

Parking Management Action Plan

South Perth Station Precinct

Prepared for
City of South Perth

29 March 2017



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Executive Summary

This report details the *Parking Management Action Plan (2017 - 2020)* for the PCA1 South Perth Station Precinct, extending the work previously completed for the *South Perth Parking Strategy*. This document provides recommendations for the 2,151 on-street and public off-street parking bays within PCA1, acknowledging that these bays are situated within a broader parking framework that includes exclusive private parking and publicly accessible private parking, which are outside of the City's management structures.

To derive the proposed parking management measures, Cardno has relied upon parking demand data (including demand, supply and duration of parking) collected by the City of South Perth (City), and additional information obtained during independent site inspections.

Existing parking within the Study Area has been analysed with respect to parking location, supply, demand, users, fee, regulations, surrounding land uses and the effects of alternative parking options.

Key findings:

1. There is available parking capacity within a reasonable walking distance (400 m) of the key parking generators.
2. Existing parking management situation is inconsistent and inefficient, with conflicting management strategies between on-street and off-street, public and private, as well as between adjacent parking zones.
3. Prime parking bays adjacent to high-demand destinations are still being used for commuter and construction vehicle parking, despite existing parking restrictions.
4. Free duration-restricted on-street parking, while intended to support short-stay parking, does not adequately prevent use by local employees through periodic rotation of vehicles within a zone.
5. There are opportunities to use paid parking and duration restrictions to more effectively distribute demand across the zone, prioritising 'prime' parking locations for the highest value purposes.

Major recommendations:

1. Consider the existing private and public parking supply as part of an integrated system. Work with and provide guidance to private suppliers to maximise their parking efficiency.
2. Manage demand to promote parking for specific users and land use types, using timing restrictions and fee payment schedules. These mechanisms may change to reflect different demand scenarios: weekday, weekend, school holidays, intense local construction periods.
3. Demand-responsive parking may be used (assuming high-quality occupancy data) to maximise the efficiency of the public parking supply, redistributing demand across a wider area and freeing up prime parking locations for high-value purposes.
4. Ongoing annual review of this Parking Management Plan, alongside the City's statutory parking charges review; to adapt to changes in the built environment and road network, and to accommodate construction traffic and parking requirements. Fine-grained changes in parking will be required throughout the year, which use the Parking Management Plan as a baseline document.
5. Parking wayfinding is an important tool to maximise the effectiveness of the parking system and should be employed in stages of increasing information and complexity, from static signage in the short term to dynamic signage or mobile application tools, corresponding to the availability of data and funding.

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1 Introduction

Cardno was commissioned by City of South Perth (City) to undertake development of a Parking Management Plan for the South Perth Station Precinct to respond to the local growth in residential and commercial development and other activities in the precinct. The project has four deliverables:

1. Parking Management Action Plan
2. Parking Demand Forecast
3. Policy Review
4. Public Parking Provision

This report comprises the first deliverable of the project – “Parking Management Action Plan”.

This Project arises from the City’s *South Perth Parking Strategy*, completed May 2016, which recommends completion of a PCA Management Plan for each Precinct, and provides guidelines for the controls within these Plans. The PCA1 South Perth Station Precinct *Parking Management Plan* has been produced within this framework, utilising best-practice methods as described in the Parking Strategy.

The objectives of this Plan are to identify changes in the existing management to optimize the function of parking in the Study Area, both on-street and off-street. The changes are proposed as an Action Plan for progressive implementation over a 1-3 year period along with their indicative costs. Statutory and policy framework changes that may be required to facilitate the proposed changes have also been discussed and will be detailed in subsequent work.

In the absence of robust and consistent parking management, parking availability tends to be distributed unequally across land uses and geographically across the Precinct. This leads to artificial scarcity and can impact the economic viability of commercial and residential development. Parking pricing is an effective tool to redistribute parking demand such that high-value bays can be retained for commercial uses, and when combined with duration restrictions, can be used to maximise the efficiency of parking throughout the area.

2.1 Study Area

The map displays the PCA1 South Perth Station Precinct, which is outlined in blue. The area includes various streets such as Spencer St, South St, and others. A yellow-shaded region, labeled 'Parking Impact Zone (PIZ)', is shown adjacent to the precinct. The map also indicates the location of the Perth Zoo and the South Perth Station. The background is a solid blue color.

Figure 2-1 Study Area

2.2 Land Use Profile

Within the Study Area, there are many prominent activity and destination centres, including:

- > The Mends Street Activity Precinct, consisting of a range of retail, commercial office and restaurant/entertainment uses.
- > The Perth Zoo, which operates both as a significant employment node and as a visitor destination.
- > Residential development located in the northern zone consisting of a mix of apartments with significant growth projected into the future.
- > Residential development to the south of the Zoo, located at the periphery of the Study Area, generally consisting of single-unit dwellings.
- > Recreational destinations including the WA South Perth Hockey Club at Richardson Park, the Royal Perth Golf Club and the South Perth Bowling Club.
- > The south-eastern quadrant including Bowman Street, Lyall Street, Hardy Street and Charles Street which is typified by a combination of commercial and residential development, at various scales.

A map of land use types within the Study Area is shown below, **Figure 2-2**. It is noted that this map represents a coarse zoning map and does not provide a high level of detail. However, it does indicate the relative locations of different land use types across the Precinct.

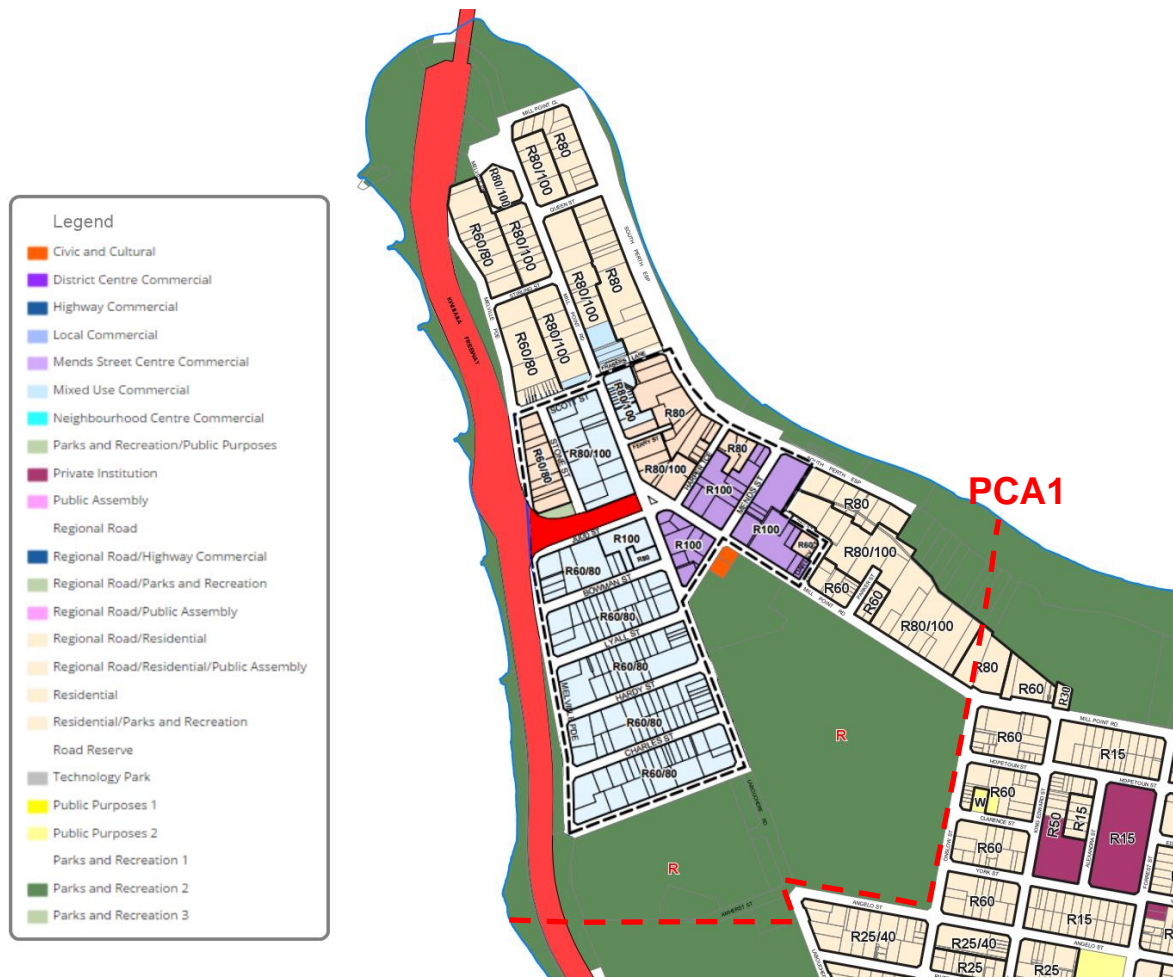
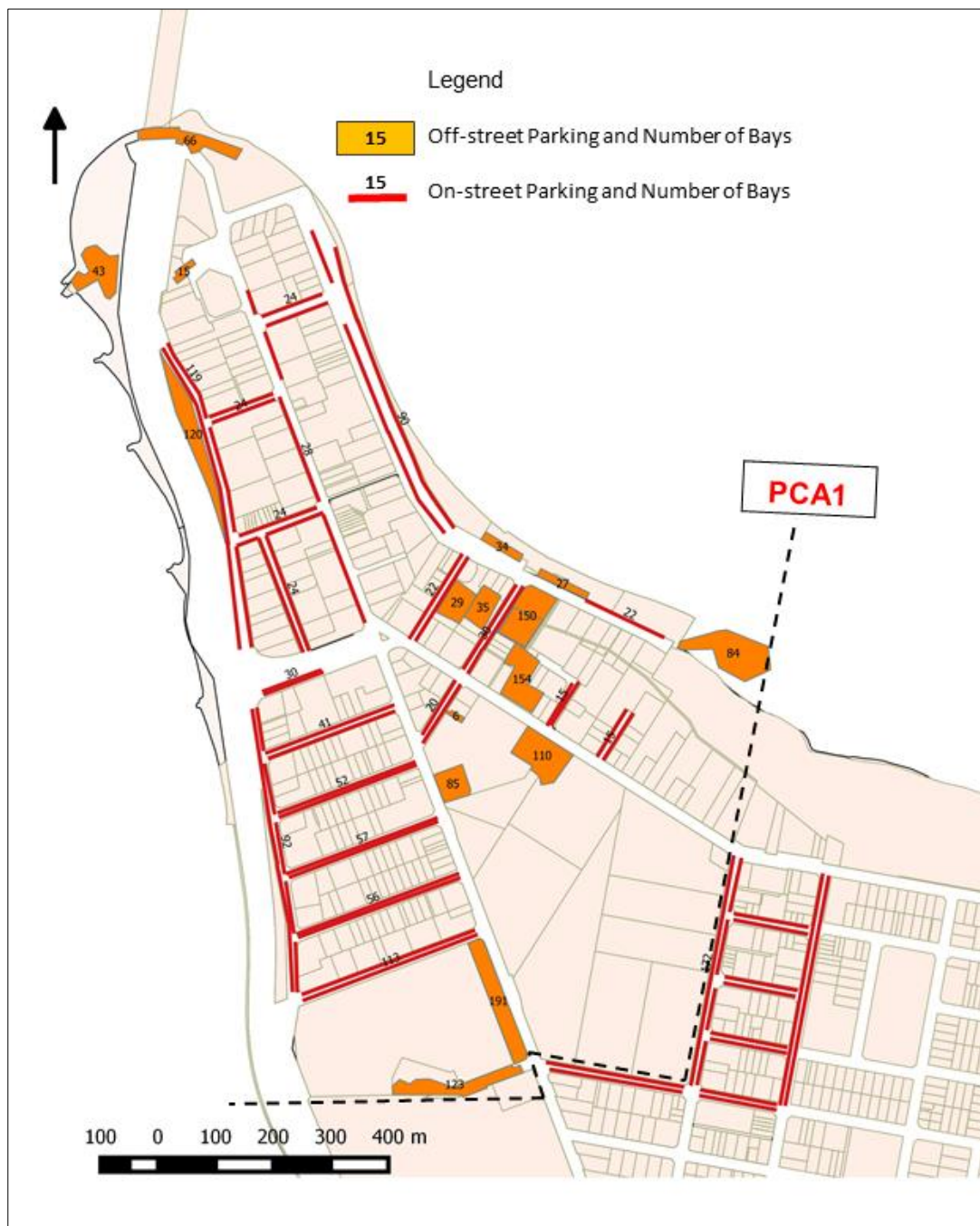


Figure 2-2 Land Use Map

2.3 Existing Public Parking Supply

Figure 2-3 shows the supply of public and publicly accessible parking bays within PCA1, differentiated into on-street and off-street, with associated parking quantum.

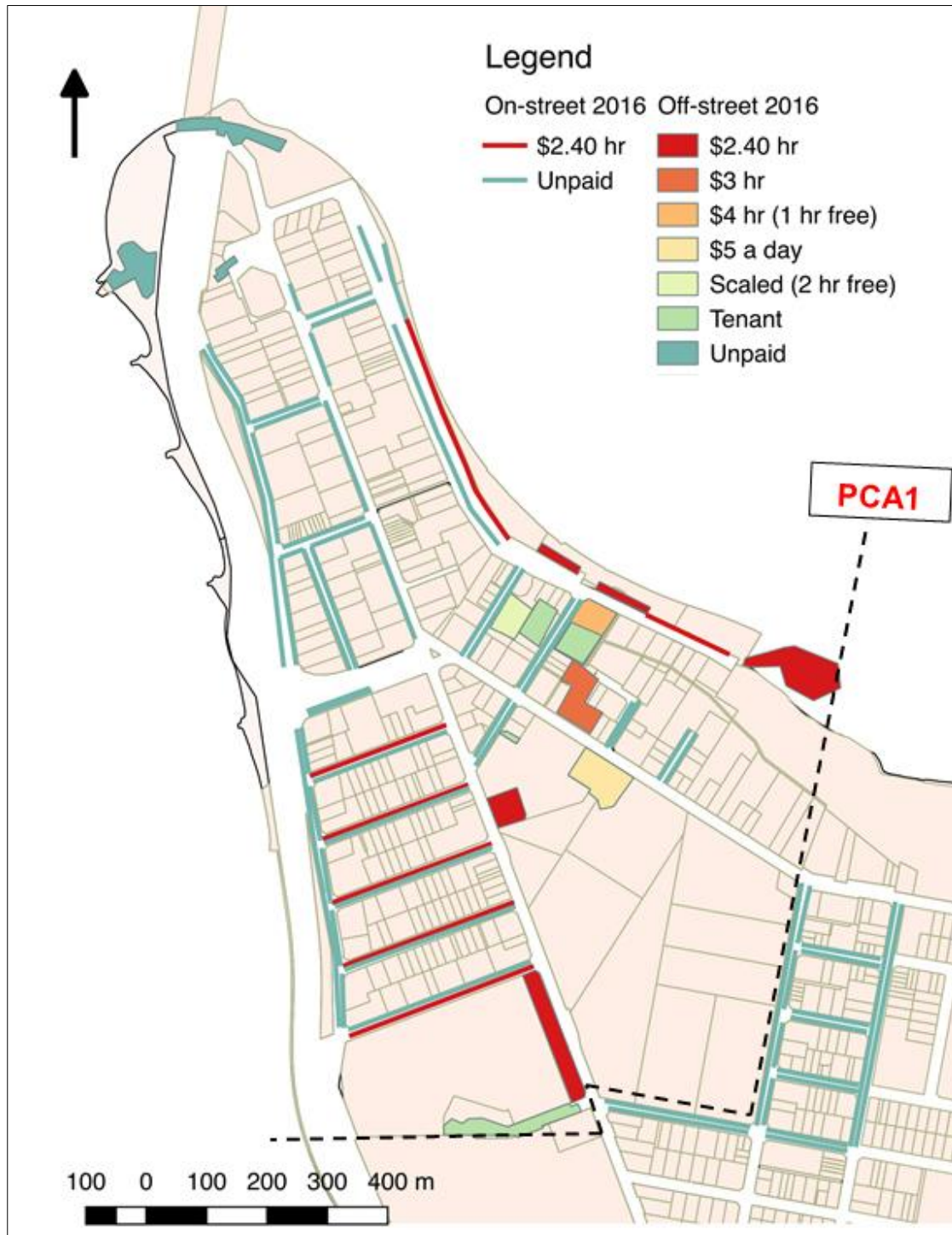


Source: City of South Perth

Figure 2-3 Public Parking Supply

Parking is currently provided in a variety of regulated and unregulated bays, with fee payment in all off-street and some on-street locations. Parking duration, timing restrictions and fees differ significantly across the SPSP, within individual streets and for adjacent car parks.

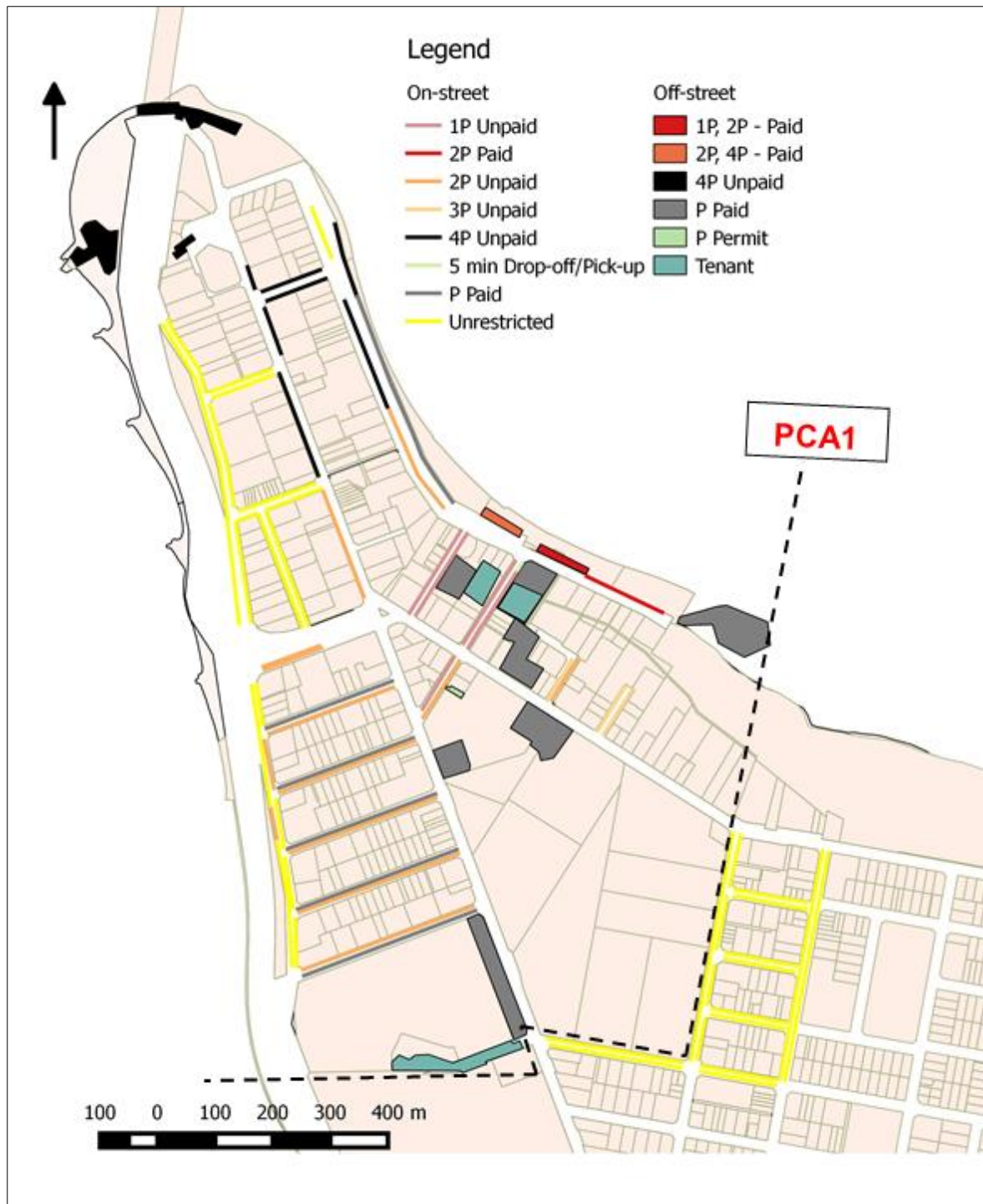
The existing fee payment structure, shown in **Figure 2-4**, is based on parking occupancy survey data provided by the City of South Perth and on-site observations by Cardno staff.



Source: City of South Perth

Figure 2-4 Existing Parking Fee Structure

Existing restrictions for parking duration are shown below, **Figure 2-5**, based on parking survey data provided by the City of South Perth and on-site observations by Cardno staff.



Source: City of South Perth

Figure 2-5 Parking Restrictions

It is considered that the combination of paid and free parking, and the type and location of parking restrictions employed throughout PCA1 has resulted in inefficient parking behaviour by residents, visitors, construction contractors, zoo staff and office employees. This behaviour includes activities such as underpaying, overstaying, shifting location within a parking zone etc. The impact of this behaviour is that parking is not being used for the purpose it is intended and rangers cannot feasibly enforce against the desired function.

Recommendations that follow through this proposed Action Plan are intended to manage parking through timing and fee structure to a subset of all of the potential demand.

2.4 Survey Data

The City conducted parking occupancy surveys on a weekday of school holiday on Wednesday 5 October 2016 and outside of the school holiday period on 12 October 2016. This data has been used in this report for analyses and to draw recommendations.

Additional survey data has also been provided for the April 2015 and April 2016 school holiday periods, which represents the highest demand for the year. These survey periods showed peak parking approaching 90% across the Precinct, suggesting that demand reallocates across the Precinct as the system reaches capacity.

The survey results for the October 2016 period show that the study area parking occupancy peaked at approximately 68% of the available supply, and an average occupancy of 41% across the day. The surveyed day (5 October) appears to be consistent with “design day” demand for Perth Zoo patrons (10th busiest day of 2016) and represents a significant under-utilisation of parking.

The results of parking utilisation surveys are shown below, **Figure 2-6**, differentiated by parking duration. This chart shows that while the majority of vehicles surveyed were parked for 1 hour or less, the consumption of parking bays is much more evenly spread. In fact, half of all public spaces are consumed by vehicles parked for 3 hours or more. This group primarily comprises employees, zoo visitors and construction workers.

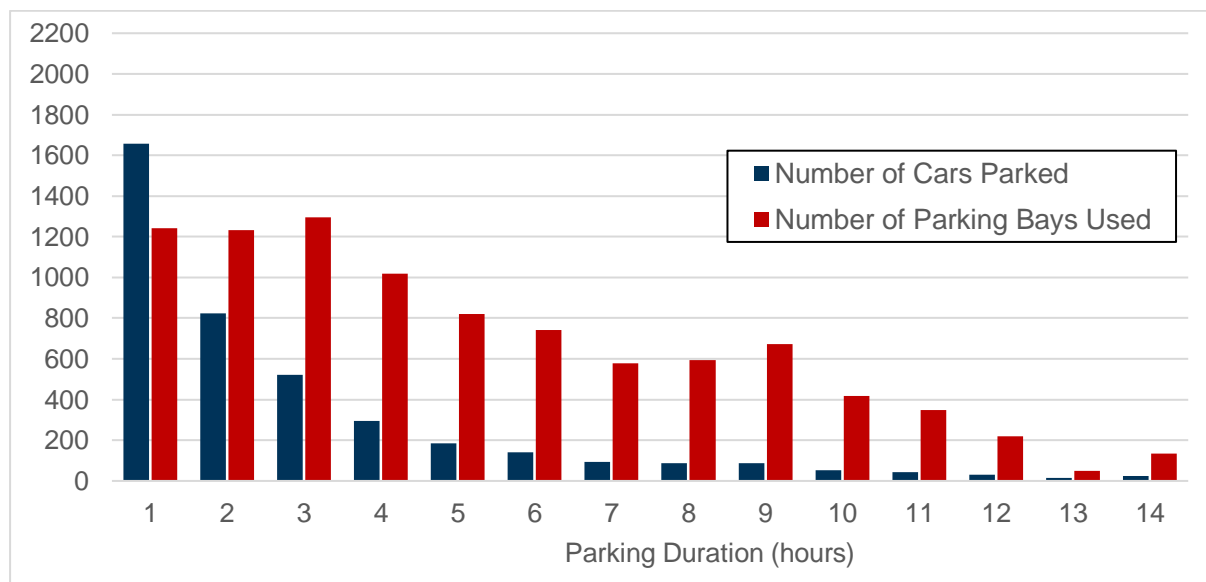
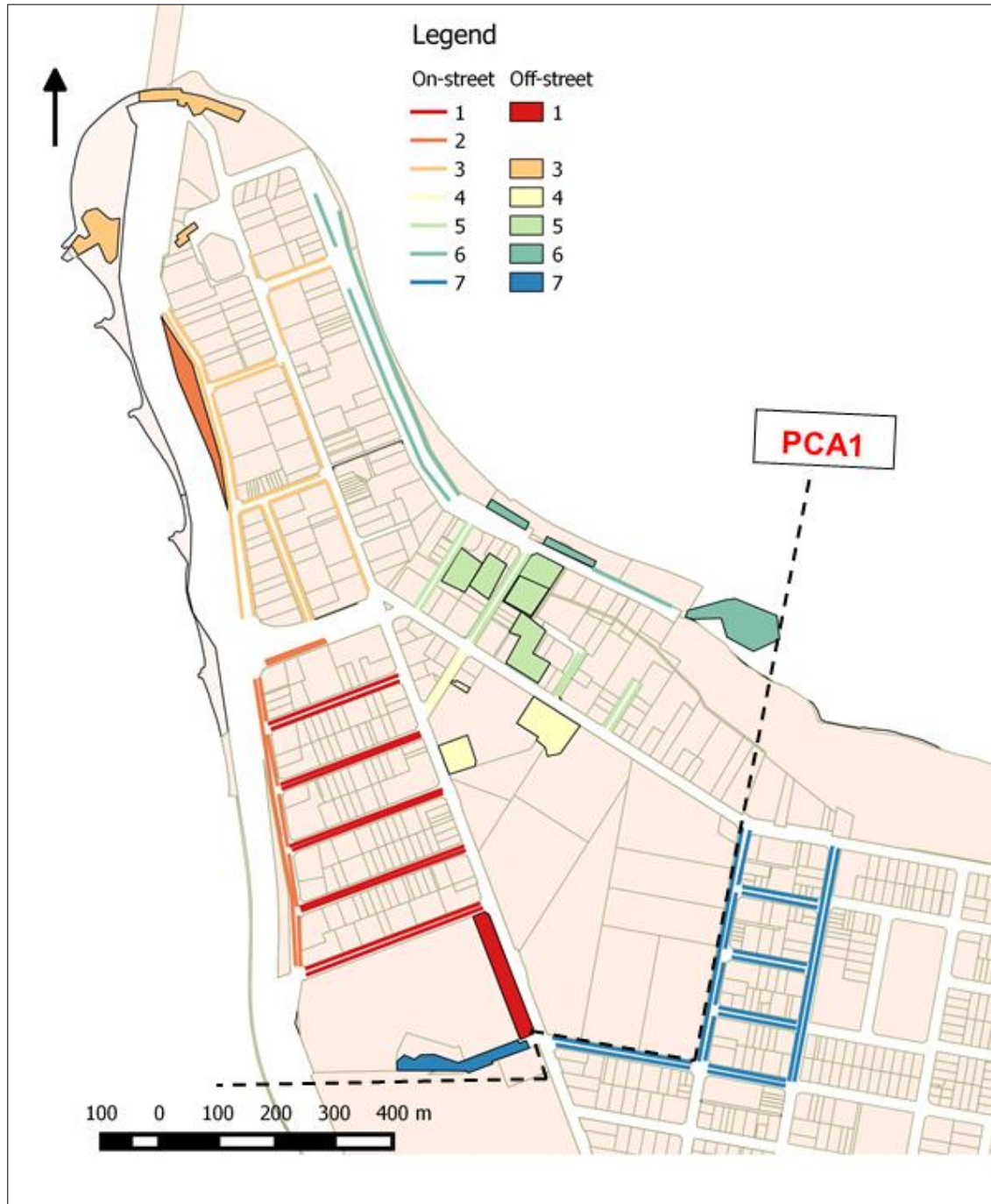


Figure 2-6 Surveyed Parking Utilisation

3 Existing Parking Operation

In order to understand operational characteristics of parking in the study area, different parking locations both on-street and off-street were divided into 7 Sub-Precincts as shown in **Figure 3-1**.



Source: City of South Perth

Figure 3-1 Parking Sub-Precincts and parking bays at each location

These Sub-Precincts have generally been determined based on adjacent land uses and parking function, with information collected regarding parking occupancy, location, demand, tariff and restrictions for each parking location.

Parking occupancy and duration surveys completed by the City was used to understand peak operation. This peak was related to weekday school holiday periods, with additional consideration by Cardno of other peak periods for which parking demands may be different.

Key scenarios considered through this process include:

- > Weekday non-holiday
- > Weekend; and,
- > Construction peaks.

4 Parking Management Guiding Principles

Parking management offers a broad and open field of discussion. Often cities try to solve the parking problem by increasing parking supply. By now it has been internationally proven that more parking spaces cause more traffic. The following guiding principles have been applied in this Parking Management Action Plan.

1. Maintain an appropriate supply of affordable, secure, convenient and appealing shared public parking that is accessible to all segments of the community.

Supply of public parking should be located in proximity to major generators and be managed according to a predetermined hierarchy of use. This hierarchy applies primarily to on-street parking but should be considered with respect to the off-street supply and specific provisions within public and private car parks for high priority users.

The City of South Perth Parking Strategy for on-street access hierarchy employs the following priorities in the Commercial Centre:

- > Loading
- > Public transport
- > Drop-off/pick-up
- > Short- to medium-stay
- > Motorcycle/scooter parking
- > Disability permit holders
- > Long-stay parking & park 'n' ride
- > Residents

This hierarchy helps to ensure that the on-street space is utilised efficiently and effectively.

The usage of public parking should be monitored to determine hotspots and low utilisation areas so that refinements to parking restrictions can be made. This will ensure a robust system that maximises efficient use of available parking and thereby minimise the capital investment required to accommodate demand.

To make parking accessible to all speciality bays, the bays should be reserved around the clock.

2. Minimum parking fees should be generally higher than a single bus fare, and higher on-street than off-street.

As a 'rule of thumb', parking prices should be higher than a one-way, single zone bus ticket to create an incentive to use public transport, including for short trips. In this way, parking pricing works as an economic push-factor, while public transport operates as a pull-factor.

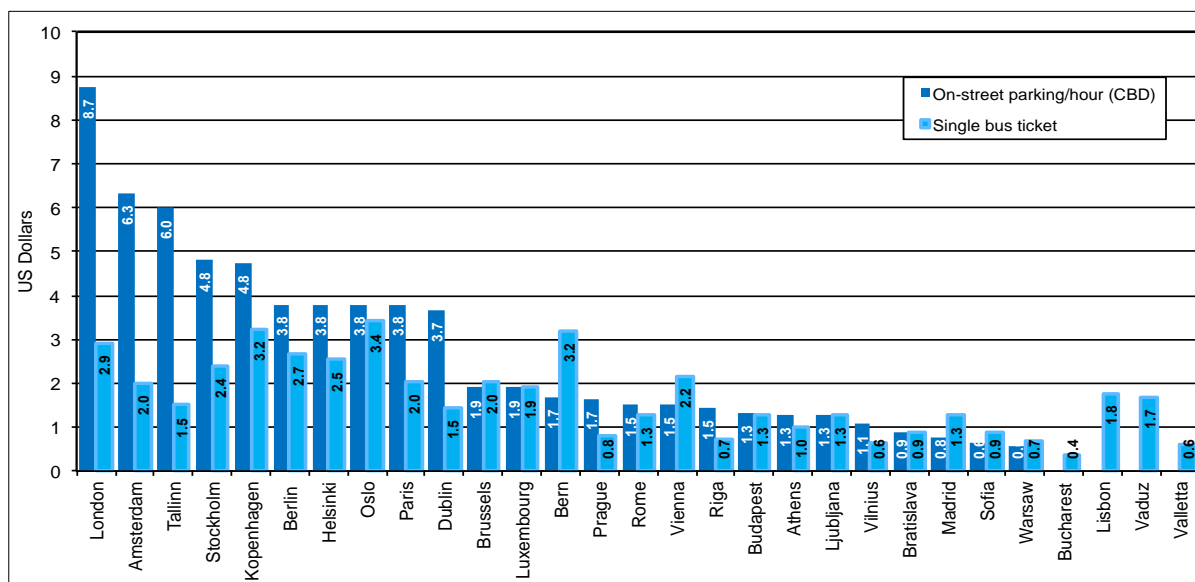


Figure 4-1 Comparison of parking fees in European cities

Source: Survey by GTZ, 2008, (Sharma & Kodukula, 2011)

On-street parking is generally the most desirable within a Centre environment. These spaces are the most visible and may be located immediately adjacent to a driver's destination. However, there is a limited supply of on-street parking bays in prime locations, suggesting that these bays can sustain a higher fee. It is therefore good practice for on-street parking to be set at a higher per-hour fee than off-street, to shift demand into off-street lots.

3. Parking management should be used as a tool for traffic demand management

It is understood that the lack of parking availability can create an emotional response in car drivers, particularly when there is no viable alternative to driving. Parking supply management therefore relies upon effective alternatives to driving, through high-quality path infrastructure and public transport, such that the limitations on parking supply do not reduce the economic viability of the area, or create adverse impacts in the surrounding environment.

In cities like London and Munich, core areas have relatively low levels of car ownership in spite of greater wealth. This reflects a decreased availability of residential and public parking, offset by a high degree of public transport accessibility and service.

The corollary to this is that parking supply limitations can assist in reducing the impacts of congestion. This is the principle put in place under the Activity Centres Policy, which recommends parking caps be applied to maintain ongoing road function. The growth of the SPSP area will inevitably increase traffic generation because of new development. Parking management can assist to mitigate this effect by providing a signal to visitors and residents that promotes mode shift to sustainable transport.

4. Parking prices are a strong tool to manage demand

To improve parking management as a tool for traffic demand management, the parking fee structure can be used to preferentially benefit certain target groups, based on the ideal function for a particular car parking location.

For example:

- > A one-hour free period supports short trips including shopping and café visits
- > A linear per-hour rate effectively penalises long-stay parking while maintaining maximum flexibility for users
- > A maximum fee can be used to support employee parking in selected locations – effectively giving them a discount beyond a given duration of stay.

These demand management tools can be used in combination, with restrictions on duration to narrow down the target market.

Parking pricing levels should ideally be set such that demand peaks at approximately 85-90% occupancy. Best-practice implementation involves 'demand-responsive' pricing, which increases or reduces fees based on occupancy. This can involve different fees at different times of day, or different days of the week, and include a mechanism to modify prices on a periodical basis to maximise the utility of the parking. Demand responsive pricing relies on a high degree of good quality occupancy and duration of stay data, as is provided by the City's parking 'pods', or by Automatic License Plate Recognition surveys.

5. Integrate ITS and Parking Management to show the availability of spaces

Research shows that cruising for parking can be a significant contributor to congestion. Real time information about where parking is available can be provided through digital signage or via a phone app. This can reduce cruising and thereby congestion to some extent.

The integration of parking payment information allows visitors to select an ideal space, based on their needs, willingness to pay and walk distance. The City's use of mobile pay contributes greatly to the propensity of visitors to pay for parking in such spaces, as it makes the transaction significantly more convenient after the initial setup.

6. Increases to parking supply

Construction of additional parking spaces should be considered where it facilitates desired activity within PCA1 and where the associated trips are unlikely to be undertaken by alternative transport modes.

Any increases in public parking supply should be considered in the context of all existing parking, and should be managed in accordance with best-practice design principles.

7. Interactions with private parking supplies

Parking should be considered as an ecosystem consisting of public and private, on-street and off-street, and considering all of the myriad needs of those people who use these bays. The optimal parking system would be one where all parking is used efficiently, with the minimum amount of space devoted to parking activities. After all, parking itself only facilitates activity; it does not create any of its own.

8. Hypothecation of parking revenue

Paid parking fees are an effective measure of managing parking, by increasing the efficient use of a shared resource. The revenue obtained from this form of parking management is, by definition, used to offset the cost of enforcement and installation. Beyond this maintenance cost, paid parking revenues may be 'hypothecated' to improvements in transport and local streetscapes.

This provides direct benefit to the community and additional value over and above the impacts of managed parking alone. International examples show that where revenue is hypothecated to local improvements, patronage of these businesses and land values increase markedly.

9. Wayfinding and Signage

The effectiveness of parking is greatly improved through supplying better information to users. This information is typically provided in a range of media, including maps, mobile applications, static and dynamic signage and prominent parking information.

In locations such as Southshore Off-Street Car Park, where parking is hidden from view, information regarding its location, access route, price and availability allows drivers to better choose the best spot for their needs.

A coherent signage strategy is therefore recommended across the South Perth Station Precinct, identifying off-street car parking supplies and significant on-street parking. This may be implemented in stages:

- > **Stage 1:** Static wayfinding signage displaying only route/location and supply numbers, design of signage consistent for on-street and off-street.
- > **Stage 2:** Dynamic signage which leverages real-time information from 'pods' or entry sensors to inform drivers of parking spaces available (including price where applicable).
- > **Stage 3:** Mobile application directing drivers to specific locations based on price, availability, location and duration information.

Dynamic signage and mobile applications both require a great deal of infrastructure, as they need a density of real-time data to function. However, the collection of this data is consistent with the concept of Demand Responsive Pricing, which creates an environment for highly efficient parking function.

10. Review of Parking Management Plan

This Parking Management Plan for PCA1 forms a baseline recommendation for the management of parking resources within the South Perth Station Precinct. However, given the dynamic changes underway within this area, there will be an ongoing requirement to review and modify parking management to adapt to changes in the built environment and road network, and to accommodate construction traffic and parking requirements.

Therefore, it is recommended that the City undertake an annual review of this Parking Management Plan, to take place in concert with statutory review of parking pricing. This process will allow the City to identify hotspots of parking demand and to implement changes in management to improve parking accessibility. The recommendations of the Parking Management Plan would be used to provide the overall direction, but may be modified as required.

The annual review process would include survey data for the predicted parking design day, which appears to occur during the October school holiday period. To accommodate the different usage of parking in and outside of school holidays, data should be collected across a two-week period, consistent with the 2016 survey. Information to be collected includes occupancy and duration of stay, and the results compared against a target utilisation of 85-90% at peak times.

Ultimately, demand responsive pricing mechanisms should be implemented to redistribute parking more evenly across the Precinct. This process requires periodic re-evaluation of the suitability of prices for individual car parks and street blocks. The existing limitation of annual parking price changes suggests that a yearly revision of the PMP is appropriate. However, fine-grained changes to address individual issues should proceed as required, and be incorporated into the formal review process.

The annual review process will also allow the City to engage with private parking owners and to assist in creating an effective system across the entire parking supply including public and private, on-street and off-street bays.

4.2 Parking Management Methodology

The following Parking Management Action Plan follows a simple methodology intended to ensure parking management is as transparent as possible. Parking restrictions have been used to promote use by particular groups according to a simple matrix of interventions as follows:

4.3 Paid Parking (general)

The intensity of parking demand predicted across PCA1 suggests that measures should be taken to encourage a transition to other transport modes, and to redistribute parking demand so that all parking is used to its maximum efficiency.

Currently, the availability of free parking close to destinations creates an incentive for people to drive to work, to the shops and to entertainment destinations. Introducing paid parking is an effective measure to support active transport modes for local residents, and public transport or cycling for employees.

Differential pricing by car park or by street block is a way to redistribute demand across the network, and can be used in combination with duration and timing restrictions to ensure that parking is used to its maximum efficiency.

Ultimately, this process can be incorporated into a 'Demand Responsive Pricing (DRP)' methodology, whereby parking prices are increased in busy areas and reduced in quiet areas, such that all parking achieves an 85-90% occupancy. This basically guarantees that visitors can find a parking spot close to their destination, so long as they are willing to pay the associated fee. A high level of information is required, through signage or web/phone application, to give drivers the data they need for decision-making. DRP also requires good data on parking occupancy and duration of stay, to allow the City to find the ideal price for parking along an individual street or in a particular public car park. *It should be understood by all parties that the appropriate price for parking may be zero, so long as demand remains low and all local requirements are met.*

There should be a standard time during which parking restrictions apply, recommended to be between 8am and 6pm, Monday-Sunday. However, this may be modified as required where parking restrictions can be waived on the weekends (e.g. adjacent to residents where conflicting demand is primarily by commuters) or extended in the evenings (e.g. in entertainment precincts where demand remains high after 6pm).

The changes proposed in this Plan described for future delivery years will be revisited as part of the annual review process. In particular, paid parking implementation and modifications will be related to ongoing occupancy and utilisation of parking within each Sub-Precinct, street block and car park.

4.3.1 On-Street

The following describes the methodology used to determine parking restrictions within the on-street environment. It is expected that all implementation measures will be reviewed on an annual basis. The recommendations therefore represent an ongoing 12-month trial, to be replaced or modified as a result of real-world observations.

- > **1P Paid Parking:** Used in retail areas to support high turnover business visitors, and to redistribute longer-stay activities to adjacent off-street public and private car parks
- > **2P Paid Parking:** Used in areas adjacent to retail to support business and medical visitors; specifically excludes use by employees, construction workers and zoo visitors.
- > **4P Paid Parking:** Used to support use by zoo visitors in Sub-Precinct 1, and allows a mixture of short-stay uses throughout PCA1; specifically excludes use for park 'n' ride, with minimal value for employees and construction workers.

- > **Capped Fee Parking:** Allows for hourly paid parking up to a set duration cap (nominally 4 hours in this Action Plan), with no additional cost beyond this duration. This is intended to create spaces for employees and construction workers to park in the public realm, while still retaining viability for short-stay visitors.
- > **First-Hour Free Parking:** Used to promote very short stay uses and encourage rapid turnover of parking. This is particularly valuable as a way to shift parking off-street, and away from the prime on-street locations. Private car parks often utilise this form of parking management to shift cars onto their site, ensuring that customers walk through their establishment and increasing footfall. The IGA and Southshore Car Parks both utilise this mechanism, though its effectiveness is diminished by the quantum of free parking in close proximity.

First-hour free parking is not considered to provide the same level of advantage in on-street environments, particularly where demand is already high, such as in Mends Street. It also has less utility in public car parks, which tend to be agnostic to trip destination.

- > **Permit Parking:** Permits, as described in this Action Plan, will be provided for a 12-month trial period according to a fixed allocation of permits. These permits would allow holders to park in a specific zone and would exempt them from the associated parking restrictions.

This form of permit is extremely flexible, allowing for the City to specify different areas for different periods (weekend, weekday, school holidays etc.), or to relocate permit parking in reaction to peak loads or construction needs. Permits are recommended for two user groups in this plan, Zoo employees and construction vehicles, as a way of controlling parking consumption by these large constituents of demand.

- > **2P Free Parking:** Free parking is not recommended where parking areas are located close to businesses. The incentive for employees and other long-stay users to park in these zones illegitimately (reparking their vehicle every 2 hours), is strong. Therefore, time restricted 2-hour parking has been identified only in residential areas, to support visitation throughout the day.
- > **Time Restrictions:** It is recommended that all managed parking be restricted to the 8am-6pm period. For the majority of the network, this can be retained for Monday-Friday only, but in locations where weekend demand is high (e.g. Sub-Precinct 1 and adjacent to the Zoo), parking restrictions should be set for Monday-Sunday.

Limiting paid parking (and duration restrictions) to daylight hours limits the potential impact on residents and visitors. This is particularly important in the Station Precinct, as a result of the high level of residential density and mixed-use throughout the area.

- > **Residential Parking Permits:** Residential parking permits are considered to be appropriate where on-site parking supply is low as a result of heritage building construction, and where adjacent land uses are likely to consume the bays required for these residents. *This is not the case for PCA1.*

New apartment buildings and townhouses are often constructed with a reduced parking supply, in line with the City's sustainability goals and as a measure to increase housing affordability. The creation of a residential parking permit scheme to allow residents to own and keep additional vehicles on the street shifts the burden of cost from the owner to the City.

Residential parking permit schemes are expensive to maintain, and are generally not priced at a level commensurate with their value. It is therefore recommended that such schemes be avoided unless under exceptional circumstances. The City of Perth has an effective set of guidelines for the approval of such permits.

4.3.2 Off-Street

The following describes the methodology used to determine parking restrictions within the public off-street environment. It is expected that all implementation measures will be reviewed on an annual basis. The recommendations therefore represent an ongoing 12-month trial, to be replaced or modified as a result of real-world observations.

- > **2P Paid Parking:** Parking in high-turnover areas to support recreation or retail/restaurant uses; specifically excludes use by employees, construction workers and zoo visitors.
- > **4P Paid Parking:** To support use by zoo visitors in Sub-Precinct 1, and allows a mixture of short-stay uses throughout PCA1; specifically excludes use for park 'n' ride, with minimal value for employees and construction workers.
- > **Unrestricted Paid Parking:** Allows use for all purposes but disadvantages long-stay employees.
- > **Capped Fee Parking:** Allows for hourly paid parking up to a set duration cap (nominally 4 hours in this Plan), with no additional cost beyond this duration. This is intended to create spaces for employees and construction workers to park in the public realm, while still retaining viability for short-stay visitors including
- > **Private/Tenant Parking:** This parking is privately owned and outside of the control of the City and this Plan. It is beneficial for the function of the parking system that all bays are efficiently used. Relocation of employees within the Station Precinct to private tenant bays frees up public spaces for visitors, and privately owned public parking represents a valuable supply located close to attractive destinations.

It is expected that as the City transitions to a paid parking focus and demand for parking on the whole increases, there will be increased pressure on private parking. This may result in a change in management of these private bays. Currently, many of these private car parks allow a 1-hour or 2-hour free period to make these spaces attractive to retail visitors. Such measures could continue into the future, but may change as development increases.

4.3.3 Loss of Parking

Public parking may be lost, temporarily or permanently, through a number of means. Bays may be consumed by development, construction parking, lay-down areas, specialty uses, safety improvements or lane reallocation (e.g. bike lanes, public transport priority etc.).

This loss of parking may be absorbed by the system in areas where supply exceeds demand. In this case, the reduction in supply has no material effect. Demand may redistribute to alternative locations, or to alternative modes, where there is capacity for this to occur. Where this is desirable and paid parking is in place, prices may increase slightly to reinforce redistribution.

However, any significant loss of parking in a Sub-Precinct may need to be accommodated through an alternative supply. Where this occurs, the access hierarchy should be used as the guiding framework for provision of parking in the affected zone.

5 Parking Management Action Plan

A parking management action plan and city-wide policy has been detailed for each of the defined Sub-Precincts, to be implemented over a nominal 3-year period. As stated previously, the peak design day has been chosen as a school holiday weekday, with variations as required to support other peak times.

A projection of this Action Plan over the 3-year period to 2019/20 is shown in **Figure 5-1**.

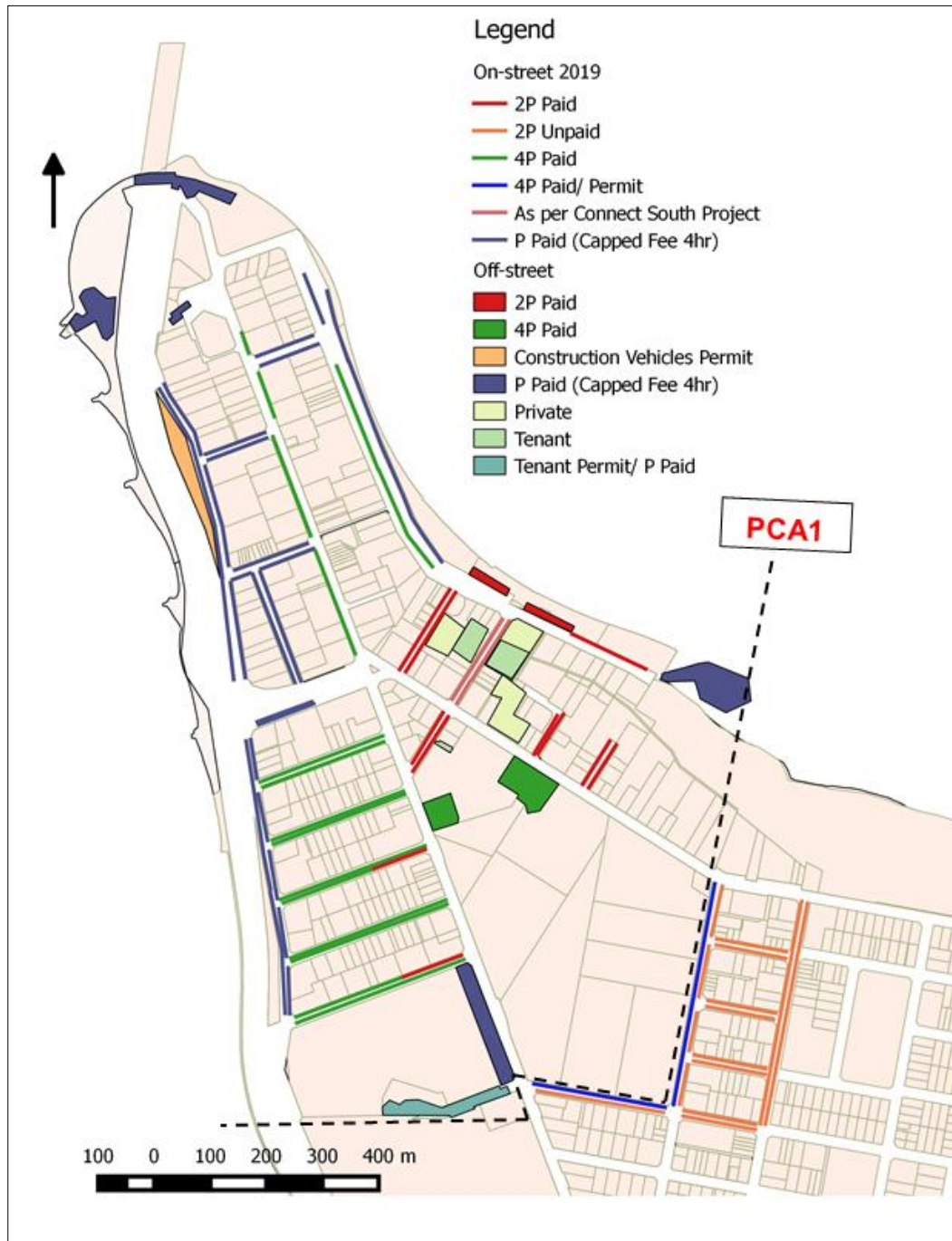
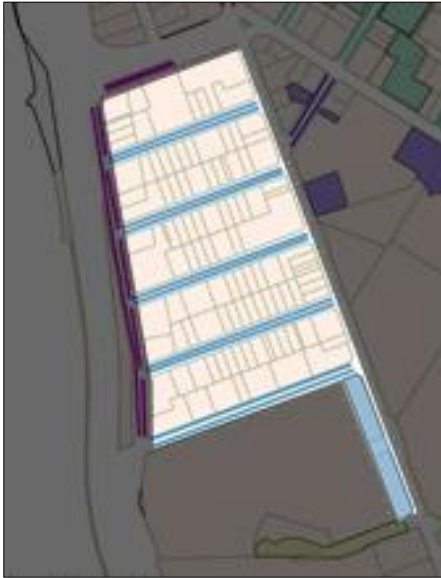


Figure 5-1 Parking Management for 2019/20

5.2 Sub-Precinct 1: Labouchere Road

Land use within this Sub-Precinct is characterised by a combination of commercial and residential development, at a variety of scales.



Existing parking consists of 212 off-street public bays within the Richardson Reserve Car Park on Labouchere Road, in addition to 448 on-street bays.

This parking is used by immediately adjacent development for employee, residential visitor and commercial visitor uses. It is also a second-tier destination for zoo visitors.

The adjacent Richardson Park hosts a range of sporting activities including organised matches for the WA South Perth Hockey Club.

The structure of existing parking includes:

5.2.1 On-Street

- > 196 bays limited to 2-hr duration (free)
- > 219 bays unlimited duration (paid, \$2.40/hr.)
- > 3 loading bays
- > 15 permit-only bays
- > 13 miscellaneous bays

The results of survey suggests that this parking is generally well-utilised with peak occupancy of 59% on the surveyed day. Previous observations show parking approaching capacity as a result of zoo visitor demands.

Demand was observed to be primarily short-stay with 67% of parking of 2 hours' duration or less; 12% of vehicles were parked for more than 4 hours. This suggests that this parking is predominantly been used by visitors of professional services and offices in the area, like medical clinics.

While the demand for long-stay parking was significantly lower than for short-stay, the impact on bay consumption is high. Estimates of total duration of stay based on survey results suggest that while 67% of parkers stay less than 2 hours, only 33% of parking bays are consumed in this way. In contrast, the 12% long-stay parkers consume approximately 38% of the bays.

Given the varied function of parking in this Sub-Precinct, and the desire to support visitation rather than employee parking, it is recommended that all parking be transitioned to paid parking. Accessible / speciality parking bays are recommended at critical nodal points in the vicinity of medical centres.

Richardson St is recommended to be changed to a combination of 2P paid parking and paid 4P paid parking to address the parking requirements of professional services, specifically the adjacent health and medical offices. The eastern side of Richardson Street provides over 90 bays which are recommended to be 4P paid parking, but may also be used in the short-medium term for construction vehicles on weekdays, via a specific permit system. These permits should be issued by the construction company under agreement with the City, subject to a monthly or annual fee.

Hardy St is suggested to be changed to a combination of 2P paid parking and 4P paid parking to address the requirements of professional services and zoo visitors.

Charles St, Lyall St and Bowman St are suggested to be modified to 4P paid parking.

These suggestions will retain parking for existing visitors, increase utilization and relocate all-day staff parking into more distant alternatives such as Melville Parade.

Permit-restricted bays are not encouraged. Where permits are to be retained, it is recommended that they provide permit-holder the “right to park” rather than a dedicated space.

Introduction of Demand-Responsive Pricing (DRP) is recommended in future to maximise the efficiency of the available parking. This may remove the need for duration-based restrictions and increase parking utilization. Prior to the implementation of demand-responsive pricing, on-street fees should be set higher than the adjacent Labouchere Off-Street Car Park.

During school holidays and weekends, demand for visitor parking bays increases markedly. At these times, an alternative location is recommended for construction vehicle parking, to maximise the available capacity.

5.2.2 Off-Street

> 212 bays unlimited duration (paid, \$2.40/hr.)

> 10 permit-only bays

This car park exhibits a balanced demand for parking, with a higher degree of long-stay visitation. Peak occupancy is 86% with 32% of vehicles been parked for more than 4 hr. The Richardson Reserve Off-Street Car Park on Labouchere Road operates as a primary parking destination for zoo visitors with a high level of occupancy, but this demand is generally low during the weekdays (outside of school holidays). There is therefore an opportunity to support all-day parking on weekdays, particularly for zoo employees. Therefore a parking permit system for Zoo employees is recommended, with permits managed and issued by the Zoo, for non-school holiday periods only.

During school holidays and weekends, demand for visitor parking bays increases markedly. At these times, an alternative location is recommended for construction and zoo employee parking, to maximise the available capacity.

It is recommended that Zoo should manage permits and issue them to their employees under agreement with the City, subject to a monthly or annual fee.

A weekday parking fee structure that includes an hourly fee, with a cap equivalent to 4 hours' parking for unlimited duration, is appropriate to support a combination of visitor and employee parking. This may additionally attract construction workers during the intense construction period, with opportunities for extension of the construction parking permit zone to the Richardson Reserve Off-Street car park.

Extension of paid parking to include weekend periods is also recommended, as demand remains high across many weekends. It is understood that this will tend to redistribute some demand to adjacent on-street bays. This behaviour may be modified by extension of paid parking in adjacent streets to the same time periods.

Additional motorcycle parking is recommended where geometry allows.

A summary of the above and proposed transition arrangements are given below:

Table 5-1 Sub-Precinct 1 Parking Action Plan

Parking Location	Type	Existing	2017/18	2018/19	2019/20
Bowman St.	On-street	2P Free (186)	4P Paid (397)	4P Paid (397)	4P Paid (397)
Lyll St.		P Paid (219)	2P Paid (30)	2P Paid (30)	2P Paid (30)
Hardy St.		Other (28)	Loading (3)	Loading (3)	Loading (3)
Richardson St.		Loading (3)	ACROD (6)	ACROD (6)	ACROD (6)
Charles St.		Accessible (10)	Accessible (10)	Accessible (10)	Accessible (10)
Richardson Reserve Off-Street Car Park (on Labouchere Rd)	Off-street	P Paid (212)	P Paid (4Hr Fee Cap) / Zoo Employee Permit (208) Motorcycle (8) Accessible (2)	P Paid (4Hr Fee Cap) / Zoo Employee Permit (208) Motorcycle (8) Accessible (2)	P Paid (4Hr Fee Cap) / Zoo Employee Permit (208) Motorcycle (8) Accessible (2)

Implementation

The phasing plan is focused on addressing urgent parking requirements of local businesses and Zoo parking. Additional parking meters would be required to supplement existing infrastructure on the opposite side of each road.

The changes proposed in this Plan described for future delivery years will be revisited as part of the annual review process. In particular, paid parking implementation and modifications will be related to ongoing occupancy and utilisation of parking within each sub-precinct, street block and car park.

5.3 Sub-Precinct 2: Melville Parade

Located at the periphery of the study area, this Sub-Precinct is adjacent to commercial and residential development.



Existing parking consists of 122 on-street bays. Parking is free with a mixture of two hour and unrestricted bays.

The parking is currently used by immediately-adjacent developments for employee, residential visitor and commercial visitor uses.

The structure of existing parking includes:

5.3.1 On-Street

- > 44 bays limited to 2-hr duration (free)
- > 78 bays unlimited duration (free)

The results of survey suggests that this free parking is highly utilised, attracting employees and visitors. Parking surveys showed a peak occupancy of 80% of the available supply. Demand was observed to be primarily long-stay with 51% parking of 4 hours' duration or more.

It is recommended that all parking transition to a parking fee structure that includes an hourly fee, with a cap equivalent to 4 hours' parking for unlimited duration. This will retain employees, construction workers, and allow for spill-over of Zoo parking during weekends and school holidays.

The unrestricted duration and 4-hour fee cap will make this parking more attractive than Sub-Precinct 1 on-street parking, while differential (less expensive) pricing will assist to pull demand from the Richardson Reserve (on Labouchere Road) Off-Street Car Park, which has a greater variety of competing needs.

This parking has anticipated low demand for weekend parking suggesting that a lower parking rate or even free unlimited parking may be applicable in this zone, creating a viable and attractive parking location for zoo employees and construction workers.

A summary of the above and proposed transition arrangements are given below:

Table 5-2 Sub-Precinct 2 Parking Action Plan

Parking Location	Type	Existing	2017/18	2018/19	2019/20
Melville Parade	On-street	2P Free (44)	P Free (122)	P Paid (4Hr Fee Cap) (122)	P Paid (4Hr Fee Cap) (122)
Judd St.		P Free (78)			

Implementation

It is expected that the implementation of paid parking and time restrictions across Sub-Precinct 1 will drive additional demand to the retained free parking zone. Transition to paid parking in the following year will allow for pricing to be set at an appropriate introductory level once demand is determined.

The changes proposed in this Plan described for future delivery years will be revisited as part of the annual review process. In particular, paid parking implementation and modifications will be related to ongoing occupancy and utilisation of parking within each sub-precinct, street block and car park.

5.4 Sub-Precinct 3: Mill Point

Predominantly residential area with pockets of small businesses on the Mill Point Road. Residential



development is mix of apartments of different scales, with significant growth projected into the future.

Existing parking is free with mix of small section of 4hr duration and prominently no-restriction. Visitors, tourists and construction workers (depending on location) use this parking.

There are 269 on-street parking and 50 off-street parking.

Proposed development along Mill Point Road and the Civic Heart development will tend to attract construction workers and increase on-street demand.

The structure of existing parking includes:

5.4.1 On-Street

- > 30 bays limited to 4-hr duration (free)
- > 208 bays unlimited duration (free)

This free parking is in high demand from local visitors, employees in the wider area and construction vehicles. October surveys showed a peak occupancy of 76% of the available supply. Demand was observed to be primarily long-stay with 43% of parking of 4 hours' duration or more. Parking is predominantly being used by workers/ employees and construction workers due to its proximity to existing construction sites.

Mill Point Road is recommended to remain as 4P paid parking to cater for the need for short duration residential and nearby office visitors, and to relocate construction vehicles to more appropriate locations.

Demand-responsive pricing (DRP) is recommended along Mill Point Road in future to maximise the efficiency of the available parking. This may remove the need for duration-based restrictions and increase parking utilization.

Scott Street, Stone Street, Stirling Street and Melville Parade have recently undergone changes in management to improve access and safety. This has resulted in a reduction in parking supply through the area. This Plan recommends that on-street parking locations in the Sub-Precinct be changed to a nominal hourly paid parking in the long-term, with a cap equivalent to 4 hours' parking for unlimited duration, to cater for long duration parking demand, specifically of construction workers. This assumes that the minor street supply is necessary to cater for construction demand. *However, should there be sufficient parking in other areas, a 2P free structure may be sufficient beyond the 2019/20 horizon.*

Parking for construction employees may be viable along **Melville Parade** through implementation of a permit system, as identified in Sub-Precinct 1.

There is an opportunity for the City to introduce a park and ride at Melville Parade to facilitate a permit system. A shuttle-type service may be required to make Melville Parade bays sufficiently attractive to

permit holders, and may be expanded to pick up parkers from the periphery of PCA1. The funding of this shuttle may be provided by permit fees, or through private provision.

No modifications to this parking management are considered necessary for other scenarios.

5.4.2 Off-Street

- > 124 bays limited to 4-hr duration (free)
- > ~120 bays for construction vehicles only (permit parking) [unconstructed]

Narrows Bridge, Boat Ramp and Old Mill Car Parks

The Narrows Bridge car park was under construction at the time of the October survey and no data was obtained. There is some potential for this location to be used for commuter parking by CBD employees now that it is operational.

The Boat Ramp Car Park has some utility for tourist connection to the Old Mill, as a supplement to the Old Mill Car Park, and for parking associated with the Boat Ramp. During site inspections, off-street parking appeared to be little utilised, with occupancy during midday periods at less than 30% at the Mill Point Boat Ramp, compared with a peak parking demand of 44% on the surveyed day.

Beyond this, the Narrows Bridge and Boat Ramp Car Parks both have capacity to provide commuter car parking for Mends Street or construction workers, assuming employees are willing to walk or a shuttle bus can be provided.

It is recommended that these car parks be modified to create a weekday parking fee structure that includes a nominal hourly fee, with a cap equivalent to 4 hours' parking for unlimited duration, appropriate to support a combination of visitor and employee parking. The associated rate should be lower than in other similar Sub-Precinct parking, in recognition of the additional distance from key generators and reduced demand.

The low demand anticipated for weekend parking suggests that free, unlimited parking may be applicable in this zone, creating a viable and attractive parking location for zoo employees and construction workers as well as tourists.

Melville Parade Reserve

Construction of a dedicated car park is planned within the grass reserve alongside Melville Parade, adjacent to the Kwinana Freeway. This car park is expected to cater for approximately 120 vehicles, and would be managed via a permit system for use by construction vehicles only. This would segregate some construction vehicles away from the rest of the system, reinstating demand for residential and commercial visitors.

It is recommended that the construction company manage permits and issue them to employees, with the City undertaking enforcement activities only.

Table 5-3 Sub-Precinct 3 Parking Action Plan

Parking Location	Type	Existing	2017/18	2018/19	2019/20
Mill Point Rd.	On-street	4P Free (26) 2P Free (2)	4P Paid (26) Accessible (2)	4P Paid (26) Accessible (2)	4P Paid (26) Accessible (2)
Scott St.		P Free (72) 4P Free (24)	2P Free (96)	2P Free (96)	P Paid (216) (4Hr Fee Cap)
Stone St.					
Queen St					
Stirling St.					
Melville Parade		4P Free (120)	4P Free (120)	P Paid (120) (4Hr Fee Cap)	
Mill Point Boat Ramp	Off-street	4P Free (122)	4P Free (122)	4P Free (122)	P Paid (122) (4Hr Fee Cap)
Narrows Bridge		Accessible (2)	Accessible (2)	Accessible (2)	Accessible (2)
Old Mill					
Melville Parade Reserve		N/A	Construction Vehicles Permit (~120)	Construction Vehicles Permit (~120)	Construction Vehicles Permit (~120)

Implementation

Introduction of parking fees along Mill Point Rd parking is necessary to shift construction related vehicles from this area support the parking needs of local businesses.

In the following years, expansion of paid parking across the Sub-Precinct is recommended to push employee parking and other long-stay demand towards the periphery of PCA1.

The changes proposed in this Plan described for future delivery years will be revisited as part of the annual review process. In particular, paid parking implementation and modifications will be related to ongoing occupancy and utilisation of parking within each sub-precinct, street block and car park.

5.5 Sub-Precinct 4: Zoo

The South Perth Bowling Club, Perth Zoo, Post Office and Windsor Park are the main activity centres in this Sub-Precinct. Mixed-use development including residential, restaurant/entertainment and service/medical businesses is located adjacent to these parking areas, along Mill Point Road and Labouchere Road.



Each of these activities attract users with different parking requirements.

The existing parking is mix of free duration-restricted and paid off-street parking, supporting both long-stay and short-stay users. There are a total of 20 on-street parking and 227 off-street parking.

The structure of existing parking includes:

5.5.1 On-Street

- > 11 bays limited to 1-hr duration (free)
- > 4 bays limited to 2-hr duration (free)
- > 2 ACROD bays
- > 3 taxi bays

The results of the surveys suggest that this parking is approaching its capacity. Demand was observed to be primarily short-stay, with 73% of parking of 1 hours' duration or less, consistent with the existing parking restrictions. The on-street parking supply in this area is valuable for short-stay trips in the immediate vicinity.

The demands for on-street parking along Mends Street are primarily related to adjacent retail, convenience store and café/ restaurant uses. These uses primarily require parking duration from 15 minute to 1 hour but often create a need for parking duration between 1 and 2 hours. It is suggested to introduce paid 1-2-hour and app-based time pro-rata paid parking for regular short-stay visitors in the Mends Street south area.

Existing disability and taxi bays are likely to be impacted by the adjacent construction works and should be relocated into Mends Street north, adjacent to the Windsor Hotel.

No modifications to this parking management are considered necessary for other scenarios.

5.5.2 Off-Street

- > 25 bays limited to 2-hr duration (free)
- > 5 bays limited to 15-min duration (free)
- > 194 bays unlimited duration (paid, \$2.40/hr)
- > 8 disability bays

The results of the October survey suggest that all off-street parking in the Sub-Precinct is operating at capacity during peak periods with occupancy at or exceeding 100%.

Much of this parking is currently in private ownership, though it is managed and enforced by City Rangers. Changes to the fee payment structure or timing restrictions are therefore subject to agreement with the parking owners.

Post-Office parking demand was observed to be primarily short-stay, with 62% of parking for 1 hours' duration or less, consistent with the short-stay parking needs of the adjacent land uses.

The post-office is currently undergoing redevelopment, with associated loss of this car park supply. Existing parking demands within this car park are included in the analysis, but no recommendations have been made in this Plan for the redevelopment area.

Heritage House:

Parking demand data is not available, however there are only six parking bays at this location. Given the orientation of these bays away from the street, retention of the existing permit-based restrictions is considered reasonable.

No modifications to this parking management are considered necessary for other scenarios.

Perth Zoo Parking Area:

The Perth Zoo Parking Area is identified by signage to be exclusively for the use of Zoo Visitors. Assuming that this car park is predominantly used by zoo patrons, this provides a good indication of the likely length of stay for this land use. In contrast to the Windsor Park Car Park, this car park has 82% of parking less than 4 hours, and 43% less than 2 hours.

However, recent construction at the nearby Civic Heart has generated additional construction traffic, which is shown to be attracted to the all-day parking and flat \$5 fee. Since this demand generally occurs prior to zoo opening times, the car park is overpopulated with construction vehicles and other employees.

The peak demand for parking was observed to be 100% during the school holidays and appears to be operating at or above capacity during peak demand periods. It is recommended that 4P (duration at the discretion of the Zoo) parking duration limits be imposed in the short-term, for consistency with the Windsor Park Car Park, and to relocate long-stay parkers into the Richardson Reserve (Labouchere Road) off-street car park or Melville Parade. Similarly, an hourly fee structure similar to Windsor Park Car Park is also recommended for consistency across these two similar car parks.

Windsor Park Car Park:

The Windsor Park Car Park is adjacent to the Zoo and South Perth Bowling Club, and its primary function is to provide parking for these two uses. Survey data indicates 41% of parkers stay longer than 4 hours, likely representing zoo employees and construction vehicles. This translates into an occupancy of approximately 67% long-stay parking.

The operation of this car park is entirely consistent with the existing parking management parameters. However, to support the desired parking behaviour, which is primarily focused on visitors, a 4P restriction is recommended, with employees and other long-stay users relocated to the Richardson Reserve Off-Street Car Park and Melville Parade.

Discussion on Perth Zoo parking requirement

Perth Zoo is the major economic activity and parking demand generator in the study area. Information received from Zoo administration identifying prominent concerns is listed below:

- > parking required for about 120-150 staff vehicles, 7 days per week
- > average visit is approximately 4 hours (*occupancy counts indicate an average visitation of approximately 2.5 hours, but across a wide range extending up to 6 hours or more*). Visitors have expressed concern with nearby 2-hour restrictions.
- > absence of a well-established and high-capacity public transport network
- > average daily visitation is 2,000-4,000. *Cardno have chosen a design day consistent with 4,680 visitors for the purpose of assessment*
- > provide sufficient parking for up to 84% of zoo visitors, consistent with existing mode share.

- > suspension of on-street restrictions on weekends, public holidays, event days and school holidays. *This would tend to increase non-visitor demand for bays close to the Zoo and reduce parking availability overall.*
- > a joint park and ride scheme. *Supported, and would be especially beneficial for off-site staff parking, rather than visitor demands.*

The above concerns and suggestions have been incorporated into this Plan, where appropriate to the function of the local Sub-Precinct and PCA1 as a whole. Parking bays in the vicinity of the Zoo, (Sub-Precinct 1 and 4), are recommended to be changed to 4P, to increase the supply of parking available to visitors. During peak demand periods, overflow parking can be catered for in adjacent Sub-Precincts, relocating employee permit parking as necessary.

It is understood that peak weekend parking demand by zoo visitors is higher than weekdays, allowing some additional capacity to share public parking more efficiently. Zoo employee parking demand can be catered for within the Richardson Reserve Off-Street Car Park and Onslow Street and Angelo Street (via permit) and in Sub-Precincts 2 and 3 within unrestricted parking areas.

To address peak day demand in future, Demand-Responsive Pricing (DRP) is recommended for introduction throughout PCA1, including the Windsor Park and Perth Zoo Car Parks.

No other modifications to this parking management are considered necessary for other scenarios.

Table 5-4 Sub-Precinct 4 Parking Action Plan

Parking Location	Type	Existing	2017/18	2018/19	2019/20
Mends Street (South)	On-street	1P Free (11) 2P Free (4) Accessible (2) Taxi (3)	2P Free (10) Motorcycle (5)	2P Paid (10) Motorcycle (5) Accessible (2) Taxi (3)	2P Paid (10) Motorcycle (5) Accessible (2) Taxi (3)
Off Street car park – Post Office		2P Free (25) Accessible (1) 15min Free (5) Permit (1)	<i>Parking unavailable due to redevelopment</i>		
Heritage House (Mends Street)	Off-street	P Permit (6)	P Permit (6)	P Permit (6)	P Permit (6)
Windsor Park Car Park		P Paid (81) Accessible (4)	4P Paid (81) Accessible (4)	4P Paid (81) Accessible (4)	4P Paid (81) Accessible (4)
Perth Zoo Parking		P Paid (107) Accessible (3)	4P Paid (107) Accessible (3)	4P Paid (107) Accessible (3)	4P Paid (107) Accessible (3)

Implementation

Modifications within the appropriate off-street car parks can be achieved within a short timeframe, as the infrastructure is already in place. Modification to the on-street parking in Mends Street may be delayed to coordinate with the delivery of adjacent developments.

The changes proposed in this Plan described for future delivery years will be revisited as part of the annual review process. In particular, paid parking implementation and modifications will be related to ongoing occupancy and utilisation of parking within each sub-precinct, street block and car park.

5.6 Sub-Precinct 5: Mends Street



The Mends Street Sub-Precinct comprises a range of retail, commercial, office and restaurant/entertainment uses. It is currently the main activity centre, along with the Perth Zoo, in the Station Precinct area.

Existing parking is mix of free on-street, paid off-street (primarily with a free component) and tenant parking.

Survey information is available for 444 off-street parking bays and 76 on-street parking bays.

The structure of the surveyed existing parking includes:

5.6.1 On-Street

- > 45 bays limited to 1-hr duration (free)
- > 1 bays limited to 15-min duration (free)
- > 12 bays limited to 2-hr duration (free)
- > 10 bays limited to 3-hr duration (free)
- > 3 disability bays
- > 5 loading zone

The results of survey suggests that this parking is operating effectively in its current form, though evidence suggests a significant latent demand for parking along Mends street which leads to overspill into the surrounding area, and particularly The Esplanade. This should be monitored as changes to the Mends Street Precinct impact the availability of on-street parking.

Occupancy during peak periods is 83%. Demand was observed to be primarily short-stay, with 61% of cars parking for 1 hour or less; consistent with the existing supply.

Along **Mends Street**, approximately 9% of cars were observed to overstay the 1P restriction. The demands for on-street parking along Mends Street are primarily related to adjacent retail, convenience store and café/restaurant uses. These uses primarily require parking duration from 15 minute to 1 hour but often create a need for parking duration between 1 and 2 hours.

It is noted that this section of Mends Street is part of the Connect South program, and is likely to experience some significant change as this area redevelops. One potential outcome is that Mends Street is transformed into a shared space, with a much greater degree of pedestrian activity. This function can be supported by transforming existing general parking to satisfy specialised needs: bike parking, accessible parking, taxi, loading zone and motorcycle parking.

In Mends Street's current configuration, it is recommended that the City introduce 1-hour paid parking across all free bays. This street is the most attractive destination in the Station Precinct, with demand that far exceeds supply. Available off-street car parking immediately adjacent, and additional on-street parking along the Esplanade minimise the negative impacts of paid parking in this location, while creating parking availability adjacent to cafés and restaurants. The City's mobile payment system effectively eliminates any detriment to very short-period use, as drivers can pay only for the time parked.

It is recommended that speciality bays including loading zones are restricted by use 24/7.

Harper Terrace parking experienced a higher degree of over-stay parking, with almost 27% of parkers staying longer than its existing 1P restriction. It is recommended to change 1P to 2P hourly fee payment system.

No modifications to these parking management recommendations are considered necessary for other scenarios.

Parker Street and **Darley Street** function as residential neighbourhood streets, however their proximity to the Zoo and Mends Street Sub-Precincts creates overflow demand during peak demand periods. Adjacent residential development consists of high-rise, with some limited on-site visitor parking. There is therefore likely to be a need for on-street visitor parking; note that this tends to occur outside of peak demand periods.

Existing parking provides 2-hour and 3-hour free parking, respectively, making these bays relatively attractive as an alternative to paid parking off-street and have high existing parking occupancy.

Given the surrounding parking system generally consists of paid parking, it is considered appropriate that a similar form of parking control would be introduced along these streets. It is recommended to introduce 2-hour paid parking. This transition to be delayed until the effects from other changes are visible.

Introducing paid 2-hours parking on these streets can heavily penalise residents with more vehicles than spaces. If this is a significant issue, a short-term (5-year) parking permit scheme may be applicable for residents in these streets, on a fee basis that supports resident's reducing car ownership, or relocates additional parking into tenant parking (for example, Southshore Car Park).

During weekend periods, free 2P parking is likely to be sufficient, given the reduced competition from employee parking.

5.6.2 Off-Street

- > 318 bays unlimited duration (paid, various rates and free periods)
- > 3 bays limited to 15-min duration (free)
- > 112 bays permit (tenant parking)
- > 7 disability bays
- > 4 loading zone

The results of survey suggests that the Sub-Precinct is not operating efficiently, as off-street peak parking demand is significantly lower than on-street adjacent parking.

None of the off-street parking supply is managed by the City of South Perth (City). The five off-street parking are all operated with different fee structures, free periods and hourly rates.

Each off-street park ostensibly supports a specific activity, though there is functional overlap between all of these car parks based on their proximity.

The **Windsor Car Park** is at-grade and can be easily accessed from both Mill Point Road and Mends Street; it is intended to be used by Windsor Hotel visitors. However, the fee structure is conducive to all-day employee parking, with a relatively high hourly fee (\$3/hr is higher than adjacent parking areas) and a maximum fee cap equivalent to 4 hour's parking. It's peak period occupancy was 88% at the time of the survey. Previous observations were consistent with expectations: 63% of cars were parked for more than 4 hours. It is noted that adjacent on-street parking is free, which tends to depress the demand for short-stay parking at these rates. However, October survey data showed a significant component of short-stay parking, particularly in the evening, confirming the attractiveness of the location adjacent to the Windsor hotel.

The **Southshore Shopping Centre Car Park** services the mixed use commercial and retail development. The fee structure for this car park is intended to promote short-stay parking and high

turnover, with a 1hr free period and high hourly fees for the second hour onwards (\$4/hr). This parking is provided in a basement parking structure of 146 bays, with low occupancy observed even during peak school holiday periods. Its peak period occupancy was 66% during October surveys, generally lower than the surrounding catchment.

Demand was observed to be primarily short-stay, with 36% of parking of 1 hours' duration or less and 31% of parking of 1-2 hours. This demand is consistent with the existing parking restrictions.

Improvements to wayfinding signage and modification of public on-street bays to paid parking would have a positive impact on demand at this location and would assist in improving the overall distribution of parking demand across the Mends Street Sub-Precinct (5).

The **IGA Car Park** is likely to be used predominantly by IGA and other retail customers, with a peak observed school holiday occupancy of 86%. The majority of parking is within the 2-hour free period, used by 78% of total vehicles. The existing fee structure heavily penalises medium-duration parking, as parking prices increase from \$0 to \$3 between the second and third hour of parking, and there is a daily cap of \$16.

Adjustments to the fee schedule for the IGA car park are recommended to create a more consistent and progressive fee structure that promotes short-medium duration parking (i.e. unlimited paid parking with a 1-hour free period).

Tenant parking is available in off-street car parks in **Mends Street** parking and at the **Southshore Tenant Car Park**. This parking is allocated to specific businesses or employees on a monthly or yearly basis. Parking demand data was not available for these areas, however based on results of on-site inspections, the Mends Street tenant parking appears to have an occupancy rate of about 75%, compared with less than 66% in the Southshore tenant car park. It is noted that due to the function of tenant parking, bays may be unoccupied but still under lease.

Tenant parking is therefore a beneficial arrangement for many businesses and employees, as it can provide consistent dedicated parking at a lower cost than other fee-payable spaces. However, this form of parking is generally inefficient. Nevertheless, given that it forms part of the existing parking supply in the Mends Street Sub-Precinct, a greater uptake of these private tenant parking bays would increase the availability of other parking supplies in the local area.

Table 5-5 Sub-Precinct 5 Parking Action Plan

Parking Location	Type	Existing	2017/18	2018/19	2019/20
Mends Street (North)	On-street	1P Free (25) Accessible (1) 5min (1) Loading Zone (3)	<i>Management as determined through the Connect South Project</i>		
Harper Tce		1P Free (20) Accessible (2)	2P Paid (20) Accessible (2)	2P Paid (20) Accessible (2)	2P Paid (20) Accessible (2)
Parker St.		2P Free (12)	2P Free (12)	2P Free (12)	2P Paid (12)
Darley St.		3P Free (10)	3P Free (10)	3P Free (10)	2P Paid (10)
Windsor	Off-street	P Paid (144) Accessible (3) Loading Zone (4) 15min Free (3)	Private Parking		
IGA - Off Street car park		2hr Free; P Paid; 5hr cap (28)			
Southshore Retail Parking		1hr Free; P Paid (146) Accessible (4)			
Southshore Tenant Parking		Tenant Parking Permit (77)			
Mends Street Tenant Parking		Tenant Parking Permit (35)			

Implementation

Phasing the implementation of parking changes will enable city to manage and fund this transition and allow users to adapt.

The changes proposed in this Plan described for future delivery years will be revisited as part of the annual review process. In particular, paid parking implementation and modifications will be related to ongoing occupancy and utilisation of parking within each sub-precinct, street block and car park.

5.7 Sub-Precinct 6: South Perth Esplanade



This Sub-Precinct provides car parking for a range of activities including adjacent mixed-use commercial, residential development, the ferry terminal and recreational area (river foreshore).

There are 145 off-street parking bays and 102 on-street parking bays.

Existing parking is a mix of paid unrestricted and free, time-limited on-street parking and paid unrestricted off-street parking.

On-street parking includes free two-hour and four-hour bays immediately adjacent to paid parking. This undermines the function of paid parking in the adjacent off-street car parks for short time periods, making paid parking a viable choice only as a last resort or for all-day requirements.

The structure of existing parking includes:

5.7.1 On-Street

- > 27 bays limited to 2-hr duration (free)
- > 31 bays limited to 4-hr duration (free)
- > 82 bays unlimited (paid, \$2.40/hr)
- > 4 disability bays
- > 1 loading zone

The results of survey suggests that **South Perth Esplanade on-street (east)** paid 2P parking is underutilized with peak occupancy of 67% at the time of the survey. This suggests that people are aware of adjacent free parking bays and avoid using paid parking. There was no observed overstay of parking. It is recommended to introduce taxi bays to support adjacent land use and shared mobility. No other changes are suggested.

The **South Perth Esplanade on-street (west)** parking extends some distance from Mends Street, with parking restrictions varying from free 2P, 4P to paid unlimited. It therefore attempts to cater to a wide range of uses. Its peak period occupancy was 78% at the time of the October survey. Demand was observed to be primarily short-stay, with 75% of parking of 2 hours' duration or less and 95% of parking of 4 hours' duration or less. This demand is consistent with the existing 'free parking' restrictions.

4P free parking in particular is susceptible to illegitimate use, with employees shifting vehicles at just once a day to avoid payment.

It is recommended that the existing parking be replaced with two tiers of parking restriction. Bays closest to Mends Street would be designated as 4P paid parking, suitable for a range of activities including recreation and retail, while bays further towards Mill Point could be used for employee/construction paid parking on the basis of unlimited duration and a 4hr fee cap.

The ongoing use of the South Perth Esplanade as a route for construction vehicles, in addition to layover function, is likely to result in further loss of parking during the intense construction period. Consideration for the relocation of parking demand away from this Sub-Precinct will be required.

No modifications to this parking management are considered necessary for other scenarios. It is recommended to introduce bicycle parking within this Sub-Precinct to promote use of the recreational area.

5.7.2 Off-Street

- > 27 bays limited to 2-hr duration (free)
- > 31 bays limited to 4-hr duration (free)
- > 44 bays unlimited (paid)

The results of survey suggests that both the off-street car parks adjacent to the ferry terminal on the South Perth Esplanade are operating at capacity during peak periods, with occupancy approaching 100%. Demand at the Sir James Mitchell Park is considerably high too, at 80% during peak period.

The high demand for parking appears to be as a result of overflow from Mends Street on-street demand, in preference to off-street supply in private car parking, and due to parking associated with the ferry terminal and adjacent recreation space.

The function of the two **Esplanade Car Parks** is similar, and parking restrictions should also be similar, for equity and legibility purposes. The attractiveness of this parking for all-day park 'n' ride function suggests that a restriction on duration is appropriate: 2P paid parking is therefore recommended, consistent with the existing 80%+ demand for short-stay parking. It is recommended to introduce taxi bays to support adjacent land use and shared mobility.

The results of the survey show that the **Sir James Mitchell Park Car Park** is primarily used for short stay with 74% of vehicles parked for 2 hours' duration or less. This car park serves primarily recreational purposes for the foreshore and adjacent playground areas. Modification of the car park fee structure to promote long-stay parking could help support employee parking in the greater Station Precinct area, using unlimited duration paid parking with a 4-hour maximum fee cap.

No modifications to this parking management are considered necessary for other scenarios. It is recommended to introduce bicycle parking within this Sub-Precinct to promote use of the recreational area.

Table 5-6 Sub-Precinct 6 Parking Action Plan

Parking Location	Type	Existing	2017/18	2018/19	2019/20
East of Ferry - Esplanade	Off-street	1P Paid (10) 2P Paid (15) Accessible (1) Loading Zone (1)	2P Paid (24) Accessible (1) Loading Zone (1)	2P Paid (24) Accessible (1) Loading Zone (1)	2P Paid (24) Accessible (1) Loading Zone (1)
West of Ferry - Esplanade		1P Paid (14) 2P Paid (19) Accessible (1)	2P Paid (32) Accessible (1)	2P Paid (32) Accessible (1)	2P Paid (32) Accessible (1)
Sir James Mitchell Park		P Paid (82) Accessible (2)	P Paid (4Hr Fee Cap) (82) Accessible (2)	P Paid (4Hr Fee Cap) (82) Accessible (2)	P Paid (4Hr Fee Cap) (82) Accessible (2)
South Perth Esplanade (west)	On-street	2P Free (15) 4P Free (31) P Paid (44)	2P Free (13) 4P Free (31) P Paid (44) Accessible (2)	2P Free (13) 4P Paid (31) P Paid (44) Accessible (2)	4P Paid (44) P Paid (4Hr Fee Cap) (44) Accessible (2)
South Perth Esplanade (east)		2P Paid (12)	2P Paid (11)	2P Paid (11)	2P Paid (11)

Implementation

Recommended phased implementation of on-street paid parking to enable the City to manage and fund this transition and allow users to adapt.

The changes proposed in this Plan described for future delivery years will be revisited as part of the annual review process. In particular, paid parking implementation and modifications will be related to ongoing occupancy and utilisation of parking within each sub-precinct, street block and car park.

5.8 Sub-Precinct 7: Onslow Street



This Sub-Precinct is located largely outside of the South Perth Station Precinct (PCA1), but is adjacent to the Zoo, Richardson Park and the Sports Club, beyond these key attractors, the surrounding land uses are prominently single-unit residential dwellings.

Recommendations have been included for this Sub-Precinct given the high impact of adjacent land uses. These recommendations may be revisited in the context of future Parking Management planning for the adjacent Angelo Parking Control Area (PCA2).

Existing on-street parking is unrestricted free parking, while the off-street car park is designated as tenant parking. There are 172 on-street parking and 123 off-street parking.

Parking demand data was not available at the time of this assessment. Existing occupancy and demand data has been determined through Cardno's own on-site inspections.

The structure of existing parking includes:

5.8.1 On-Street

> 172 bays unrestricted (free)

Zoo employees are considered to be the predominant users of on-street parking, particularly along the zoo boundary (Onslow Street and Angelo Street).

Parking along **Onslow Street and Angelo Street** appears to have little value for any non-residential demographic apart from zoo employees. The current use of this parking is therefore effective and can be supported from a functional perspective. Therefore, a parking permit system for Zoo employees is recommended for introduction on the Zoo frontage sides of these streets along with 4P paid parking to accommodate zoo visitors in isolated spots. It is recommended that Zoo should manage permits and issue them to employees.

The local road network beyond this area, including the opposite side of Onslow Street and Angelo Street, **King Edward Street, York Street, Clarence Street, Angelo Street (south of Onslow Street) and Hopetoun Street** are generally used as overflow parking by zoo visitors, and by residents for personal and visitor parking. A 2-hour restriction with free parking is generally supportive of residential demand, which tends to occur outside of peak periods during the weekdays.

It is noted that the above streets are considered to be outside of the Station Precinct boundaries. However, since the impact of land uses within the Station Precinct is felt on these streets, recommendations have been included for consideration.

5.8.2 Off-Street

> 123 bays permit parking

The Amherst Street off-street car park is currently restricted to the Royal Perth Golf Club, WASP Hockey Club and other recreational uses. This 'guarantees' that members of these organisations have parking available, but at the expense of a less efficient parking supply. It is one of the most under-utilized parking areas within the Study Area. Its peak period occupancy was 58% at the time of the October survey. Demand was observed to be primarily long-stay, with 55% of parking of over 4 hours' duration or more and 34% of parking of 2 hours' duration or less.

It is understood that this parking area is at least partially within the Amherst Street reserve and is therefore under the control of the City and leased to the Sports Club. Changes to the parking management within the Station Precinct should redistribute demand such that zoo visitors (the user group most likely to be excluded) will have a reduced need for these bays. However, improved wayfinding and signage is recommended throughout the precinct to allow visitors to select the appropriate parking for their needs.

There is significant value to the overall system if this tenant parking could be used for public uses, when peak demand occurs. A payment system would be necessary to ensure appropriate use, consistent with the nearby Richardson Reserve Off-Street Car Park, but without a maximum fee. A permit system to replace the existing restrictions could be layered on top of the fee structure so that existing users would not be impacted.

Table 5-7 Sub-Precinct 7 Parking Action Plan

Parking Location	Type	Existing	2017/18	2018/19	2019/20
Angelo Street (north of Onslow Street)	On-street	Unrestricted Free (172)	P Free/ Zoo Employee Permit (83)	4P Paid/ Zoo Employee Permit (83)	4P Paid/ Zoo Employee Permit (83)
Onslow Street			P Free (27)	2P Free (27)	2P Free (27)
King Edward Street					
York Street					
Clarence Street			P Free (62)	2P Free (62)	2P Free (62)
Hopetoun Street					
Angelo Street (south of Onslow Street)					
Amherst Street (tenant)	Off-street	Tenant (123) Accessible (2)	Tenant (123) Accessible (2)	Tenant (123) Accessible (2)	P Paid / Tenant Permit (123) Accessible (2)

Implementation

Recommended phasing of fee payment and permit systems to allow overall changes to the parking supply to stabilise.

The changes proposed in this Plan described for future delivery years will be revisited as part of the annual review process. In particular, paid parking implementation and modifications will be related to ongoing occupancy and utilisation of parking within each sub-precinct, street block and car park.

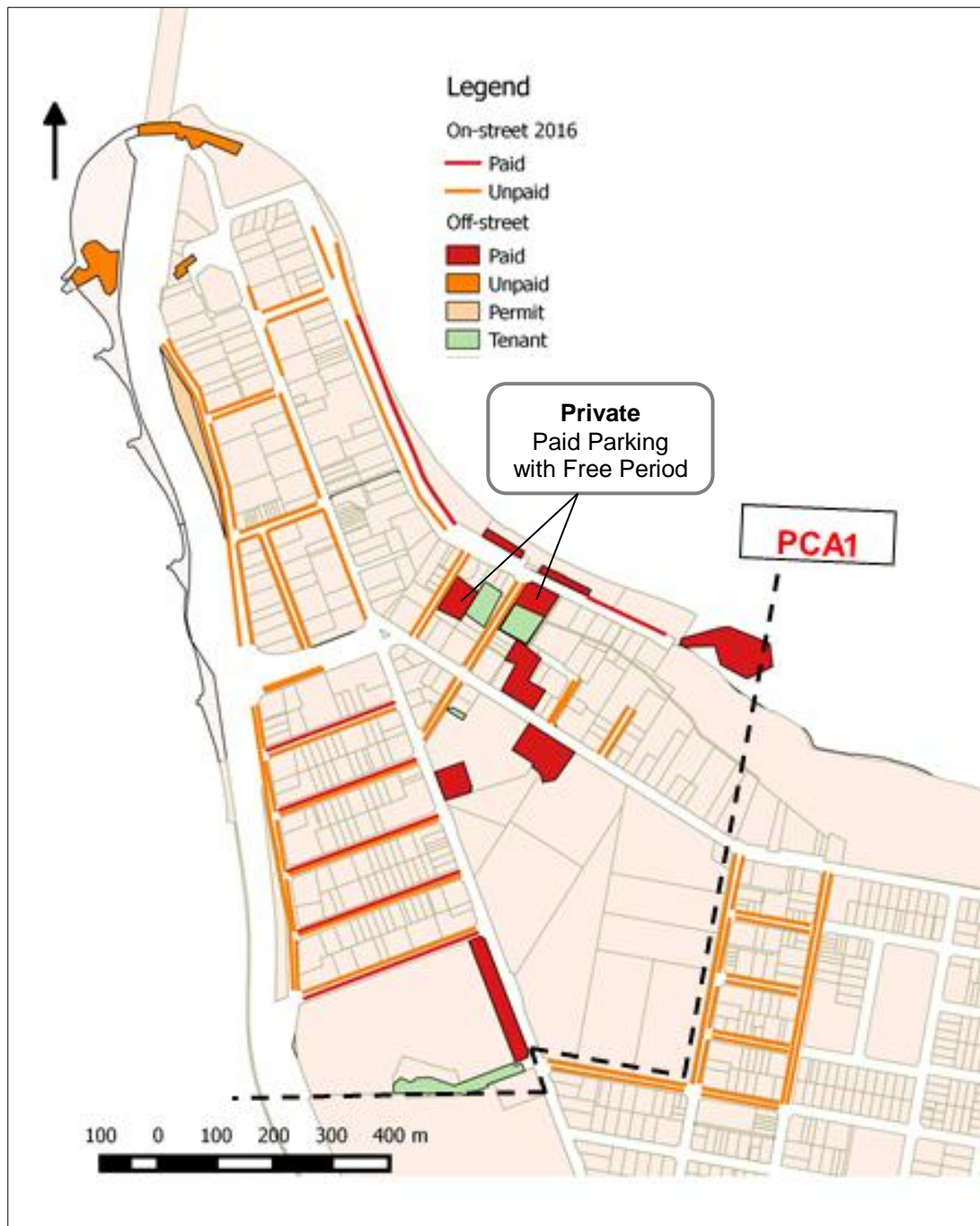
South Perth Station Precinct

APPENDIX

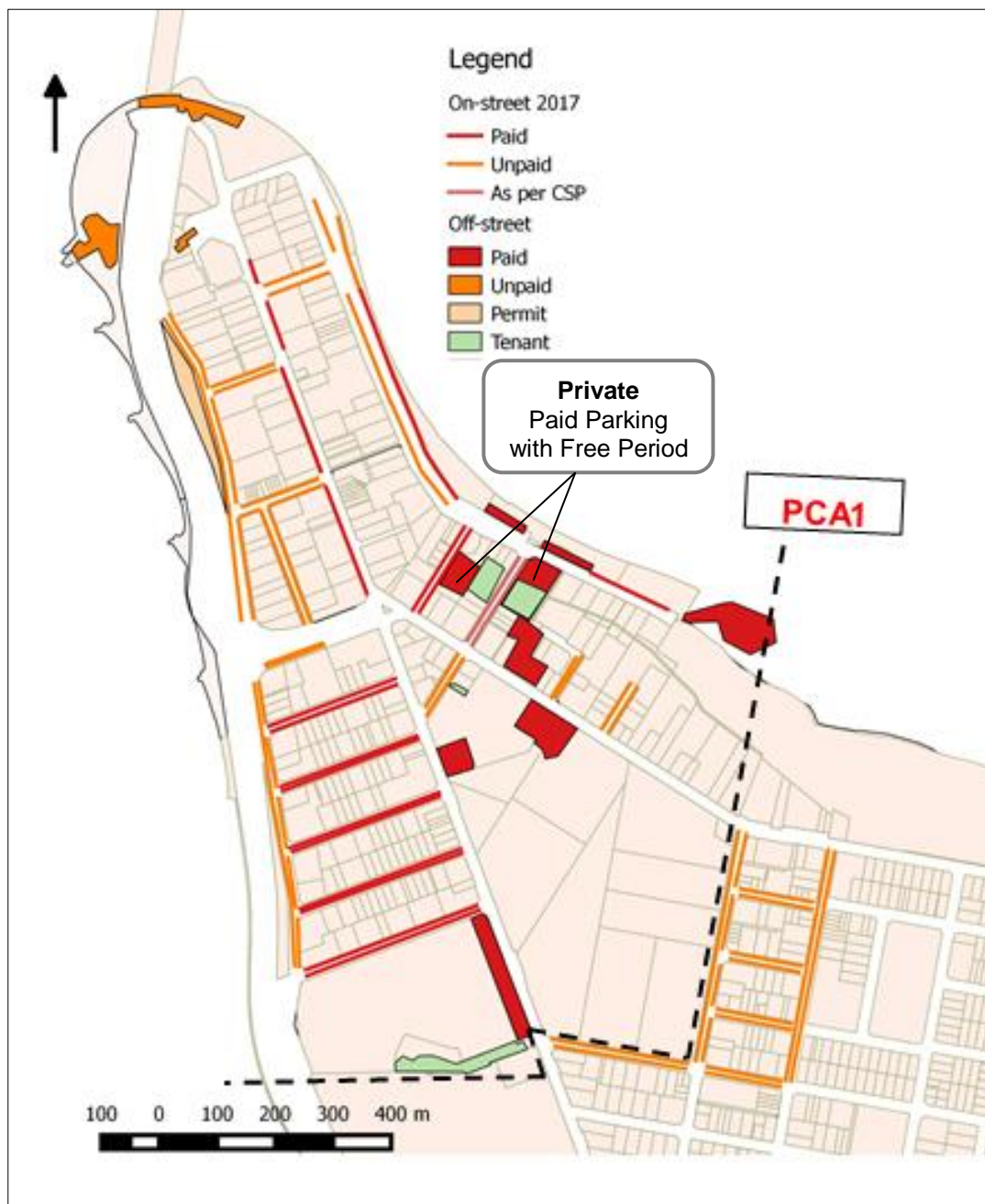
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PAID PARKING ROLLOUT

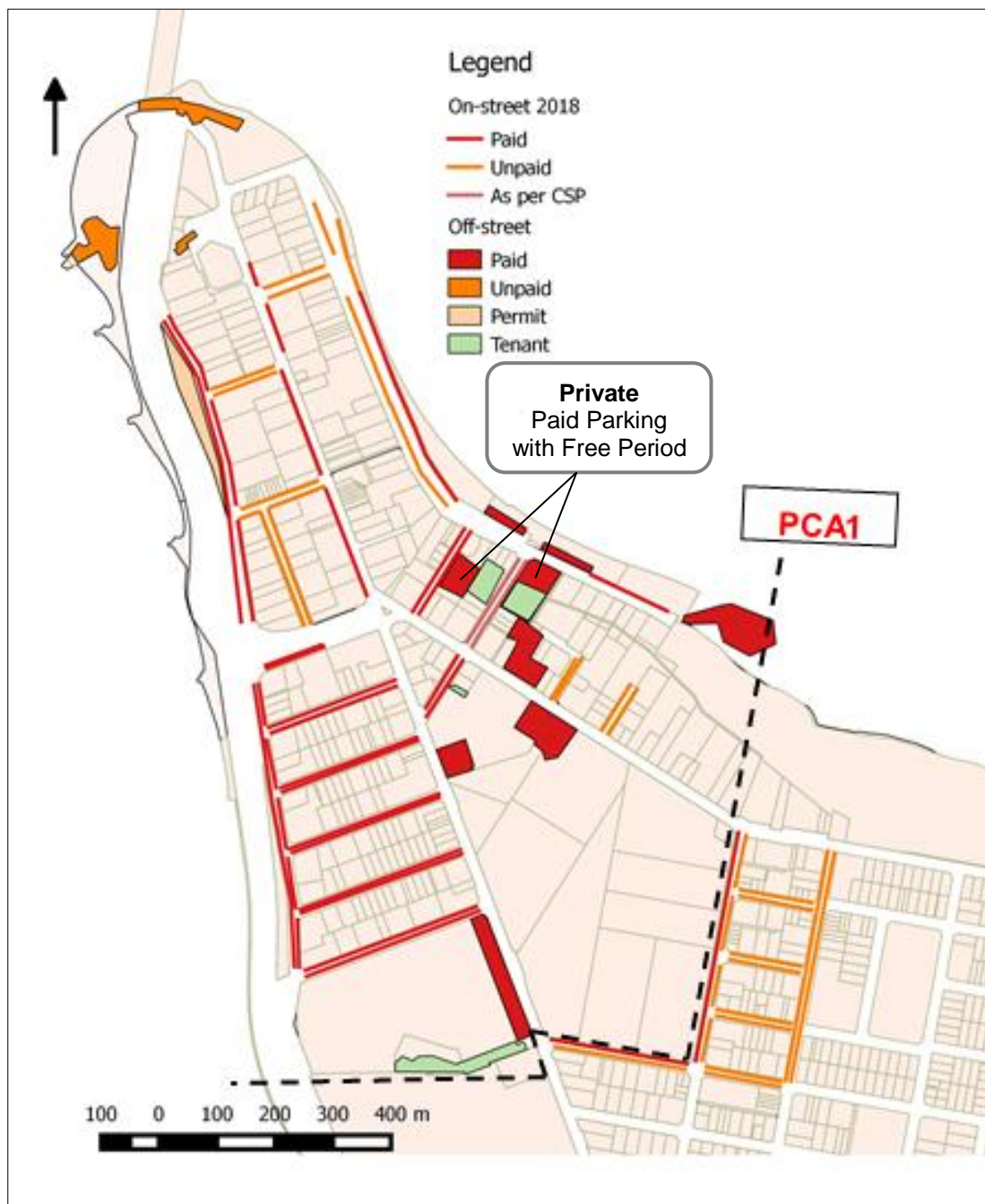
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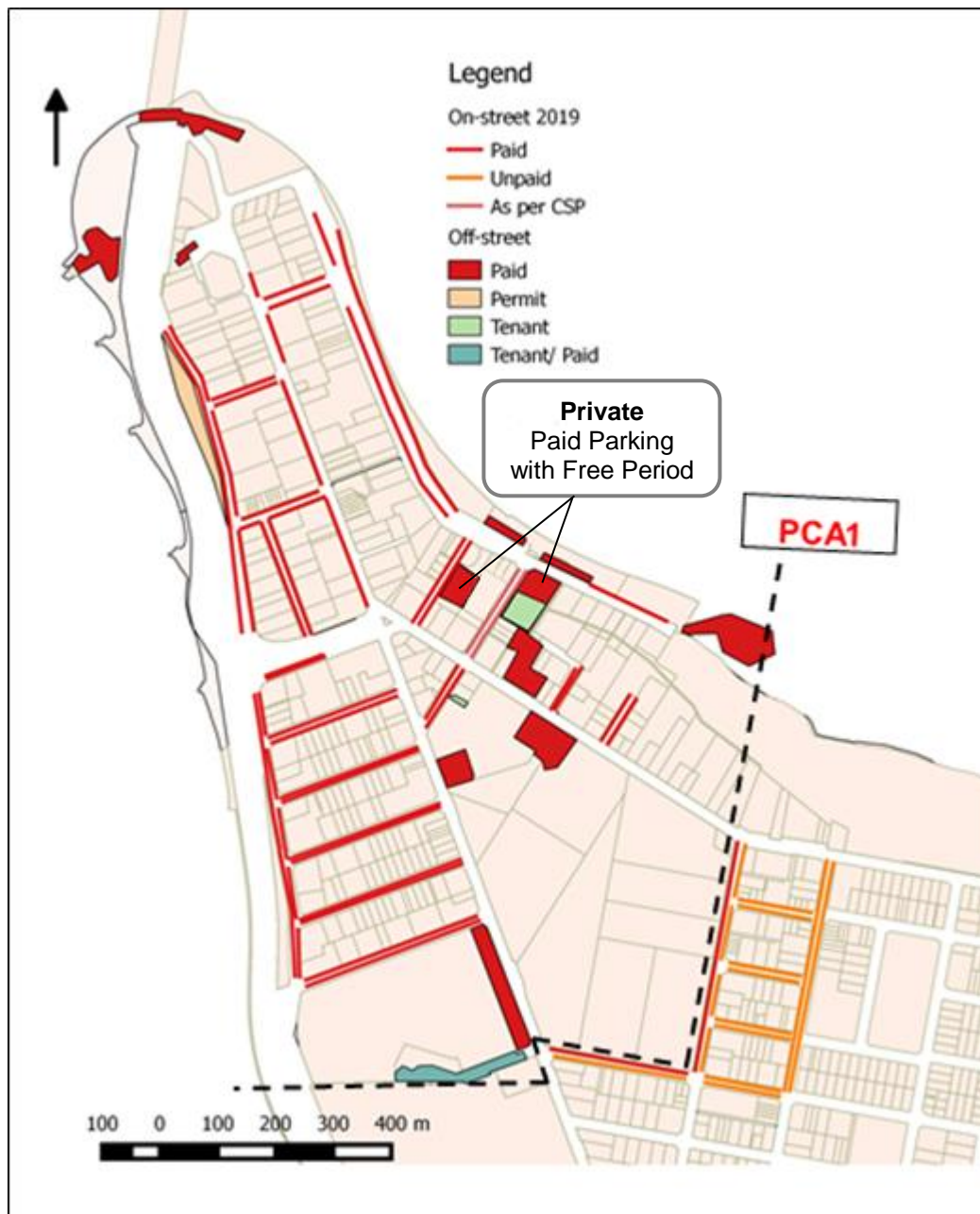
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Proposed Paid Parking for 2018/19



Proposed Paid Parking for 2019/20



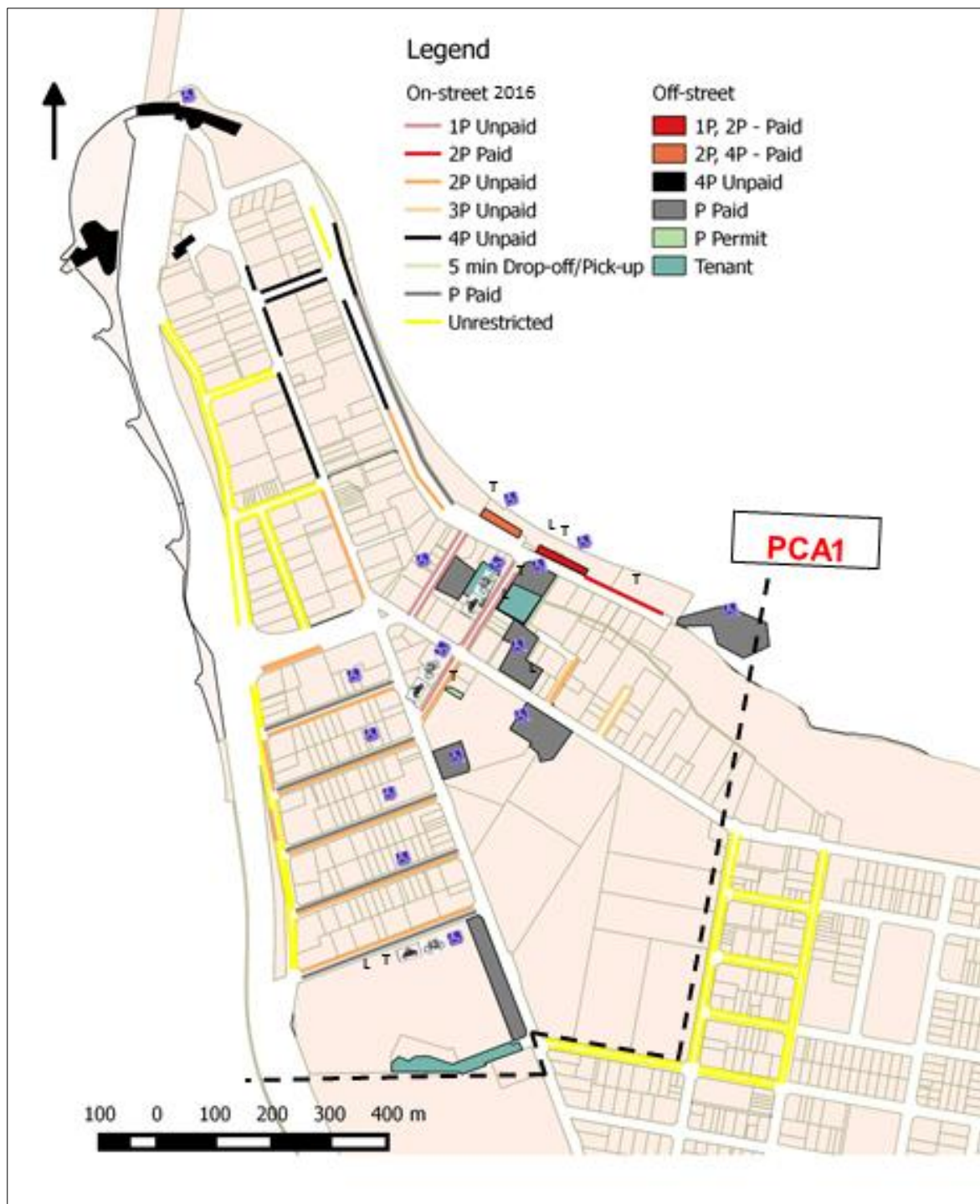
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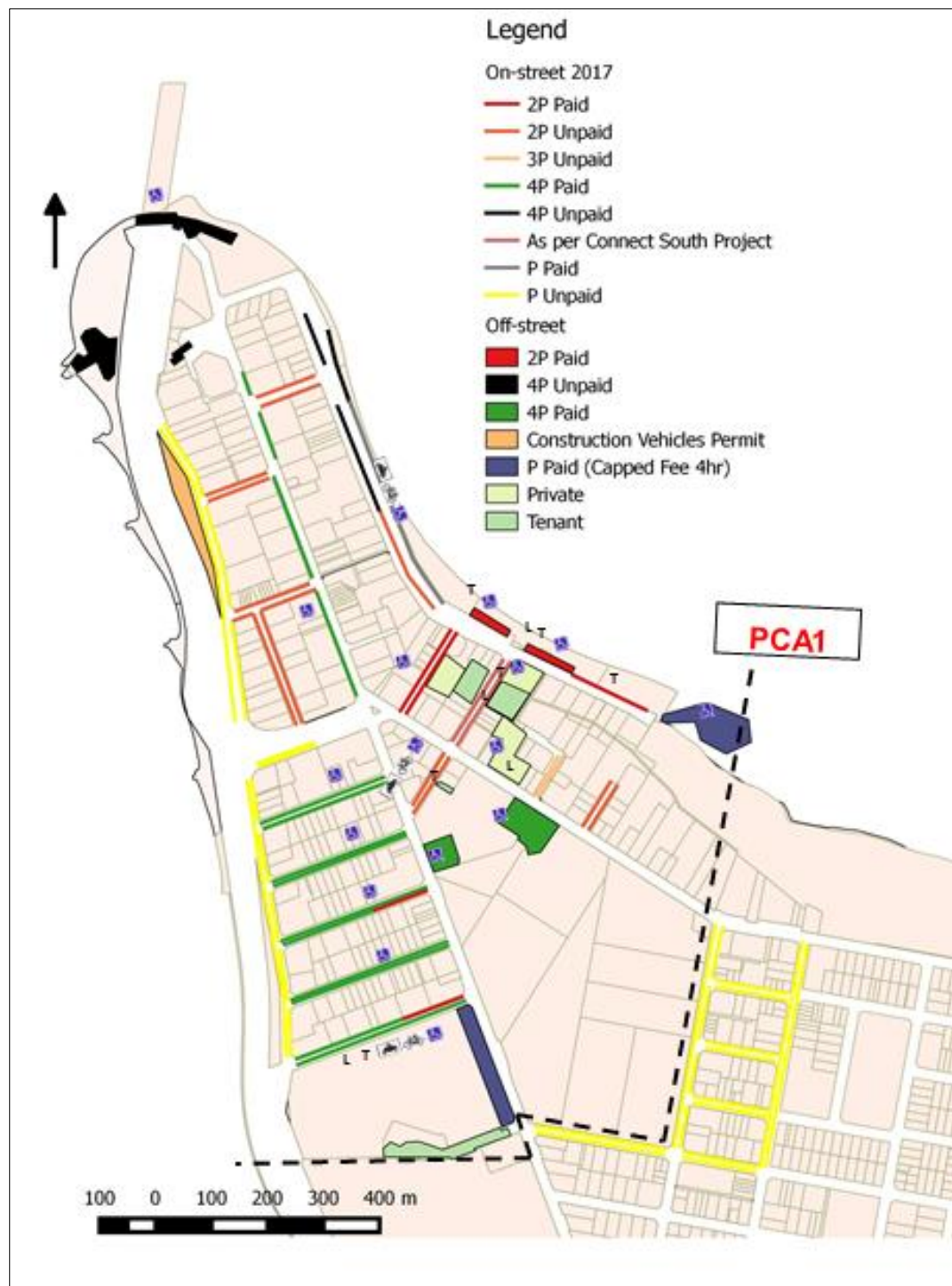
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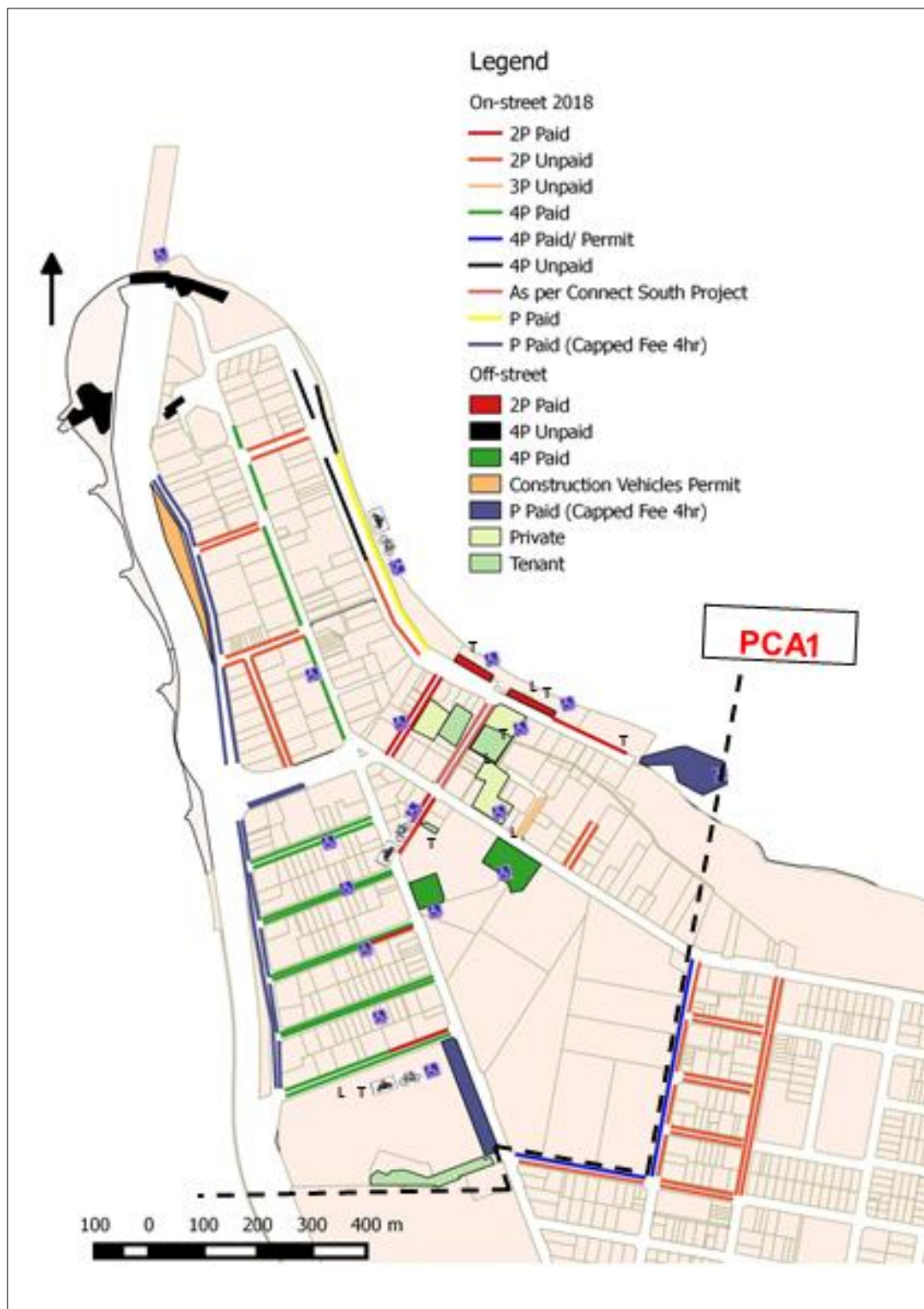
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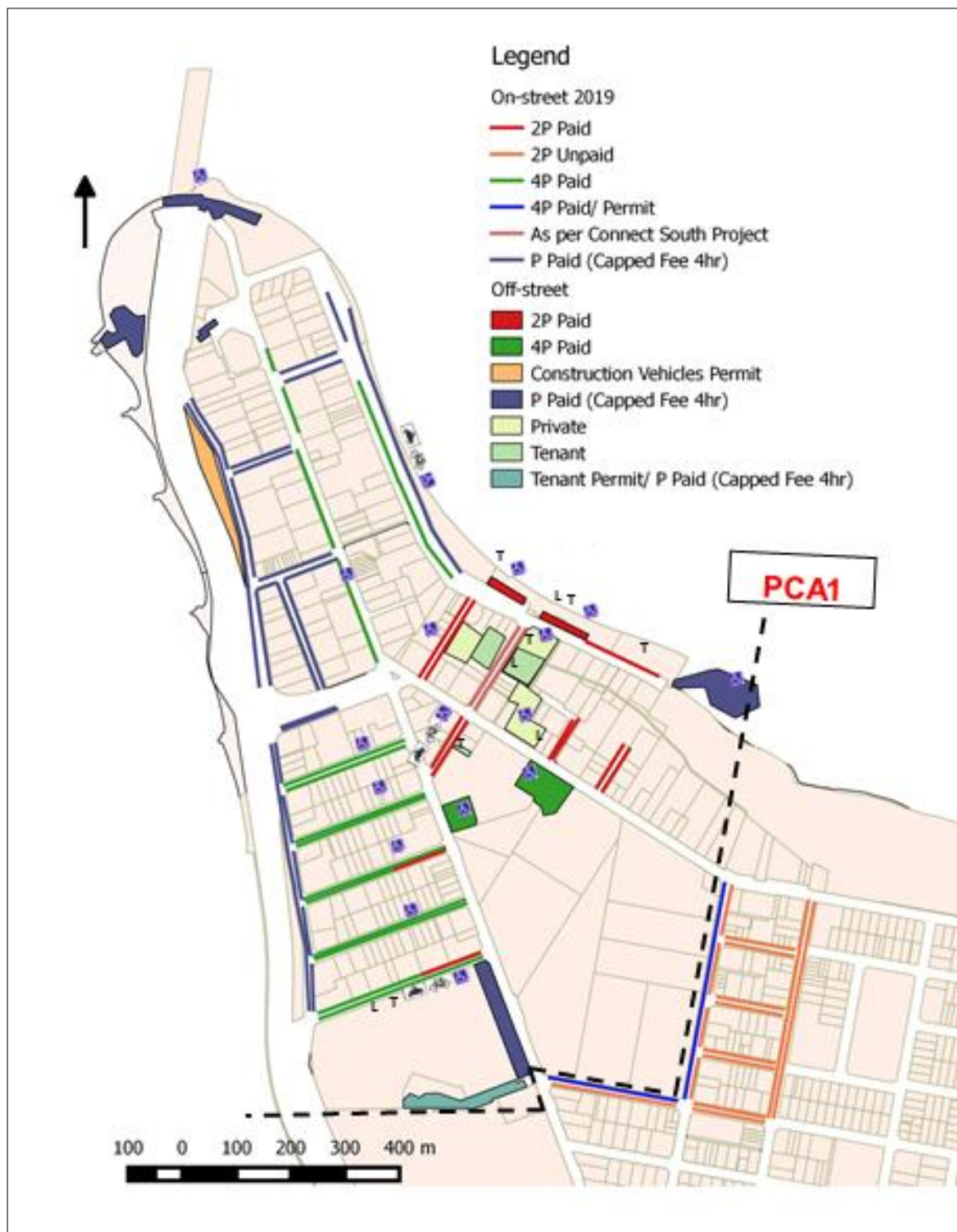
Proposed Parking for 2017/18



Proposed Parking for 2018/19



Proposed Parking for 2019/20



About Cardno

Cardno is a professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

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