Number of Parking and Loading Spaces Required for the City Centre

Final Draft

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Table of Contents

Executive Summary

Background

The Auckland City Centre's parking policy has been in place for over 20 years. Key features include maximum parking standards for new developments which vary by street type and controls over the location of public parking buildings. The parking policy was forward looking and innovative when first introduced. The creation of a single Auckland Council and the preparation of an Auckland Plan and City Centre Masterplan, both in draft form at the time of writing this report, means that the time is now opportune for a review of the parking standards and associated policies and controls.

The supply, management and location of car parking is a key element of the economy of a successful city centre. The availability and pricing of long stay or commuter parking for City Centre employees has an important effect on traffic congestion on the road network accessing the City Centre and the internal street network. Measures to limit the availability and increase the price of long stay parking are essential, but require the availability of good quality, attractive alternatives to the car. Recent and future major investments in Auckland's public transport system combined with measures to encourage more walking and cycling are providing such alternatives. Future investments such as the proposed City Rail Link will add to their relative attractiveness.

The City Centre Masterplan places strong emphasis on measures to make the City Centre a desirable and interesting place to walk around in. It seeks to reallocate some street space to pedestrians, cyclists and landscaping/parks.

Projections indicate that the City Centre employment could increase from the approximately 78,000 in 2010 to 141,000 by 2041. During the same period the number of residents is to increase from approximately 20,000 to approximately 54,000. The increase in economic activity associated with such a large increase in employment will increase visitor numbers and hence, all other things being equal, increase demand for short stay visitor parking. This emphasises the need to look closely at visitor parking management, something not seen as an issue previously.

Resident parking issues are also of increasing importance. Resident parking requires a different approach as it has quite different issues. While City Centre residents in general can be expected to make fewer trips by car and have lower car ownership levels, there will still be a demand for car parking. On the other hand excessive car parking provision unnecessarily increases the cost of apartments and can produce a surplus of parking some of which can be (and is) in effect converted to parking for City centre commuters.

Purpose. The purpose of this project is to:

- implement the strategic approach to parking contained in the Auckland Regional Land Transport Strategy 2010-2040 and Auckland Regional Parking Strategy 2009
- review the current practice of parking restraint (i.e. maximum parking ratios and no minimums) in the city centre through the Central Area section of the District Plan and determine whether it should continue to be applied in the Unitary Plan
- develop parking and loading space ratios to be applied to the city centre

- review the implications of car parking provision on high density urban and built form and propose innovative solutions to achieve high quality urban design outcomes.

The Central Area section of the District Plan is the key policy and regulatory document that manages the development and operation of parking specifically for the City Centre. There is a range of development controls that give effect to the amount and types of parking provision, encourage quality urban design outcomes, influence the operation of parking facilities and seek to manage parking to achieve wider transport objectives.

This project proposes parking policies for inclusion in the City Centre section of the Unitary Plan currently being developed by Auckland Council. The report considers options for achieving the desired outcomes and is intended to support an evaluation of the benefits and costs of policies and rules in terms of Section 32 of the Resource Management Act 1991.

Policy Position. Existing statutory documents which influence parking supply and demand in the Central Area include the Regional Policy Statement, Regional Land Transport Strategy, Draft Auckland Plan and Central Area Section of the District Plan. The Central Area Parking Strategy, prepared by Auckland City Council in 2004, and the Auckland Regional Parking Strategy, prepared by the Auckland Regional Council in 2009, are non statutory documents which are directly relevant.

All these documents support the need to manage the supply of parking in the City Centre as one of the tools to avoid unnecessary vehicle use. They acknowledge that parking does have a role in enabling vehicle access and supporting the economy of the City Centre.

Draft City Centre Masterplan. The Draft City Centre Masterplan includes a number of proposals for making the City Centre a more pleasant place to walk around. Achieving the Draft Masterplan aspirations requires a reduction in peak period vehicle travel into the City Centre, and a limit on the amount of traffic on City Centre streets during weekdays between the weekday peak periods. At the time of preparing this report, however, the extent and nature of any traffic restraints are unclear. This emphasises the need for a parking supply policy approach that is adaptable to changing circumstances and targets.

Approach taken. The approach taken in this project has been to consider the role that motor vehicles play in the City Centre and the parking measures that could be implemented to support that role.

Research was undertaken into city centre parking management practices and experience in a number of international cities. Some of that research focussed on Australian cities given the similarities with Auckland. Perth, Melbourne and Sydney in particular were seen as cities with strong parking policies from which worthwhile lessons can be learned.

From the international research and a review of the current situation in Auckland, measures which could be implemented through the Unitary Plan were identified.

Auckland Council and Auckland Transport propose to develop a Comprehensive Parking Management Plan for each of the main urban centres. Measures which could form part of the Comprehensive Parking Management Plan for the City Centre were also identified.

Current Situation

Parking supply. A parking inventory undertaken in 2007 showed the City Centre to have approximately 50,000 parking spaces, comprising a mixture of on and off-street, with off-street parking being on surface lots or in buildings.

The breakdown of types of parking space is shown in the Table below

Central Area Parking Supply 2007

	Long Stay	Short Stay	Total
NON-RESIDENTIAL PARKING			
Public Parking			
Public Off-Street: Council	1,827	3,683	5,510
Public Off-Street: Private Sector	6,369	6,502	12,871
On-Street	178	4,080	4,258
Total Public Parking	**8,374**	**14,256**	**22,639**
Private Non-Residential	20,156	1,965	22,121
Total Non-Residential Parking	**28,530**	**16,230**	**44,760**
RESIDENTIAL PARKING			
Total Residential Parking	5,471		
ALL PARKING			
Combined Total	**34,001**	**16,230**	**50,231**
Percentages	**68%**	**32%**	

Parking demand. Survey data on the usage of the available parking supply is very limited. This is an important issue as parking usage data gives valuable information on parking duration and occupancy levels. "Early bird" parking is a particular example. A number of public off-street parking spaces described as short stay in the above parking supply information, are in reality occupied by long stay parkers (commuters) as they are a form of discounted all-day parking. This report takes this key issue into account to some extent, but this cannot fully compensate for the lack of good information on actual parking demands.

Current District Plan. Parking which is dedicated solely to a permitted activity taking place on the site is defined in the Central Area District Plan as ancillary parking and is generally permitted for up to 100 vehicles. For more than that number, ancillary parking is a Restricted Controlled activity (with assessment criteria related to local traffic impacts). No distinction is made between ancillary parking which is short term, and long term, commuter, leased or visitor parking, although all these terms are defined.

Non-ancillary parking areas or buildings are generally Discretionary and are allowed only on certain road types which are related to the function of the road and whether or not it is located in the defined pedestrian oriented area.

In addition to these provisions is Rule 9.7.1.1, which imposes a maximum number of car park spaces for each site in the Central Area. This maximum is in proportion to Gross Floor Area and differs depending on the road type accessing the site. These limitations do not apply however to non-

ancillary commuter car parking areas or buildings, or short-term public visitor car parking areas or buildings (Rule 5.5.2) (provided their effects on the adjacent road network can be mitigated). This means that in effect there is no overall limit on the number of car parking spaces that can be provided in car parking buildings.

The need for parking management

Planning for the City Centre, led by the City Centre Masterplan, aims to create a more people oriented environment, with less need for vehicles to use central city streets and higher amenity values for pedestrians and cyclists. Additional access to the City Centre to support the expected growth will be largely through public transport, particularly the Central Rail Link.

Nevertheless there will still be a need for motor vehicles on City Centre streets. In order of reducing priority, there will be a need for vehicles undertaking the following functions - emergency vehicles; construction vehicles; public transport; taxis; servicing buildings; business operations; shopping and visiting for recreational, cultural or other reasons; residents and their guests; City Centre circulation; and commuters and students.

Vehicles serving each of these functions will need to be able to access their destinations and park, at least for a short period, when they get there. Parking can be provided on-street or in off-street facilities for regular, predictable users. Other users, such as emergency vehicles and construction vehicles, will generally use the street itself or temporary/short term arrangements. In some cases, such as servicing buildings, off-street parking and loading may be required in some precincts and on-street parking and loading allowed in other precincts, possibly restricted by time of day so as not to interfere with other street activities.

It should be noted that the highest priority uses (emergency vehicles, construction vehicles and public transport) will generally be accommodated on street. Next in priority, vehicles used for business, shopping and visiting, will generally be short stay vehicles parking for up to 4 hours. Residents will need long stay parking (primarily for the storage of vehicles) and their visitors will need short stay parking (often outside normal business hours). Low priority vehicles used by commuters and students will generally require long stay parking (greater than 4 hours).

While there are legitimate reasons and an on-going need for vehicles in the City Centre, the presence of vehicles does raise issues which need to be addressed:

- The presence of large numbers of vehicles, and numbers of large vehicles, can be threatening to pedestrians and cyclists, generate emissions, noise and vibrations which make using the streets unpleasant, and can substantially reduce the amenity and ambience that encourages pedestrians, cyclists, and a more vibrant and healthy street life.
- Large numbers of vehicles on City Centre streets with generally low capacity, closely spaced intersections, high weaving and turning volumes, and often kerbside activity including loading and parking, gives rise to congestion. Congestion in turn makes it difficult for necessary trips to be made, increases pollution, and generally leads to irritated pedestrians and frustrated motorists and a decline in the attractiveness of the city centre.
- The City Centre has a high number of pedestrian crashes. Reducing the number of vehicles, particularly in pedestrian focussed areas, and managing site access better will help reduce conflicts.

- Traffic movements focus on parking locations and the interface between parking facilities and the streets servicing them needs to be compatible with other activities occurring at the location. Entrances to major parking facilities can be unpleasant and risky places for pedestrians and cyclists.
- Above ground parking buildings and parking areas within buildings often have inactive frontages, poor quality materials, large voids and can be unattractive and utilitarian. Attention to design is required to make them to fit comfortably in a dense high quality urban environment, and to avoid low quality frontages at street level. On-site parking should never dominate a street or view in the City Centre.
- Clogging city centre streets with vehicles slowly searching for a parking space also makes the situation more difficult for more efficient, more sustainable modes such as public transport, walking and cycling and reduces the attractiveness of those modes and the city centre.
- Vehicles and associated carriageways and parking facilities take up a large amount of space in the City Centre. City Centre space is a limited resource and should be available to the highest value use.
- Parking is sometimes provided at ground level on an otherwise vacant lot, generally awaiting the construction of a more permanent development. These parking areas often result in low cost facilities with inactive frontages and detract from local ambience. In some cases they are also established without the necessary consents.

The use of motor vehicles in the City Centre needs to be actively managed so that high priority vehicle use is supported but low priority vehicles are not allowed to dominate, and the issues listed above do not become so great that the future of the City Centre is compromised.

Three of the strongest tools available to manage numbers and types of vehicles in the City Centre ~~is~~ are the availability, price and location of parking. If motorists cannot find convenient parking reasonably easily at an affordable price, they may choose to drive to an alternative location.

There are two aspects of managing parking – managing supply (the number, location and type of parking space) and managing demand (reducing the need for car parking by ensuring as far as possible that alternatives such as public transport, walking and cycling are available and attractive, and that car use is shared).

This report deals with managing parking supply mainly through provisions proposed to be included in the Unitary Plan and deals with managing parking demand mainly through provisions proposed to be included in the City Centre Comprehensive Parking Management Plan. It proposes that a parking levy be introduced as a means of funding transport improvements benefitting the City Centre.

City Centre Parking Principles

Review of the current situation and consideration of the learnings from the international research has led to development of the following parking principles:

Parking management must support wider objectives

- Policies and actions should:
    - Support the objective of making the City Centre a more pedestrian friendly, more walkable place.

- Encourage greater use of public transport, walking and cycling and encourage higher vehicle occupancies for travel to the City Centre.
- Recognise that the provision of an adequate supply of car parking has economic benefits which must be carefully balanced against the aim of reducing dependency on travel by car.
- Ensure the provision of reasonable options for commuters and employees.

Long stay and short stay parking should be addressed through separate supply and location policies

- The amount of short stay parking should balance the potential demand for private vehicle access to the City Centre during the interpeak period with the aim of limiting the amount of traffic in specific streets or areas to support the broader objective of making the City Centre a desirable place to visit and walk around in. The location of short stay parking needs to be related to desired visitor destinations and to roads which are intended to cater for that amount and type of traffic.
- The supply of long stay parking should be managed to support mode share targets and to ensure that the 2-hour weekday AM peak period capacity of the road network directly accessing the City Centre is not exceeded. Any new parking facilities for long stay commuters should be located towards the edge of the City Centre away from key pedestrian routes.

Parking facilities must be designed to fit their environment

- Parking facilities, whether in a building or not, are to be designed so that they blend into the urban fabric so as to contribute to a high quality and visually memorable experience. Where a parking facility has a street frontage, that frontage is to be activated and articulated so as to appear to be a building inhabited by people.
- Entrances and exits to major parking facilities must minimise the impact on pedestrians at the access point and should preferably be from service lanes or other entrances that do not compromise key pedestrian routes.

Parking must be managed efficiently

- Within parking facilities, priority should be given to sustainable forms of transport.
- Pricing should continue to be used to manage demand for parking resources for priority users.
- Shared parking is more flexible and requires less parking than each building providing for the parking it generates, and should be encouraged.

Effective parking management requires a range of measures

- Unitary Plan provisions should be used to manage the amount, type and location of off street parking facilities and the immediate impacts (appearance, pedestrian impacts and traffic impacts) of those facilities.
- Parking conditions in resource consents must be enforceable and enforced.
- On-street parking should continue to be managed for priority users including short stay.

- Council should remain a provider and price influencer for short stay parking.
- On-street parking controls must be effectively enforced.

Parking supply measures proposed for the Unitary Plan

Management of the supply of short stay parking. Options identified in this report involve varying degrees of intervention by Auckland Council in the amount and location of short stay parking that is provided. It is considered that a greater degree of prescription than is currently the case is required to address the balance between the need for vehicle activity to support the City Centre's economy and the wider aspirations for the City Centre.

It is proposed that a ceiling be set on the total amount of short stay parking that will be allowed in the City Centre. As the determination of such a ceiling is inevitably an approximation, it is recommended that a ceiling should be applied incrementally and reviewed over time. Modelling of City Centre traffic in 2041 by Auckland Transport suggests that traffic flows between peak periods will be a approximately 21% higher than in 2006. After subtracting the estimated amount of early bird parking, it is estimated that there were approximately 12,250 short stay car parks in 2007. This suggests that 2,570 spaces additional short stay spaces may be required over 30 years, or on average 860 spaces during each 10 year period.

The Council should update the short stay parking supply data and undertake a survey of the usage of the available City Centre parking supply to better determine the true demand for short stay parking. The short stay parking supply policy should be reviewed once better information on current short stay parking supply and demand is available, then updated at 5-yearly intervals.

Proposed short stay parking policy:

- The increase in public short-stay parking supply in the Central Area be limited to no more than an additional 860 spaces over the next 10 years (to 2021).
- The Council undertake a survey of the usage of the available City Centre public parking supply to better determine the true demand for short stay parking. Such a survey should be undertaken in the near future and updated every 5 years.
- The short stay parking supply policy should be reviewed in 5 years time (or earlier if a survey of actual demand indicates a significant change in supply policy is required). A decision should then be taken on the amount of additional off-street short-stay public parking spaces that should be provided (if any).
- To encourage "park-once-and walk" behaviour, public short stay car parks should be conveniently located, easily accessible, within an easy and pleasant walk of key destinations and served by a central distributor public transport system.
- Key destinations include new developing areas such as the Wynyard Quarter. It is anticipated that new short stay parking facilities will primarily be located in the developing precincts of the Central Area.
- New public short-stay parking facilities should be avoided on streets with high pedestrian demands. These include:
    - The "Type 1" streets listed in 6.2.7 plus shared zone streets
    - Streets in newly developing areas with high pedestrian demands
    - Part of Victoria Street and part of Quay Street (Draft City Centre Masterplan)

Management of the supply of long stay parking. Options identified in this report involve varying degrees of intervention by Auckland Council in the amount and location of long stay parking that is provided.

Based on transport modelling by Auckland Transport which assumes that the planned improvements to public transport (including the City Rail Link) are in place, the calculations indicate that the total amount of traffic entering the City Centre in 2041 in the weekday AM peak period is likely to be about the same as the current level.

A key conclusion based on this analysis is that the amount of long stay parking should remain at the current level in the medium to long term.

If the targets set in the Auckland Plan are achieved, the amount of peak period traffic entering the City Centre could reduce significantly from the current level by 2041.

It follows that the long stay parking supply policy should be based on a scenario with no net increase in supply over the 30 year period, but should be able accommodate both a potential limited increase in long stay parking demand for a period of time, and a phased reduction in long term parking supply by 2041.

Under these conditions, the most appropriate means of controlling the supply of long stay parking over the short to medium term is to accommodate some additional ancillary parking in new developments, while prohibiting any increase in the supply of public long stay parking (whether provided by the private sector or the Council) in the City Centre.

"Temporary" parking in vacant lots is, to a large extent, additional long stay/ commuter parking. It follows that new temporary parking should be prohibited as part of the policy of strictly controlling the supply of long stay parking in the City Centre.

Proposed policies for the provision of long stay parking excluding ancillary parking in new developments:

- No additional publicly or privately owned public long stay public car parking should be permitted in the City Centre.
- New "temporary" parking facilities in vacant lots should be prohibited. Any facilities operating without consent should be closed and the consent conditions of existing facilities should be enforced.
- The mode shares for travel into the Central Area should be monitored at regular intervals and the Central Area Parking Policy should be reviewed every 5 years to take into account changes in mode shares and the associated parking demand over the intervening period into account, plus changes in City Centre road space allocation.

Ancillary parking. It follows that the maximum amount of parking in new private non-residential developments should continue to be limited and the maximum should be reduced to limit increases in the total supply of parking in the City Centre.

Maximum parking standards have been in place in the Sydney, Melbourne, Perth and Auckland city centres for many years. Sydney, Melbourne and Brisbane currently apply a maximum rate of tenant

or ancillary parking of around 0.4 to 0.5 per 100m^2 GFA (1:250m^2 or 1:200m^2 GFA). Tenant/ ancillary parking allowance in the Perth CBD is similar to Sydney, Melbourne and Brisbane, and is in the order of 0.4 to 0.6 per 100m^2 GFA for high density buildings.

It is proposed that the amount of ancillary parking permitted in new non-residential developments should be based on a new maximum rate of 1 car parking space per 200 m^2 GFA. A lower ratio could discourage new development in the City Centre and is not considered appropriate at this time.

The ancillary parking ratio of 1:200 applies to all streets except the following where no ancillary parking is permitted:

1. Those streets described as Type 1 roads in the Auckland City District Plan 2004 and shown in Figure 9.1, Rule 9.7.1.1 (refer Appendix 9). No ancillary parking was permitted on Type 1 roads which consist of Queen Street between Quay Street and Mayoral Drive, Karangahape Road east of the motorway bridge, Symonds Street between Khyber Pass Road and Mount Street, Victoria Street between Albert Street and High Street, Fort Street and Shortland Street between Queen Street and Jean Batten Place, Vulcan Lane, Durham Street West, Darby Street, and Khartoum Place.
2. Shared zone streets not included in the above list. This currently includes Elliott Street between Wellesley Street and Darby Street and, potentially, High Street between Shortland Street and Durham Street East.

Accommodating an additional 63,000 employees at 1 car parking space per 200m^2 GFA would increase total GFA by approximately 1 million m^2 assuming an average of 16m^2 GFA per additional employee. This would allow a maximum of an additional 5,000 ancillary (private non-residential) parking spaces. The limited available information indicates that approximately 80-85% of these ancillary spaces would be occupied by senior management and other employees, indicating that these 5,000 additional ancillary spaces could in effect increase the long stay/commuter parking supply by approximately 4,000 – 4,250 spaces.

It follows that over time the supply of public long stay parking should be reduced to offset the increase in ancillary long stay parking as new development takes place.

Proposed policies for provision of ancillary (private non-residential) parking in new developments

- The maximum allowance for ancillary car parking in new developments in the City Centre should be set at 1 car park space per 200m^2 GFA and should be reviewed on completion of the proposed City Rail Link.
- The maximum allowance would cover all parking for each development including visitor parking, business operational parking and long stay parking.
- The maximum ancillary car parking ratio should apply uniformly to all new developments within the Central Area with the exception of those streets listed above where no off-street parking access is permitted.

Consequential additional public long stay parking policies

- Over the first 10 year period, Auckland Transport should progressively reduce the use of early bird parking in its facilities, e.g. through bringing forward to 7:30 the time it applies to

(rather than to 9:00 or 9:30 as at present) and increasing the cost. This should form part of a stated policy of gradually eliminating discounted commuter parking in Council-owned parking facilities. Any increase in the availability of public short stay parking resulting from a reduction of early bird usage of short stay/casual parking would contribute towards the identified additional short stay parking required over this period.

- Beyond 2021 Auckland Transport should convert long stay parking to short stay as demand allows. In the longer term it may be possible to close an existing public parking facility or facilities, and redevelop the site(s).

Management of the supply of residential parking. Parking provided for residents of City Centre apartments has a different impact on the City Centre from other types of parking. These cars are not used for journeys into the City Centre during the morning peak and therefore do not contribute to peak period congestion. They are generally not used during the day for travel about the City Centre and therefore do not generally detract from City Centre amenity during the day. They are typically used for trips out of the City Centre, particularly in evenings or at weekends, or for trips out of the City Centre during the morning peak. The parking spaces are often provided in building basements and in many cases cannot easily be converted to a use other than car parking.

There is some evidence that more resident parking is being provided in some buildings than has been required, and that surplus resident parking has been leased to commuters. This has the effect of contributing to the number of vehicles on City Centre streets during peaks and works against the "Parking ceiling" policy proposed above.

It is proposed that the current maximum allowance for resident car parking be reduced to bring it more in line with actual demands and broader City Centre land use and transport policy. In addition part of the maximum residential development parking allowance should be specifically allocated to visitor parking. This approach has the advantages of reducing the potential oversupply in resident parking in new City Centre apartment developments, while providing for an adequate supply of off-street visitor parking.

The recommended revised maximum residential parking ratios are as follows:

<70m^2 GFA	0.70 spaces per unit
70-110m^2 GFA	1.40 spaces per unit
>110m^2 GFA	1.70 spaces per unit
Visitors	0.20 spaces per unit

The new maximum ratios should be reviewed after approximately 10 years in the light of decisions made on the City Rail Link timing and other measures improving the accessibility of the City centre and reducing the need for car ownership.

Travel Demand Management Plans. Controlling the number and type of new parking spaces provided is critical to ensuring car use within the City Centre supports City Centre objectives. Controlling the number of spaces however will not be enough on its own to ensure parking supports City Centre objectives in the most effective manner. Building uses will change over time and so will peoples transport needs, so that there needs to be responsiveness and flexibility in the way that parking is managed. The allocation of parking spaces to operations such as care share schemes, car

pools, delivery vehicles, buses and coaches taxis etc is difficult to predict accurately and is likely to change over time.

It is considered that the best way ensure parking operations respond to changing needs and are integrated with other transport initiatives is to require the preparation of a travel demand management plan as a condition of the provision parking for any new activity or change in activity.

It is proposed that any new activity or change to an existing activity which provides 25 or more car parks or which will result in average daily generation of 100 vehicle movements or more be required to produce an approved travel management plan which would include how parking spaces are to be managed.

Provision of loading bays. Loading spaces can be difficult to fit on constrained sites within the City centre and there are some examples where the provision of loading spaces adjacent to the street reduce the activity along the building frontage. The requirement for a vehicle crossing also interferes with activation of the frontage and vehicles crossing interfere with pedestrian movement. In some instances, loading from the street can be preferable to the provision of an on-site loading bay, particularly where deliveries are made by relatively light vehicles. It is noted that in some locations in some cities deliveries are allowed from the street but are restricted to times of day when there is little pedestrian activity.

It is proposed that current requirements be maintained but that in pedestrian priority areas loading arrangements should be dealt with on a case by case basis as part of a travel demand management plan.

Provision of bus and coach parking. The intention of the current District Plan is to require bus and coach parking at locations such as hotels and entertainment facilities where large numbers of visitors are expected to arrive from time to time in large groups. These parking arrangements are often accommodated in porte cocheres. As for loading spaces, the outcome of this requirement can be arrangements which reduce activation of frontages and require footpath crossings for activities that are relatively rare. In many overseas cities bus and coach loading at hotels is routinely handled on-street.

It is proposed that bus and coach parking arrangements should be dealt with on a case by case basis as part of a travel demand management plan, but that porte cocheres should be actively discouraged by the Council wherever this is possible.

Provision of cycle parking. One of the features of the City Centre Masterplan is planning to make the City Centre more attractive and easier to use for cyclists and to increase the number of people using cycles both for access to the City Centre and for moving about inside the City Centre. If these plans are to be successful, it is essential that not only is cycling made easier, but provision is made for cycles and for cyclists at destinations.

It is proposed that minimum requirements be introduced for the provision in new developments of both cycle spaces and facilities for cyclists. Potential minimum cycle parking requirements for the city centre are included in the report. Cycle parking and facilities should be mandatory rather than a bonus provision as is currently the case in the District Plan.

Parking for people with disabilities. The Building Act requires parking spaces for people with disabilities to be supplied as a proportion of total parking spaces. Where no general parking is required, no parking for people with disabilities is required. While it would be desirable to introduce a requirement, there may well be difficult sites where, as for loading bays and bus parking as discussed above, such a requirement has unintended consequences regarding reduced activation of frontages, a reduction in the architectural quality of buildings at street level, and intrusion of vehicles crossings. In some cases it may be more appropriate to allocate on street parking to people with disabilities, although this is generally not desirable due to safety issues.

It is proposed that parking for people with disabilities be dealt with on a case by case basis in the pedestrian priority areas as part of a travel demand management plan, but be required outside the pedestrian priority areas.

Urban Design measures proposed for the Unitary Plan

Urban design of the City Centre is heavily influenced by the amount of traffic on city streets and by the measures used to manage that traffic in order to support the development of streets which attract a vibrant street life and are accessible to pedestrians and cyclists. The role of parking in achieving this outcome is described above.

This section deals with the urban design aspects of integrating parking facilities with local streets and local areas, particularly in regard to the design of parking facilities so that they fit in to the local urban architecture, and the design of access points so that they are safe and fit with local pedestrian and cyclist movements. It does not attempt to address general City Centre urban design issues. It is envisaged that these recommendations will form only a small part of the overall set of urban design provisions eventually prepared by the Council in the Unitary Plan. Although urban design goals for the City Centre include achieving a high-standard of quality architecture, the imperative is in active street edges where pedestrian trips are perceived as the easiest and most attractive travel mode.

The following measures are proposed to ensure that the placement and scale of car parking and vehicle access activities supports good urban design:

Vehicle crossings on footpaths. Minimise the number of crossing points (if any). Decisions on the provision of an additional crossing or crossings should balance the negative effects on pedestrians against the adverse traffic effects of not providing the additional crossing or crossings. Vehicular queuing effects arising from narrow vehicle crossings will have to be objectively balanced against the impacts on pedestrian amenity and safety arising from wider vehicle crossings.

Crossing widths. The standard crossing should be a single crossing perpendicular to the kerb, with a maximum width of 3.1m. Where it is demonstrated that a double crossing is essential, the maximum width of this should be 4.8m unless as part of a resource consent a pedestrian refuge space between lanes (or similar) is demonstrated to be a superior choice. Parking barrier arms or gates should be set back at least 2m from the property boundary. No more than 2 crossing points should be permitted along a street frontage.

Vehicle crossings should also be designed to ensure the footpath maintains its alignment, levels, and materials. All ramps and gradient changes should be accommodated within buildings.

All vehicle crossings should be accompanied by information demonstrating an optimal pedestrian safety solution has been incorporated depending on the size of the crossing, the volume of daily vehicles anticipated to use it, the volume of daily pedestrians anticipated to use the footpath, and the number of other vehicle accesses in the street.

Separate pedestrian and vehicle access. Pedestrian accessways should be separate from vehicle accesses, visually conspicuous and, where possible, located towards site corners. They should include canopies for weather protection and lighting, and should be integrated with the ground floor of the building. Pedestrian access in accordance with Crime Prevention Through Environmental Design principles should be required within car parking areas.

Active frontages. Active edges and building continuity should be required along all street frontages (except vehicle and pedestrian access points), including frontages to open spaces for at least the first three levels and up to the first ten levels. Above this, buildings facing these public or public use spaces should be articulated to appear as part of an inhabited building via an integrated and continuous extension of the facade. Car parking facing side and rear boundaries and on roofs should be screened.

Street level parking. Parking on at least the ground, first and second levels should be located behind another activity ("sleeved") to ensure it is hidden from view. A minimum setback of 15m is required for this purpose.

Stud Heights. Parking facilities at and above ground level are to have a stud height sufficient for a range of commercial and possibly (not on ground level) residential uses. Typical ground floors in CBDs range from 4.5 to 5m. Other levels are in the order of 3.5 – 4m. This will promote the adaptive reuse of buildings over time.

Porte Cocheres. Porte cocheres are not supported within the City Centre. Where feasible, provision for tour buses, coaches and taxis should be provided by Auckland Transport on-street. Where this is not feasible, porte cocheres should only be provided for through a rigorous resource consent process.

Parking demand measures proposed for the City Centre Comprehensive Parking Management Plan

The following matters should be addressed in the proposed City Centre Comprehensive Parking Management Plan:

Flexible parking arrangements should be supported. This would include measures such as:

Encouragement of the unbundling of residential parking
Support for shared parking

Reduce the amount of car travel. Reducing car travel in the City Centre can reduce parking needs. This can be achieved through measures such as:

Giving priority to pedestrians, cyclists, public transport
Providing free or low cost public transport for distribution within the City Centre
Provision of parking information

Review fees for on street parking
Encouraging the formation of Travel Management Associations and the preparation of travel plans

Encourage shared use of cars. Shared use of cars can reduce the need for car parking and can be supported through measures such as:

Making good provision for taxis
Supporting car share schemes
Encouraging higher car occupancies

Manage on street parking in a way that to supports wider City Centre objectives. Wider City centre objectives can be supported through measures such as:

Giving preference to high priority activities
Providing for the parking needs of residents and their visitors
Managing spillover parking
Enforcing parking regulations

Improve enforcement of consent conditions. Enforcement of consent conditions can be improved by means such as:

Introducing clearer policies in the Unitary Plan and aligning simple, enforceable consent conditions with those clear policies
Collating and recording those conditions so they are readily accessible
Resourcing enforcement of consent conditions so the purpose of the condition is achieved

Monitor parking availability and use. Parking monitoring should be undertaken as a regular, planned activity and as a minimum, should cover the following:

Preparation of an up to date parking inventory.
Monitoring the length of parking stay.
Monitoring vacant parking.
Monitoring mode share

Review parking policy every 5 years

Use Council provided parking as a policy instrument

Licensing

Under a licensing regime, operation of parking facilities in the City Centre would be subject to Auckland Council issuing a license. The license would be valid for a fixed period and would stipulate the conditions under which the business would operate.

Car park licenses are required in a number of jurisdictions in the United States. They are used to ensuring that the operator is of good repute, and cover matters such as hours of operation, safety and security, number of spaces provided, hours of operation, price structures etc. The issue and renewal of a license can also be conditional on the car park operation being in accordance with planning approvals for the site.

A change in legislation is likely to be required to enable the Auckland Council to be a car park licensing authority.

It is recommended that the Council further investigate car park licensing as a cost-effective means of ensuring that planning consent conditions are met and ensuring that public parking facilities meet minimum standards.

Parking Levy

Levies on City Centre car parks are used in a number of overseas cities to support public transport and to provide a disincentive to car use in the City Centre. Levies also provide a source of revenue.

It is proposed that a levy be introduced on all off-street non-residential parking spaces in the City Centre, with exemptions for mobility parking, loading spaces, bus and coach parking including any off-street lay-up areas, and emergency vehicle parking areas.

The introduction of a parking levy in Perth resulted in an initial reduction of approximately 10% in the number of parking spaces in the license area as some parking spaces were taken out of commission to avoid paying the levy. Most of these were at the fringe of the license area. Since then the number of licensed spaces has remained relatively constant despite increases in the levy. It is unclear what effect a parking levy would have on the supply of parking in the Auckland City Centre.

A parking levy as proposed would apply to approximately 40,000 parking spaces. If set at, say, $400, it would generate a gross income of approximately $16M a year. Revenue raised from his source should be hypothecated to support transport measures benefitting the City Centre.

Additional Research

Additional research could provide valuable information relating to the following items:

Improved parking base data for the City Centre, in particular:

- an up to date accurate and complete parking inventory
- information on parking usage and duration
- robust car volume trends, particularly across the screenline.

How ancillary parking is used:

- commuters
- visitors
- business operations

How resident car parking is used, e.g.:

- numbers of vehicles per apartment
- types of vehicles (cars, bikes, 4wd)
- Types of vehicle trips (peak/off peak/weekend)

Statutory requirements enabling the Auckland Council to be a car park licensing authority, and/or to introduce a City Centre parking levy.

1 Introduction

1.1 Purpose

The purpose of this project is to:

- implement the strategic approach to parking contained in the Auckland Regional Land Transport Strategy 2010-2040 and Auckland Regional Parking Strategy 2009
- review the current practice of parking restraint (i.e. maximum parking ratios and no minimums) in the city centre and determine whether it should continue to be applied in the Unitary Plan
- develop parking and loading space ratios to be applied to the city centre
- review the implications of car parking provision on high density urban and built form and propose innovative solutions to achieve high quality urban design outcomes.

1.2 Report Outline

Chapter 2 deals with the current parking supply situation in the Auckland City Centre. It identifies the supply of parking by type and ownership. Current parking policies in the Auckland Region Land Transport Strategy, Auckland Regional Parking Strategy and the 2004 Central Area Parking Policy are outlined. The Central Area District Plan's objectives, methods and rules and consent conditions relating to parking are described, and the current parking standards are listed. Issues are identified and discussed.

Chapter 3 identifies a number of issues relating to parking in the City Centre. The role parking of management is discussed. A set of principles applying to parking in the City Centre are developed.

Chapter 4 reviews international experience. Parking pricing and supply practices and techniques for reducing the amount of parking required are identified. The parking policy adopted for the Central Area of Perth, WA is discussed. This has some useful components which may have application for the Auckland City Centre, and there are a number of similarities between the Perth metropolitan area's land use and transport policies and the direction the Auckland region is taking. The parking levies applied in Sydney, Melbourne and Perth are outlined. Parking elasticities are briefly discussed.

Chapter 5 identifies options for managing short-stay parking, long-stay parking and resident parking. It sets out the new policies for each including revised maximum parking standards for new developments. Chapter 6 identifies options for the provision of loading bays, bus and coach parking, bicycle parking and parking for those with disabilities. Where appropriate, new or revised standards for each are established. Urban design options are identified and discussed, and a proposed set of urban design requirements to be included in the Unitary Plan are developed.

Chapter 7 discusses a parking levy for the City Centre.

Chapter 8 sets out those measures which are proposed for inclusion in a Comprehensive Parking Management Plan for the City Centre. The recommendations are set out in Chapter 9.

1.3 Definitions

In this report the following terms are used to describe various types of parking:

“Short stay” parking is defined as parking with a duration less than 4 hours, and “long stay” parking refers to parking with a duration of 4 hours or longer. Short stay parking is used primarily by visitors or shoppers. Long stay parking is used primarily by commuters/ employees.

“Public” parking is parking which is available to members of the public and is not connected to a specific activity. It can be located on-street or off-street in public parking lots or public parking buildings. These may be Council-owned (e.g. Downtown, Civic and Victoria Street Car Parks) or owned by a private operator such as Wilson Parking or Tournament Parking. Public parking buildings may provide leased or casual parking. The former is restricted to lessees and the latter is available for casual use by the general public.

“Ancillary” parking is parking which is dedicated to the activity taking place on the site and/or within the confines of a building located on the site. It excludes any parking used in association with activities located outside the boundaries of the site. Ancillary parking is used for employee parking, visitor parking, and operational parking for company vehicles required for use during the day.

“Residential” parking is provided specifically for residents of residential developments and their visitors.

“Early bird” parking is discounted long stay/commuter parking available to parkers entering before a set time in the morning, often 9.00 or 9.30am, on a single entry/single exit basis. Early bird parking is a form of public long stay parking.

2 Current Auckland Situation

2.1 Data Limitations

The available parking information for the Auckland City Centre is largely restricted to the supply of parking. Data on the actual usage of the available parking is very limited. This distinction can be important when developing parking policy, for example:

- Early bird parking is typically applied to short stay (casual) parking, but converts the use of the parking to long stay. In other words parking spaces occupied by early bird parkers are included in the parking supply data as short stay spaces, but their usage is for long stay parking.
- Private non-residential or ancillary parking supply is split into long stay and short stay. However, the proportion actually used for long stay/employee parking purposes is not available.
- The lack of survey information on the duration of stay and percentage occupancy of parking facilities throughout the City Centre limits the ability to draw conclusions based on the analysis of available parking data.

This report includes means of accommodating the current lack of information on City Centre parking usage. However, this does not supplant the need to survey the usage of the available public parking and, where feasible, private ancillary parking.

2.2 Number of parking spaces

2.2.1 Recent parking inventories

Table 3.2.1(a) and (b) are summaries of surveys of the available parking supply undertaken for the Auckland City Council in the Central Area in 2002, 2004 and 2007. Table 3.2.1 (a) applies to all parking spaces available including private, public off-street, public on-street and residential parking spaces. Table 3.2.1 (b) applies only to Council-owned parking.

Table 3.2.1 (a) Total Central Area Parking Supply 2002, 2004 and 2007

	Short stay less than 4 hours	Long stay 4 hours or longer	Total
2002	11,315	38,045	49,360
2004	14,950	32,980	47,930
2007	16,230	34,000	50,230

Table 3.2.1 (b) Council-owned Central Area Parking 2002, 2004 and 2007

	Short stay less than 4 hours	Long stay 4 hours or longer	Total
2002	4,570	4,040	8,610

2004	6,590	3,100	9,690
2007	7,760	2,010	9,770

It is not clear whether the methodologies for developing these figures from year to year are the same or whether they are accurate enough for differences to be meaningful, so the numbers need to be treated with caution. However they do not appear to show a major increase in parking supply over the period, and it may be that there is a trend in shifting from long stay parking to short stay parking.

2.2.2 2007 Parking Inventory

With the same proviso regarding the accuracy of these figures, it appears there may have been some increase in the supply of Council owned parking, and that there has been a shift away from long stay parking and into short stay parking.

No overall summaries are available for 2010. A number of substantial new parking buildings have been constructed recently, particularly in the Learning Precinct under the new University of Auckland Business School building on Grafton Road, and in the Britomart precinct east of Britomart Place. There has been some reduction in surface car parking in these areas so the new parking will not all be additional to the 2007 parking supply.

The 2007 parking inventory showed the City Centre to have approximately 50,000 parking spaces, comprising a mixture of on and off-street, with off-street parking being on surface lots or in buildings.

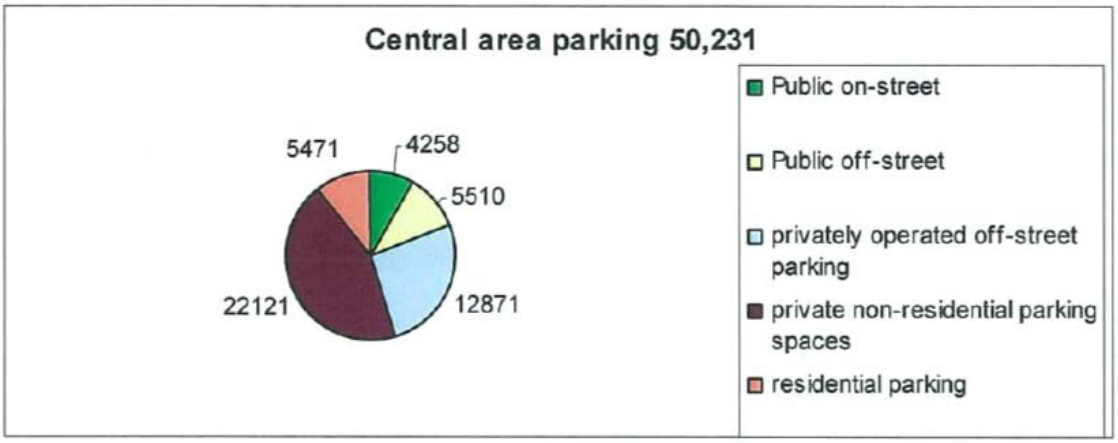
The parking breakdown is shown in Table 3.2.2. It is also shown in Figure 1 extracted from an Auckland City Council internal document[1].

Table 3.2.2 Central Area Parking Supply 2007

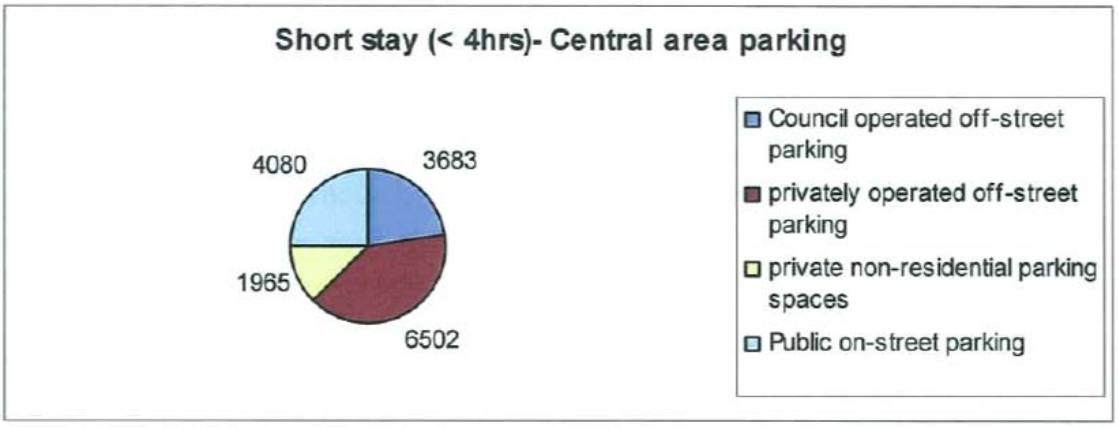
	Long Stay	**Short Stay**	**Total**
NON-RESIDENTIAL PARKING			
Public Parking			
Public Off-Street: Council	1,827	3,683	5,510
Public Off-Street: Private Sector	6,369	6,502	12,871
On-Street	178	4,080	4,258
Total Public Parking	**8,374**	**14,256**	**22,639**
Private Non-Residential (ancillary parking)	20,156	1,965	22,121
Total Non-Residential Parking	**28,530**	**16,230**	**44,760**
RESIDENTIAL PARKING			
Total Residential Parking	5,471		
ALL PARKING			
Combined Total	**34,001**	**16,230**	**50,231**
Percentages	**68%**	**32%**	

[1] Auckland CBD Parking Position Paper Final Release Version, Auckland City Council, October 2010

Total parking



Short stay



Long stay

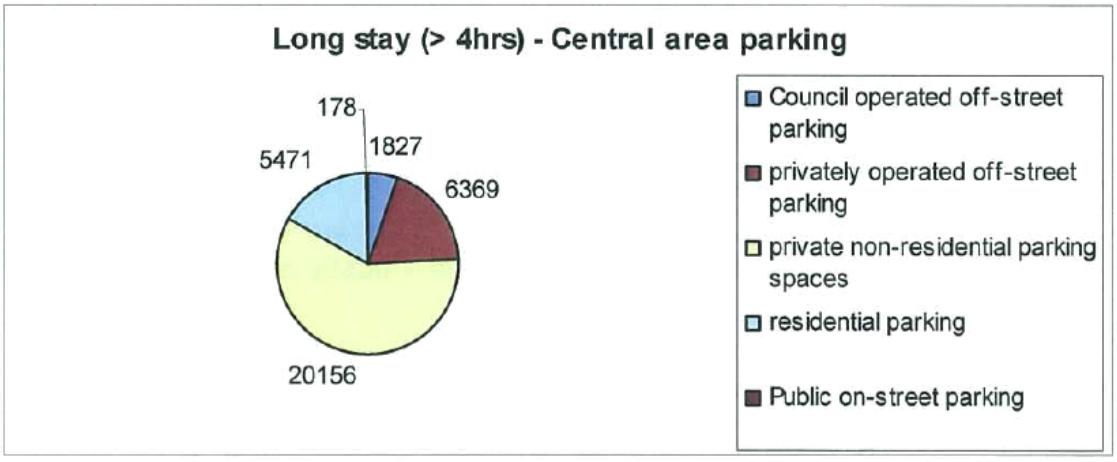


Figure 1: City Centre Parking Supply Breakdown 2007

2.2.3 "Temporary' Parking

The above data does not include "temporary" parking on vacant lots, some of which may be operating without consent or tin breach of the consenting conditions. According to the Auckland CBD Parking Position Paper[1], this may account for an additional 1,200 parking spaces. The large majority of this parking is likely to be commuter/long stay parking.

This type of parking would be lost on development of the sites concerned and hence would need to be subtracted from the ancillary parking in the new development to determine the net increase in parking resulting from the new development.

2.2.4 "Early bird" Adjustment

As pointed out, the available City Centre parking data refers to the supply of types of parking space. Data on the actual usage of the available parking is very limited. Early bird parking is a major source of difference between actual usage and the usage suggested by the supply data.

The available information on early bird parking suggests that approximately 25% of the Council's city centre public off-street short stay parking is occupied by early bird parkers. Applying this to all public off-street public parking would produce an estimated total of approximately 2,500 early-bird parking spaces in the City Centre.

Conservatively assuming a smaller total of approximately 2,000 early bird parked cars in the City Centre, the number of City Centre parked vehicles appropriately classed as short stay reduces from 16,230 to approximately 14,230, and the total number of long stay parked vehicles increases from 28,530 to approximately 30,530 vehicles. The latter figures exclude residential parking.

2.2.5 Current and Projected Mode Shares for Travel to City Centre

In 2010 approximately 78,000 people worked in the City Centre and approximately 18,000 people lived in the City Centre. Recent projections indicate that 141,000 workers will be employed in the City Centre by the year 2041, and the number of residents will have increased to approximately 54,000.

The available information on the actual mode shares for person trips to the City Centre in the 2010 weekday AM peak period and the 2006 all day trips, and the projected information for 2041 is set out in Table 3.2.4 below. The table is developed from information in the Auckland City Centre Masterplan.

Table 3.24 Current & Projected (2041) Mode Shares for Travel to City Centre

Mode	Current AM Peak (2010)		Recent All day (2006)		Projected AM Peak (2041)		Projected All Day (2041)	
	Number Trips	Mode Share	Number Trips	Mode Share	Number Trips	Mode Share	Number Trips	Mode Share
Public Transport	31,703	45%	53,434	18%	70,894	54%	127,863	25%
Walking & Cycling	5,000	7%	20,122	7%	26,000	20%	129,841	25%
Car	34,385	48%	221,177	75%	33,885	26%	260,140	50%
Total	71,088	100%	294,733	100%	130,779	100%	517,844	100%

The person trip projections indicate that 30 years hence the number of people entering the City Centre by car in the weekday AM peak period could be similar to today. The growth in peak period travel to the City Centre over this period is accommodated through a substantial increase in the use of public transport and a more than fivefold increase in walking and cycling. The latter is due in part to the substantial increase in City Centre resident population, many of whom would be expected to walk to work in the City Centre. One outcome is that the car mode share reduces from 48% to 26% over the 30-year period.

The all-day travel figures show similar trends. Although the car mode share is projected to reduce from 75% to 50%, the number of all-day car trips to the City Centre, however, shows an increase (18%).

A recent report[2] (which also includes the above data in diagrammatic form) states that "....over the coming 30 years, the growth expected in trips to and within the city centre during the congested peak periods will need to be primarily by public transport and active modes (walking and cycling. Accordingly the number of vehicles entering the City Centre during the weekday AM peak period is expected to remain relatively static (at around 34,000 vehicles), compared with growth in interpeak traffic due to increased commercial trips and service deliveries. Any increase in person trips is expected to result primarily from increased car occupancy."

2011 Traffic Data. The 2011 cordon survey counted 30,456 vehicles entering the City Centre during the AM peak period. Based on a March 2011 private vehicle occupancy survey, vehicle occupancy for City Centre-bound traffic has increased to 1.29 persons per vehicle. This gives the number of persons entering by car over the 2011 AM peak period as 39,124.

As a general comment, inconsistencies in historic traffic and person trip data for travel to the City Centre make it difficult to draw firm conclusions on trends.

Surveyed vehicle numbers entering the City Centre include through- traffic which does not add to the City Centre parking demands. It is not always clear whether mode share data refers to all traffic entering the City centre or only to traffic terminating there.

Parking Policy Implications. From a parking policy perspective, the 2041 travel projections indicate that the demand for long stay/commuter parking is expected to be similar to today, but the demand for short stay/visitor parking is likely to increase.

Actual demands will be influenced by a range of factors including the quality of public transport services to the City Centre, parking pricing, fuel costs and measures to encourage higher vehicle occupancies.

It is important to note that the projected changes in mode shares assume that the proposed substantial investments in improving public transport including the City Rail Link and service enhancements are implemented as planned, and that the substantial increases in walking and

[2] *Draft* Connecting Auckland City Centre: A Sub-Regional Approach to Transport and Land Use in the City Centre, Auckland Transport and NZ Transport Agency, 2011

cycling eventuate. Should these improvements and travel behaviour changes not take place or be significantly delayed, the long stay/commuter parking demand may increase over the intervening period, and could potentially be significantly higher than the 2041 projections indicate.

These uncertainties emphasise the need for regular reviews of the City centre parking policy to take into account changes over the intervening period and any additional information.

2.2.6 Road cordon capacity

One of the important motivators for the City Centre area parking policy in the past has been the need to keep parking provision within the capacity of the road system feeding the central area. The parking policy in the Auckland City Council Central Area District Plan was based on this approach.

To estimate the road network capacity, a cordon is drawn around the central area based on the Motorway ring and the capacity of roads crossing the cordon is calculated. The amount of additional long stay parking that can be allowed is then related to the difference between current vehicle volumes and the capacity of the cordon. A number of estimates of road capacity have been made and a variety of estimates of current and past traffic volumes are available, resulting in estimates of additional capacity available which range from very little to more than 30%. If the "road cordon capacity" rationale for setting City Centre parking policy were to continue to be used, a more robust network based methodology would need to be developed.

It is considered however that road cordon capacity should no longer be seen as the primary constraint on City Centre parking supply. For reasons outlined later in this report a significant increase in the amount of peak period traffic entering the City Centre is inconsistent with plans for upgrading the City Centre. In addition, future peak period traffic projections indicate that there should be no need to accommodate a significant increase in any case.

2.3 Perceptions of City Centre Parking

The following information is based on the findings of a City Centre parking visitation survey[3].

Seven out of ten Aucklanders who live outside the CBD visited the CBD for discretionary reasons at least once in the last 12 months. People visit the CBD most often for shopping (mean 10.6 visits per annum), followed by dining (8.9) and then to visit bars/pubs/clubs (6.5). As would be expected, those who work or study in the CBD have the highest visitation rates.

About three quarters of visitors drove and parked on their last CBD trip. The greatest share of these paid to park in a parking building/lot (60%) and 15% paid to park on the street. One quarter parked for free. Of those who paid, roughly half paid $8 or less, and half paid more than $8.

Respondents were asked, unprompted, to state the main barriers they saw to increasing their discretionary visits to the CBD for each of the trip purposes included in this survey. CBD distance from home (that is, the CBD is too far from home) and the availability and convenience of local alternatives were key factors for not visiting the CBD more often. Parking costs were identified as a barrier to increased visits to the CBD for shopping (24% cite as this as a reason for not visiting more

[3] Drivers of Visits to Auckland CBD Final Report, Gravitas, October 2010

often). The cost of parking is a stated barrier with regard to movies, eating/dining out and shows/concerts/events/festivals (mentioned by 18%, 13% and 10% respectively).

Parking in the CBD is very poorly perceived, with high negative ratings for all elements, particularly ease and cost. Parking during business hours attracts higher negative ratings than parking during evenings/weekends. The cost of parking in parking buildings and ease of parking on the street receive the highest negative ratings.

Just over a third of parkers rated their parking experience negatively (36% of parkers, or 21% of total visitors). The same proportion (36%) rated it positively and a further 28% neutrally. Cost of parking, followed by ease of parking and proximity of parking are the most commonly cited reasons for dissatisfaction. Overall, 19% of parkers (or 14% of all respondents) cited parking costs as a reason for parking dissatisfaction.

Taking into account both the unprompted barriers to visitation and the statistical analysis, results show that the cost of parking is a detractor in the case of trips to the CBD for shopping; however, in all other cases, there is a higher likelihood that parking is more of a perceived barrier, or excuse, as opposed to an actual barrier.

Results for parking satisfaction reinforce this – showing that whilst the level of parking costs are the biggest bugbear, this is for less than one in five of all parkers.

The research therefore indicates that parking is a substantial top-of-mind negative associated with visiting the CBD, but not a major deterrent.

The statistical analysis of the survey responses differs from the unprompted results, showing that the top two influential factors for all trip purposes (excluding movies) is atmosphere of the city and the variety/range or choice of the offer in each specific case (for example, variety of shops, choice of shows, range of restaurants). That is, the strength of the offer and the additional value the CBD context or experience adds to the activity, are the most important drivers.

The cost of parking has a low but statistically significant influence on rating the CBD for shopping trips only. The cost of parking does not have a statistically significant influence on any other trip purposes.

2.4 Current Policies

Statutory documents which set the general direction for development of the transport system and which influence parking supply and demand in the Central Area include the Government Policy Statement on Transport Funding, the Auckland Plan, the Regional Policy Statement and the Regional Land Transport Strategy.

The Draft City Centre Masterplan prepared by Auckland Council in September 2011, Central Area Parking Strategy prepared by Auckland City Council in 2004, and the Auckland Regional Parking Strategy prepared by the Auckland Regional Council in 2009, are non statutory documents which are directly relevant.

2.4.1 Draft Auckland Plan September 2011

The Draft Auckland Plan vision for Auckland is "the world's most liveable city". The Draft Plan describes the Outcomes which will be required to achieve this vision, and identifies Principles, Transformational Shifts, Strategic Directions, Priority Areas and Directions which will deliver those Outcomes.

An important element is the strategic direction of "Creating a stunning City Centre, with well connected quality towns, villages and neighbourhoods".

The Draft Auckland Plan contains the following specific references to parking:

As part of Chapter 3 "Urban Auckland" the section entitled Priority 3 "Demand good design in all development" includes the statement (paragraph 529)

> "Inappropriate regulation and inflexible standards can impact on good design. These can act as impediments to the development of intensive housing and mixed developments. One factor that can affect the affordability of such projects is unnecessary parking requirements. Sometimes traditional parking standards (minimum numbers of car parking spaces) have been imposed where alternative options (for example parking buildings or investment in public transportation) would imply that such minimums are counterproductive to delivering the goal of intensification, mixed use and affordability. The Council intends to review its approach to parking as part of the development of the Unitary Plan."

This leads to Directive 8.8

> "Parking standards should take account of multiple objectives, including the need to:
>
> - Achieve intensive and mixed use objectives
> - Improve housing affordability
> - Reduce development costs
> - Encourage use of public transportation
> - Optimise investments in public parking facilities, civic amenities and centre developments."

As part of Chapter 11 "Auckland's Transport" the section entitled Priority 2 "Integrate transport planning and investment with land use development" includes the statement (paragraph 680 bullet point 10)

> "A change in parking strategy and standards is required to enable intensification, mixed use development, more efficient use of land, and shifts to walking, cycling, and public transport."

2.4.2 Auckland Regional Land Transport Strategy 2010 – 2040

The Regional Land Transport Strategy (RLTS) contains a number of policies relating directly to parking. In particular, Policy 2.3 of the RLTS[4] states:

[4] The reference in the Policy to responsibilities for implementing the components among the previous Councils has been omitted as this is no longer relevant

"Manage the location, pricing and availability of parking so that it is consistent with road capacity and growth centre objectives.

2.3.1 Achieve a balance between the provision of car parking and managing peak period traffic demands in areas of high parking demand such as the Auckland CBD and other regional centres.

2.3.2 Ensure that the pricing and availability of parking complements travel demand management initiatives and improvements to the passenger transport network.

2.3.3 Introduce maximum parking standards for non-residential developments in high density, mixed-use town centres and corridors identified in the ARPS, supported by the preparation of comprehensive parking management plans for each centre.

2.3.4 Revise parking standards for high density residential developments in high density, mixed-use town centres to support urban design and sustainability objectives, and avoid unnecessarily increasing the costs and reducing the affordability of higher density residential development.

2.3.5 Ensure that the supply and pricing of parking in town centres gives priority to short-stay parking over commuter parking, including the provision of mobility parking spaces in accordance with current standards.

2.3.6 Seek to minimise the amount of land allocated to non-residential parking in high density town centres to support the amenity and walkability of the centre."

2.4.3 Auckland Regional Parking Strategy 2009

The Auckland Regional Parking Policy was prepared by the former Auckland Regional Council after consultation with stakeholders and was intended to provide guidance to territorial authorities as they reviewed district plans, and parking plans and policies. The intention was to provide guidance so that parking would be managed on a consistent, region-wide basis.

The goal of the Regional Parking Strategy is "that the provision of car parking contributes toward the land use, transport, economic, environmental and community outcomes sought by the region". "Parking should assist in the creation of an integrated transport network for the region through parking supply, management, pricing and control policies that:

- Support plans for land use intensification around selected mixed high density centres and corridors
- Encourage travel behaviour changes for a more sustainable, less car use intensive future
- Support the economy of the regions activity and commercial centres
- Integrate parking supply and management and implementation actions with planned improvements to the Public Transport (PT) system
- Support increased travel by PT and active modes
- Make better (more efficient, environmentally and socially friendly) use of existing parking resources
- Achieve consistency in District Plan rules and standards for parking provision and operation

among equivalent developments in centres throughout the region, and

- Contribute to more efficient land uses, improved urban design, public amenity and high quality open space, particularly in high density centres and corridors."

The Regional Parking Strategy states that parking can have a significant influence on car use, traffic congestion and the sustainability of the transport system. The availability and cost of car parking influences how and when people travel, and where they go. Parking facilities impact on the urban environment, and may take up valuable space and significantly increase property development costs.

The key components of the Regional Parking Strategy are:

- The introduction of maximum parking standards for new developments in high-density, mixed-use town centres and corridors identified for intensive development in the Auckland Regional Policy Statement.
- The associated preparation of comprehensive parking management plans (CPMP) for each centre. The strategy includes guidelines for CPMPs, including criteria for assessing applications for parking in excess of 100 spaces and for assessing applications exceeding the permitted maximums
- Policy guidelines identifying measures for better integrating parking management with regional land use and transport strategies and plans, and for making effective use of the available parking supply and any additional funds generated
- Regional guidance on urban design, parking on arterial roads and park and rides
- Communicating the need for change
- Identification of areas needing further research.

While the Auckland City Central Area District Plan already contains parking maximums, the Strategy includes additional relevant guidance on how the supply of parking can influence travel pattern in the City centre.

2.4.4 Central Area Parking Policy 2004

The main policy directions in the Central Area parking policy are:

- constrain the supply of long-term parking at existing levels
- continue to encourage the provision of privately supplied short-stay parking in appropriate locations.
- further tightening of district plan constraints on long stay parking will only take place within the context of a regional parking policy and significant passenger transport improvements.

The aim for Council-owned parking facilities are:

- Auckland City owned parking buildings and facilities will be managed to encourage short-stay parking and discourage long-stay parking in the central area. In particular, commuter parking charges will be set at levels similar to the highest charges at privately owned parking facilities.
- The council will continue to own parking buildings and facilities where they are needed for short stay parking.

The aims for managing on-street parking are:

- Encourage higher turnover of on-street parking spaces, and refocusing parking building towards the supply of short stay parking.
- Long stay parking priced at the top end of the market. This will discourage long-term use and — through price leadership — give private operators scope to lift their charges.
- Constraints on parking to manage traffic volumes on the arterial road network feeding the central area at peak times.
- It is essential that a regional parking policy is in place that treats the central area equitably, and that people have a good alternative to using their cars. That is to say, access by passenger transport to and within the central area needs to be improved significantly.

2.5 Central Area District Plan

2.5.1 Objectives

One of the objectives of the Central Area District Plan is Objective 3.5.2:

> "To facilitate access throughout the Central Area for passenger and goods transport, private vehicles visiting and servicing the Central Area and for pedestrians and cyclists."

This objective is supported by seven policies, including:

d) By providing for car parking to facilitate the public visiting the Central Area.

f) By prioritising the provision of car parking with particular emphasis on short-term public visitor parking to encourage an appropriate balance between public and private transport.

g) By managing the provision of non-ancillary commuter car parking areas and/or buildings in the Central Area in a way that provides for those activities where it can be demonstrated that the adverse effects on the environment, including the transport system, can be avoided, remedied or mitigated.

In addition, the District Plan includes the following objectives specifically related to Transportation:

> Objective 9.2.1 To ensure that people can move easily around the Central Area.
>
> Objective 9.2.2 To maintain accessibility to and from the Central Area.
>
> Objective 9.2.3 To provide for the development of improved passenger transport to, from and within the Central Area.
>
> Objective 9.2.4 To reduce traffic congestion, improve traffic flow and manage the parking supply in the Central Area.

Objective 9.2.4 is supported by the following Policies:

> By ensuring that parking policy complements efforts to improve the City's public transport system while at the same time ensuring the Central Area can continue to function as the central business district for the City and Region and remains attractive for people to work, live in and visit.
>
> By managing the provision of non-ancillary commuter parking facilities throughout the Central

Area.

By making provision for car parking while reducing effects on efficiency of the transport system.

By ensuring that the supply and use of parking encourages access for all users of the Central Area.

The District Plan gives the following priority for access to parking:

Priority 1	Passenger transport
Priority 2	Servicing of development (including taxis) and residential
Priority 3	Access to short term visitor parking
Priority 4	Permitted ancillary parking
Priority 5	Access to commuter parking

2.5.2 Methods and Rules

Parking which dedicated solely to a permitted activity taking place on the site is defined as ancillary parking and is generally permitted for up to 100 vehicles, above which ancillary parking is a Restricted Controlled activity (with assessment criteria related to local traffic impacts). No distinction is made between ancillary parking which is short term, long term, commuter, leased or visitor parking, although all these terms are defined. Operational parking is not discussed or defined. Ancillary parking does not need to be essential to operation of the activity involved – it just has to relate to that activity.

Non-ancillary parking areas or buildings are generally Discretionary and are allowed only on certain road types which are related to the function of the road and whether or not it is located in the defined pedestrian oriented area.

Overiding these provisions is Rule 9.7.1.1 which imposes a maximum number of car park spaces for each site in the Central Area. This maximum is in proportion to Gross Floor Area and differs depending on the road type accessing the site. These limitations do not apply however to non-ancillary commuter car parking areas or buildings, or short-term public visitor car parking areas or buildings (Rule 5.5.2).

This means that in effect there is no overall limit on the number of car parking spaces that can be provided in car parking buildings.

2.5.3 Background to Rule 9.7.1.1Maximum Parking Ratios

The current maximum parking standards applying to the Auckland Central Area were based on a set of calculations developed in 1989, more than 20 years ago. These calculations took into account a number of factors. These included the estimated maximum number of vehicles able to enter the Central Area over the 2-hour weekday morning peak period, the actual number of vehicles entering the Central area over that period and their average occupancy (persons/vehicle), the number of people of people using public transport over the same 2-hour peak period, and data on the demand for long stay parking in the Central Area.

Using information on the potential growth of Central Area employment and the potential increase in vehicles entering the Central Area (difference between actual number and theoretical capacity),

calculations were made of the amount of additional long stay parking that could be accommodated for a given public transport mode share.

Using information on potential employment growth and typical gross floor area per employee, this was then converted to a maximum parking ratio for new developments of 1 space per 105m^2 GFA. This applied to the Central Parking District, which at the time encompassed the Central Area excluding the Wynyard Quarter and the Central Railyards.

A review of the Central Area Parking Policy was undertaken between 1997 and 1999. That review extended the Parking District and confirmed that the supply of long stay parking was to continue to be constrained in order to limit traffic volumes to within the capacity of the road network feeding the Central Area. Further tightening of the above ratios was considered, but it was decided that such tightening should "take place within the context of a regional parking policy and significant passenger transport improvements".

The maximum ratio was not applied uniformly, but the proportion was varied by street type. Five street types were identified for parking policy purposes (refer Appendix 9). Type 1 roads have no parking permitted, Type 2 roads have 50% of the permitted parking allowance, Type 3 roads have 75% of the allowance and Type 4 roads have 100%. Type 1 is Queen Street. Type 2 roads include High Street, Lorne Street, Elliott Street, Symonds Street north of Wellesley Street, Fanshawe Street, Albert Street, and Victoria Street west of Albert Street. Type 3 roads include roads (then) considered to be the main traffic distributors within the Central Area. They include most of Hobson Street, Nelson Street, Quay Street and Beach Road, plus Mayoral Drive and Greys Avenue. Type 4 roads are located primarily in the Quay Park, Sale Street-Drake Street and Viaduct Harbour areas. Type 5 roads are located in Wynyard Wharf and are treated differently from the rest of the City centre.

The resulting ratios are:

- Type 1 roads 0 parking spaces
- Type 2 roads 1 space per 200m2 GFA
- Type 3 roads 1 space per 150m2 GFA
- Type 4 roads 1 space per 105m2 GFA

No parking buildings providing long stay/ commuter/ leased parking were permitted on Type 1 or Type 2 roads.

2.5.4 Loading Bays, Bus parking, Cycle parking, People with disabilities

Loading Bays. A minimum number of loading spaces are required to be provided, depending on GFA and type of activity. The requirement does not apply to Type 1 streets.

For retail, industrial storage or industrial activity, 1 loading space is required to be provided for GFA up to 5,000 m^2, 2 loading spaces for 5001 to 10,000 m^2 and 3 loading spaces plus 1 for every 7,500 m^2 for GFA greater than 10,000 m^2.

For other activities, 1 loading space is required to be provided for GFA up to 20,000 m^2, 2 loading spaces for 20,001 to 50,000 m^2 and 3 loading spaces plus 1 for every 37,160 m^2 for GFA greater than 50,000 m^2.

Bus and Coach Parking. For hotels and serviced apartments, 1 space must be provided for every 200 rooms. For entertainment facilities (excluding cinema complexes), 1 space must be provided for every 450 seats.

Cycle parking. No cycle parking is required. Bonus GFA is available for the provision of cycle parking and facilities for cyclists.

Parking for people with disabilities (accessible car parks). The District Plan is silent on the provision of accessible car parks.

NZS 4121: 2001, which is deemed to be a Compliance Document under the Building Act, requires the provision of at least 1 accessible car park where between 1 and 20 car parks are provided; at least 2 accessible car parks where between 21 and 50 car parks are provided; and at least 1 additional accessible car park for every additional 50 car parks.

Where no parking spaces are provided, there is no requirement to provide accessible car parks.

2.5.5 Resident parking

A maximum of 1 space may be provided for residential units with GFA of up to 79 m^2 per unit and a maximum of 2 spaces per unit may be provided for residential units with GFA of 80 m^2 or greater.

2.5.6 Port Precinct

The Port Precinct consists of the area north of Quay Street from Marsden Wharf to Ferguson Wharf. It covers the operational area occupied by Ports of Auckland Ltd and constitutes the working port of Auckland. In the Port Precinct parking which is ancillary to the activities in the precinct is a permitted use.

2.5.7 Consent Conditions

In assessing applications for discretionary or non complying parking since adoption of the plan, the former Auckland City Council endeavoured to set conditions which maintained the principle of a limit on commuter parking in the Central Area while dealing with the particular circumstances of each Applicant. In general terms Council attempted to be liberal in allowing short stay or visitor parking and conservative in allowing long stay or commuter parking, and to impose conditions which would prevent the former evolving into the later. Council also attempted to be flexible in allowing various sites to pool their permitted ancillary parking in one location, on the grounds that this would allow for more efficient design and more flexible operation. Various types of conditions have been imposed, with varying degrees of effectiveness. Of particular interest are the following:

Location of short stay parking. Various conditions have required short stay parking to be:

- located on a separate floor,
- accessed from a separate entrance to long stay parking,
- located where it can be easily observed and monitored ,
- clearly signed, and
- electronically recorded with regular reporting to Council.

Pricing measures. Conditions have been imposed which require long stay parking prices to be progressive so that in short stay parking locations short stay parking rates are attractive but long stay rates are prohibitive for regular users. Conditions have required short stay charges to be set:

- on a similar basis to Council's short term parking buildings in similar locations,
- to "severely penalise" parking in excess of 180 minutes, and
- to "severely penalise" parking in excess of 240 minutes.

Transferrable parking rights. Applicants have been able to use rights to provide ancillary parking at other sites in the Central Area and various conditions have been imposed to ensure those rights are truly forfeited and not re-used. Various conditions have:

- specified what parking rights have been transferred from what sites,
- required a covenant to be recorded on certificates of title of both donor and recipient sites,
- required written agreements between donor and recipient sites to the satisfaction of the Director of Planning (1988), and
- allowed additional long term parking providing a lease agreement was held with AIT (owner of adjacent sites) and provided AIT did not use all its entitlement to long term parking.

A review of parking conditions set for selected developments is attached as Appendix 8.

2.6 Draft Auckland City Centre Masterplan, September 2011.

The Draft City Centre Masterplan includes a number of proposals for making the City Centre a more pleasant place to walk around. These include reducing the width and altering the layout of Quay Street, converting Victoria Street to a major east-west pedestrian link connecting Victoria Park and Albert Park, and possibly closing part of Queen Street to traffic other than a future light rail/tram line.

Achieving these objectives requires a reduction in peak period vehicle travel into the City Centre. In addition, there should be a limit on the amount of traffic circulating within the City Centre during weekdays between the weekday peak periods. This issue is discussed further later in this report.

2.7 Issues

2.7.1 Parking supply and parking use

Current plans and policies relate to the way parking is used (particularly long stay and short stay) as well as the amount of parking that is available. The distinction between parking supply and parking use is not always obvious however, resulting in lack of clarity in how policies should be implemented and monitored.

2.7.2 Parking types

The District Plan discusses and makes different provision for parking that is ancillary or non-ancillary, short term, long term or leased and there are assessment criteria relating to each of these parking types. There is no clear linkage however between assessment criteria for these parking types and the amount of parking which is allowed. Rule 9.7.1.1, which is the only provision in the District Plan which puts a numerical constraint on parking, refers simply to a maximum number of car parks.

2.7.3 Road classification

The amount of parking allowed is determined by road type, as specified in Figure 9.1, which relates to the function of the road. The District Plan includes a road hierarchy (overlay Map 7) which also relates to road function. It is not clear how these two definitions relate, or why two separate functional classifications are necessary.

2.7.4 Parking Buildings

Restricting the number of commuter car parks is described in a number of place in the District Plan as a means of reducing traffic congestion in and around the Central Area and is specifically limited in Rule 7.1.1. Non ancillary commuter car park buildings or areas are however excluded from controls on the number of car parks (Rule 5.5.2(i)). This makes a nonsense of the stated intention of constraining the supply of commuter car parks.

2.7.5 Enforcement of consent conditions

Implementation over the years of the general policy of constraining the amount of long term parking has recognised the situation of individual applicants by imposing conditions regarding the management of short term parking, pricing of short term parking and the exchange of parking rights with other buildings (allowing the sharing of parking in a joint location). Generally these conditions have not been adequately enforced, either through lack of resourcing of the enforcement function or through the complexity and perhaps naivity of the conditions. Either conditions need to be made simpler (with perhaps reduced flexibility) or enforcement needs to be better resourced. Developments in parking management technology are probably making enforcement of conditions easier through the electronic recording of vehicle movements and financial transactions.

2.7.6 Port Precinct

The Port Precinct constitutes the operations area of the Ports of Auckland and is the working port for Auckland. Good access to the Port Precinct for freight vehicles, port services and port employees is important for the economy of Auckland. Provision of parking in the Port Precinct for port activities will not have the effect of reducing pedestrian and cycling amenity that is an issue for the rest of the City Centre, and imposing the same parking regime on the Port Precinct would be inappropriate.

3 Parking Management in the Auckland City Centre

3.1 Role of Vehicles

Planning for the City Centre aims to create a more people oriented environment, with less need for vehicles to use central city streets and higher amenity values for pedestrians and cyclists. Access to the City Centre to support the expected growth will be largely through public transport, particularly the Central Rail Link.

Nevertheless there will still be a need for motor vehicles on City Centre streets. In order of reducing priority, there will be a need for vehicles undertaking the following functions:

Emergency vehicles. Fire engines and ambulances need access, even into fully pedestrianised areas.

Construction vehicles. New and refurbished buildings are required to allow the City Centre to grow and this will require access by construction vehicles.

Public transport. Buses need access to bus stops at convenient locations for passengers, and also need some space to store buses between services, or to wait a short period for the next service to begin.

Taxis. Conveniently located taxi ranks are required.

Servicing buildings. Utilities, waste collection, maintenance operations and building services need access to close proximity to every City Centre building.

Business operations. Almost all businesses need vehicle access in close proximity for the business to operate successfully, for delivery of supplies, meeting with clients, business vehicles etc.

Shopping and visiting for recreational, cultural or other reasons. While a growing proportion of people visiting the City Centre will do so by public transport, there will still be significant parts of Auckland with relatively low service levels in the interpeak period so that car travel, particularly for short visits, will continue to be attractive. It is important to the economy of the City Centre that it remains accessible to people from all parts of Auckland.

Residents and their guests. While City Centre residents will have limited need for cars, they will still use cars for certain trips, particularly in weekends and for travel out of Auckland, and this needs to be accommodated if central city living is to attractive to a wide range of people. City Centre residents will also want to welcome visitors from areas not well served by public transport and at times not well served by public transport, and this need must also be accommodated.

City Centre circulation. Currently cars are used to move from one part of the City Centre to another part. As City Centre public transport systems improve, and as the City centre becomes more attractive for walking and cycling, this function is expected to reduce.

Commuters/students. As public transport improves, and given that no more road capacity will be provided on the approaches to the City Centre and car travel within the City Centre will become more difficult as various streets are made more pedestrian and cyclist friendly, the attractiveness of commuting by car is expected to reduce.

Vehicles serving each of these functions will need to be able to access their destinations and park, at least for a short period, when they get there. Parking can be provided on-street or in off-street facilities for regular, predictable users. Other users, such as emergency vehicles and construction vehicles, will generally use the street itself or temporary/short term arrangements. In some cases, such as servicing buildings, off-street parking and loading may be required in some precincts and on-street parking and loading allowed in other precincts, possibly restricted by time of day so as not to interfere with other street activities.

It should be noted that the highest priority uses (emergency vehicles, construction vehicles and public transport) will generally be accommodated on street. Next in priority, vehicles used for business, shopping and visiting, will generally be short stay vehicles parking for up to 4 hours. Residents will need long stay parking and their visitors will need short stay parking (often outside normal business hours). Low priority vehicles used by commuters and students will generally require long stay parking (greater than 4 hours).

3.2 Issues

While there are legitimate reasons and an on-going need for vehicles in the City Centre, the presence of vehicles does raise issues which need to be addressed:

- The presence of large numbers of vehicles, and numbers of large vehicles, can be threatening to pedestrians and cyclists, generate emissions, noise and vibrations which make using the streets unpleasant, and generally destroy the amenity and ambience that encourages pedestrians, cyclists, and a more vibrant and healthy street life.
- Large numbers of vehicles on City Centre streets with generally low capacity, closely spaced intersections, high weaving and turning volumes, and often kerbside activity including loading and parking, gives rise to congestion. Congestion in turn makes it difficult for necessary trips to be made, increases pollution, and generally leads to irritated pedestrians and frustrated motorists and a decline in the attractiveness of the city centre.
- Traffic movements focus on parking locations and the interface between parking facilities and the streets servicing them needs to be compatible with other activities occurring at the location. Entrances to major parking facilities can be unpleasant and risky places for pedestrians and cyclists.
- Above ground parking buildings can be stark and utilitarian and attention to design is required to make them to fit comfortably in a dense urban environment, and to avoid dead frontages at street level.
- Clogging city centre streets with vehicles slowly searching for a parking space also makes the situation more difficult for more efficient, more sustainable modes such as public transport, walking and cycling and reduces the attractiveness of those modes and the city centre.
- Vehicles and associated carriageways and parking facilities take up a large amount of space in the City Centre. City Centre space is a limited resource and should be available to the highest value use.

- Parking is sometimes provided at ground level on an otherwise vacant lot, generally awaiting the construction of a more permanent development. These parking areas often result in ugly facilities with inactive frontages and detract from local ambience and amenity every bit as much as stark and utilitarian car parking buildings.

The use of motor vehicles in the City Centre needs to be actively managed so that high priority vehicle use is supported but low priority vehicles are not allowed to dominate, and the issues listed above do not become so great that the future of the City Centre is compromised.

3.3 Role of Parking Management

The strongest tools available to manage numbers and types of vehicles in the City Centre are the physical layout of streets and the availability, price and location of parking.

Street layouts can be designed so that street capacity does not exceed the number of vehicles which can be accommodated in the City Centre. Streets where vehicles are acceptable can be designed to allow vehicle access, whereas streets where vehicles are undesirable can be designed to discourage vehicles.

If motorists cannot find convenient parking reasonable easily at an affordable price, they will drive to the City Centre only in exceptional circumstances.

3.3.1 Long stay and short stay parking

Long stay parking. Long stay parking (more than 4 hours during business hours, Monday to Friday) caters largely for commuters and students, types of traffic which have low priority in the City Centre. Commuters and students are generally regular users. Long stay parking attracts traffic during the peak periods and needs to be located close to traffic routes so as to avoid congesting smaller streets, particularly in pedestrianised areas. Parking forms a smaller part of the overall trip time than for short stay parking so that users of long stay parking are generally prepared to walk a longer distance.

Long stay parking can be located close to traffic routes on the edge of the City Centre, desirably close to the City Centre public transport distribution system.

Short stay parking. Short stay parking (up to 4 hours during business hours Monday to Saturday) caters for business use, shopping and visiting - types of traffic which supports the City Centre economy and have high priority. Short stay parkers are generally less regular users than long stay parkers and parking takes up a greater part of their trip than long stay parkers. Short stay parking therefore needs to be easy to find, easy to use, and be conveniently situated within comfortable walking distance of visitor and business destinations.

Shared facilities such as well located public car parks can be efficient providers of short stay parking as they can serve uses with different patterns of demand. For example entertainment facilities generally have their highest peaks in the evenings and can use parking occupied by other users during the day.

The availability of good quality, safe, accessible parking can influence decisions on whether to visit the City Centre, although clearly there are many other factors taken into account.

3.4 City Centre Parking Principles

3.4.1 Parking management must support wider objectives

- Policies and actions should:
    - Support the objective of making the City Centre a more pedestrian friendly, more walkable place,
    - Encourage greater use of public transport, walking and cycling and encourage higher vehicle occupancies for travel to the City Centre, and
    - Recognise that the provision of an adequate supply of car parking has economic benefits which must be carefully balanced against the aim of reducing dependency on travel by car.
    - Ensure the provision of reasonable options for commuters and employees.

3.4.2 Long stay and short stay parking should be addressed through separate supply and location policies

- The amount of short stay parking should balance the potential demand for private vehicle access to the City Centre during the interpeak period with the aim of limiting the amount of traffic in specific streets or areas to support the broader objective of making the City Centre a desirable place to visit and walk around in. The location of short stay parking needs to be related to desired visitor destinations and to roads which are intended to cater for that amount and type of traffic.
- The supply of long stay parking should be managed to support mode share targets and to ensure that the 2-hour weekday AM peak period capacity of the road network directly accessing the City Centre is not exceeded. Any new parking facilities for long stay commuters should be located towards the edge of the City Centre away from key pedestrian routes.

3.4.3 Parking facilities must be designed to fit their environment

- Parking facilities, whether in a building or not, are to be designed so that they blend into the urban fabric so as to minimise visual impact. Where a parking facility has a street frontage, that frontage is to be activated.
- Entrances and exits to major parking facilities must minimise the impact on pedestrians at the access point.

3.4.4 Parking must be managed efficiently

- Within parking facilities, priority should be given to sustainable forms of transport.
- Pricing should continue to be used to manage demand for parking resources for priority users.
- Shared parking is more flexible and requires less parking than each building providing for the parking it generates, and should be encouraged.

3.4.5 Effective parking management requires a range of measures

- Unitary Plan provisions should be used to manage the amount, type and location of off street parking facilities and the immediate impacts (appearance, pedestrian impacts and traffic impacts) of those facilities.
- Parking conditions in resource consents must be enforceable and enforced.

- On-street parking should continue to be managed for priority users including short stay.
- Council should remain a provider and price influencer for short stay parking.
- On-street parking controls must be effectively enforced.

4 International Experience

A review has been undertaken of City Centre parking practices in other cities which are similar to Auckland. The review has focussed on Australian cities but also looks at a number of cities and practices in the U.S.A., United Kingdom and Europe. The findings of the review are set out in Appendices 1 to 6.

4.1 Parking Pricing & Supply Practices

The analysis of practices in other cities indicates that:

- From a policy perspective the key role of the public sector should be to ensure provision of an adequate supply of conveniently located, appropriately priced short stay/visitor parking for the City Centre and relevant Town Centres.
- One way of achieving this is for the responsible public agency to ensure it retains a strong influence over prices by achieving or maintaining a strong market position.
- Care should be taken to avoid or minimise conflicts of interest that could hinder the achievement of broader strategic objectives, particularly relating to the amount and use of revenues.
- Although the provision of long stay/commuter parking is clearly important, it should be ensured to the extent practicable that the supply is consistent with broader strategic land use and transport policy objectives and that the location of long stay facilities balances accessibility by car with the amenity of the centres concerned.
- The use of maximum parking standards for City Centres has received greater application internationally since introduced into the Auckland City Centre over 20 years ago and should continue.
- Parking levies or equivalent may have a role as a means of raising additional revenues and of increasing the price of parking. Sydney, Melbourne and Perth use the revenues to fund alternatives to the single occupant car for travel to (and within) the area to which the levy applies.

A more comprehensive discussion of parking pricing and supply practices is contained in Appendix 1

4.2 Techniques for Reducing Parking Demand

4.2.1 Shared Parking

Shared parking takes advantage of the fact that most parking spaces are only used part time by a particular motorist or group, and many parking facilities have a significant portion of unused spaces, with utilisation patterns that follow predictable daily, weekly and annual cycles. Parking can be shared among a group of employees or residents. It can also be shared among different buildings and facilities in an area. Land uses such as offices, professional services, medical facilities, and banks

typically have weekday peaks, whereas restaurants, cinemas, bars etc. have evening peaks. Shops and malls can have weekend peaks.

Acceptable walking distances to shared parking include a distance of less than 250 m for residents, professional services and medical facilities; less than 350 m for general retail, employees, restaurants etc., and less than 500 m for overflow parking and major events.

As shared parking arrangements can be an efficient use of available space, they should be actively encouraged. To encourage developers to include shared parking arrangements and to enable Council officers to assess applications relatively quickly and consistently, a set of guidelines should be developed outlining how much parking can be offset for various combinations of uses.

Parking can be shared by providing a parking lot or building rather than have each building provide separate off-street spaces. It can reduce development costs and, in mixed use high density centres, can improve amenity and walkability by reducing the amount of land required for parking.

Shared parking requires flexible parking standards. It may not reduce vehicle travel as it may not reduce the ability to park at the destination. It can, however, encourage higher density, mixed use development for the reasons outlined. Providing resident parking in shared parking areas can also reduce the total amount of parking.

A key constraint is that shared parking arrangements should include reciprocity rights ensuring that they remain in place over time. Shared parking requires a different, more flexible approach in District Plan parking rules. It generally requires additional administration and enforcement resources. It creates a potential for "spillover" effects on adjacent areas, but these can be anticipated though the development and implementation of parking management plans.

4.2.2 Unbundling Parking

Unbundling means that parking is rented or sold separately, rather than automatically included with building space. For example, rather than renting an apartment with two parking spaces for $1,000 per month, the apartment would rent for $800 per month, plus $100 per month for each parking space. This can be considered more equitable and efficient, since occupants only pay for parking they need

According to the Boston Metropolitan Planning Council's Sustainable Planning Toolkit: Parking:

"The cost of parking for residential and commercial units is often passed on to the occupants indirectly through the rent or purchase price ("bundled") rather than directly through a separate charge. For example, a three bedroom unit might come with two parking spaces included in the purchase price or rent. This means that tenants or owners are not able to purchase only as much parking as they need, and are not given the opportunity to save money by using fewer parking spaces. The alternative is to unbundle parking – rent or sell parking spaces separately rather than automatically including them with the building space. This is not only more equitable, but can also reduce the total amount of parking required for the building."

"Communities should encourage developers to unbundle the price of parking through flexible parking requirements that allow reductions for developments with unbundled parking, because when people can save money by having fewer cars, they may make different choices about investing

in vehicles. High minimum parking requirements also discourage property owners from unbundling parking because the development is required to provide enough parking to satisfy the demand when parking is free…….By bundling the parking cost with the housing cost, the parking automatically gets paid for, even if it is not wanted or needed. Correcting this means that the minimum parking requirements are relaxed or removed for unbundled parking to allow developers to provide only the spaces that residents will pay for if given the option."

Unbundling requires that building owners are able to lease or sell excess parking spaces (such as through a parking brokerage service), and local government needs to regulate on-street parking to avoid spillover problems that could result if residents use on-street parking to avoid paying for parking spaces.

4.2.3 On-Street resident only parking schemes

Demands for resident only parking typically result from spill-over parking. Spill-over problems refer to the undesirable use of on street parking by commuters or non-residents visiting nearby locations.

While the unrestricted application of resident parking permits that reserve all the on-street spaces for residents and their visitors will prevent spill-over from adjacent commercial areas, they also leave many unused on-street parking spaces especially during the working day.

In the Auckland City Centre, residents only parking schemes which allocate a section of road for the exclusive use of residents are in place in a few streets (Airedale Street, Parliament Street, and Emily Place). These are gradually being phased out. Resident only schemes also operate on the edge of the City Centre in Newmarket and Freeman's Bay.

There are several ways to address spill-over problems such as regulating parking with the use of time restrictions and permit schemes. The most effective means is to use pricing, such as charging non-residents to park on residential streets.

Resident parking schemes can take the form of time restrictions combined with resident parking permits, or pay and display parking areas or parking meters with exemptions for residents.

Another option is to offer parking on the street to non-residents between certain times if they pay a fair market price.

4.2.4 Overflow parking

Overflow parking plans reduce parking demand and traffic congestion and confusion. They are particularly appropriate at any location where occasional peak parking demands creates problems. It may be necessary to negotiate sharing arrangements for offsite, overflow parking. Directions to offsite parking facilities are essential.

An overflow parking plan for special events and peak demand periods requires the establishment and communication and marketing of the alternative parking facility or facilities, combined with secure pedestrian access.

It is important to establish and clearly communicate clear rules to inform drivers where and when they may or may not park. This requires not only clear signage, but also advance notification of the option or options (wayfinding signage and maps).

In appropriate circumstances, special shuttle buses may be provided to connect destinations with remote parking facilities, allowing them to be farther apart than would otherwise be acceptable.

4.2.5 Car Share Clubs

Car share clubs are a low-cost alternative to car ownership, taxis or car rental. To use a car share vehicle, all that is required is to join as a member, book the car online or by phone 24 hours a day for periods of as little as an hour, collect the car at the reserved time from the dedicated parking space, and later return the car to the same space.

Car share schemes started in Europe in the 1980s and by 2007 had spread to over 600 cities across Europe, North America, Asia and Australasia. Car share companies currently operate in Melbourne, Sydney, Adelaide and Auckland.

In the Australian or New Zealand context car sharing is likely to be more viable in denser centres or inner suburbs with relatively good public transport than in lower density outer suburbs.

By March 2011 almost 6,000 people and businesses in the City of Sydney were car share scheme members. Nearly 200 cars are available in 180 reserved parking spaces on local streets or in City car parks. On joining new members are sent an electronic smart card which acts as a car key. The City has set minimum quality and reporting requirements, including vehicle environmental performance standards, high availability and ease of booking. The Council provides dedicated exclusive on-street space for authorised car share vehicles and car-share spaces in City-owned car parks.

In Melbourne car share cars may be located at kerbside spaces, generally donated by local councils. The number of car share spaces in the City of Melbourne rose from 33 to 68 in the 6 months to March 2011 (there are as yet no on-street car share spaces in the CBD).

In August 2008 Adelaide City Council announced that it will provide several free parking spaces in the city for the new (GoGet) car share program.

In Auckland, the Cityhop Car Share Company provides cars at several locations including spaces in City Centre public carparking buildings. There are no on-street spaces at present, although it would like to have some. Most members are in the Auckland City Centre. It describes itself as “a convenient and eco-friendly way of having access to a car whether you live in the inner city, use public transport to and from work or are a business wanting to save money.”

A more comprehensive discussion of techniques to reduce parking demand is contained in Appendix 2.

4.3 Perth Central Area Parking Policy

Perth has developed a comprehensive policy for managing traffic into and within its CBD, building on the heavy investment in electric passenger rail. A key part of the traffic management policy is a parking policy backed by the Perth Parking Management Act.

Perth has similarities to Auckland in terms of its size, high car ownership, and the recent decision to invest in passenger rail. Perth is not a model for the development of Auckland, but nevertheless experience from Perth can provide guidance as to measures that may be useful for Auckland.

In 2010 the Perth Metropolitan area had 1.7 million residents with an average population density of 10 - 12 persons per hectare. The Perth Central Area (City of Perth) had about 15,000 residents and about 120,000 employees or 16% of Perth's employment.

Between the mid-1970s and mid-1990s the number of non-residential parking bays in Perth City doubled from 30,000 to more than 60,000. More than 50% of Central Area workers chose to drive to work causing severe congestion both within the Central Area and on approach roads. The Perth Parking Policy and the Perth Parking Management Act came into operation in 1999. The Act created an area called the Perth Management Area which covers the CBD, West and East Perth and Northbridge. The policy identifies three types of parking, namely private tenant parking, public parking and special purpose parking (primarily parking for people with disabilities, bicycle parking and special purpose bays marked exclusively for use by motorcycles, bicycles, service and delivery vehicles, taxis, buses and coaches). The Act does not deal explicitly with residential parking.

The Perth parking policy includes strict limits on the amount of private tenant parking that can be provided in the Central Area.

The policy sets both the desirable and the maximum negotiable amounts of tenant parking that may be provided in new developments. No minimum level is required. The amount of parking permitted relates directly to the surface area of the lot or lots on which the development is situated and the importance of the street from which access is provided to pedestrians, not the GFA of the development. The intention is to create a sustainable limit to the number of parking bays regardless of the density of development, and to improve pedestrian amenity.

In the Central Area on sites with access to parking from busy streets, up to 200 bays per ha of land footprint is permitted. In practice this maximum allowance is equivalent to 0.4 to 0.6 parking bays/100m^2 GFA for high density buildings in the CBD.

There are also restrictions on the provision of public parking in parts of the Perth Central Area. No additional public parking (whether long stay or short stay) is permitted in the pedestrian zone which is located in the core to the north and south of the main railway station. No additional long stay public parking is permitted in the short stay parking zone which surrounds the pedestrian core and covers the highest activity part of the Central Area. The intention is to keep the central pedestrian priority zone as free from traffic as possible, and to limit all future long stay parking to the periphery of the Central Area.

In addition a parking levy on all non-residential parking bays within the Central Area was introduced, as described in 4.4.3 below.

In 2007 a review of the Perth parking policy was undertaken by Sinclair Knight Mertz. The review found that "*In general terms, the Perth Parking Policy has been found to positively contribute to state transport and land use policies to improve the economic, environmental and social health of central Perth".*

A more comprehensive discussion of the Perth Central Area Parking Policy is contained in Appendix 4.

4.4 Parking Levies in Australian City Centres

A parking levy (or tax) is applied within a defined geographical area or areas. Parking levy schemes currently operate in three Australian cities, Sydney, Melbourne and Perth, and are being considered for Canberra and Brisbane. Key features of the three current schemes are set out in Table 4.4.1. All levies apply to the owner of the parking spaces.

Table 4.4.1 Parking Levies in Australian City Centres

Location	Date	Current Levy & Income	Main Impacts
Sydney CBD & North Sydney (Cat 1), plus four major metropolitan centres (Cat 2)	1992	$2000 per space in Category 1 areas. $740 per space in the four Category 2 areas. Income approximately $100M pa.	Applies to off-street parking spaces. Exemptions include resident parking, loading bays, mobility parking. In Category 2 centres retail, restaurant and hotel parking also exempt. Revenue can only expended on defined purposes associated with improvement of public transport.
Melbourne CBD	2006	$860 per space, adjusted annually. Income approximately $48M pa.	Applies only to off-street long stay parking spaces, both public and private. Revenue not legally required to be expended for any specific purpose.
Perth Central Parking District	1999	$598 pa for tenant and long stay public parking. $567 pa for short stay public parking. Income approx. $28M pa.	Applies to all parking spaces, on-street and off-street except residential parking. Exceptions given for loading bays, mobility parking, bus layover, emergency vehicles, small businesses with up to 5 parking spaces. Revenue must be applied to area levied. Has been used to support the "free transit zone" (free fare zone) and the Central Area Transit bus system.

4.4.1 Sydney

The New South Wales State Government introduced the Parking Space Levy Act in 1992. This Act created the necessary powers to impose a levy upon most parking in Sydney's CBD and directed how the funds raised were to be used. The Act was initially applied only to the Sydney CBD and immediately surrounding areas, but was subsequently extended in the year 2000 to include four major metropolitan centres.

The stated objectives of the Act are

- to encourage public transport use in areas well served by public transport and where congestion arising from private car use is a growing problem and
- to discourage car use in city business areas

The Sydney Parking Space Levy (PSL) applies to off-street parking spaces (including parking spaces in parking stations) in Sydney's CBD and North Sydney (Category 1), and in Bondi Junction, Chatswood,

Parramatta and St Leonards (Category 2). There are approximately 60,500 leviable spaces including about 43,000 Category 1 spaces and 17,500 Category 2 spaces.

4.4.2 Melbourne

In 2006 The Victorian State Government introduced the Congestion Levy Act to the Melbourne CBD and some immediately adjacent areas. It applies to long stay (commuter orientated) parking spaces located off street. In all about 56,000 spaces are subject to the levy.

The stated aims of the Melbourne parking levy are:

- *"... to encourage suburban commuters to use public transport to travel into the city and car park owners/operators to convert Long-Stay car parking spaces, which will attract the levy, into short stay parking spaces, thereby creating more parking options for shoppers and visitors."*
- *"…. reduce traffic congestion in Melbourne's inner city by acting as a financial deterrent to drivers who arrive and leave during commuter peak hours and park all day in the city car parks"*.

4.4.3 Perth

The Western Australian State Government introduced the Perth Parking Management Act in 1999. The Act applies to the Perth CBD and immediately surrounding areas.

Perth's parking levy applies to a distinct geographical area that extends beyond the CBD to immediately adjacent areas. Among other things licensing provides a very detailed annual stocktake of all parking spaces in the Perth Parking Management Area.

Within the Perth CBD and adjacent areas there are about 65,000 parking spaces with about 56,000 to 58,000 spaces being licensed for use at any one time. When the license fee was first introduced in 1999 approximately 6,000 parking spaces were taken out of commission. Since then the number of licenses parking spaces has remained at about 56,000-58,000.

4.4.4 Effects of the Australian parking levies

Although imposed on the owner, the cost of the parking levies is ultimately paid for by the parker. It is, therefore, an increased cost for commuter users and, in Perth and Sydney, for visitors.

The Sydney tax was opposed by property and related interests. However, in contrast to the predictions made that there would be little or no new investment in offices and commercial retail there has been significant inwards investment and employment growth to all the areas to which the tax is applied. Existing office and retail activity has not fled to the suburbs to escape the tax.

There has, however, been criticism of the lack of transparency in the allocation of the levy income by the NSW Government.

The connection between the Melbourne parking levy and its stated purposes to reduce congestion and improve access to the CBD has been difficult to assess. The information on its effects on the Melbourne CBD is limited, but a review undertaken in 2007 did not identify any negative trends.

The Perth approach has not stopped investment in the CBD, total employment has grown and there have been a number of office and retail developments, including one that is car orientated on the

edge of the CBD. Even with the 175 % license fee increase in 2009 the number of licensed spaces remained the same. A review conducted in 2007 for the Department of Planning and Infrastructure concluded that the significant mode shift away from the private car for the commute to the Perth CBD could not be put down to solely the parking tax and related parking policy. However, "*it can equally be argued that the impact of other policy efforts would have been less effective without its influence. The Perth Parking Policy has undoubtedly played a vital role as one element of a holistic and integrated initiative to reduce car use to and within the City centre".*

A more comprehensive discussion of Australian parking levies is contained in Appendix 5.

4.5 Parking elasticities - international literature

The available literature on the elasticities of demand for car parking indicates a wide variation of potential elasticities.

While clearly price can have a significant influence on demand, the effect can vary substantially depending on factors such as the type or duration of parking, the trip purpose, the availability of alternative forms of transport, and the trip destination.

The best estimate of the price elasticity of parking appears to be a range of -0.2 to -0.4. However this should be treated with caution as different sources give a much wider range of price elasticities.

Parking pricing and supply should form part of a package of measures and not be treated in isolation.

A more comprehensive discussion of parking elasticities is contained in Appendix 6.

5 Parking Supply Options

There are a number of approaches that could be taken to the management of the supply of parking spaces in the City Centre. Management of parking supply could be restrictive or permissive, it could take a general approach or could focus on particular types of parking and particular locations. This section discusses the options and proposes a way forward.

Each of the options has been evaluated against the following criteria:

- how well it addresses the issues identified,
- whether it can be implemented under current legislation
- how easy it is to understand and communicate
- how easy it is to administer
- how flexible it is in dealing with an uncertain future
- how well it is supported by technical arguments
- Whether it is consistent with current policies

5.1 Options to manage the supply of short stay parking

In this report "short stay" parking is defined as parking with a duration less than 4 hours.

Short stay parking includes parking for visitors to activities such as shops, Council offices, professional offices (lawyers, accountants etc), cinemas, recreational facilities, events, restaurants, cafes, hairdressers, and healthcare facilities.

Auckland City Council estimated the breakdown of trips into the Central Area[5]. This indicated that on a weekday 21% of trips to the City Centre were for shopping, and 32% for recreation, leisure or dining. The remaining weekday trip purposes were business or work (31%), education (9%) and live/staying in Central area (7%).

Shared facilities such as well located public car parks can be efficient providers of short stay parking as they can serve uses with different patterns of demand. For example entertainment facilities generally have their highest peaks in the evenings and can use parking occupied by other users during the day.

To encourage park-once-and walk behaviour, public short stay car parks should ideally be conveniently located, easily accessible, within an easy and pleasant walk of key destinations and served by a central distributor public transport system.

5.1.1 Option 1: Let the market decide

The number of public short stay parking spaces could be left for the market to determine, with Auckland Transport playing a role as provider of parking if a parking shortage is shown to be affecting the economy of the City Centre.

[5] Review of Parking Policy Measures Draft Final Report, Booz Allen Hamilton for Auckland City Council, June 2007

The location and design of access points to parking facilities would need to be managed to ensure safety of pedestrians and traffic, to protect the amenity values of the location and to ensure local traffic operation is maintained.

Discussion. The rationale for this approach would be that the market will allow the most productive use of land and buildings and will match the provision of parking with the willingness of users to pay the full costs of that parking.

On the other hand, there is no connection between use of land and willingness to pay, and the objective of managing the amount of traffic in the City Centre to support improved amenity. If market forces lead to an oversupply of short stay parking, purpose built parking buildings (and particularly parts of buildings) are very difficult to convert to other uses (because of low stud heights and the predominance of vehicle ramps) as the need for parking changes over time.

5.1.2 Option 2: Parking Ceiling

A "ceiling" could be established of the maximum amount of traffic that can be accommodated in the City Centre between peak traffic periods. A limit would be placed on the provision of short stay parking that reflects that limit. The number of car parks between the current number and the "ceiling" would be the amount of additional short stay parking that would be allowed.

If this option is adopted, a consequent question is how should that additional amount of parking be allocated over time, and how should it be allocated with regard to different parts of the City Centre and different street types.

Discussion. This option is a good fit for addressing the issues raised by vehicle traffic in the City Centre. It requires the development of a robust methodology to determine the optimum amount of traffic to be allowed in the City Centre, and to link this to the supply of short term parking. The development of an appropriate methodology would take some time and would require some relatively detailed traffic modelling of interpeak travel within the City Centre.

5.1.3 Option 3: Licensing the provision of public parking facilities

Under this option, operation of short term parking in the City Centre would be subject to Auckland Council issuing a license. The license would be valid for a fixed period and would stipulate the conditions under which the business would operate. The licensing of parking operations is discussed in Appendix 3.

Car park licenses are required in a number of jurisdictions in the United States. They are used to ensuring that the operator is of good repute, and cover matters such as hours of operation, safety and security, number of spaces provided, hours of operation, price structures etc. The issue and renewal of a license can also be conditional on the car park operation being in accordance with planning approvals for the site.

Under this option, reissuing of a license would also take into account any changes to the nature of the location (increased pedestrianisation etc). The Council could refuse a license if the car park was incompatible with other objectives for the street or area in which it is located, or is proposed to be located.

New licenses could be issued from time to time as need was established.

Discussion. This option could be managed in a way that directly addressed the issues and would enable a great deal of flexibility to deal with changing circumstances.

However, it is a completely new approach and may not be achievable under existing legislation.

The need to renew a license in order to operate would introduce a great deal of uncertainty for owners of car parking facilities if renewal is dependent on Council parking supply policies or increased pedestrian flows created by other land uses. As a result it is likely to make ownership of car parks an unattractive option to the private sector.

However, licensing could be used as a means of ensuring that public parking operations comply with their resource consent conditions.

5.1.4 Option 4: Public parking provided only at locations and in numbers specified by Auckland Council

This option would involve Auckland Council analysing the short stay parking needs of the City Centre and identifying the sites that are best located to serve those needs. Auckland Council could then designate those sites and short stay parking would become a prohibited activity at all other locations. Auckland Council could either develop the parking facilities itself or encourage them to be provided by the private sector.

A corollary to this is that a programme could be put in place to remove short stay parking that is not in appropriate location and to replace it with more a more valuable use.

Discussion. The rationale for this approach is that short term parking is a critical ingredient in stimulating growth of the City Centre and that the location of that parking is important. Only the council has the regulatory powers to ensure short term parking is provided where it is needed in the locations it is needed.

This option would be a marked change from the way councils have viewed the provision of parking in recent times (although earlier councils were proactive in this regard). It assumes that there is sufficient understanding of how the City Centre operates both now and in the future to justify such a prescriptive approach, and would require a funding commitment from Auckland Council. In some instances car parking will not be the most commercially attractive option for a particular site, so that the Council may not receive a strong financial return on its investment – the return would be in a more vibrant and attractive City Centre rather than in monetary terms.

5.1.5 Option 5: Parking freeze

The number of short term car parks could be frozen at the current level and new car parks provided only as existing car parks are removed.

Discussion. The rationale for this approach would be that the amount of traffic currently circulating in the City Centre is as much as can be accommodated without the amenity of the City Centre declining.

On the other hand, there is no evidence to support the conclusion that current traffic levels are optimal.

5.1.6 Discussion

The Auckland Plan includes a number of measures that are aimed at improving the amenity and walkability of the City Centre. Several of these reallocate road space within the Central Area to pedestrians, cyclists and urban design improvements. In addition, more road space may be required to accommodate bus movement, bus stops and potentially bus layover within the City Centre.

In combination, these measures appear likely to reduce the supply of short-stay on-street parking and reduce the amount of road space available for general vehicle movement within the City Centre.

The information currently available is insufficient to conclude that any reduction in road capacity within the City Centre will affect the ability of the City Centre road network as a whole to cater for interpeak traffic demands. It does, however, indicate that the location of parking buildings catering for short stay demands should carefully balance the need to for a convenient location for City Centre visitors with the aim of improving amenity and walkability.

The options identified in this report provide a range of alternatives that involve varying degrees of intervention by Auckland Council in the amount and location of short stay parking that is provided.

On balance it is considered that a greater degree of prescription than is currently the case is required to address the balance between the need for vehicle activity to support the City Centre's economy and the wider aspirations for the City Centre.

It is proposed that a ceiling be set on the total amount of short stay parking that will be allowed in the City Centre. As the determination of such a ceiling is inevitably an approximation, it is recommended that a ceiling should be applied incrementally and reviewed over time as set out in section 5.1.7.

A less prescriptive approach would provide no certainty about the overall outcome of the policy, while a more prescriptive approach would require a greater understanding of the impact of vehicles on the City Centre (both positive and negative) than currently exists.

Licensing could potentially be used as a cost effective means of ensuring that planning conditions are met, but may not be achievable under current legislation and is likely to be unpopular with existing parking operators. It is recommended that the Council further investigate this option as a means of enforcing planning consent conditions and ensuring public parking facilities meet minimum standards.

5.1.7 Proposal

It is proposed that a ceiling be set on the number of short term car parks which can be provided in the City Centre. The modelling of City Centre traffic in 2041 (reference 2) includes a diagram indicating the amount of growth in total all day person trips by car. After subtracting peak period travel (by multiplying the AM peak demand by 2), the diagram indicates that 2041 person trips by car between peak periods are expected to be approximately 21% higher than in 2006. As the estimated demand for public short stay car parking in 2007 was approximately 12,256 spaces (14,256-2,000), the corresponding increase in public short stay parking demand is 21% of 12,256 or approximately 2,570 spaces. This is equivalent to approximately 860 additional short stay spaces every 10 years.

This figure is likely to be on the high side. It does not take into account the composition of the additional vehicle trips, nor does it allow for future increases in vehicle occupancies.

The need for additional off-street short stay public parking should take into account future losses of on-street parking.

Proposed short stay parking policy:

- The increase in public short-stay parking supply in the Central Area be limited to no more than an additional 860 spaces over the next 10 years (to 2021).
- The Council undertake a survey of the usage of the available City Centre public parking supply to better determine the true demand for short stay parking. Such a survey should be undertaken in the near future and updated every 5 years.
- The short stay parking supply policy should be reviewed in 5 years time (or earlier if a survey of actual demand indicates a significant change in supply policy is required). A decision should then be taken on the amount of additional off-street short-stay public parking spaces that should be provided (if any).
- To encourage "park-once-and walk" behaviour, public short stay car parks should be conveniently located, easily accessible, within an easy and pleasant walk of key destinations and served by a central distributor public transport system.
- Key destinations include new developing areas such as the Wynyard Quarter. It is anticipated that new short stay parking facilities will primarily be located in the developing precincts of the Central Area.
- New public short-stay parking facilities should be avoided on streets with high pedestrian demands. These include:
    - The "Type 1" streets listed in 5.2.7 plus shared zone streets
    - Streets in newly developing areas with high pedestrian demands
    - Part of Victoria Street and part of Quay Street (Draft City Centre Masterplan)

5.2 Options to manage the supply of long stay parking

In this report "long stay" parking refers to parking with a duration of 4 hours or longer.

5.2.1 Option 1: Let the market decide

The total number of long stay spaces could be left for the market to decide, with the location and design of access points to parking facilities controlled by Council to ensure safety of pedestrians and traffic, to protect the amenity values of the location and to ensure local traffic operation is maintained.

There would be no linkage between the supply of long stay/ commuter parking and policies encouraging the use of alternatives to the single occupant car for travel to the City Centre during peak periods. There would also be no direct connection between the supply of parking and the management of the issues raised by traffic within the City Centre.

5.2.2 Option 2: Parking Ceiling

A "ceiling" could be established of the maximum amount of traffic that is acceptable entering or leaving the City Centre during peak traffic periods. This could be linked to the amount of long stay parking, as long stay parkers generally travel into and out of the City Centre during morning and

afternoon peak demand periods. The difference between the current peak traffic flows and the "ceiling" could be set as the amount of additional long stay parking that would be allowed.

The potential difficulty is in developing a robust methodology to determine the optimum amount of traffic to be allowed in the City Centre, and to link this to the supply of long stay parking.

5.2.3 Option 3: Licensing the provision of long term parking

Operation of long term parking in the City Centre could be subject to Auckland Council issuing a license, as described above for short stay parking.

This option is potentially a cost effective means of enforcing planning consent conditions. It is not, however, likely to be an acceptable means of implementing new parking supply and management policies.

5.2.4 Option 4: Parking provided only at locations and in numbers specified by Auckland Council

As for short stay parking, Auckland Council could analyse the long stay parking needs of the City Centre and could identifying the sites that are best located to serve those needs.

This would require a high level of understanding of present and future long stay parking needs, would require a high degree of intervention by council in provision of parking, and would require a funding commitment from council.

5.2.5 Option 5: Parking freeze

The number of long stay car parks could be frozen at the current level and new car parks provided only as existing car parks are removed.

This approach assumes that the current number of long stay spaces in the city centre is optimal. There would be a tendency to "lock in" long stay parking to current locations at the existing numbers, with limited flexibility to respond to changing development patterns in the City centre.

5.2.6 Discussion

The options provide a range of alternatives that involve varying degrees of intervention by Auckland Council of the amount and location of long stay parking. As for short stay parking, a greater degree of prescription would directly address the balance between the need for some vehicle activity and the wider aspirations for the City Centre. It would require a good understanding by Auckland Council of the dynamics of the City Centre and its economy, and of how this may change over time, and a willingness to intervene and regulate the market for car parking. A lesser degree of prescription would allow the market to play a greater role and would recognise the practical considerations of responding to changing parking demands and commercial realities.

It is considered that the best balance between the need to ensure wider objectives are met and uncertainty as to how best to meet them is to establish a ceiling for the amount of long stay parking that will be allowed.

A less prescriptive approach would provide no certainty about the overall outcome of the policy. A more prescriptive approach would require a greater understanding of the impact of vehicles on the City Centre (both positive and negative) than currently exists.

Licensing could potentially be used as a cost effective means of ensuring that planning conditions are met, but may not be achievable under current legislation and is likely to be unpopular with existing parking operators. It is recommended that the Council further investigate this option as a means of enforcing planning consent conditions and ensuring public parking facilities meet minimum standards.

5.2.7 Proposal

It is proposed that an approach be adopted which involves setting a ceiling on the number of long stay car parks which can be provided in the City Centre.

Calculating the ceiling. Assuming the planned improvements to public transport and to the City Centre transport network are in place, the Connecting Auckland City Centre[6] report indicates that the total amount of traffic entering the City Centre in 2041 during the AM peak period should be about the same as than the current level despite an increase in City Centre employment of 63,000 (141,000-78,000). The modelling indicates that the corresponding car mode share would reduce from approximately 48% at present to 26% over the 30-year period.

In principle, the Auckland Council would like to see a significant reduction in traffic entering the City Centre both during peak periods and in the inter-peak period. This suggests that the parking policy should be sufficiently flexible to accommodate reduced parking demands for both long stay and short stay parking.

It is concluded that the long stay parking supply policy should be based on a scenario with no net increase in supply over the 30 year period, but should be able accommodate both a potential limited increase in long stay parking demand for a period of time, and a phased reduction in long term parking supply by 2041.

Under these conditions, the most appropriate means of controlling the supply of long stay parking over the short to medium term is to accommodate some additional ancillary parking in new developments, while prohibiting any increase in the supply of public long stay parking (whether provided by the private sector or by Auckland Council) in the City Centre.

Ancillary Parking. It follows that the maximum amount of ancillary parking in new private non-residential developments should continue to be limited and the maximum should be reduced to limit increases in the total supply of parking in the City Centre.

Maximum parking standards have been in place in the Sydney, Melbourne, Perth and Auckland city centres for many years. Sydney, Melbourne and Brisbane currently apply a maximum rate of tenant or ancillary parking of around 0.4 to 0.5 per 100m^2 GFA (1:250m^2 or 1:200m^2 GFA). Tenant/ ancillary parking allowance in the Perth CBD is similar to Sydney, Melbourne and Brisbane, and is in the order of 0.4 to 0.6 per 100m^2 GFA for high density buildings.

[6] *Draft* Connecting Auckland City Centre: A Sub-Regional Approach to Transport and Land Use in the City Centre, Auckland Transport and NZ Transport Agency, 2011

It is proposed that the amount of ancillary parking permitted in new non-residential developments should be based on a new maximum rate of 1 car parking space per 200 m^2 GFA. A lower ratio could discourage new development in the City Centre and is not considered appropriate at this time.

Currently permitted maximum parking ratios vary by Parking District Road Type as shown in Appendix 9. It is considered appropriate to continue to not permit parking in developments fronting high pedestrian count streets. "Shared zone" streets should be included in this group. However, distinguishing between Type 2, 3 and 4 streets is no longer seen as appropriate as there is no certainty over the future management of the City Centre street network or direction on appropriate future traffic levels on individual City Centre streets. Instead new developments on all other streets should have the same ancillary car parking ratio of 1 space per 200m^2 GFA.

Those streets where no ancillary parking should be permitted are as follows:

3. Those streets described as Type 1 roads in the Auckland City District Plan 2004 and shown in Figure 9.1, Rule 9.7.1.1 (refer Appendix 9). These consist of Queen Street between Quay Street and Mayoral Drive, Karangahape Road east of the motorway brige, Symonds Street between Khyber Pass Road and Mount Street, Victoria Street between Albert Street and High Street, Fort Street and Shortland Street between Queen Street and Jean Batten Place, Vulcan Lane, Durham Street West, Darby Street, and Khartoum Place.
4. Shared zone streets not included in the above list. This currently includes Elliott Street between Wellesley Street and Darby Street and, potentially, High Street between Shortland Street and Durham Street East.

The outcome of this policy change is that the practice of not permitting ancillary parking in new developments on those streets classified in the former Central Parking District as Type 1 would continue. The maximum parking ratio for new developments on former Type 2 streets would remain at 1 space per 200m^2 GFA. New developments on Type 3 streets would reduce from 1 space per 150m^2 GFA to 1:200m^2 GFA, and new developments on Type 4 streets from 1:105m^2 GFA to 1:200m^2 GFA. New developments on "shared zone" streets, wherever located, would be treated in the same way as developments on former Type 1 streets and would have no ancillary parking.

The ancillary parking ratio of 1:200 would not apply to the Wynyard Quarter. The Wynyard Quarter parking ratios remain at the rates introduced in October 2010.

Accommodating an additional 63,000 employees at 1 car parking space per 200m^2 GFA would increase total GFA by approximately 1 million m^2 assuming an average of 16m^2 GFA per additional employee. This would allow a maximum of an additional 5,000 ancillary (private non-residential) parking spaces. The limited available information indicates that approximately 80-85% of these ancillary spaces would be occupied by senior management and other employees, indicating that these 5,000 additional ancillary spaces could in effect increase the long stay/commuter parking supply by approximately 4,000 – 4,250 spaces and the short stay/visitor parking supply by up to 750-1,000 spaces over the 30-year period.

It follows that over time the supply of public long stay parking should be reduced to offset the increase in ancillary long stay parking as new development takes place.

While the short stay ancillary parking will have some influence on the overall City Centre short stay parking supply, it is restricted to visitors to, or operational parking for the particular development it is located in and hence is much less effective that public short stay parking.

Temporary Parking Facilities. "Temporary" parking in vacant lots is, to a large extent, additional long stay/ commuter parking. It follows that it should be prohibited as part of the policy of strictly controlling the supply of long stay parking in the City Centre.

Transitioning to 2041. The planned mode shares for 2041 assume the Central Rail Link (CRL) is in place within the next 10 years and that opening of the new rail services gives a significant boost to public transport. Until the CRL opens, public transport patronage is unlikely to grow at the long term planned rate. Of equal importance, developer perceptions are unlikely to change until the CRL is fully committed, and possibly in place, and in the meantime there is likely to be a requirement for long stay parking in new developments to satisfy the perceptions of developers, funders, and potential leases.

For this reason, it is considered that the City Centre parking policy should be reviewed at regular intervals enabling changes that have occurred over the intervening period to be taken into account.

Over the first 10 years or until the CRL is in place measures should be put in place strictly limiting the net increase in long stay/ commuter parking.

Over the subsequent decades the supply of public long stay parking could be progressively reduced:

1. as demand reduces following construction of the CRL and the implementation of other measures encouraging greater use of alternatives to the single occupant car
2. to take into account the increase in ancillary parking in new developments.

The Council could lead this process by converting long stay parking in Council owned buildings to short stay parking as demand allows, and in due course closing a Council owned car park building or buildings and redeveloping the sites.

Progressively converting long stay parking to short stay parking in the Downtown, Victoria Street, Civic/ Aotea and Karangahape Road parking buildings could reduce the supply of long stay parking (and increase the supply of short stay parking) by up to approximately 1,200 spaces.

Proposed provision for ancillary (private non-residential) parking in new developments

- The maximum allowance for ancillary car parking in new developments in the City Centre should be set at 1 car park space per 200m^2 GFA and should be reviewed on completion of the proposed City Rail Link.
- The maximum allowance would cover all parking for each development including visitor parking, business operational parking and long stay parking.
- The maximum ancillary car parking ratio should apply uniformly to all new developments within the City Centre with the exception of those streets listed in Section 6.2.7 under the heading Ancillary Parking where no off-street parking access is permitted, and the Wynyard Quarter.

Proposed provision for public long stay parking.

The following policies are proposed:

- No additional public long stay public car parking should be permitted in the City Centre.
- New "temporary" parking facilities in vacant lots should be prohibited. Any facilities operating without consent should be closed and the consent conditions of existing facilities should be enforced.
- The mode shares for travel into the City Centre should be monitored at regular intervals and the long stay should be reviewed every 5 years to take into account changes in mode shares and the associated parking demand over the intervening period into account.
- Over the first 10 year period, Auckland Transport should progressively reduce the use of early bird parking in their facilities, e.g. through bringing forward to 7:30 the time it applies to (rather than to 9:00 or 9:30 as at present) and increasing the cost. This should form part of a stated policy of gradually eliminating discounted commuter parking in Council-owned parking facilities.
- Beyond 2021 Auckland Transport should convert long stay parking to short stay as demand allows. In the longer term it may be possible to close an existing public parking facility or facilities, and redevelop the site(s).

5.3 Options to manage the supply of resident parking

The current maximum residential parking provisions applying to the Auckland Central Area are 1 space per unit up to 79m^2 GFA and 2 spaces per unit with a GFA of 80m^2 or more.

In some residential developments these maximums have resulted in a surplus of residential parking which has resulted in apartment owners with surplus spaces leasing them out to commuters. This situation is not unique to Auckland[7].

In 2007 there were 17,937 residents in 8,289 households and 5,471 residential parking spaces in the Auckland Central Area. This represented 0.66 parking spaces per household unit. There were a high proportion of students in Central Area apartments many of whom did not own cars. This situation is expected to change in the future as more families choose to live in the Central Area, and hence the average car parking requirement per unit can be expected to increase.

Car park spaces included in the cost of apartments significantly increase their cost. The Australian Financial Revue article[8] quotes a sales agent who states that in even the cheapest apartment blocks in Sydney a parking space adds $50,000 to $60,000 to the price.

Resident parking demand. The number of parking spaces required per household can be calculated from the proportion of households with no cars, 1 car, two cars etc. Car ownership has tended to rise over time, but this appears to be changing in inner city areas good access to public transport.

Research by the City of Sydney[8] shows that one in three households in the City do not have cars, and in the CBD only 11% of households have two or more cars. Applying this to Sydney CBD residents, and assuming that the average car ownership of the 11% with 2 or more cars is 2.4, the average car parking demand for Sydney CBD apartments works out as 0x33 + 1x56 + 2.4x11 = 0.82 parking spaces per unit.

[7] Article entitled "Unit car parks are on the way out", p53, The Australian Financial Review, 5 October 2010.

A CBD with, say, 20% non-car owning households, 65% 1-car households and 15% with two or more cars would have a demand of just over 1 car parking space per household.

Resident Parking Supply: Australian **Examples**.

City of Sydney

The City of Sydney's draft local environment plan 2010 cuts the maximum parking allowance for new developments in the CBD from 2 spaces per two-bedroom unit to the rates below. The new rates for Category C (least close to public transport) are:

Studio dwelling	0.4 spaces/unit
1 bedroom dwelling	0.5 spaces per unit
2 bedroom dwelling	1.0 spaces per unit
3 bedroom unit	1.2 spaces per unit
For each dwelling up to 30 dwellings	0.167 spaces per unit
For each dwelling between 30 and 70 dwellings	0.1 spaces per unit
For each dwelling more than 70 dwellings	0.05 spaces per unit

Developers are required to designate a limited number of parking spaces as car-share scheme spaces, and can obtain a floor space bonus for bike storage and change facilities.

A 100 unit development in the City of Sydney with, say, 20 studio apartments, 40 1-bedroom, 30 2-bedroom and 10 3-bedroom apartments would therefore have a maximum of 70 resident parking spaces plus 11 visitor spaces giving a total of 81 spaces (including car share scheme spaces).

Assuming that 60% of apartments have a GFA less than 79m^2 and 40% have a GFA of 80m^2 or more, the same development would currently have a maximum parking allowance of 140 spaces in the Auckland Central Area with no distinction between resident and visitor spaces.

Perth, W.A.

The current Perth parking standards within the CBD were set in 1999. They are relatively high with a maximum of 1.5 car parking bays per dwelling. For non-CBD requirements, Perth sets minimum parking standards for higher density developments, but reduces those in mixed use developments with good access to public transport as shown in the following table[8].

	A (within 800m of a train station or 250m of a high frequency bus route	B (not within 800m of a train station or a high frequency bus route)
Small (<75m^2 or 1 bedroom)	0.75 per dwelling	1.0 per dwelling
Medium (75-110m^2)	1.0 per dwelling	1.25 per dwelling
Large (>110m^2)	1.25 per dwelling	1.5 per dwelling

[8] New provisions within State Planning Policy 3.1: Residential Design Codes in effect from 22 November 2010, Part 7

Visitors	0.25 per dwelling	0.25 per dwelling

Generally visitor parking have been set at 0.2 spaces per household. The City of Sydney sets a lower rate of 0.167 reducing to 0.05 for developments with over 100 dwellings. Perth sets a higher rate of 0.25 outside the City Centre, but appears to have no visitor parking allocation within the City Centre.

5.3.1 Option 1: Leave to the market.

Under this option there would be no requirement in the Unitary Plan to provide resident parking or limitation on parking provided and each building owner would decide what provision should be made (if any).

5.3.2 Option 2: Retain current provisions.

Currently maximum resident parking ratios apply and are set at 1 space per unit up to 79m^2 GFA and 2 spaces per unit with a GFA of 80m^2 or more.

5.3.3 Option 3: Allow provision of more resident parking.

There is no evidence that higher resident parking ratios are required for buildings in the City Centre

5.3.4 Option 4: Reduce amount of resident parking allowed.

There is some evidence that more resident parking is being supplied is some buildings than is required for residents of that building.

5.3.5 Discussion.

Parking provided for residents of City Centre apartments has a different impact on the City Centre from other types of parking. These cars are not used for journeys into the City Centre during the morning peak and therefore do not contribute to peak period congestion. They are generally not used during the day for travel about the City Centre and therefore do not generally detract from City Centre amenity during the day. They are generally used for trips out of the City Centre, particularly in evenings or at weekends, or for trips out of the City Centre during the morning peak. The parking spaces are generally provided in building basements and generally cannot be converted to a use other than car parking.

There is some evidence that more resident parking is being provided in some buildings than has been required, and that surplus resident parking has been leased to commuters. This has the effect of contributing to the number of vehicles on City Centre streets during peaks and works against the "Parking ceiling" policy proposed above.

The Auckland Central Area is not currently as accessible by public transport as the Sydney CBD. Residential car parking provisions can therefore be expected to be higher than those applying to the Sydney CBD in recognition of the higher dependence on travel by car, but can be expected to reduce over time as public transport accessibility improves.

5.3.6 Proposal.

Two options were developed for new maximum residential parking standards for the Auckland City Centre for the period to 2021.

Option 1 adopts the City of Sydney approach but increases the maximum ratios by an average of 43% to bring the maximum resident car parking provision over the City Centre up to approximately one parking space per unit assuming a mix of apartment sizes similar to the above example, and sets a maximum of 0.2 spaces per unit for visitors regardless of the number of units in the development.

Option 2 aims for a similar outcome using a floor area-based approach similar to that currently the case in the Auckland City Centre. It also uses a visitor parking ratio to 0.20 spaces per unit. As the current minimum floor area in the City Centre for a 2-bedroom apartment is $70m^2$, this is used as an appropriate GFA cut-off.

Option 1

Studio	0.55 spaces/unit
1 bedroom	0.75 spaces per unit
2 bedroom	1.40 spaces per unit
3 bedroom	1.70 spaces per unit
Visitors	0.20 spaces per unit

Option 2

$<70m^2$	0.70 spaces per unit
$70\text{-}110m^2$	1.40 spaces per unit
$>110m^2$	1.70 spaces per unit
Visitors	0.20 spaces per unit

Applying Option1 to the above example produces a maximum resident parking provision of 100 spaces plus 20 visitor spaces giving a total maximum of 120 spaces car parking spaces.

Applying Option 2 and assuming that 60% of apartments have a floor area less than $70m^2$ GFA (i.e. are studio or 1-bedroom), 30% have a floor area between $70m^2$ and $110m^2$ GFA, and 10% greater than $110m^2$ GFA, gives a maximum resident parking provision of 101 parking spaces plus 20 visitor spaces giving a total maximum of 121 car parking spaces.

Both examples reduce the total maximum car parking provision for residential development by approximately 14% when visitor parking is taken into account. However, the potential parking available for residents is reduced by a greater amount (potentially as much as 28%) by separating our resident and visitor parking in the permissible maximum ratios. This approach has the advantages of reducing the potential oversupply in resident parking in new City Centre apartment developments, while providing for an adequate supply of off-street visitor parking.

Option 2 is the recommended option. It is based on floor area and is therefore more similar to the current approach.

These new maximum parking ratios for residential development should apply to the period to 2021. The ratios should then be reviewed in light of decisions made on the City Rail Link timing and other measures improving the accessibility of the City centre and reducing the need for car ownership.

6 Other Unitary Plan Measures

6.1 Travel Demand Management Plans

Controlling the number and type of new parking spaces provided is critical to ensuring car use within the City Centre supports City Centre objectives. Controlling the number of spaces however will not be enough on its own to ensure parking supports City Centre objectives in the most effective manner. Building uses will change over time and so will peoples transport needs, so that there needs to be responsiveness and flexibility in the way that parking is managed. The allocation of parking spaces to operations such as care share schemes, car pools, delivery vehicles, buses and coaches taxis etc is difficult to predict accurately and is likely to change over time.

It is considered that the best way ensure parking operations respond to changing needs and are integrated with other transport initiatives is to require the preparation of a travel demand management plan as a condition of the provision parking for any new activity or change in activity. A threshold of 25 or more car parking spaces or average traffic generation of 100 or more traffic movements is suggested.

The travel demand management plans would include:

- Provision of infrastructure to support travel modes other than cars (such as allocation of space to car share schemes, car pools, buses and coaches, pedestrian and cyclist linkages etc))
- Operational measurers to reduce car use (such as public transport incentives, car pool schemes, flexitime etc)
- Provision for loading
- Provision for people with disabilities
- Responsibility for delivering the travel demand management plan
- Monitoring, reviewing and reporting travel demand management effectiveness
- Etc

It is noted that preparation of travel demand management plans is currently a requirement for the Victoria Quarter, Learning Quarter and Wynyard Quarter.

Proposal. That any new activity or change to an existing activity which provides 25 or more car parks or which will result in average daily generation of 100 vehicle movements or more be required to produce an approved travel management plan which would include how parking spaces are to be managed.

6.2 Options to manage loading spaces, bus & coach parking, cycle spaces, disability parking

6.2.1 Options for loading bays

Option 1: Leave to the market. Under this option there would be no requirement in the Unitary Plan to provide loading bays and each building owner would decide what provision should be made (if any). It is likely that some building owners would provide inadequate loading arrangements in order to maximise rentable space, and would rely on loading from public spaces regardless of whether this would be appropriate or not.

Option 2: Retain current provisions.

Currently a minimum number of loading bays are required, depending on the activity and size of development.

For retail, industrial storage or industrial activity, 1 loading space is required to be provided for GFA up to 5,000m^2, 2 loading spaces for 5001 to 10,000m^2, and 3 loading spaces plus 1 for every 7,500m^2 for GFA greater than 10,000m^2.

For other activities, 1 loading space is required to be provided for GFA up to 20,000m^2, 2 loading spaces for 20,001 to 50,000m^2, and 3 loading spaces plus 1 for every 37,160m^2 for GFA greater than 50,000m^2.

Option 3: Retain current provisions but allow greater flexibility. Current requirements could be treated as guidelines, with arrangements approved on a case by case basis depending on the location and the nature of the activity. This could be implemented through a travel demand management plan.

Option 4: Require provision of more loading spaces. There is no evidence that more loading bays are required for buildings in the City Centre. Current regulations do not prevent building owners from providing more loading bays than required if they consider this is needed.

Discussion. Loading spaces can be difficult to fit on constrained sites within the City centre and there are some examples where the provision of loading spaces adjacent to the street reduce the activity along the building frontage. The requirement for a vehicle crossing also interferes with activation of the frontage and vehicles crossing interfere with pedestrian movement. In some instances loading from the street can be preferable to the provision of an on-site loading bay, particularly where deliveries are made by relatively light vehicles. It is noted that in some locations in some cities deliveries are allowed from the street but are restricted to times of day when there is little pedestrian activity.

The shared use of on-street loading spaces after hours with clear signage can assist in making efficient use of the available kerbside space.

Effective enforcement of short stay on-street loading bays is important.

Proposal. It is proposed that current requirements be maintained with the exception that in pedestrian-priority areas loading arrangements should be dealt with on a case by case basis as part of a travel demand management plan.

6.2.2 Options for bus and coach parking

Option 1: Leave to the market. Under this option there would be no requirement in the Unitary Plan to provide loading bays and each building owner would decide what provision should be made (if any).

Option 2: Retain current provisions.

For hotels and serviced apartments, 1 space must be provided for every 200 rooms.

For entertainment facilities, 1 space must be provided for every 450 seats.

Option 3: Retain current provisions but allow greater flexibility. Current requirements could be treated as guidelines, with arrangements approved on a case by case basis depending on the location and the nature of the activity. This could be implemented through a travel demand management plan.

Option 4: Require provision of more bus parking. There is no evidence that more bus and coach parking is required for buildings in the City Centre. Current regulations do not prevent building owners from providing more loading bays than required if they consider this is needed.

Discussion. The Intention of the Unitary Plan is to require bus and coach parking at locations such as hotels and entertainment facilities where large numbers of visitors are expected to arrive from time to time in large groups. As for loading spaces, the outcome of this requirement can be arrangements which reduce activation of frontages and require footpath crossings for activities that are relatively rare. In many overseas cities bus and coach loading at hotels is routinely handled on-street.

Proposal. It is proposed that bus and coach parking arrangements should be dealt with on a case by case basis as part of a travel demand management plan. Where feasible bus and coach parking should be accommodated on-street in an agreed location, or locations, with kerbside space allocated to the purpose.

6.2.3 Options for cycle spaces

Option 1: Leave to the market. Under this option there would be no requirement in the Unitary Plan to provide cycle spaces or facilities for cyclists. Each building owner would decide what provision should be made for cycling (if any).

Option 2: Retain current provisions - no requirement, but bonus GFA available***.***

Option 3: Require provision for cycling. This could require the provision of spaces for cycle parking, provision of facilities for cyclists such as showers and storage lockers, or both.

Discussion. One of the features of the Central Area Masterplan is making the City centre more attractive and easier to use for cyclists and to increase the number of people using cycles both for access to the City Centre and for moving about inside the City Centre. If these plans are to be successful, it is essential that not only is cycling made easier, but provision is made for cycles and for cyclists at destinations.

Proposal. It is proposed that the following minimum requirements be introduced for the provision of both cycle spaces and facilities for cyclists.

Private non residential new developments

- 1 private long-stay bicycle parking space per 200m^2 GFA or 1 space per 10 employees whichever is greater in all-weather, accessible, secure bike racks.
- 1 visitor space per 800m^2 for office development. For other uses, 1 space per 15 visitors/customers or 1 space per 800m^2 whichever is greater. Located in secure, highly visible, easily accessible bike racks located outside the main entrance

Resident Parking

- 1 bicycle parking space per unit for residents in all-weather, accessible, secure bike racks. Bicycle parking should be in a locked area with communal access using duplicate keys or electronic swipe cards.
- 1 space per 15 units for visitors in secure, highly visible, easily accessible bike racks. Visitor parking is to be marked and/or signposted permanently as such and located so that it is easily accessible or its location is visible from the street entrance to the property.

Private long stay bicycle parking should be located in high security storage areas with limited access, e.g. a locked area with communal access using duplicate keys or electronic swipe cards. It should be undercover with good lighting and located so that personal security is not compromised.

All buildings with private long stay parking should provide change rooms (1 male and 1 female facility required), showers and lockers. As a guide there should be 2 showers for up to 49 employees/ students, 4 showers for 50-149 employees, 6 showers for 150-299 employees and 2 showers per additional 200 employees, with equal male/female shower shares.

Unless otherwise stated, visitor/customer bicycle parking should be installed within 100m of the destination using approved bicycle stands, with clear signage and good passive surveillance and lighting. It should also be undercover.

6.2.4 Options for parking for people with disabilities

Option 1: Rely on requirements of Building Act. Under this option there would be no requirement in the Unitary Plan to provide parking for people with disabilities. The requirements contained in the Building Act would apply.

Option 2: Incorporate requirements of Building Act in District Plan.

Option 3: Require provision of parking for people with disabilities.

Discussion. The Building Act requires parking spaces for people with disabilities to be supplied as a proportion of total parking spaces. Where no general parking is required, no parking for people with disabilities is required. While it would be desirable to introduce a requirement, there may well be difficult sites where, as for loading bays and bus parking as discussed above, such a requirement has unintended consequences regarding reduced activation of frontages and intrusion of vehicles crossings. In some cases it may be more appropriate to allocate on street parking to people with disabilities, although this is generally not desirable due to safety issues.

Proposal. It is proposed that parking for people with disabilities be dealt with on a case by case basis in the pedestrian priority areas through a travel demand management plan, but be required outside the pedestrian priority areas.

Where required, the following general formula should apply. The determination of the number of parking spaces required should be based on a “typical” non-City Centre rate of 1 space per 30m^2 GFA.

Number of Accessible Parking Spaces – General Formula

Gross Floor Area Range (m^2)	Number of accessible parking spaces
1 - 20x(GFA per car park)	Not less than 1
[(20x(GFA per car park) +1] – 50x(GFA per car park)	Not less than 2
For every additional 50x(GLFA per car park)	Not less than 1

For a rate of 1 parking space per 30 m^2 GFA

Gross Floor Area Range (m^2)	Number of accessible parking spaces
1 - 600	Not less than 1
601 – 1500	Not less than 2
For every additional 1500 m^2 or part thereof	Not less than 1

6.3 Urban design options

This report only focuses on the urban design issues directly associated with the provision car parking and access. It is anticipated that there will be a significant amount of urban design-based analysis undertaken of the CBD as part of the Unitary Plan preparation. These recommendations should therefore be seen as contributing a small part of that much bigger picture around the urban structure, visual appearance, amenity and overall development quality of the CBD. Issues that have not been considered as part of this report include:

- General building design / appearance;
- General pedestrian canopies and shelters in the CBD;
- Strategic identification of primary pedestrian environments or 'zones'.

Urban design of the City Centre is heavily influenced by the amount of traffic on city streets and by the measures used to manage that traffic in order to support the development of streets which attract a vibrant street life and are accessible to pedestrians and cyclists. The role of parking in achieving this outcome is described in the above chapters of this report. This chapter deals with the urban design aspects of integrating parking facilities with local streets and local areas, particularly in regard to the design of parking facilities so that they fit in to the local urban architecture, and the design of access points so that they are safe and fit with local pedestrian and cyclist movements. Although urban design goals for the CBD include achieving a high-standard of quality architecture, the imperative is in active street edges where pedestrian trips are perceived as the easiest and most

attractive travel mode. The placement and scale of car parking and vehicle access activities can negatively impact on this imperative.

6.3.1 Option 1: Let the market decide

This option would entail the least regulation, with developers of any site making their own judgements as to how best utilise their site and the opportunity of any streets (or other open spaces) they front to, to be a source of exposure to different modes. The Council would rely on applicants making decisions whereby their own site-specific drivers happened to also meet an appropriate level of pedestrian amenity, continuity and active street interface.

6.3.2 Option 2: Treat parking facilities as discretionary activities and make good urban design an assessment criteria

Guidelines could be produced which describe how good urban design can be applied to parking facilities and applications could be assessed against compliance with these guidelines. There would be no permitted 'acceptable solution' although typical resource management practice is that assessment criteria should be of sufficient clarity to allow applicants to have a clear understanding of where to head. This method offers the greatest flexibility to the Council and the least certainty to developers. To be successful it would rely on very clear and specific criteria (i.e. quasi rules rather than general design themes / principles).

6.3.3 Option 3: Spell out urban design requirements in Unitary Plan

This option would be the most prescriptive but would also provide the greatest certainty to all plan users of the outcomes expected by the Council and against which applications for variations could be assessed on merit. Typically this would be given effect to by way of development controls (rules) that could be complied with. Contraventions of those rules would require a resource consent.

6.3.4 Discussion

Past experience is that an unregulated market will deliver, at least some of the time, low cost minimalist designs which place stark, ugly car park buildings in sensitive environments; which deactivate lengths of street frontage; and which disrupt pedestrian flows with wide, busy driveways. While some activities will have a strong commercial relationship with pedestrians and streets (and therefore may deliver successful outcomes), many will not (such as dedicated parking structures that are concerned almost solely with exposure to vehicles). The key deficiencies that have been observed in practice and which are otherwise discussed in urban design literature are:

- Porte cocheres have the effect of emphasising the predominance of vehicles along the frontages of sites and of making it harder for pedestrians to safely and conveniently access buildings. To minimise spatial inefficiencies around large vehicle turning circle radii, these tend to be designed as mini slip lanes, with a relatively small angle of deviation allowing minimal turning and minimal slowing of vehicles as they cross footpaths. This also has the effect of making pedestrian crossings across vehicle crossings longer and subject to reduced sight lines (vehicles come more from behind the pedestrian rather than from the side). This is not considered appropriate in a highly populated and pedestrian-centric CBD.

- Wide and multiple vehicle crossings along a street disrupt the pedestrian experience and add delays to pedestrian trip time. This in turn reduces the net area of the CBD that can be conveniently accessed by foot and hence reduces the overall potential exchange that the

pedestrian can engage in without investing more time (not always an option). When buildings are built close to the street there can be reduced sightlines for vehicles exiting onto streets relative to pedestrians.

- Large areas of car parking located at the property boundary at street level and within the line of immediate sight of pedestrians (at least the first floor levels) presents inactive walls. These can be screened to mitigate a degree of any visual impact. However even when screened with a convincing mock building façade the urban design problem remains – the lack of an active edge and the benefits this can bring for safety; pedestrian amenity and the character of the CBD; and the potential for people walking along a street to be induced to spend more time or money on impulse purchases. This spontaneity is an important element of successful street-based retail areas such as typifies many CBD streets.

Developing urban design guidelines for parking facilities and assessing applications against these guidelines has the advantage of allowing flexibility in matching the principles of the guidelines to individual sites, and giving scope for innovative design solutions. However they have shortcomings in that the Council's actual practice of granting consents may create a contextual benchmark against which no future developments can be practically forced to do better than. However the pressure on the Council to always avoid a precedent at the expense of a case-by-case pragmatism may not be a realistic standard to maintain. There is considered a risk that over time the real 'bottom line' required to satisfy criteria may erode as more and more compromise or 'one off' exceptions become established. To prevent this, criteria need to be written directly and clearly, with a clear expectation of the anticipated bottom line. In other words, they can become an inferior way of applying rules.

On balance however it is considered that there would be greater benefits if the key elements of good urban design are included as requirements in the Unitary Plan by way of development control rules. There would be greater clarity for applicants as to what is required for a proposal to be approved, and there would be greater certainty that the desired design outcomes would be achieved. Innovative design solutions could still be proposed, but with less certainty of approval. However it is considered that high quality design solutions that significantly depart from the minimum requirements of sound and defendable urban design rules would not be a realistic risk, i.e. it is not considered that rules could realistically prevent high quality urban design outcomes from occurring.

6.3.5 Proposal

The current District Plan includes a number of requirements and criteria that could be considered to fall within the purview of urban design. In general these should be retained except where otherwise stated below.

It is proposed that the following urban design requirements be included in the Unitary Plan (note: this report identifies the issues and gives discussion on the technical content of provisions; the Council would need to finalise the wording of any provisions including assessment matters as part of its wider section 32 confirmation and corporate Plan drafting process):

Where vehicle access is permitted, minimise number of crossing points. The controls should balance the frequency of crossings with the intensity of vehicles using each crossing – there may be a point

where the volume of traffic using a single crossing would create adverse effects outweighing the positive effect of only having one crossing.

In respect of all vehicle crossings, it is recommended that the Unitary Plan require pedestrian amenity to be the paramount consideration in the design and forming of said crossings. A key consideration is width (detailed below). However the quality of the footpath is also of concern. Where buildings are constructed on slopes/hills, the vehicle entrance should be ramped internally within the site and otherwise designed to avoid vehicle ramps/humps interrupting the slope of the footpath. Vehicle crossings should be constructed in the same materials as the footpath and the level of the footpath should be maintained to avoid depressions/dips/undulations in the pedestrian space. These should be Rules. If desirable the Council could also take financial bonds from applicants to ensure that this footpath condition eventuates prior to the occupation and use of any building.

The use of tidal (reversible) entry/exit arrangements should be encouraged in order to reduce the frontage width required to accommodate every entry and exit. The standard crossing point should be single width (preferably 3.1m maximum) perpendicular to the kerb. This can be managed by way of internal queue design, give way markings internally and signals that manage bi-directional conflict.

There is considered a significant risk of adverse pedestrian amenity and CBD character effects arising from the design, size and location of vehicle access points. It is therefore recommended that the basis of Unitary Plan rules should be a single-width crossing of 3.1m maximum width on sites with a single road frontage. Sites with two or more road frontages and/or alternatively sites that seek more than one vehicle access point or access points that are wider than 3.1m (including two-way access points) should be restricted discretionary activities that are in the first instance dealt with by the Council on a non-notified basis. Vehicle access points in key / critical pedestrian environments could be an outright Discretionary activity. The key criteria that would form the basis of consideration for those applications should include:

Multiple road frontages:

1. Whether, in the case that a site has more than one road frontage, the vehicle access point has been located on the frontage that carries the least daily volumes of pedestrians (the 'minor' pedestrian frontage).

2. Whether, if (1) has not been achieved, there are appropriate reasons for not locating a crossing on the minor pedestrian frontage. Appropriate reasons may be:

    a. The 'minor' pedestrian frontage is already cluttered with vehicle access points and further access points would lead to an overall poorer pedestrian amenity outcome for the CBD; or

    b. There are critical traffic safety reasons preventing the placement of a vehicle access point on the 'minor' pedestrian frontage.

Additional width / two-way crossing points:

3. Whether the access has been designed to be as operationally narrow as possible with regard to pedestrian amenity, interruptions of the footpath, and achievement of active ground floor land use activities along street edges.

4. Whether the nature of the street and daily pedestrian volumes moving along it, in conjunction with any existing vehicle access points within 100m of the proposed access point, would be better served in terms of amenity, safety and street character by fewer larger access points than more frequent but smaller ones.

5. Whether the wider access point would detrimentally affect pedestrian convenience and safety along the footpath.

6. Whether the wider access point would detrimentally affect the achievement of high quality active ground floor activity along the street.

7. Whether the cumulative frequency and extent of access points within 100m of the proposed access point would lead to the street becoming dominated by a service / access character rather than a pedestrian and active, activity-led character.

8. Whether the volume of vehicles in the street means that a narrower / more restricted vehicle crossing would create vehicle queuing issues on streets detrimental to the overall amenity of that street.

9. Whether, in the event that a two-way / two-lane vehicle crossing is demonstrated as being appropriate, it has a maximum width of 4.8m

In the context of the above it is noted that there may be circumstances where double-width crossings could be more desirable than two single width crossings for large sites, and where it is demonstrable that a single crossing solution is commercially unworkable (by way of a consent requirement above). Indicatively, an ingress and an egress located next to one another could be appropriate subject to detail design either directly side-by-side or separated such as by:

- A pedestrian refuge with a minimum 2.0m width was provided between the crossings; and

- The parking structure barrier arms / gates were set back sufficiently from the property boundary that ingress vehicles did not block the footpath and egress vehicles had ample time for drivers to see the street and make an appropriate judgement. As a guide, a minimum of 6m is recommended.

There should be no allowance for frontages with three or more crossings. It is recommended that internal lane splitting can separate different classes of facility user if required rather than degrading the public street. The example above could be desirable in instances of very high frequencies of ingress and egress traffic on busy streets where, in particular, pedestrians could find themselves trapped between ingress / egress flows on the footpath irrespective of the hope that drivers waiting for access into a car park structure would remain calm and courteous to pedestrians. This example highlights the range of design solutions that may be desirable based on the variables of each case and why, other than an absolute minimum provision, a consent requirement with assessment matters should be preferred by the Council over a more permissive approach.

It is also recommended that the Council integrate this with its current site frontage control (9.7.3.3 d). While a 3.1m minimum vehicle access is recommended, this could still lead to negative outcomes where streets have many very narrow sites next to each other. In those cases, a resource consent should be required to ensure that new crossings are only introduced where there is no means to share an existing crossing. As a guide, vehicle accesses occupying no more than 1/3rd of a site's frontage, although still undesirable, will not inappropriately dominate the frontage or preclude overall achievement of a high quality, pedestrian focussed active edge. This would imply that vehicle accesses on sites that have a frontage width of less than 9.3m should be a restricted discretionary activity with discretion restricted to all of the matters identified above and including most importantly the demonstrated inability to share an existing access point. The Council could take the view that on these sites, no access should be provided, with applicants needing consent to provide one.

Clear lines of sight should be provided to vehicle crossing over footpath. In addition to the above and as a part of the design of vehicle access points, consideration should be had of providing an appropriate sightline between egress vehicles and pedestrians. It is noted that the future vision for the CBD includes greater numbers of cyclists, children, elderly and it is assumed the disabled. In conjunction with a busier CBD vehicular traffic environment the potential for injury at vehicle access points will rise over time.

There are a number of design techniques available to achieve this depending on the width of the vehicle access point and the number of vehicles using it, and the number of pedestrians using the street. These could include:

- The use of warning lights / signs visible to pedestrians when a car is approaching the footpath from inside the parking area (note: these are less effective when pedestrians are disabled or suffer a perceptive impairment (including young children);

- Setting egress gates / give way lines back from the footpath within buildings so that vehicles will have more of a pause and time for the driver to see pedestrians before crossing the property boundary at speed (note: property values in the CBD mean that buildings will still front boundaries; only the parking access / egress gates or barrier arms would be set back);

- The use of CCTV connected to internal monitors showing drivers the footpath condition on either side of the vehicle access;

- The formal marking of footpaths in front of vehicle access points as pedestrian 'zebra crossings' to give a stronger right of way prompt in favour of pedestrians (this may be problematic for ingress vehicles turning from streets however);

- The use of recessed setbacks and tapers in building facades so that pedestrians and vehicles are more physically separated and have greater opportunity to see each other (note: this makes the net scale of access points larger than otherwise, with potential active edge / street visual amenity consequences). For example in addition to a 6m barrier arm / gate setback from the front boundary there could be an additional 1.5m minimum taper between the front boundary and the vehicle entry on either side of the crossing. This space could be treated with low landscaping if necessary. This would enhance sightlines and reduce the risk of collision between

vehicles and pedestrians or cyclists. To illustrate, at the street boundary there could be a space in the building of 1.5m (sightline buffer) + 3.1m (maximum single-width crossing) + 1.5m (sightline buffer) = 6.1m of opening, of which only 3.1m was usable as an access way via vehicle crossing and kerb placement. At 6m back from the street, the 1.5m setbacks would have been reduced to zero, leaving only the 3.1m crossing and the entrance to an internal facility.

Given the safety issues involved and the variability between design solutions available, no single solution is considered inherently superior. Due to this, it is recommended that:

1. As a rule in the Unitary Plan, All vehicle egress to public streets shall have marked signage and give way lines no closer than 2.0m to the front boundary. This will help prevent vehicles nosing out into the footpath at high speeds.

2. As a rule in the Unitary Plan, no egress gate to public streets should be closer than 2.0m to the front boundary. This will help prevent vehicles nosing out into the footpath at high speeds.

3. As a rule in the Unitary Plan, any vehicle access point that will accommodate more than 25 egress movements in a day should be a restricted discretionary activity, with discretion restricted to the way in which the access point has been designed to make the pedestrian environment as safe as possible including by minimising the risks that pedestrians will be hit by vehicles.

Pedestrian and vehicles accesses should be separate and clearly distinguished. Vehicle access points will be identified on the basis of internal efficiencies and external safety concerns. These locations will not reliably be the most convenient, legible or desirable locations for pedestrian entrances. Nor will it be appropriate or desirable to force pedestrians to share minimum width vehicle access ways. Pedestrian accessways in particular should be visually conspicuous and located where possible towards site corners. They should feature canopy weather protection, lighting, and be integrated with the ground floor use of the building.

It is recommended that the Unitary Plan contain an information requirement Rule requiring applicants to demonstrate that pedestrian access to and from all sites including through internal car parking areas:

- Has been designed in accordance with Crime Prevention Through Environmental Design (CPTED) principles, including lighting, way-finding, entrapment potential, and 'help' spots.

- Is clear, direct and convenient having regard to pedestrian movement desire lines, including through parking areas themselves.

- Incorporates weather protection at building entry points.

- Where shared with vehicle access ways, is clearly demarcated in a separate finish and is in addition to minimum vehicle carriageway width needs.

- Provides distinct pedestrian entrances rather than requiring pedestrians to use vehicular ingress / egress space.

- Are highly conspicuous and obvious to users.

Alternatively the Council could make this a consent requirement with the above matters forming the assessment crireria.

Building continuity and active frontages should be maintained. Pedestrian continuity will be maintained by minimising vehicle access points and where possible encouraging activities to share access points rather than create new ones. Active and articulated edges should be required along all street frontages except vehicle and pedestrian access points. This will maximise pedestrian safety, amenity and the CBD outcomes promoted by the Council. In this report, 'active edge' means:

having a visual connection with the street level (usually from a ground floor) and entrances from the street. It will involve a degree of glazing but does not need to be fully glazed. The design should imply to users on the street that there is regular proximity and two-way visibility and interaction between them and people within buildings undertaking activity.

This is primarily focussed on two-way interaction between public space and the space within buildings. It is separate from the quality of visual appearance and design, which is considered to sit in the concept of 'articulation', meaning:

designing and detailing a wall or building façade to introduce variety, interest, a sense of quality, and the avoidance of long blank walls.

Street level parking should to be placed at least 15m behind another activity. Fifteen metres is a typical New Zealand retail store depth and allows a minimum internal flexibility for tenants to vary their layout and efficiently use their space. The Council could allow this minimum width to be reduced by way of resource consent. However, this reduces the flexibility of the space, thus limiting the range of future tenants whom could feasibly use it across both high and low-value retail categories. This outcome is known as 'sleeving' and amounts to ground floor parking being entirely hidden behind shops. At ground level, this outcome is considered critical. It should also extend for at least the first and second levels as these are primarily within a pedestrian field of view where the positive effects of an active edge will be most pronounced. Above this, it would also be desirable to require active sleeving (as has been seen in other Plan Changes of Auckland City Council), however above 10 levels it would be difficult to justify on urban design grounds.

Parking adjoining a street (above those levels that must be sleeved) should be screened. Where a building site fronts a street, the building levels along that boundary that do not need to be sleeved should be required to be screened. Screening should not be provided for purely as a means to enclose a building plane, but to convincingly hide the presence of car parking. The Council should require that the screening be designed to be an integrated and continuous extension of the façade whereby a pedestrian on a street looking upwards would at first glance think the level was habitable floorspace. It is also noted that Auckland's topography and historical development have meant that there are frequent views above buildings. Roof car parks are common and could diminish the visual quality of these views. For this reason, the Council should look to ensure all car parks are contained within a building.

Therefore in respect of these issues it is recommended that:

1. Buildings at ground level, first and second levels facing a public space or public use area (such as a private open space plaza) must be active and articulated in a manner whereby two-way interaction and inter-visibility is maximised, and the greatest building design effort should be invested as this is the primary part of the building that will be experienced by pedestrians. To achieve this, any car parking space on these building levels shall be sleeved by business or residential units on the first or second level and business units only on the ground level with a minimum unit depth measured perpendicular to the front boundary of 15m.

2. Buildings between the third and tenth levels facing a public space or public use area (such as a private open space plaza) should be active and articulated where this is possible, but at a minimum should be articulated in a way whereby the building façade is interpreted as a continuation of the active building façade used on the ground, first and second floors. This is especially critical where far-field views and view shafts for pedestrians exist. Where sleeving is to be used to achieve an active edge, this shall be a minimum 15m depth measured as per above.

3. Passive screening of parking areas, such as by mesh or partial enclosure that still clearly provides visibility of a car park is not supported and should not be provided for other than on side and rear boundaries to maintain a minimum amenity for adjacent sites.

4. Car parking provided on roofs should be provided with screening along the sides and above.

5. All car parks should be designed such that there is no adverse light spill (including from headlights) onto adjacent CBD properties, other than at ground level car park egresses to the street.

Parking should be encouraged to be placed underground. Supplementing the sleeving and screening issues above, the Council should be clear that parking is most appropriately provided for underground. To incentivise this, underground car parking space should be exempted from floor area calculations. Car parking provided at or above ground floor should be included in the calculation of floor area for the purposes of maximum building size / scale rules.

Minimum stud heights should be imposed. A key deficiency in achieving sleeving and use conversions of car parking areas relates to the minimum stud heights that have been permitted when a building level is used purely for car parking. This is considered appropriate when the level is underground. However at ground and all levels above the Council should require all levels to be built to minimum habitable level requirements. This will make it easier to assure sleeving outcomes along the exterior perimeter of a parking level as well as enable changes of use should the need for car parking be reduced in the future. As a guide, typical ground floors in CBDs range from 4.5 – 5m. The Council should consider what minimum stud heights it feels are desirable for the preferred activity (retail / commercial / other than parking) and impose this, with parking therefore seen as an undesirable but in some cases appropriate use of space primarily intended for habitable use. This should be a requirement set in the Unitary Plan.

Strongly discourage Porte Cocheres. Porte Cocheres are not considered supportable and should be provided for only through a rigorous resource consent process. They are almost impossible to design

to provide an appropriate level of pedestrian amenity for the street while at the same time meeting operator expectations. The major difficulty is that large vehicles require very space-intensive turning circles. To efficiently use sites this means that porte cocheres get designed as de-facto private slip or service lanes with design emphasis on minimal turning angle (30^{o} is usually considered the most efficient in traffic terms or in other words to get vehicles off the main roadway as quickly and safely as possible with respect to avoiding rear-end crashes). This leads to excessive vehicle speeds along footpaths and longer net pedestrian trips along vehicle crossings. While parts of buildings may extend over porte cocheres the real building entrance is inherently set well away from street frontages. A prohibited activity is unlikely to be defendable, and non complying activities are difficult to use in practice for issues such as these as by their definition it is not possible to provide for them via an explicit objective and policy framework. Therefore they should be provided for in the Unitary Plan as a discretionary activity and supported by a policy framework that is clear they will only be supported in exceptional circumstances. To defend this however the Council should ensure that provision has been made for the use of streets by large vehicles (tour buses and coaches) and for taxis. Porte cocheres should only ever eventuate when:

1. There is no ability for large vehicle parking to be provided on the street by Auckland Transport within 100m of the activity (such as loading bays along the same street edge as a hotel) and it would be unreasonable for the activity to have no large vehicle access; and

2. The porte cochere has been designed such that no vehicle can cross the footpath at a speed greater than 20km/h; and

3. The porte cochere has been designed to have the narrowest operationally possible vehicle crossing width over the footpath at both ingress and egress.

It is noted on this issue that an active discouragement of porte cocheres may result in tourists having to carry luggage across streets and walk to hotels. This is a common situation in many overseas CBDs, most obviously where a passenger transport (train) service can only allow tourists to the CBD train station. It is also noted that many City Centre hotels already have porte cocheres which would be protected by existing use rights. Tourists that insist on door-to-door travel to hotels will still be ably provided for within the City Centre. This issue could be expanded to encompass all drive through activities in the City Centre.

7 City Centre Parking Levy

As discussed in Chapter 5 and Appendices 1 and 5, levies on City Centre car parks are used in a number of overseas cities to support public transport and to provide a disincentive to car use in the City Centre. Levies also provide a source of revenue.

It is proposed that a levy be introduced on all off-street non-residential parking spaces in the City Centre, with exemptions for mobility parking, loading spaces, bus and coach parking including any off-street lay-up areas, and emergency vehicle parking areas.

Such a levy would apply to approximately 40,000 parking spaces. If set at, say, $400, it would generate a gross income of approximately $16M a year.

The introduction of a parking levy in Perth, Western Australia in 1999 resulted in an initial reduction of approximately 10% in the number of parking spaces in the area subject to the levy due to some spaces being taken out of commission. Later increases in the levy did not, however, result in further reductions in the number of levied parking spaces.

It is suggested that revenue raised from his source should be hypothecated to capital and operating costs for transport measures benefitting the City Centre. The uses should be clearly defined and could include:

- the costs of administering and collecting the levy
- City Centre parking demand surveys
- free or low priced public transport within the City Centre
- pedestrian and cycle improvement measures within and into the City Centre
- measures which reduce the demand for City Centre parking
- an expansion of the parking guidance system to include other major car parks

Free or low cost public transport would encourage people to use public transport for moving around the City centre rather than making short car trips and would reduce the need for parking.

It is understood that that parking levies fall within the general purpose of the Local Government (Rating) Act 2002 but that they are not specifically mandated and could be challenged. It is understood that a simple amendment to the Local Government (Rating) Act would clarify the matter.

8 Measures proposed to be included in a Comprehensive Parking Management Plan

The approach taken in this report has been to identify measures which should be implemented in order to manage parking in a way that supports the objectives for development of the City Centre, regardless of whether those matters should be included in the Unitary Plan or progressed by some other means.

The previous Chapter proposed those parking supply measures to be included in the Unitary Plan. This Chapter summarises other measures which should be progressed. It is understood that Auckland Council proposes to develop a Comprehensive Parking Management Plan for the City Centre. If Auckland Council does proceed with this, then that would be an appropriate vehicle for these measures.

8.1 Support flexible parking arrangements

It is difficult to predict with any accuracy the future demand for car parking in the City Centre, particularly given uncertainties around fuel costs, business needs, and increasing congestion. Parking built to meet today's demand may be in the wrong place, of the wrong type and at the wrong cost to meet future demands.

Car parking provided in buildings is generally purpose built and specifically designed for cars. Stud heights are generally lower than normal, and access ramps are significant structures which take up a significant amount of building space. Car parking is therefore generally difficult to convert to an alternative use as demand for parking changes over time. Parking floors within a commercial building are particularly hard to convert unless normal stud heights and provision for servicing are designed in when the building is constructed (at some additional cost).

There are therefore advantages in providing parking in a way that is flexible and can respond to changing demand.

8.1.1 Encourage unbundling of residential parking

Unbundling parking is described in Chapter 4 and Appendix 2. Residential parking is often provided as part of a legal package tied to a specific apartment. This means that a parking space is supplied for each apartment, regardless of whether the owner needs or wants the space. This pushes up the cost of apartments and also means that there is an incentive to own a car – part of the cost of car ownership has been paid for already and is a sunk cost, reducing the effective cost of car ownership.

If car parks are unbundled from apartments they can be owned and sold separately to apartment owners who need them. This would encourage parking to be supplied in "pools", potentially used by a number of apartment buildings.

Parking supply would more closely match parking demand and it is likely that fewer car parking spaces would be needed.

8.1.2 Support shared parking

Shared parking is described in Chapter 4 and Appendix 2. Providing parking allowed for each development solely within that development results in the provision of a large number of discrete,

relatively small parcels of parking. If businesses in a particular building need more or less parking than is allowed, that business requirement is difficult to meet. In addition, the parking within each building needs its own access points. If the parking allowances for a number of buildings are pooled however, there is more flexibility to deal with the changing needs of the various businesses. In addition, parking for different uses may peak at different times of day meaning that the total amount of parking required is less than the sum of the individual uses.

Moreover, there is likely to be a large enough number of car parks for them to be made available for casual parking during non business hours and for special events (as for the Arena parking building in Quay Park).

If this shared parking is provided in a separate parking building, then if parking demands change and the operation is no longer commercially viable, it may be feasible to redevelop the site in a way that would not otherwise be possible if the parking is provided as part of a building.

8.2 Reduce the amount of car travel

The location, type and price of parking can influence the amount of car travel in the City Centre. Reducing car travel in the City Centre can reduce parking needs.

8.2.1 Give priority to pedestrians, cyclists, public transport

Prime car parking, particularly on street, is often located in places which are also valuable for pedestrian activities, cycle stands, bus stops, public transport shelters or information displays etc. Because these activities support the objectives of the City Centre Masterplan, and because they reduce the need for car travel, they should be given priority in use of space ahead of car parking.

8.2.2 Consider free public transport for distribution within the City Centre

Cars taking passengers from one part of the City Centre to another take up street space, add to pollution, and require a parking space at each end of the trip. Movement around the City Centre should be pleasant and easy for pedestrians for short trips and simple and convenient by cycle or public transport for longer trips. Free or low cost public transport would encourage people to use public transport for moving around the City Centre rather than making short car trips, and would reduce the need for parking. This is the underlying philosophy behind the Perth free bus system.

8.2.3 Provision of parking information

The need for cars to circulate through City Centre streets looking for available parking takes up street space, adds to congestion and adds to pollution (and frustrates car drivers). Electronic signs currently provide information to motorists entering the City Centre on the availability of parking in Council owned buildings. It is suggested that this information be expanded to cover major privately owned parking buildings as well. This information can now be web based and provided through mobile phones, along with maps and directions, lessening the need for large, intrusive signage.

While the technology is available, it will require the co-operation of the private parking operators to be effective.

8.2.4 Review fees for on street parking

Some motorists prefer to use on street parking for a variety of reasons and circulating cars looking for recently vacated on street spaces can be a significant element of traffic in some streets. If the price of on street parking is set so that maximum occupancy is around 85% then premium parking

will always be available for those who want it and are prepared to pay for it, reducing street cruising. Lower cost parking is available in off street facilities. In some towns in the USA a key to the successful adoption of this measure has been dedicating the additional revenue raised to very local improvements (street cleaning, street furniture etc).

On-street parking should always be priced higher than off-street parking to reflect its premium nature. This is in line with current City Centre parking pricing policy.

8.2.5 Travel Plans and Travel Management Associations

Travel plans have the aim of rationalising travel needs and promoting alternatives to single occupancy car use. Successful travel plans reduce the need for car parking, and make the most effective use of car parking that is available. This report recommends that Travel Plans be required of new developments through the consenting process. There is also value in developing travel plans for existing activities and for groups of activities. In the City Centre with its mix of existing buildings and new developments, these are probably best delivered through Travel Management Associations.

8.3 Encourage shared use of cars

8.3.1 Make provision for taxis

Taxis provide an alternate to car use for small groups in situations where public transport is not suitable, where there is an urgent need to reach a destination, or for those without cars (including tourists and visiting business people). Taxis form an important part of most modern, vibrant City Centres. Taxis need access to kerb space at locations which are convenient to users, reduce the need for taxis to circulate, and can be readily accessed by taxi drivers.

8.3.2 Support car share schemes

Car share schemes are described in Chapter 4 and Appendix 2. Car share schemes allow groups of people to use a limited number of cars. They are growing in popularity overseas particularly among city centre apartment owners who wish to retain ready access to a car but do not need to own one. Car share schemes mean users pay the full cost of each car trip and so use cars more efficiently. Car share schemes require fewer car parks than individual car ownership. The Council could support car schemes by providing information about schemes, and by making space available for parking, either on-street or in Council parking facilities.

8.3.3 Encourage higher car occupancies

Increased car occupancies (i.e. ride sharing) mean more efficient use of cars, fewer cars on City Centre streets and less need for car parking. The Council could support ride sharing by making information available, and by giving priority to ride share vehicles in Council parking facilities. On street kerb space could be made available as locations for ride shares to form.

8.4 Manage on street parking to support wider City Centre objectives

8.4.1 Give preference to high priority activities

As discussed above, on-street parking space is valuable for a number of potential users and priority should be given to high priority uses – loading, people with disabilities, public transport and taxis.

8.4.2 Provide for residents and their visitors

On-street spaces are also attractive for use by City Centre residents and their visitors, particularly residents who have regular parking away from their apartment. Residents and their visitors will often need car parking outside of the normal business day and in parts of the City Centre it may be realistic to give priority for on-street parking to residents and their visitors in evenings and weekends.

8.4.3 Manage spillover parking

Management of spillover parking is described in Chapter 4 and Appendix 2. Management of parking within the City Centre can lead to parking being displaced, particularly commuter parking, to adjacent neighbourhoods. Often these adjacent neighbourhoods are residential areas where the intrusion of large numbers of all day parkers is unwelcome and disruptive. In this case some form of parking management needs to be extended to these adjacent neighbourhoods, perhaps as resident parking schemes or another form of regulated parking.

8.4.4 Enforce parking regulations

On-street parking is highly valued and allocation to the highest priority users as proposed will only be effective if a high level of parking enforcement is maintained.

8.5 Improve enforcement of consent conditions

8.5.1 Introduce clearer policies in the Unitary Plan and align simple, enforceable consent conditions with those clear policies

Current District Plan objectives, policies, methods and rules became operative in January 2005 and were mostly written in draft form some years before that. The City Centre has developed substantially since that time and policies for dealing with City Centre issues have evolved as well. While the thrust of the current District Plan is consistent with current thinking, it is not surprising that the detailed wording is in some cases somewhat ambiguous and lacking in clarity of direction in addressing current issues. Given this lack of clarity, past consent conditions are in some cases also lacking in clarity and difficult to enforce.

If greater clarity is provided through careful wording of Unitary Plan provisions, simpler, more readily enforced consent conditions can be written.

8.5.2 Collate and record those conditions so they are readily accessible

Over the last 15 or so years a variety of different consent conditions have been written attempting to address various issues with varying degrees of success. Some examples are described in Chapter 3. These conditions have been recorded in individual decisions but do not appear to be collated. It is suggested that if conditions addressing particular aspects of parking management are recorded and collated in a register of some sort, they could be reviewed from time to time to assess their effectiveness, and be made available to Planning Commissioners as potential “model conditions”.

The outcome would be development of best practice conditions which are consistent, effective and enforceable. From time to time it may be that reviewing the effectiveness of conditions in this way could lead to review of the underlying provisions in the Unitary Plan.

8.5.3 Resource enforcement of consent conditions so the purpose of the condition is achieved

For consent conditions to be effective they need to be enforced. If Unitary Plan provisions are clarified and conditions simplified as proposed above, enforcement should become a realistic proposition.

It is noted that modern practice in managing parking facilities involves electronic recording of individual vehicles entering and leaving, so that regular reporting on usage and duration of parking is now realistic.

8.5.4 Car Park Licensing

Investigate the introduction of the licensing of parking facilities as a cost effective means of ensuring planning conditions are met.

8.6 Monitor parking availability and use

This report proposes a parking regime which is closely linked to the amount of traffic desired in the City Centre but also recognises the need for parking to support the economic vitality of the City Centre. This balance will change over time, particularly as public transport improves and particularly when the City Rail Link is constructed. This report recommends review of parking controls and usage at 5 yearly intervals. The parking balance will only be maintained at an appropriate level and the reviews will only be useful if good information is collected on parking supply and demand and on traffic volumes and the take up of public transport, walking and cycling. A regular monitoring programme needs to be designed and implemented to achieve this.

As a minimum, the following information is required:

Up to date parking inventory. Parking supply is fluid as new parking is provided and existing parking removed. "Temporary" surface parking on vacant lots in particular can represent a substantial supply of parking which is often not recorded consistently. As an example, this report is based on a parking inventory carried out in 2007. Since that time a number of changes have occurred to parking supply, both in new parking buildings and in surface parking, particularly around the Learning Quarter, Britomart and Wynyard Quarter.

Monitor length of stay. This report distinguishes between short stay and long stay parking on the basis of the different impacts on both City Centre amenity and the economy of the City Centre. It is important to monitor the balance between these two aspects, and how it changes over time. As noted above, modern electronic techniques for managing car parking is likely to make monitoring in this way increasingly easy.

Monitor vacant parking. The amount of vacant parking is an important measure which indicates whether sufficient parking is available to avoid wasteful traffic circulation looking for vacant parks, and also to check whether there is too much parking and inefficient use of the existing parking stock.

Monitor mode share. The Auckland Plan and City Centre Masterplan anticipate that the planned improvements to public transport, walking and cycling will result in increases in the share of these modes for travel to and within the City Centre. This report relates parking management to those expected changes. Parking policy needs to be reviewed at regular intervals to ensure it aligns with achievements in these areas.

8.7 Review parking policy

This report is based on imperfect information and assumes strong growth in City Centre population and employment and significant improvements to public transport, walking and cycling. Because of the rapid changes expected, it is important that parking policy be reviewed regularly.

In particular, it is proposed that long stay parking policy and short stay parking policy be reviewed every 5 years.

8.8 Use Council provided parking as policy instrument

Auckland Council is the major supplier of parking in the City Centre, controlling 9,750 car parks or 19.5% of all parking. It controls all on-street parking (the premium parking resource) which makes up 48% of short stay parking (including on street parking) and 6% of long stay parking.

Council is strongly placed to use its position in the parking market to influence the private parking market (particularly with regard to short stay parking), smooth out the impacts on parking availability of changes to regulations, and manage the supply of short stay parking over time. The Council is also in an excellent position to collect good data on changes in demand for short stay parking.

8.8.1 Short stay parking

Council controls around half of short stay parking. Its parking buildings also provide long stay parking, including early bird parking. If a lack of short stay parking is impacting on the City Centre economy, Council can adjust short stay parking prices or switch long stay parking to short stay parking. Early bird parking in particular can be changed very quickly, either in the amount of parking or early bird conditions (it could terminate earlier – say at 7:30am).

Such decisions should of course take into account the overall supply and the pricing of long stay carparking in the City Centre and the availability and attractiveness of alternatives to the single occupant private car for travel to work.

As Council provides about half the short-stay parking, its pricing policy is likely to have a strong influence on private sector providers of short stay parking.

8.8.2 Long stay parking

In the longer term, potentially starting from completion of the City Rail Link, the demand for long stay car parking in the City Centre will fall assuming the projected car mode share reductions eventuate. Once that occurs, Council should progressively remove the long stay parking it provides in the City Centre, and eliminate early bird parking.

This could be achieved by re-prioritising space in existing buildings to short stay, or possibly closing an existing facility or facilities. In this regard it is noted that the draft Auckland Plan refers to the possible removal of the Downtown Car Park as part of improvements to the amenity of the surrounding area.

9 Recommendations

9.1 Parking Supply Policy

9.1.1 Short stay parking

It is recommended that:

- The increase in public short-stay parking supply in the Central Area be limited to no more than an additional 860 spaces over the next 10 years (to 2021).
- The Council undertake a survey of the usage of the available City Centre public parking supply to better determine the true demand for short stay parking. Such a survey should be undertaken in the near future and updated every 5 years.
- The short stay parking supply policy should be reviewed in 5 years time (or earlier if a survey of actual demand indicates a significant change in supply policy is required). A decision should then be taken on the amount of additional off-street short-stay public parking spaces that should be provided (if any).
- To encourage "park-once-and walk" behaviour, public short stay car parks should be conveniently located, easily accessible, within an easy and pleasant walk of key destinations and served by a central distributor public transport system.
- Key destinations include new developing areas such as the Wynyard Quarter. It is anticipated that new short stay parking facilities will primarily be located in the developing precincts of the Central Area.
- New public short-stay parking facilities should be avoided on streets with high pedestrian demands. These include:
    - The "Type 1" streets listed in 5.2.7 plus shared zone streets
    - Streets in newly developing areas with high pedestrian demands
    - Part of Victoria Street and part of Quay Street (Draft City Centre Masterplan)

9.1.2 Long Stay Parking

It is recommended that:

- No additional public long stay public car parking should be permitted in the City Centre.
- New "temporary" parking facilities in vacant lots should be prohibited. Any facilities operating without consent should be closed and the consent conditions of existing facilities should be enforced.
- The mode shares for travel into the City Centre should be monitored at regular intervals and the long stay should be reviewed every 5 years to take into account changes in mode shares and the associated parking demand over the intervening period into account.
- Over the first 10 year period, Auckland Transport should progressively reduce the use of early bird parking in their facilities, e.g. through bringing forward to 7:30 the time it applies to (rather than to 9:00 or 9:30 as at present) and increasing the cost. This should form part of a stated policy of gradually eliminating discounted commuter parking in Council-owned parking facilities.

- Beyond 2021 Auckland Transport should convert long stay parking to short stay as demand allows. In the longer term it may be possible to close an existing public parking facility or facilities, and redevelop the site(s).

9.1.3 Ancillary Parking in New Developments

It is recommended that:

- The maximum allowance for ancillary car parking in new developments in the City Centre should be set at 1 car park space per 200m^2 GFA with the exception of the Port Precinct and should be reviewed on completion of the proposed City Rail Link.
- The maximum allowance would cover all parking for each development including visitor parking, business operational parking and long stay parking.

9.1.4 Resident Parking

It is recommended that the current maximum residential parking allowance should be reduced to bring it more in line with actual demands and broader City Centre land use and transport policy. The reduction should apply for the first 10 years then be reviewed.

9.2 Unitary Plan Parking Supply Provisions

The approach taken in this report has been to identify measures which should be implemented in order to manage parking in a way that supports the objectives for development of the City Centre, regardless of whether those matters should be included in the Unitary Plan or progressed by some other means.

It is recommended that the following matters be included in the Unitary Plan:

9.2.1 Short stay parking

It is recommended that public short stay parking should be a discretionary use. Assessment criteria would relate to:

- Whether the proposal in consistent with no more than an additional 860 spaces over 10 years.
- The location of the proposal with respect to the demand for short term parking, and in particular whether it is conveniently located, easily accessible, within an easy and pleasant walk of key destinations and served by a central distributor public transport system.
- Whether the proposal contributes to distributing short stay parking through the City Centre in a way that matches demand.
- Good urban design of the facility.
- Good urban design of access points.
- Acceptable local traffic impacts.
- Access points which are safe for both pedestrians and vehicles.

Note: It is anticipated that new short stay parking facilities may be prohibited activities in some streets with high pedestrian activity.

9.2.2 Long Stay Parking

It is recommended that additional public long stay parking facility should be a prohibited use.

9.2.3 Ancillary Parking in New Developments

It is recommended that the maximum number of ancillary car parking spaces provided in new developments in the City Centre should be set at 1 car park space per 200m^2 GFA and reviewed on completion of the proposed City Rail Link.

Provision of ancillary parking would be a controlled activity. Assessment criteria would relate to:

- Good urban design of the facility.
- Good urban design of access points.
- Acceptable local traffic impacts.
- Access points which are safe for both pedestrians and vehicles.

The ancillary parking ratio of 1:200 applies to all streets except the following where no ancillary parking is permitted:

- Those streets described as Type 1 roads in the Auckland City District Plan 2004 and shown in Figure 9.1, Rule 9.7.1.1 (refer Appendix 9). No ancillary parking was permitted on Type 1 roads which consist of Queen Street between Quay Street and Mayoral Drive, Karangahape Road east of the motorway bridge, Symonds Street between Khyber Pass Road and Mount Street, Victoria Street between Albert Street and High Street, Fort Street and Shortland Street between Queen Street and Jean Batten Place, Vulcan Lane, Durham Street West, Darby Street, and Khartoum Place.
- Shared zone streets not included in the above list. This currently includes Elliott Street between Wellesley Street and Darby Street and, potentially, High Street between Shortland Street and Durham Street East.

9.2.4 Residential parking

It is recommended that policies be included in the Unitary Plan which reduce the current maximum allowance for resident car parking and include a specific visitor parking allocation.

The recommended revised maximum residential parking ratios are as follows:

<70m^2 GFA	0.70 spaces per unit
70-110m^2 GFA	1.40 spaces per unit
>110m^2 GFA	1.70 spaces per unit
Visitors	0.20 spaces per unit

These new ratios should apply to the period to 2021. The ratios should be reviewed in light of decisions made on the City Rail Link timing and other measures improving the accessibility of the City centre and reducing the need for car ownership.

9.2.5 Travel demand management plans

It is recommended that any new activity or change to an existing activity which provides 25 or more car parks or which will result in average daily generation of 100 vehicle movements or more be required to produce an approved travel management plan which would include how parking spaces are to be managed.

9.2.6 Loading spaces

It is recommended that current requirements be maintained but that in pedestrian priority areas loading arrangements should be dealt with on a case by case basis as part of a travel demand management plan.

9.2.7 Bus spaces

It is recommended that bus and coach parking arrangements be dealt with as set out in section 6.2.2.

9.2.8 Cycle spaces

It is recommended that a requirement be introduced for the provision of both cycle spaces and facilities for cyclists as outlined in section 6.2.3.

9.2.9 Parking for people with disabilities

It is proposed that parking for people with disabilities be dealt with on a case by case basis in the pedestrian priority areas as part of a travel demand management plan, but be required outside these areas as set out in section 6.2.4.

9.2.10 Port Precinct

It is recommended that parking ancillary to permitted activities in the Port Precinct should continue to be a permitted activity.

9.3 Unitary Plan Urban Design provisions

The following measures are proposed to ensure that the placement and scale of car parking and vehicle access activities supports good urban design:

Vehicle crossings on footpaths. Minimise the number of crossing points (if any). Decisions on the provision of an additional crossing or crossings should balance the negative effects on pedestrians against the adverse traffic effects of not providing the additional crossing or crossings. Vehicular queuing effects arising from narrow vehicle crossings will have to be objectively balanced against the impacts on pedestrian amenity and safety arising from wider vehicle crossings.

Crossing widths. The standard crossing should be a single crossing perpendicular to the kerb, with a maximum width of 3.1m. Where it is demonstrated that a double crossing is essential, the maximum width of this should be 4.8m unless as part of a resource consent a pedestrian refuge space between lanes (or similar) is demonstrated to be a superior choice. Parking barrier arms or gates should be set back at least 2m from the property boundary. No more than 2 crossing points should be permitted along a street frontage.

Vehicle crossings should also be designed to ensure the footpath maintains its alignment, levels, and materials. All ramps and gradient changes should be accommodated within buildings.

All vehicle crossings should be accompanied by information demonstrating an optimal pedestrian safety solution has been incorporated depending on the size of the crossing, the volume of daily vehicles anticipated to use it, the volume of daily pedestrians anticipated to use the footpath, and the number of other vehicle accesses in the street.

Separate pedestrian and vehicle access. Pedestrian accessways should be separate from vehicle accesses, visually conspicuous and, where possible, located towards site corners. They should include canopies for weather protection and lighting, and should be integrated with the ground floor of the building. Pedestrian access in accordance with Crime Prevention Through Environmental Design principles should be required within car parking areas.

Active frontages. Active edges and building continuity should be required along all street frontages (except vehicle and pedestrian access points), including frontages to open spaces for at least the first three levels and up to the first ten levels. Above this, buildings facing these public or public use spaces should be articulated to appear as part of an inhabited building via an integrated and continuous extension of the facade. Car parking facing side and rear boundaries and on roofs should be screened.

Street level parking. Parking on at least the ground, first and second levels should be located behind another activity ("sleeved") to ensure it is hidden from view. A minimum setback of 15m is required for this purpose.

Stud Heights. Parking facilities at and above ground level are to have a stud height sufficient for a range of commercial and possibly (not on ground level) residential uses. Typical ground floors in CBDs range from 4.5 to 5m. Other levels are in the order of 3.5 – 4m. This will promote the adaptive reuse of buildings over time.

Porte Cocheres. Porte cocheres are not supported within the City Centre. Where feasible, provision for tour buses, coaches and taxis should be provided by Auckland Transport on-street. Where this is not feasible, porte cocheres should only be provided for through a rigorous resource consent process.

9.4 Parking levy

A levy should be introduced on all off-street non-residential parking spaces in the City Centre, with exemptions for mobility parking, loading spaces, bus and coach parking including any off-street lay-up areas, and emergency vehicle parking areas.

Revenue raised from his source should be hypothecated to support transport measures benefitting the City Centre.

9.5 City Centre Comprehensive Parking Management Plan

The following matters are considered to be important to ensure parking contributes to achieving the objectives for the City Centre as described in the City Centre Masterplan. They are not considered appropriate for inclusion in the Unitary Plan and it is recommended that they be addressed in the proposed City Centre Comprehensive Parking Management Plan.

9.5.1 Flexible parking arrangements should be supported

This would include measures such as:

Encouragement of the unbundling of residential parking

Support for shared parking

9.5.2 Reduce the amount of car travel

Reducing car travel in the City Centre can reduce parking needs. This can be achieved through measures such as:

- Giving priority to pedestrians, cyclists, public transport
- Providing free or low cost public transport for distribution within the City Centre

Provision of parking information

Review fees for on street parking

Encouraging the formation of Travel Management Associations and the preparation of travel plans

9.5.3 Encourage shared use of cars

Shared use of cars can reduce the need for car parking and can be supported through measures such as:

- Making good provision for taxis
- Supporting car share schemes
- Encouraging higher car occupancies

9.5.4 Manage on street parking in a way that supports wider City Centre objectives

Wider City centre objectives can be supported through measures such as:

- Giving preference to high priority activities
- Providing for the parking needs of residents and their visitors
- Managing spillover parking
- Enforcing parking regulations

9.5.5 Improve enforcement of consent conditions

Enforcement of consent conditions can be improved by means such as:

- Introducing clearer policies in the Unitary Plan and aligning simple, enforceable consent conditions with those clear policies
- Collating and recording those conditions so they are readily accessible
- Resourcing enforcement of consent conditions so the purpose of the condition is achieved

9.5.6 Monitor parking availability and use

Parking monitoring should be undertaken as a regular, planned activity and as a minimum, should cover the following:

- Preparation of an up to date parking inventory.
- Monitoring the length of parking stay.

Monitoring vacant parking.

Monitoring mode share

9.5.7 Review parking policy every 5 years

9.5.8 Use Council provided parking as a policy instrument

9.6 Car Park Licensing

It is recommended that the licensing of public parking facilities be investigated as a possible cost effective means of ensuring car park operators meet the planning consent conditions.

9.7 Additional Research

Additional research could provide valuable information relating to the following items:

Improved parking base data for the City Centre, in particular:

- an up to date accurate and complete parking inventory
- information on parking usage and duration
- robust car volume trends, particularly across the screenline.

How ancillary parking is used:

- commuters
- visitors
- business operations

How resident car parking is used:

- Numbers of vehicles per apartment
- Types of vehicles (cars, bikes, 4wd)
- Types of vehicle trips (peak/off peak/weekend)
- etc

Statutory requirements enabling the Auckland Council to be a car park licensing authority, and/or to introduce a City Centre parking levy.

APPENDICES

Appendix 1: Research into International City Centre Parking Policies and Best Practice: Parking Pricing and Supply Policies

Market Share

A feasibility study of parking structures in Canberra by Indec Consulting in 2006 includes a discussion on the ability of Councils in major cities in Australia to influence parking prices. The study includes a review of the proportion of public parking operated by the City Councils in a number of major cities and by the ACT Government in Canberra.

ACT Government operated 26 off-street parking facilities at May 2006 with a total of 6,545 spaces and the private sector operated 5 facilities with a total of approximately 5,000 spaces. This gave the ACT Government 57% of the total public off-street parking supply in the city centre. This is similar to Newcastle where the Council controls 61% of the public off-street parking spaces.

Adelaide operated 11 off-street facilities under the trading name UPark. UPark was established in 1995. It is required to operate with a cost neutral impact on Council and its pricing objective is to ensure that parking is offered at a reasonable rate for visitors to the CBD. The Adelaide City Council controls 26% of the public off-street parking supply in its area which extends to neighbouring suburbs. The Indec report states that UPark is an effective 'price influencer' in the Adelaide CBD off street car parking market.

Perth City Council operated 33 parking facilities as City of Perth Parking (CPP). CPP is required to operate on a cost neutral basis and delivers a net profit the City, after taking into account operating costs and a set leasing rate for the facilities. The pricing and market share established by CPP is designed to ensure parking is offered at a reasonable rate for shoppers and visitors to the CBD retail areas. The Indec report states that the Perth City Council controls 43% of the public off-street parking in its area (which also extends beyond the CBD proper in to neighbouring suburbs). CPP is regarded as an effective 'price influencer' in the Perth CBD parking market.

In contrast to the above, the report states that Melbourne City Council controls only 2% of the public off-street parking, Sydney 7%, Brisbane 10% and Wollongong 18%.

Indec Consulting's view was that the ACT Government "should maintain control over approximately 25% to 35% of parking spaces in selected market segments" (underlining added).

As a comparison, the former Auckland City Council controlled approximately 26% of the off-street public parking spaces in the Auckland CBD (4,434 in 5 parking buildings out of a total of 17,346 spaces in 2003). Approximately 60% of the spaces in the three largest parking buildings were short stay. It also provided over 4,000 on-street spaces, almost all of which were short stay. If off-street and on-street spaces are combined, Auckland City Council controlled 42% of the available spaces. Auckland City Council was regarded as an effective price influencer for short stay parking and early-bird parking.

The Auckland City example appears to support Indec's view, particularly if both on-street and off-street parking are included in identifying the market share.

This approach suggests that the Auckland Council may wish to retain ownership of parking buildings in the Auckland city centre in order to influence the price of parking there. This is likely to have most relevance to short stay parking.

A recent report entitled US Parking Policies: An Overview of Management Strategies indirectly emphasises this point. It states that because demand for short term parking is less elastic then commuter parking, private parking garages make much of their profit by charging very high rates for the first hour. Leaving pricing entirely to the market could, therefore, result in parking charges that discourage visitor parking in the city centre.

Councils do not have to own and operate a public parking facility to ensure that parking charges meet their objectives. Ownership is sufficient. The private sector can operate the facility to parking charges set by the Council.

Potential Conflicts of Interest

For both the Perth and Auckland City Councils, net parking (and enforcement) revenues are major contributors to each Council's revenue streams. This can result in a conflict of interest between stated policies aimed at encouraging the use of alternatives to the car and the role of parking as a major revenue source.

Auckland Council, for example, provides early bird parking at $13 per day in its major car parks despite its policy of encouraging CBD commuters to use public transport.

Perth City Council's parking policies can conflict with the State Government's strategic transport objectives.

These examples emphasise the need to avoid or at least minimise conflicts of interest and to set clear and transparent objectives.

Managing the Supply of Parking

Councils have the ability to manage the supply and influence the location of public parking provided commercially through their District Schemes. The types of controls vary. Council policies and rules may be limited to ensuring that the adjacent road system has the ability to absorb the traffic generated by the facility, or they may seek to control the total supply.

Some US cities implemented parking caps or freezes to contain the negative impacts of excessive off-street parking supplies on congestion, urban form and air quality.

- In 1972 Portland, Oregon set a ceiling on the amount of (off-street and on-street) parking that may be provided in its CBD of 45,000 spaces. The freeze was subsequently lifted in 1997 and replaced with a more flexible system with parking maximums to manage, rather than prevent, parking space construction.

- In response to the 1972 Clean Air Act, New York City also froze off-street parking construction in specific districts in Manhattan. In 1982 the City prohibited public parking lots in the Midtown, Downtown and convention centre districts.
- Boston prohibited parking spaces from increasing beyond 10% of the 1973 levels in downtown Boston. Data from a 1998 inventory suggests that the freeze has successfully limited parking space growth and encouraged use of public transport for commuting.

Zurich has a very good public transport system and high usage and has also had a policy of strictly limiting parking in its CBD for many tears.

In Copenhagen the CBD parking supply was reduced steadily over a number of years in support of increased pedestrianisation and increased use of walking, cycling and public transport.

Other cities have sought to relocate some parking to park and ride facilities outside the city centre. Examples include Oxford, York and Leeds in the UK. Park and ride at selected stations on light rail or commuter rail lines has been implemented in numerous cities throughout the world.

Another approach is to set planning consent conditions for a privately owned and operated parking facility which are aimed at ensuring that the operation of the facility is consistent with the stated intent. This requires ongoing monitoring to ensure that the consent conditions continue to be met. The former Auckland City Council used this approach but has found it difficult to monitor and enforce the planning consent conditions. The use of modern technology to monitor and report on use automatically coupled with separate entry/exit control of short stay and long stay spaces should, be able to assist in dealing with this problem.

Maximum Parking Standards

Minimum parking standards typically result in an over-supply of parking. The methods used to determine the minimum number of parking spaces required are often based on limited data and on surveys of suburban sites with high dependency on access by car. They do not take into account the cost of providing the parking spaces, implicitly assuming that the additional development costs associated with the required parking are simply a cost of doing business.

Minimum parking standards can be especially damaging to CBDs. The inherent advantages of CBDs are a function of the density and diversity of land uses. Parking can consume scarce land, reduce densities and disrupt and degrade the pedestrian environment.

Maximum standards set a limit on the amount of parking permitted in a new development, but leave the decision on the amount of parking entirely to the developer up to the permitted maximum level.

Parking maximums are intended to both prevent the excessive provision of parking associated with new developments and to provide greater flexibility allowing a more market-driven approach to parking provision.

In England Planning Policy Guidance 13, published in 1994 and revised in 2001, outlines parking measures including the use of maximum parking standards to reduce the number of trips by car and encourage the use of alternatives.

Recently, US cities such as San Francisco, California, Redmond, Washington, and Cambridge, Massachusetts have also begun to impose maximum off-street parking regulations. Their objectives include promotion of higher density development, walkable downtown areas, promotion of public transport and other transport modes, as well as reducing car use and harmful emissions. Maximums are often coupled with minimums. Maximums are typically expressed in terms of built area in a city's zoning code. Portland limits downtown office and retail developments to a maximum of one space per 93m^2, and hotels to one space per room.

Maximum parking standards have been in place in the Sydney, Melbourne, Perth and Auckland city centres for many years.

Sydney, Melbourne and Brisbane currently apply a maximum rate of tenant parking of around 0.4 to 0.5 per 100m^2 GFA.

In 2007 Perth had about 4 million m^2 GFA or about 1.5 spaces per 100m^2 GFA. Tenant parking allowance in the Perth CBD is similar to Sydney, Melbourne and Brisbane, and is in the order of 0.4 to 0.6 per 100m^2 GFA for high density buildings.

The Auckland Regional Parking Strategy includes the extension of maximum parking standards beyond the Auckland City Centre to designated high density centres and corridors. The maximum standards should be set at a level no higher than the current applicable minimum standard.

Short Stay/Visitor Parking

Policies on the supply and pricing of parking should clearly distinguish between short stay and long stay parking. An adequate supply of appropriately priced short stay/visitor parking is essential to the economy of an area, while controls over the supply, location and pricing of long stay/commuter parking are key elements of a sustainability strategy.

In a number of cities pricing is used to manage the use of on-street short stay parking so that the demand is kept at a level close to, but below capacity. This is generally regarded as an 85% occupancy level.

Introducing or increasing parking charges to achieve an occupancy rate no greater than approximately 85% reduces traffic in the town centre generated by vehicles cruising round to find a parking space. While retailers may resist the use of pricing for this purpose as they may fear losing customers, it has not been shown that this is the case. Surveys indicate that drivers place a higher priority on the availability of a space, and their perception of security than the payment of a charge.

Where public agencies are price influencers for off-street public short stay parking, they are in a position to ensure an appropriate price differential between on-street and off-street parking pricing.

An Alternative Approach

Parking is generally underpriced through Australian cities. The charges, if any, do not reflect resource costs.

One way of achieving greater private sector input is to restrain growth in the supply of parking and increase prices to the point where returns are sufficient to attract private sector investment in

parking facilities. Once this is achieved supply, particularly supply of long stay parking, will reflect actual resource costs and public parking will no longer be subsidised by public agencies.

Under this approach public agencies focus on managing short stay parking for the foreseeable future, but progressively reduce the availability of long stay/commuter parking. For this to work, the reduction needs to be integrated with and support improvements to public transport and measures to encourage walking and cycling including higher density mixed use development in City and Town Centres.

Parking Levies

Parking levies in Australian cities are discussed in Appendix 5.

Public agencies typically have almost no influence over the existing supply of private non residential parking and may have only limited influence over the pricing of public parking within privately owned public parking buildings and lots. An important potential advantage of a parking tax or levy is that it can influence the current supply of parking in an area, whereas as other measures generally effect future availability.

A charge or tax on parking can be used to raise revenues and/or to restrain overall demand as a relatively crude form of congestion charge. Where congestion reduction is the prime purpose, it should be directed towards long stay commuter/employee parking. However this can be difficult to implement and enforce.

Local authorities in England have the power to introduce a workplace parking levy. The first to introduce such a charge is Nottingham City Council. Other cities which may follow include Birmingham, Bristol, Leeds, Liverpool, Newcastle and Sheffield. In Nottingham employers offering 11 or more parking spaces will be charged an annual levy of GBP250 per space from 1 April 2012. They will be free to pass on the charge to their employees. The money raised will be used to pay for a number of public transport improvements including a tram scheme.

Previous modelling of a workplace parking levy indicated that it could result in a relatively modest increase in public transport use, although it might reduce the overall number of parking spaces available. It is likely to be a useful means of raising revenue, but is less likely to result in significant mode switching unless the charge is directly incurred by the employee as end user or is high enough to significantly reduce the overall availability of employee parking spaces.

Summary

The analysis of practices in other cities indicates that:

- From a policy perspective the key role of the public sector should be to ensure provision of an adequate supply of conveniently located, appropriately priced short stay/visitor parking for the City Centre and relevant Town Centres.
- One way of achieving this is for the responsible public agency to ensure it retains a strong influence over prices by achieving or maintaining a strong market position.

- Care should be taken to avoid or minimise conflicts of interest that could hinder the achievement of broader strategic objectives, particularly relating to the amount and use of revenues.

- Although the provision of long stay/commuter parking is clearly important, it should be ensured to the extent practicable that the supply is consistent with broader strategic land use and transport policy objectives and that the location of the facilities balances accessibility by car with the amenity of the centres concerned.

- A longer term goal should be to achieve long stay parking prices which reflect actual resource costs. Once this is achieved market forces can determine the supply of long stay parking.

- Until this is achieved, parking levies or equivalent may have a role in the future as a means of raising additional revenues and of increasing the price of parking to encourage use of alternatives to the single occupant car.

Appendix 2: Research into International City Centre Parking Policies and Best Practice: Techniques for Reducing Parking Demand

Car Share Clubs

Car share clubs are a low-cost alternative to car ownership, taxis or car rental. To use a car share vehicle, all that is required is to join as a member, book the car online or by phone 24 hours a day for periods of as little as an hour, collect the car at the reserved time from the dedicated parking space, and later return the car to the same space.

Car share schemes started in Europe in the 1980s and by 2007 had spread to over 600 cities across Europe, North America, Asia and Australasia. Car share companies currently operate in Melbourne, Sydney, Adelaide and Auckland.

In the Australian or New Zealand context car sharing is likely to be more viable in denser centres or inner suburbs with relatively good public transport than in lower density outer suburbs.

According to the City of Sydney Car Sharing website:

Research has shown that members of car share schemes are more likely to walk, use a bicycle, or catch public transport compared to those who own a car

One car share vehicle can reduce demand for parking in the City by replacing up to ten privately-owned vehicles parked and travelling on our roads

More car sharing will mean less demand for limited parking space, less congestion and fewer greenhouse gas emissions.

By March 2011 almost 6,000 people and businesses in the City of Sydney were car share scheme members. Nearly 200 cars are available in 180 reserved parking spaces on local streets or in City car parks. On joining new members are sent an electronic smart card which acts as a car key. The City has set minimum quality and reporting requirements, including vehicle environmental performance standards, high availability and ease of booking. The Council adopted a Car Sharing Policy in April 2011. Among other things the policy states that the City will provide dedicated exclusive on-street space for authorised car share vehicles a quantity commensurate with membership levels in the City of Sydney. It also provides car-share spaces in City-owned car parks, in convenient and secure locations close to car park entrances. Fes and charges “will maintain the incentive for residents to share vehicles, while balancing support for car sharing with reasonable recovery of public costs”.

In Melbourne car share cars located at kerbside spaces, generally donated by local councils. The number of car share spaces in the City of Melbourne rose from 33 to 68 in the 6 months to March 2011 (there are as yet no on-street car share spaces in the CBD).

In August 2008 Adelaide City Council announced that it will provide several free parking spaces in the city for the new (GoGet) car share program.

In Auckland, the Cityhop Car Share Company provides cars at several locations including spaces in CBD public carparking buildings. There are no on-street spaces at present, although it would like to have some. Most members are in the Auckland CBD. It describes itself as "a convenient and eco-friendly way of having access to a car whether you live in the inner city, use public transport to and from work or are a business wanting to save money."

Legislation change may be required to permit Councils in New Zealand to dedicate public on-street spaces permanently to members of a particular club.

Sydney Draft DCP 2010

The following provisions apply to development that provides a car share scheme for the buildings occupants.

(1) The maximum amount of car parking spaces for a development is inclusive of the minimum number of parking spaces required for car share schemes.

(2) The minimum number of on-site parking spaces to be made available for car share scheme vehicles is to be provided according to the following rates:

(a) Residential development (other than dwelling houses) on land shown on the Land Use and Transport Integration (LUTI) Map in the LEP as:

(i) Category A - 1 per 50 car spaces provided;
(ii) Category B - 1 per 60 car spaces provided; or
(iii) Category C - 1 per 90 car spaces provided.

(b) Office premises, business premises or retail premises on land shown on the Public Transport Accessibility Level (PTAL) Map in the LEP as:

(i) Category D - 1 per 30 car spaces provided;
(ii) Category E - 1 per 40 car spaces provided; or
(iii) Category F - 1 per 50 car spaces provided.

(3) All parking spaces for car share schemes are to be:

(a) located together in the most convenient locations;

(b) located adjacent to a public road and integrated with the streetscape through appropriate landscaping where the space is external; and

(c) signed for use only by car share vehicles.

(4) Parking spaces for car share schemes located on private land are to be retained as common property by the Owners Corporation of the site.

Shared Parking

Shared parking takes advantage of the fact that most parking spaces are only used part time by a particular motorist or group, and many parking facilities have a significant portion of unused spaces,

with utilisation patterns that follow predictable daily, weekly and annual cycles. Parking can be shared among a group of employees or residents. It can also be shared among different buildings and facilities in an area. Land uses such as offices, professional services, medical facilities, and banks typically have weekday peaks, whereas restaurants, cinemas, bars etc. have evening peaks. Shops and malls can have weekend peaks.

Acceptable walking distances to shared parking include a distance of less than 250 m for residents, professional services and medical facilities; less than 350 m for general retail, employees, restaurants etc., and less than 500 m for overflow parking and major events.

As shared parking arrangements can be an efficient use of available space, they should be actively encouraged. To encourage developers to include shared parking arrangements and to enable Council officers to assess applications relatively quickly and consistently, a set of guidelines should be developed outlining how much parking can be offset for various combinations of uses.

Parking can be shared by providing a parking lot serving a group of buildings rather than have each building provide separate off-street spaces. It can reduce development costs and, in mixed use high density centres, can improve amenity and walkability by reducing the amount of land required for parking.

Shared parking requires flexible parking standards. It may not reduce vehicle travel as it may not reduce the ability to park at the destination. It can, however, encourage higher density, mixed use development for the reasons outlined. Providing resident parking in shared parking areas can also reduce the total amount of parking.

A key constraint is that shared parking arrangements should include reciprocity rights ensuring that they remain in place over time. Shared parking requires a different, more flexible approach in District Plan parking rules. It generally requires additional administration and enforcement resources. It creates a potential for “spillover” effects on adjacent areas, but these can be anticipated though the development and implementation of parking management plans.

Retail land uses in TOD districts can also function well with lower parking ratios. To successfully reduce parking requirements, mixed-use retail cores should be designed to facilitate park-and-walk shopping, meaning that shoppers arriving by car can access multiple shopping destinations on foot from a single parking lot.

Shared parking can be operated privately or by a local authority. Some cities in the U.S. use payments in-lieu rather than requiring developers to provide all the parking needs on-site. The money collected is used to provide shared parking in a central location.

Several US cities including Portland, Oregon, Cambridge, Massachusetts, Boulder, Colorado, and counties including Arlington County, Virginia and Montgomery County, Maryland include share parking in their codes.

Arlington Heights (75,000 residents) located about 37km west of Chicago revitalised the historic downtown creating a virtually new town centre including a new Metro station, a performing arts centre, high density housing, commercial uses, and public parking decks. The village provided $13.9 million financing for the Arlington Town Square project (residential, office, retail) of which $9.9 M

paid for the underground parking for the project. It manages the 2,180 parking spaces used for retail, commuter, employee and resident parking. Retail parking is free for 3 hours.

The Mockingbird Station mixed use urban infill development in Dallas was completed in 2002. In recognition of the shared nature of the parking, the City of Dallas required 1,600 spaces rather than 2,200 that would have been required if each use were considered separately.

A process for identifying the appropriate reduction in parking from a shared parking arrangement is as follows:

1. For the development or area concerned, calculate the number of parking spaces required using the parking rate applicable to each land use type for each land use. The sum of the parking required for each land use is the total stand-alone (non-shared) parking requirement for the development.
2. Multiply the number of stand-alone parking spaces for each land use by the applicable weekday and weekend occupancy rates.
3. Sum the number of parking spaces for each land use for each time period.
4. Determine the time period with the highest total parking demand. The total parking demand for this time period is the 'shared parking requirement' for the development or area concerned.

Parking Utilisation/Occupancy Rates (from VTPI's TDM Encyclopedia)

Uses	Monday - Friday			Saturday & Sunday		
	8am-5pm	6pm-12am	12am-6am	8am-5pm	6pm-12am	12am-6am
Residential	60%	100%	100%	80%	100%	100%
Office/Warehouse/Industrial	100%	20%	5%	5%	5%	5%
Commercial	90%	80%	5%	100%	70%	5%
Hotel	70%	100%	100%	70%	100%	100%
Restaurant	70%	100%	10%	70%	100%	20%
Cinema	40%	80%	10%	80%	100%	10%
Entertainment	40%	100%	10%	80%	100%	50%
Conference/Convention	100%	100%	5%	100%	100%	5%
Institutional (non-church)	100%	20%	5%	10%	10%	5%
Institutional (church)	10%	5%	5%	100%	50%	5%

Unbundling Parking

Unbundling means that parking is rented or sold separately, rather than automatically included with building space. For example, rather than renting an apartment with two parking spaces for $1,000 per month, the apartment would rent for $800 per month, plus $100 per month for each parking space. This can be considered more equitable and efficient, since occupants only pay for parking they need

According to the Boston Metropolitan Planning Council's Sustainable Planning Toolkit: Parking:

"The cost of parking for residential and commercial units is often passed on to the occupants

indirectly through the rent or purchase price ("bundled") rather than directly through a separate charge. For example, a three bedroom unit might come with two parking spaces included in the purchase price or rent. This means that tenants or owners are not able to purchase only as much parking as they need, and are not given the opportunity to save money by using fewer parking spaces. The alternative is to unbundle parking – rent or sell parking spaces separately rather than automatically including them with the building space. This is not only more equitable, but can also reduce the total amount of parking required for the building."

"Communities should encourage developers to unbundle the price of parking through flexible parking requirements that allow reductions for developments with unbundled parking, because when people can save money by having fewer cars, they may make different choices about investing in vehicles. High minimum parking requirements also discourage property owners from unbundling parking because the development is required to provide enough parking to satisfy the demand when parking is free…….By bundling the parking cost with the housing cost, the parking automatically gets paid for, even if it is not wanted or needed. Correcting this means that the minimum parking requirements are relaxed or removed for unbundled parking to allow developers to provide only the spaces that residents will pay for if given the option."

Unbundling requires that building owners are able to lease or sell excess parking spaces (such as through a parking brokerage service), and local government needs to regulate on-street parking to avoid spillover problems that could result if residents use on-street parking to avoid paying for parking spaces.

Resident Parking Schemes

Demands for resident parking typically result from spill-over parking. Spill-over problems refer to the undesirable use of on street parking by commuters or non-residents visiting nearby locations.

While the unrestricted application of resident parking permits that reserve all the on-street spaces for residents and their visitors will prevent spill-over from adjacent commercial areas, they also leave many unused on-street parking spaces especially during the working day.

In the Auckland CBD, residents only parking schemes which allocate a section of road for the exclusive use of residents are in place in a few streets (Federal Street, Airedale Street, Parliament Street, and Emily Place). These are gradually being phased out.

There are several ways to address spill-over problems such as regulating parking with the use of time restrictions and permit schemes. The most effective means is to use pricing, such as charging non-residents to park on residential streets.

Resident parking schemes can take the form of time restrictions combined with resident parking permits, or pay or display parking areas or parking meters with exemptions for residents.

Another option is to offer parking on the street to non-residents between certain times if they pay a fair market price. This can be achieved by the sale of non-resident permits which identify the vehicle and the street in which it may park and the times it may park. In many cities where this system applies, the system is successful and resident acceptance has been high because the net income generated from the sale of non-resident permits is earmarked to fund additional public services in its

street or immediate precinct. These ‘parking benefit districts’ are a compromise between free on-street parking that leads to overcrowding and residential permit parking that leads to under use. Residents get some public services paid for by non-residents, and non-residents get to park at a fair market price rather than not at all.

Overflow parking

Overflow parking plans reduce parking demand and traffic congestion and confusion. They are particularly appropriate at any location where occasional peak parking demands creates problems. It may be necessary to negotiate sharing arrangements for offsite, overflow parking. Directions to offsite parking facilities are essential.

An overflow parking plan for special events and peak demand periods requires the establishment and communication and marketing of the alternative parking facility or facilities, combined with secure pedestrian access.

Establish and clearly communicate clear rules to inform drivers where and when they may or may not park. This requires not only clear signage, but also advance notification of the option or options (wayfinding signage and maps).

In appropriate circumstances, special shuttle buses may be provided to connect destinations with remote parking facilities, allowing them to be farther apart than would otherwise be acceptable.

Appendix 3: Research into International City Centre Parking Policies and Best Practice: Licensing of Commercial Parking Facilities

The concept is to require operators of commercial parking facilities to apply for a license to operate paid parking. The license could be renewable annually, or over a longer timeframe.

The Auckland Regional Parking Strategy refers to the risk that a commercial parking facility for which short stay parking has been approved may subsequently convert short stay to long stay parking (to increase net income), and the lack of Council enforcement resources to monitor and enforce compliance with the planning consent conditions.

The licensing of commercial premises is suggested as an alternative to the application of consent conditions to ensure ongoing compliance.

In The United States commercial parking facilities may require to be licensed by the municipal authority. New York City requires that a business accommodating five or more vehicles for a fee or other consideration charged directly or indirectly must have a Garage licence (if vehicles are stored in an entirely enclosed space), a Parking Lot licence (if vehicles are stored in an unenclosed space), or a Combo Garage and Parking Lot licence (if vehicles are stored in both enclosed and unenclosed spaces). From 1 November 2011, if the business accommodated one or more automobiles, it must provide bicycle parking or provide proof of an exemption or waiver.

The City of Minneapolis requires applications to demonstrate that the site has the necessary land use approvals and is in compliance with all existing conditions of approval. Licenses apply to parking lots with 10 or more spaces and must be renewed annually. The information to be provided includes the number of parking spaces and fees charged.

Cambridge, Massachusetts requires an Open Air Parking License. Site plans must be submitted to ensure compliance with the Commercial Parking Ordinance rules. In addition a Commercial Parking Permit is required. Pittsburgh requires proof of compliance with City zoning laws.

Licensing charges appear to be directed at meeting the administration costs involved.

The above examples indicate that licensing could be used as a means of ensuring planning consent conditions are complied with, rather than as an alternative to the planning conditions. It could also be used to ensure that certain minimum standards, e.g. signing, cleanliness, security, are complied with.

The Regional Parking Strategy states that the introduction of commercial parking facility licensing would require that the Council become a parking facility licensing agency. Legislation is likely to be required to give Councils the necessary powers.

It is recommended that the Council give consideration to applying for the necessary parking facility licensing powers in order to enable it to monitor and enforce parking facility planning consent

conditions in a cost effective manner. These powers could also be used to prevent illegal parking facilities by requiring that every commercial facility with, say, more than 10 parking spaces would require a license.

Appendix 4: Research into International City Centre Parking Policies and Best Practice: Perth Central Area Parking Policy

In 2010 the Perth Metropolitan area had 1.7 million residents. The average population density in the Perth metropolitan area is 10 - 12 persons per hectare.

The Perth Central Area (City of Perth) had about 15,000 residents and about 120,000 employees or 16% of Perth's employment.

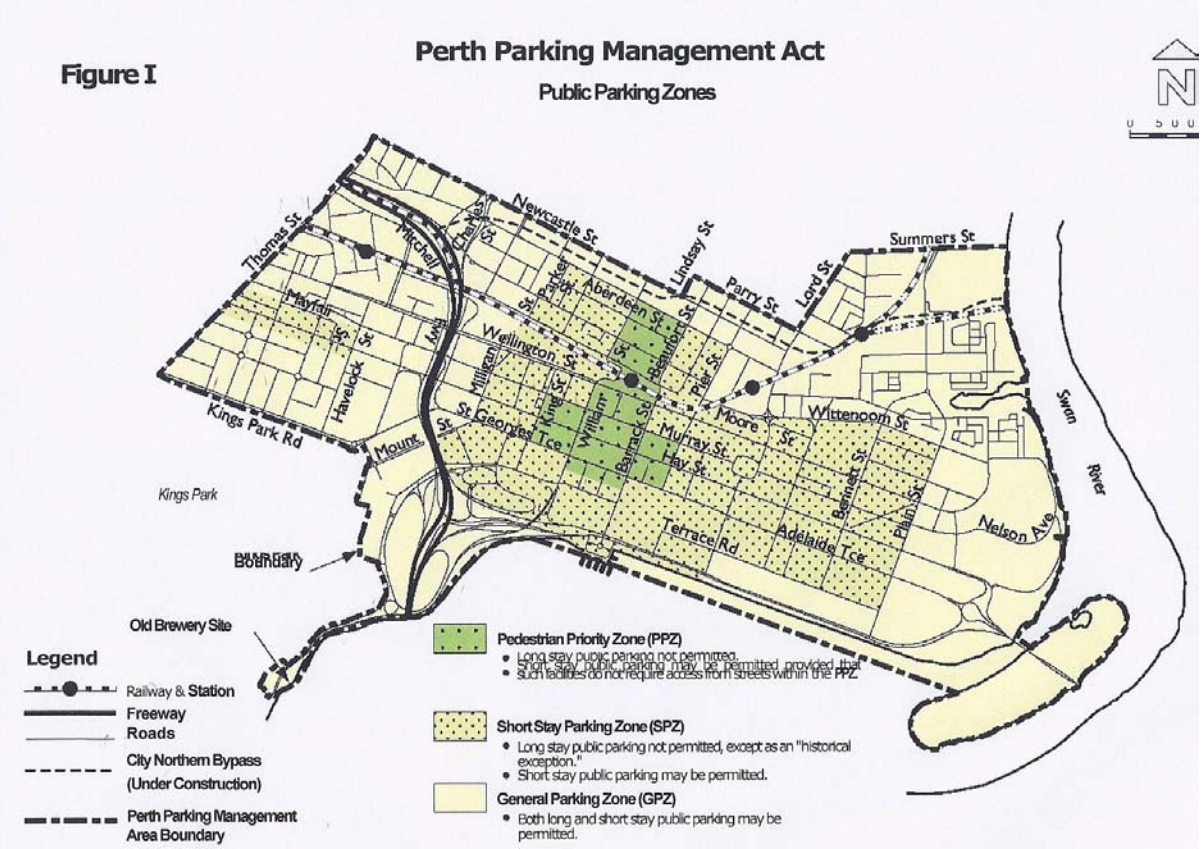
Between the mid-1970s and mid-1990s the number of non-residential parking bays in Perth City doubled from 30,000 to more than 60,000. More than 50% of Central Area workers chose to drive to work causing severe congestion both within the Central Area and on approach roads.

It was in this context that the Perth Parking Policy and the Perth Parking Management Act came into operation in 1999. The Act created an area called the Perth Management Area which covers the CBD, West and East Perth and Northbridge. The policy identifies three types of parking, namely private tenant parking, public parking and special purpose parking (primarily parking for people with disabilities, bicycle parking and special purpose bays marked exclusively for use by motorcycles, bicycles, service and delivery vehicles, taxis, buses and coaches – about 2,000 in total). The Act does not deal explicitly with residential parking.

The Perth parking policy included strict limits on the amount of private tenant parking that could be provided in the Central Area. In the CBD area on sites with access to parking from busy streets, up to 200 bays per ha of land footprint is permitted. In practice this maximum allowance is equivalent to 0.4 to 0.6 parking bays/100m^2 GFA for high density buildings in the CBD.

The policy sets both the desirable and the maximum negotiable amounts of tenant parking that may be provided in new developments. No minimum level is required. The amount of parking permitted relates directly to the surface area of the lot or lots on which the development is situated and the importance of the street from which access is provided to pedestrians, not the GFA of the development. The intention is to create a sustainable limit to the number of parking bays regardless of the density of development, and to improve pedestrian amenity.

It was not considered necessary to specifically limit the demand for public parking in the Perth city centre, on the grounds that there are limited areas where public parking can be provided and there is a reasonable balance between the cost to provide public parking and the price charged to make a profit. There are however, restrictions on the provision of parking in parts of the Perth Central Area as indicated in the following table. The pedestrian zone is located in the core to the north and south of the main railway station. The short stay parking zone covers most of what could be considered to be the core of Perth Central Area.



Regulations on public parking by zone

Zone	Regulations and future parking provision
Pedestrian	No additional public parking permitted.
Short stay parking zone	No additional long stay public parking is permitted. There is no maximum or minimum level of short stay parking specified.
General (long stay parking) zone	No maximum or minimum level of public parking specified – long stay and/or short stay parking is permitted.

The intention is to keep the central pedestrian priority zone as free from traffic as possible, and to limit all future long stay parking to the periphery of the Central Area.

In addition a parking levy or tax on all non-residential parking bays within the Central Area was introduced, with few exceptions. All revenues raised would be hypothecated and spent within the Central Area for improving *"public transport access, enhancing the pedestrian environment, supporting bicycle access and other initiatives which support a balanced transport system for the city*".

The Perth parking levy is outlined in a separate paper which looks at the Sydney, Melbourne and Perth parking levies/ licenses.

In 2007 a review of the Perth parking policy was undertaken[9]. The review found that:

"*In general terms, the Perth Parking Policy has been found to positively contribute to state transport and land use policies to improve the economic, environmental and social health of central Perth.*

Although it is not possible to quantify the contribution the Perth Parking Policy has made to a reduced car driver mode share for trips to central Perth, it has played a strong supporting role as part of an integrated package of measures that has restrained the growth of travel to, from and within central Perth. The Perth Parking Policy has also contributed to improvement to the central Perth public transport system by providing funding for the free CAT (Central Area Transit) bus services and compensating for revenue loss from operation of the free transit zone within the Perth parking management area."

In addition, there is no evidence that restraint on car parking has impacted negatively on the economic vitality of the city. "*Both employment and commercial floorspace have grown strongly and there is a high level of optimism in relation to CBD retail*."

In 2010 the on-street parking fee was $3.30 per hour and daily parking in off street parking stations varied from around $15.00-$20.00 on the periphery to $20.00-$50.00 in the heart of the city. In 2009 early bird parking in the central city was $10.50 - $14.00 depending on the location.

By 2010 over 50% of the trips to work in central Perth were by public transport and 35% as car driver. Traffic volumes on the Causeway across the Swan River to central Perth reduced from 73,000vpd to 58,000vpd over the decade to 2009. Traffic volumes in Perth's two major north/south city streets (Barrack St and William St) have halved from over 40,000vpd (combined) to around 20,000vpd. Over the same period, public transport use in Perth increased by 67%.

Since introduction of the Perth Parking Policy, Perth central area employment has grown by 30% from 91,000 in the mid 1990s to over 120,000 in 2009.

The number of licensed parking spaces in Central Perth has not increased since introduction of licensing in 1991 when number of Central Area employees was 90,000. At that time ratio licensed parking spaces per employee was 0.63.

The City of Perth has recently commissioned a major urban enhancement project designed to better integrate the city street grid and make streets more attractive for pedestrians. The intention is that the one way system that was introduced in the 1970s will be removed with most streets reverting to two way traffic.

[9] Review of Perth Parking Policy Stage 1 Final Report, Sinclair Knight Merz, 13 June 2007

Perth Central Area vs. Auckland Central Area Non-Residential Parking Supply, 2010

	Perth Central Area (Perth Parking Management Area) Licensed Parking Spaces	Auckland Central Area
Number of employees (2010)	120,000	80,000
No. Public Parking Spaces (off-street and on-street)	23,519[10]	22,639
Total Non-Residential	Approx. 57,000 (total licensed)	Approx. 46,600 (incl. illegal parking)
Non-residential spaces per employee	0.48	0.58

Park and Ride in Perth

In early 2009 there were 15,500 park and ride spaces in Perth. This is to increase to 18,500 by the end of 2012.

Each park and ride space generates 2.5 to 3 trips on the public transport system, i.e. 35-40,000 trips per day were generated by park and ride in 2009.

There is no clear policy on charging for park and ride parking. At stations where it is charged at $2 per day, there is also free parking available (if commuters come early enough). Parking has spilled over into adjacent areas at several locations and is causing quite a few problems.

[10] Based on information received from Department for Planning, Western Australia. Includes 5,033 on-street parking spaces, and 7,877 public long stay off-street parking spaces.

Appendix 5: Research into International City Centre Parking Policies and Best Practice: Parking Levies in Australian City Centres

A parking levy (or tax) in Australia is applied within a defined geographical area or areas. Parking levy schemes currently operate in three Australian cities, Sydney, Melbourne and Perth, and are being considered for Canberra and Brisbane.

Sydney

The New South Wales State Government introduced the Parking Space Levy Act in 1992. This Act created the necessary powers to impose a levy upon most parking in Sydney's CBD and directed how the funds raised were to be used. The Act was initially applied only to the Sydney CBD and immediately surrounding areas, but was subsequently extended in the year 2000 to include four major metropolitan centres.

The stated objectives of the Act are

- to encourage public transport use in areas well served by public transport and where congestion arising from private car use is a growing problem and
- to discourage car use in city business areas

These objectives are to be achieved by providing a funding source derived from parking used by car users to finance the development of public transport infrastructure that improves the access by public transport to the centre/s to which the tax is applied.

The Sydney Parking Space Levy (PSL) applies to off-street parking spaces (including parking spaces in parking stations) in Sydney's CBD and North Sydney (Category 1), and Bondi Junction, Chatswood, Parramatta and St Leonards (Category 2).

In Category 1 areas, exemptions to the levy are mobility parking, resident parking, loading/ unloading spaces, and the parking (without charge) of any motor vehicle owned or occupied by a religious body, a public charity or benevolent institution. In Category 2 areas, the levy is focused on office and commercial parking, with retail, restaurant and hotel parking being exempt from the levy.

Projects funded by the levy include the Liverpool-Parramatta and North West Transitways, upgrade of transport interchanges, a new commuter carpark and secure bike lockers at stations.

The current levy is $2,000 per space in Category 1 areas and $740 per space in Category 2 areas. There are approximately 60,500 leviable spaces including about 43,000 Category 1 spaces and 17,500 Category 2 spaces. Annual revenue generated is approximately $100 million.

Key features of the Sydney parking tax include:

- it applies only to off street parking;

- the owner of the premises is liable to pay the tax
- a specific fund was created by the Act into which all revenue must be paid; and
- the revenue raised can only be expended on defined purposes associated with the improvement of public transport.

Melbourne

In 2006 The Victorian State Government introduced the Congestion Levy Act to the Melbourne CBD and some immediately adjacent areas. It applies to long stay (commuter orientated) parking spaces located off street. The levy is currently $860 per leviable parking space, adjusted annually based on the consumer price index for Melbourne. About 56,000 spaces are subject to the levy and approximately $48 million is raised annually.

The stated aims of the Melbourne parking levy are:

- *"... to encourage suburban commuters to use public transport to travel into the city and car park owners/operators to convert Long-Stay car parking spaces, which will attract the levy, into short stay parking spaces, thereby creating more parking options for shoppers and visitors."*
- *".... reduce traffic congestion in Melbourne's inner city by acting as a financial deterrent to drivers who arrive and leave during commuter peak hours and park all day in the city car parks"*.

Source: Congestion Levy Bill – Explanatory Memorandum

Key features of the Melbourne parking levy include:

- it applies only to off street long stay (commuter orientated) parking;
- the owner of premises is ultimately liable to pay the levy;
- it applies to both public and private parking;
- the revenue is not legally required to be expended for any specific purpose.

Unlike the Sydney and Perth schemes, the Melbourne parking tax revenue enters the general government revenue stream and can be used for general government purposes. However, the state government has committed to using the revenue for transport related purposes. In September 2005 the Treasurer of Victoria stated that the *"revenue generated would fund important transport initiatives and road upgrades, helping maintain Melbourne's status as one of the world's most liveable cities. Each year, $5 million will be provided to the City of Melbourne to fund urban upgrades, including a free commuter and visitor shuttle bus to help make getting around the city even easier, particularly .... to service many tourist attractions".*

Perth

The Western Australian State Government introduced the Perth Parking Management Act in 1999. The Act applies to the Perth CBD and immediately surrounding areas.

In addition to a taxation power, the Act creates a range of other powers to allow an integrated approach to CBD parking policy and management. This broad approach is composed of four separate but synergistic components:

- a land use policy that guides the establishment and use of new parking infrastructure, both public and private;
- requirement to license all parking other than private residential within the area of the Act's application
- a parking tax on most parking spaces and direction of revenue to specified purposes and
- investment in free CBD public transport services that significantly reduce private vehicle movement within the CBD and nearby areas.

These initiatives are complemented by considerable investment in public transport infrastructure and services to the CBD.

This set of mutually supporting measures aims to make the Perth CBD more accessible from all parts of the Perth Metropolitan Region and for private vehicles to be unnecessary for personal mobility within the CBD. The specific desired outcomes are;

- better parking infrastructure located and used to support accessibility for a range of users,
- better pedestrian environment within the CBD,
- better people circulation, especially for pedestrians and public transport users within the CBD and between the CBD and adjacent areas,
- a creation of a park once and walk/use free public transport culture,
- a secure source of funding for the CBD free transport services (discussed below).

Key features of Perth's parking levy are;

- applies to all parking, both on and off street, except private residential;
- the owner of the property is liable to pay the tax;
- concessions for a range of uses are available (e.g. a ‘small business’ with up to 5 parking spaces receives a 100% license fee concession)
- applied to distinct geographical area that extends beyond the CBD to immediately adjacent areas;
- tax liability is based on the maximum use of parking as reported by the property owner;
- licensing of parking used to support the stated objectives;
- a specific fund was created into which all tax revenue must be paid; and
- the revenue raised can only be expended on defined purposes within the area in which it is levied.

The Perth approach requires all types of parking to be licensed, both off-street and on-street parking, long and short stay, leased and public parking and any specialised purpose parking.

Exemptions include residential parking bays, disability parking bays, loading/ unloading bays, bus layover bays and emergency vehicle parking bays.

In 2009 the license fee was increased from $212 to $586 a year for long stay bays. This increased the revenue to about $28 million a year. The 2010 licence fee was $598 pa for tenant and long stay public parking and $567 pa for short stay public parking.

Within the Perth CBD and adjacent areas there are about 65,000 parking spaces with about 56,000 to 58,000 spaces being licensed for use at any one time. When the license fee was first introduced in 1999 approximately 6,000 parking spaces were taken out of commission. Since then the number of licenses parking spaces has remained at about 56,000-58,000. The spaces taken out of use were largely located at the edge of the license area. In addition, the concessions, particularly the one available to small business owners with 5 or less parking spaces encouraged a reduction in the amount of parking on some premises.

Since its inception Perth's parking tax revenue has been directed to support free public transport within the area from which it is raised. These initiatives are a Free Transit Zone (FTZ) and the Central Area Transit (CAT) bus system. The CAT and FTZ service the whole of the area subject to the parking tax and combined they are used by over 12 million people annually, about 9% of all public transport trips in the entire Perth Metropolitan Region.

Parking Levy/License Fee Scheme Comparison

Sydney's parking levy is $2,000 per space in Category 1 areas and $740 per space in Category 2 areas. It applies to approximately 60,500 spaces and raises approximately $100 million a year. Melbourne's parking levy is $860 per liable parking space, adjusted annually. It applies to approximately 56,000 spaces and raises approximately $48 million a year. Perth's 2010 licence fee was $598 pa for tenant and long stay public parking and $567 pa for short stay public parking. It applies to approximately 57,000 parking spaces and raises approximately $28 million a year.

Perth's approach is a comprehensive set of policy, legislation, commuter parking restraint and taxation with directed investment in the area taxed, supported by significant other investment in high quality public transport system as an alternative private vehicle access to the CBD. Sydney's and Melbourne's approaches are narrower than Perth's and comprise taxes on parking in congested areas and investment across the metropolitan region directed to improved public transport infrastructure and services.

Sydney's approach applies to the CBD and adjacent areas and to 4 major metropolitan regional centres. Perth's and Melbourne's approaches are restricted to the CBD and adjacent areas.

Perth's parking tax is directed to supporting public transport within the CBD, one outcome of which is that all public transport within the CBD is free. Sydney's and Melbourne's parking taxes are used specifically to improve the metropolitan region's public transport system.

Perth requires licensing of both on-street and off-street, long stay and short stay parking, whereas Melbourne and Sydney focus on off-street parking which is wholly or primarily commuter-oriented.

Effects on CBD Economies

The Sydney tax was opposed by property and related interests. However, in contrast to the predictions made that there would be little or no new investment in offices and commercial retail

there has been significant inwards investment and employment growth to all the areas to which the tax is applied. Existing office and retail activity has not fled to the suburbs to escape the tax.

The connection between the Melbourne parking tax and its stated purpose to reduce congestion and improve access to the CBD, has been difficult to assess. A review undertaken in 2007 by the Victorian Department of Treasury and Finance and the State Revenue Office states;

> *"Although it is too soon to reach definitive conclusions about the impact of the levy, early analysis by the City of Melbourne does indicate some positive trends. For example, visitation to the central city has increased by 2.5% over two years, despite a decrease of 3.4% in traffic from February 2005 to February 2006".*

The Perth approach has not stopped investment in the CBD, total employment has grown and there have been a number of office and retail developments, including one that is car orientated on the edge of the CBD. Even with the 175 % license fee increase in 2009 the number of licensed spaces remained the same. A review conducted in 2007 for the Department of Planning and Infrastructure concluded that the significant mode shift away from the private car for the commute to the Perth CBD could not be put down to solely the parking tax and related parking policy. However, "*it can equally be argued that the impact of other policy efforts would have been less effective without its influence. The Perth Parking Policy has undoubtedly played a vital role as one element of a holistic and integrated initiative to reduce car use to and within the City centre".*

Appendix 6: Research into International City Centre Parking Policies and Best Practice: Parking Elasticities

The sensitivity of demand for parking to price is not well understood. Much data is "commercial in confidence" and generally not available in sufficient detail or covering a sufficient sample size, time period or geographical area. Many parking suppliers use differential price rate systems designed to maximise their returns. This means that price can vary within a day, between days of the week, between seasons and between users.

In addition parking demand sensitivity may be obscured by factors such as fuel cost, tolls or congestion charging, employer subsidised or free parking, traffic congestion, and the availability and cost of alternative transport options.

TRL Report TRL593, 2004[11] provides a detailed analysis of elasticity measures with a focus on public transport. It has the following to say on parking policy:

"There a number of ways in which parking policy could be used as a traffic demand management tool. These include limiting the number of available spaces, increasing the price paid for parking and changing the mix of short and long term parking spaces available.

However, parking policies are not always effective traffic demand management tools. Strict enforcement is required as the tendency for evasion is high.

There are numerous examples of the effects of restricting parking space availability or increasing charges. Both tend to have a positive effect on public transport demand, but there is no clear pattern in the cross elasticities derived from this evidence."

The TRL593 quotes the outcome of the TRACE (1999) report which included cross-elasticity estimates between parking price and public transport demand for various trip purposes, based on numerous European studies. The cross elasticity for commuting was +0.02.

A study by Shoup and Wilson (1992) estimated the cross elasticity between the price of parking and the demand for public transport to be 0.35. This was estimated using a multinomial logit model of employee travel behaviour in Los Angeles CBD.

Another study quoted by Miller and Everitt (1982) found that introducing parking charges for government employees in Ottawa, Canada at 70% of commercial rates resulted in a 7% shift from car to transit. Similarly for Federal sites in Washington USA, introducing or increasing parking charges to a level approximately half that of commercial rates, resulted in between -3% to 11%

[11] The demand for public transport: a practical guide, TRL Report TRL593, 2004

switching to public transport. This compares with a 0% to 6% reduction for sites where parking charges were not increased.

Booz Allen Hamilton's best estimates of parking demand elasticities for CBD areas derived from a number of studies and reviews identified in a paper on parking restraint measures[12] are:

- 0-2 hours -0.1
- 2-4 hours -0.3
- 4-7 hours -0.5
- 7+ hours -0.9

This suggests that a 100% increase in fees would therefore result in a 10% decrease in short-stay parking for up to 2 hours and a 90% reduction in all day/commuter parking. It clearly shows that demand for short stay parking is less elastic than demand for long stay parking.

In another report[13], BAH refer to a 2003 paper by Wallis & Schmidt and state that demand studies have shown that increased parking cost has a demand elasticity of around -0.30.

A recent VTPI report on transportation elasticities[14] includes the following:

"Kuzmyak, Weinberger and Levinson (2003) describe how parking supply affects parking and travel demand, but this may actually reflect price impacts (reduced parking supply increases prices). These studies indicate that the elasticity of vehicle trips with regard to parking prices is typically in the -0.1 to -0.3 range, with significant variation depending on demographic, geographic, travel choice and trip characteristics. Pratt (1999, p. 13-40) finds significantly higher elasticities (-0.9 to -1.2) of parking price with regard to commercial parking revenues, since motorists can respond to higher prices by reducing their parking duration or changing to cheaper locations and times, as well as reducing total vehicle trips."

The same report refers to a TRACE (1999) report which provides detailed estimates of the elasticity of various types of travel with respect to parking price under various conditions. A table is given which indicates how parking fees affect travel patterns for various types of trips. For example, a 10% increase in commuter parking prices will reduce car trips by 0.8%, and increase the car passenger trip, public transport travel and walking/cycling by 0.2% each. Hensher and King (2001) modelled the elasticity of CBD parking. A table extracted from their report indicates that a 10% increase in prices at preferred CBD parking locations will cause a 5.4% reduction in demand there, a 3.6% increase in park and ride trips, a 2.9% increase in public transport trips and a 4.7% reduction in total CBD trips.

[12] International Approaches to Tackling Transport Congestion: Paper 2 (Final): Parking Restraint Measures, BAH for the Victoria Competition and Efficiency Commission, April 2006.

[13] Review of Parking Policy Measures: Draft Final Report, Booz Allen Hamilton for Auckland City Council, 22 June 2007

[14] Transportation Elasticities: How Prices and Other Factors Affect Travel Behavior, Todd Litman, Victoria Transport Policy Institute, 1 July 2009

A study undertaken by Comsis Corporation in 1993 produced a significant variation in trip reduction by worksite location. For example, a parking charge of $1 (1993 US$) reduced car commute trips by 6.5% to a suburb location, 12.3% to a suburban centre, and 17.5% to the CBD.

The VTPI report confirms that any estimate of the price elasticity of parking demand is subject to a wide range of error, although a more VTPI report headed Parking Taxes: Evaluating Options and Impacts states that "Elasticities typically range between -0.2 and -0.4".

Assuming a price elasticity of -0.2 to -0.4, a 10% increase in parking price would lead to a 2-4% reduction in demand.

However, the above reports indicate a potential wide range depending on factors such as the type, duration and location of parking and availability of alternatives.

It should be noted that the effect on parking revenues appears likely to exceed the effect on parking demand.

Transport policy integration

According to TRL593, "An important issue is how packages of policy instruments might be put together in a complementary manner. For example, increasing parking controls and charges will increase the demand for public transport and hence the case for public transport infrastructure. Conversely, provision of additional public transport infrastructure is likely to increase public acceptability of parking control and charges, particularly where the two are linked financially through hypothecation.

Considerable empirical modelling work has been undertaken in order to quantify these synergistic effects. The optimal transport strategy for any area depends strongly on local characteristics, eg size, demographics, economic activity, road and public transport networks, and current traffic and fare levels. The results are too specific for application elsewhere without further modelling."

Summary

The available literature on the elasticities of demand for car parking indicates a wide variation of potential elasticities. While clearly price can have a significant influence on demand, the effect can vary substantially depending on factors such as the type or duration of parking, the trip purpose, the availability of alternative forms of transport, and the trip destination.

The best estimate of the price elasticity of parking appears to be a range of -0.2 to -0.4, but this should be treated with caution.

Parking pricing and supply should form part of a package of measures and not be treated in isolation.

Appendix 7: International Research References

The primary references for Appendices 1 to 5 are:

1. Review of Perth Parking Policy Stage 1 Final Report, SKM, June 2007
2. Two recent conference papers provided by George Brown, Senior Transport Planner, Department for Planning, Western Australia, namely:
    a. Using parking taxes to support public transport services to and within central business districts: a review of Australian experience by George Brown and Richard McKellar
    b. Extracting Maximum Benefit from Parking Policy – 10 Years Experience in Perth, Australia by Emmerson Richardson, SKM
3. U.S. Parking Policies: An overview of Management Strategies, Institute for Transportation and Development Policy, New York, Rachel Weinberger, John Kaeny, Matthew Rufo, February 2010
4. Feasibility Study Parking Structures in the City and Town Centres in Canberra, Indec Consulting for ACT Planning and Land Authority, September 2006
5. Review of Parking Policy Measures: Draft Final Report, Booz Allen Hamilton for Auckland City Council, June 2007
6. Auckland CBD Parking Position Paper, Auckland City Council, October 2010
7. Auckland Regional Parking Strategy, Auckland Regional Council, March 2009
8. South Sydney City Council, DCP 11 – Transport Guidelines for Development 1996
9. City of Melbourne and City of Sydney websites
10. The High Cost of Free Parking, Donald Shoup, American Planning Association, Chicago, 2005
11. Projects undertaken by the author as sub-consultant to Luxmoore Parking, Australia including:
    a. Data Collection and Audit of Parking Provisions and Management in Perth Metropolitan Centres, for Department of Planning and Infrastructure, Western Australia Government, 2009
    b. Parking Supply Option Study, ACT Government, 2010
    c. Preparation of Draft Waitakere Parking Plan, and Draft Parking Management Plans for Henderson, New Lynn and Westgate, Waitakere City Council, 2009
12. Town of Vincent Precinct Parking Management Plan: Leederville, Luxmoore Parking, 2009

Appendix 8: Review of Selected Parking Consents

In order to understand how the policies and rules in the District Plan have been implemented, a number of consents were reviewed from approvals for additional parking granted since current parking policies were put in place.

Of particular interest were the conditions imposed.

The approvals reviewed are outlined below.

46 – 48 Nelson Street - Fletcher Development June 1988

270 spaces not to be used unless the subject of written agreements between the Applicant and owners of other sites that an equivalent number of car parks that could be constructed as of right would not be constructed. This condition was developed as a consent order between the applicant and ARA.

Short term spaces to be subject of written agreements with occupiers and to be grouped around the car park entrance.

In October 1994 the parking conditions were changed as a result of the building being used for Sky City employee parking. The change was not notified. It is not clear whether the condition described above was affected.

92 – 94 Federal Street - Weldon Exploration August 1988

Distinguishes between long term and short term (later became short term only)

Public spaces to be physically defined, separate from reserved spaces and appropriately signed

Operational plan to be prepared, operation monitored and reported to Council

Parking charges to be similar to Council short term charges at similar location**s**

72 – 78 Victoria Street West - Sky City December 1992 and April 1993.

At least 2,500 car parks are to be available, and of these at least 1,500 must be provided on site.

No more than 2,776 car parks may be provided on site.

No more than 1700 cars may be parked on site between on the site between 8am and 5pm Monday to Friday and of these up to 575 may be made available for long term parking.

31 – 33 Symonds Street and 6 St Paul Street – Charta Group June 1998

The Applicant provided more long term parking than was allowed as of right through transferring parking rights from other sites owned by Auckland Institute of technology.

The consent contained provision for 235 leased spaces with the condition that the car parking leased to AIT (180 spaces) would revert to short term parking when the lease ends, unless the total spaces provided by AIT remains less than AIT is entitled to provide as of right.

In addition, the 105 short term parking spaces were to be subject to a fee structure which severely penalised parking in excess of 180 minutes.

186-194 Quay Street – AMP Asset Management November 1999

This building is known as the PWC Tower. The development includes 358 ancillary carparking spaces which was within the amount permitted by the Operative District Plan but was 115 spaces more than that permitted by the Proposed District Plan (now the Operative Plan). The application was approved on the grounds that the local traffic impacts would not be significant.

65 – 71 Federal Street - Federal Station Ltd July 2000

In 1983 consent was granted for 317 spaces over 5 – 6 floors for long stay parking only.

Consent was granted in 2000 for additional 4 decks and 118 car parks for short stay parking only.

Fees to be charged for short term spaces to severely penalise parking in excess of 180 minutes.

New car parks not to be sold or leased individually.

2-30 Beach Road – Redwood Group April 2002

This building houses the Countdown supermarket and associated parking. Around 200 car parks are provided. A condition requires that parking is to be limited to 240 minutes unless used by persons whose regular place of work is at the supermarket. No numbers are placed on this. Adequate signage and enforcement of this provision are the responsibility of the Applicant.

23 Alten Road – University of Auckland June 2004

This complex is the Owen Glenn Business School. The applicant was allowed to aggregate ancillary parking from other sites under the ownership of the University of Auckland where provision of parking was agreed to be impracticable. A total of 777 car park spaces was allowed, with no restriction on the use of the spaces.

Consent notices were to be placed on the "donor" sites recording the transfer of parking rights but are not recorded on the consent for this building. Alternatively, other means of recording the transfers are allowed if agreed to by ACC and ARC.

152 – 160 Hobson Street – Dae Ju Developments Nov 2004

This development is a residential apartment building. Consent included 141 car parks which were to be ancillary to the use of the building (i.e. parking for the use of building residents only).

This proved to be more parking than was needed for the building and the consent was varied in December 2009 to allow use of 27 of the car parks (one level) by residents of nearby apartments provided a covenant was entered into with council tying the parking space to a specific apartment in the surrounding area (i.e. the apartment and the parking space could not be disposed of separately without Council agreement).

10 Tapora Street – Arena Car Park October 2005

A stand alone car park was consented relying on the transfer of car parking rights for ancillary parking transferred from neighbouring sites.

The transfer of rights was recorded on the consent for the car park but the sites which lost parking rights were not obliged to use the car park building.

A covenant recording the transfers was to be recorded on the certificates of title for the donor and recipient sites.

In the event the parking building was underutilised and the owner was granted consent in June 2011 to operate for either long stay parkers, short stay parkers or both. The reporting officer concluded that there will be no long term cumulative effect of allowing more commuter parking because the amount of traffic generated will be limited by the capacity of nearby intersections.

150 – 154 Karangahape Road – Samson Corp March 2007

Ironbank Building (mechanical car stacking). Consent was granted for 27 short term spaces (max 2 hours) and 68 long term.

The applicant was required to produce a visitor parking management plan covering:

Assigning of short term spaces to tenancies

Recording of visits

Reporting on usage

Signage

Monitoring of the time limit for short term spaces

Penalties for breaches

80 Queen Street September 2008

The applicant applied for 170 parking spaces, 37 more than permitted as ancillary. The excess parking was permitted on the basis that it would be used for short term parking only. 46 of the car parks were to be for small cars to achieve a Greenstar rating for the building.

Conditions were imposed requiring that the 37 short-term visitor parking spaces would be utilised for a maximum parking time limit of 4 hours and would not be used by tenants or their employees.

The applicant was required to submit for the approval of the Council a comprehensive Visitor Parking Management Plan which was to address

How each short term visitor space would be assigned to a tenancy

How small car parks would be allocated to appropriately sized cars

A requirement that an electronic record of visitor usage be maintained and reported to Council every quarter

Details of signage relating to the maximum visitor parking time of 4 hours

How the maximum time limit would be monitored

The consequences of a breach of the 4 hour time limit.

88 Quay Street – Bluewater Oriental November 2009

This business operates as the Britomart Car Park. This building houses a mix of short term public parking and leased parking, with a total of 1243 spaces. The leased parking appears to have been required by Auckland City to replace parking lost through the demolition of the old Britomart Car Park as part of the redevelopment of Britomart. The building was consented at an earlier hearing and the numbers are not part of the record of the recent hearing. The plans appear to show 484 "valet" car parks, 299 ancillary car parks and 435 short term car parks. It is not clear how 299 car parks can be ancillary to use of this particular building.

Conditions imposed include a requirement that all public parking is available for short term casual parking only, with a pricing structure that penalises a stay in excess of 4 hours.

A feature of the building is that some floors of the parking structure are "sacrificial" and can be removed at a later date to allow conversion of part of the building to apartments.

1/2A William Pickering Drive – Open Wananga Ltd August 2010

The educational facility was approved in spite of shortfalls in required loading spaces and parking provided a Travel Demand Management Plan is followed. The consent spells out what must be contained in the TDM Plan (20 points).

The consent requires a parking monitoring programme with specified components to be carried out and reported to the Auckland Transport Community Transport Group. If the monitoring programme shows parking overspill to be more than minor or that complaints are received, additional monitoring is to be undertaken which can result in the Council requiring the number of staff, students and other people on site to be decreased.

Appendix 9: Central Area Section of Auckland City Council District Plan: Central Parking District Road Types (Figure 9.1)