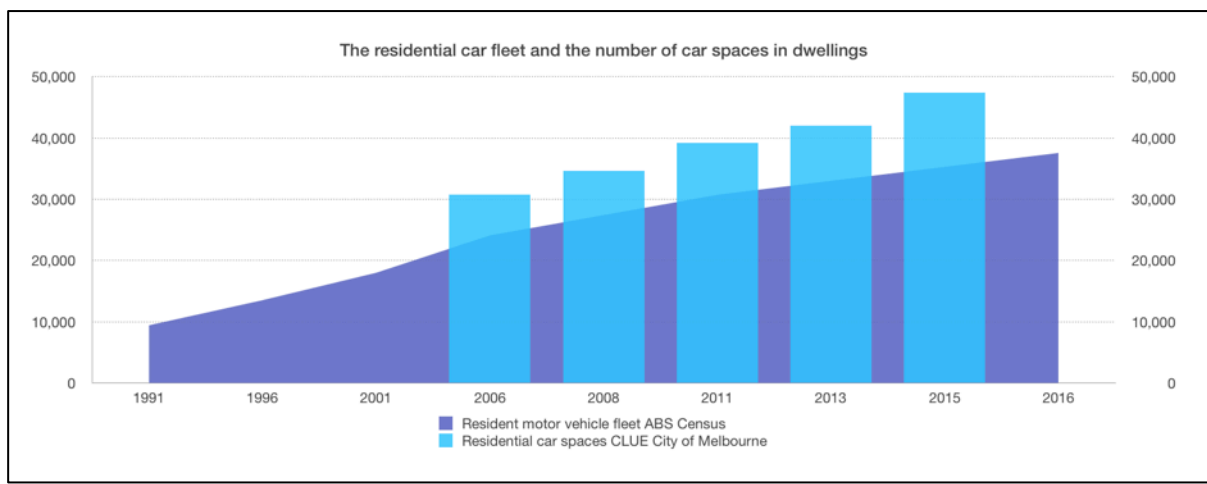


Source: ABS Census

2.2 THE PLANNING SCHEME IS DRIVING OVERSUPPLY IN NEW DWELLINGS

Since 2006, when reliable data on the supply became available, growth in the supply of residential parking bays has outpaced growth in the residential vehicle fleet. Because the growth in parking bays has been strong and the growth in the vehicle fleet weak, there is a growing oversupply of car spaces. Figure 3 shows the residential parking bay supply against the residential fleet.

FIGURE 3 – TOTAL RESIDENTIAL VEHICLE FLEET COMPARED TO PARKING BAYS IN NEW DEVELOPMENTS IN THE MUNICIPALITY

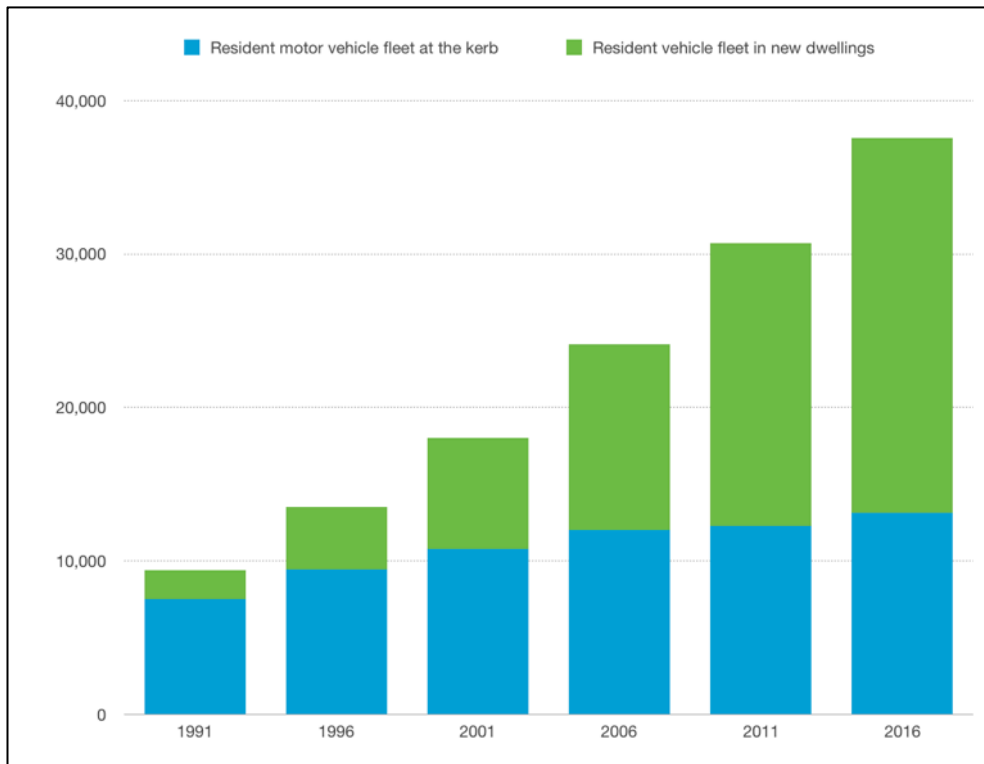


Source: ABS Census and CLUE data City of Melbourne

The difference is likely to be greater than shown above because the total resident vehicle fleet includes many vehicles stored at on-street (not in off-street parking). These vehicles do not use the parking bays included in residential buildings.

Based on the number of kerbside permits issued by the City of Melbourne we can estimate that around 13,000 vehicles are currently based at the kerb.

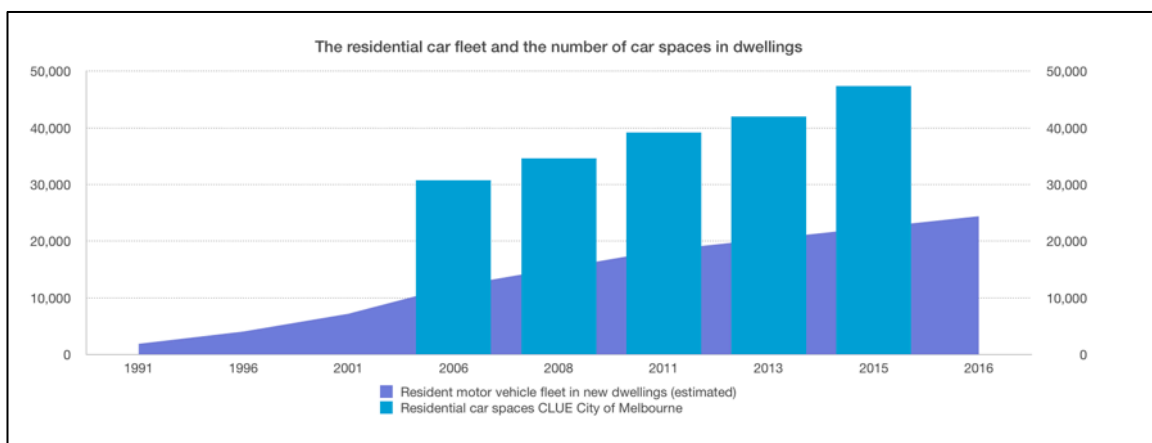
FIGURE 4 – ESTIMATED NUMBER OF RESIDENT MOTOR VEHICLES PARKED AT THE KERB IN THE MUNICIPALITY



Source: ABS Census and CLUE data City of Melbourne

A more accurate picture of the oversupply in new developments is in Figure 5 below.

FIGURE 5 – ESTIMATED RESIDENT VEHICLES COMPARED TO PARKING BAYS IN BUILDINGS IN THE MUNICIPALITY



Source: ABS Census and CLUE data City of Melbourne

2.3 'PARTITIONS' IN THE PLANNING SCHEME LIMIT THE UTILISATION OF PARKING BAYS

The MPS also 'enforces' low utilisation of the parking bays that are provided by partitioning bays and making them exclusive for one user group that often only needs them for part of any 24-hour period.

By default, the MPS partitions new parking bays into three categories and segregates the users. Bays required as part of a residential development, for example, are not available to local employees, or visitors to nearby commercial premises. Resident and commercial bays are also assigned to only one group (despite their different parking needs throughout the day).

This approach limits the utilisation of each category of bay. Bays at an office are usually empty at night and on weekends. Utilisation of these bays can be estimated at 30% through the week.⁵ On the same calculation, the utilisation of a resident bay that is vacant only during working hours is 60%. The current MPS makes it difficult to increase these utilisation rates even if there are resident bays empty during the day and office bays empty at night.

2.4 THE REQUIREMENT FOR PARKING BAYS IMPOSES COSTS ON HOUSEHOLDS AND BUSINESSES

A basement parking bay costs in the order of \$50,000 to construct.⁶ A household that used a standard mortgage to purchase the bay would have an additional \$50,000 in loan costs.⁷

Based on the mean price of a residential building in Melbourne - \$723,000⁸ - a constructed parking bay can be understood as around 5-10% of an average dwelling's cost.

A commercial parking bay for commuter use in the City of Melbourne also attracts a State levy of between \$980 - \$1,380, even if it was required by the MPS.

Although these significant costs may be valuable to car-dependant households and businesses, they are an unnecessary impost on a household or business that does not own a car or could rely on transit, walking and cycling for staff and visitor access.

2.5 ONCE BUILT, PARKING BAYS ARE NOT OPTIONAL

2.5.1 It is difficult for households and businesses to increase or reduce parking bays

The planning scheme mandates that the parking bays required are provided on-site. This reduces flexibility and prevents the ultimate users from matching the number of bays to their needs. As their transport needs change, households and businesses can increase or decrease their vehicle fleet by buying and selling cars, but there is no 'pool' of parking bays to which unneeded bays can be put out to market and additional bays be accessed.

PBA notes, that there is some level of 'trading' between parking bay owners and prospective users. The State Revenue Office waives the levy for shift workers and expects that bay owners may lease bays to nursing staff in a 'nearby hospital'.

2.5.2 Choice is limited for households and businesses

When a parking bay is ‘*tied*’ to a dwelling (or office), the prospective user cannot choose to rent or buy the main asset without also buying the parking bay or bays that are tied to it. For example, one-bedroom apartments can be found with or without a parking bay, however three-bedroom apartments without a parking bay are very difficult to find.

2.5.3 The asset is not convertible into cash

The MPS imposes a further constraint on the owner of a parking bay by making the asset non-liquid. The owner is generally unable to sell, lease or rent the parking bay. The alternative use typically being contrary to the planning scheme or permit conditions. Parking bays in small and medium size developments are usually inaccessible to third parties.

2.6 PARKING COSTS SUPPRESS THE USE OF ALTERNATIVE MODES

Switching costs are the costs that someone bears when they change products or service providers. The switching costs for alternative modes are low. An unused bicycle might represent a loss of \$500 - \$1,000. An unused Myki might be storing \$20.

In contrast when the planning scheme requires the purchase of a \$50,000 parking bay, the requirement imposes a significant mode switching cost on the owner. To experiment with or switch to an alternative mode requires the user to accept the loss of the investment in the parking bay. This cost is passed on to tenants, who also perceive a wasted asset if they are forced to accept control of a car space, that cannot be used for anything except car storage.

The scale of this switching cost is unreasonable in comparison with other modes.

2.7 PRIVATE AND PUBLIC COSTS OF MOTOR VEHICLE OWNERSHIP

The private impact of underpinning private motor vehicle ownership and use is increased transport cost and a reduction in physical activity, which is associated with disease prevention.

The public impact is increased congestion, safety risks and pollution from car trips that could have been avoided. By requiring parking bays in new developments, the MPS increases the number of footpath crossovers, which also increases risk for pedestrians. Crossovers act to reduce the potential value of the public realm by reducing the available kerbside space, which can be used for alternative transport facilities, public and trading space, vegetation and water management.

2.8 CURRENT PROVISIONS ARE INCONSISTENT WITH STATE & LOCAL POLICY

As Taylor⁹ has noted, there is a gap in Victorian strategic policy directions relating to transport and land use and MPS requirements. The weaknesses of the planning scheme related to parking (as noted above) are inconsistent with:

- Planning and Environment Act 1987 which has the objective of providing for the fair, orderly, economic and sustainable use, and development of land
- The Transport Integration Act 2010 which requires decisions have regard to:
 - Reducing the need for private motor vehicle transport and the extent of travel

- Promoting forms of transport and the use of forms of energy which have the greatest benefit for, and least negative impact on, health and wellbeing
- Promoting forms of transport and the use of forms of energy and transport technologies which have the least impact on the natural environment
- Improving the amenity of communities and minimise impacts of the transport system on adjacent land uses
- Increasing efficiency through reducing costs and improving timeliness
- State Planning Policy Framework that identifies the following strategies:
 - Facilitate diverse housing that offers choice and meets changing household needs through provision of a greater mix of housing types.
 - Facilitate development that increases the supply of affordable and social housing in suburbs across Melbourne.
 - Improve local travel options for walking and cycling to support 20-minute neighbourhoods
- The MPS Municipal Strategic Statement (MSS) including the following strategies:
 - Private motor vehicles will continue to be part of the mix of modes available for city users but their use will be developed to be more complementary with the other modes and more compatible with good quality higher density inner city living and working. Car sharing is one significant opportunity for achieving this.
 - Encourage public transport as the primary mode of access to the Central City
 - Recognise that cars are complementary to other modes of transport and their use should be managed to minimise adverse impacts on other transport modes.
 - Discourage new commercial car parks.
 - Discourage commuter car parking in the Central City.
 - Encourage the co-location and sharing of car parking facilities.
 - Minimise the extent of vehicle crossovers and their impediments to pedestrian access.
 - Ensure that the cumulative traffic and parking impact of developments on an area are considered.
 - Ensure that traffic and parking impacts from new development is minimised.

The City of Melbourne *Transport Strategy 2012* notes that ‘many existing and new city residents do not own a car. Much of the city has good to excellent public transport services and many dwellings can access shopping and fulfil their other needs easily by walking or cycling.’ The Strategy identifies the following concerns:

- Excessive provision of off-street parking
- The congestion impact of parking in offices and commercial (retail) parking stations
- The over-supply of off-street residential parking

Directions in the Transport Strategy 2012 related to the planning scheme include:

- Discourage the provision of long-term commercial (retail) parking, particularly in the central city, and encourage conversion of existing long-term commuter parking into affordable short stay parking or other uses. (Action 50).
- The City of Melbourne's current parking policy is to limit provision of parking in residential buildings. Following the success of this policy, the City of Melbourne will pursue another amendment to the planning scheme to set maximum car parking rates for other land uses (for example, offices) throughout the municipality.

The City of Melbourne commissioned a Discussion paper on parking to support the current review of the 2012 Transport Strategy.¹⁰ This paper identified policies and practices that would be relevant for Melbourne:

- London removed requirements for off-street parking in new housing to better match underlying demand and to reduce direct and indirect costs of parking minimums.
- Los Angeles and San Francisco USA, Gothenburg, Sweden, the Vauban neighbourhood in Freiburg, Germany have 'unbundled' parking and dwellings enabling households to choose to own or rent more or fewer parking bays. Generally, the unbundled parking is off-site. Some studies suggest this practice reduces car ownership and use. Others emphasise that car ownership is better matched to preferences, and oversupply of parking bays is reduced. This approach also allows improvements in urban design and walkability.

3. Analysis of the West Melbourne precinct

This section describes the detailed analysis of the West Melbourne precinct and five other nearby areas.

3.1 THE AIM OF THE ANALYSIS

The investigation sought to understand the interrelationship between land uses, population, the number of jobs, the resident vehicle fleet and the number of off-street parking bays in West Melbourne precinct and its environs.

The scale of parking facilities was also investigated to understand how the bays are distributed across the development sites.

The results of this analysis were then compared to the local requirements in the planning scheme to understand whether the scheme is aligned (or not) with what is happening.

The results of the investigation support the Car Parking Plan for West Melbourne that is proposed below.

3.2 SCOPE OF INVESTIGATION

The investigation used the City of Melbourne CLUE database to understand changes in:

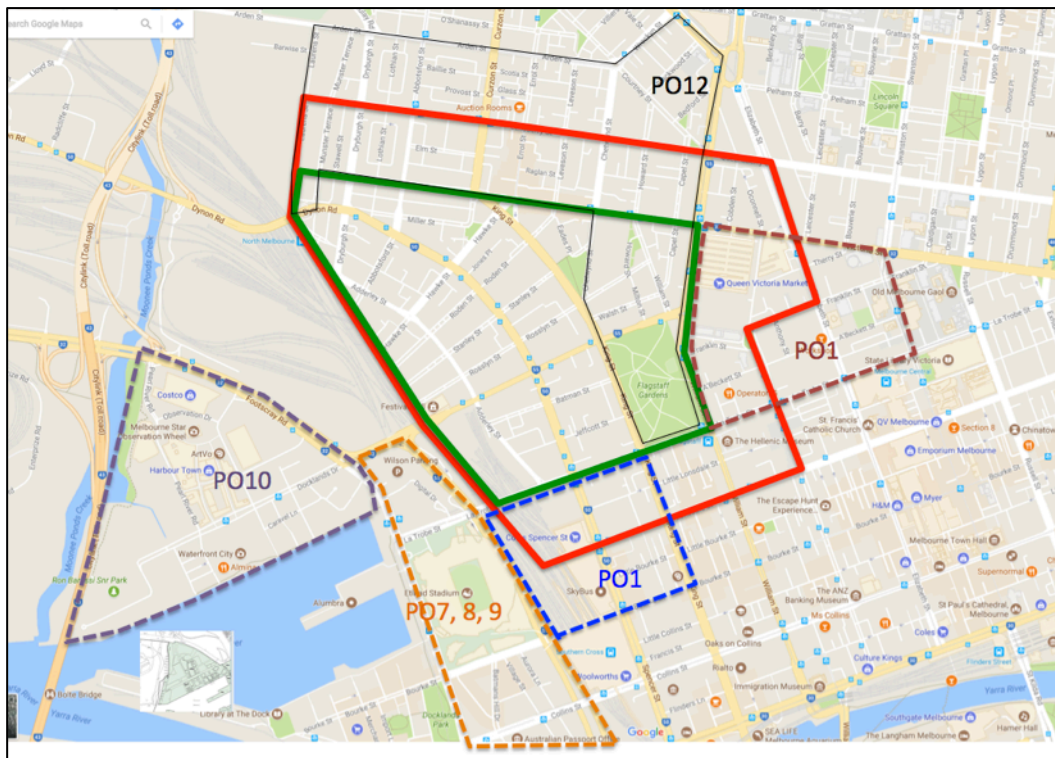
- Dwellings, private (offices) and commercial (such as supermarkets) developments
- Resident population, resident car ownership and jobs

The study period was 2002 – 2016.

Six areas were analysed as shown in the map below:

- The West Melbourne precinct (green box)
- The perimeter of the West Melbourne precinct – the band is approximately 250m wide (red box)
- Harbour Town (purple box)
- Docklands (orange box)
- ‘West End’ – an area that includes developments around the old Age building and Southern Cross Station (blue box)
- Queen Victoria – an area that includes the Market, and developments around A’Beckett Street (burgundy box)

FIGURE 6 – STUDY AREAS



Source: PBA

3.3 THE NATURE OF THE STUDY AREAS

In most of the West Melbourne precinct the standard State planning scheme requirements apply. These are defined in Clause 52.06: Car parking which sets out the minimum number of parking bays to be provided for categories of land uses.

In the east of the precinct (black box labelled PO 12) Parking Overlay 12 sets a maximum rate on parking bays in dwellings but is silent on other uses.

All the study areas around the precinct set a maximum rate for parking bays – although the rate varies from area to area.

Tables showing the settings that apply in the study areas are provided in Appendix One: Parking Overlays.

3.4 DATA USED IN THE ANALYSIS

Three land uses were investigated using the City of Melbourne CLUE database:

- Residential
- Private (Office)
- Commercial (Retail).

The approach to analysing each of these is discussed below.

Residential

CLUE data was used to understand the number of ‘dwellings’ and associated off-street parking bays.

The ABS census (2011 and 2016) was used to understand the population total and the size of the motor vehicle fleet they own. This enabled an estimation of the overnight utilisation of the bays. Note that the occupants of the Melbourne Assessment Prison (Remand Centre) were not counted as residents of the West Melbourne precinct.

A typical residential parking facility in West Melbourne is shown in Figure 7 below.

FIGURE 7 – RESIDENTIAL PARKING FACILITY: WEST MELBOURNE PRECINCT



Source: PBA

Private (office)

CLUE data was used to understand the gross floor area (GFA) of 'private' (offices) and the associated off-street parking bays. There is no data on the utilisation of these parking bays. Note that the parking bays at the Docklands Stadium were categorised as 'private' for the whole period. In CLUE the categorisation changes for a short period.

CLUE provides data on employment or 'jobs'. This investigation linked all employment to the land use category 'private'

A typical office based off-street parking facility in West Melbourne is shown in Figure 8 below.

FIGURE 8 – PRIVATE (OFFICE) OFF-STREET PARKING: WEST MELBOURNE PRECINCT



Source: PBA

Commercial (retail)

CLUE data was used to understand the gross floor area (GFA) of ‘commercial’ (retail) and the associated off-street parking bays. Several uses (such as retail and hospitality) were combined under this heading.¹¹

There are no historical records of visitation or pedestrian activity in West Melbourne. Analysis has therefore focussed on the Gross Floor Area for commercial (retail type) activities compared with the public off-street parking provision. There is no data on the utilisation of these parking bays, but long-term changes in provision tend to be based on perceived parking occupancy rates.

A typical retail, off-street retail parking facility in West Melbourne is shown in Figure 9 below.

FIGURE 9 – COMMERCIAL (RETAIL) OFF-STREET PARKING BAYS: WEST MELBOURNE PRECINCT



Source: PBA

3.5 THE WEST MELBOURNE PRECINCT

3.5.1 Total supply of off-street parking bays in West Melbourne precinct

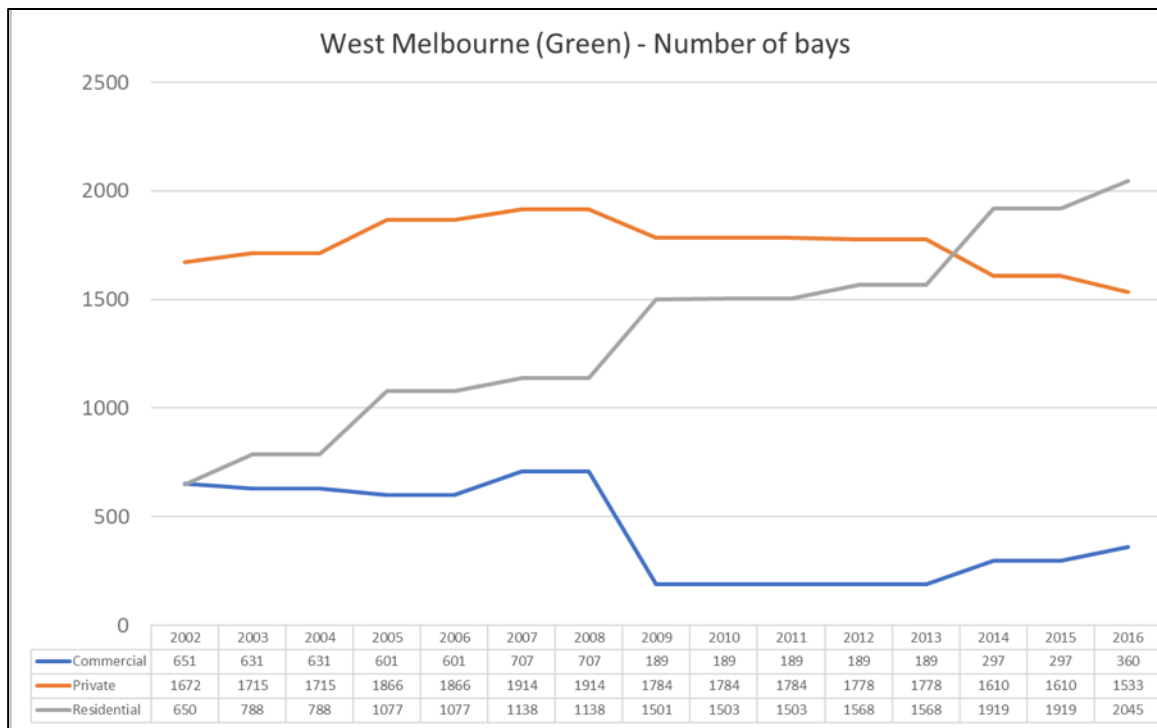
There is a total of 6,328 parking bays in the precinct:

- 3,290 on-street parking bays
- 3,938 off-street parking bays

Over a 15-year study period there was a 32% increase in the off-street supply (965 bays). Figure 10 below shows the significant change in the nature of the supply:

- The private (office) supply remained steady
- The commercial (retail) supply halved.
- The residential supply tripled

FIGURE 10 – TOTAL SUPPLY OF OFF-STREET PARKING BAYS: WEST MELBOURNE PRECINCT



Source: PBA Analysis

3.5.2 Supply of parking with dwellings compared to residents, dwellings and car ownership in West Melbourne precinct

People per dwelling

In West Melbourne, the relationship between people and dwellings has remained consistent over the last five years. In 2016, there were 2.1 people per dwelling in the precinct.

Motorisation

The relationship between residents and car ownership has changed:

- A 47% growth in the population (2011-2016) (1,767 people)
- A 32% growth in the resident vehicle fleet (424 vehicles).

Over the last five years, every 100 new residents brought 23 additional cars into the precinct. As a result, motorisation in the precinct fell from 34 cars per 100 people to 31 cars per 100 people. (The municipal motorisation rate is 27 cars per 100 people.)

The supply of residential off-street parking bays

The current planning scheme requirements have ensured that the supply of off-street resident parking bays grew by 36% (542 bays) between 2011 and 2016. This is a rate of 1.3 off-street parking bays per additional motor vehicle in the precinct.

A significant number of the motor vehicles based in West Melbourne are stored at the kerb. This 'kerbside fleet' is estimated at 600 vehicles.¹² The balance of the West Melbourne resident vehicle fleet ($1,725 - 600 = 1,125$ vehicles) is stored in the off-street parking bays required by the planning scheme.

The data shows that there is a significant oversupply of off-street residential parking bays – 2,045 bays have been built to hold 1,125 vehicles. There are therefore in the order of 920 empty off-street parking bays. (45% of the total supply).

Based on the motorisation rate of people moving into dwellings in

the precinct (24 vehicles for every 100 people) it would take another 3,833 people to move into new dwellings before these surplus bays were occupied. Based on the average annual resident population growth between 2011 and 2016 (353 people a year) it will take ten years for this growth to occur.

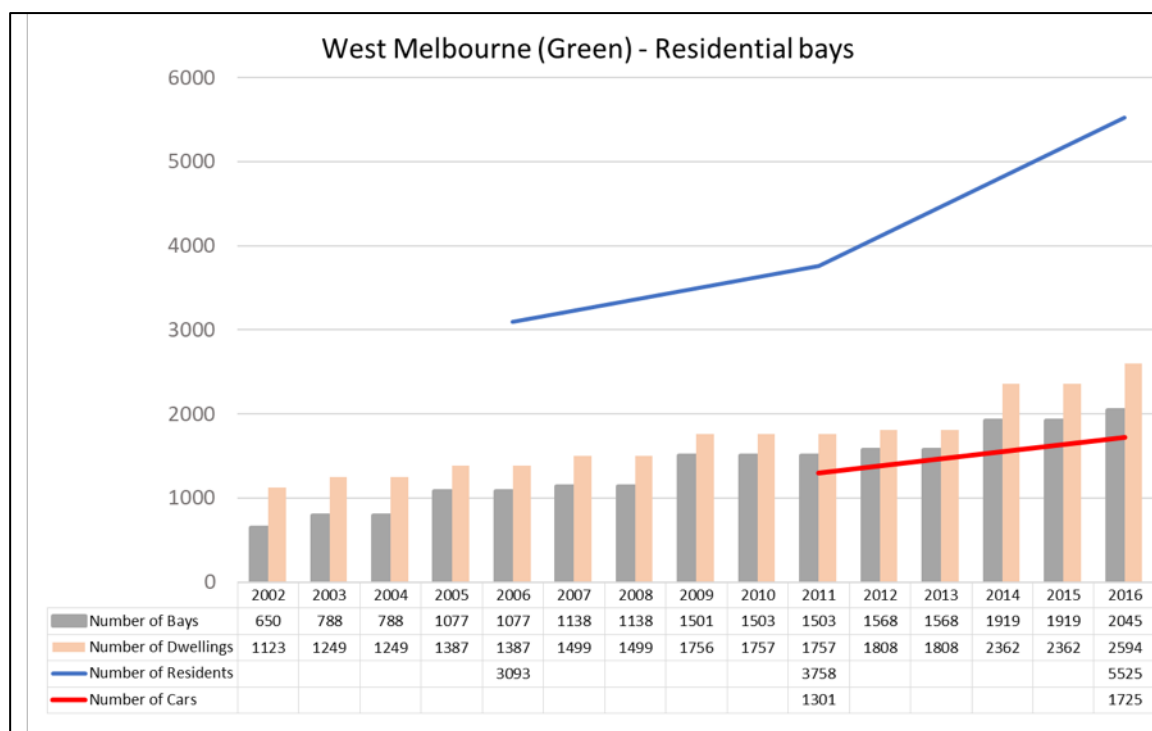
If each bay cost \$50,000 to construct, then \$46 million has been unnecessarily added to the cost of housing in the precinct. If these assets are purchased with loans, then the actual cost could be double this estimate. From the perspective of an individual purchaser, an off-street parking bay adds two to four years of payments to the cost of purchase.¹³

Alignment of requirements in the planning scheme

Clause 52.06 requires a minimum number of parking bays per dwelling of one to each one or two-bedroom dwelling, and two to each three-or-more bedroom dwelling.

The actual vehicle ownership rate in West Melbourne is 0.43 bays per dwelling (1,125 occupied bays in 2,594 dwellings). The data suggests that the current MPS controls require significantly more bays than the future residents will use.

FIGURE 11 – RESIDENTS, DWELLINGS AND RESIDENT PARKING BAYS: WEST MELBOURNE PRECINCT



Source: PBA Analysis

3.5.3 Supply of private (office) off-street parking bays compared to jobs and floor area in West Melbourne precinct

Over the last 15 years in the West Melbourne precinct, the number of jobs, the floor area of offices and the number of off-street private (office) parking bays have fallen slightly.

Private (office) off-street parking bays per employee

The number of Private (office) off-street parking bays per employee in the West Melbourne precinct has fluctuated over the study period. In 2002, there were 26 private (office) off-street parking bays for every 100 employees in the precinct. This fell to 23 bays per 100 employees in 2010 and rose to 24 bays in 2013. Due to falling local employment (from 2013 onwards), and a lag in private parking spaces being repurposed, the rate increased to 30 bays per 100 employees by 2016.

Observed rate of provision

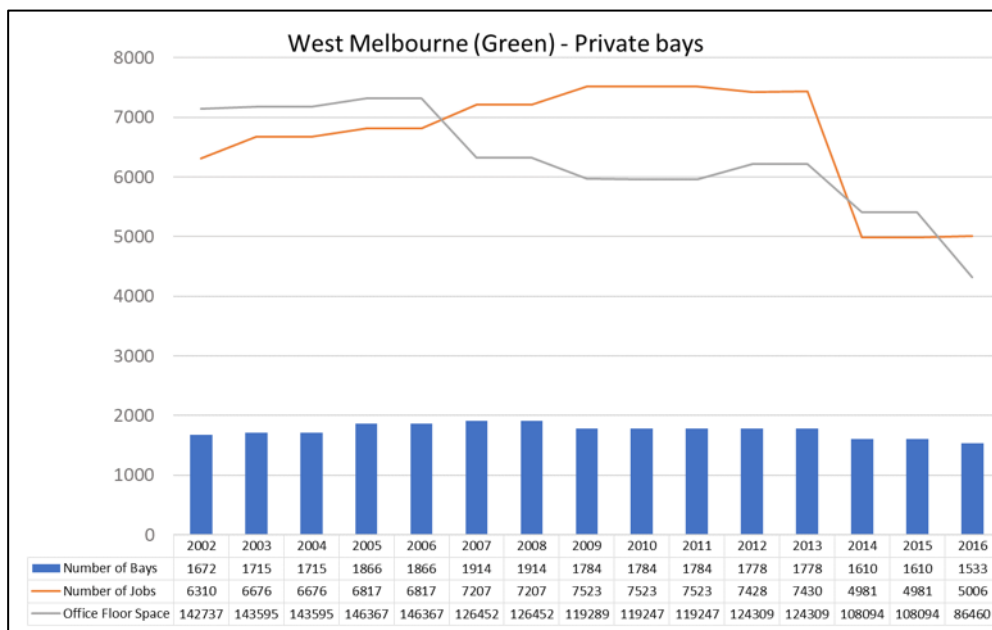
Evidence shows that the gross floor area of offices per private (office) off-street parking bay has fallen over the last 15 years from 85sqm to 56sqm. This is due mainly to the lag in repurposing private parking spaces after employment uses close or relocate. The amount of office space in West Melbourne has declined 41% since 2006, but many of the private (office) off-street parking spaces have continued to be leased or sold to other users from outside West Melbourne (such as CBD employees seeking cheaper parking).

Alignment of the planning scheme

The observed rate of parking provision is significantly lower than that specified in Clause 52.06 for offices which requires 3.5 bays per 100 sqm NFA (one parking bay per 28 sqm).

Evidence shows the planning scheme controls require private (office) off-street parking at a higher rate than is currently used in the precinct.

FIGURE 12 – JOBS, OFFICE FLOOR SPACE & PRIVATE OFF-STREET PARKING BAYS: WEST MELBOURNE PRECINCT



Source: PBA Analysis

3.5.4 Supply of commercial (retail) off-street parking bays compared to floor area in West Melbourne precinct

Over the study period in the West Melbourne precinct the commercial (retail) floor area has fallen by 20% and the number of commercial (retail) off-street parking bays has halved.

Public off-street parking bays per visitor (entertainment, retail & hospitality)

There are no historical records of visitation or pedestrian activity in West Melbourne. Analysis has therefore focussed on the Gross Floor Area for commercial (retail type) activities compared with the public off-street parking provision. There is no data related to how occupied these parking bays are, but long-term changes in provision tend to be based on perceived parking occupancy rates.

Observed rate of provision

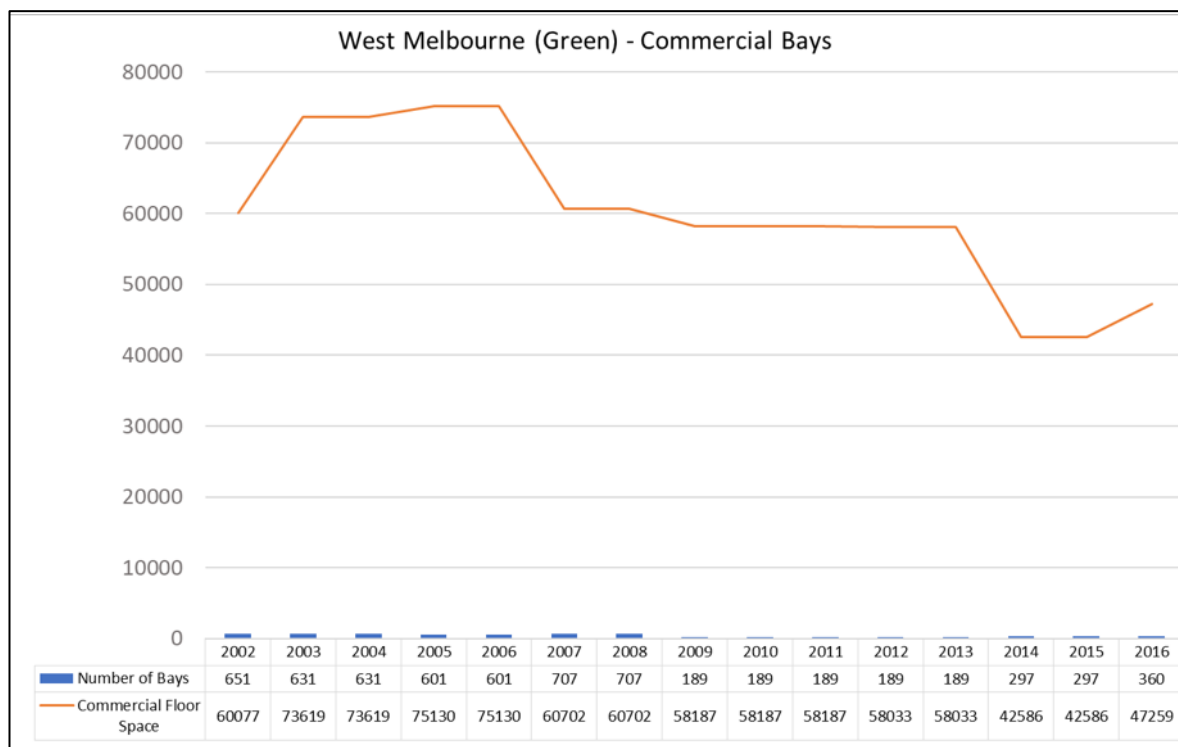
Data shows that there was 92 sqm of GFA for every public off-street commercial (retail) parking bay in 2002. By 2010, the observed rate of parking provision had decreased significantly to one bay per 308 sqm of GFA. By 2016, the provision of parking rebounded somewhat to one bay for every 131 sqm of GFA.

Alignment of the planning scheme

The observed rates of provision (and assumed use) are significantly lower than the rates required in Clause 52.06 for retail uses. Typically, retail uses are required to provide 4-5 parking bays for every 100 sqm of leasable floor area (1 bay for every 20-25 sqm of net floor area). In the past 15 years, the provision in West Melbourne has always been less than a quarter of the planning scheme rate. For many years it was less than 10% of the planning scheme requirement.

This highlights that the current planning scheme controls require significantly more public off-street parking bays than are currently used in the precinct.

FIGURE 13 – COMMERCIAL FLOOR SPACE AND OFF-STREET PARKING BAYS: WEST MELBOURNE PRECINCT



Source: PBA Analysis

3.5.5 The scale of residential parking facilities in West Melbourne precinct

Most parking bays are in medium and large-scale parking facilities as shown in Figure 15 below:

- 806 bays are in facilities with 51 or more parking bays
- 728 bays are in facilities that contain between 11 and 50 bays
- 511 bays are in ‘micro-facilities’ of fewer than 10 bays.

Most of the ‘micro-facilities’ were established before 2009. Since then most of the growth in the supply has been in the larger facilities as shown in Figure 16 below.

One impact of the car parking requirements in the planning scheme has been to generate a large footpath crossovers. The newer, larger scale buildings with more than 11 parking bays each and containing 1,534 bays have generated around 76 crossovers (assuming each has two crossovers).

The older developments contain 511 bays but have generated 249 crossovers. As a result, many footpaths are interrupted by frequent crossovers. The crossover also prevents the use of the kerbside space for water management, tree planting or other uses. Ideally the planning scheme will guide and incentivise developers to explore the transfer of these isolated parking bays into larger facilities and enable the restoration of the footpath. (This approach is already in use in other domains such as wastewater, stormwater and energy.)¹⁴

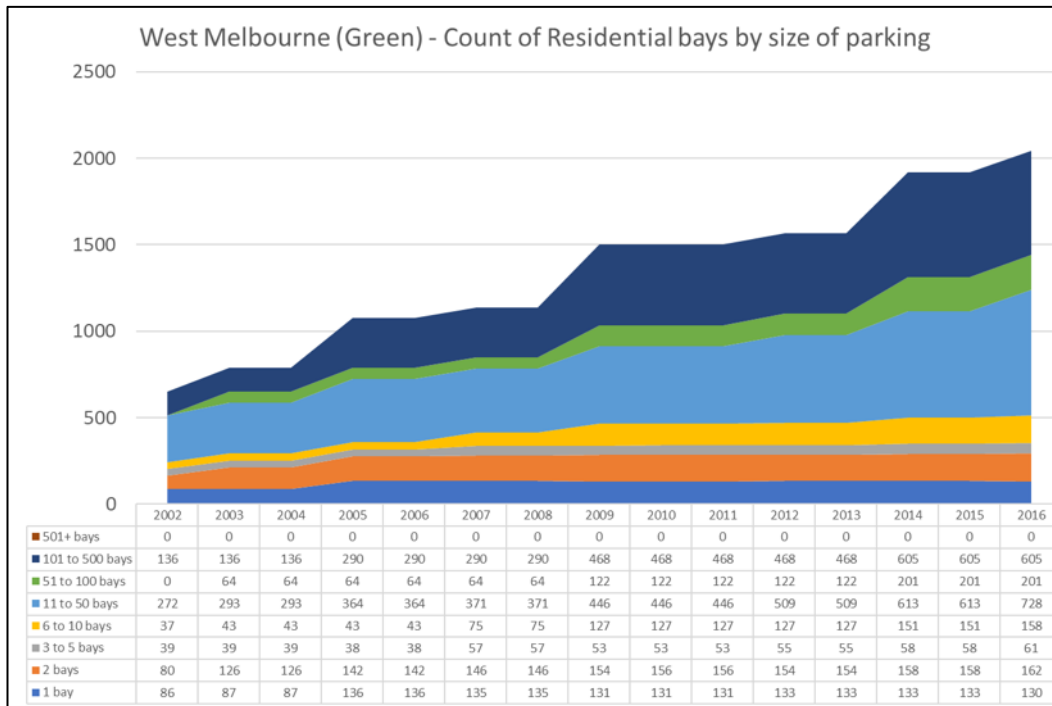
Alongside the planning scheme it is appropriate for the City to support small-scale buildings that are developed without a parking facility with a ‘service area’ at the kerb. This kerbside area would include facilities such as a loading zone for deliveries and service vehicles, a veranda for people waiting for a taxi, a designated place where bins can be placed for collection. These opportunities are explored in the proposed Parking Overlay for the precinct.

FIGURE 14 – MICRO PARKING FACILITIES RAILWAY PLACE, WEST MELBOURNE



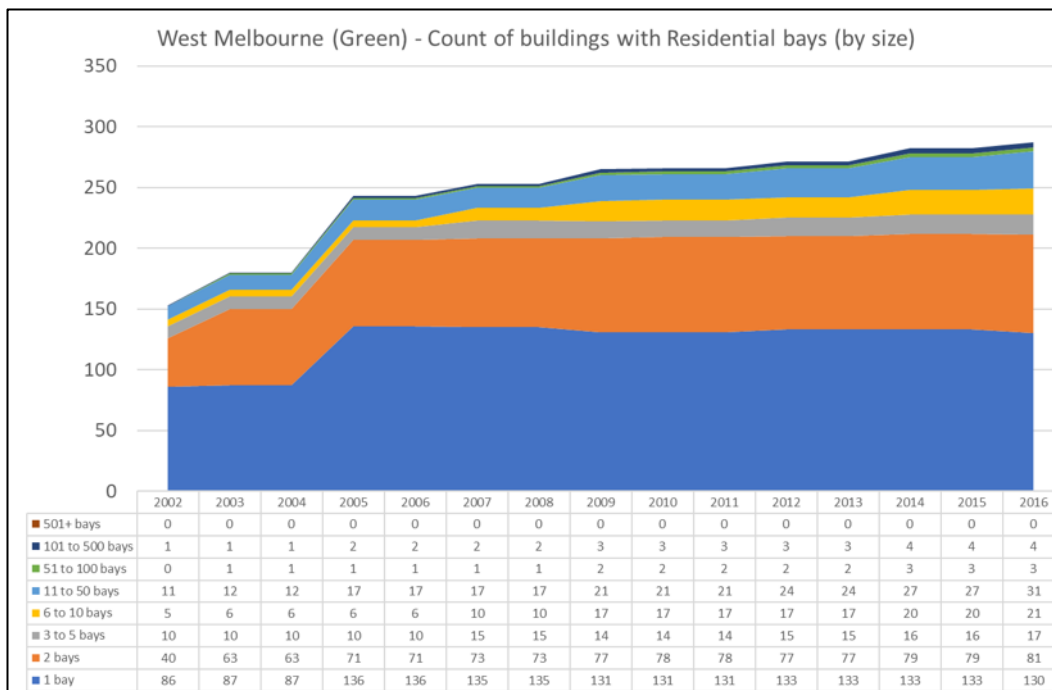
Source: PBA

FIGURE 15 – SCALE OF CAR STORAGE FACILITIES IN RESIDENTIAL DEVELOPMENTS: WEST MELBOURNE PRECINCT



Source: PBA Analysis

FIGURE 16 – NUMBER OF RESIDENTIAL BUILDINGS BY SCALE OF CAR STORAGE FACILITY: WEST MELBOURNE PRECINCT



Source: PBA Analysis

3.5.6 On-street parking facilities in West Melbourne precinct

The on-street supply of parking bays was investigated to inform the West Melbourne precinct structure plan process and public engagement.

The study found that there is a significant pool of parking bays on-street in West Melbourne (3,290). The City of Melbourne has applied some controls to these bays between Mondays to Saturdays. Time controls apply to 83% (roughly 2,500) of the on-street bays so that there is 'turnover' the use of the bays. Around 30% of these bays are metered and fees apply.

Incumbent residents (pre-1 July 2008) can get access to a permit which waives the controls.

The controls are only in force from 0800 – 1700. Outside these times bays are available for any trip purpose and any length of stay.

There are in addition, around 500 bays where all day vehicle parking (sometimes referred to as 'storage') is permitted. Around 85% of these 'storage' bays are metered. Around 75 bays have no controls and vehicles can be left there for an indeterminate time.

The controls over many of the on-street bays are removed on Sundays when 88% of the spaces are available for storage (more than 4 hours). This allows 2,500 people to leave a car in the precinct all day for no charge. On Sundays around 500 bays are set aside for 'turnover parking'. Only 10% (45 spaces) of these require a fee.

These bays are used by drivers to access commercial destinations, such as Festival Hall and Docklands Stadium, employment including in the CBD and by residents of the area who choose to park outside the permit areas.

4. Analysis of the other areas

This section summarises the findings from the six areas that were investigated as shown in Table 2 below. The full analysis of the five areas outside the West Melbourne precinct is provided in Appendix Two.

The investigation found that there are around two residents in each dwelling across the areas. On this basis, we can say that the planning scheme in requiring (or limiting) provision to one parking bay per dwelling is assuming a motorisation rate of 50 cars per 100 people.

The actual resident motorisation rate across the areas ranges from 46 to 12 cars per 100 people. The municipal average is 24. In general, newer residents have a much lower motorisation rate – as low as 2 vehicles per 100 people in the Queen Victoria Market area. It is clear from this analysis that the settings in the MPS are misaligned with actual residential parking requirements.

The oversupply of resident off-street parking bays occurs in West Melbourne and other areas. The observed rate of provision in residential developments is generally around 0.3 – rather than the maximum (or minimum) of 1 bay per dwelling.

Private (office) and Commercial (retail) requirements were found to be misaligned outside the area covered by the Capital City Zone (PO1 controls).

TABLE 2: SUMMARY OF FINDINGS FROM THE STUDY AREAS

DATA	WEST MELBOURNE PRECINCT	WEST MELBOURNE PERIMETER	QUEEN VICTORIA AREA	WEST END AREA	DOCKLANDS	HARBOUR TOWN
Residential						
Growth in resident population 2011 - 2016	47%	60%	150%	290%	72%	130%
Growth in the resident motor vehicle fleet 2011 - 2016	32%	8%	81%	74%	24%	71%
Change in motorisation of population Motor vehicles per 100 residents 2011 - 2016	Fell from 34 - 31	Fell from 25 - 17	Fell from 14 - 10	Fell from 20 - 12	Fell from 30 - 22	Fell from 45 - 33
Motorisation rate of new residents Additional motor vehicles per 100 additional residents 2011 - 2016	23	4	7	8	10	24
Supply of residential off-street parking bays	Oversupply of 920 bays	Oversupply of 1,000 bays	Oversupply of 298 bays	Oversupply of 1,042 bays	Oversupply of 168 bays	Oversupply of 1,343 bays
Percentage of supply that is not in use	45%	48%	23%	45%	20%	56%
Observed rate of provision (residential)	0.28	0.24	0.22	0.25	0.46	0.5
Residential rate in the planning scheme	Minimum 1: one and two bedrooms 2: three or more bedrooms	Maximum of 1 per dwelling	Maximum of 1 per dwelling	Maximum of 1 per dwelling	Maximum of 1.5 or 2 per dwelling (depending on area)	Maximum of 1.5 per dwelling
Alignment: Residential	Misaligned	Misaligned	Misaligned	Misaligned	Misaligned	Misaligned
Private (Office)						
Bays per 100 jobs	30	14	12	8	7	6
Observed rate of provision: Private (office)	1 bay: 56sqm GFA	1 bay: 110sqm GFA	1 bay: 80sqm GFA	1 bay: 59sqm GFA	1 bay: 201 sqm GFA	1 bay: 16 sqm GFA
Private (office): rate in the planning scheme	1 bay: 28 - 33 sqm NFA	1 bay: 28 sqm NFA 1 bay: 83 sqm NFA - maximum	1 bay: 83 sqm NFA - maximum	1 bay: 83 sqm NFA - maximum	1 bay: 33 - 50 sqm Maximum (depending on the area)	1 bay: 33 sqm Maximum
Alignment: Private (office)	Misaligned	Misaligned	Aligned	*Misaligned*	Misaligned	*Misaligned*
Commercial (Retail)						
Observed rate of provision Commercial (retail)	1 bay: 131 sqm gross area	1 bay: 72 sqm gross area	1 bay: 62 sqm gross area	1 bay: 57 sqm gross area	1 bay: 27 sqm GFA	1 bay: 15 sqm GFA
Commercial (retail): rate in the planning scheme	1 bay: 20 sqm net area	1 bay: 83 sqm NFA - maximum 1 bay: 20 sqm net area	1 bay: 83 sqm NFA - maximum	1 bay: 83 sqm NFA - maximum	1 bay for every 25 - 100 sqm of net floor area. - maximum	1 bay: 25 sqm Maximum
Alignment: Commercial (retail)	Misaligned	Aligned where Parking Overlay 1 applies Misaligned where Clause 52.06 applies	*Misaligned*	*Misaligned*	Aligned in some Overlay areas Misaligned in some Overlay areas	*Misaligned*

Misaligned: The planning scheme is requiring a higher rate of provision than the observed rate

Misaligned: The observed rate of provision is higher than the maximums in the planning scheme



Source: PBA Analysis

5. Aligning the planning scheme

This section describes the economic and other outcomes that the City of Melbourne wishes to realise through the Precinct Parking Plan for the West Melbourne precinct. These aims are followed by a description of how the aims can be realised in practice. The description is followed by proposed Decision Guidelines.

5.1 THE NEED FOR A NEW APPROACH

The misalignment of the planning scheme has imposed significant harms on the precinct. The greatest impact has been caused by residential off-street parking bay requirements. These requirements have generated a large reservoir of unnecessary bays. The value of these unneeded bays has been estimated at \$46m.

To stem this flow of parking bay construction and stimulate the use of the bays that have already been built, the Parking Overlay for the precinct will draw on the following principles.

5.2 PRINCIPLES

Increase return on investment in assets

- Reduce the ‘sunk-cost’ investment in parking bays that are not used – minimise the number of empty bays

Cut costs for businesses and households

- Reduce the cost of purchase, leases and rents in the precinct
- Eliminate inflexible transport expenditure that leads to unavoidable costs for future tenants
- Reduce the amount people need to spend on transport

Increase utilisation of assets

- Facilitate high utilisation of bays
- Facilitate flexible access to parking bays by different users
- Reduce unused and ‘unwanted’ parking bays – nobody has a bay they do not want
- Reduce unmet demand for parking bays – everybody who wants one can get access to a bay
- Bring existing empty bays into use

Maximise the value of buildings

- Minimise space set aside for low value uses
- Set minimum building size for parking facilities

Maximise the potential value of the public realm

- Maximise usability (and flexibility of future use) of kerbs and footpaths
- Minimise the impact of access to parking facilities
- Maximise the active street frontage of buildings

- Minimise the number of small-scale inefficient parking facilities

Apply strategic Transport principles

- Assume that private motor vehicle ownership is an option not a necessity
- Require an evidence-based case to support the expansion of the supply of parking bays
- Use walking catchments as the basis for assessing quality of access to any mode (including private motor vehicles)
- Require an annual fee for all resident parking bays that funds access to alternative modes

Maximise choice and flexibility

- Vest ownership of the bays with building owners and Owners Corporations rather than individuals

Describe off-street parking bays as optional building features

- Identify parking bays as discretionary facilities within a building, like a concierge, swimming pool, gym, tennis court, mailroom and other optional features.

5.3 APPLICATION OF THE PRINCIPLES

This section describes how the principles can be applied.

5.3.1 Allow the requirements for parking bays to be met by including bays in other buildings

To address the current oversupply of off-street parking bays in the precinct, it is proposed that the Parking Overlay permit (and encourage) the use of empty parking bays that have already been constructed and are within 200m of the land.¹⁵ Permits for parking facilities that increase the overall supply in the precinct will only be granted when a parking plan identifies the existing unused or underused off-street parking bays in the area and how they will be incorporated into the proposal.

5.3.2 Allow the requirements for parking bays to be met by access to parking facilities in other land uses

To address oversupply and low utilisation, it is proposed that the Parking Overlay permit (and encourage) the use of empty parking bays by all users across all land uses. In practice, this will mean that people accessing employment might store their car in a facility under a dwelling or that residents might store their car at unused office parking bays.

5.3.3 Ensure developments support third-party access

To support access by third parties to car parking facilities, the planning scheme will explicitly allow the bays to be leased to building users and third parties who do not live in or use the building such as local businesses and pre-July 2008 residents¹⁶ in the precinct.

5.3.4 Ensure building security supports third-party access

To support access by third parties to car parking facilities, the planning scheme will require parking facilities to provide suitable and convenient third-party access arrangements that, for example permit access to part of or all the car parking area but not to the rest of the building. This requirement also supports access by service vehicles, delivery vehicles and taxis as well as allowing neighbourhood car share vehicles to be based in the facility.

5.3.5 Support and increase collective ownership of parking bays

To support flexible levels of ownership by building users and third-party ownership or leasing of bays, the Parking Overlay will require the Owners Corporation to be the owner of the parking bays in residential buildings.

5.3.6 Avoid small scale off-street parking facilities

The Parking Overlay will address the risk of an increase in small-scale parking facilities on small sites with low development intensity. Car parking areas proposed with fewer than 50 spaces would be considered inefficient and unwarranted given the current surplus of parking in and around West Melbourne. Where possible, these isolated parking areas will be relocated to larger scale facilities through incentives and the footpaths restored.

Alongside the planning scheme it is appropriate for the City to support small-scale buildings that are developed without a parking facility with a 'service area' at the kerb. This kerbside area would include facilities such as a loading zone for deliveries and service vehicles, a veranda for people waiting for a taxi, a designated place where bins can be placed for collection.

5.3.7 Support larger scale off-street parking facilities

When a building is of a sufficient scale, then a permit for parking facilities can be considered. The planning scheme can provide guidance on the minimum number of bays in a facility. PBA analysis suggests that 50 bays is a suitable minimum size for any off-street parking area. At this scale, the negative impacts of each parking facility on transport networks (including road network flow) can be managed.

The permit assessment will consider:

- The availability of all modes based on a walking catchment. The quality of active and public transport networks and service levels in and around West Melbourne is already relatively high – leading to the lower than average (and declining) car ownership rates.
- The number of available parking bays in other buildings within the walking catchment. The proponent would be expected to establish the number of parking bays available within the prescribed walking catchment (200m) and their occupancy levels at various times of day. The number of unused bays in the catchment will directly influence the number of bays that are permitted.

One of the aims of the consolidation of parking facilities will be to reduce the number of driveway crossovers in the precinct. Existing crossovers to the building can be relocated by agreement. Any additional crossovers would have to be offset by the removal of an equivalent width of crossovers elsewhere in the precinct.

The parking bays will be provided in a way that allows the space to be partially or fully repurposed. The permit will require level floors and ceiling heights that allow the facility to repurposed in future.

Each parking facility will contain a minimum number or proportion of shared bays for disabled access, service vehicles, deliveries, bicycle facilities, motorcycles and car share vehicles. It is recommended that the City would expect any facility would first allocate space to these uses and that a specific percentage of these bays would be allocated in each car park.

5.4 DRAFT DECISION GUIDELINES

To realise the desired aims the following draft Decision Guidelines are proposed.

Before deciding on an application that includes the provision of car parking spaces, the responsible authority must consider as appropriate:

- Any relevant local planning policies.
- The availability of alternative transport options including:
 - The presence of transit services within 800m of the site as well as the number of services and the time span of operation
 - The scale of bicycle parking that will be provided on site
 - The number of car share vehicles within 250m of the site
 - The number of car share vehicles that will be available on site
- The level of motor vehicle dependence in the area including:
 - The motorisation rate (vehicles per 100 people) within 400m of the site
 - The recent growth in the resident vehicle fleet in the area
- Whether the proposed parking can be avoided or reduced by using existing off-street parking bays within 200m walking distance of the site.
- The scale of the parking facility that is proposed including the proportion of the building façade that will be set aside for access and the ratio between the access area of the facility and the total area of the marked parking bays.
- Whether bays will be set aside for DDA access, service vehicles, deliveries and car share vehicles
- Whether bays in the car park facility will be owned by individuals or collectively owned.
- Whether bays in the car park facility will be available to be leased by car share service providers, residents and businesses based in other sites including whether the access systems permit third party access to the car park facility.
- Access to the parking facility including:
 - Whether the proposal will increase, reduce or have a neutral impact on the width of crossovers in the precinct
 - The extent to which the proposed access point would conflict with any proposal to limit or prohibit traffic in certain roads.
 - Whether the proposal involves the making or the use of an access point across a traffic conflict frontage. Any effect on vehicle and pedestrian traffic in the area.

5.5 DRAFT PARKING OVERLAY FOR THE WEST MELBOURNE PRECINCT

The draft Parking Overlay for the West Melbourne precinct is provided in Appendix 3.

Appendix 1: Parking Overlays

The relevant parking overlays are listed in Table 3 below.

TABLE 3: STUDY AREAS AND THEIR PARKING OVERLAYS

STUDY AREA	PARKING OVERLAY	COMMENT
The West Melbourne precinct (green box)	No parking overlay applies in the west of the precinct. PO 12 applies in the east of the precinct and to the north of the precinct (black box)	PO 12 sets a maximum for parking bays in dwellings and is silent on other uses.
The perimeter of the West Melbourne precinct – approximately 250m (red box)	The perimeter of the precinct is all in PO 1 Capital City Zone or PO 12.	PO 1 sets a maximum for parking bays for all uses. PO 12 sets a maximum for parking bays in dwellings and is silent on other uses.
Harbour Town (purple box)	The Harbour Town study area is all in PO 12. (PO 12 extends beyond the study area)	PO 12 sets a maximum for parking bays.
Docklands (orange box)	The Docklands study area is the same as the area covered by PO 7, 8 and 9.	These overlays set a maximum for parking bays. The various overlays differ in the maximums they set for dwellings.
'West End' – an area that includes developments around the old Age building and Southern Cross Station (blue box)	The West End study area is all in PO 1 the Capital City Zone	PO 1 sets a maximum for parking bays for all uses.
Queen Victoria – an area that includes the Market, and developments around A'Beckett Street (burgundy box)	The Queen Victoria study area is all in PO 1 the Capital City Zone	PO 1 sets a maximum for parking bays for all uses.

Source: PBA Analysis

The rates in the various Parking Overlays that apply in the City of Melbourne are listed in Table 4 below.

TABLE 4: PARKING BAY RATES IN THE CITY OF MELBOURNE

PARKING OVERLAY	DWELLINGS	OFFICE COMMERCIAL
Parking Overlay 1 Capital City Zone	the number of spaces for each dwelling must not exceed one (1).	Net floor area or site area formula 5 bays per 1,000 sq metres (net) 12 bays per 1,000 sq metres (site)
Parking Overlay 2 Capital City Zone – retail core	Quantity is not addressed in this overlay	Quantity is not addressed in this overlay
Parking Overlay 3 Lonsdale Street (Golden Square Car Park) Area	Site specific	Site Specific
Parking Overlay 4 within the Royal Melbourne Showgrounds	Site specific event parking	Site specific event parking
Parking Overlay 5 Royal Melbourne Showgrounds non-core land	Not applicable	Office: 25 bays per 1,000 sq metres (net) Restaurant: 0.3 per 'public seat' Supermarket 55 bays per 1,000 sq metres (site) Tavern 200 bays per 1,000 sq metres (net)
Parking Overlay 6 Victoria Harbour precinct of Docklands.	the maximum number of car parking spaces that can be provided: 2 bays per dwelling	the maximum number of car parking spaces: Office: 25 bays per 1,000 sq metres (GFA). Retail: 20 – 40 bays per 1,000 sq metres (GFA). Three sub areas are defined. Industry (and other use): 7 bays per 1,000 sq metres (GFA).
Parking Overlay 7 Batman's Hill precinct of Docklands.	the maximum number of car parking spaces that can be provided: 2 bays per dwelling	the maximum number of car parking spaces: Office: 15 bays per 1,000 sq metres (GFA). Industry: 7 bays per 1,000 sq metres (GFA). Other: 10 bays per 1,000 sq metres (GFA).
Parking Overlay 8 Stadium precinct of Docklands.	the maximum number of car parking spaces that can be provided: 1.5 bays per dwelling	Industry: 7 bays per 1,000 sq metres (GFA). Other: 10 bays per 1,000 sq metres (GFA).
Parking Overlay 9 Comtech Port precinct of Docklands.	the maximum number of car parking spaces that can be provided: 1.5 bays per dwelling	the maximum number of car parking spaces: Office: 20 bays per 1,000 sq metres (GFA). Industry: 7 bays per 1,000 sq metres (GFA). Other: 10 bays per 1,000 sq metres (GFA).
Parking Overlay 10 Business Park precinct of Docklands.	the maximum number of car parking spaces that can be provided: 1.5 bays per dwelling	the maximum number of car parking spaces: Office: 30 bays per 1,000 sq metres (GFA) Retail: 40 bays per 1,000 sq metres (GFA). Industry: 7 bays per 1,000 sq metres (GFA) Other: 10 bays per 1,000 sq metres (GFA) Film Studio: 35 per 1,000 sq metres (GFA) Place of Assembly: 20 per 1,000 sq metres (GFA) Residential Hotel: 0.4 for each room

PARKING OVERLAY	DWELLINGS	OFFICE COMMERCIAL
Parking Overlay 11 Yarra's Edge precinct of Docklands.	the maximum number of car parking spaces that can be provided: 2 bays per dwelling	the maximum number of car parking spaces: Office: 20 bays per 1,000 sq metres (GFA) Retail: 40 bays per 1,000 sq metres (GFA). Industry: 7 bays per 1,000 sq metres (GFA) Other: 10 bays per 1,000 sq metres (GFA)
Parking Overlay 12	the maximum number of car parking spaces that can be provided: 1 bay per dwelling	(Residential only)
Parking Overlay 13 Capital City Zone – Fishermans Bend Urban Renewal Area.	the maximum number of car parking spaces that can be provided: 1 bay per dwelling	the maximum number of car parking spaces: Office: 10 bays per 1,000 sq metres (GFA) Retail: 10 bays per 1,000 sq metres (GFA). Industry: 7 bays per 1,000 sq metres (GFA) Place of Assembly: 10 per 1,000 sq metres (GFA) Restricted Retail: 10 per 1,000 sq metres (GFA) Supermarket: 20 per 1,000 sq metres (GFA)

Source: PBA Analysis

The range of parking bay rates in the planning scheme are set out in Table 5 below.

TABLE 5: THE RANGE OF PROVISION RATES IN PARKING OVERLAYS IN THE CITY OF MELBOURNE

LAND USE	LOW	MEDIUM	HIGH
Dwelling	1	1.5	2
Office (per 1,000 sq metres (GFA))	10	12 – 25	30
Retail	10	20	40
Industry	7	-	-
Restaurant (per seat)	0.3	-	-
Film Studio	35	-	-
Place of Assembly	10	-	20
Supermarket	20	-	55
Tavern	200	-	-
Residential Hotel (per room)	0.4	-	-
Restricted retail	10	-	-
Other	10	-	-

Source: PBA Analysis

Appendix 2: Other study areas

THE WEST MELBOURNE PRECINCT PERIMETER AREA

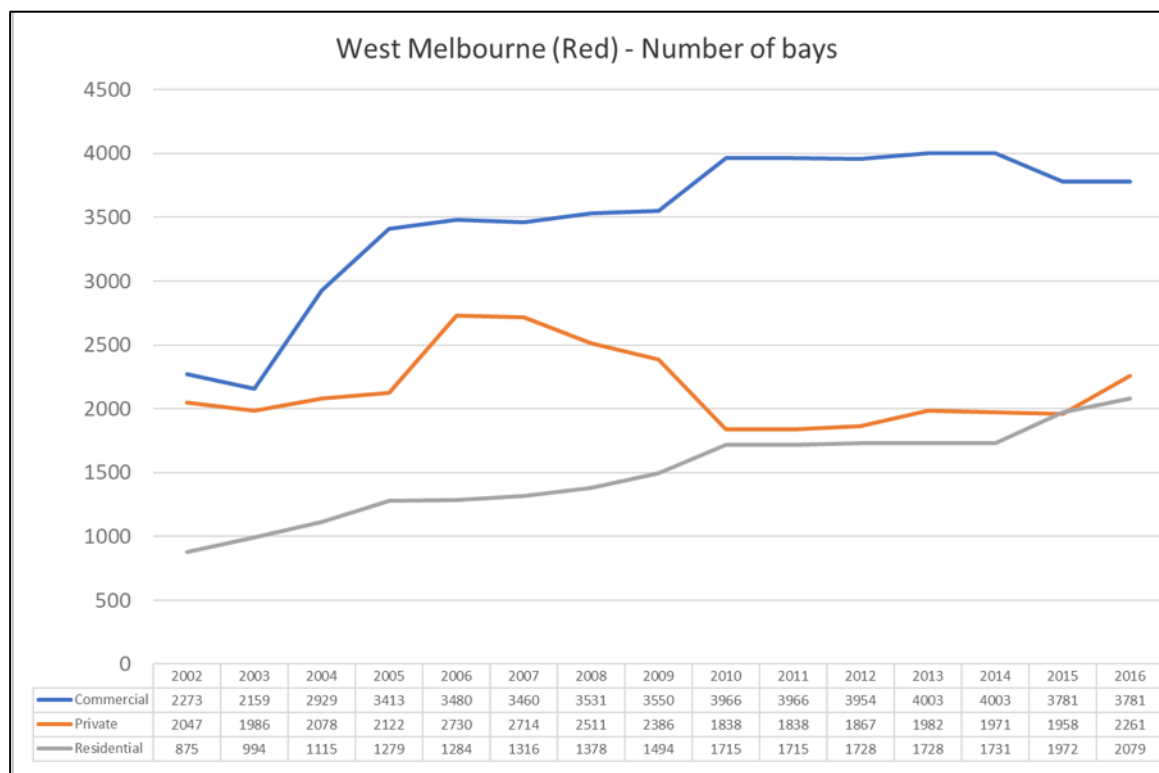
Total supply of off-street parking bays in the West Melbourne perimeter area

There are 8,121 off-street parking bays in the West Melbourne perimeter area. The number of on-street parking bays is unknown.

Over the study period there was a 56% increase in the off-street supply (2,926 bays):

- The commercial (retail) supply grew by 66% (1,506)
- The private (office) supply remained steady
- The residential supply grew by 140% (1,204 bays)

FIGURE 17 – TOTAL SUPPLY OF OFF-STREET PARKING BAYS: WEST MELBOURNE PERIMETER



Source: PBA Analysis

The supply of off-street parking bays in dwellings compared to residents, dwellings and car ownership in the West Melbourne perimeter area

People per dwelling

In the West Melbourne perimeter, the relationship between people and dwellings changed over the last five years. The number of people per dwelling rose from 2006 (1.6 people per dwelling) to 2016 (1.8 people per dwelling).

Motorisation

The relationship between residents and car ownership remained consistent. The population grew between 2011 and 2016 by 60% (2,946 people) while the resident vehicle fleet grew by 8% (118 vehicles). Over the last five years, every 100 new residents brought 4 additional cars into the precinct. Motorisation in the precinct fell from 25 to 17 cars per 100 people. (This is lower than the municipal motorisation rate of 27.)

The supply of residential off-street parking bays

The current planning scheme requirements have ensured that the supply of off-street resident parking bays grew by 21% (364 bays) between 2011 and 2016. This is a rate of 3 off-street parking bays per additional motor vehicle in the precinct.

The number of vehicles based in the West Melbourne perimeter is significantly lower than the number of off-street parking bays. There are 712 more off-street parking bays than cars. This calculation includes the kerbside fleet, which does not use the off-street parking bays.

We can say that there is an oversupply of parking bays in the West Melbourne perimeter area equivalent to the size of the resident vehicle fleet stored at the kerb plus the number of surplus bays (712). Unfortunately, the size of the kerbside fleet is not known.

If the kerbside fleet is conservatively estimated at 300, then there will be an oversupply in the West Melbourne perimeter area of one thousand bays. (48% of the total supply.)

Observed rate of provision

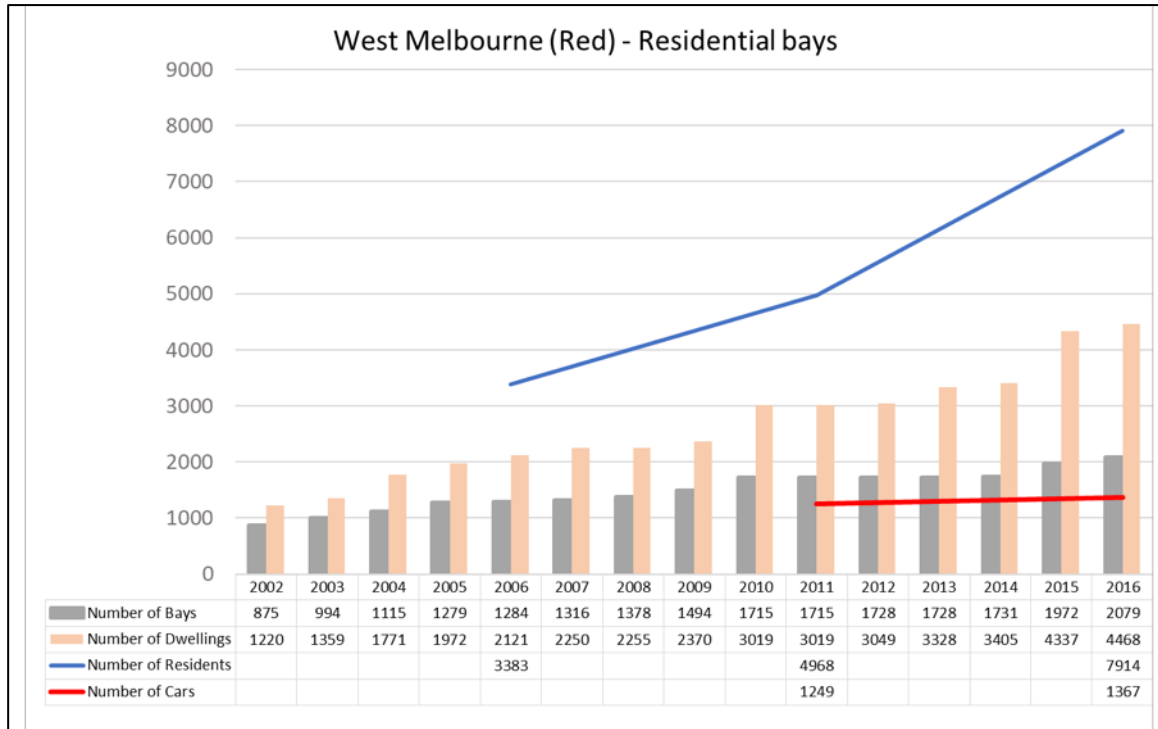
Based on these estimates the observed rate of provision of off-street resident parking bays per dwelling in the West Melbourne perimeter would be 0.24 bays per dwelling (occupied bays in 1,067 dwellings).

Parking Overlay 1 and 12 apply in the perimeter zone. These overlays set a maximum number of parking bays per dwelling of one.

Alignment of the planning scheme

The data suggests that the planning scheme – even when based on ‘maximums’ – is requiring more bays than residents use.

FIGURE 18 – RESIDENTS, DWELLINGS AND RESIDENT PARKING BAYS: WEST MELBOURNE PERIMETER



Source: PBA Analysis

The supply of private (office) off-street parking bays compared to jobs and floor area in the West Melbourne perimeter area

Over the last 15 years in the West Melbourne perimeter area, the number of jobs, the floor area of offices and the number of off-street private (office) parking bays have risen.

Private (office) off-street parking bays per employee

The number of private (office) off-street parking bays per employee in the West Melbourne perimeter has remained similar over the study period. In 2002 there were 13 private (office) off-street parking bays for every 100 employees in the precinct. This fell to 11 bays per 100 employees in 2010 and rose to 14 bays in 2016.

Observed rate of provision

Evidence shows that the gross floor area of offices per private (office) off-street parking bay has risen over the last 15 years from 104sqm to 110sqm. This change occurred alongside an increase in the amount of office space in the West Melbourne perimeter area (16% since 2002).

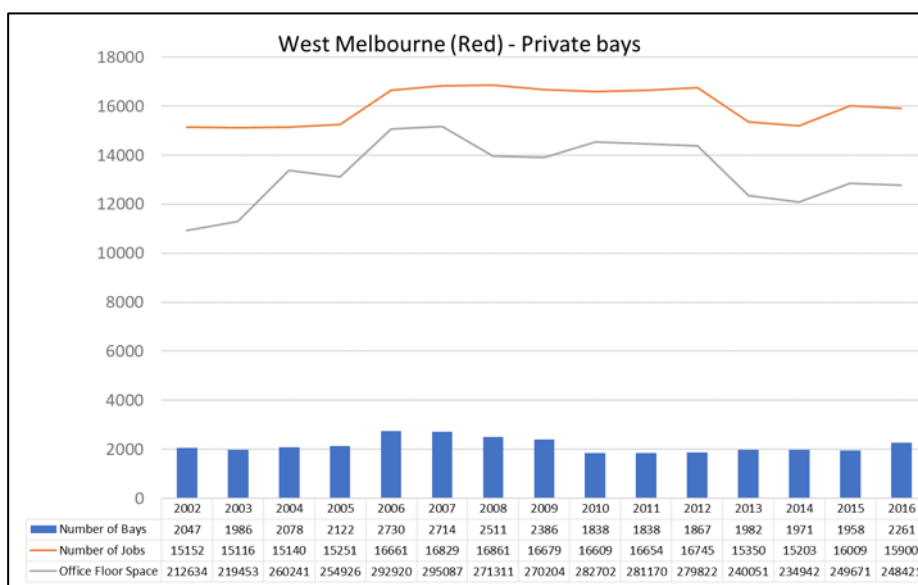
Alignment of the planning scheme

Two Parking Overlays apply in the West Melbourne perimeter area.

The observed rate of parking provision (one bay per 110sqm) is significantly lower than that specified in Clause 52.06 for offices which requires 3.5 bays per 100 sqm NFA (one parking bay per 28 sqm). It is also lower than the rate set in Parking Overlay One that sets a maximum rate of parking bay for every 83 sqm of net floor area (12 x site area in sqm/1,000 sqm).

Evidence shows the planning scheme controls require private (office) off-street parking at a higher rate than is currently used in the precinct.

FIGURE 19 – JOBS, OFFICE FLOOR SPACE AND PRIVATE OFF-STREET PARKING BAYS: WEST MELBOURNE PERIMETER



Source: PBA Analysis

The supply of commercial (retail) off-street parking bays compared to floor area in the West Melbourne perimeter area

Public off-street parking bays per visitor (entertainment, retail & hospitality)

Over the study period in the West Melbourne perimeter the commercial (retail) floor area has increased by 7%. The number of commercial (retail) off-street parking bays has increased by 66%.

Observed rate of provision

Data shows that there was 112 sqm of GFA for every public off-street commercial (retail) parking bay in 2002. By 2010, the observed rate of parking provision had decreased significantly to one bay per 67 sqm of GFA. The highest number of commercial (retail) off-street parking bays in the West Melbourne perimeter was reached in 2013. Since then, the supply has fallen by 222 bays. By 2016, the provision of parking rebounded somewhat to one bay for every 72 sqm of GFA.

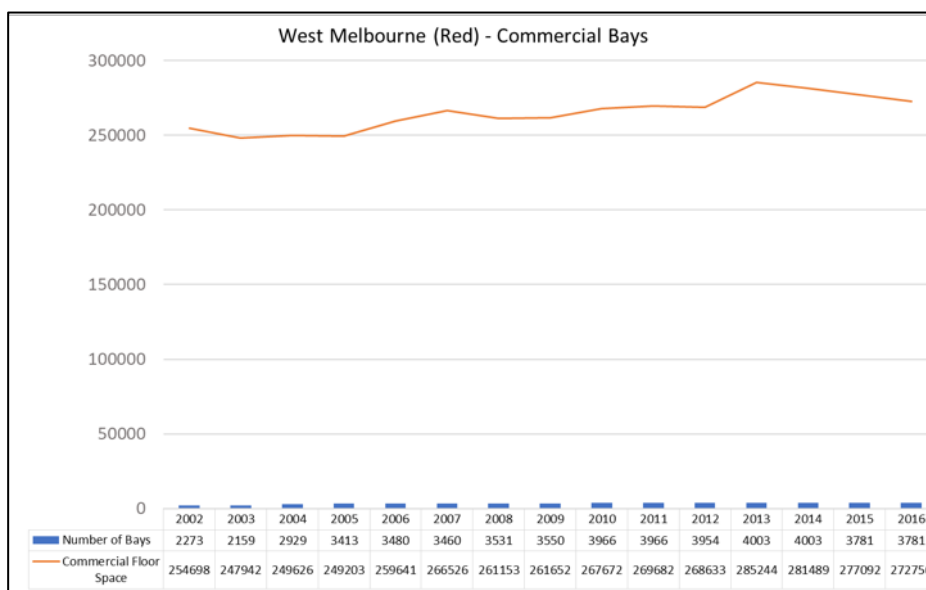
Alignment of the planning scheme

The observed rates of provision (and assumed use) are significantly lower than the rates required in Clause 52.06 for retail uses. Typically, retail uses are required to provide 4-5 parking bays for every 100 sqm of leasable floor area (1 bay for every 20-25 sqm of net floor area). In the past 15 years the provision in the West Melbourne perimeter has always been less than a third of this planning scheme rate.

For other areas of the perimeter, Parking Overlay One applies. This overlay sets a maximum rate of parking bay for every 83 sqm of net floor area (12 x site area in sqm/1,000 sqm).

This highlights that the current planning scheme controls require significantly more public off-street parking bays than are currently used in the precinct. In these areas, the maximums in the planning scheme are aligned with the observed rate of provision. The minimums that apply under Clause 52.06 for retail uses are not aligned.

FIGURE 20 – COMMERCIAL FLOOR SPACE OFF-STREET PARKING BAYS: WEST MELBOURNE PERIMETER



Source: PBA Analysis

The scale of private parking facilities in the West Melbourne perimeter area

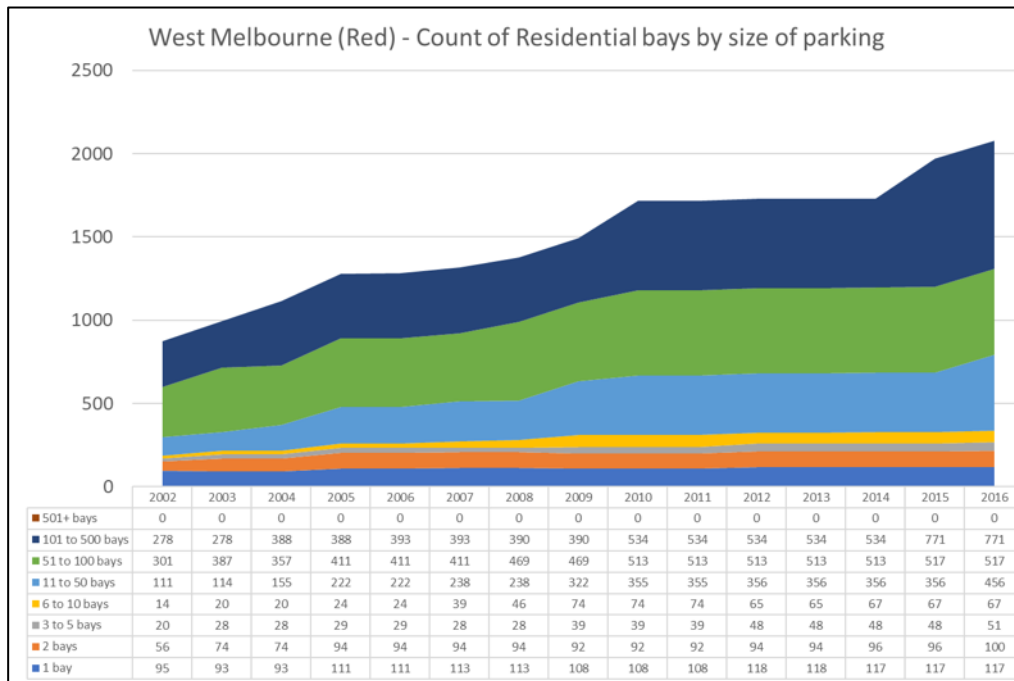
The supply of off-street resident parking bays is mainly centred in medium and large-scale parking facilities:

- 1,288 bays are in facilities with 51 or more parking bays
- 456 bays are in facilities that contain between 11 and 50 bays
- 335 bays are in ‘micro-facilities’ of fewer than 10 bays.

Most of the ‘micro-facilities’ were established before 2005. Since then most of the growth in the supply has been in the larger facilities.

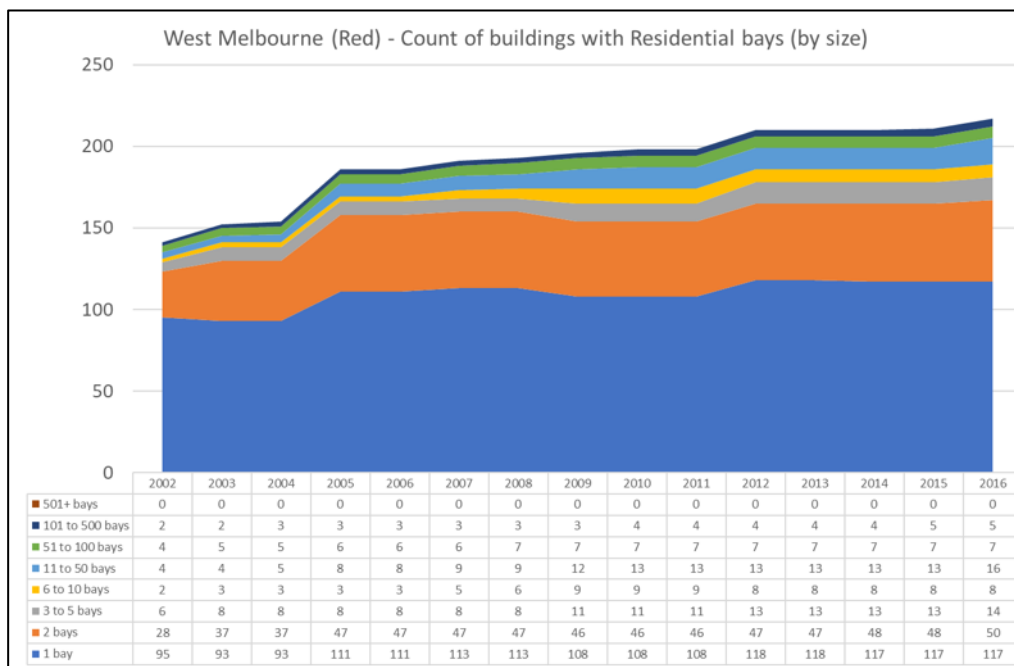
There are ‘micro facilities’ in 189 buildings. Twelve buildings contain large-scale facilities. There are 16 buildings in the intermediate group.

FIGURE 21 – SCALE OF CAR STORAGE FACILITIES IN RESIDENTIAL DEVELOPMENTS: WEST MELBOURNE PERIMETER



Source: PBA Analysis

FIGURE 22 – NUMBER OF RESIDENTIAL BUILDINGS BY SCALE OF CAR STORAGE FACILITY: WEST MELBOURNE PERIMETER



Source: PBA Analysis

THE QUEEN VICTORIA AREA

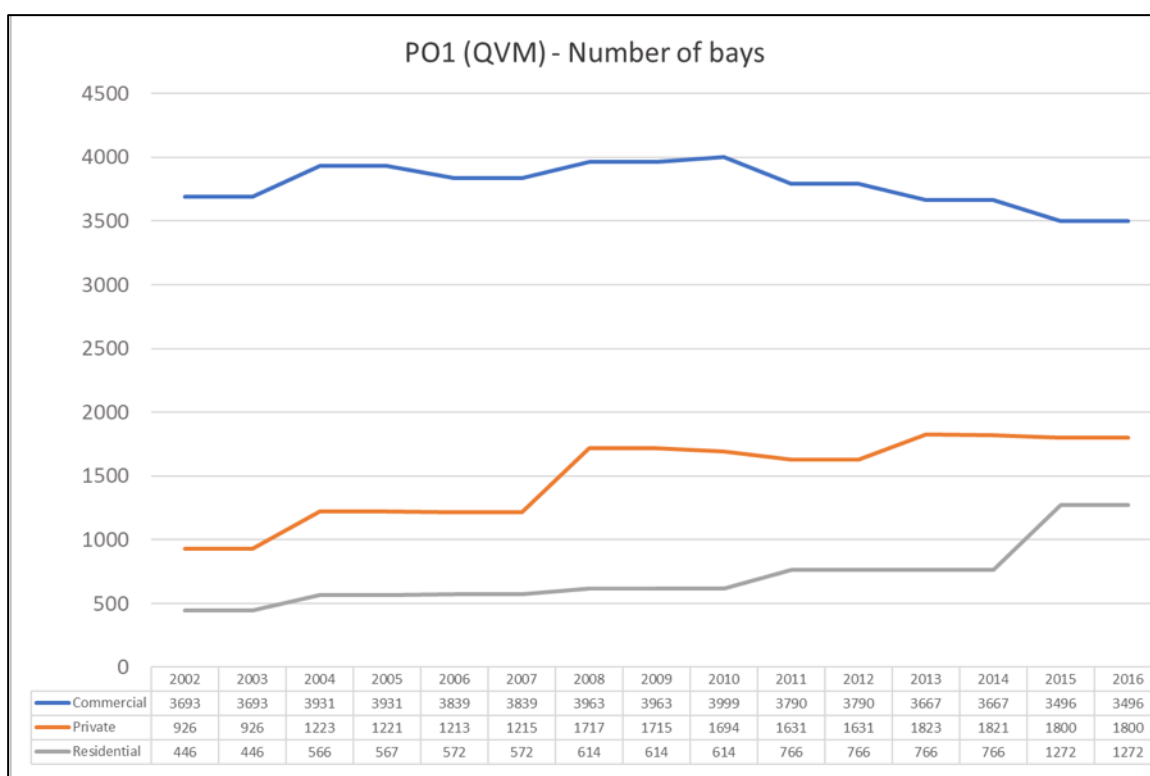
Total supply of off-street parking bays in the Queen Victoria area

There are 6,568 off-street parking bays in the Queen Victoria area. The number of on-street parking bays is unknown.

Over the study period there was a 30% increase in the off-street supply (1,503 bays):

- The commercial (retail) supply fell by 5%
- The private (office) supply doubled
- The residential supply tripled

FIGURE 23 – TOTAL SUPPLY OF OFF-STREET PARKING BAYS: QUEEN VICTORIA AREA



Source: PBA Analysis

The supply of off-street parking bays in dwellings compared to residents, dwellings and car ownership in the Queen Victoria area

People per dwelling

In the Queen Victoria area, the relationship between people and dwellings changed over the last five years. 2006. The number of people per dwelling rose from 2006 (1.7 people per dwelling) to 2016 (2.1 people per dwelling).

Motorisation

The relationship between residents and car ownership changed significantly. The population grew between 2011 and 2016 one and half times (5,891 people) while the resident vehicle fleet grew by 81% (436 vehicles). Over the last five years, every 100 new residents brought 7 additional cars into the precinct. Motorisation in the precinct dropped from 14 cars per 100 people to 10 cars per 100 people. (This is nearly one third of the municipal motorisation rate of 27.)

The supply of residential off-street parking bays

The current planning scheme requirements have ensured that the supply of off-street resident parking bays grew by 66% (506 bays) between 2011 and 2016. This is a rate of 1.2 additional off-street parking bays per additional motor vehicle in the precinct. There are now 298 more off-street resident parking bays than motor vehicles based in the area. The oversupply is likely to be at this scale as it can be assumed that there is no kerbside fleet in this area. (23% of the total supply)

Observed rate of provision

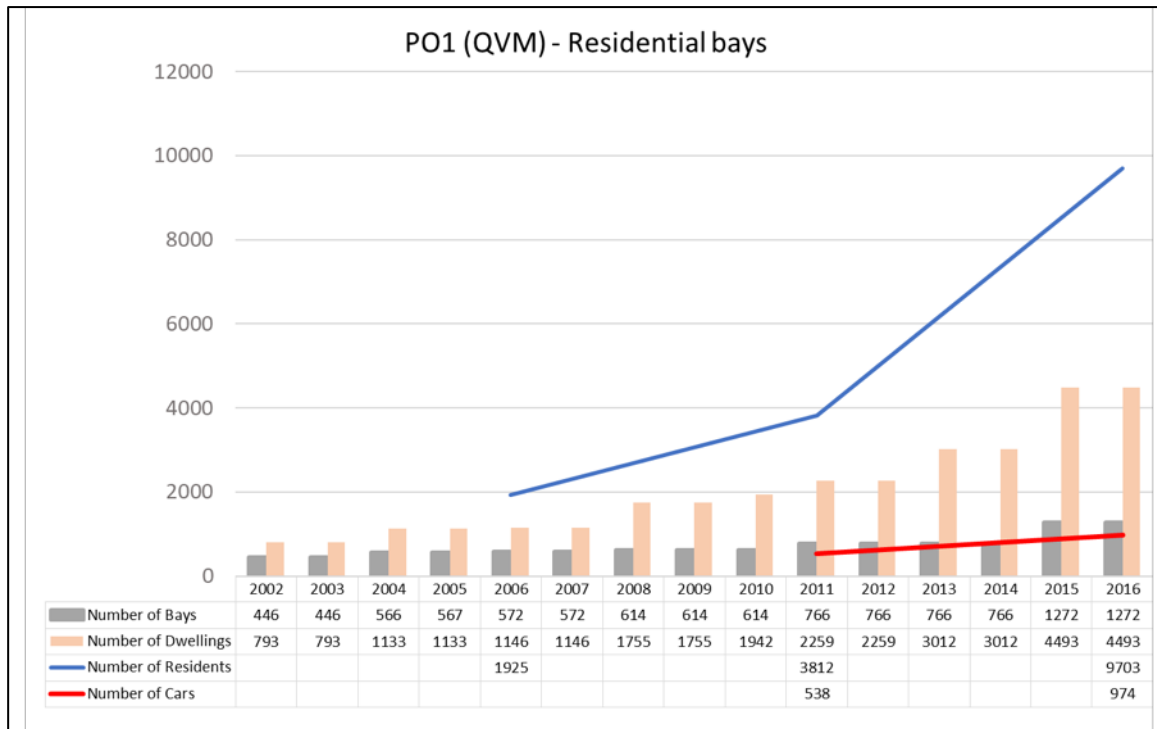
Based on these estimates the observed rate of provision of off-street resident parking bays per dwelling in the Queen Victoria area is 0.22 bays per dwelling (974 occupied bays in 4,493 dwellings).

Alignment of the planning scheme

Parking Overlay 1 applies in the Queen Victoria area. This sets a maximum number of parking bays per dwelling of one.

The data suggests that the planning scheme – even when based on ‘maximums’ – is requiring more bays than residents use.

FIGURE 24 – RESIDENTS, DWELLINGS AND RESIDENT PARKING BAYS: QUEEN VICTORIA AREA



Source: PBA Analysis

The supply of private (office) off-street parking bays compared to jobs and floor area in the Queen Victoria area

Over the last 15 years in the Queen Victoria area, the number of jobs, the floor area of offices and the number of off-street private (office) parking bays have risen.

Private (office) off-street parking bays per employee

The number of private (office) off-street parking bays per employee in the Queen Victoria area has remained similar over the study period. In 2002 there were 11 private (office) off-street parking bays for every 100 employees in the precinct. This fell to 8 bays per 100 employees in 2013 and rose to 12 bays in 2016.

Observed rate of provision

Evidence shows that the gross floor area of offices per private (office) off-street parking bay has fallen over the last 15 years from 139sqm, to 68sqm in 2013 and up to 80 sqm in 2016.

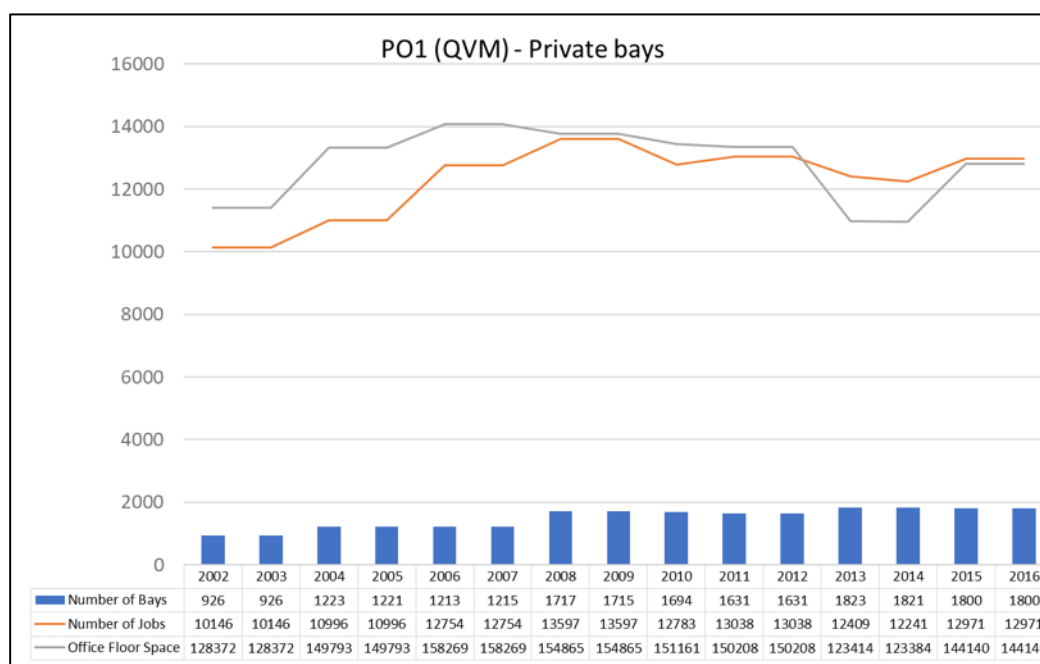
This change occurred alongside an increase in the amount of office space in the Queen Victoria area (12% since 2002).

Alignment of the planning scheme

The observed rate of parking provision (one bay per 80sqm) is equivalent to rate set in Parking Overlay One that sets a maximum rate of parking bay for every 83 sqm of net floor area (12 x site area in sqm/1,000 sqm).

Evidence shows the planning scheme controls align with the observed provision of private (office) off-street parking in this area.

FIGURE 25 –JOBS, OFFICE FLOOR SPACE AND PRIVATE OFF-STREET PARKING BAYS: QUEEN VICTORIA AREA



Source: PBA Analysis

5.5.1 The supply of commercial (retail) off-street parking bays compared to floor area in the Queen Victoria area

Public off-street parking bays per visitor (entertainment, retail & hospitality)

Over the study period in the Queen Victoria area the commercial (retail) floor area has increased by 56%. Simultaneously the number of commercial (retail) off-street parking bays has fallen by 5% (197 bays).

Observed rate of provision

Data shows that there was 37 sqm of GFA for every public off-street commercial (retail) parking bay in 2002. In 2013 the observed rate of parking provision jumped to 56 sqm. In 2016 the rate was 62 sqm.

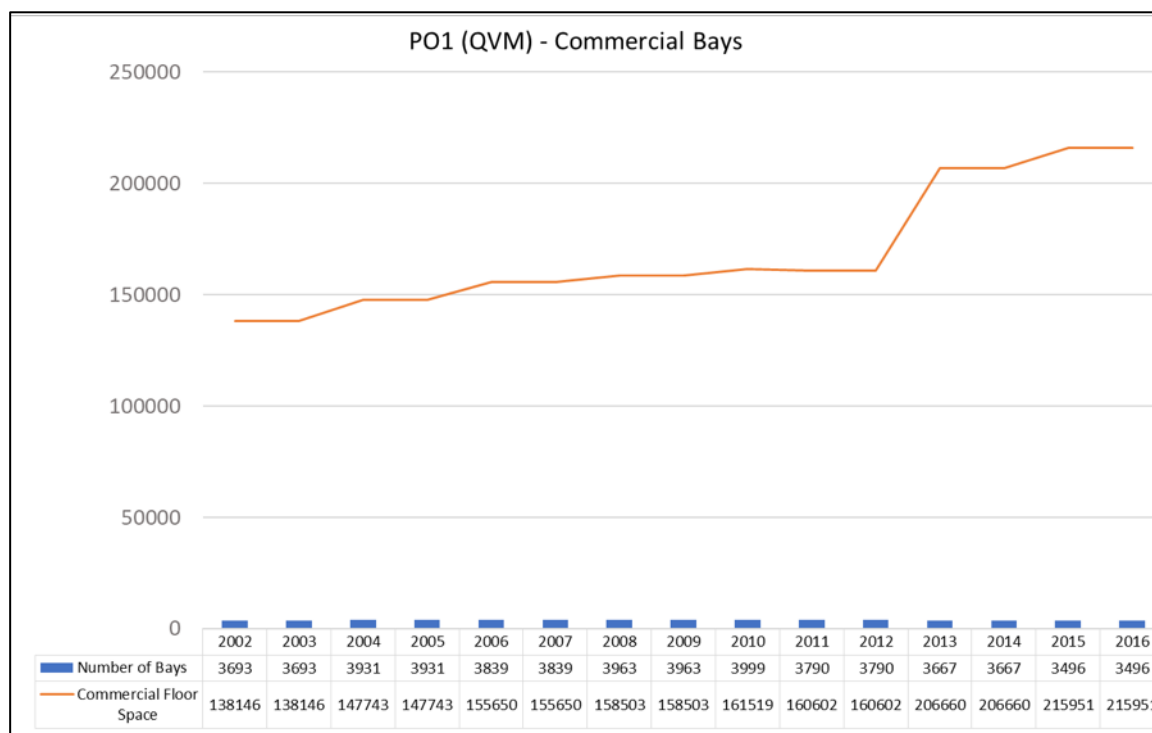
The highest number of commercial (retail) off-street parking bays in the Queen Victoria area was reached in 2010.

Alignment of the planning scheme

The observed rates of provision (and assumed use) are slightly higher than the rates required in Parking Overlay One. This overlay sets a maximum rate of parking bay for every 83 sqm of net floor area (12 x site area in sqm/1,000 sqm). The observed rates are however trending towards the level set in the planning scheme.

In this area, the planning scheme for this use is misaligned as the observed rate of provision is higher than the maximums in the planning scheme

FIGURE 26 – COMMERCIAL FLOOR SPACE AND OFF-STREET PARKING BAYS: QUEEN VICTORIA AREA



Source: PBA Analysis

The scale of private parking facilities in the Queen Victoria area

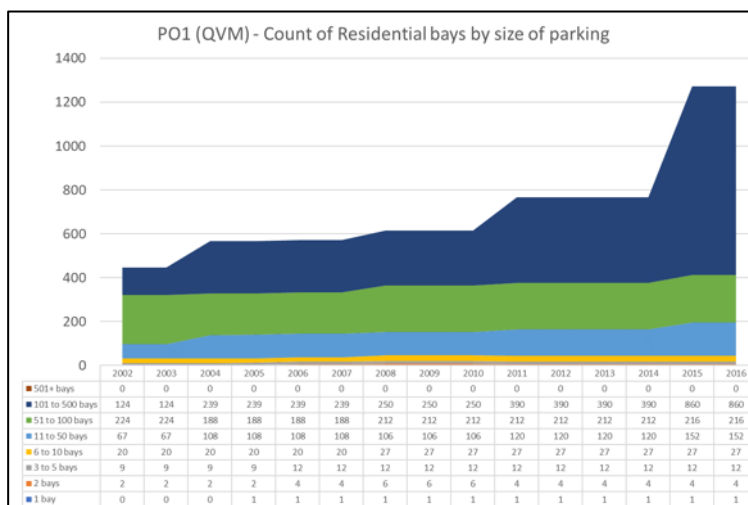
The supply of off-street resident parking bays is mainly centred in medium and large-scale parking facilities:

- 1,706 bays are in facilities with 51 or more parking bays
- 152 bays are in facilities that contain between 11 and 50 bays
- 44 bays are in 'micro-facilities' of fewer than 10 bays.

All the 'micro-facilities' were established before 2010. Since then most of the growth in the supply has been in the large-scale facilities with more than 101 bays.

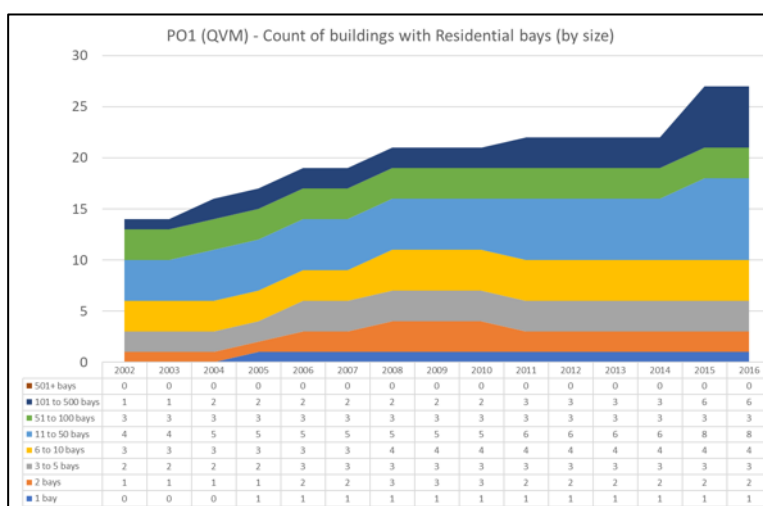
There are 'micro facilities' in 10 buildings. Nine buildings contain large-scale facilities. There are 8 buildings in the intermediate group.

FIGURE 27 – SCALE OF CAR STORAGE FACILITIES IN RESIDENTIAL DEVELOPMENTS: QUEEN VICTORIA AREA



Source: PBA Analysis

FIGURE 28 – NUMBER OF RESIDENTIAL BUILDINGS BY SCALE OF CAR STORAGE FACILITY: QUEEN VICTORIA AREA



Source: PBA Analysis

THE WEST END AREA

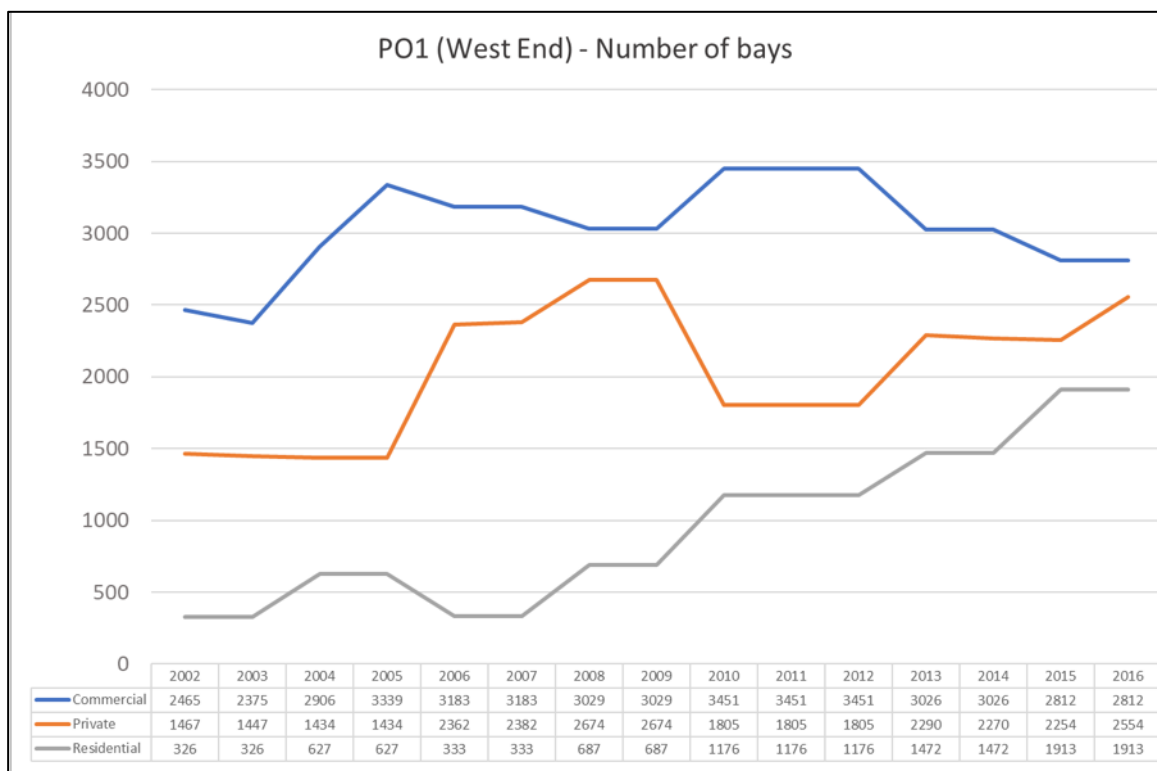
Total supply of off street parking bays in the West End area

There are 7,279 off-street parking bays in the West End area. The number of on-street parking bays is unknown.

Over the study period there was a 70% increase in the off-street supply (3,021 bays):

- The commercial (retail) supply grew slightly
- The private (office) supply grew by 75%
- The residential supply grew nearly six times

FIGURE 29 – TOTAL SUPPLY OF OFF-STREET PARKING BAYS: WEST END AREA



Source: PBA Analysis

The supply of off street parking bays in dwellings compared to residents, dwellings and car ownership in the West End area

People per dwelling

In the West End area, the relationship between people and dwellings changed over the last five years. 2006. The number of people per dwelling rose from (1.7 people per dwelling) to 2016 (2.1 people per dwelling).

Motorisation

The relationship between residents and car ownership changed significantly. The population nearly tripled between 2011 and 2016 (4,737 people) while the resident vehicle fleet grew by 74% (371 vehicles). Over the last five years, every 100 new residents brought 8 additional cars into the precinct. Motorisation in the precinct dropped from 20 cars per 100 people to 12 cars per 100 people. (This is less than half the municipal motorisation rate of 27.)

The supply of residential off-street parking bays

The current planning scheme requirements have ensured that the supply of off-street resident parking bays grew by 63% (364 bays) between 2011 and 2016. This is a rate of one additional off-street parking bays per additional motor vehicle in the precinct.

There are now 1,042 more off-street resident parking bays than motor vehicles based in the area. (45% of the total supply)

The oversupply is likely to be at this scale as it can be assumed that there is no kerbside fleet in this area.

Observed rate of provision

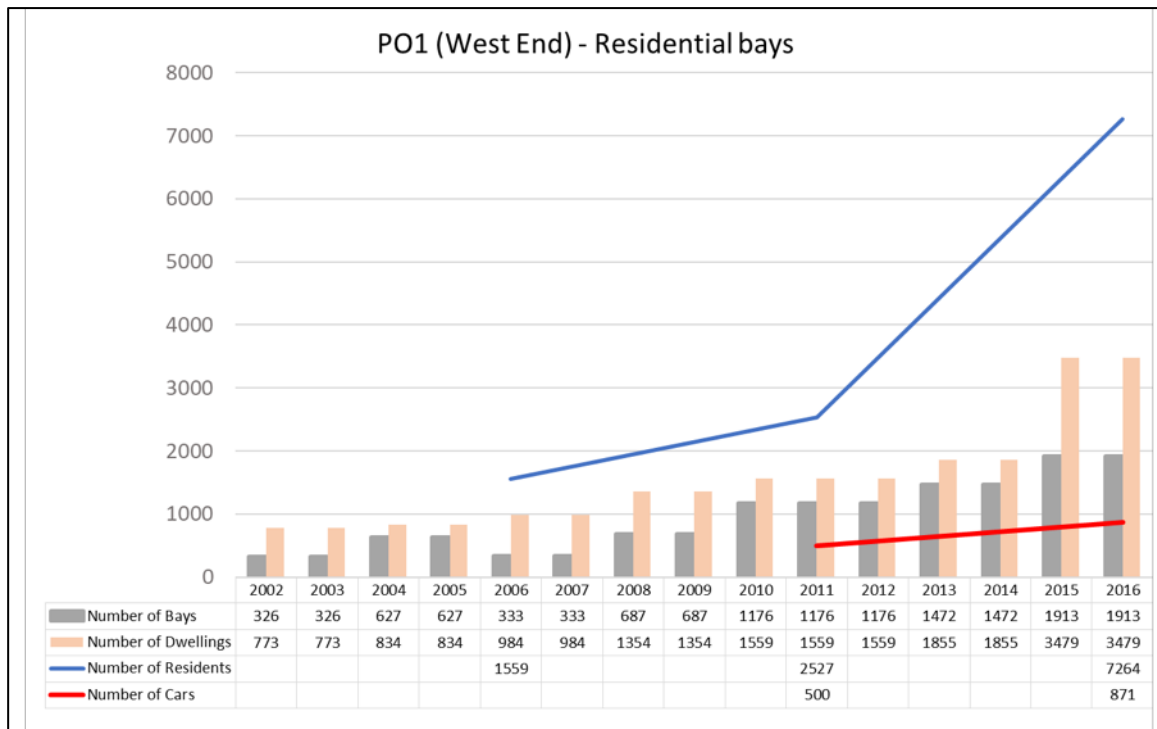
Based on these estimates the observed rate of provision of off-street resident parking bays per dwelling in the West End area is 0.25 bays per dwelling (871 occupied bays in 3,479 dwellings).

Alignment of the planning scheme

Parking Overlay 1 applies in the West End area. This sets a maximum number of parking bays per dwelling of one.

The data suggests that the planning scheme – even when based on ‘maximums’ – is requiring more bays than residents use.

FIGURE 30 – RESIDENTS, DWELLINGS AND RESIDENT PARKING BAYS: WEST END AREA



Source: PBA Analysis

Supply of private (office) off-street parking bays compared to jobs and floor area in the West End area

Over the last 15 years in the West End area, the number of jobs, the floor area of offices and the number of off-street private (office) parking bays have risen.

Private (office) off-street parking bays per employee

The number of Private (office) off-street parking bays per employee in the West End area has fluctuated over the study period. In 2002, there were 11 private (office) off-street parking bays for every 100 employees in the precinct. By 2016 there were more jobs and more parking bays in the precinct but the ratio had fallen to 8 bays per 100 employees.

Observed rate of provision

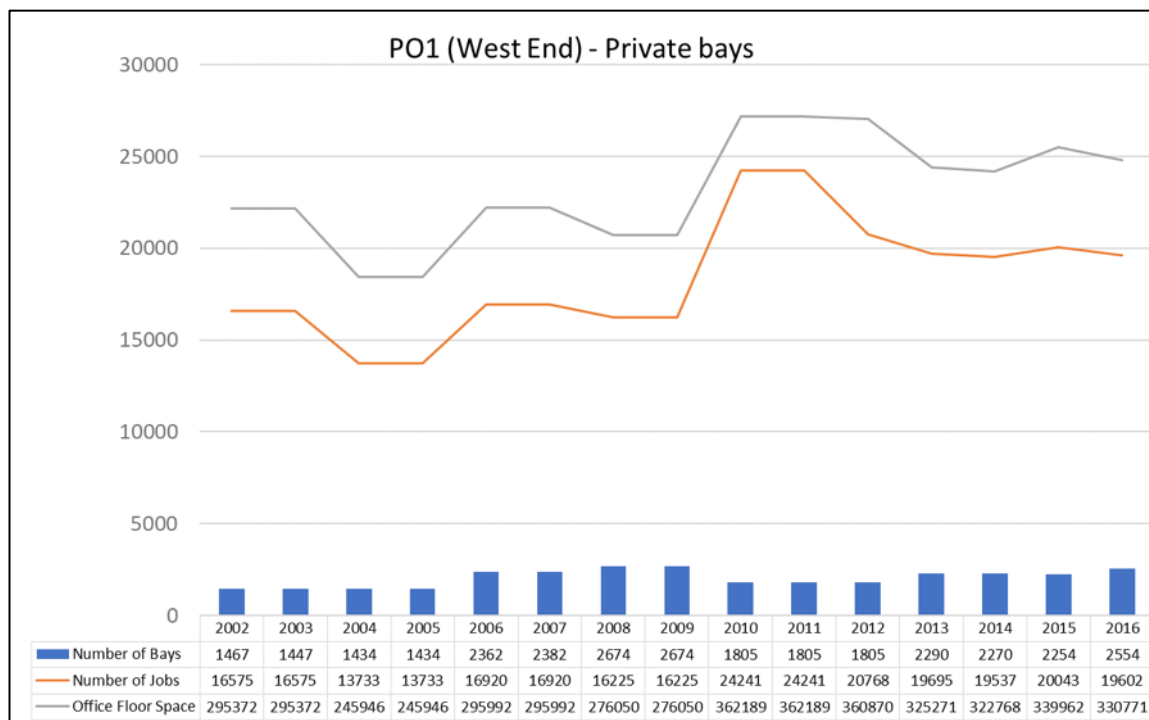
Evidence shows that the gross floor area of offices grew by 12%. The floor area per private (office) off-street parking bay rose slightly from 56sqm to 59sqm.

Alignment of the planning scheme

The observed rate of parking provision (one bay per 59sqm) is equivalent to rate set in Parking Overlay One that sets a maximum rate of parking bay for every 83 sqm of net floor area (12 x site area in sqm/1,000 sqm).

In this area, the planning scheme for this use is misaligned as the observed rate of provision is higher than the maximums in the planning scheme

FIGURE 31 – RESIDENTS, DWELLINGS AND RESIDENT PARKING BAYS: WEST END AREA



Source: PBA Analysis

The supply of commercial (retail) off-street parking bays compared to floor area the West End area

Public off-street parking bays per visitor (entertainment, retail & hospitality)

Over the study period in the West End area, the commercial (retail) floor area has risen by 10% and the number of commercial (retail) off-street parking bays has increased by 14%.

Observed rate of provision

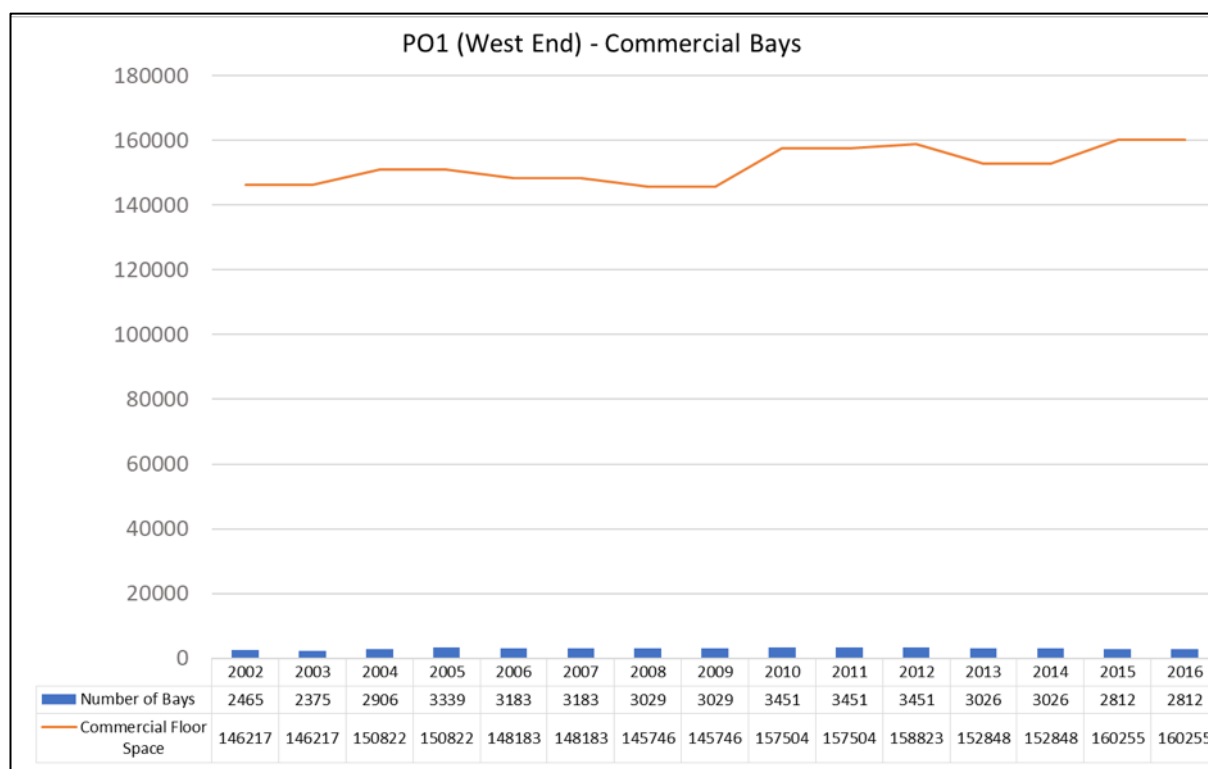
Data shows that there was 59 sqm of GFA for every public off-street commercial (retail) parking bay in 2002. By 2016, the provision of parking increased slightly to one bay for every 57 sqm of GFA.

Alignment of the planning scheme

The observed rates of provision (and assumed use) are higher than the rates required in Parking Overlay One. This overlay sets a maximum rate of parking bay for every 83 sqm of net floor area (12 x site area in sqm/1,000 sqm).

In this area, the planning scheme for this use is misaligned as the observed rate of provision is higher than the maximums in the planning scheme

FIGURE 32 – RESIDENTS, DWELLINGS AND RESIDENT PARKING BAYS: WEST END AREA



Source: PBA Analysis

The scale of residential parking facilities in the West End area

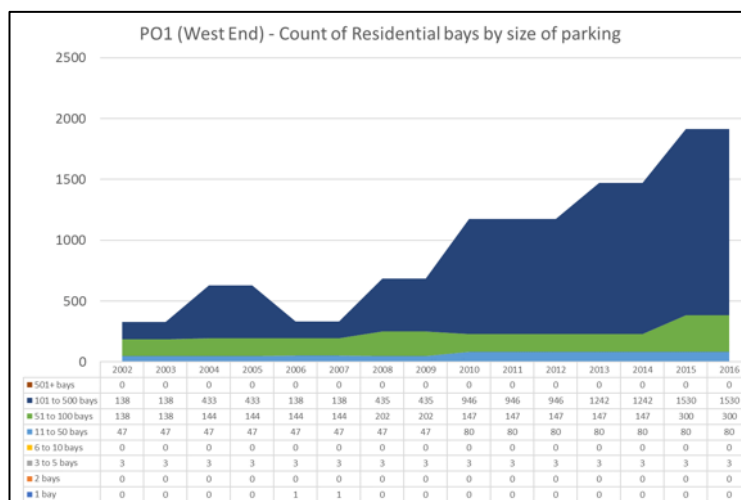
The supply of off-street resident parking bays is mainly centred in medium and large-scale parking facilities as shown in Figure 15 below:

- 1,830 bays are in facilities with 51 or more parking bays
- 80 bays are in facilities that contain between 11 and 50 bays
- 3 bays are in 'micro-facilities' of fewer than 10 bays.

The 'micro-facilities' were established before 2002. Since then the growth in the supply has been in the larger facilities.

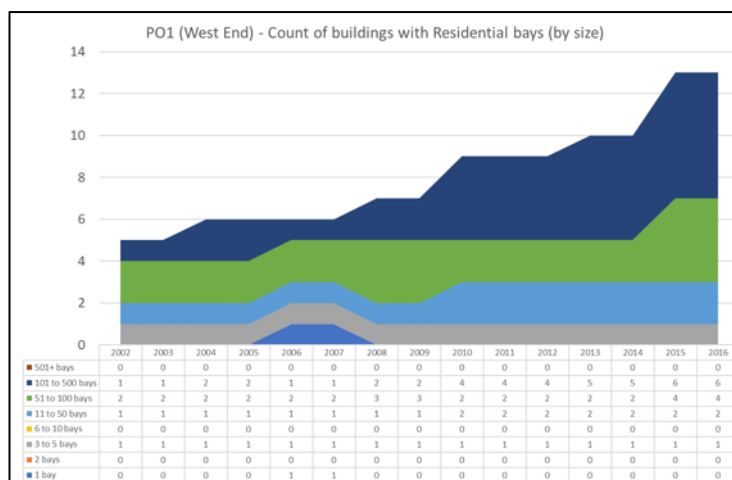
The 'micro facilities' are in 1 building. Ten buildings contain large-scale facilities. There are 2 buildings in the intermediate group as shown in Figure 16 below.

FIGURE 33 – SCALE OF CAR STORAGE FACILITIES IN RESIDENTIAL DEVELOPMENTS: WEST END AREA



Source: PBA Analysis

FIGURE 34 – NUMBER OF RESIDENTIAL BUILDINGS BY SCALE OF CAR STORAGE FACILITY: WEST END AREA



Source: PBA Analysis

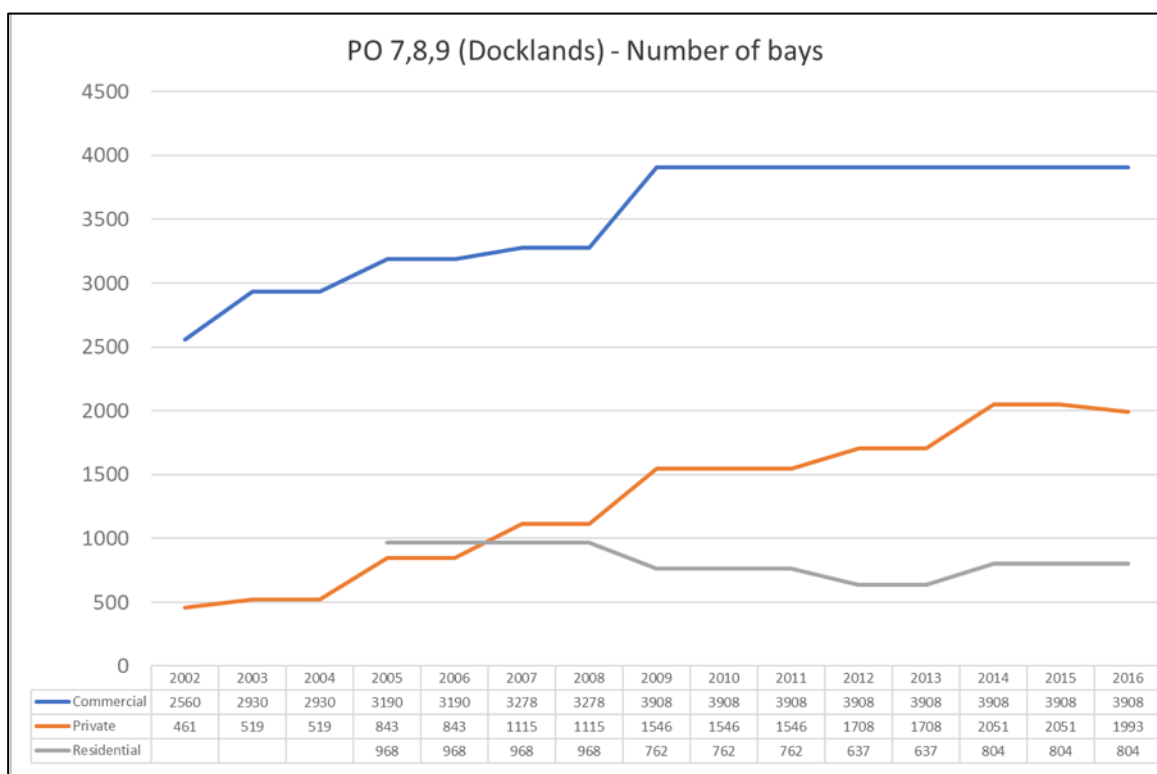
DOCKLANDS AREA

Total supply of off-street parking bays in Docklands

There are 6,705 off-street parking bays in the precinct. Since 2005 there has been a 120% increase in the off-street supply (3,684 bays). The off-street supply changed character significantly:

- The commercial (retail) supply rose by 53%.
- The private (office) supply quadrupled
- The residential supply fell by 17% (164 bays)

FIGURE 35 – TOTAL SUPPLY OF OFF-STREET PARKING BAYS: DOCKLANDS AREA



Source: PBA Analysis

Supply of parking with dwellings compared to residents, dwellings and car ownership

People per dwelling

In Docklands, the relationship between people and dwellings has changed over the last five years. In 2011, there were 1.6 people per dwelling in the area. In 2016 there were 2.1 people per dwelling.

Motorisation

The relationship between residents and car ownership has changed. The population grew between 2011 and 2016 by 72% (1,233 people) but the resident vehicle fleet only grew by 24% (123 vehicles).

Over the last five years, every 100 new residents brought 10 additional cars into the precinct. As a result, motorisation in the precinct fell from 30 cars per 100 people to 22 cars per 100 people. (The municipal motorisation rate is 27 cars per 100 people.)

The supply of residential off-street parking bays

The current planning scheme requirements have ensured that the supply of off-street resident parking bays grew by 5% (42 bays) between 2011 and 2016. This is a rate of 0.3 off-street parking bays per additional motor vehicle in the precinct.

It can be assumed that none of the resident vehicle fleet are stored at the kerb in this area. There is therefore an oversupply of 168 off street parking bays (20% of the supply).

Observed rate of provision

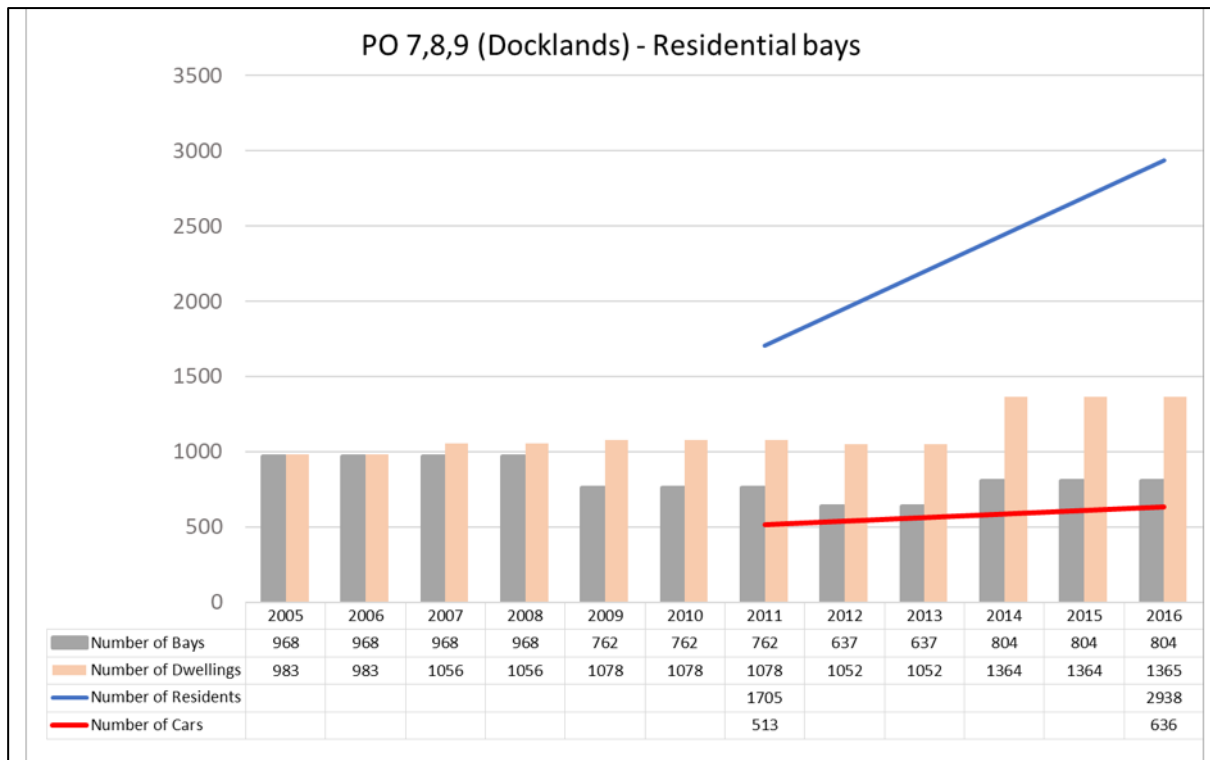
Based on these estimates the observed rate of provision of off-street resident parking bays per dwelling in Docklands area is 0.46 bays per dwelling (636 occupied bays in 1,365 dwellings).

The Parking Overlays that apply in the Docklands area require a maximum number of parking bays per dwelling of 1.5 or 2 (depending on the area).

Alignment of the planning scheme

The data suggests that the current planning scheme controls require significantly more bays than the future residents will use.

FIGURE 36 – RESIDENTS, DWELLINGS AND RESIDENT PARKING BAYS: DOCKLANDS AREA



Source: PBA Analysis

Supply of private (office) off-street parking bays compared to jobs and floor area in Docklands area

Over the last 15 years in the Docklands area, the number of jobs, the floor area of offices and the number of off-street private (office) parking bays have grown strongly.

Private (office) off-street parking bays per employee

The number of Private (office) off-street parking bays per employee in the Docklands area has fallen over the study period. In 2002, there were 25 private (office) off-street parking bays for every 100 employees in the precinct. This fell by half to 14 bays per 100 employees in 2007, fell to 13 bays in 2012 and fell again by half to 7 in 2016.

Observed rate of provision

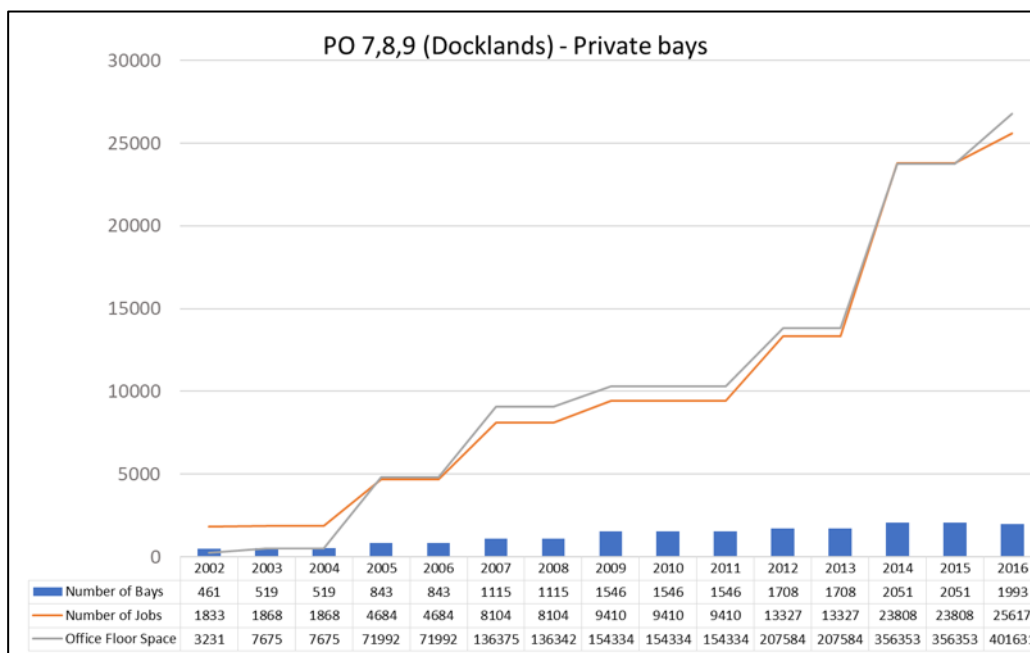
Evidence shows that the gross floor area of offices per private (office) off-street parking bay has increased over the last 15 years from 7 sqm to 201 sqm per bay.

Alignment of the planning scheme

The observed rate of parking provision is significantly lower than that specified in the Parking Overlays that apply in the Docklands area which require (depending on the area) 1, 1.5 or 2 bays per 100 sqm NFA (one parking bay per 33 – 50 sqm).

Evidence shows the planning scheme controls require private (office) off-street parking at a higher rate than is currently used in the precinct.

FIGURE 37 – JOBS, OFFICE FLOOR SPACE AND PRIVATE OFF-STREET PARKING BAYS: DOCKLANDS AREA



Source: PBA Analysis

The supply of commercial (retail) off-street parking bays compared to floor area in the Docklands area

Public off-street parking bays per visitor (entertainment, retail & hospitality)

Over the study period in the Docklands area the commercial (retail) floor area has increased by 175%. Simultaneously the number of commercial (retail) off-street parking bays has risen by 52% (1,348 bays). This growth took place between 2002 and 2009.

Observed rate of provision

Data shows that there was 15 sqm of GFA for every public off-street commercial (retail) parking bay in 2002. The observed rate of parking provision rose to 27 sqm by 2016.

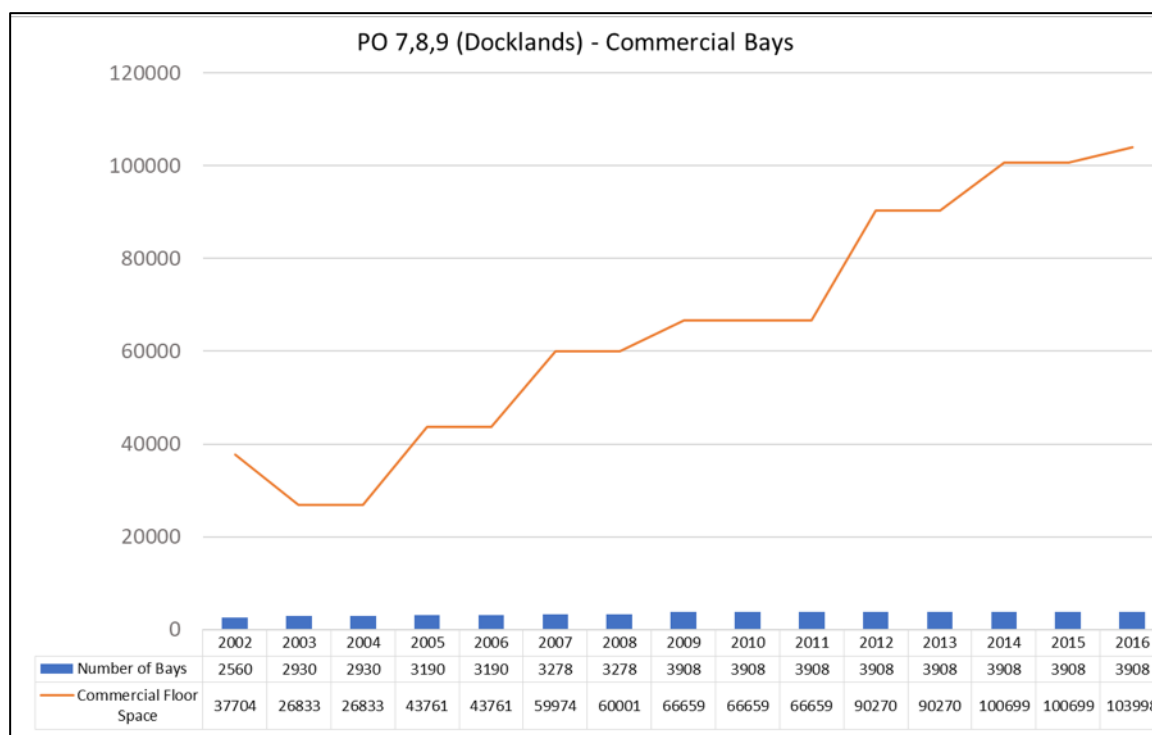
No commercial (retail) off-street parking bays have been added in the Docklands area since 2009. During this period, the floor space increased by 56%.

Alignment of the planning scheme

The observed rates of provision (and assumed use) are at the higher end of the rates required in the various Docklands Parking Overlays. These overlays set a rate of one parking bay for every 25 - 100 sqm of net floor area.

In this area, the planning scheme is aligned in some areas and not in others.

FIGURE 38 – COMMERCIAL FLOOR SPACE AND COMMERCIAL OFF-STREET PARKING BAYS: DOCKLANDS AREA



Source: PBA Analysis

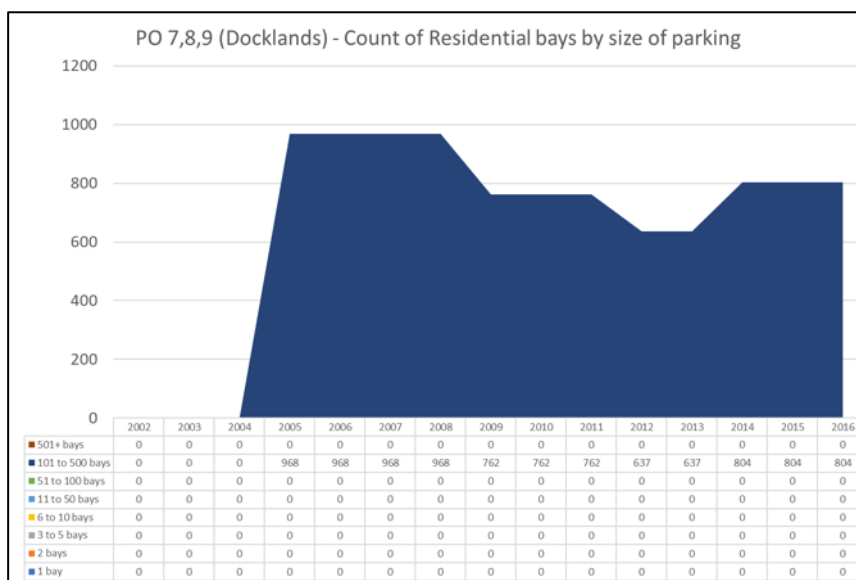
The scale of private parking facilities in the Docklands area

The supply of off-street resident parking bays is in large-scale parking facilities:

- 804 bays are in facilities with 51 or more parking bays
- Zero bays are in facilities that contain between 11 and 50 bays
- Zero bays are in ‘micro-facilities’ of fewer than 10 bays.

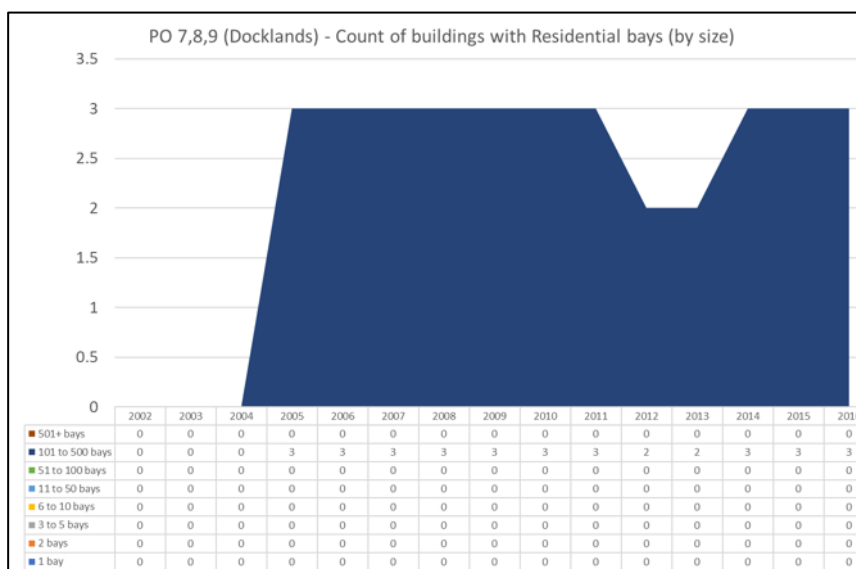
The bays are in 3 large-scale facilities.

FIGURE 39 – SCALE OF CAR STORAGE FACILITIES IN RESIDENTIAL DEVELOPMENTS: DOCKLANDS AREA



Source: PBA Analysis

FIGURE 40 – NUMBER OF RESIDENTIAL BUILDINGS BY SCALE OF CAR STORAGE FACILITY: DOCKLANDS AREA



Source: PBA Analysis

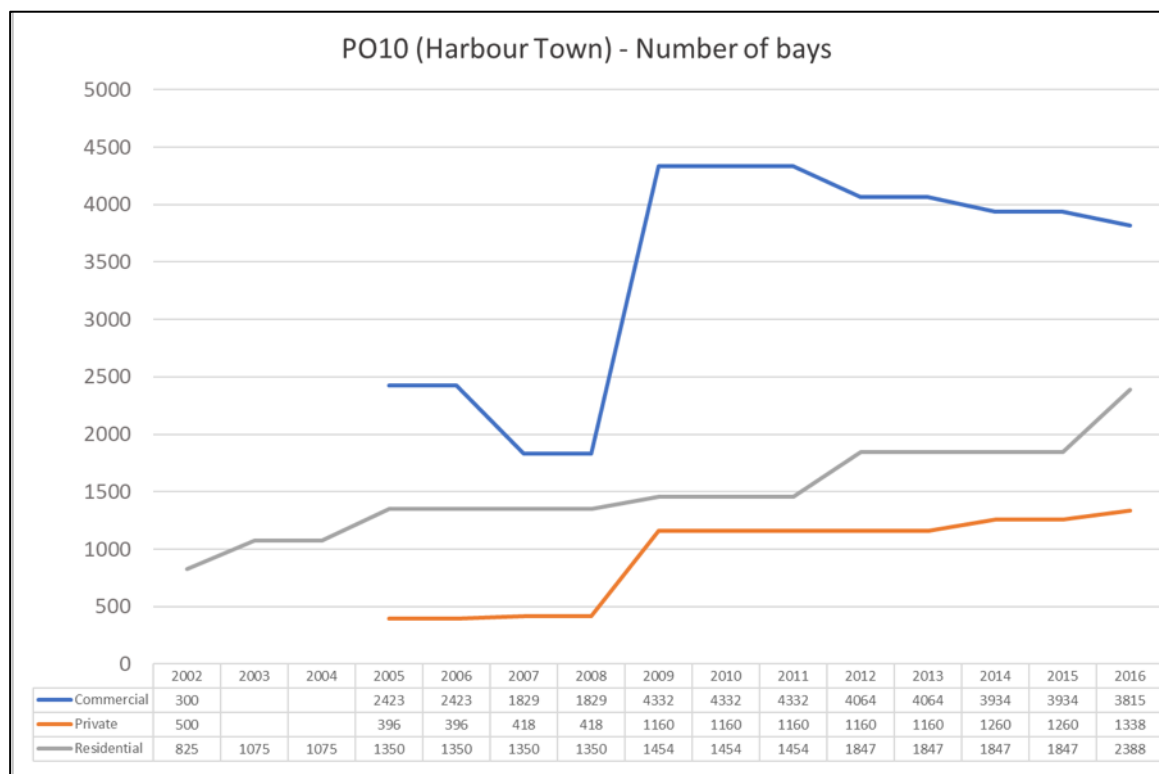
HARBOUR TOWN

Total supply of off-street parking bays in Harbour Town

There are 7,541 off-street parking bays in the Harbour Town area. Over a 15-year study period the supply grew nearly quadrupled (5,916 bays). Each category of off-street supply changed scale significantly:

- The commercial (retail) supply grew twelve times larger.
- The residential supply tripled
- The private (office) supply nearly tripled

FIGURE 41 – TOTAL SUPPLY OF OFF-STREET PARKING BAYS: HARBOUR TOWN AREA



Source: PBA Analysis

Supply of parking with dwellings compared to residents, dwellings and car ownership

People per dwelling

In Harbour Town, the relationship between people and dwellings has changed over the last five years. In 2006, there was 1 person per dwelling in the area. In 2016 there were 1.5 people per dwelling.

Motorisation

The relationship between residents and car ownership has changed. The population grew between 2011 and 2016 by 130% (1,789 people) but the resident vehicle fleet only grew by 71% (436 vehicles).

Over the last five years, every 100 new residents brought 24 additional cars into the precinct. As a result, motorisation in the precinct fell from 45 cars per 100 people to 33 cars per 100 people. (The municipal motorisation rate is 27 cars per 100 people.)

The supply of residential off-street parking bays

The current planning scheme requirements have ensured that the supply of off-street resident parking bays grew by 64% (934 bays) between 2011 and 2016. This is a rate of 2.1 off-street parking bays per additional motor vehicle in the precinct.

It can be assumed that none of the resident vehicle fleet are stored at the kerb in this area. There is therefore an oversupply of 1,343 off street parking bays (56% of the supply).

Observed rate of provision

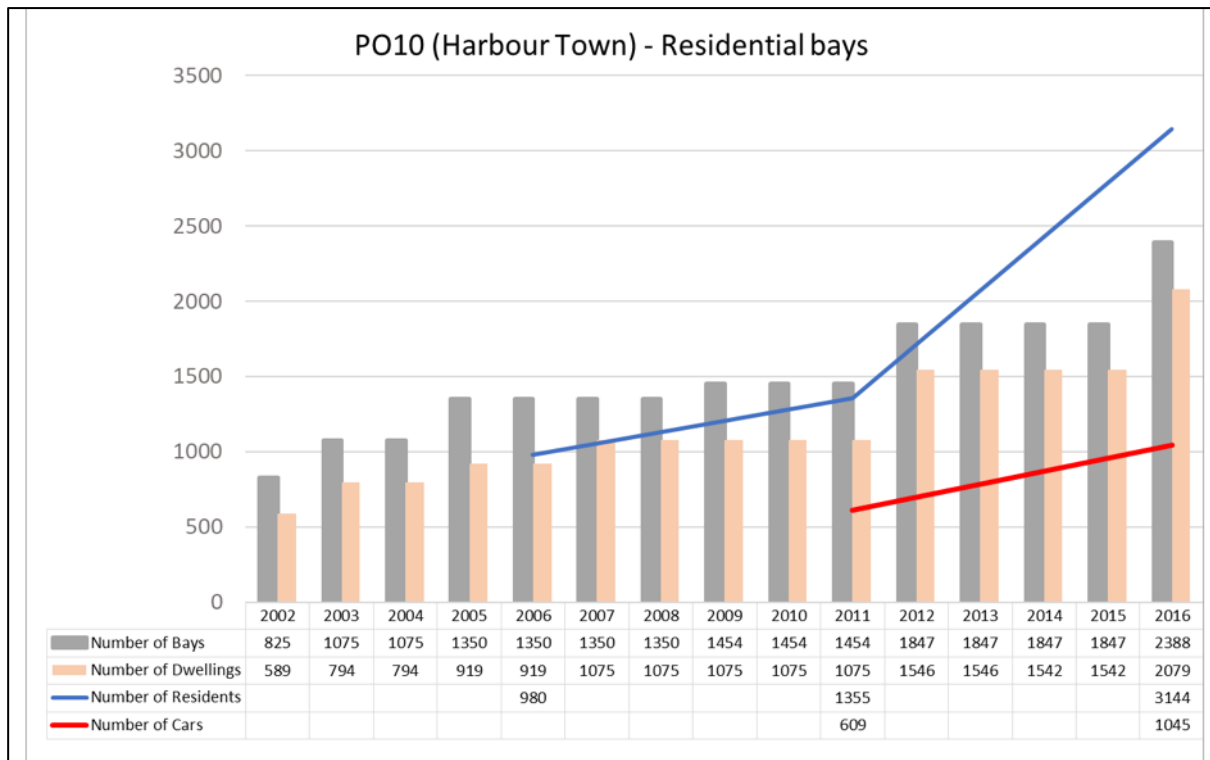
Based on these estimates the observed rate of provision of off-street resident parking bays per dwelling in Harbour Town is 0.5 bays per dwelling (1,045 occupied bays in 2,079 dwellings).

Parking Overlay 10 that applies in the Harbour Town area sets a maximum number of parking bays per dwelling of 1.5.

Alignment of the planning scheme

The data suggests that the current MPS controls require significantly more bays than the future residents will use.

FIGURE 42 – RESIDENTS, DWELLINGS AND RESIDENT PARKING BAYS: HARBOUR TOWN AREA



Source: PBA Analysis

Supply of private (office) off-street parking bays compared to jobs and floor area in Harbour Town area

Over the last 15 years in the Harbour Town area, the number of jobs, the floor area of offices and the number of off-street private (office) parking bays have grown strongly.

Private (office) off-street parking bays per employee

The number of Private (office) off-street parking bays per employee in the Harbour Town area has fallen over the study period. In 2009, there were 10 private (office) off-street parking bays for every 100 employees in the precinct. This fell to 6 in 2016.

Observed rate of provision

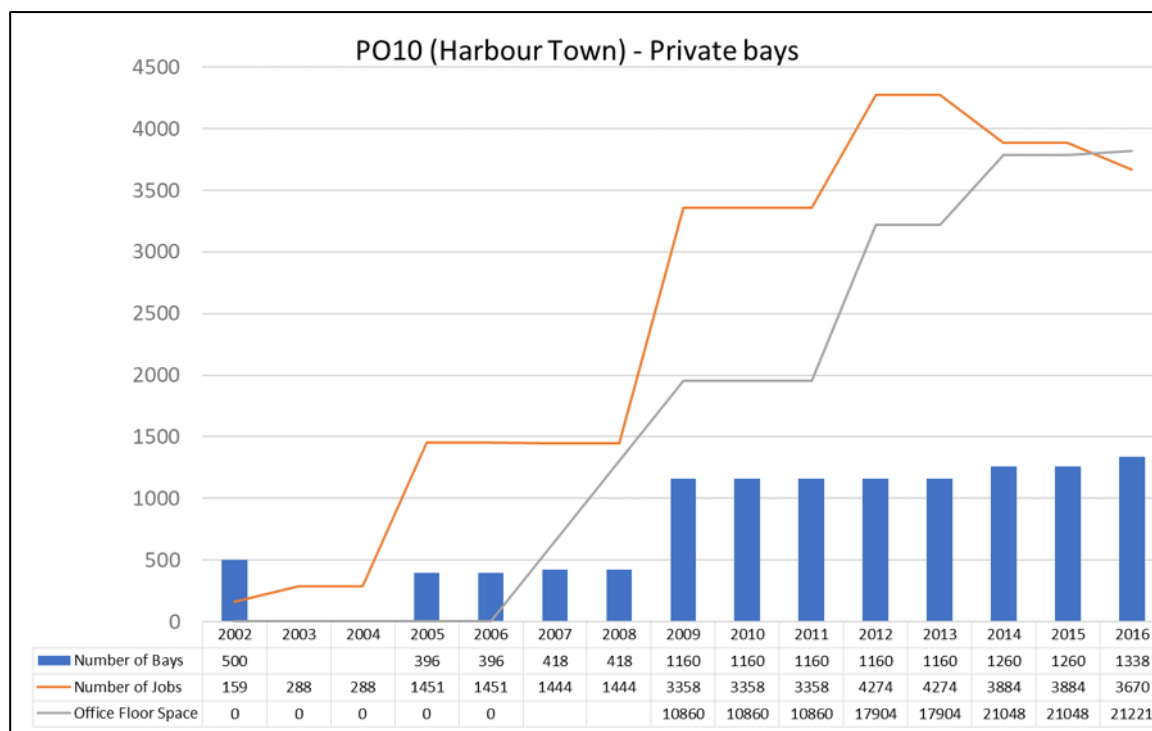
Evidence shows that the gross floor area of offices per private (office) off-street parking bay has increased since 2009 from 10 sqm to 16 sqm per bay.

Alignment of the planning scheme

The observed rate of parking provision is significantly lower than that specified in the Parking Overlays that apply in the Harbour Town area which requires 3 bays per 100 sqm NFA (one parking bay per 33 – 100 sqm).

In this area, the planning scheme for this use is misaligned as the observed rate of provision is higher than the maximums in the planning scheme

FIGURE 43 – JOBS, OFFICE FLOOR SPACE AND PRIVATE OFF-STREET PARKING BAYS: HARBOUR TOWN AREA



Source: PBA Analysis

The supply of commercial (retail) off-street parking bays compared to floor area in the Harbour Town area

Public off-street parking bays per visitor (entertainment, retail & hospitality)

Since 2009 when the commercial area in Harbour Town was established, the commercial (retail) floor area has increased by 14%. Simultaneously the number of commercial (retail) off-street parking bays has fallen by 12% (517 bays).

Observed rate of provision

Data shows that there was 11.4 sqm of GFA for every public off-street commercial (retail) parking bay in 2009. The observed rate of parking provision rose to 15 sqm by 2016.

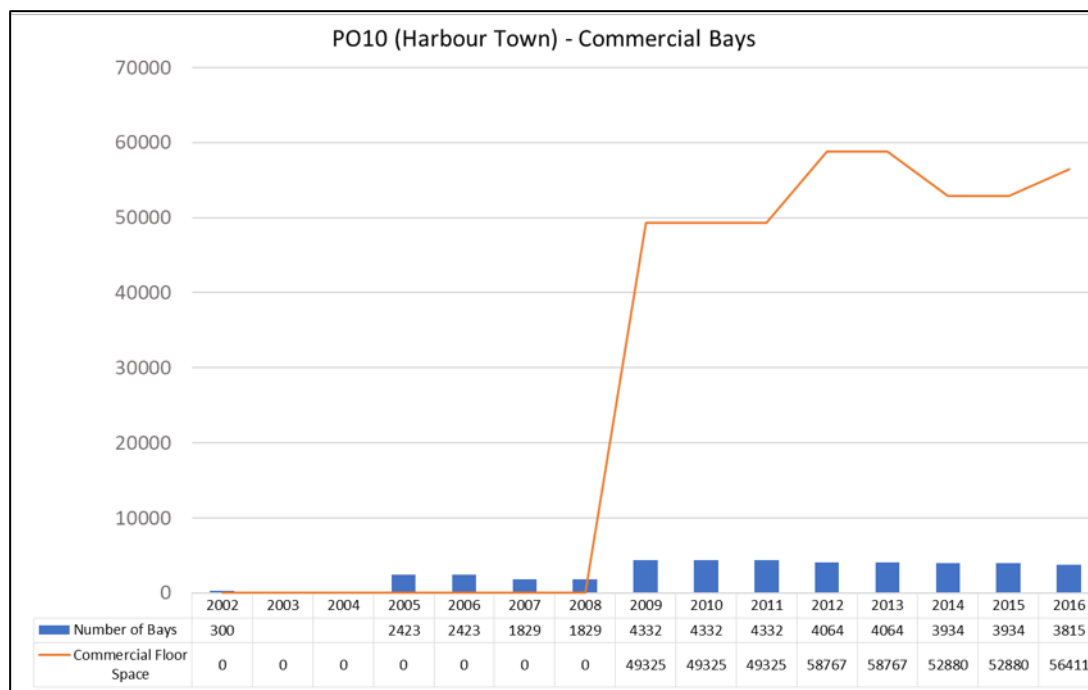
No commercial (retail) off-street parking bays have been added in the Harbour Town area since 2009. During this period, the floor space increased by 56%.

Alignment of the planning scheme

The observed rates of provision (and assumed use) are at the higher than the maximum rates required in the various Harbour Town Parking Overlays. These overlays set a rate of one parking bay for every 25 sqm of net floor area.

In this area, the planning scheme for this use is misaligned as the observed rate of provision is higher than the maximums in the planning scheme.

FIGURE 44 – COMMERCIAL FLOOR SPACE AND COMMERCIAL OFF-STREET PARKING BAYS: HARBOUR TOWN AREA



Source: PBA Analysis

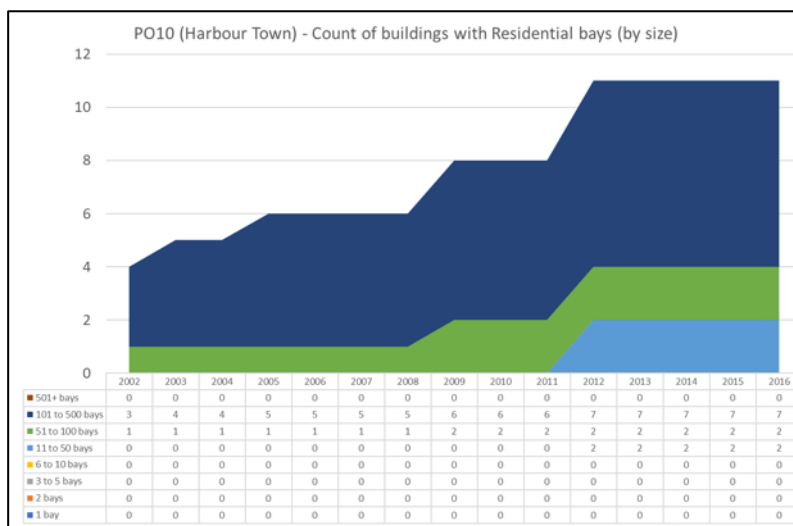
The scale of private parking facilities in the Harbour Town area

The supply of off-street resident parking bays is in large-scale parking facilities:

- 1,802 bays are in facilities with 51 or more parking bays
- 42 bays are in facilities that contain between 11 and 50 bays
- Zero bays are in ‘micro-facilities’ of fewer than 10 bays.

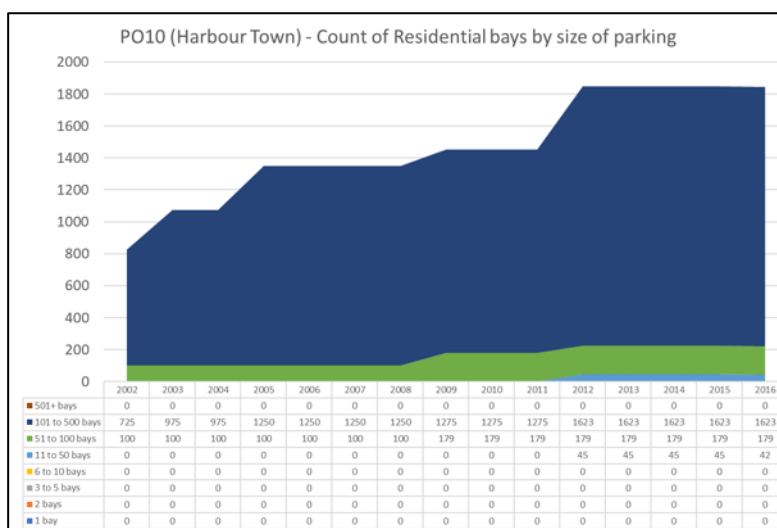
The bays are in 9 large-scale facilities and 2 medium-scale facilities.

FIGURE 45 – SCALE OF CAR STORAGE FACILITIES IN RESIDENTIAL DEVELOPMENTS: HARBOUR TOWN AREA



Source: PBA Analysis

FIGURE 46 – NUMBER OF RESIDENTIAL BUILDINGS BY SCALE OF CAR STORAGE FACILITY: HARBOUR TOWN AREA



Source: PBA Analysis

Appendix 3: Draft Parking Overlay for West Melbourne

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SCHEDULE 14? TO CLAUSE 45.09 PARKING OVERLAY

Shown on the planning scheme map as **PO14?**.

WEST MELBOURNE PRECINCT

1.0 Parking objectives to be achieved

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To identify appropriate car parking rates for various uses within the West Melbourne precinct

To ensure any parking facilities are provided in a manner that is efficient and flexible to meet the wider community's needs

To minimise the negative impacts of parking facilities on all transport networks

To minimise the cost of dwellings

To ensure a catchment based approach is used to evaluate the adequacy of access to all transport options (including parking)

2.0 Permit requirement

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A permit is required to provide any car parking (for any purpose) in an off-street location in the precinct

A permit must not be granted to provide more than the maximum parking provision specified in this schedule unless the proposed parking facility has more than 50 car parking bays.

3.0 Number of car parking spaces required

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The minimum rate of parking required for any and all uses is zero.

If a use is specified in the Table below, the maximum number of car parking spaces that can be provided on the site is calculated by multiplying the *Rate* specified for the use by the accompanying *Measure*.

Table: Maximum car parking spaces

Use	Rate	Measure
Dwelling	0.3	Per dwelling
All other uses	0.005	Per net sqm floor area of building on the site

Motor-cycle parking rates

All buildings that provide on-site car parking must provide motorcycle parking for the use of occupants and visitors, at a minimum rate of one motor cycle parking space for every 100 car parking spaces, unless the responsible authority is satisfied that a lesser number is sufficient.

4.0 Application requirements and decision guidelines for permit applications

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The following application requirements apply to an application for a permit under Clause 45.09, in addition to those specified in Clause 45.09 and elsewhere in the scheme and must accompany an application, as appropriate, to the satisfaction of the responsible authority

- The current usage patterns of any nearby public parking facilities including daytime, evening and nighttime occupancy rates.
- Any facility proposed with fewer than 50 car parking bays must prioritise provision of space for loading, waste collection, disabled parking, publically accessible car share

vehicles, motorcycles and well designed bicycle facilities (required by Clause 52.34) before allocating any space to other car parking.

- Where a facility is proposed with 50 car parking bays or more, the design, layout (including secure areas) and marking must allow for:
 - At least 5% of the total number of car parking bays must be set aside for use by irregular visitors to the building including service and delivery vehicles
 - At least 5% of the total number of car parking bays must be set aside for use by people with a disability.
 - At least 5% of the total number of car parking bays must be set aside for storage of publically accessible car share vehicles.
 - The remaining 85% of bays must be capable of being used by any member of the community including nearby residents, visitors and employees.

The following decision guidelines apply to an application for a permit under Clause 45.09, in addition to those specified in Clause 45.09 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- Any relevant local planning policies.
- It is considered that the entire West Melbourne area to which this overlay applies has high quality transport networks and all sites in the precinct have a high level of public transport, bicycle and walking access. This is reflected in lower motor vehicle ownership rates. Differences across the precinct in public transport service level and proximity will be given lower weighting in making decisions.
- The number and location of car parking bays and the current usage patterns of any parking facilities within a 200 metre radius of the site.
- Any effect on pedestrian, cyclist and public transport networks and traffic in the area. This includes the impact of the car park access points on other modes including the route by which access to the car park is obtained and any potential alternatives.
- The extent to which the proposed access point would conflict with any proposal to limit or prohibit traffic in certain roads.
- The safety and convenience of pedestrians moving to, from and within the car parking facility, including lighting levels, surveillance systems, signage, ease of orientation and visibility.
- The size, layout, internal design and general operation of the facility from the users' perspective.
- Whether the development incorporates a reasonable quantum of bicycle and motorcycle parking.
- Whether the development incorporates other infrastructure and programs that will contribute to achievement of relevant policies. This includes the extent to which building occupiers are provided with incentives to reduce reliance on private cars.
- The degree to which the parking facility meets broader community needs including use during weekends and outside normal business hours.
- The ease with which off-site users can identify and negotiate access to parking.
- Whether the car park facility will be connected to the City of Melbourne Parking Guidance and data management systems (including bay occupancy sensors and open data platforms).

5.0

Financial contribution requirement

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None specified.

6.0 Requirements for a car parking plan

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A car parking plan (or Car Parking Demand Assessment) prepared under Clause 52.06-7, must contain the following:

- Evidence of the quantum of car ownership, car parking bays and current market based price for parking (leases and short stay) within a 200 metre radius of the site.
- Detail of proposed driveway crossovers showing that negative impacts on pedestrians, cyclists and kerbside space have been reduced and minimised on this or other sites.
- Adequate design and assurance that the parking facility will be accessible and available for use by the wider community on a user pays basis.
- Any efforts to retrofit existing parking facilities on another site, so that those facilities can be made available to the wider community.
- Any efforts to reduce the number of small scale parking facilities (fewer than 20 spaces) in the neighbourhood and relocate the bays into the proposed facility.

7.0 Design standards for car parking

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The following design standards apply under Clause 45.09, in addition to those specified in Clause 45.09 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- Car parking bays designated for disabled permit holders, delivery vehicles and car share vehicles must be provided in the most convenient location for each user group
- Security systems must enable efficient 24-hour access to the car park to off-site users without compromising security of the main building.
- Parking bays must be monitored so that underutilised bays can be identified and made available to the community. Data regarding occupancy must be provided to the City of Melbourne on request.

8.0 Decision guidelines for car parking plans

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The following decision guidelines apply car parking plans under Clause 45.09, in addition to those specified in Clause 45.09 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- The proximity of the land to a car parking facility on another site will be considered appropriate if the off-site car parking is located within 400 metres of the land.
- Existence of off-site car parking within 400 metres of the land will be considered adequate proof that the car parking is available and provided for the long term.
- Provision of off-site car parking is entirely consistent with City of Melbourne policy and relevant strategies. Quarantining specific car spaces for a single land use or a single owner, is not considered appropriate.
- The relationship between the cost of constructing the car parking facility and the current market price for parking (leases and short stay).

9.0 Reference document

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West Melbourne Precinct Parking Plan February 2018

Endnotes

¹ It appears that the first planning scheme to require parking was introduced in Columbus Ohio in 1923 for multiple family dwellings.

² 'Colliers is also seeing a significant reduction in parking requirements from tenants, as corporates prefer locations close to transport options for their workers, and less and less workers have a willingness to drive and accept the parking cost. Owners may need to start thinking about re-purposing the car parking for other income producing uses, such as childcare or third spaces.' colliers.com.au/property feature October 2017

³ In Goethe's poem, a sorcerer leaves his apprentice to fetch water. The apprentice enchants a broom to do the work for him but then realises that he does not know the spell to stop the broom. The apprentice splits the broom with an axe – but each of the pieces becomes a whole new broom that takes up a pail and continues fetching water, now at twice the speed. When all seems lost, the old sorcerer returns and breaks the spell. *Wikipedia*

⁴ 'Based on surveys and estimates, between 26% and 41% of residential apartment parking spaces in the City of Melbourne are thought to be vacant/unused.' Transport Strategy Refresh Background paper – Car Parking May 2018 Dr Elizabeth Taylor (RMIT)

⁵ 5 x 10 hour working days/7 x 24 hours = 29% occupancy

⁶ 4-8 level unit complex, including lift, concrete structure, basement parking: cost per square metre \$2,040 – 2,810. 30 square metre car parking bay: of 61,200 - \$84,300 BMT 2017

Table from Austroads Guide to Traffic Management Part 11 (Parking), 2017 edition, p142: Land and construction costs per parking bay, by construction type.

TYPE OF PARKING	LAND PER BAY	LAND COST PER SQUARE METER	FLOOR AREA PER BAY	CONSTRUCTION COST PER BAY	ESTIMATED TOTAL COST PER BAY
Off-street surface (at-grade)	35m ²	\$70,000 - \$122,500	35m ²	\$3,500	\$73,500 - \$126,000
Deck - 2 level	16m ²	\$32,000 - \$56,000	32m ²	\$31,000	\$63,000 - \$87,000
Deck - 4 level	8m ²	\$16,000 - \$28,000	32m ²	\$34,000	\$50,000 - \$62,000
Basement - 2 level	8m ²	\$16,000 - \$28,000	32m ²	\$39,000	\$55,000 - \$67,000

⁷ On a loan rate of 5.22% over 30 years \$50,000 will cost the household \$100,000.

⁸ ABS 16 October 2017 http://stat.data.abs.gov.au/Index.aspx?DatasetCode=RES_DWEL_ST

⁹ The elephant in the scheme: Planning for and around car parking in Melbourne, 1929–2016 Elizabeth Jean Taylor*, Reuben van Bemmelen-Misrachi Centre for Urban Research, RMIT University, Australia

¹⁰ Transport Strategy Refresh Background paper – Car Parking May 2018 Dr Elizabeth Taylor (RMIT)

¹¹ Land uses considered ‘Commercial’ in this investigation:

- Commercial Accommodation
- Educational/Research
- Entertainment/Recreation - Indoor
- Hospital/Clinic
- Manufacturing
- Performances, Conferences, Ceremonies
- Retail - Cars
- Retail - Shop
- Retail - Showroom
- Retail - Stall
- Storage
- Wholesale
- Workshop/Studio

¹² Incumbent residents of West Melbourne in dwellings built before 1 July 2008 are permitted to store up to two vehicles at the kerb. There are currently around 1,200 permit exempt kerbside bays. The City of Melbourne has issued 531 parking permits in the West Melbourne permit area. These permits can be for one or two vehicles and can include visitor parking. It is assumed in this report that 600 vehicles are regularly stored at the kerb in the West Melbourne precinct.

¹³ If the median income is \$75,000 (ABS Australia 2016) and one third (\$25,000) can be spent on housing, then the parking bay (\$50,000 to buy and \$100,000 in total loan costs) adds two to four years to the cost of a dwelling.

www.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/036?opendocument

¹⁴ ‘studies demonstrate that some cities are decreasing per capita consumption and using less water, despite growing populations. Water use efficiency has been touted as one of the most promising, and least expensive, sources of water for California.⁴ Programs that require “water neutral development,” often referred to as “demand offset programs,” are one of the innovations inspired by drought. These programs require that new development that causes increased water demand to offset such demand through conservation or new supplies, with the goal of ensuring that the new development is “neutral” to the water supplier’s system. Water neutral programs are reflective of a broader U.S. offset trend, in which the concept is applied in areas such as wastewater, stormwater, and energy.⁸ Offsets are themselves related to a broader “concurrency” movement, in which local governments seek to ensure that growth occurs only where there are available resources over long-term planning periods.’

Demand Offsets: Water Neutral Development in California 2014 Jennifer L. Harder

¹⁵ Consideration has been given to the definition of ‘conveniently located’.

There is no consensus about suitable minimum or maximum walking catchments to stored motor vehicles. Walking catchments can be as wide as a kilometre. West Melbourne itself is generally recognised as a ‘convenient’ place to park for CBD workers and people attending Docklands stadium – around one kilometre away. Some planning schemes in the US link parking bay provision to a table that matches distance to public transport quality. These tables allow an 800m catchment to higher quality, longer span and more frequent transit.

The ‘typical’ distance is not known. Some people have their car parked at the front gate or by the car park exit, next to the lift that is near their apartment. Others must walk to where they ‘could get a space’ at the kerb or take a longish internal walk through their building to the vehicle and then must spend some minutes traveling through the car park to the exit.

It is proposed to rely on the in-practice experience of car share service providers. In general, service providers developing car share networks locate vehicles and nodes of vehicles around 250m apart. This distance strikes an effective balance between making the cars convenient and expanding the network. On this basis, the catchment that is proposed is 200m.

¹⁶ This group are eligible for kerbside vehicle storage permits.