

CROWN LANDMARK PTY LTD

TRAFFIC REPORT FOR SECTION
75W MODIFICATIONS TO
PROJECT APPROVAL FOR THE
MIXED USE DEVELOPMENT,
134 – 140 HUNTER STREET,
PARRAMATTA

OCTOBER 2012

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I. INTRODUCTION

I.1 Colston Budd Hunt and Kafes Pty Ltd has been commissioned by the Crown Landmark Pty Ltd to prepare a report examining the traffic implications of Section 75W modifications to the Project Approval (MP09_0167) for the mixed use development at 134 to 140 Marsden Street, Parramatta. The site has frontage Hunter Street, Macquarie Street and Marsden Street, as shown in Figure I.

I.2 Project Approval was granted by the Planning Assessment Commission on 28 October 2011 for the construction of a 26 storey mixed use development comprising:

- ❑ 367 residential units;
- ❑ some 2,952m² GFA of commercial area;
- ❑ some 1,240m² GFA of retail area;
- ❑ some 316m² GFA of archaeological interpretation centre; and
- ❑ some 508 parking spaces located within six levels of basement parking.

I.3 The proposed modifications include:

- ❑ 423 residential units;
 - ❑ 81 serviced apartments (89 keys);
 - ❑ some 760m² GFA of retail area;
 - ❑ some 288m² GFA of archaeological interpretation centre;
 - ❑ some 300m² GFA of conference/meeting rooms;
 - ❑ some 170m² GFA of pre-function area; and
 - ❑ some 548 parking spaces.
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- 1.4 The Director-General's Requirements with regards to car parking and transport and accessibility are as follows:-

“5. Car Parking

The modification application must demonstrate the provision of sufficient on-site car parking for the proposal having regard to local planning controls and RTA guidelines (Note: The department supports reduced car parking rates in an area well-served by public transport).

6. Transport and Accessibility (Construction and Operational)

The modification application shall provide:

- *Justification of the proposed quantum of on-site car parking for the proposal having regard to the RTA guidelines and accessibility of the site to public transport.*
- *Daily and peak traffic movements likely to be generated by the proposed development, including modelling and assessment of the performance of key intersections providing access to the site, and any upgrades (road/intersections) required as a consequence of the proposal. The modelling of peak traffic movements should be undertaken with the LINSIG modelling package in order to properly consider coordinated intersection operation.*
- *Preparation of a Travel Demand Management Plan that provides and analysis of public transport provision, walking and cycling connections within the vicinity of the proposed site, and measures that will optimise*

the opportunity provided by the project site's proximity to public transport, including the preparation of a Work Place Travel Plan."

- 1.5 The implications of the proposed modifications are assessed in the following chapter.

2. IMPLICATIONS OF PROPOSED MODIFICATIONS

2.1 Our assessment of the implications of the proposed Section 75W modifications is set down through the following sections:

- ❑ site location and existing road network;
- ❑ approved development;
- ❑ proposed modifications;
- ❑ policy context;
- ❑ public transport, walking and cycling;
- ❑ travel demand management plan;
- ❑ parking provision;
- ❑ access, internal circulation and servicing;
- ❑ traffic generation and effects;
- ❑ responses to Director General's requirements; and
- ❑ summary.

Site Location and Existing Road Network

2.2 The site is located on the western side of Marsden Street, between Hunter Street and Macquarie Street, as shown on Figure 1. The site has frontage to Hunter Street, Marsden Street and Macquarie Street. The site is currently vacant and is within the western section of the Parramatta CBD.

2.3 Surrounding land uses comprise commercial and retail uses within the Parramatta CBD. Parramatta bus/rail interchange is located some 400 metres to the east of

the site and Westfield shoppingtown is located some 150 metres south of the site. Parramatta Park is located to the north west of the site.

- 2.4 The road network in the vicinity of the site includes Hunter Street, Marsden Street, Macquarie Street and O'Connell Street. Hunter Street is located on the southern boundary of the site. Past the site it provides one traffic lane in each direction with kerb side (metered) parking provided clear of intersections. West of O'Connell Street, Hunter Street becomes one-way (westbound). The intersections of Hunter Street with Marsden Street and O'Connell Street are traffic signal controlled.
- 2.5 Marsden Street is located on the eastern boundary of the site. In the vicinity of the site it provides a four lane undivided carriageway with no on-street parking. It provides two northbound lanes, one southbound lane and a right turn lane (southbound) into Hunter Street. The intersection of Marsden Street and Macquarie Street is traffic signal controlled.
- 2.6 Macquarie Street is located on the northern boundary of the site. It is one-way (westbound) with three traffic lanes and kerb side (metered) parking provided clear of intersections.
- 2.7 O'Connell Street is located to the west of the site. South of Macquarie Street, O'Connell Street is one way (southbound) with four traffic lanes and no on-street parking. North of Macquarie Street, O'Connell Street provides for two-way traffic.
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Approved Development

2.8 Project Approval (MP09_0167) was granted by the Planning Assessment Commission on 28 October 2011 for the construction of a 26 storey mixed use development comprising:

- ❑ 367 residential units;
- ❑ some 2,952m² GFA of commercial area;
- ❑ some 1,240m² GFA of retail area;
- ❑ some 316m² GFA of archaeological interpretation centre; and
- ❑ some 508 parking spaces located within six levels of basement parking.

Proposed Modifications

2.9 The proposed Section 75W modifications to the Project Approval include:

- ❑ 423 residential units;
- ❑ 81 serviced apartments (89 keys);
- ❑ some 760m² GFA of retail area;
- ❑ some 288m² GFA of archaeological interpretation centre;
- ❑ some 300m² GFA of conference/meeting rooms;
- ❑ some 170m² GFA of pre-function area; and
- ❑ some 548 parking spaces.

2.10 The residential component of the development comprises 32 studio units, 214 one bedroom units, some 162 two bedroom units and 15 three bedroom units. The 81 serviced apartments will include 13 studio units, 55 one bedroom units and 13 two bedroom units. Eight of the two bedroom units will have dual keys.

- 2.11 In accordance with the approved development, vehicular access to the basement car park and to the on-site service vehicle area will be provided from a combined entry/exit driveway onto Hunter Street.

Policy Context

Metropolitan Transport Plan

- 2.12 The Metropolitan Transport Plan – Connecting the City of Cities has four key policy objectives:
- commuting to work easily and quickly;
 - transport and services accessible to all members of the community;
 - an efficient, integrated and customer focused public transport system; and
 - revitalized neighbourhoods with improved transport hubs.
- 2.13 It includes a target of 28 per cent of trips to work in the Sydney Metropolitan Region to be undertaken by public transport by 2016, compared to some 22 per cent in 2006.
- 2.14 To help achieve these objectives, it identifies, in conjunction with the metropolitan strategy, key areas of future housing and employment growth in Sydney to 2020 and 2036. Additionally, it outlines a 10 year funding program to 2020 for the following transport projects:
- rail line extensions for more platforms at CBD stations;
 - rail lines to north west and south west Sydney;
 - light rail in the CBD and further extension to the Inner West;
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- more air conditioned train carriages;
- 1,000 additional buses;
- completion of the 43 strategic bus corridors across Sydney;
- completion of the highest priority missing links in the Sydney Strategic Cycleway Network.

NSW 2021

2.15 NSW 2021: A Plan to Make NSW Number One sets targets to increase the proportion of commuter trips made by public transport for various areas within Sydney by 2016, including:

- 80 per cent in the Sydney CBD;
- 50 per cent in the Parramatta CBD;
- 20 per cent in the Liverpool CBD; and
- 25 per cent in the Penrith CBD.

2.16 It has targets to:

- improve road safety and reduce fatalities to 4.3 per 100,000 population by 2016;
 - double the mode share of bicycle trips made in the metropolitan area by 2016; and
 - increase the proportion of the population living within 30 minutes by public transport of a city or major centre in the metropolitan area.
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Integrated Land Use and Transport Policy Package (ILUT)

- 2.17 These policies aim to ensure that urban structure, building forms, land use locations, development designs, subdivision locations and street layouts help achieve the following planning objectives:
- (a) improve accessibility to housing, employment and services by walking, cycling, and public transport;
 - (b) improve the choice of transport and reducing dependence solely on cars for travel purposes;
 - (c) moderate growth in the demand for travel and the distances travelled, especially by car; and
 - (d) support the efficient and viable operation of public transport services.

NSW Planning Guidelines for Walking and Cycling and the NSW Bike Plan

- 2.18 These guidelines provide a walking and cycling focus to the Integrating Land Use and Transport Policy Package. They provide for improved consideration of walking and cycling in land use planning, to assist in creating more opportunities for people to live and work in places with easy walking and cycling access to services and public transport.
- 2.19 The following sections discuss how the proposed development satisfies these objectives and the measures proposed to achieve them.
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Public Transport, Walking and Cycling

- 2.20 The site is located within Parramatta CBD and thus has good access to public transport services. Parramatta rail station and bus interchange is located some 400 metres to the east of the site. The Liverpool to Parramatta and Northwestern bus transitways are located some 100 metres to the south of the site. Thus the site is well serviced by local and regional public transport services. The proposed development will enhance these connections with increased residential density in close proximity to public transport services and additional retail development integrated into the existing pedestrian network.
- 2.21 Public transport services offer viable alternatives to travel by modes other than car. The proposed development will be close to existing public transport services, and will therefore be readily accessible by public transport. To support accessibility by bicycles, appropriate bicycle parking is proposed to be provided.
- 2.22 The proposed development is located adjacent to important pedestrian routes and cycle links within the Parramatta CBD. The proposed through-site link will improve pedestrian permeability and enhance pedestrian access between Hunter Street and the pedestrian plaza fronting Macquarie Street and Marsden Street. The through-site link will provide convenient access and internal circulation for pedestrians within the site.
- 2.23 The proposed development will therefore satisfy the objectives of the Metropolitan Transport Plan, NSW 2021 and Integrated Land Use and Transport, policy package, NSW Planning Guidelines for Walking and Cycling and the NSW Bike Plan as follows:
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- enabling residents and employees to readily access buses and trains close to the site, for journeys to work and other travel (Metropolitan Transport Plan objective);
 - providing pedestrian connections within and through the centre, to improve accessibility for residents in the development as well as the general public (Metropolitan Transport Plan objective, Planning Guidelines for Walking and Cycling);
 - providing an appropriate level of on-site parking, with reference to appropriate Council and RMS requirements, to encourage public transport use and increase the proportion of journey to work trips by public transport (Metropolitan Transport Plan objective);
 - providing residential development close to retail, commercial and transport facilities to reduce the need for external travel (ILUT principle, NSW Planning Guidelines for Walking and Cycling);
 - being located close to employment centres in Parramatta CBD, which are readily accessible by public transport (ILUT principle);
 - increasing the proportion of the population living within 30 minutes by public transport of a city or major centre in the metropolitan area (NSW 2021 target); and
 - providing appropriate bicycle parking on the site to increase the proportion of trips made by bicycle (NSW Planning Guidelines for Walking and Cycling and the NSW Bike Plan).
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Travel Demand Management Plan

- 2.24 To encourage travel modes other than private vehicle, a travel demand management approach should be adopted, through a travel access guide to meet the specific needs of the site, residents, employees and visitors. The specific requirements and needs of the future residents, including access to surrounding employment centre, plus local services and facilities, should be incorporated in the travel access guide to support the objectives of encouraging the use of public transport.
- 2.25 The principles of the travel access guide should be developed in consultation with Council, RMS, public transport providers and other stakeholders. Principles would include the following:
- encourage the use of public transport, including bus and train services close to the site;
 - identify existing public transport service that operate near the site, including the location of bus stops and pedestrian crossings at signalised intersections;
 - work with public transport providers to improve services;
 - encourage public transport by residents and employees through the provision of information, maps and timetables in the travel access guide;
 - raise awareness of health benefits of walking and cycling (including maps showing walking and cycling routes, including through and adjacent to the site);
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- encourage cycling by providing safe and secure bicycle parking, including the provision of lockers and rails for residents and visitors;
- provide appropriate on-site parking provision, consistent with appropriate Council/RMS controls and the objective of reducing traffic generation.

2.26 The travel access guide should be developed in accordance with the principles identified by Transport NSW and RMS, included on the sites website for the serviced apartments and conference facility, and distributed with marketing material for the site. The travel access guide would assist in delivering sustainable transport objectives by considering the means available for reducing dependence solely on cars for travel purposes, encouraging the use of public transport and supporting the efficient and viable operation of public transport services.

Parking Provision

2.27 Parking requirements for new developments within Parramatta CBD are set out in the City Centre LEP 2007. Council has typically applied these rates as a maximum provision in order to reduce traffic within the CBD. LEP 2007 sets out the following rates:

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|--------------------------|--|
| □ residential (tenants) | - one spaces per 1, 2 and 3 bedroom units; |
| □ residential (visitors) | - one space per 5 units; |
| □ retail/shops | - one space per 30m ² GFA. |

2.28 With regards to the parking provision for service apartments, our previous report adopted Council's parking requirement for motels (one space per two units plus one space for every three employees). However, in the review of adequacy, the

department indicated that it had recently finalised its assessment of MP 10_0177 at 330 Church, Parramatta, which sought approval for the construction of 170 serviced apartments and 220 residential apartments. In this regard, the department requested that the proponent apply the residential rate outlined within the PCC LEP 2007 as a residential use is considered to be a more accurate proxy for serviced apartments than a 'motel' or 'hotel' use.

- 2.29 With regards to the conference area, Council's LEP 2007 does not have a specific requirement. However, the RMS Guide to Traffic Generating Developments suggests a parking requirement of 15 spaces per 100m² of function area.
- 2.30 With regards to the interpretation centre, we have adopted Council's commercial parking rate of one space per 100m² GFA.
- 2.31 Application of these rates, including the assessment of the proposed serviced apartments as residential, results in a maximum parking provision of 678 spaces. The proposed development will provide 548 spaces, satisfying Council's requirement.
- 2.32 In addition to car parking, appropriate disabled parking (some 45 spaces), motorcycle parking (some 5 spaces) and bicycle parking (some 265 spaces) are provided in accordance with Council's requirements. In accordance with these requirements, bicycle parking may be located in storage areas.

Access, Internal Layout and Servicing

- 2.33 In accordance with the approved development, vehicular access to the basement car park and to the on-site service vehicle area will be provided from a combined
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entry/exit driveway onto Hunter Street. The proposed access driveway will incorporate a section of grade of no more than 1 in 20 between the property boundary and the loading dock area, located some 16 metres into the site. The proposed access arrangements are considered appropriate and have been provided in accordance with the Australian Standard for Parking Facilities Part 1: Off-street car parking (AS2890.1-2004) and Part 2: Commercial vehicle facilities (AS2890.2-2002).

- 2.34 A control point (roller shutter) to the car park will be provided north of the loading dock. This control point is located well within the site and allows for queuing space (two to three car lengths) between the loading dock and the Hunter Street frontage. A queuing theory assessment has been undertaken to determine the appropriate amount of queuing spaces required at the entry point. The assessment found that based on the estimated traffic generation queuing for two cars would accommodate the 99th percentile queue of vehicles entering the site. Access through the control point to the car park will be by remote control (tenants) and intercom (visitors). A second roller shutter will be provided immediately south of the loading dock. This will be opened during business hours (to allow access to the loading dock) and closed at night. After hours access through the second roller shutter will be by remote control (tenants) and intercom (visitors).
- 2.35 Car parking for the proposed development will be provided in basement parking levels beneath the building. The basement levels will be linked to the proposed Hunter Street access driveway via internal ramps. Within the basement levels, parking space dimensions, aisle widths, ramp widths, ramp grades and transitions, column locations and height clearances will be provided in accordance with the Australian Standard (AS2890.1-2004).
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- 2.36 The Australian Standard requires car parking to be provided with dimensions of 2.4 metres wide by 5.4 metres long for tenant spaces and 2.5 metres wide by 5.4 metres long for conference, serviced apartments and visitor spaces. Spaces located adjacent to structures have been widened by 300mm to facilitate door opening, and columns are set back 750mm from the front of the space. Circulation aisles are 5.8 metres to 6.1 metres wide. Dead end aisles will incorporate a one metre extension to allow appropriate access to end parking spaces.
- 2.37 Disabled parking spaces have been provided with dimensions of 2.4 metres wide by 5.4 metres long, with an adjacent 2.4 metre wide shared zone for wheelchair access. Height clearance within the car park has been provided at 2.5 metre above disabled parking spaces and minimum 2.2 metre elsewhere throughout the car park. These arrangements are considered appropriate being in accordance with the Australian Standard (AS2890.1-2004).
- 2.38 In addition to car parking, parking for bicycles and motorcycles will be provided in convenient locations within the car park.
- 2.39 Within the site, two loading bays are provided on the eastern side of the access driveway. The loading bays are able to accommodate service vehicles ranging from small commercial vehicles to medium rigid trucks. A reversing bay is provided on the western side of the access driveway. Trucks would access the site in a forward direction, turn left into the reversing bay, reverse into the dock and then depart the site in a forward direction. As trucks accessing the loading docks would need to reverse across the driveway, warning lights and signage would be provided to advise tenants entering and departing the site when a truck is reversing into the dock.
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- 2.40 The loading bays will be used to service the retail, conference and residential components of the development (including garbage collection). Based on the size of the retail/conference components, two service bays are considered appropriate for the proposed development.

Traffic Generation and Effects

- 2.41 Traffic generated by the proposed development will have its greatest effects during weekday morning afternoon peak periods when it combines with commuter and retail traffic. For high density residential developments within CBD locations RMS guidelines suggest a traffic generation of 0.24 vehicles per unit in the morning and afternoon peak periods. With some 423 residential units this equates to a traffic generation of 100 to 105 vehicles per hour two-way in the peak periods.
- 2.42 Applying a similar traffic generation to the serviced apartments results in a traffic generation of 20 to 25 vehicles per hour two-way in the morning and afternoon peak periods.
- 2.43 With regards to the conference area and pre-function area, the peak activity will be during Friday and Saturday evenings and hence will not coincide with the morning and afternoon on-road peak periods. Guests attending functions would use on-site parking or public parking within the CBD. Alternatively guests could travel to/from the site by taxi and/or public transport.
- 2.44 The conference and pre-function facilities are expected to be used by groups of up to 100 guests during the Friday and Saturday evening periods. During the morning and afternoon peak periods the function facilities are expected to be used
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by smaller groups of up to 50 to 60 guests. Functions of 50 to 60 guests would be expected to generate some 20 vehicles per hour two-way during the morning and afternoon peak periods.

- 2.45 With regards to the retail and the archaeological interpretation centre, applying the RMS traffic generation rates for specialty retail and for commercial office results in a traffic generation of some 35 to 40 vehicles per hour two-way during peak periods.
- 2.46 Thus the proposed development would generate some 170 to 190 vehicles per hour two-way during the morning and afternoon peak periods. For the purpose of assessing the traffic effects of the proposed development the higher generation of 190 vehicles per hour two-way has been adopted.
- 2.47 By way of comparison the approved mixed use development (Project Approval MP09_0167) would generate some 140 to 160 vehicles per hour two-way during the morning and afternoon peak periods. The proposed modifications will therefore generate a modest increase in traffic generation of some 30 additional vehicles per hour two-way during peak periods compared to the approved development. This additional traffic will be distributed onto the surrounding road network, including Hunter Street, Marsden Street and O'Connell Street, and result in increases of some 5 to 15 vehicles per hour two-way on these roads.
- 2.48 The base traffic flows of the approved development and the additional traffic (some 30 vehicles per hour two-way) resulting from the proposed modifications, are shown in Figures 2 and 3, and summarised in Table 2.1.
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Table 2.1: Base Two-Way Peak Hour Traffic Flows Plus Additional Traffic				
Road	Morning		Afternoon	
	Base	Additional Traffic	Base	Additional Traffic
Hunter Street				
– east of Marsden Street	95	+0	125	+0
– west of Marsden Street	360	+15	365	+15
– east of O'Connell Street	330	+15	335	+15
– west of O'Connell Street	315	+0	90	+0
Marsden Street				
– north of Hunter Street	1375	+5	1710	+10
– south of Hunter Street	1290	+10	1580	+5
O'Connell Street				
– north of Hunter Street	2040	+5	2030	+10
– south of Hunter Street	1635	+10	2065	+5

- 2.49 Table 2.1 shows that traffic increases on Hunter Street (between Marsden Street and O'Connell Street) would be some 15 vehicles per hour two-way during the morning and afternoon peak periods. Increases on O'Connell Street and Marsden Street would be lower at some 5 to 10 vehicles per hour two-way during peak periods. Thus the increase in traffic is equivalent to some one vehicle every 4 to 12 minutes during peak periods.
- 2.50 The capacity of the road network is largely determined by the capacity of its intersections to cater for peak period traffic flows. The intersections shown in Figures 2 and 3 have been analysed using the SIDRA program.
- 2.51 SIDRA simulates the operations of intersections to provide a number of performance measures. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle. Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):

- For traffic signals, the average delay per vehicle in seconds is calculated as delay/(all vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS.

0 to 14	=	"A"	Good
15 to 28	=	"B"	Good with minimal delays and spare capacity
29 to 42	=	"C"	Satisfactory with spare capacity
43 to 56	=	"D"	Satisfactory but operating near capacity
57 to 70	=	"E"	At capacity and incidents will cause excessive delays. Roundabouts require other control mode.
>70	=	"F"	Unsatisfactory and requires additional capacity

- For give way and stop signs, the average delay per vehicle in seconds is selected from the movement with the highest average delay per vehicle, equivalent to following LOS.

0 to 14	=	"A"	Good
15 to 28	=	"B"	Acceptable delays and spare capacity
29 to 42	=	"C"	Satisfactory but accident study required
43 to 56	=	"D"	Near capacity and accident study required
57 to 70	=	"E"	At capacity and requires other control mode
>70	=	"F"	Unsatisfactory and requires other control mode

2.52 It should be noted that for roundabouts, give way and stop signs, in some circumstances, simply examining the highest individual average delay can be misleading. The size of the movement with the highest average delay per vehicle should also be taken into account. Thus, for example, an intersection where all

movements are operating at a level of service A, except one which is at level of service E, may not necessarily define the intersection level of service as E if that movement is very small. That is, longer delays to a small number of vehicles may not justify upgrading an intersection unless a safety issue was also involved.

2.53 The SIDRA analysis found that:

- the traffic signals at the intersection of Marsden Street and Hunter Street would operate with average delays of less than 25 seconds per vehicle during peak periods. This represents level of service B, a good level of service with spare capacity; and
- the traffic signals at the intersection of O'Connell Street and Hunter Street would operate with average delays of less than 30 seconds per vehicle during peak periods. This represents level of service B/C, a satisfactory level of service with spare capacity.

2.54 Therefore, the road network will be able to cater for the additional traffic from the proposed modifications to the development, with adjacent intersections operating at good to satisfactory levels of service during peak periods.

Responses to Director General's Requirements

2.55 The Director-General's Requirements with regards to car parking and transport and accessibility are as follows:

Car Parking

The modification application must demonstrate the provision of sufficient on-site car parking for the proposal having regard to local planning controls and RTA guidelines (Note: The department supports reduced car parking rates in an area well-served by public transport).

- 2.56 Parking provision is discussed in paragraphs 2.27 to 2.32. The proposed parking provision is considered appropriate and represents a balanced approach between providing appropriate parking while encouraging travel by means other than private vehicle in an area well serviced by public transport.

Transport and Accessibility (Construction and Operational)

The modification application shall provide:

- ***Justification of the proposed quantum of on-site car parking for the proposal having regard to the RTA guidelines and accessibility of the site to public transport.***

- 2.57 Parking provision is discussed in paragraphs 2.27 to 2.32.

- ***Daily and peak traffic movements likely to be generated by the proposed development, including modelling and assessment of the performance of key intersections providing access to the site, and any upgrades (road/intersections) required as a consequence of the proposal. The modelling of peak traffic movements should be undertaken with the LINSIG modelling package in order to properly consider coordinated intersection operation.***
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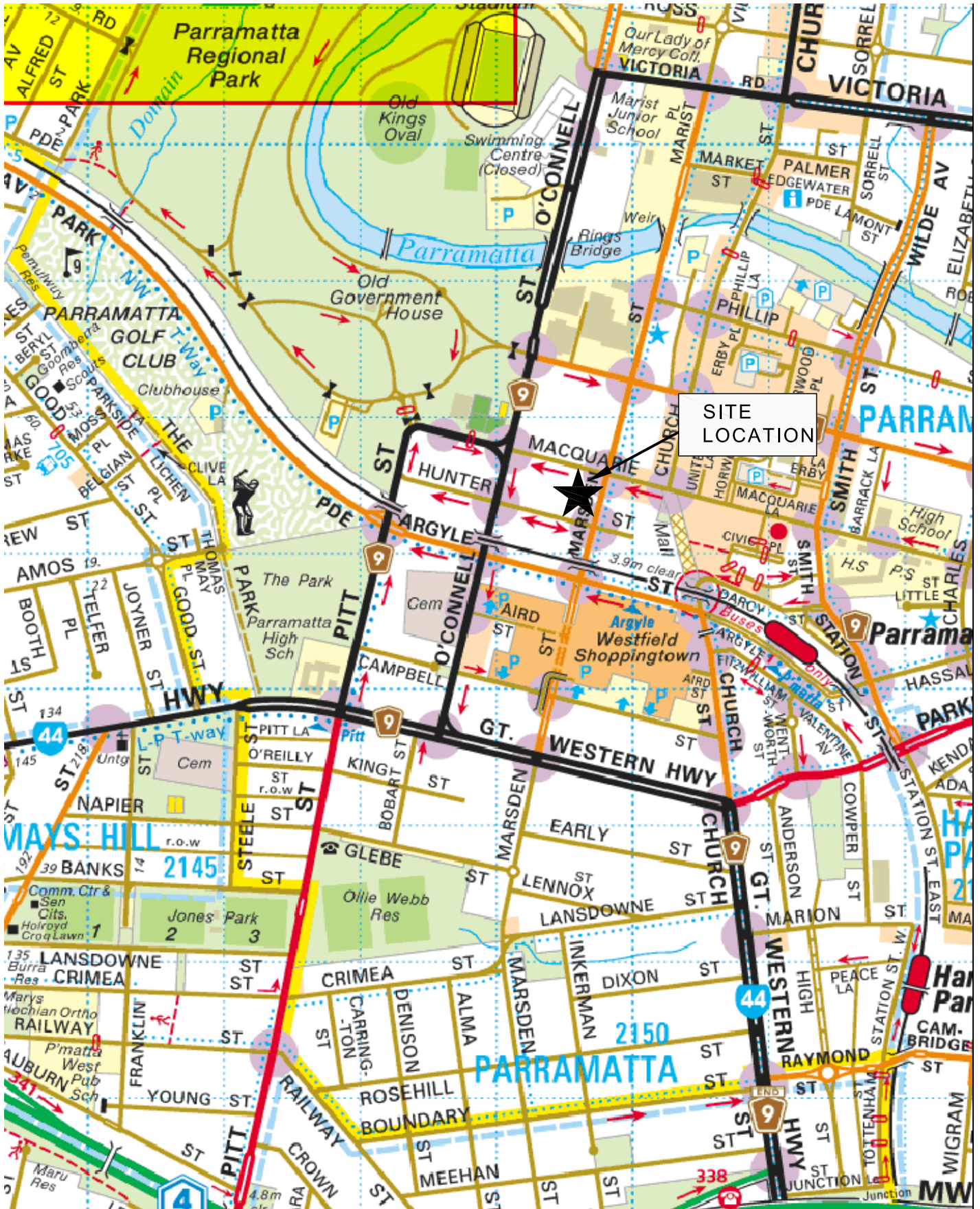
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- 2.58 Traffic generation and traffic effects of the proposed development are discussed in paragraphs 2.41 to 2.54.
- 2.59 The proposed modifications will generate a modest increase in traffic generation of some 30 additional vehicles per hour two-way during peak periods compared to the approved development.
- 2.60 This additional traffic will be distributed onto the surrounding road network, including Hunter Street, Marsden Street and O'Connell Street, and will result in increases of only some 5 to 15 vehicles per hour two-way on these roads. These are small increases in peak hour traffic flows, equivalent to one additional vehicle every 4 to 12 minutes two-way at peak times. Such a minor increase would not result in any material change in the operation of the surrounding road network.
- 2.61 The previous traffic assessments and intersection analysis, prepared in association with the previously approved developments, found that the surrounding road network and its intersections in the vicinity of the site would continue to operate at acceptable levels of service, with similar average delays per vehicle during peak periods. As a result, it is not considered necessary to undertake a further traffic assessment of the surrounding intersections using the LINSIG model.
- ***Preparation of a Travel Demand Management Plan that provides and analysis of public transport provision, walking and cycling connections within the vicinity of the proposed site, and measures that will optimise the opportunity provided by the project site's proximity to public transport, including the preparation of a Work Place Travel Plan."***
- 2.62 The travel demand management plan and the principle of the travel access guide are discussed in paragraphs 2.24 to 2.26. Reference to the transport policy
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documents to support the use of public transport and non-car transport modes are discussed in paragraphs 2.12 to 2.19. Public transport, pedestrians and cycling are discussed in paragraphs 2.20 to 2.23.

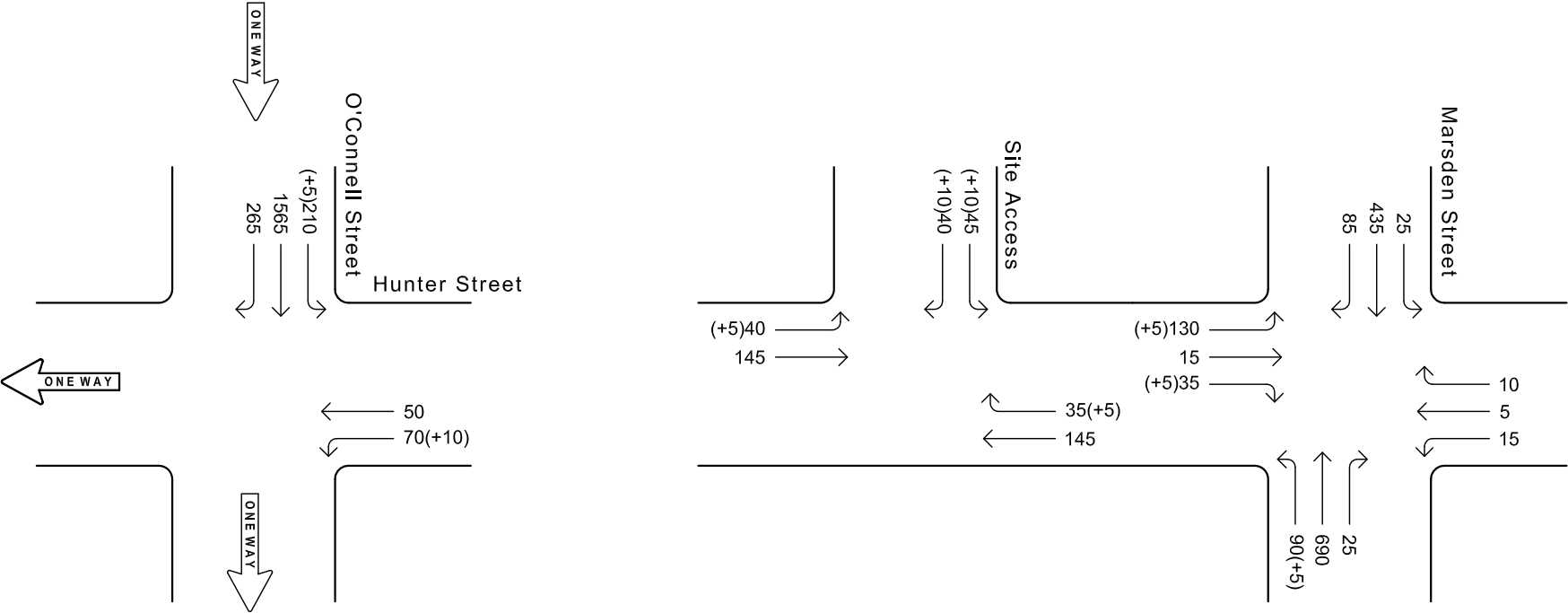
Summary

2.63 In summary, the main points relating to the transport implications of the proposed Section 75W modifications are as follows:

- i) the proposed development would increase residential and employment densities close to existing public transport services;
- ii) parking provision is considered appropriate;
- iii) access, internal layout and servicing have been provided in accordance with the Australian Standards;
- iv) the surrounding road network will be able to cater for the modest increase in traffic flows from the proposed development;
- v) the proposed development is consistent with government and planning principles;
- vi) the Director General's requirements are discussed in paragraphs 2.55 to 2.62.

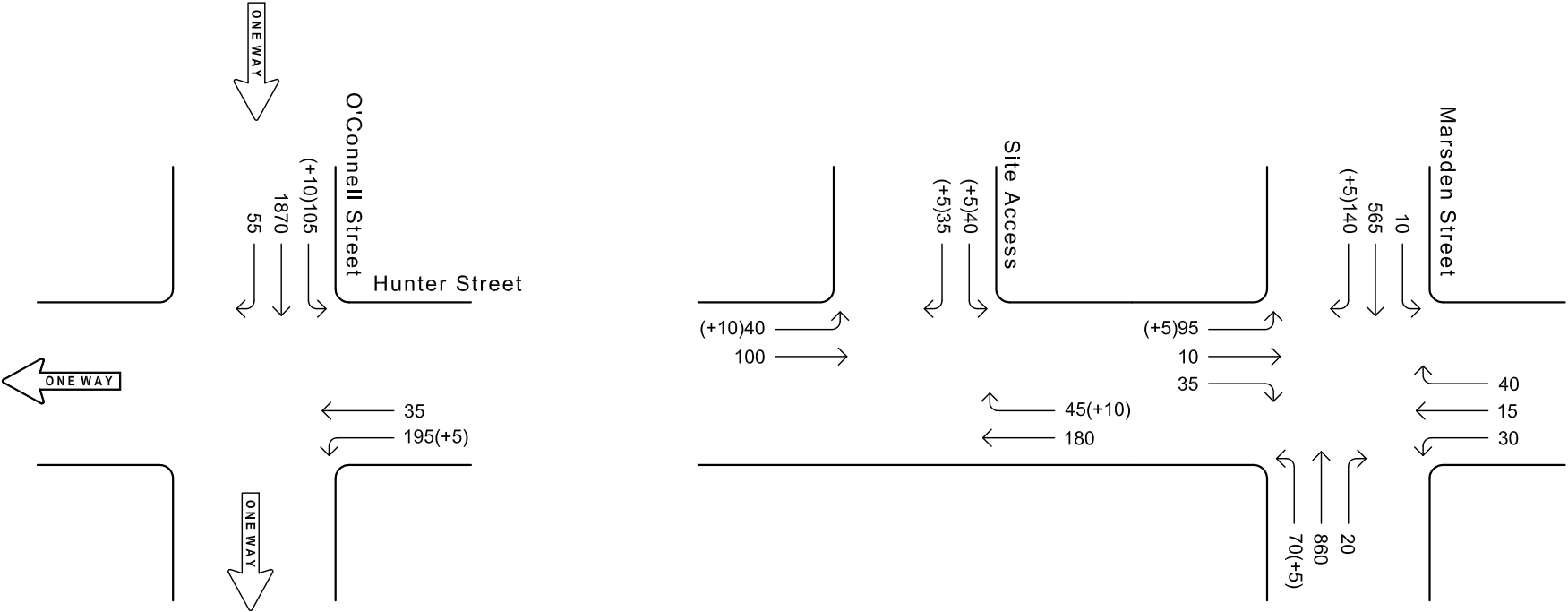


Location Plan



LEGEND
100 - Base Peak Hour Traffic Flows
(+10) - Additional Development Traffic

Base morning peak hour traffic flows
plus development traffic



LEGEND

100 - Base Peak Hour Traffic Flows
(+10) - Additional Development Traffic

Base afternoon peak hour traffic flows
plus development traffic