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CROYDON MAJOR ACTIVITY CENTRE PARKING STRATEGY

FINAL REPORT

PREPARED FOR

MAROONDAH CITY COUNCIL

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Our Reference: GRP13547R#1

CROYDON MAJOR ACTIVITY CENTRE - PARKING STRATEGY

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OUR REFERENCE: GRP13547R#1

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EXECUTIVE SUMMARY

Traffix Group has been engaged by Maroondah City Council to develop a Parking Strategy for the Croydon Major Activity Centre. The centre is generally bounded by Dorset Road to the east, Mt Dandenong Road and the Civic and Leisure Centre Precinct to the south, Wicklow Avenue and Toorak Avenue to the east and Kitchener Road and Niel Street to the north.

This report reviews the existing relevant policies for the Croydon Activity Centre and the Croydon Parking Study in order to identify a series of potential initiatives to improve parking conditions within the centre. These generally relate to the management of parking within the centre in addition to sustainable transport initiatives to reduce the demand for parking and encourage alternative transport modes.

This report identifies the key issues to be addressed in this centre based on a review of the Croydon Parking Study prepared by Maroondah City Council in August, 2011, as follows:

- There is a significant level of parking within the Croydon Activity Centre, with a total of 6,571 spaces including 2,288 on-street parking spaces and 4,283 off-street parking spaces (both public and private).
- Overall, there is a significant level of spare capacity in the Croydon Activity Centre, with the parking surveys indicating the peak occurred at 10am on Thursday, 21st October, 2010 when 3,467 car were parked resulting in a parking occupancy of 53%. Significantly, the minimum number of spaces available at any time surveyed was 3,104 spaces.
- Much lower parking demands were observed on Saturdays, with a peak parking occupancy of 30% occurring at 10am when 1,942 spaces were occupied and 4,630 spaces were available.
- However, a number of specific areas throughout the centre have high parking demands, including Main Street, the Railway Carparks and the Civic and Leisure Centre Precinct.
- Duration of stay surveys indicate that compliance with the parking restrictions in Main Street is good, with 85.4% of vehicles observing the 1P time limits.
- A review of the land use change and growth identified in the Croydon Structure Plan, indicate that Main Street is unlikely to see any significant increase in retail floor area, although multi-story developments are predicted. The area in the vicinity of the station may provide for mixed use development (up to 4 storeys), while the Civic Precinct may rationalise the buildings in the area and improve the quality of the urban space. The Croydon market site, industrial sites to Lusher Road and residential development in general, is predicted to be self contained in terms of parking demands.
- Stakeholder consultation indicated the following key parking weaknesses and strengths of the existing parking provision in the centre:

Key Parking Weaknesses:

- Insufficient long term parking and the competing demands between commuter, staff and visitors,
- Commuter parking (demand exceeds supply and puts pressure on other resources),
- Poor way finding signage,
- Lack of 10 minute parking in Main Street,
- Lack of convenient parking in residential streets,
- Lack of disabled parking spaces,
- Issues at the Croydon Leisure and Aquatic Centre:
 - Lack of vehicle parking (particularly at peak times),
 - Lack of bus parking, and
 - Parking congestion in Birdwood Road.
- Issues at Civic Square:
 - Safety – interaction between parking and traffic flow,
 - Insufficient arrangements for staff parking,
 - 2P restrictions near Keystone Hall inappropriate, and

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- Lack of parking options for library visitors and after hours staff.

Existing Parking Strengths:

- Good mix of existing parking restrictions,
- Abundance of free parking,
- Good pedestrian access,
- Large car parks,
- Short term restrictions between 7am and 9am effectively prevents commuter parking and allows trader parking,
- Parking arrangements in Mt View street,
- Provision of commuter parking at Croydon Station, and
- 2 hour restrictions at the library/civic centre.
- Commuter interview surveys indicated the following key results:
 - Approximately 30% of commuters arrived at Croydon Station by 'Car as Driver', however significantly 'Bus' accounted for 27% of arrivals and 'Walk' accounted for 19% of arrivals,
 - 32.5% of respondents indicated that if parking conditions were further restricted at Croydon Station they would 'Park somewhere else',
 - A total of 41.9% indicated that improvements to the level of service would improve the level of usage of sustainable transport, while a total of 27.5% said they would drive regardless of the changes.

Based on a detailed review of the above information, a series of parking policies and action have been developed to manage the provision of parking in the Croydon Activity Centre as follows:

Strategy Policy 1 – On-Street Parking:

Council will manage on-street parking resources to efficiently serve the varying needs of the Activity Centre, whilst continuing to share and balance the parking resources between competing user groups.

Actions:

- Apply the adopted on-street parking hierarchy to areas with identified parking issues, as follows:
 - Level 1 – Traffic safety and vehicle access,
 - Level 2 – Accessible parking,
 - Level 3 – Council approved service vehicles/loading facilities,
 - Level 4 – Residential and short term town centre visitor demands, and
 - Level 5 – Other users (including traders, staff, students and commuters).
- As required implement and modify parking restrictions to establish a parking priority based on the adopted hierarchy,
- Council to monitor parking occupancies and community correspondence to ensure that parking is allocated to Level 2 - Level 5 users on an 'as needs' basis to improve efficiency and maximise parking opportunities for all user groups, and
- Develop and implement a residential permit parking system within the Activity Centre in accordance with Strategy Policy 5 and Strategy Policy 11.

Strategy Policy 2 – Public Off-Street Parking:

Council will manage the existing large provision of public off-street parking in a shared and balanced manner, with respect for the needs and relative importance of specific users groups to the Activity Centre.

Actions:

- Review existing parking demands in the public off-street car parks with consideration for the existing surrounding land uses and floor areas, and the Planning Scheme and empirical parking rates for the various user groups (i.e. visitors, Council approved service vehicles, activity centre medium/long term demands and external medium long term demands),
- Apply the adopted parking hierarchy as follows:
 - Level 1 – Accessible parking,
 - Level 2 – Council approved service vehicle parking,

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- Level 3 – Short term centre visitors,
- Level 4 – Activity Centre medium/long term demands (traders/students),
- Level 5 – Premium long term parking, and
- Level 6 – External medium/long term demands (commuters).
- As required, implement and modify parking restrictions to establish a parking priority based on the adopted hierarchy,
- Develop and implement a trader permit parking system within the Activity Centre in accordance with Strategy Policy 6 and Strategy Policy 11,
- Consider a level of long term ‘Premium Parking’ whilst recognising the potential impacts and parking demand shifts. Explore options to implement premium parking, and
- Council to periodically review public off-street parking demands and reallocate spaces in-line with the parking hierarchy as required.

Strategy Policy 3 – Private Off-Street Parking:

Council will ensure that private off-street carparks are planned and managed in an appropriate manner through the planning process, to support and achieve the objectives of the parking strategy.

Actions:

- Ensure all new developments/redevelopments with a significant level of private carparking available to the public are required to produce a Parking Management Plan through the planning process including consideration for:
 - An adequate level of parking management in line with the this parking strategy,
 - An adequate level of signage (both regulatory and directional),
 - Appropriate long term parking opportunities for staff, potentially through the allocation of private permits within the carparks, and
 - Adequate maintenance of private parking facilities.
- Encourage and maintain enforcement agreements with owners/operators of large public carparks on private land, and
- Develop and implement an electronic database to record Parking Management Plans and formal agreements with private carpark owners.

Strategy Policy 4 – Rail Commuter Parking:

Council does not support the reduction of commuter parking on VicTrack (State Government) Land and in principle supports mixed use development in the vicinity of the station in line with the Croydon Structure Plan (both maintaining and increasing the existing parking supply).

A level of commuter parking is considered acceptable both on-street and within public off-street carparks, provided that other user groups have been provided for (as identified in the relevant parking hierarchies).

Council should consider a level of premium parking around the Croydon Railway Station that provides for long term parking opportunities to a wide range of user groups.

Actions:

- Advocate that the State Government pursues potential opportunities to increase parking supply on VicTrack land through mixed use development, and
- Advocate that the State Government improves the bus services to Croydon Railway Station to better connect with rail services (i.e. match rail service frequencies).

Strategy Policy 5 – Resident Parking:

Council will manage on-street parking within residential areas with identified parking issues to ensure that the parking needs of existing residents and their visitors can be accommodated on-street.

Actions:

- Review existing residential parking demands in local streets with identified non-residential parking concerns,
- As required allocate parking spaces to meet residential demands through the use of time based parking restrictions with resident permit exemptions (in-line with the on-street parking hierarchy outlined in Strategy Policy 1),
- Develop and implement a residential permit parking scheme within residential streets in the activity centre to exempt residents from time based parking restrictions,

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- Limit the number of parking permits issued to new developments to encourage resident demands to be met through the provision of on-site parking and to limit the impacts to existing residents of the street,
- Allow any surplus parking resources to be shared with other user groups within the activity centre, and
- Periodically review residential parking demands and reallocate parking resources in-line with the on-street parking hierarchy presented in Strategy Policy 1, as required.

Strategy Policy 6 – Main Street Precinct Parking:

On-Street parking along Main Street should continue to serve the short term needs of visitors/customers to the centre. Public off-street parking facilities surrounding Main Street shall be managed with respect to the needs and relative importance of specific users groups to the activity centre.

Actions:

- Review existing parking demands both on-street and off-street throughout the precinct,
- Continue to allocate on-street parking along Main Street in-line with the adopted on-street parking hierarchy identified as follows:
 - Level 1 – Traffic safety and vehicle access,
 - Level 2 – Accessible parking,
 - Level 3 – Council approved service vehicles/loading facilities,
 - Level 4 – Residential and short term town centre visitor demands, and
 - Level 5 – Other users (including traders, staff, students and commuters).
- Allocate parking spaces within the public off-street car parks throughout the precinct in-line with the public off-street parking hierarchy as follows:
 - Level 1 – Accessible parking,
 - Level 2 – Council approved service vehicle parking,
 - Level 3 – Short term centre visitors,
 - Level 4 – Activity Centre medium/long term demands (traders/students),
 - Level 5 – Premium long term parking, and
 - Level 6 – External medium/long term demands (commuters).
- Consider a level of premium long term parking in off-street car parks within the precinct,
- Develop and implement a trader permit parking system within the Main Street precinct to support the allocation of spaces to traders within the off-street car parks. Allocation of trader parking permits should consider the expected parking demands under Clause 52.06 of the planning scheme, the number of staff at each business, the size of the site and the existing number of on-site parking spaces,
- Consider applications for ‘shop top’ dwellings and office space along Main Street on a case by case basis. In general, partial redevelopments (i.e. retain existing ground floor) should seek to maintain the existing level of parking and provide for all long term resident demands on-site. Any displaced trader demands can be accommodated off-street through the proposed trader permit system. Full site redevelopments should seek to provide parking in-line with the recommended Clause 52.06 rates, however, consideration should be given to small sites which may not be able to provide the full parking requirement, and
- Periodically review parking demands and reallocate parking resources in-line with the adopted parking hierarchies as required.

Strategy Policy 7 – Civic and Leisure Centre Precinct Parking:

Council will manage both on-street and public off-street parking resources to efficiently serve the specific needs of the Civic and Leisure Centre precinct, with regard for the specialised parking hierarchy developed for the precinct.

Actions:

- Allocate parking in the Civic and Leisure Centre Precinct in line with the specialised parking hierarchy as follows:
 - Level 1 – Traffic safety and vehicle access,
 - Level 2 – Accessible parking,
 - Level 3 – Council approved service vehicles/loading facilities,
 - Level 4 – Specific premium parking (i.e. Keystone Hall), and

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- Level 5 – Short term town centre visitors, and
- Level 6 – Activity Centre medium/long term demands (staff and students).

Civic Centre/Library/Keystone Hall Sub Area:

- Allocate parking in close vicinity to the entrances of the Croydon Library and Civic Centre for accessible parking and short term visitors to the centre,
- Review and investigate opportunities to provide loading and 'drop off/pick up' facilities for Keystone Hall in the small carpark immediately to the west of Keystone Hall,
- Retain existing Council pool vehicle and Wesley Mission parking in the vicinity of the civic centre, and
- Allocate remaining car spaces in the sub area as unrestricted.

Croydon Leisure and Aquatic Centre Sub Area:

- Review traffic safety along Birdwood Road and investigate an additional connection to the carpark to the west of the tennis courts via Birdwood Road,
- Consider the removal of parking spaces on the inside of the bend in Civic Square (adjacent to the south-western corner of the Leisure Centre) to improve vehicle sight lines,
- Increase the existing provision of accessible parking in the vicinity of the Leisure and Aquatic Centre entrance,
- Allocate remaining spaces in close vicinity to the Leisure and Aquatic Centre entrance for short term visitor parking demands,
- Allocate remaining car spaces in the sub area as unrestricted, and
- Review bus circulation and parking in the precinct.

Swinburne University/Town Park Sub-Area:

- Review and consider the merit of an additional building access point to Keystone Hall via the Town Park (eastern) carpark,
- Allocate parking spaces for Keystone Hall users in close vicinity to Keystone Hall, potentially through the use of medium term parking restrictions, and
- Allocate remaining car spaces in the sub area as unrestricted.

Strategy Policy 8 – Industrial Parking:

Continue to monitor parking occupancies and community correspondence and apply the adopted on-street parking hierarchy as required.

Actions:

- Review existing parking demands within the industrial areas of the Croydon Activity Centre,
- Apply the on-street parking hierarchy to give priority to visitors, customers and deliveries, and
- Allocate any remaining parking resources to unrestricted parking, principally for staff.

Strategy Policy 9 – Weekend Event Parking:

Council acknowledges that parking demands associated with weekend events may at times exceed parking capacity, however, parking facilities should not be designed to meet peak parking demands. Council will work to manage the impact of any peak weekend parking demands.

Actions:

- Liaise with event operators (i.e. sporting clubs) to develop appropriate parking locations for event participants, and
- Investigate opportunities for event temporary overflow parking to occur on nearby private land by agreement between parties.

Strategy Policy 10 – Statutory Parking Rates:

Council will adopt appropriate parking rates for new developments in the Croydon Activity Centre. The final rates recommended by the Parking Advisory Committee Clause 52.06 Parking Review (2011) should be adopted.

Strategy Policy 11 – Parking Permits:

Council will formalise and develop the existing informal permit parking scheme within the Croydon Activity Centre to allow the application of priority parking for specific user groups.

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- Develop and formulate a permit parking scheme for residents, traders and any other groups identified by Council in Strategy Policy 1, Strategy Policy 2, Strategy Policy 5, Strategy Policy 6 and Strategy Policy 7,
- Consider and review the various types of parking permits to be covered in the scheme (i.e. permits tied to individual vehicles, permits transferable between vehicles, coupon permits and residential visitor permits),
- Review and consider the specific user groups that will be eligible for permits under the scheme, and
- Consider and review the various options available for the application of the scheme (i.e. permits only valid in a particular street or on an area wide basis).

Strategy Policy 12 – Enforcement:

Council will enforce the implemented parking restrictions within the activity centre to support and achieve the aims of this parking strategy.

Actions:

- Continue to undertake parking enforcement in the high activity areas within the centre on a regular basis, including Main Street, Croydon Leisure and Aquatic Centre and large Private Carparks under agreement,
- Pursue enforcement agreements with the owners of significant private off-street parking facilities within the centre to support the aims of this parking strategy,
- Monitor parking compliance in the remaining areas within the activity centre based on community correspondence,
- Monitor staff levels to ensure that an appropriate level of parking officers are available to support the enforcement requirements of the activity centre,
- Investigate, consider and monitor various technology based solutions to minimise the resourcing requirements for parking enforcement,
- Ensure a high level of communication between Council departments to ensure that the Local Laws department is notified of any amendments to parking restrictions to ensure that enforcement occurs, and
- Implement electronic mapping software to record up to date parking capacities and parking restrictions in the Croydon Activity Centre.

Strategy Policy 13 – Connectivity, Infrastructure, Amenity and Safety:

Council will provide a system of parking facilities that are connected, safe and efficient for the users of the activity centre.

Actions:

- Ensure an adequate level of vehicle directional signage is provided to highlight the major parking facilities throughout the activity centre. Particular emphasis should be given to Main Street for vehicles entering from the south via Mt Dandenong Road and vehicles entering from the north from Coolstore Road,
- Ensure an adequate level of pedestrian wayfinding signage is included throughout the centre, particularly to guide pedestrians from parking facilities to the major destinations in the centre,
- Investigate options to provide an additional vehicle connection for the carpark at the Croydon Leisure and Aquatic Centre to Birdwood Road,
- Develop and fund pedestrian improvement works in line with the Croydon Structure Plan and the Croydon Pedestrian Priority Plan,
- Pursue funding for traffic safety improvements identified in Council's Civic Centre Parking review,
- Review personal safety for parking facilities within the centre with consideration for improvements such as additional street lighting and CCTV, and
- Consider urban design principles highlighted in the Croydon Structure Plan to improve personal safety for parking facilities in new developments.

Strategy Policy 14 – Waste Collection:

Council will manage the provision of waste collection in new developments through the planning process to ensure an adequate level of amenity and safety. For existing developments not covered by a waste management plan, Council will consider policy options/local laws to manage waste collection.

FINAL REPORT**Actions:**

- Ensure all new developments prepare a waste management plan as part of the statutory planning process to demonstrate the following items:
 - Methods to minimise the production of waste,
 - Location of bin storage,
 - Access arrangements for waste collection vehicles (including details on the type and size of vehicles expected), and
 - Specify the proposed waste collection days and times.
- Investigate and consider policy options/local laws to manage waste collection for existing developments not covered by a waste management plan.

Strategy Policy 15 – Construction Zones:

Council will apply the Construction Zone Permit Policy to the Croydon Activity Centre to manage parking demands associated with construction activities.

Strategy Policy 16 – Accessible Parking:

Council will allocate accessible parking within the commercial precincts of the Croydon Activity Centre in line with the adopted parking hierarchies.

Strategy Policy 17 – Loading Zones:

Council will allocate parking for loading activities within the commercial precincts of the Croydon Activity Centre in line with the adopted parking hierarchies.

Strategy Policy 18 – Alternative Parking Arrangements:

Council will consider and review alternative parking arrangements in new developments to ensure acceptable outcomes in line with Clause 52.06 of the Planning Scheme and AS2890.1:2004.

1. INTRODUCTION

1.1. BACKGROUND

Traffix Group has been engaged by Maroondah City Council to prepare the Parking Strategy for the Croydon Activity Centre.

This study has been initiated by the Maroondah City Council in response to the designation of Croydon as a Major Activity Centre under the Melbourne 2030 State Government Policy. On this basis, it is expected that Croydon will grow and change significantly into the future and Council has recognised the need to develop a parking strategy to address future parking needs of residents and visitors to the Croydon Activity Centre.

As part of this study, Traffix Group has reviewed the Croydon Major Activity Centre Parking Study prepared by Maroondah City Council in August, 2011. This information, along with site inspections conducted by Traffix Group, has formed the basis for developing the parking strategy for the Croydon Major Activity Centre.

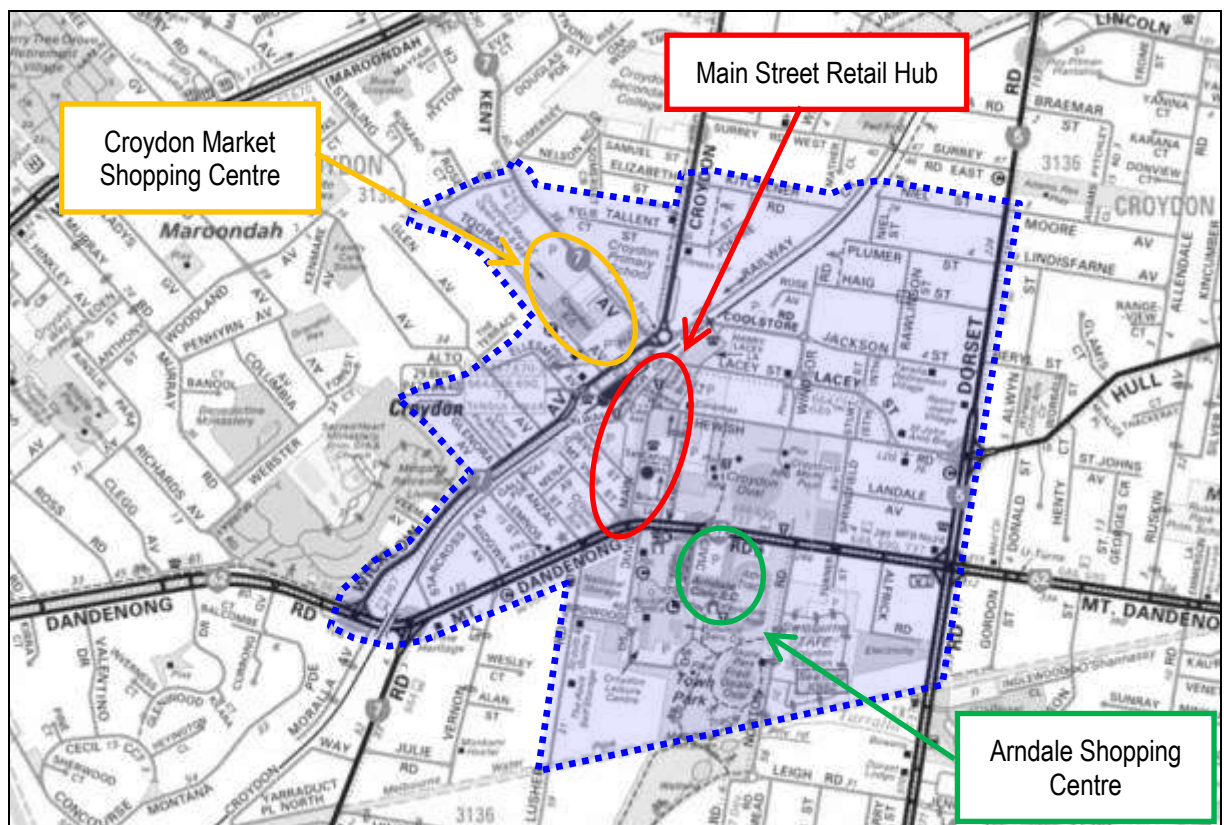
The following report outlines the study objectives, strategic context, review of parking survey data and community consultation and recommends policies and actions to address the current and future parking requirements for the Croydon Activity Centre.

1.2. STUDY AREA

The study area for the Croydon Activity Centre parking strategy is generally the same area defined within the Croydon Town Centre Structure Plan. The study area generally incorporates:

- The three commercial precincts of Main Street Shopping Centre, the Croydon Market Shopping Centre and the Arndale Shopping Centre,
- The adjoining Community and Civic area, including Croydon Oval and part of Croydon Town Park,
- The surrounding light industrial and residential areas, and
- The Croydon Railway Station and Bus interchange.

A locality plan and aerial photograph of the study area are presented in Figure 1 and Figure 2 below.



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Figure 1: Study Area – Locality Plan



Source: www.nearmap.com

Figure 2: Study Area – Aerial Photograph

1.3. STUDY OBJECTIVES

As a process of this study, Council seeks to formulate a range of policies and actions that address the future parking needs of residents and visitors to the Croydon Town Centre. Furthermore, Council seeks to gradually reduce the demand for car based travel through the management and supply of car parking. As a result, alternative modes of transport to and from the activity centre will be encouraged.

Based on the study brief and our discussions with Council's Study Manager, the primary aims of this study are to:

- Document the background to the strategy and link to the Parking Study,
- Document the strategic context, both from a Council and State Government perspective,
- Specifically detail Public and Sustainable Transport linkages within and connecting to the Croydon Major Activity Centre,
- Outline the various parking areas and present the key findings from the Parking Study with respect to the current and future parking needs, as well as the findings of the consultation with regards to perceived parking issues and needs,
- Considering the strategy objectives, define the various key elements to be considered by the strategy and recognise these as individual 'Strategy Policies' to be written as high level statements of principle, including but not limited to:
 - On Street Parking Management,
 - Public Off Street Parking Management,
 - Private Off Street Parking Management,
 - Public Transport Commuter Parking,
 - Croydon Main Street Parking – both from a trader and shopper perspective,

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- Specific use parking:
 - Maroondah Council Croydon Civic Centre and Library,
 - Swinburne TAFE,
 - Town Park,
 - Croydon Leisure and Aquatic Facility,
 - Sport related parking,
 - Other (i.e. Keystone Hall, EVs, etc.), and
 - Industrial.
- Residential Parking,
- Statutory Parking Rates,
- Parking Restrictions (by area),
- Parking Permits,
- Enforcement,
- Car park infrastructure, amenity and safety,
- Connectivity of parking zones,
- Parking Directional Signage,
- Commercial Parking Opportunities / Car Parking Contribution Fund,
- Paid Parking, and
- Garbage Collection and Construction Zones.
- With consideration to costs and Council budgets, discuss the importance of developing an 'Implementation Plan' and establish key criteria in this regard, and
- Discuss the importance of developing a 'Monitoring and Review Process' and establish some key criteria in this regard.

2. STRATEGIC CONTEXT

2.1. LOCAL GOVERNMENT POLICY

2.1.1. Maroondah Integrated Transport Strategy

The Maroondah Integrated Transport Strategy produced in February 2006, provides a guiding strategy for transport within the municipality. The strategy provides a detailed review of land use and travel generators, demographics and the demand for transport. The strategy then discusses each transport mode (road, rail, bus, bicycle, walking and community transport) across the following sections:

- Existing Network,
- Transport Issues and Responses, and
- Action Plans

The focus of the integrated transport strategy is on alternative modes to cars and therefore parking does not form a significant part of the strategy. However, the general strategies and actions are in-line with other Council strategic documents and the aim of the Croydon Parking Strategy.

2.1.2. Croydon Town Centre Structure Plan

The Croydon Town Centre Structure Plan was developed by Maroondah City Council in response to the designation of Croydon as a Major Activity Centre under Melbourne 2030. The structure plan outlines objectives, strategies and actions to guide the development of the Croydon Town Centre into the future.

The study was undertaken as a three stage process as follows:

- Stage 1 – Review of existing conditions and analysis,
- Stage 2 – Develop broad emerging directions for the town centre, and

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- Stage 3 – Development of a framework plan.

Extensive community consultation was undertaken at each stage to ensure the strategy was aligned with the community expectations and to create a level of community ownership of the project.

A review of the Stage 3 framework plan has identified a number of strategies relevant to parking (and therefore this strategy), including:

Spaces:

- Improve and upgrade the condition of the open car park spaces to make them more pleasant places to be whilst enhancing surveillance and community safety.

Access:

- Improve access for all forms of transport within Croydon Town Centre, with pedestrians, cyclists and public transport as the priorities. A long term aim should be to reduce trips to and around the Town Centre by car. This would have the benefits of improving the Town Centre's street activity and amenity.
- Improve the links and walkthroughs between Main Street and the rear car parks so that they are safer, direct and more inviting. Ensure that pedestrian pathways around and through the car parks are clearly marked and safe.

Precincts and Key Site – #7 The Station:

- Commuter parking by rail passengers appears to be approaching capacity. The allocation of additional parking spaces for all day commuter parking at the station should be considered.
- Provide adequate short term spaces for the Town Centre shoppers and visitors.
- Rationalise the bus movement and parking around the station so that it is clear and efficient and has minimal disturbance of pedestrian movement.

Precincts and Key Site – #8b Swinburne University:

- Explore ways in which the services and facilities of Swinburne could be expanded to more people of Croydon. This could range from use of the campus car park at the weekend to hobby classes for different people in the community etc.

Existing Carparking Areas:

- Encourage mixed use developments in key locations with commercial development at ground level and housing above.
- The car parking areas in the Town Centre have the potential for redevelopment to increase activity in these spaces and provide more attractive edges to the Town Centre. New developments could include the same amount of existing public car parking in addition to the parking requirements for commercial uses at the ground level and residential uses above.

2.1.3. Croydon Town Centre Pedestrian Priority Plan

Following the adoption of the Croydon Town Centre Structure Plan in July 2006, Council commissioned a study to investigate the imbalance between traffic and pedestrian priorities within the Town Centre. The Pedestrian Priority Plan (PPP) provides a roadmap for Council to redress the current imbalance in favour of private vehicle use within the Town Centre towards a situation more in favour of sustainable transport modes such as walking and cycling.

The PPP identifies the key problems for pedestrians in the Croydon Activity Centre and provides a program of actions to address them. The PPP also includes a DDA Review of the existing assets within the Croydon Activity Centre.

The PPP brings all the individual capital works projects and other initiatives into one plan that will act as a guide for Council as it works towards the completion of the pedestrian network. This will enable Council to prioritise the many and varied initiatives, recommended by the Croydon Structure Plan and other Council policies and strategies.

While the PPP focuses on pedestrian movements, it also includes initiatives to improve the cycle network within the Croydon Town Centre. These cycling improvements are not intended to form a comprehensive cycle strategy.

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Following the development of the PPP, Council has progressed with a number of projects to improve pedestrian facilities in the activity centre as follows:

Completed Projects:

- Devon Street Carpark – Footpath Construction (Completed 2010),
- Civic Square Carpark – Path Upgrade, Zebra and Pram Crossings (Completed 2008),
- Croydon Oval – Shared Path Upgrade/Carpark Linking (Completed 2008), and
- Jackson Walk/Croydon Station – Zebra Crossing and Path (Completed 2008).

Funded Projects:

- James Kerr Way Carpark – Pedestrian Crossing and Footpath Connections (to be built 2011/2012).

Unfunded Projects:

- Wicklow Avenue/Kent Avenue/Croydon Road – Pedestrian Improvements.

2.2. STATE GOVERNMENT POLICY

2.2.1. A New Melbourne Metropolitan Planning Strategy

The current Liberal/National coalition State Government has committed to the preparation of a new Melbourne Metropolitan Planning Strategy over the next two years. The study aims to manage Melbourne's growth and change and contribute to an overall vision for the state.

The study will consider a number of issues including:

- Housing choice,
- Transport accessibility,
- Economic growth,
- Environmental protectionism, and
- Infrastructure and services to protect growth.

The study will be initially be reviewed by the Planning Minister and the Minister for Public Transport and Roads with public consultation to follow.

In the interim period before the new strategy is complete, planning decisions should have regard to the State Planning Policy Framework of which includes number of objective and strategies to guide planning on a state wide basis. Policies from the previous State Government such as Melbourne 2030 and Melbourne @ 5 million are still referenced as 'Policy Guidelines' within Clause 18 of the Planning Scheme.

2.2.2. State Planning Policy Framework

The state planning policy framework provides guiding objectives and strategies for planning within Victoria. Clause 18 is specifically related to transport, with Clause 18.02-5 relating to parking. The objectives and strategies of Clause 18.02-5 that are relevant to this strategy are presented below:

Objective:

'To ensure an adequate supply of car parking that is appropriately designed and located.'

Strategies:

'Allocate or require land to be set aside for car parking subject to the existing and potential modes of access including public transport, the demand for off-street car parking, road capacity and the potential for demand management of car parking.'

Encourage the efficient provision of car parking through the consolidation of car parking facilities.

Prepare or require parking precinct plans for the design and location of local car parking to-

- *Protect the role and function of nearby roads, enable easy and efficient use and the movement and delivery of goods.*
- *Achieve a high standard of urban design and protect the amenity of the locality, including the amenity of pedestrians and other road users.*

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- Create a safe environment, particularly at night.
- Facilitate the use of public transport.

Protect the amenity of residential precincts from the effects of road congestion created by on-street parking.

Plan adequate provision for taxi ranks as part of activity centres, transport interchanges and major commercial, retail and community facilities.'

2.2.3. Melbourne 2030 & Melbourne @ 5 Million

Released in 2002, Melbourne 2030 provides a long-term plan for future growth in Melbourne and the surrounding region. The strategy proposes to integrate land-use and transport policies around activity centres to create a balanced and workable city. The Activity Centres implementation plan aims to concentrate a mix of uses in activity centres to reduce reliance on private motoring and encourage a higher use of more sustainable transport modes such as walking, cycling and public transport. As growth has been occurring faster than was originally anticipated in 2002, Melbourne @ 5 Million was released in 2008 as an update to Melbourne 2030. Melbourne @ 5 Million incorporates a number of policy refinements that are complementary to the directions of Melbourne 2030 to accommodate the increased growth.

Travel demand management initiatives are being implemented to support the Victorian Government's 20/2020 goal to increase public transport's share of motorised travel from 9 per cent to 20 per cent by the year 2020. Some initiatives have particular application to activity centres including Green Travel Plans such as TravelSMART Communities and Work.

Travel demand management and behavioural change will be important tools in achieving this goal, but these changes will not occur without intervention to deter the use of the private car.

One such disincentive to use the private car is parking management, whereby the level of parking provision is purposely limited to encourage staff of commercial developments and residents to consider other travel modes. This has other benefits such as reduced traffic generation/congestion, increased health and reduced environmental impacts associated with private car use.

Alternative modes of transport need to be competitive with the single-occupant motor vehicle. It is also important to recognise that the associated cost of travel is a significant contributing factor in mode choice.

These travel demand initiatives are supported by the implementation plan for Integrated Transport in Melbourne 2030, which sets out actions to encourage sustainable travel. These include the development of a Travel Demand Action Plan and support for organisational and site-specific Green Travel Plans for major employment generators.

Croydon was identified as a Major Activity Centre in Melbourne 2030. The implications for Croydon Activity Centre include an expectation of an increased concentration of development within the Activity Centre, including mixed use development comprising commercial (retail, office, etc) and medium/higher density residential development within the boundary of the centre and its periphery. This can be expected to place increasing pressure on parking resources as a new development will not necessarily be able to accommodate all of its demand on-site and will rely on a centre-based approach to parking provision which is supported by the relevant policies. This will require a review of the current and future provision and management of parking resources within the centre.

2.2.4. Review of Clause 52.06

The Parking Provisions of the Victorian Planning Provisions are expected to be amended based on the recommendations of the Parking Advisory Committee 2011.

The changes seek to address a number of deficiencies in relation to the previous version of Clause 52.06, particularly with respect to:

- Removing the need for a permit when a change of use does not increase demand for car parking to that of the existing use. This helps to reduce the number of permits triggered by the a 'change in use' and aids in providing a more simple planning process,

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- Updating parking requirements more in line with empirical rates (i.e. actual demands). This provides more realistic rates and reduces the need for developments requiring a permit for parking dispensation. It also assists with issues associated with the community's perception/expectations for parking dispensation levels which is often a significant issue with dispensation for retail uses as the previous rates were unnecessarily high,
- Reduced car parking rates in business zones and the Activity Centre Zone, which aims to support a shift towards more sustainable modes in locations where alternative transport options are available,
- Clearer decision guidelines about matters to be taken into account before car parking requirements are reduced, and
- Greater emphasis on urban design matters including additional design guidelines to improve the final outcome of carparking within the overall urban fabric.

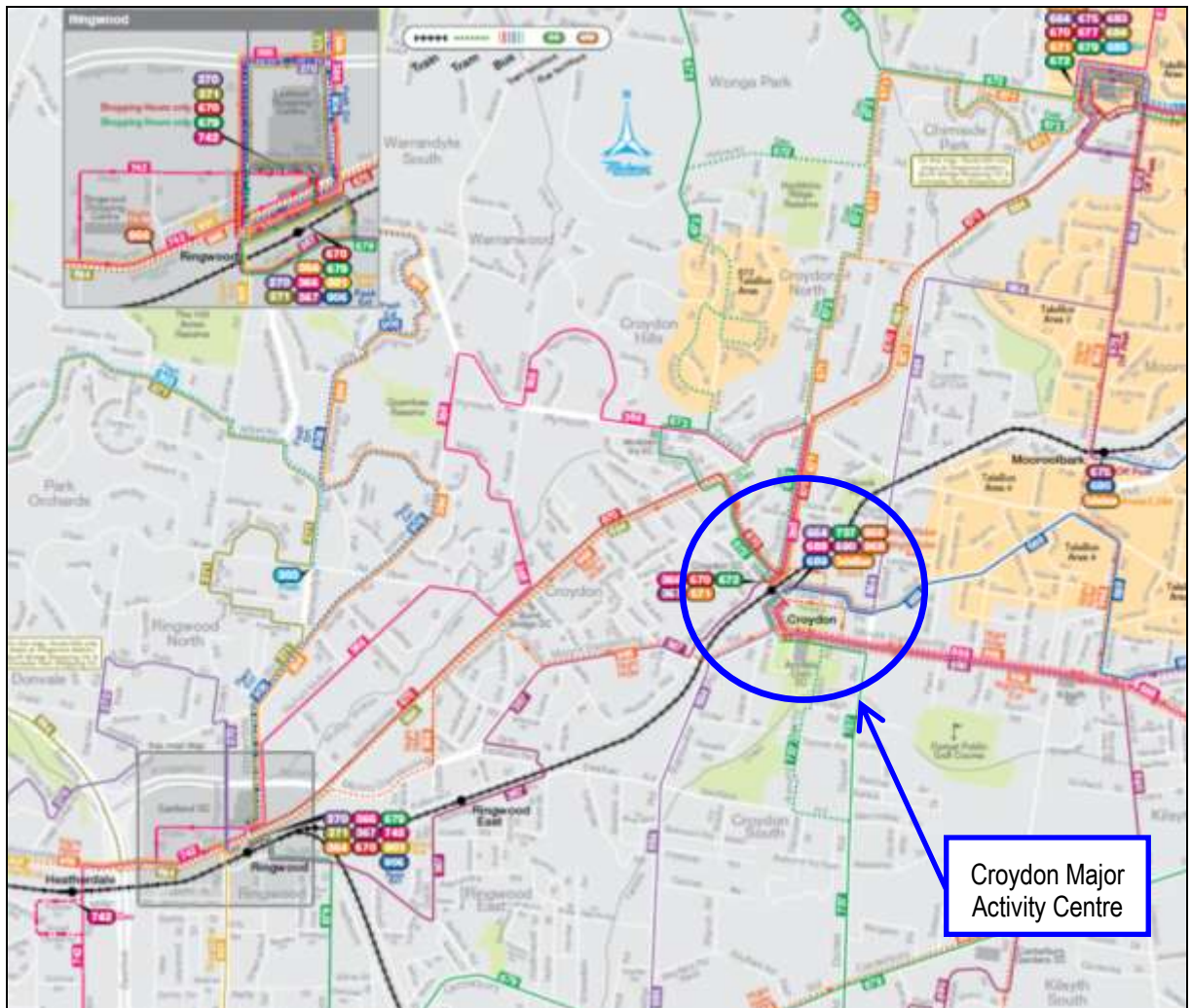
Under the new Clause 52.06, a Parking Overlay will be used to allow local variations to Clause 52.06. This will allow the following:

- Revise parking rates and provisions for a local area,
- Localise design requirements and decision guidelines for car parking plans,
- Implement clearer and more transparent 'cash-in-lieu' arrangements where parking requirements cannot be met on the land,
- Require a permit to exceed a specified parking rate, and
- Identify the local area on a planning scheme map.

3. PUBLIC AND SUSTAINABLE TRANSPORT

3.1. PUBLIC TRANSPORT

The Croydon Activity Centre provides for a high level of public transport including train and bus services that generally originate from the Croydon Railway Station. Figure 3 below presents the various services operating within the Croydon Activity Centre.



Source: www.metlinkmelbourne.com.au

Figure 3: Croydon Activity Centre – Public Transport Services.

The following sections provide an overview of the specific train and buses services in the study area.

3.1.1. Trains

Croydon Railway Station is located on the Lilydale Line of the Melbourne Metropolitan Rail Network. The station is located approximately 29.8km from the Melbourne CBD with travel times to Finders Street of approximately 58 minutes for general services and approximately 49 minutes for express services (operating through the City Loop).

Croydon Station is a premium station located within Zone 2 of the metropolitan ticketing system, with staff at the station between the first and last service, Monday to Sunday.

A summary of the services provided at Croydon Railway Station as provided in Table 1 below.

Table 1: Croydon Railway Station – Rail Services

Time Period	To Lilydale			To City		
	No. Services	Services/hour	Average Headway (min)	No. Services	Services/hour	Average Headway (min)
Monday to Friday						
First Service to 6:00am	1	1.0	-	3	2.0	31
6:00am - 9:00am	9	3.0	21	15	5.0	12
9:00am – 4:00pm	14	2.0	29	15	2.1	28
4:00pm – 7:00pm	15	5.0	12	9	3.0	19
7:00pm to Last Service	16	2.3	26	13	1.9	26

3.1.2. Buses

A number of bus services operate in the Croydon Activity Centre, with the majority originating/terminating at the Croydon Railway Station. A summary of the bus services within the activity centre are presented below:

Northern Bus Interchange:

- **Bus Route 366** provides a service between Ringwood and Croydon via Croydon Hills. Services generally operate every 20-30 minutes throughout the day (Monday to Friday) with additional services between 3:30pm and 4:30pm to cater for the school peak period. The last service departs Croydon Station at 11:33pm (Monday to Friday). Saturday services operate every 50 minutes with the last service at 5:20pm and Sunday Services operate every 120 minutes with the last service at 5:37pm.
- **Bus Route 367** provides a service between Ringwood and Croydon via Ringwood East. Services generally operate every 15-30 minutes throughout the day (Monday to Friday) with additional services between 3:30pm and 4:30pm to cater for the school peak period. The last service departs Croydon Station at 7:51pm (Monday to Friday). Saturday services operate every 50 minutes with the last service at 6:31pm and Sunday Services operate every 120 minutes with the last service at 4:50pm.
- **Bus Route 670** provides a service between Ringwood and Swinburne University (Lilydale), via Croydon and Chirnside Park. Services generally operate every 15 minutes throughout the day from Monday to Friday. The last service departs Croydon Station at 10:01pm (Monday to Friday). Saturday services operate every 40 minutes with the last service at 9:17pm and Sunday Services operate every 60 minutes with the last service at 9:56pm.
- **Bus Route 671** provides a service between Croydon and Chirnside Park, via Warriem Road and Patrick Street. Services generally operate every hour throughout the day from Monday to Friday. The last service departs Croydon Station at 7:25pm (Monday to Friday). Saturday services operate every 90 minutes with the last service at 11:42am. No Sunday Services operate.
- **Bus Route 672** provides a service between Croydon and Chirnside Park, via Wonga Park and Croydon Hills. Services generally operate every hour throughout the day from Monday to Friday with additional services during both the AM and PM peak periods. The last service departs Croydon Station at 6:55pm (Monday to Friday). Saturday services operate every 90 minutes with the last service at 12:22pm. No Sunday Services operate.

Southern Bus Interchange:

- **Bus Route 664** provides a service between Chirnside Park and Knox City, via Croydon and Bayswater. Services generally operate every 15-30 minutes throughout the day from Monday to Friday. The last service departs Croydon Station at 9:32pm (Monday to Friday). Saturday services operate every 40-50 minutes with the last service at 9:45pm and Sunday Services operate every 60 minutes with the last service at 9:30pm.
- **Bus Route 688** provides a service between Croydon and Upper Ferntree Gully, via Olinda and Tremont. Services generally operate every 20-45 minutes throughout the day from Monday to Friday. The last

service departs Croydon Station at 9:08pm (Monday to Friday). Saturday services operate every 55-60 minutes with the last service at 9:08pm and Sunday Services operate every 60 minutes with the last service at 9:10pm.

- **Bus Route 689** provides a service between Croydon and Montrose, via Hawthorn Road and Durham Road. Services generally operate every 30-60 minutes throughout the day from Monday to Friday. The last service departs Croydon Station at 6:55pm (Monday to Friday). Saturday services operate every 60 minutes with the last service at 5:00pm. No Sunday Services operate.
- **Bus Route 737** provides a service between Croydon and Monash University, via Boronia, Knox City and Glen Waverley. Services generally operate every 15-40 minutes throughout the day from Monday to Friday. The last service departs Croydon Station at 9:04pm (Monday to Friday). Saturday services operate every 40 minutes with the last service at 9:08pm and Sunday Services operate every 40-50 minutes with the last service at 9:00pm.
- **Bus Route 690** provides a service between Croydon and Boronia, via Kilsyth, Canterbury Gardens and Kilsyth South. Services generally operate every 20-50 minutes throughout the day from Monday to Friday. The last service departs Croydon Station at 8:50pm (Monday to Friday). Saturday services operate every 60 minutes with the last service at 8:56pm and Sunday Services operate every 60 minutes with the last service at 8:55pm.
- **TeleBus Area 4** operates a variable service from Mooroolbark Station to Croydon Station with a variable route to service properties between the two stations. Users contact a call centre to book a 'pick up' from the Telebus service. Services operate every 40-60 minutes Monday to Friday, with the last service departing Croydon Station at 7:15pm. Saturday services operate every 60 minutes with the last service at 5:00pm. No Sunday Services operate.
- **NightRider Route 966/968** provides a service between the City and Croydon/Lilydale. Services operate every 30 minutes from the CBD between 1:30am and 4:30am on Saturdays and 1:30am and 5:30am on Sundays.

The Croydon Parking Study presented results of commuter intercept surveys, which asked rail commuters entering the platforms at Croydon Station a number of questions in relation to transport and parking. Significantly, 26.9% of all interview responses indicated that they utilised a bus service to arrive at the station, which is in line with the proportion that drive and park at the station (29.6%).

Rail commuters were also asked what improvements would encourage more sustainable transport. A total of 41.9% of responses indicated that improved bus frequency, rail co-ordination, operating hours and reliability would encourage them to choose more sustainable transport options.

A full summary of the commuter interview surveys from the Croydon Parking Study are presented in Section 4.3.5.

3.1.3. Train and Bus Integration

The Croydon Parking Study performed a review of the integration between train and bus services. The review was based around the ratio of buses to train services for each route operating at the Croydon Railway Station. In summary, the level of integration for each route was designated as either:

- Excellent Integration – Greater than 50% buses to trains (i.e. two trains for each bus service) in each peak period,
- Good Integration – Greater than 50% buses to trains in one peak period and less than 50% buses to trains in the other peak period
- Poor Integration – Less than 50% buses to trains in each peak period.

The review indicated that out of a total 11 bus services operating from Croydon Station, 5 had excellent integration (Routes 366, 664, 670, 688 & 737), 3 had good integration (Routes 367, 671 & 672) and 3 had poor integration (Routes 689, 690 & Telebus Area 4).

In general, the connectivity between buses and trains, particularly in the morning and evening peak periods, is good. However, the services that are rated as 'good' and 'poor' are potentially limiting the level of public transport patronage to the Croydon Activity Centre.

As indicated in Section 3.1.2 above, the rail commuter interview surveys indicated that 40.9% of responses cited improved bus frequency, rail co-ordination, operating hours and reliability as an improvement that would encourage more sustainable transport choices.

In view of the above, improved frequency and integration of the bus services at Croydon Railway Station is likely to lead to higher public transport usage and therefore lower parking demands.

3.2. SUSTAINABLE TRANSPORT

3.2.1. Cycling and Walking

The Croydon Activity Centre has a network of existing pedestrian facilities, particularly footpaths constructed historically as development has occurred. The Pedestrian Priority Plan prepared by Council in 2009 highlighted a number of shortcomings of the existing network and identified a number of proposals to improve pedestrian facilities. It is noted that Council has completed construction of a number of items listed in the PPP, with planning and design of additional measures currently in progress.

Existing dedicated cycling facilities within the Croydon Activity Centre are limited, with only a handful of bicycle lanes and shared paths provided. However, the Croydon Activity Centre Parking Study prepared by Council highlights the proposed and existing bicycle routes within the Croydon Activity Centre. The existing bicycle routes within the Croydon Activity Centre are as follow:

On-Road:

- Hewish Road, between Main Street and Dorset Road,
- Norton Road, between Mt Dandenong Road and Leigh Road, and
- Dorset Road, South of Mt Dandenong Road.

Off-Street:

- Tarralla Creek Trail

A diagram of the proposed and existing bicycle network in the vicinity of the Croydon Activity Centre (as presented in the Croydon Parking Study report prepared by Council) is provided at Figure 4 below.

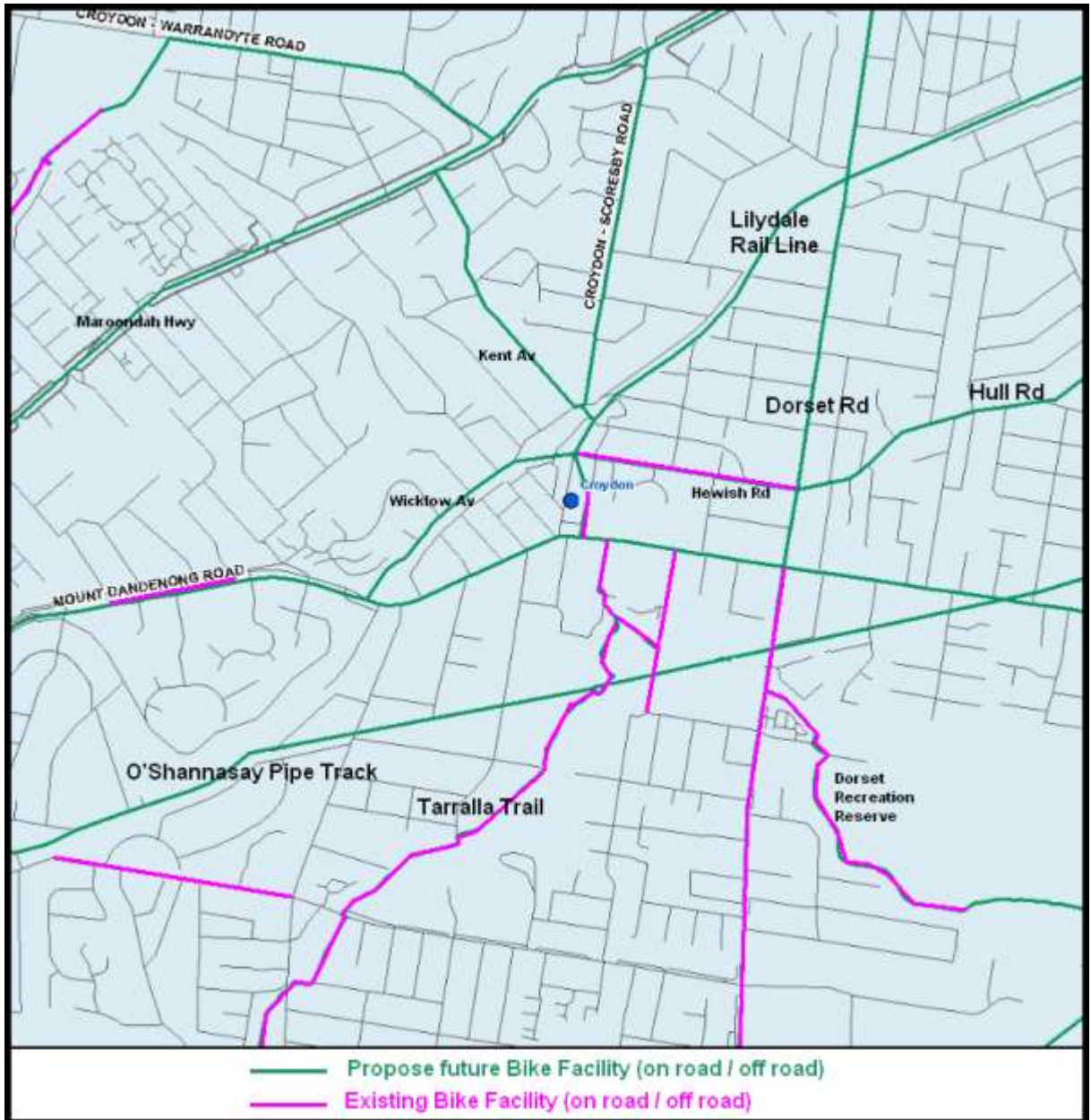


Figure 4: Proposed and Existing Bicycle Facilities in the Croydon Activity Centre

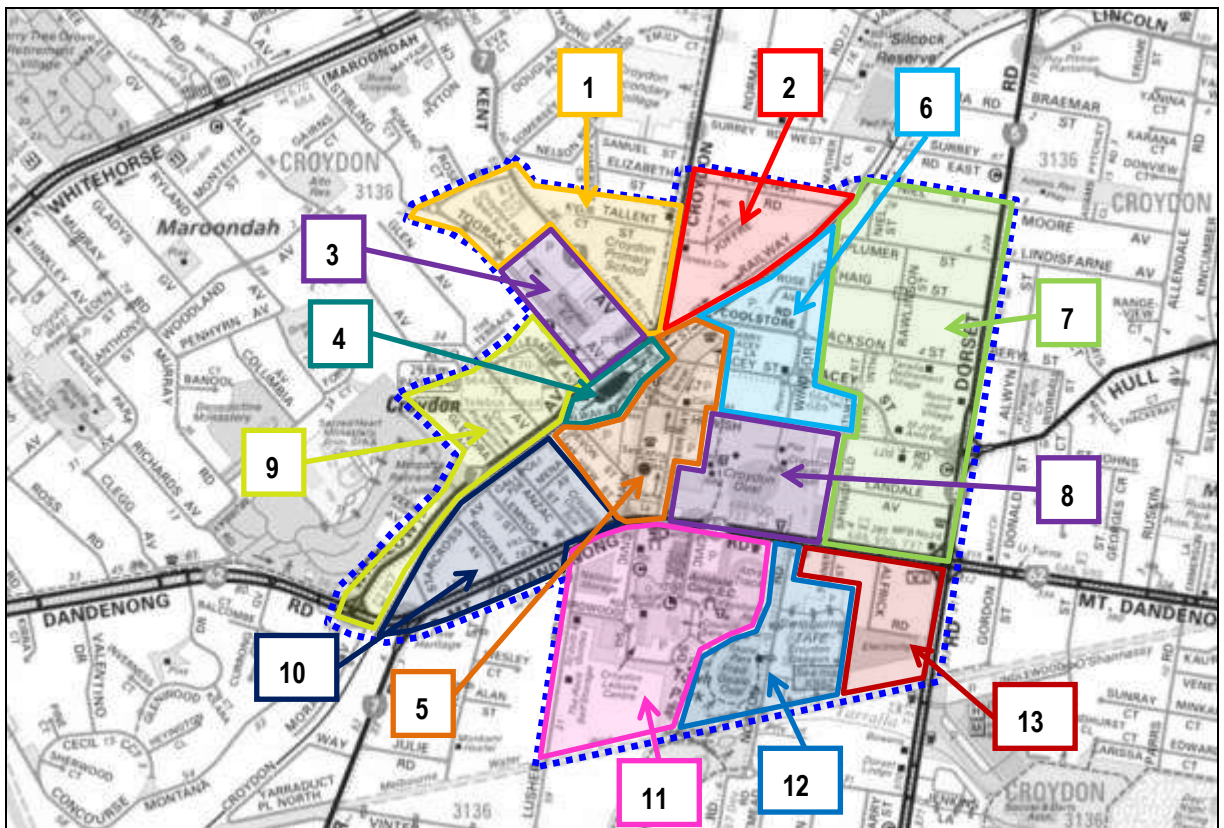
The review of the existing walking and cycling networks indicates that a basic system exists that supports walking and cycling within the centre. Full development of the walking and cycling network as indicated in Figure 4 would support additional cycling to the centre, furthermore, full implementation of the pedestrian improvement projects identified in the Pedestrian Priority Plan would enhance the level of walking in the centre.

4. REVIEW OF CROYDON ACTIVITY CENTRE PARKING STUDY

Maroondah City Council prepared a parking study for the Croydon Activity Centre in August 2011. The parking study included commuter interview surveys, review of the existing parking conditions, detailed parking surveys, stakeholder surveys and a review of the expected future parking demands. The following sections review the surveys undertaken and present the key findings for the study area.

4.1. PARKING PRECINCTS

The entire study area contains a total of 6,571 parking spaces, including 2,288 on-street parking spaces and 4,283 off-street parking spaces (both public and private). The parking study prepared by Council did not separate the study area into individual precincts, however, for the purpose of this parking strategy the study area has been divided into 13 precincts as presented in Figure 5 below.



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Figure 5: Parking Precincts

The precincts were selected to divide the various parking areas in the Croydon Activity Centre and have been based around the land use within the Activity Centre.

The approximate number of parking spaces within each of the precincts is presented in Table 2 below.

Table 2: Adopted Precincts - Parking Capacities

Precinct	On-Street Spaces	Off-Street Spaces (Public and Private)	Total Spaces
Precinct 1	120	54	174
Precinct 2	199	155	354
Precinct 3	48	793	841
Precinct 4	0	214	214
Precinct 5	295	1,056	1,351
Precinct 6	102	657	759
Precinct 7	493	93	586
Precinct 8	71	125	196
Precinct 9	210	35	245
Precinct 10	301	168	469
Precinct 11	317	690	1,007
Precinct 12	43	204	247
Precinct 13	89	39	128
Total Study Area	2,288	4,283	6,571

4.2. DATA COLLECTION

The data collection component of the Croydon Parking Study included the following parking surveys:

Parking Occupancy Surveys (whole activity centre):

- Thursday, 21st October, 2010 at 10:00am, 1:00pm, 4:00pm and 9:00pm
- Saturday, 23rd October, 2010 at 10:00am and 2:00pm.

Duration of Stay Surveys (Full length of Main Street):

- Thursday, 21st October, 2010 between 8:00am and 5:00pm with a 1 hour cycle time

Duration of Stay Surveys (Croydon Leisure and Aquatic Centre Precinct):

- Thursday, 21st October, 2010 between 7:00am and 9:00pm with a 1 hour cycle time

Duration of Stay Surveys (Council Offices and Carpark, Civic Square):

- Thursday, 21st October, 2010 between 8:00am and 5:00pm with a 1 hour cycle time.

4.3. KEY FINDINGS

4.3.1. Parking Occupancy Surveys

A summary of the parking occupancies across the adopted precincts are presented in Figure 6 for the Thursday surveys and Figure 7 for the Saturday surveys. Full summaries, including number of cars parked, percentage occupancy and number of spaces available, for the Thursday and Saturday surveys are presented in Table 3 and Table 4.

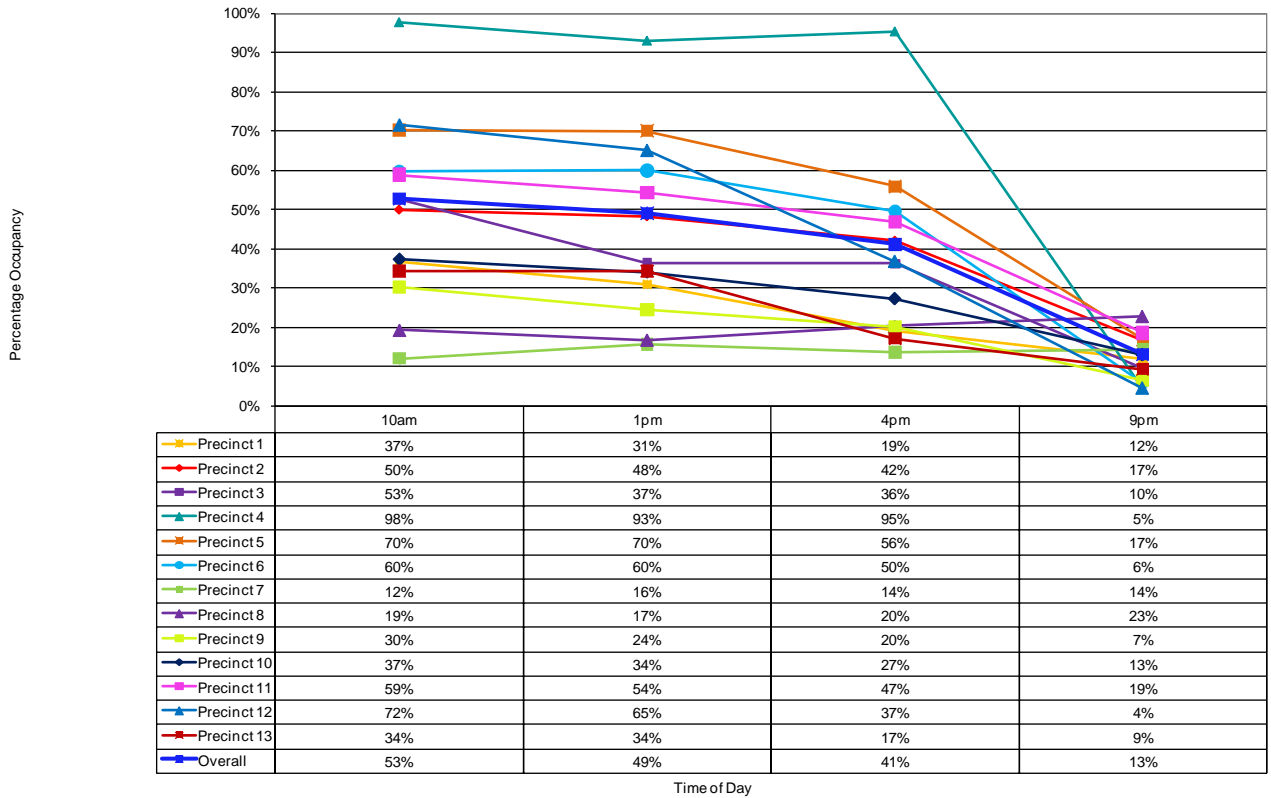


Figure 6: Thursday, 21st October, 2010 – Parking Occupancies by Precinct

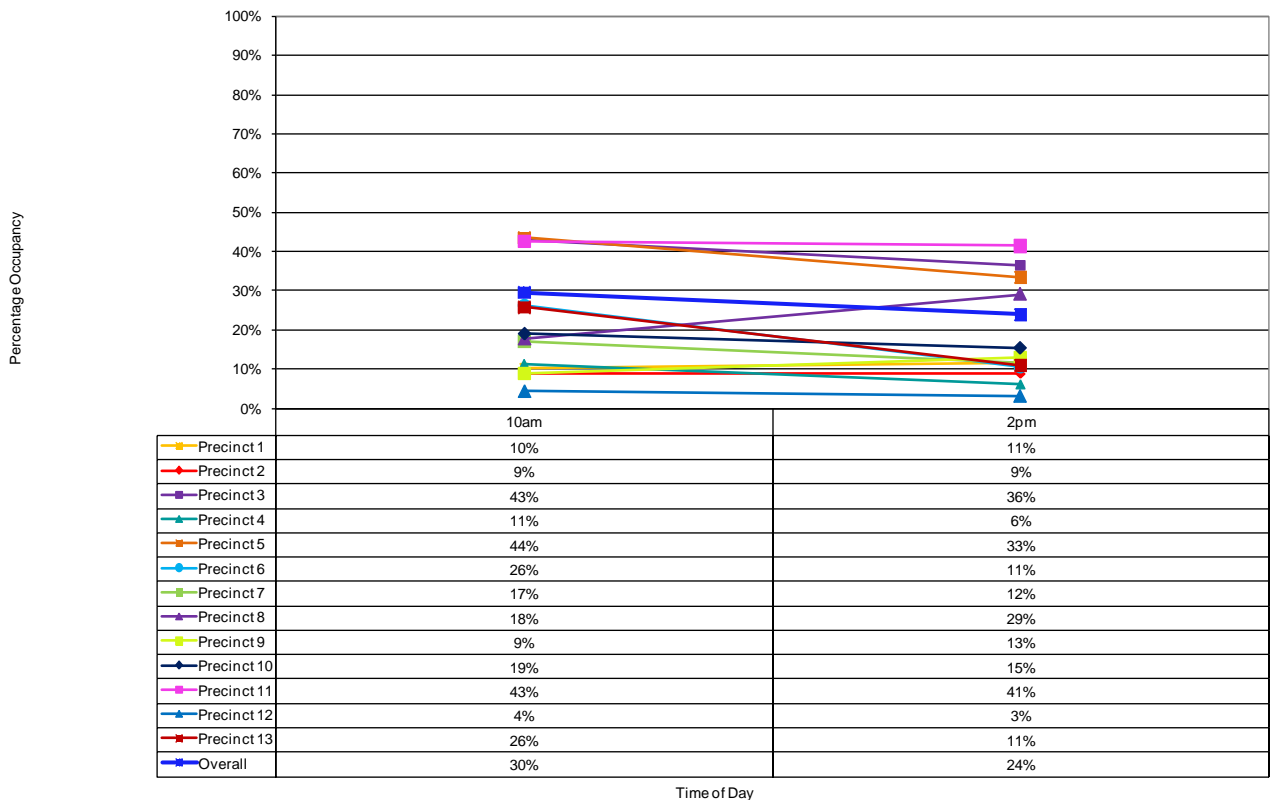


Figure 7: Saturday, 23rd October, 2010 – Parking Occupancies by Precinct

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Table 3: Summary of Parking Occupancy Surveys – Thursday, 21st October, 2010

Precinct No.	10am			1pm			4pm			9pm		
	No. Cars Parked	% Occ	No. Spaces Available	No. Cars Parked	% Occ	No. Spaces Available	No. Cars Parked	% Occ	No. Spaces Available	No. Cars Parked	% Occ	No. Spaces Available
1	64	37%	110	55	31%	120	33	19%	141	21	12%	153
2	177	50%	177	171	48%	183	149	42%	205	59	17%	295
3	442	53%	399	307	37%	534	305	36%	536	80	10%	761
4	209	98%	5	199	93%	15	204	95%	10	10	5%	204
5	950	70%	401	947	70%	404	755	56%	596	229	17%	1,122
6	453	60%	306	455	60%	304	376	50%	383	46	6%	713
7	71	12%	515	92	16%	494	80	14%	506	84	14%	502
8	38	19%	158	33	17%	163	40	20%	156	45	23%	151
9	74	30%	171	60	24%	185	49	20%	196	16	7%	229
10	175	37%	294	160	34%	309	128	27%	341	61	13%	408
11	593	59%	414	547	54%	460	472	47%	535	188	19%	819
12	177	72%	70	161	65%	86	91	37%	156	11	4%	236
13	44	34%	84	44	34%	84	22	17%	106	12	9%	116
Total	3,467	53%	3,104	3,231	49%	3,341	2,704	41%	3,867	862	13%	5,709

Table 4: Summary of Parking Occupancy Surveys – Saturday, 23rd October, 2010

Precinct No.	10am			2pm		
	No. Cars Parked	% Occ.	No. Spaces Available	No. Cars Parked	% Occ.	No. Spaces Available
1	18	10%	156	20	11%	154
2	32	9%	322	31	9%	323
3	361	43%	480	306	36%	535
4	24	11%	190	13	6%	201
5	588	44%	763	451	33%	900
6	200	26%	559	81	11%	678
7	100	17%	486	69	12%	517
8	36	18%	161	57	29%	139
9	22	9%	223	32	13%	213
10	89	19%	380	72	15%	397
11	428	43%	579	417	41%	590
12	11	4%	236	8	3%	239
13	33	26%	95	14	11%	114
Total	1,942	30%	4,630	1,571	24%	5,000

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The tables above indicate that at all times surveyed, the overall parking demands were moderate to low. The peak parking occupancy for any time surveyed occurred at 10am on Thursday, 21st October, 2010 when 3,467 cars were parked resulting in a parking occupancy of 53%. Significantly, the minimum number of spaces available at any time surveyed was 3,104 spaces.

However, it is noted that there are precincts within the study area that have higher occupancies. Specifically, the parking at Croydon Station is at capacity during the Thursday survey with 209 cars parked resulting in an occupancy of 98%.

The other areas of high occupancy include, the Main Street precinct (Precinct 5) with a peak parking occupancy of 70% during the Thursday surveys. Precinct 11 and Precinct 12, which include the Arndale Shopping Centre, Croydon Leisure and Aquatic Centre and Council Offices, also had high occupancies with Precinct 11 recording a peak occupancy of 59% and Precinct 12 recording a peak occupancy of 72%.

The parking occupancies recorded during the Saturday surveys indicate the parking on the weekends is significantly lower than during weekdays.

4.3.2. Duration of Stay Surveys

Duration of stay surveys were undertaken at three (3) locations throughout the study area as follows:

- Main Street (full length),
- Croydon Leisure and Aquatic Centre, and
- Council Offices and Carpark, Civic Square

The following results were observed for the various areas surveyed.

Table 5: Parking Study Duration of Stay Surveys - Results

Location	Supply	Average Occupancy	0-1 hrs	1-2 hrs	2-3hrs	3-4hrs	4-5hrs	>5hrs
Main Street								
1P Restrictions	142	78%*	773	114	13	3	2	-
P10min Restrictions	16	73%	111	1	2	0	0	-
Disabled Spaces	7	64%	26	4	1	0	0	1
Croydon leisure and Aquatic Centre								
All Spaces	249	53%	743	151	37	-	-	-
Croydon Civic Square Council Offices								
Disabled	6	28%	2	3	1	1	0	0
Loading	1	13%	1	0	0	0	0	0
Other (P, 2P, Unrestricted, 1/4P)	61	74%	75	27	18	5	5	21

*Note: Occupancy 86% south of Lacey Street and 40% north of Lacey Street

Main Street:

The survey results indicated that the 1P parking spaces along Main Street are in high demand with an average occupancy of 86%. In general, the 1P parking restrictions are being adhered to, with 85.4% of vehicles parked within the 1P time limit.

The 10 minute parking restrictions are generally in high demand (73% average occupancy), with the vast majority of vehicles parked for less than 1 hour. It is unclear as to whether the 10 minute parking restrictions are being adhered to, with the highest level of accuracy being the 1 hour cycle time.

The existing disabled spaces along Main Street have an average occupancy of 64%, with 83.3% of users staying less than 3 hours.

Croydon Leisure and Aquatic Centre:

The overall average occupancy in this area was 53% indicating that a number of spaces are available. A total of 79.8% of vehicles stayed for less than 1 hour, even though the majority of spaces are unrestricted.

The carpark located to the west of the tennis courts are generally underutilised which may be due to the poor vehicle circulation in this area.

Croydon Civic Square Council Offices:

In general parking demand in this area was high with an average occupancy of 74%. Furthermore, 52% of vehicles stayed for 1 hour or less.

It is noted that a number of the spaces in the area reach capacity at times throughout the day, particularly the spaces associated with the Wesley Mission Staff and Customers. The parking study report concluded that ‘day to day parking for the Croydon Council Offices appears to be adequate, however at times, particularly if there is an activity on in the area or at Keystone Hall, convenient parking would not be guaranteed’.

4.3.3. Future Parking Demands

The future carparking demands for the Croydon Activity Centre have been broadly estimated based on the land use proposal from Croydon Structure Plan.

The Croydon Structure Plan segregates the study area in several ‘Planning Zones’ as presented in Figure 8 below.

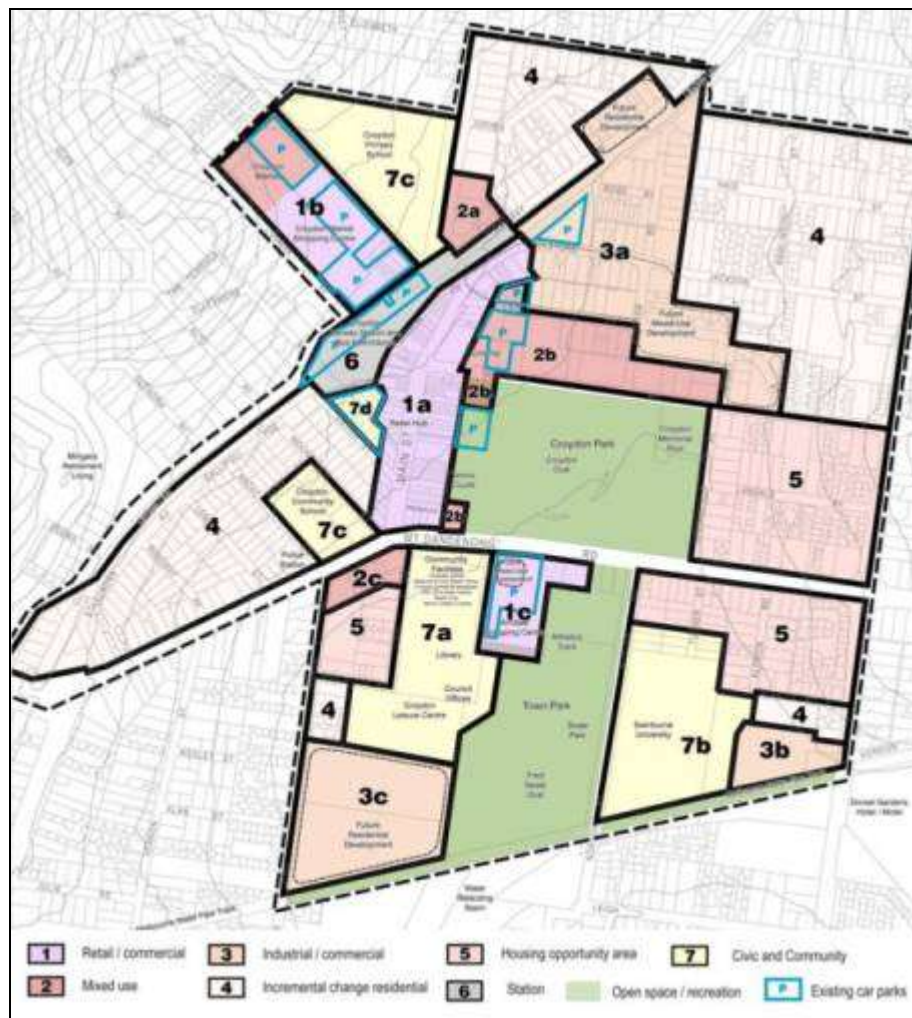


Figure 8: Croydon Structure Plan – Planning Zones

For the purpose of this review and to maintain a level of consistency with the adopted precinct, the issues associated with future parking demands have been summarised under the adopted precincts below.

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Precinct 2:

There is potential for mixed use development up to a maximum of 4 storeys within this precinct (Planning Zone 2a). It is likely that parking will be contained within the individual development sites, however, depending on the final mix of uses, dispensations could be sought, which would likely result in higher demands on-street.

The residential areas surrounding the town centre are expected to incrementally change to a low to moderate density. It is not expected that significant parking demands would result, however, the most proximate areas to the town centre (i.e. Joffre Street) are likely to receive the most development.

Precinct 3:

The Croydon Market site (1b) could potential undergo redevelopment depending on the future viability of the existing retail offering. Based on the size of the site, any potential increase in parking demands would be likely to be able to be contained on the site.

Precinct 4:

Mixed use development is expected in the vicinity of the station (6). The existing commuter parking facilities are near capacity. Any new development should replace the existing parking, as well as providing parking for the development.

Precinct 5:

It is expected that parking demands will remain relatively unchanged in the Main Street area (1a) due to the limited opportunities to consolidate land parcels and therefore the expected development. North of Lacey Street, some mixed use developed is expected that would revitalise this area.

Precinct 6:

There is potential for mixed use development up to a maximum of 4 storeys within this precinct (2b). It is likely that parking will be contained within individual development sites, however, depending on the final mix of uses, dispensations could be sought, which would likely result in higher demands on-street.

There is potential for the redevelopment of the existing industrial area for mixed use development. Therefore, in the longer term there would potentially be increased demand on-street for residents/visitors.

Precinct 7:

The residential areas surrounding the town centre are expected to incrementally change to a low to moderate density. It is not expected that significant parking demands would result, however, the most proximate areas to the town centre (i.e. Jackson Street and Haig Street) are likely to receive the most development.

A pocket of this precinct in the vicinity of Mt Dandenong Road has been identified as a location for higher density development. Given that buildings up to 4 stories in height can be expected, increased parking demands are expected in the local streets.

Precinct 10:

The residential areas surrounding the town centre are expected to incrementally change to a low to moderate density. It is not expected that significant parking demands would result, however, the most proximate areas to the town centre are likely to receive the most development.

No proposal are specifically outlined for Croydon Community School, however, parking impacts can always be expected around education facilities.

Precinct 11:

There is potential for mixed use development up to a maximum of 4 storeys within this precinct (2c). It is likely that parking will be contained within the individual development sites, however, depending on the final mix of uses, dispensations could be sought, which would likely result in higher demands on-street.

The large industrial sites on Lusher Road are predicted to remain in the short term, however, redevelopment to medium density housing is expected in the future. Given the size of these sites, it is expected that parking demand could be largely accommodated on-site.

Precinct 12:

No proposal are specifically outlined for Swinburne University, however, parking impacts can always be expected around education facilities.

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Precinct 13:

The residential portion of the precinct (in the vicinity of Mt Dandenong Road) has been identified as a location for higher density development. Given that buildings up to 4 storeys in height can be expected, increased parking demands are expected in the local streets.

No changes to the parking demands from the industrial portion of this precinct are expected in the future.

4.3.4. Stakeholder Consultation

Council performed stakeholder consultation as a part of the Croydon Parking Study. The key groups that had input at this stage included relevant internal departments of Council, key organisations and a random sample of residents/business in the study area. A total of 97 surveys were sent out with a total of 35 surveys returned, resulting in a response rate of 36%. A summary of the key themes identified as part of the stakeholder consultation are provided below.

Key Parking Weaknesses:

- Insufficient long term parking and the competing demands between commuter, staff and visitors,
- Commuter parking (demand exceeds supply and puts pressure on other resources),
- Poor way finding signage,
- Lack of 10 minute parking in Main Street,
- Lack of convenient parking in residential streets,
- Lack of disabled parking spaces,
- Issues at the Croydon Leisure and Aquatic Centre:
 - Lack of vehicle parking (particularly at peak times),
 - Lack of bus parking, and
 - Parking congestion in Birdwood Road.
- Issues at Civic Square:
 - Safety – interaction between parking and traffic flow,
 - Insufficient arrangements for staff parking,
 - 2P restrictions near Keystone Hall inappropriate, and
 - Lack of parking options for library visitors and after hours staff.

Existing Parking Strengths:

- Good mix of existing parking restrictions,
- Abundance of free parking,
- Good pedestrian access,
- Large car parks,
- Short term restrictions between 7am and 9am effectively prevents commuter parking and allows trader parking,
- Parking arrangements in Mt View street,
- Provision of commuter parking at Croydon Station, and
- 2 hour restrictions at the library/civic centre.

Support for Potential Improvement strategies:

- More Parking – 34.8%
- Different Restrictions – 23.2%
- Permits – 20.3%
- More Enforcement – 13.0%
- Paid Parking – 5.8%
- Less Parking – 2.9%

Suggestions to encourage more people to select alternative transport:

- Parking restrictions to limit commuter parking,

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- Additional commuter parking (at alternative locations),
- Improvements to Public Transport (safety and amenity),
- More public transport services and better coordination of services,
- Monetary incentives for commuters,
- More bicycle facilities,
- Additional pedestrian facilities,
- Improvements to way finding signage,
- Signalisation of Kent Avenue/Wicklow Avenue/Croydon Road/Coolstore Road,
- Green travel plan for Swinburne University,
- Increased police presence,
- Community Bus, and
- Encourage carpooling and travel plans for business.

4.3.5. Commuter Surveys

Surveys of commuters utilising the Croydon Railway Station were also included in the Croydon Activity Centre Parking Study. The surveys were conducted between the following dates:

- Monday 11th, October, 2011 to Thursday. 14th October, 2011 between 6:30am and 9:00am

A total of 409 individual commuters were surveyed across the four day period with 334 (85%) travelling towards Flinders Street and 65 (16%) travelling towards Lilydale.

Overall 95.6% of the commuters surveyed reside in Croydon or less than 10kms from Croydon. The various modes of transport used to arrive at the station are presented in Figure 9, with results also presented for respondents that lived within 0-5km of the station (77.3% of respondents) and those that lived within 5-10km of the station (18.3% of respondents).

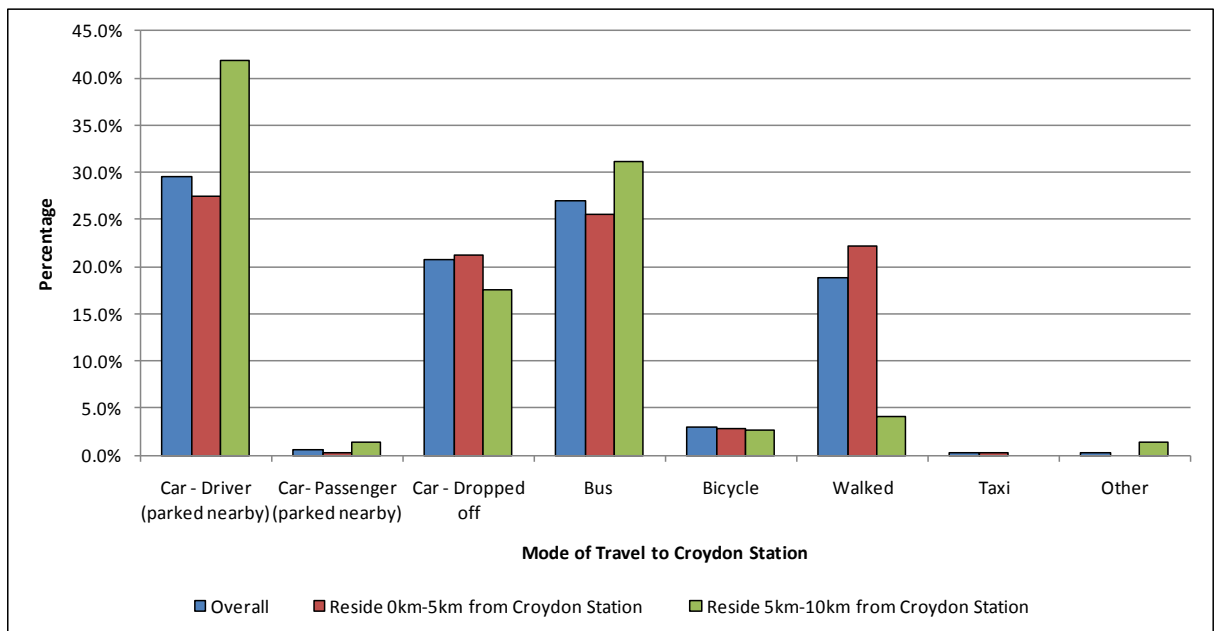


Figure 9: Mode of Travel to Croydon Station

The primary reason the commuters chose to utilise Croydon Station was the proximity to their home (73.6% of respondents). Significantly only 2.4% of respondents indicated that they chose to utilise Croydon Station due to the availability of parking and only 0.2% indicated they chose the station due to the good drop off facilities.

The survey also asked commuters who drove the station the location that they parked (aside from within the designated commuter parking at the station) as presented in Table 6.

Table 6: Parking Locations for Commuters to Croydon Station

Car Parking Location	No.	%
A – Council Carpark	21	17%
B – Council Carpark	23	19%
C – Council Carpark	3	2%
D – Council Carpark	0	0%
E – Council Carpark	3	2%
F – Council Carpark	7	6%
Alice Ave	1	1%
Car park on north side	9	7%
Close to Station	1	1%
Don't Want to Say	1	1%
Ellesmere Ave	1	1%
Just east of platform	1	1%
Local business	1	1%
Mechanic	3	2%
Mount View St	1	1%
Near to station	1	1%
North east car park	4	3%
Other side	11	9%
Railway Cr	2	2%
Somewhere off Croydon Rd	1	1%
Street	4	3%
Wickham Av	2	2%
Unanswered	22	18%



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As can be seen from the table above Council Carpark A and Council Carpark B were most utilised by commuters (apart from the designated commuter parking at the station).

Commuters who drive to the station were asked to specify what they would do in the event that parking was further restricted in the vicinity of the station as presented in Figure 10.

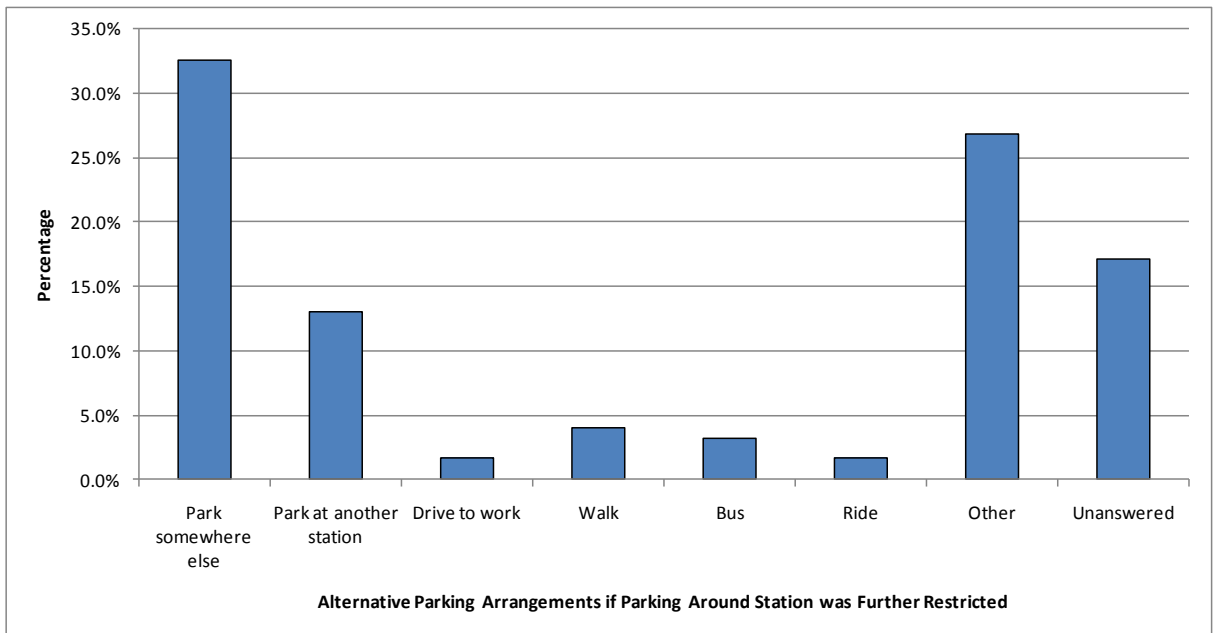


Figure 10: Alternative Parking Arrangements (if parking was further restricted around station)

As can be seen from the figure above, a large number of respondents indicated that they would ‘park somewhere else’, which indicates that any potential existing problems would be shifted to another location.

Finally, commuters were asked to indicate what factors could influence more people to consider more sustainable transport. A total of 41.9% indicated that improvements to the level of service would improve the level of usage of sustainable transport, while a total of 27.5% said they would drive regardless of the changes.

5. CROYDON ACTIVITY CENTRE PARKING STRATEGY

5.1. STRATEGY POLICIES AND ACTIONS

5.1.1. On Street Parking

Approximately 35% of all parking resources within the Croydon Activity Centre are provided on-street. On this basis it is likely that growing parking demands will impact the on-street parking resources in the centre.

Historically, on-street parking within the Croydon Activity Centre has generally been shared between a wide range of user groups. It is recommended that this approach is continued, recognising that particular user groups have certain needs in specific areas. Hence, a parking hierarchy has been developed that generally indicates the level of preference between the various on-street users groups in the activity centre, as presented below:

- Level 1 – Traffic safety and vehicle access,
- Level 2 – Accessible parking,
- Level 3 – Council approved service vehicles/loading facilities,
- Level 4 – Residential and short term town centre visitor demands, and
- Level 5 – Other users (including traders, staff, students and commuters).

Traffic safety and vehicles access is the highest level of priority for on-street parking areas in the centre. Therefore, any identified safety issues or vehicle access issues will have preference over any other parking requirement. This may include restricting parking in locations where visibility is limited or where there are limited opportunities for vehicles to pass each other.

The second level of parking preference relates to accessible parking. These users can be given priority through the use of dedicated accessible parking spaces. This user group is discussed in further detail in Section 5.1.16.

The third level of priority is associated with Council approved service vehicles and loading facilities. Council approved service vehicles could include (but are not limited to) Council pool vehicles, emergency service vehicles, taxis, Australia Post vehicles, etc. Priority is generally given to these user groups through permit restrictions or 'No Stopping' zones with particular group exemptions (e.g. 'Police vehicles excepted'). Loading is also a key consideration, particularly in commercial areas. Priority can be given for loading facilities through the use of loading zones. This user group is discussed in more detail in Section 5.1.17.

The fourth level of parking preference includes residential and short term town centre visitor parking demands. While both residents and short term town centre visitors are on the same level of preference, it is noted that either of these users group may be of higher preference in particular areas throughout the centre. For example, residential parking demands (including residential visitors) will take preference over short term town centre visitors within residential streets. Similarly, short term town centre visitors will take preference over residential parking demands in areas with no residential properties, such as Main Street or the Leisure Centre Precinct. Preference can be given to both of these user groups through the introduction of time based parking restrictions. However, it is noted that a formalised resident parking permit scheme is required to be developed and implemented to exempt residents from time based restrictions. Further discussion on a residential permit parking scheme is provided in Section 5.1.5.

Any remaining spare on-street parking capacity should be allocated to the other remaining user groups, reflecting the shared nature of on-street parking. The 'other user groups' vary depending on the location throughout the centre, however, generally include traders, staff, students and commuters.

The adopted method of sharing of on-street parking resources requires Council to carefully monitor parking occupancies and community correspondence. Parking resources should only be allocated as demand requires. This ensures that the parking resources can be efficiently utilised by the 'other users' and any unused spare capacity is limited. It is noted that parking demands will vary over time and reallocation of the parking resources should be undertaken in-line with the adopted on-street parking hierarchy as required.

Strategy Policy 1 – On-Street Parking:

Council will manage on-street parking resources to efficiently serve the varying needs of the Activity Centre whilst continuing to share and balance the parking resources between competing user groups.

Actions:

- Apply the adopted on-street parking hierarchy to areas with identified parking issues, as follows:
 - Level 1 – Traffic safety and vehicle access,
 - Level 2 – Accessible parking,
 - Level 3 – Council approved service vehicles/loading facilities,
 - Level 4 – Residential and short term town centre visitor demands, and
 - Level 5 – Other users (including traders, staff, students and commuters).
- As required, implement and modify parking restrictions to establish a parking priority based on the adopted hierarchy,
- Council to monitor parking occupancies and community correspondence to ensure that parking is allocated to Level 2 - Level 5 users on an 'as needs' basis to improve efficiency and maximise parking opportunities for all user groups, and
- Develop and implement a residential permit parking system within the Activity Centre in accordance with Strategy Policy 5 and Strategy Policy 11.

5.1.2. Public Off-Street Parking

A significant level of public off-street parking is provided within the Croydon Activity Centre. It is expected that as development occurs, that the general demand for parking will increase from a wide range of user groups. Based on a review of the centre, visitors, shoppers, council vehicles, students, traders and commuters have been identified to have off-street parking demands.

All of these user groups have varying demands for public off-street parking resources with respect to both duration of stay and peak parking times. While it is acknowledged that all of these groups have a legitimate need for off-street parking, each group has a varying level of importance to the vibrancy and viability of the Activity Centre.

Given the number of competing user groups, a level of parking management is required to share the available parking resources. Parking management to provide priority to the various user groups could be undertaken in a number of ways depending on the specific needs of each user group. Table 7 describes the various actions that could be undertaken to provide priority off-street parking to the identified user groups.

Table 7: Off-Street Parking Priority Tools for Various User Groups

User Group	General Parking Characteristics	Management Tools to Provide Parking Priority
Accessible Parking	Duration: Various Peak: Various	Accessible parking spaces can be specifically marked with appropriate signage.
Short Term Centre Visitors (Visitors/Shoppers)	Duration: 1-2 hours Peak: 11am-2pm	Short term parking restrictions generally remove other user groups such as Traders, Students and Commuters.
Council Approved Service Vehicle Parking	Duration: 1-8 hours Peak: 9am-5pm	A permit parking scheme or 'No Stopping' restrictions with particular exemptions generally provide the most appropriate opportunities for priority over other users
Activity Centre medium/long term demands	Duration: 3-9hours Peak: 8:00am-5:00pm	A permit parking scheme is generally the most appropriate tool to provide priority over commuters
External Long Term Demands	Duration: 4-12hours Peak: 6:30am-6:30pm	No Priority to be allocated to this user group, outside of railway carparks on VicTrack land.

It is recognised that long term unrestricted off-street parking in some public off-street parking locations throughout the centre are at capacity throughout the day (i.e. in the vicinity of Croydon Railway Station). Therefore, little or no available parking spaces are available within the centre for users such as traders who may be ineligible for the recommended permit system above or rail commuters who arrive after other unrestricted spaces are occupied. Therefore, there is an opportunity to provide long term 'Premium Parking' within the centre, specifically in the vicinity Croydon Railway Station to provide long term parking opportunities to all user groups throughout the day.

This premium parking can be provided in a number of ways including through the use of user pays system or through the use of short term parking restrictions during the morning period.

It is noted that allocating a level of 'premium parking' is likely to push parking demands to other proximate 'free' long term parking resources in the centre. In the case of the Croydon Activity Centre, a number of the residential streets to the west and north of the station are likely to see increased parking demands. Therefore, the introduction of 'Premium Parking' requires the management of other unrestricted parking resources in the vicinity to manage the impact of any demand shift.

In view of the above, a parking hierarchy has been developed for public off-street parking to provide an order of preference for the various user groups, as follows:

- Level 1 – Accessible parking,
- Level 2 – Council approved service vehicle parking,
- Level 3 – Short term centre visitors,
- Level 4 – Activity Centre medium/long term demands (traders/students),
- Level 5 – Premium long term parking, and
- Level 6 – External medium/long term demands (commuters).

The existing and potential future public off-street parking resources should be allocated to the highest user groups first to meet demand, with any spare capacity then allocated to the lower ranked user groups in a sequential order. The location of the parking resources should also be allocated based on the parking hierarchy, with the highest level (Level 1) provided with the most proximate parking resources to the user groups' final destination.

As indicated in Table 7 above, a permit parking system is a key tool in providing priority, particularly to Council service vehicles and traders. Therefore Council should develop and implement a permit parking system applicable to the Activity Centre to achieve the strategy aims for public off-street parking. It is envisaged that the permit system would be similar to the existing system which applies to some residential streets, whereby vehicles with permits can either park beyond the posted time limit or park within designated permit restrictions. Council would control the issuing of permits to user groups as required.

Strategy Policy 2 – Public Off-Street Parking:

Council will manage the existing large provision of public off-street parking in a shared and balanced manner, with respect for the needs and relative importance of specific users groups to the Activity Centre.

Actions:

- Review existing parking demands in the public off-street car parks with consideration for the existing surrounding land uses and floor areas, the Planning Scheme and empirical parking rates for the various user groups (i.e. visitors, Council approved service vehicles, activity centre medium/long term demands and external medium/long term demands),
- Apply the adopted parking hierarchy as follows:
 - Level 1 – Accessible parking,
 - Level 2 – Council approved service vehicle parking,
 - Level 3 – Short term centre visitors,
 - Level 4 – Activity Centre medium/long term demands (traders/students),
 - Level 5 – Premium long term parking, and
 - Level 6 – External medium/long term demands (commuters).
- As required implement and modify parking restrictions to establish a parking priority based on the adopted hierarchy,
- Develop and implement a trader permit parking system within the Activity Centre in accordance with Strategy Policy 6 and Strategy Policy 11,
- Consider a level of long term 'Premium Parking' whilst recognising the potential impacts and parking demand shifts. Explore options to implement premium parking, and
- Council to periodically review public off-street parking demands and reallocate spaces in-line with the parking hierarchy as required.

5.1.3. Private Off-Street Parking

Private off-street parking also plays a key role in the Croydon Activity Centre. This resource ranges from single spaces for private use through to large parking facilities utilised by the general public. The most sizable private parking resources in the centre are provided at the Croydon Market (approximately 735 spaces) and at Arndale (approximately 285 spaces).

Similar to the public off-street parking resources, the large publicly utilised private off-street carparks are expected to see increased parking demands as the retail offering expands and develops.

While these parking facilities are not under the direct control of Council, any redevelopment of these parking facilities or new significant private parking facilities should be planned and managed appropriately to align with the general parking principles of the Activity Centre (through the statutory planning process).

The following items should be investigated and implemented through the planning process:

- Ensure adequate consideration is given to parking management,
- Ensure appropriate signage within the parking areas (both regulatory and directional),
- Encourage and maintain enforcement agreements with owners/operators of large public carparks on private land, and
- Ensure the parking facilities are maintained to an appropriate standard.

It is noted that staff parking demands should be accommodated within private off-street carparks. In many cases parking restrictions in these carparks may prevent long term parking. Council is supportive of private staff permit schemes, whereby staff are issued permits by the private carpark owners/operators, however, Council enforcement officers should be made aware of the details of these arrangements.

Strategy Policy 3 – Private Off-Street Parking:

Council will ensure that private off-street carparks are planned and managed in an appropriate manner through the planning process, to support and achieve the objectives of the parking strategy.

Actions:

- Ensure all new developments/redevelopments with a significant level of private carparking available to the public are required to produce a Parking Management Plan through the planning process including consideration for:
 - An adequate level of parking management in line with the this parking strategy,
 - An adequate level of signage (both regulatory and directional),
 - Appropriate long term parking opportunities for staff, potentially through the allocation of private permits within the carparks, and
 - Adequate maintenance of private parking facilities.
- Encourage and maintain enforcement agreements with owners/operators of large public carparks on private land, and
- Develop and implement an electronic database to record Parking Management Plans and formal agreements with private carpark owners.

5.1.4. Rail Commuter Parking

The Croydon Railway Station is situated centrally within the Croydon Activity Centre. A number of carparks are provided for the exclusive use of rail commuters on State Government or VicTrack land on both the north and south sides of the station.

As indicated previously in this report, parking at the Croydon Station is at capacity during weekdays, with much lower occupancies observed on weekends. On this basis, Council does not support the reduction of commuter parking on the VicTrack (State Government) land surrounding Croydon Station. It is acknowledged that opportunities to provide additional at grade carparking are limited, therefore Council supports in principle mixed use development on the VicTrack land subject to the existing number of commuter parking spaces being maintained and the development providing additional parking facilities to accommodate the new parking demands. Furthermore, Council supports mixed use development on VicTrack land that can provide additional commuter parking facilities.

In view of the above, Council acknowledges that spare capacity within the public off-street and on-street parking resource is appropriate for use by rail commuters, subject to other 'higher ranked' user demands being satisfied inline the parking hierarchies identified in Strategy Policy 1 and Strategy Policy 2.

The public off-street parking hierarchy indicates that a level of 'premium parking' could potentially be introduced in the vicinity of Croydon Station. This parking would be available to all user groups within the centre (including commuters) and provide medium to long term parking opportunities throughout the day.

It is acknowledged that there may not be sufficient parking capacity available to meet the full demands for commuters either on-street or within public off-street carparks once the relevant parking hierarchies have been applied.

It is noted that a significant number of rail commuters currently utilise bus services for trips to and from the railway station. Encouraging improved bus services will ultimately increase public transport patronage and therefore reduce parking demands in the centre. However, it is noted that Council does not control bus services, therefore it is recommended that Council advocate to State Government for improved bus services in the Croydon Activity Centre, with a particular emphasis on coordination with rail services.

Strategy Policy 4 – Rail Commuter Parking:

Council does not support the reduction of commuter parking on VicTrack (State Government) Land and in principle supports mixed use development in the vicinity of the station in line with the Croydon Structure Plan (both maintaining and increasing the existing parking supply).

A level of commuter parking is considered acceptable both on-street and within public off-street carparks, provided that other user groups have been provided for (as identified in the relevant parking hierarchies).

Council should consider a level of premium parking around the Croydon Railway Station that provides for long term parking opportunities to a wide range of user groups.

Actions:

- Advocate that the State Government pursues potential opportunities to increase parking supply on VicTrack land through mixed use development, and
- Advocate that the State Government improves the bus services to Croydon Railway Station to better connect with rail services (i.e. match rail service frequencies).

5.1.5. Resident Parking

Overflow residential parking demands are generally accommodated on-street throughout the study area. Given the general nature of the residential properties in the Croydon Activity Centre, on-street parking demands are generally low to moderate when compared to inner city areas with higher housing densities. However, existing residents in the centre may have a legitimate need for on-street parking.

On-street parking in residential streets is most likely to come under the most pressure on the fringes of areas with high activity and demand, such as Main Street and Croydon Railway Station. Therefore, in order to provide residents with on-street parking opportunities in these areas in line with the adopted on-street parking hierarchy, it is likely that time based parking restrictions will be required, with residents exempt under a permit parking scheme.

Council currently provides residential parking permits in a number of streets throughout the centre on an 'as needs' basis to exempt residents from time based parking restrictions. This is particularly the case in residential streets on the fringes of the major activity areas such as Main Street and the railway station. However, it is likely that the overall level of activity and development density will increase across the entire activity centre and a formalised approach to residential permit parking is required. It is recommended that Council develop and implement a formal residential permit parking system to provide priority to existing residents in the Activity Centre. Some key parameters of a residential permit parking system could include:

- **Type of parking permits:** Give consideration to various permit types such as permits linked to particular vehicles, permits transferable between vehicles, visitor parking permits and visitor coupon parking permits,
- **Permit eligibility:** Residential parking permits are generally provided to protect the on-street parking requirements of existing residents, who may not have adequate off-street parking facilities. However, new developments should provide adequate resident parking facilities off-street (in accordance with the

Maroondah Planning Scheme) and therefore resident permits should not generally be issued to new developments.

- **Permit Application:** Residential parking permit schemes should generally allow residents and visitors with permits to park in permit zones and beyond the posted time restrictions (for restrictions greater than 1 hour). Particular permits can be limited to the street in which the resident lives or groups of residential streets.

As indicated in Section 5.1.1 previously, the on-street parking resources should only be allocated to meet residential demands. Therefore any spare capacity should be shared with other users in the centre. For example, typically a suitable balance can be achieved by providing short term restrictions on one side of the road (with resident permit exemptions) and long term parking on the other side of the street.

Strategy Policy 5 – Resident Parking:

Council will manage on-street parking within residential areas with identified parking issues, to ensure that the parking needs of existing residents and their visitors can be accommodated on-street.

Actions:

- Review existing residential parking demands in local streets with identified non-residential parking concerns,
- As required allocate parking spaces to meet residential demands through the use of time based parking restrictions with resident permit exemptions (in-line with the on-street parking hierarchy outlined in Strategy Policy 1),
- Develop and implement a residential permit parking scheme within residential streets in the activity centre to exempt residents from time based parking restrictions,
- Limit the number of parking permits issued to new developments to encourage resident demands to be met through the provision of on-site parking and to limit the impacts to existing residents of the street,
- Allow any surplus parking resources to be shared with other user groups within the activity centre, and
- Periodically review residential parking demands and reallocate parking resources in-line with the on-street parking hierarchy presented in Strategy Policy 1, as required.

5.1.6. Main Street Precinct Parking

The Main Street Precinct forms the heart of the Croydon Activity Centre. Located to the south of the railway line and to the north of Mt Dandenong Road, Main Street has traditionally served as the major retail hub of Croydon. As such, there is a significant level of parking demand coupled with a wide range of user groups.

The main street precinct is principally served by short term on-street parking along Main Street, with a number of large public off-street carparks located to the east and west of Main Street (behind the properties fronting Main Street).

Given the major commercial use of the precinct, the majority of parking demands are due to the visitors/customers and traders. However, given the close proximity to the railway station, commuter parking also occurs, particularly in the carparks on the western side of Main Street.

Parking in this precinct should be managed in-line with the on-street parking hierarchy presented in Strategy Policy 1 and the public off-street hierarchy presented in Strategy Policy 2, as discussed below.

On-Street Parking:

On Street parking within this precinct is generally limited to Main Street and number of streets connecting with Main Street such as Devon Street, Hewish Road, Lacey Street and Mt Dandenong Road. Existing parking restrictions on these streets within close proximity to the Activity Centre are generally short term restrictions.

According to the on-street parking hierarchy presented in Section 5.1.1, traffic safety and vehicle access form the highest level of priority and should be maintained at all times.

The provision of accessible parking spaces, Council approved service vehicles and loading facilities are also a high priority in terms of the hierarchy, particularly given the commercial nature of the precinct. A review should seek to ensure adequate levels (in appropriate locations) are provided along Main Street.

Short term activity centre parking is the next highest parking priority in this area. Given that the parking occupancy surveys conducted as a part of this study indicate high demand for the existing short term parking restrictions, it is recommended that the majority of parking along Main Street continues to operate as short-term parking primarily for centre visitors.

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Off-Street Parking:

Based on the public off-street hierarchy presented in Section 5.1.2, the off-street parking facilities in the Main Street precinct should provide parking for users groups in the following order:

- Level 1 – Accessible parking,
- Level 2 – Council approved service vehicle parking,
- Level 3 – Short term centre visitors,
- Level 4 – Activity Centre medium/long term demands (traders/students),
- Level 5 – Premium long term parking, and
- Level 6 – External medium/long term demands (commuters).

A review of the existing accessible parking spaces should be undertaken to ensure an adequate supply of spaces for the Level 1 users.

Priority can be allocated to Council approved service vehicles (Level 2) through the use of a permit system or appropriate parking restrictions (i.e. 'No Stopping' restrictions with relevant exemptions).

A level of short term visitor parking demands will be required within the off-street parking facilities, which cannot be accommodated on-street in Main Street. These demands should be accommodated in the spaces in the closest proximity to Main Street.

Activity Centre long term demands are the next user group to be allocated parking within the off-street car parks. Traders form the major component of these demands and it is recommended that the most efficient way to provide priority to these users is through a trader permit parking system, which would allow traders to be exempt from time based restrictions. The allocation of trader parking permits should have consideration for the expected parking demands under Clause 52.06 of the planning scheme, the number of staff at each business, the size of the site and the existing number of on-site parking spaces. It is noted that management may be required to limit traders utilising the most proximate spaces to Main Street.

A level of premium long term parking is the fifth level to be accommodated, which would allow long term parking opportunities throughout the day for all user groups. It should be noted that if a user pays system is introduced, careful consideration should be given to any price point applied to manage parking occupancies in these spaces. Setting the price too low may result in all the spaces being occupied by regular rail commuters, whilst setting the price to high may result in the spaces not being utilised.

In order to encourage sustainable modes of transport within the activity centre, any spare capacity following the above allocations should be provided for commuters, providing that all other demands are satisfied.

The Croydon Structure Plan calls for 'shop top' office space or dwellings as a means for providing addition floor space along Main Street. The existing shop sites are generally limited to a small number of informal parking spaces at the rear. However, it is recognised that providing additional parking for partial redevelopments (i.e. proposing the addition of a 'shop top' arrangement) may be difficult. Therefore, it is recommended that under this scenario, specific parking guidelines should be developed. In general the following approach is recommended:

Partial Redevelopments (i.e. retaining the existing ground floor space):

- The existing number of on-site spaces should not be reduced,
- Long term resident parking demands should be accommodated on-site, and
- Any long term staff demands displaced as a result can be accommodated through the trader parking permit system proposed for the centre.

Full Redevelopment (i.e. entire site):

- Complete site redevelopments should seek to provide parking in-line with the adopted parking rates presented by the DPCD review of Clause 52.06 presented in Section 5.1.10, however consideration should be given to smaller sites which may not be able to provide the full parking requirement.

Strategy Policy 6 – Main Street Precinct Parking:

On-Street parking along Main Street should continue to serve the short term needs of visitors/customers to the centre. Public off-street parking facilities surrounding Main Street shall be managed with respect to the needs and relative importance of specific users groups to the activity centre.

Actions:

- Review existing parking demands both on-street and off-street throughout the precinct,

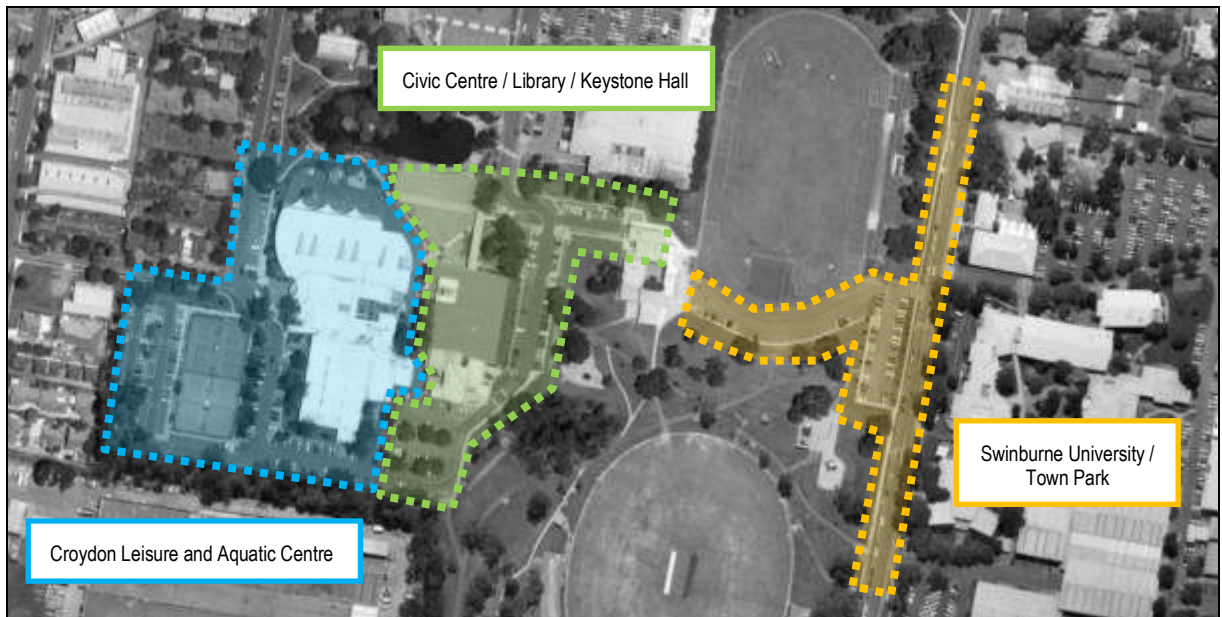
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- Continue to allocate on-street parking along Main Street in-line with the adopted on-street parking hierarchy identified in Strategy Policy 1, as follows:
 - Level 1 – Traffic safety and vehicle access,
 - Level 2 – Accessible parking,
 - Level 3 – Council approved service vehicles / loading facilities,
 - Level 4 – Residential and short term town centre visitor demands, and
 - Level 5 – Other users (including traders, staff, students and commuters).
- Allocate parking spaces within the public off-street carparks throughout the precinct in-line with the public off-street parking hierarchy identified in Strategy Policy 2, as follows:
 - Level 1 – Accessible parking,
 - Level 2 – Council approved service vehicle parking,
 - Level 3 – Short term centre visitors,
 - Level 4 – Activity Centre medium/long term demands (traders/students),
 - Level 5 – Premium long term parking, and
 - Level 6 – External medium/long term demands (commuters).
- Consider a level of premium long term parking in off-street carparks within the precinct,
- Develop and implement a trader permit parking system within the Main Street precinct to support the allocation of spaces to traders within the off-street carparks. Allocation of trader parking permits should consider the expected parking demands under Clause 52.06 of the planning scheme, the number of staff at each business, the size of the site and the existing number of on-site parking spaces,
- Consider applications for ‘shop top’ dwellings and office space along Main Street on a case by case basis. In general, partial redevelopments (i.e. retain existing ground floor) should seek to maintain the existing level of parking and provide for all long term resident demands on-site. Any displaced trader demands can be accommodated off-street through the proposed trader permit system. Full site redevelopments should seek to provide parking in-line with the recommended Clause 52.06 rates, however, consideration should be given to small sites which may not be able to provide the full parking requirement, and
- Periodically review parking demands and reallocate parking resources in-line with the adopted parking hierarchies as required.

5.1.7. Civic and Leisure Centre Precinct

The Civic and Leisure Centre Precinct is unique in the respect that only a limited number of residential properties are located on the periphery of the precinct. The major land uses within the precinct include the Civic Centre, Croydon Library, Keystone Hall, Croydon Leisure and Aquatic Centre and Swinburne University. Given the land use in the area, parking demands are generally limited to short term visitors, students and staff.

Parking is provided via a mix of on-street parking generally along Civic Square, Birdwood Road and Norton Road, as well as a number of off-street carparks. It is noted that the on-street and off-street parking areas in this precinct are very closely aligned and it is considered that a specialised hierarchy is required in this precinct. Furthermore, the discussion for this precinct will be based on the sub areas as presented in Figure 11 below.



Source:www.nearmap.com

Figure 11: Civic and Leisure Centre Precinct – Sub Areas

Civic and Leisure Centre Precinct – Specialised Parking Hierarchy:

As indicated above, given the close relationship between on-street and off-street parking in the Civic and Leisure Centre Precinct, a specialised parking hierarchy has been developed. This hierarchy generally merges the previously adopted on-street and off-street parking hierarchies, as presented below:

- Level 1 – Traffic safety and vehicle access,
- Level 2 – Accessible parking,
- Level 3 – Council approved service vehicles/loading facilities,
- Level 4 – Specific premium parking (i.e. Keystone Hall), and
- Level 5 – Short term town centre visitors, and
- Level 6 – Activity Centre medium/long term demands (staff and students).

Civic Centre/Library/Keystone Hall Sub Area:

According to the adopted parking hierarchy for the precinct, traffic safety and vehicle access followed by accessible parking, Council approved service vehicles, loading facilities and short term visitor parking are the highest priorities in this precinct.

No major traffic safety issues linked to the existing provision of parking have been identified.

The most proximate spaces to the entry of the civic centre/library and Keystone Hall should be maintained as accessible parking, in-line with the hierarchy.

Consultation with Town Park Committee of Management, has indicated that there is a need for loading facilities in the vicinity of Keystone Hall. Given the location of the existing building entrance (on the western side) it is recommended to pursue a loading facility within the small carpark adjacent to the western side of Keystone Hall. Furthermore, Town Park Committee of Management indicated that a 'drop off/pick up' area would also limit the level of walking required for elderly users. It is recommended to investigate the potential for a 'drop off/pick up' area, potentially in conjunction with the loading facility recommended above.

It is recommended that the existing Council pool vehicle and Wesley Mission parking spaces are retained in line with the adopted parking hierarchy. Furthermore, it is recommended to maintain the short-term visitor parking restrictions in the vicinity of the Civic Centre, Library and Keystone Hall.

Given the high short-term parking demands in this precinct due to the Library and Civic Centre, there is limited opportunity to provide for medium term demands in close vicinity of Keystone Hall. This approach aligns with the community consultation conducted in the Croydon Parking Study that indicated that users of the Keystone Hall (generally medium term duration users) are finding suitable parking opportunities difficult to find in this area. On this basis, it is recommended that a level of specific premium parking for the Keystone Hall users is provided to

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the east of Keystone Hall within the Town Park carpark. Further information regarding this provision is provided in the 'Swinburne University/Town Park' Section below.

Finally, the remaining spaces within the sub area should be allocated for long term use (likely to be largely staff). These spaces are likely to be the furthest away from the entrance to the various buildings (similar to the existing configuration).

Croydon Leisure and Aquatic Centre Sub Area:

Traffic safety issues are identified by the adopted parking hierarchy as presenting the highest level of priority. A review of community consultation conducted as part of the parking study indicates safety issues in Birdwood Road due to high parking occupancies. A review of the parking arrangements is required, with the reduction of on-street spaces seen as a suitable action to achieve traffic safety and vehicle access in Birdwood Road. Furthermore, it is recommended to pursue a vehicle connection between Birdwood Road and the existing off-street carpark to the west of the tennis courts. Improving the level of access to this carpark may result in lower parking occupancies in Birdwood Road which would most likely improve vehicle circulation. Additionally, the sight distance available at the 90 degree bend in Civic Square (adjacent to the south-western corner of the Leisure Centre) has been identified as a potential traffic safety issue. It is recommended to consider the removal of parking spaces on the inside of the bend to improve the sight lines. This issue is further discussed in Section 5.1.13 below.

The next highest parking priority is accessible parking followed by Council approved service vehicles/loading facilities and short term visitor parking. Consultation with the Croydon Leisure and Aquatic Centre, indicated that the existing accessible parking spaces are in high demand. This is supported by the parking survey data, which indicates 100% occupancy for the accessible spaces at 1pm during the Thursday surveys. On this basis, it is recommended to increase the accessible parking provision in this region, through the re-allocation of spaces in close proximity to the front entrance.

Furthermore, it is recommended to introduce the short-term visitor parking restrictions in the vicinity of the entrance to the Leisure and Aquatic Centre to improve turnover. No specific Council approved service vehicles are required in this locality and there is also expected to be a low demand for loading. The remaining parking spaces (in less proximate locations to the building entrance) can be left as unrestricted to allow for long term visitor and staff parking demands.

Community consultation indicated a number of issues related to bus circulation and parking in this sub area. Given the likelihood for bus demands associated particularly with the swimming pool, it is recommended to review opportunities for bus parking in the sub area.

Swinburne University/Town Park Sub-Area:

Swinburne University attracts significant parking demands in the local area. While a large number of these demands can be accommodated on-site, it is noted that overflow parking demands from Swinburne University are presently accommodated on-street along Norton Road and within the off-street carparks at Town Park.

It is acknowledged that TAFE student parking as a medium/long term centre demand is appropriate to be accommodated in on-street and off-street parking resources according to the adopted parking hierarchy. However, suitable parking opportunities must also be provided for the Keystone Hall users within this sub-area.

Council has recently implemented non-regulatory signage at the entrance to the Town Park carpark indicating 'Town Park Users Only Beyond This Point' to attempt to separate the Keystone Hall users and the Swinburne TAFE users. However, consultation with the town park management has indicated that Keystone Hall users prefer using the parking spaces situated on the western side of Keystone Hall, due to the proximity to the Keystone Hall entrance. From a parking point of view it is considered to be preferable to separate the Keystone Hall users from the Library and Civic Centre user and Swinburne University students. On this basis the carpark on the eastern side of Keystone Hall is seen as the most appropriate parking location for the Keystone Hall users, provided that the accessibility issues can be resolved. Therefore, it is recommended that Council review and consider the merit of building alterations to include an entrance to Keystone Hall to the eastern carpark.

It is recommended to allocate parking spaces in the Town Park carpark in the closest vicinity to the Keystone Hall to the Keystone Hall users, which could be achieved through the introduction of specific premium parking. The remaining parking spaces within the Town Park and Norton Road carparks can remain unrestricted for use by both TAFE students or any overflow demands from Keystone Hall users.

Strategy Policy 7 – Civic and Leisure Centre Precinct Parking:

Council will manage both on-street and public off-street parking resources to efficiently serve the specific needs of the Civic and Leisure Centre precinct, with regard for the specialised parking hierarchy developed for the precinct.

Actions:

- Allocate parking in the Civic and Leisure Centre Precinct in line with the specialised parking hierarchy as follows:
 - Level 1 – Traffic safety and vehicle access,
 - Level 2 – Accessible parking,
 - Level 3 – Council approved service vehicles / loading facilities,
 - Level 4 – Specific premium parking (i.e. Keystone Hall), and
 - Level 5 – Short term town centre visitors, and
 - Level 6 – Activity Centre medium/long term demands (staff and students).

Civic Centre / Library / Keystone Hall Sub Area:

- Allocate parking in close vicinity to the entrances to the Croydon Library and Civic Centre for accessible parking and short term visitors to the centre,
- Review and investigate opportunities to provide loading and ‘drop off/pick up’ facilities for Keystone Hall in the small carpark immediately to the west of Keystone Hall,
- Retain existing Council pool vehicle and Wesley Mission parking in the vicinity of the civic centre, and
- Allocate remaining car spaces in the sub area as unrestricted.

Croydon Leisure and Aquatic Centre Sub Area:

- Review traffic safety along Birdwood Road and investigate an additional connection to the carpark to the west of the tennis courts via Birdwood Road,
- Consider the removal of parking spaces on the inside of the bend in Civic Square (adjacent to the south-western corner of the Leisure Centre) to improve vehicle sight lines,
- Increase the existing provision of accessible parking in the vicinity of the Leisure and Aquatic Centre entrance,
- Allocate remaining spaces in close vicinity to the Leisure and Aquatic Centre entrance for short term visitor parking demands,
- Allocate remaining car spaces in the sub area as unrestricted, and
- Review bus circulation and parking in the precinct.

Swinburne University/Town Park Sub-Area:

- Review and consider the merit of an additional building access point to Keystone Hall via the Town Park (eastern) carpark,
- Allocate parking spaces for Keystone Hall users in close vicinity to Keystone Hall, potentially through the use of specific premium parking, and
- Allocate remaining car spaces in the sub area as unrestricted.

5.1.8. Industrial Parking

The industrial areas within the Croydon Activity Centre are typically ‘older style’ developments. As such, many of these properties do not have adequate parking facilities to accommodate all parking demands on-site. Accordingly, the demand for on-street parking is expected to be high.

Based on the available parking survey data, parking occupancies are typically moderate with peak parking occupancy in the order of 60% (for Precinct 6). It is expected that industrial development within the centre will remain fairly constant over the short to medium term and then reduce in the longer term as the area moves toward mixed use development in line with the Croydon Structure Plan.

Therefore, it is unlikely the on-street parking demands within the industrial areas would significantly increase. In any case, it is recommended that a mix of unrestricted and short term parking restrictions would be suitable in the industrial areas to cater for visitors/customers/deliveries (short term restrictions) and staff (unrestricted).

Overall, Council should monitor on-street parking in the industrial areas (based on community correspondence) and apply the adopted on-street parking hierarchy as required.

Strategy Policy 8 – Industrial Parking:

Continue to monitor parking occupancies and community correspondence and apply the adopted on-street parking hierarchy as required.

Actions:

- Review existing parking demands within the industrial areas of the Croydon Activity Centre,
- Apply the on-street parking hierarchy to give priority to visitors, customers and deliveries, and
- Allocate any remaining parking resources to unrestricted parking, principally for staff.

5.1.9. Weekend Event Parking

Parking demands on weekends throughout the Croydon Activity Centre are generally much lower than those seen during the week. However, it is acknowledged that events occur from time to time that create high parking demands.

For example, sporting events at Town Park, Croydon Oval and Fred Geale Oval can all produce significant parking demands on weekends. Furthermore, annual events such as the Maroondah Festival also produce significant once off parking demands.

On some occasions, the parking demands produced by these events can exceed the parking supply in the vicinity of the event. It is acknowledged that the existing parking resources do not meet the parking demands on these occasions, however, it is noted that these events only occur a limited number of times per year. Therefore, it would be inappropriate to design for these peak events due to the inefficiency of having excess available parking spaces for the rest of the year.

On this basis there will be a number of times a year when available parking spaces are difficult to find. This level of parking ‘saturation’ is considered to be acceptable as long as traffic safety and access is not compromised. In order to ensure traffic safety, it is required that vehicles will park according to the Victorian Road Rules and the posted parking restrictions.

In order to minimise the impact of these events, it is recommended that Council liaise with the organisers of these events to:

- Keep event participants informed of the most appropriate locations to park, and
- Investigate options to provide overflow parking to occur on nearby private land by agreement between parties.

Strategy Policy 9 – Weekend Event Parking:

Council acknowledges that parking demands associated with weekend events may at times exceed parking capacity, however, parking facilities should not be designed to meet peak parking demands. Council will work to manage the impact of any peak weekend parking demands.

Actions:

- Liaise with event operators (i.e. sporting clubs) to develop appropriate parking locations for event participants, and
- Investigate opportunities for event temporary overflow parking to occur on nearby private land by agreement between parties.

5.1.10. Statutory Parking Rates

The Croydon Activity Centre is likely to undergo change in the future, following its designation as a Major Activity Centre. As part of this growth and change, the function of the centre is likely to transform based around higher building densities. Therefore, it is critical that parking rates applied to new developments through the statutory planning process support the visions of the Croydon Structure Plan and the aims of this parking strategy.

The Department of Planning and Community Development (DCPD) has undertaken a review of the statutory parking rates presented in Clause 52.06 of the Planning Scheme. This review commenced in 2007 with initial findings presented in January 2008. In 2011, an updated review was undertaken with public consultation occurring until October, 2011.

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The main purpose of the DCPD process was to review the existing parking rates contained in Clause 52.06 that have been traditionally applied to new developments, to provide a set of 'up to date' parking rates to be included in a revised version of Clause 52.06 of the planning scheme. The bulk of the existing rates were developed through research, however, the research was undertaken decades ago and a number of the rates specified in Clause 52.06 no longer reflect current parking demands. For example, the shop parking rate under the existing clause 52.06 is 8 spaces per 100m² of leasable floor area. This rate was developed during the period when many shops were only open Monday to Friday with limited trading on Saturday mornings. However, since this period, late night and weekend trading has been introduced that spreads the parking demands over a much longer time period, resulting in lower peak parking demands. Therefore the parking rate for a shop use is widely seen to not be reflective of current parking demands.

In terms of an activity centre, applying the existing Clause 52.06 parking rates would likely result in an oversupply of parking in the centre. In an unconstrained parking situation, the level of usage of motor vehicles as a mode of transport is likely to increase, which does not support the 'sustainable' transport objectives of activity centres. Therefore, it is critical that the parking rates applied to the Croydon Activity Centre are more reflective of actual demands. Furthermore the recommended rates from the DCPD review take into account the centre based approach to parking in activity centres.

The key rates from the 2011 Car Parking Advisory Committee Review, applicable to the Croydon Activity Centre, and presented in Table 8 below.

Table 8: Parking Rates Recommended by the 2011 Car Parking Advisory Committee.

Land Use	Zoning	Recommended Parking Rate (Activity Centre)
Dwelling	In Business Zone	1 car space to each one or two bedroom dwelling 2 car spaces to each three or more bedroom dwelling (studies or studios that are separate rooms must be counted as bedrooms)
	In Another Zone	1 car space to each one or two bedroom dwelling 2 car spaces to each three or more bedroom dwelling (studies or studios that are separate rooms must be counted as bedrooms) 1 car space for visitors to every five dwellings for developments of five or more dwellings
Office	In Business or Activity Centre Zone	3 car spaces to each 100 sq m of net floor area
	In Another Zone	3.5 car spaces to each 100 sq m of net floor area
Restaurant	In Business or Activity Centre Zone	3.5 car spaces to each 100 sq m of leasable floor area
	In Another Zone	0.4 car spaces to each patron permitted
Shop	In Business or Activity Centre Zone	3.5 car spaces to each 100 sq m of leasable floor area
	In Another Zone	4 car spaces to each 100 sq m of leasable floor area

In general the rates presented in Table 8 above are in line with or lower than the existing rates presented in the existing Clause 52.06 of the planning scheme.

In order to align with the objectives of the Croydon Structure Plan and this parking strategy, it is recommended that Council adopt the final recommended parking rates specified in the DCPD parking review (2011).

Furthermore, a review of the parking provision within major commercial areas in the Croydon Activity Centre has been undertaken and is presented in Table 9 below.

Table 9: Review of Parking Provision in Major Commercial Areas

Commercial Area	Existing Floor Area (m ²)	Existing Parking Rate	Existing Car Parking Provision	Provision Required under DCPD Recommended Rates (3.5 spaces per 100m ²)	Peak Parking Occupancy Observed (2010 parking surveys)	
					Spaces Occupied	Percentage Occupancy
Croydon Market and Shopping Centre	12,000	6.1	735 spaces*	420 spaces	426 spaces	58%
Main Street	15,000	9.0	1,351 spaces	525 spaces	950 spaces	70%
Arndale Shopping Centre	6,500	4.4	285 spaces**	228 spaces	198 spaces	69%

*Only includes publicly available private off-street parking spaces at Croydon Market and Shopping Centre

**Only includes publicly available private off-street parking spaces at Arndale Shopping Centre

The above review indicates that all of the major commercial areas within the centre are providing parking rates in excess of the recommended rates under the DCPD Clause 52.06 parking review (2011). A review of the peak parking occupancies observed indicate the Croydon Market and Shopping Centre and the Arndale Shopping Centre have peak parking occupancies in line with the recommended provision under the DCPD review. This is expected due to the recommended parking rates being developed to reflect 'actual' commercial parking demands. It is noted that the parking occupancies observed for the Main Street Precinct are higher than the recommended provision under the DCPD review. This is likely to be due to the presence of commuter parking in the Main Street Precinct, which has not been accounted for in the commercial floor area recommended rates.

In view of the above, there is scope for Council to potentially allow additional development in these areas without the provision of additional parking facilities. This would result in the parking rate reducing to be in line with the recommended rates under the DCPD review.

It is recommended that proposals of this nature are reviewed individually, with an appropriate level of detail required to be submitted to support the application.

Strategy Policy 10 – Statutory Parking Rates:

Council will adopt appropriate parking rates for new developments in the Croydon Activity Centre. The final rates recommended by the Parking Advisory Committee Clause 52.06 Parking Review (2011) should be adopted.

5.1.11. Parking Permits

A number of strategy policies indicated above have identified a need for an overall parking permit scheme within the Croydon Activity Centre. In general the scheme should include two main components, residential permit parking and trader permit parking. It is recommended that a policy be formulated that covers both of these user groups in the one strategy.

Strategy Policy 11 – Parking Permits:

Council will formalise and develop the existing informal permit parking scheme within the Croydon Activity Centre to allow the application of priority parking for specific user groups.

Actions:

- Develop and formulate a permit parking scheme for residents, traders and any other groups identified by Council in Strategy Policy 1, Strategy Policy 2, Strategy Policy 5, Strategy Policy 6 and Strategy Policy 7,
- Consider and review the various types of parking permits to be covered in the scheme (i.e. permits tied to individual vehicles, permits transferable between vehicles, coupon permits and residential visitor permits),
- Review and consider the specific user groups that will be eligible for permits under the scheme, and
- Consider and review the various options available for the application of the scheme (i.e. permits only valid in a particular street or on an area wide basis).

5.1.12. Enforcement

It is envisaged that as development occurs within the Activity Centre that parking will become in higher demand. Under these conditions, the level of non-compliance with the posted parking restrictions could also be expected to increase. Therefore, the enforcement of any implemented parking restrictions is crucial to ensure the intent of the applied parking management within the centre.

Specifically a number of the key strategic policies presented in this strategy report will require a level of enforcement to support the objectives, including:

- Supply of short term parking restrictions for visitors to the activity centre,
- Resident/Trader permit parking schemes, and
- Premium parking within the centre.

It is understood that Council currently enforces the main activity areas within the centre, including Main Street, and Croydon Market. Enforcement is undertaken within a number of private off-street carparks (e.g. Croydon Market) under an agreement with the private owners of the individual sites. It is recommended that Council pursue enforcement agreements with the owners of significant private off-street carparks to support the aims Croydon Parking Strategy.

Enforcement of other areas throughout the centre is undertaken in a reactive manner, with regard to concerns from the local community.

Maroondah City Council has traditionally not had a large parking enforcement team when compared to other municipalities in metropolitan Melbourne. Given the task of parking enforcement is likely to increase as development and therefore parking demand increase, Council will need to monitor the staffing level of the Local Laws Department. An adequate level of parking officers are required to ensure that an appropriate level of parking enforcement can be undertaken.

Recently, new technologies have been developed that aid parking enforcement. Through the use of technology, Council is able to increase the level and effectiveness of enforcement, whilst not increasing the physical level of staff. Some examples include:

- PODDS (Parking Overstay Detection Devices) – Electronic devices that are physically located within parking spaces to monitor the duration of stay of vehicles. When a vehicle has overstayed the prescribed time limit, an alert is sent electronically to parking officers are then able to issue a ticket. The devices are particularly effective as parking officer no longer need to conduct two inspections to monitor the duration of stay, and
- Vehicle Mounted Licence Plate Recognition System – These systems employ sophisticated vehicle mounted digital cameras to record the number plate of every parked vehicle. When the car is driven through the area for a second time, the system places alerts for vehicles that have overstayed the time limit. The number plates of the offending vehicles are matched to the owners address and infringement notices can then be issued through the mail.

Finally, a high level of communication is required between Council departments to ensure that new parking restrictions are enforced. To aid this process it is recommended that electronic mapping software is implemented to allow up to date record of parking capacities and parking restrictions to be available to all Council departments. This form of software also has the ability to be made available to the public if desired.

Strategy Policy 12 – Enforcement:

Council will enforce the implemented parking restrictions within the activity centre to support and achieve the aims of this parking strategy.

Actions:

- Continue to undertake parking enforcement in the high activity areas within the centre on a regular basis, including Main Street, Croydon Leisure and Aquatic Centre and large Private Carparks under agreement,
- Pursue enforcement agreements with the owners of significant private off-street parking facilities within the centre to support the aims of this parking strategy,
- Monitor parking compliance in the remaining areas within the activity centre based on community correspondence,
- Monitor staff levels to ensure that an appropriate level of parking officers are available to support the enforcement requirements of the activity centre,

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- Investigate, consider and monitor various technology based solutions to minimise the resourcing requirements for parking enforcement,
- Ensure a high level of communication between Council departments to ensure that the Local Laws department is notified of any amendments to parking restrictions to ensure that enforcement occurs, and
- Implement an electronic mapping software to record up to date parking capacities and parking restrictions in the Croydon Activity Centre.

5.1.13. Connectivity, Infrastructure, Amenity and Safety

The major parking areas in the Croydon Activity Centre are particularly segregated, with the three main activity areas of Croydon Market, Main Street and Arndale all separated by major roads and the Lilydale Railway Line. Furthermore the off-street parking locations in some of these major centres are not readily visible by passing vehicles (i.e. Main Street).

Therefore, it is recommended to include a suitable level of vehicle directional signage for vehicles entering Main Street from the north and south, to guide vehicles to the off-street parking facilities at the rear of Main Street. Furthermore, an adequate level of pedestrian wayfinding signage is recommended throughout the centre to guide pedestrians from the various parking facility to major destinations.

One major area impacted by connectivity issues, is the off-street carpark at the Croydon Leisure and Aquatic Centre carpark. Currently the carpark only has access to Civic Square and as such vehicles are required to drive in a 'loop' arrangement to access the carpark. This causes a significant level of vehicle circulation in the area. The parking occupancy surveys undertaken as part of the Croydon Parking Study indicate the carpark is currently underutilised. Therefore, it is recommended that a vehicle connection is made between the car park and Birdwood Road to significantly improve vehicle connectivity and improve utilisation of the carpark.

The Croydon Structure Plan and the subsequent Croydon Pedestrian Priority Plan highlight a number of key deficiencies in the connectivity and safety of the pedestrian network in the Croydon Activity Centre. It is recommended to develop and fund proposals in line with these documents to improve the overall pedestrian facilities in the centre.

Traffic safety concerns around Civic Square were highlighted as concerns through the community consultation process. The interaction between vehicles entering/exiting parking spaces and the speed of through traffic were highlighted as particular concerns. A review of parking and traffic safety was recently conducted in this region by Council and a number of recommended treatments including kerb outstands, improved pedestrian crossings and additional street lighting have been identified to improve traffic safety. It is recommended that funding for these items is pursued. Furthermore, vehicle sight lines on Civic Square adjacent to the south-west corner of the Croydon Leisure Centre building have been identified as a potential safety issue. On this basis it is recommended to explore options to improve sight lines, potentially through the removal of some parking spaces on the inside of the curve.

Finally, personal safety has been highlighted as a concern by the community in a number of parking facilities through the centre. It is recommended to review the existing parking facilities for personal safety concerns and consider the implementation of additional street lighting or CCTV to improve personal safety. Furthermore, the Croydon Structure Plan highlights a number of 'urban design principles' which should be considered in future planning applications to improve personal safety i.e. passive surveillance through active frontages to carparks.

Strategy Policy 13 – Connectivity, Infrastructure, Amenity and Safety:

Council will provide a system of parking facilities that area connected, safe and efficient for the users of the activity centre.

Actions:

- Ensure that an adequate level of vehicle directional signage is provided to highlight the major parking facilities throughout the activity centre. Particular emphasis should be given to Main Street, for vehicles entering from the south via Mt Dandenong Road and vehicles entering from the north from Coolstore Road,
- Ensure an adequate level of pedestrian wayfinding signage is included throughout the centre, particularly to guide pedestrians from parking facilities to the major destinations in the centre,
- Investigate options to provide an additional vehicle connection for the carpark at the Croydon Leisure and Aquatic Centre to Birdwood Road,

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- Develop and fund pedestrian improvement works in line with the Croydon Structure Plan and the Croydon Pedestrian Priority Plan,
- Pursue funding for traffic safety improvements identified in Council's Civic Centre Parking review,
- Review personal safety for parking facilities within the centre with consideration for improvements such as additional street lighting and CCTV, and
- Consider urban design principles highlighted in the Croydon Structure Plan to improve personal safety for parking facilities in new developments.

5.1.14. Waste Collection

Waste collection forms a central point of urban life and is critical to the function of activity centres. As densities are expected to increase, production of rubbish and therefore the demand for waste collection is also expected to increase.

However, in areas that experience high parking occupancies (such as activity centres), Council kerbside waste collection is difficult to administer. In general, short term parking restrictions are required to clear the street of vehicles to allow the kerbside collection to occur.

This situation is best avoided through the planning process, whereby all new developments within the centre should prepare a waste management plan to demonstrate the following items:

- Methods to minimise the production of waste,
- Location of bin storage,
- Access arrangements for waste collection vehicles (including details on the type and size of vehicles expected), and
- Specify the proposed waste collection days and times.

Council should investigate and consider policy options/local laws to manage waste collection for existing developments not covered by a waste management plan.

Strategy Policy 14 – Waste Collection:

Council will manage the provision of waste collection in new developments through the planning process to ensure an adequate level of amenity and safety. For existing developments not covered by a waste management plan, Council will consider policy options/local laws to manage waste collection.

Actions:

- Ensure all new developments prepare a waste management plan as part of the statutory planning process to demonstrate the following items:
 - Methods to minimise the production of waste,
 - Location of bin storage,
 - Access arrangements for waste collection vehicles (including details on the type and size of vehicles expected), and
 - Specify the proposed waste collection days and times.
- Investigate and consider policy options/local laws to manage waste collection for existing developments not covered by a waste management plan.

5.1.15. Construction Zones

Maroondah City Council is in the process of formulating a Construction Zone Policy to manage the impact of parking associated with construction activities. The policy will regulate the amount and location of parking spaces available to construction sites for the temporary parking of construction vehicles and materials delivery. Permits will generally only be required when road space is occupied for a period longer than 5 days.

There are a number of reasons that a construction site may require a construction zone including:

- activity associated with a large scale development (e.g. multi-storey building where site amenities are temporarily stored within the road reserve),
- crane delivery/setup,
- a mass concrete pour,

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- a large number of coordinated deliveries,
- construction parking, and
- stockpiling materials.

The location of the construction zone will be limited to the frontage of the property under construction and a 'rental' cost will be applied depending on the length of construction zone applied for.

This policy should be applied to construction sites within the Croydon Activity Centre to minimise the impact of construction works on the existing Activity Centre users.

Strategy Policy 15 – Construction Zones:

Council will apply the Construction Zone Permit Policy to the Croydon Activity Centre to manage parking demands associated with construction activities.

5.1.16. Accessible Parking

Accessible parking forms a key priority in both the adopted on-street and off-street parking hierarchies.

The Building Code of Australia requires that accessible parking should be provided at a rate of 1 space for every 50 parking spaces for a shopping centre (Class 6 buildings) for the first 1,000 parking spaces and 1 space for every 100 spaces for parking in excess of 1,000 spaces.

Accessible parking spaces should conform to AS2890.6:2009, for parameters including but not limited to space dimensions, pram ramp accessibility, and grade crossfalls. Furthermore, accessible parking spaces should be located in the most proximate locations to major destinations in the centre e.g. banks, post offices, supermarkets and community facilities.

It is recommended that Council review the requirements for accessible parking both on-street and off-street, particularly in high activity areas such as Main Street and the Croydon Leisure and Aquatic Centre. Accessible spaces should be provided in line with the adopted hierarchies presented earlier in this report.

Strategy Policy 16 – Accessible Parking:

Council will allocate accessible parking within the commercial precincts of the Croydon Activity Centre in line with the adopted parking hierarchies.

5.1.17. Loading Zones

Loading zones are a high level of priority in both the adopted on-street and off-street parking hierarchies. Therefore the allocation of parking spaces to loading forms a critical part of an Activity Centre.

In general, loading zones should be provided at regular locations throughout the Activity Centre to ensure that nearby access for loading and unloading of goods is available to all businesses where loading bays are not provided on-site. Typically, this will result in one loading bay being provided within each block. It is desirable for loading bays to be located either at the start or end of a group of parking spaces to provide convenient access in and out of the space for larger vehicles.

The function of a loading zone is to provide a space for deliveries to businesses to occur. The fact that they are empty may seem a waste of space in many instances especially when parking spaces are at a premium. However, the fact they are empty also implies that deliveries can be made to business, which is their purpose. Loading bays should be limited to use for 15 or 30 minute periods by a single vehicle to ensure that they are available to other businesses within the Activity Centre.

Loading zones are also sometimes implemented on an individual needs basis. Several years later, if the business has moved on, the loading zone can remain unused, taking up space that could otherwise be used to provide additional parking. For many businesses, loading and unloading activity generally occurs during the morning. If this is the case in the Croydon Activity Centre, it may be possible to allow the parking space to be used by other vehicles in the afternoon. Limiting the use of the space to, say, 15 minute parking available to the public in the afternoon would allow the space to be shared by other uses whilst also providing the opportunity for it to be used for loading.

Strategy Policy 17 – Loading Zones:

Council will allocate parking for loading activities within the commercial precincts of the Croydon Activity Centre in line with the adopted parking hierarchies.

5.1.18. Alternative Parking

As parking demands and land values increase, opportunities arise for innovative alternative parking arrangements. In recent years, many developments in Melbourne, particularly in the inner city, have adopted innovative alternative parking arrangements such as car stackers and tandem parking. The following sections discuss each alternative parking arrangement.

Mechanical Car Stackers:

Mechanical car stackers are used as a means of providing space efficient vehicle storage and are ideally suited to developments where the majority of parking demands are for long-term parking (i.e. residential and office). Car stackers enable void spaces in traditional car parks, basements and buildings to be used effectively to increase the supply of parking.

The systems are typically sourced from Europe, where the use of such systems is commonplace in cities where the demand for 'floor space' occupied by parking is at a premium. These systems are now regularly used in Australia, with many residential and office developments using both dependent and independent stacker systems.

The stacker systems use high quality precision hydraulics, safety interlocks and remote operation to provide a safe environment for both vehicles and operators.

The use of car stacker systems should be limited to developments with long-term parking demands, as the end users will require training to become familiar with the use of the systems. The supply of car stacker systems typically includes on-site training for users under maintenance contracts, which is typical of other mechanical plant included in buildings (lifts, air-conditioning, etc).

The draft Clause 52.06 (2011) prepared by the Department of Planning and Community development includes guidelines for the use of mechanical parking as follows:

Mechanical parking may be used to meet the car parking requirement provided:

- *At least 25 per cent of the mechanical car parking spaces can accommodate a vehicle clearance height of at least 1.8 metres.*
- *Car parking spaces that require the operation of the system are not allocated to visitors unless used in a valet parking situation.*
- *The design and operation is to the satisfaction of the responsible authority.*

It is recommended that Council adopt the above guidelines when reviewing any applications including car stacker systems and only permit stacker systems for use by long term users. Furthermore, the design of the systems should generally comply with Clause 52.06 of the Planning Scheme and AS2890.1:2004.

Tandem Parking:

Tandem parking is the name given to two spaces provided one in front of the other with a single shared accessway. Under this arrangement, the parking spaces are considered to be 'dependant' whereby the vehicle in the front space requires the vehicle in the rear space to be moved to exit/enter the space.

In view of the above, tandem parking arrangements are therefore only suitable for long term demands of single tenants, for example resident parking (both spaces assigned to the same apartment) or office staff parking (both spaces assigned to the same tenancy).

The dimensions of the tandem parking spaces and access aisle should adhere to Clause 52.06 of the Planning Scheme and AS2890.1:2004.

Strategy Policy 18 – Alternative Parking Arrangements:

Council will consider and review alternative parking arrangements in new developments to ensure acceptable outcomes in line with Clause 52.06 of the Planning Scheme and AS2890.1:2004.

5.2. IMPLEMENTATION PLAN

The Croydon Activity Centre Parking Strategy provides a 'high level' document for the development and management of parking within the centre into the future.

It is recommended that Council adopt the parking strategy document (as outlined in the previous sections), with particular emphases on the identified strategy policies.

The strategy document will then provide guiding principles for private development within the centre as well as guiding Council in relation to the direction of parking management.

5.3. MONITORING AND REVIEW

An important component of any high level strategy document is the need to monitor and review, to ensure relevance over time. It is anticipated that the parking strategy will address the majority of existing parking issues identified within the Croydon Activity Centre. However, due to the dynamic nature parking issues and the timing and scale of potential development in the centre, it is recommended that Council review this parking strategy every 3 to 5 years.

In particular, it is recommended that data collection (i.e. parking surveys) is used to review the effectiveness of any major parking initiatives in the centre. Following this review, there may be an identified need for further treatments/initiatives which could be incorporated into the parking strategy.