TraffixGroup

Traffic Engineers and Transport Planners

Traffic Engineering Assessment

DHHS Public Housing Renewal Program
at
Gronn Place, Brunswick West

Prepared for

Department of Health and Human Services

July, 2017
G22495R2C_TrancheA_BrunswickWest

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Document Control

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1 Introduction

Traffix Group has been engaged by Department of Health and Human Services (DHHS) to prepare a traffic engineering assessment for the redevelopment of the site at Gronn Place, Brunswick West for the purposes of a new residential development which will form part of the DHHS Public Housing Renewal Program.

The DHHS and Victorian State Government have identified a number of DHHS sites for rejuvenation and redevelopment of public and social housing. The redevelopment of these sites is intended to respond to existing undersupply issues, not only relating to the number, but also the types of dwellings available for public and social housing. The redevelopment of the sites will also include the provision of new private housing developments.

This site forms one of three sites known as Tranche A and includes sites at Northcote and Heidelberg West.

To facilitate the program, a Design Framework has been prepared by Hayball for this site, and a site specific Development Plan Overlay (DPO) and Parking Overlay (PO) have been prepared to inform the redevelopment.

This report provides a detailed traffic engineering assessment of the parking and traffic issues associated with the proposed development.

2 Existing Conditions

2.1 Location

The subject site is located to the north of Albion Street, south of Peacock Street and east of Kitchener Street in Brunswick West as shown in the locality plan depicting the site provided at Figure 1.

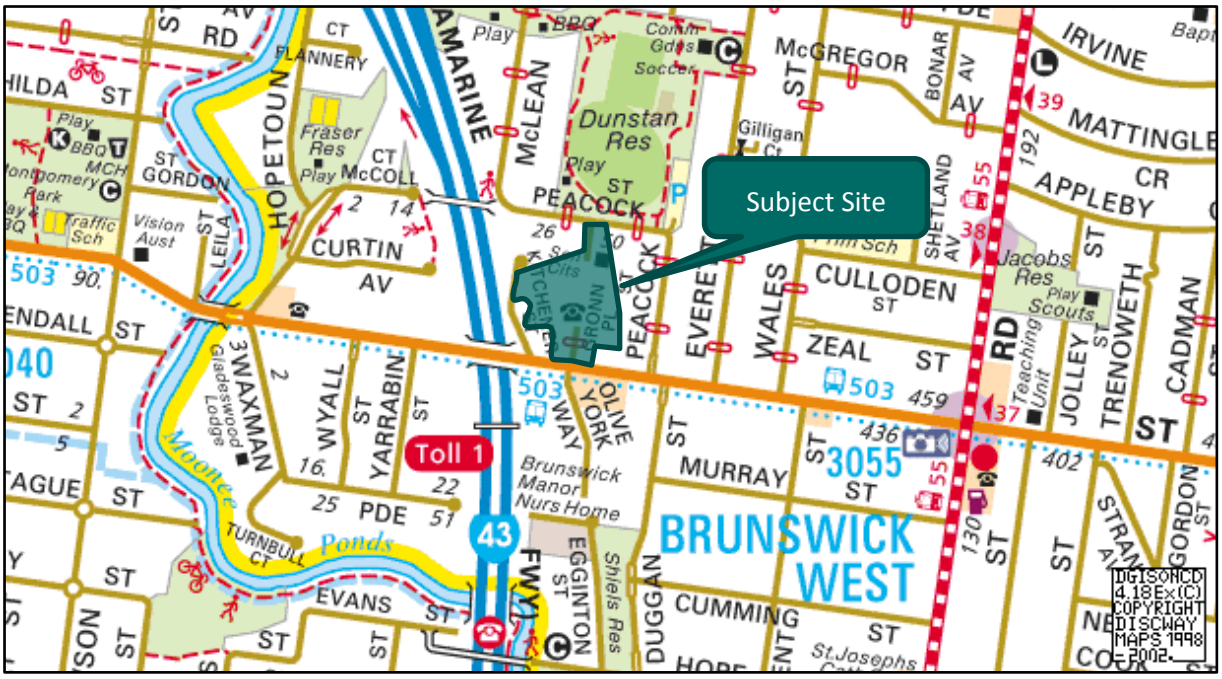

Figure 1: Locality Map

2.2 Subject Site and Use

The subject site includes the existing Gronn Place Department of Health and Human Services Housing Estate, which has abuttals to Peacock Street to the north and Albion Street to the south, and also includes eight conventional residential lots which front Kitchener Street. The estate currently provides 73 dwellings throughout six residential buildings.

The estate currently provides 41 on-site car parking spaces, which are provided in two areas, accessed from Peacock Street in the north and Albion Street in the south via Gronn Place. No through vehicle connection is currently provided.

An Aerial photograph of the site is provided at Figure 2.

Figure 2: Brunswick West Site Aerial

2.3 Planning Scheme Zones & Surrounding Uses

The subject site is zoned as General Residential – Schedule 1 under the Moreland Planning Scheme. Nearby land uses in the vicinity of the site are generally residential in nature with mixed use to the south and Public Park and Recreation to the north. Significant nearby land uses include:

- A mixed-use development on the southern side of Albion Street, which includes retail (IGA supermarket) and food and beverage (cafes/restaurants) offerings and high density residential.
- Dunstan Reserve and Richard Lynch Senior Citizen's Centre are located to the north of the site.
- CityLink is immediately west of the site, with the closest access points via Moreland Road to the north-west.
- Melville Road and Tram Route 55 are located approximately 500 metres to the east.
- Sydney Road Activity Centre is located further to the east (approximately 2 kilometres) providing further retail (supermarket/restricted retail) and food and drink (cafes/restaurants).

2.4 Road Network

Albion Street is a major road under the control of Council, running in an east-west direction from Pascoe Vale Road in the west to Merri Creek in the east. In the vicinity of the subject site, Albion Street has a varying carriageway width which provides predominantly for a single through traffic and kerbside parking in each direction. To the west of the existing site access (on the Citylink overpass) Albion Street provides a wide carriageway but is no stopping restricted on both sides of the bridge.

Peacock Street is a local access street under the control of Council. It runs from Albion Street in the south-east and then continues as McClean Street to the north-west, where it intersects with Moreland

Road. In the vicinity of the subject site, Peacock Street has a carriageway which typically provides for two-way traffic and kerbside parking on both sides.

Kitchener Street is a local Council cul-de-sac which runs north-south from Albion Street to the west of the site. It provides a two-way carriageway with kerbside parking typically on the eastern side, being parallel at the southern end and converting to 90 degree parking around No.16 Kitchener Street. It forms a T-intersection with Albion Street. Figure 3 to Figure 8 provide views of the road network in the vicinity.

Figure 3: Albion Street - View West

Figure 4: Albion Street - View East

Figure 5: Peacock Street - View West

Figure 6: Peacock Street - View East

Figure 7- Kitchener Street - View North

Figure 8: Kitchener Street - View South

3 Proposal

3.1 Design Framework Plan

The Design Framework prepared by Hayball contemplates the redevelopment of the site for the purposes of a mixed public and private residential development. Three new high density residential buildings with ground and podium parking and two smaller medium density buildings located at the Peacock Street and Albion Street abuttals are contemplated.

The existing social housing on the site will be demolished and new social/public housing will be provided at a minimum 10% increase of the existing supply. The remaining development on the site will be provided as private dwellings.

The framework retains accesses to Peacock Street and Albion Street (known as Gronn Place) at approximately their current locations. A new access to Kitchener Street is proposed by the redeveloped site.

Access to ground and podium parking is intended to be provided via a new connecting road through the site which will run from Peacock Street to Kitchener Street. The intention is to supply all resident parking on-site within ground and podium parking areas. Additional parking along the internal road is intended for residential visitors.

An excerpt of the Design Framework Plan is provided at Figure 9.

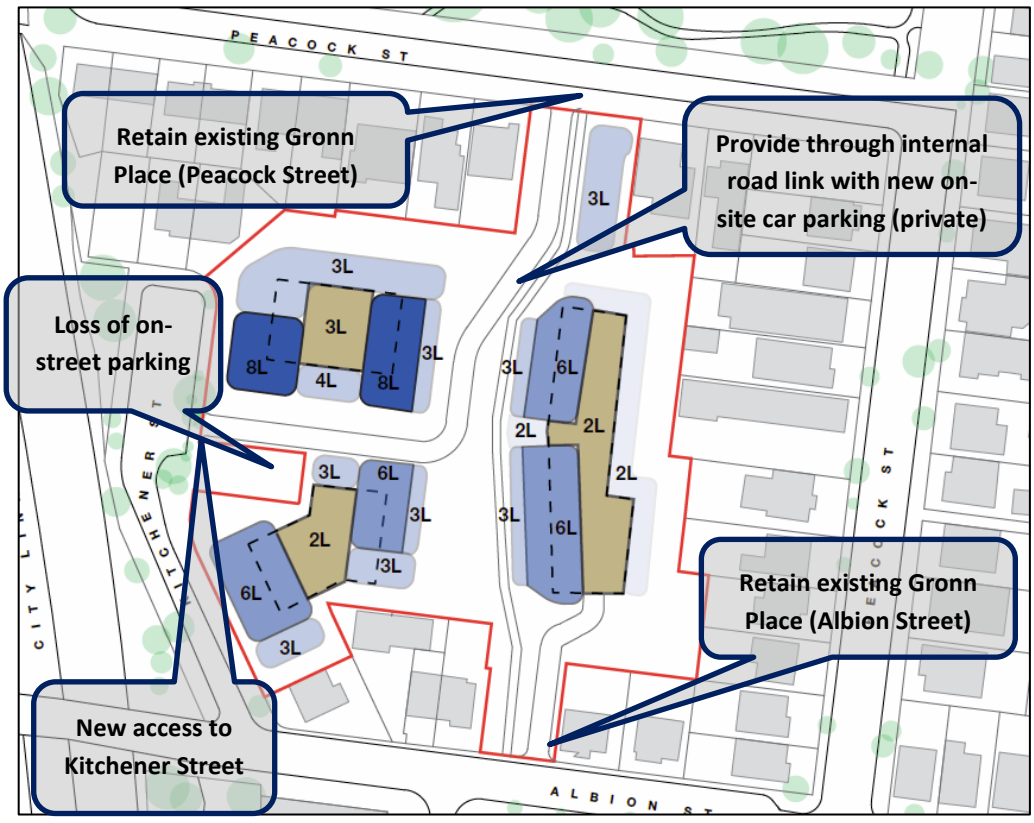

Figure 9: Design Framework Plan – Gronn Place, Brunswick West

3.2 Pedestrian and Bicycle Accessibility

The Design Framework contemplates pedestrian accessibility provided along the internal road and between the proposed buildings allowing pedestrian permeability between Peacock Street and Albion Street. Individual access points will also be provided along the external road abuttals as shown in Figure 10.

These pedestrian and vehicle links are likely to also be suitable for resident cyclists.

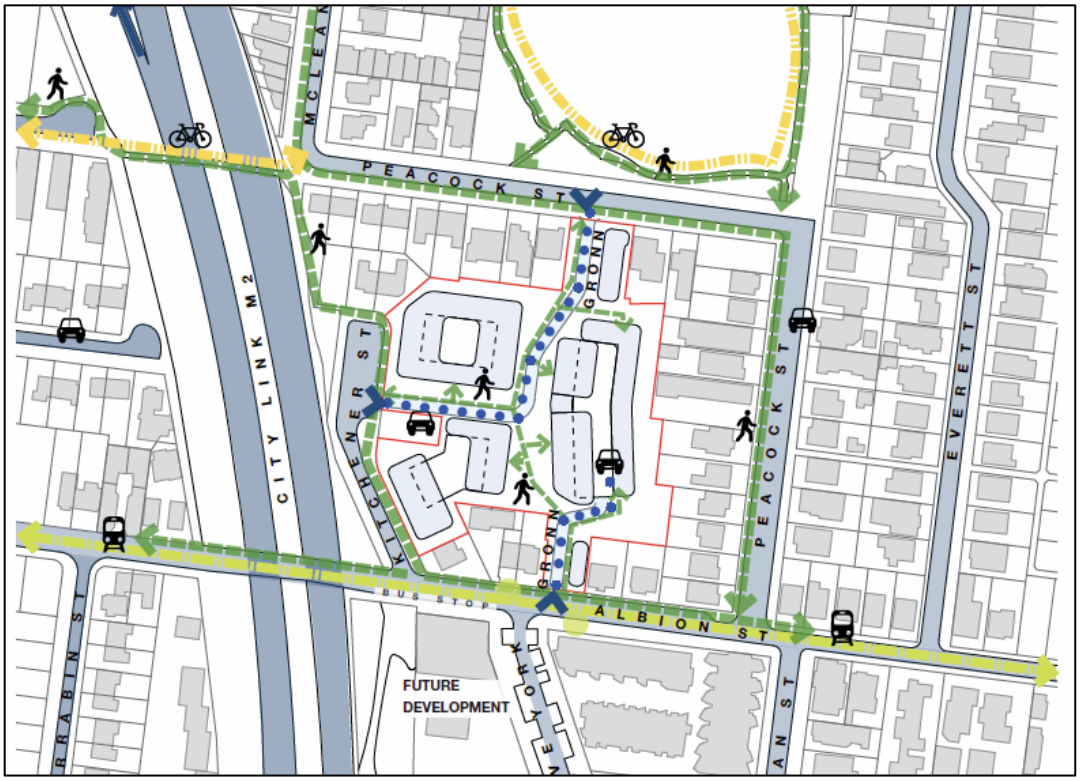

Figure 10: Design Framework Pedestrian & Bicycle Links

3.3 Contemplated Yield

The Design Framework estimates that the redevelopment of the site could accommodate approximately 268 dwellings (as a mix of public and private) as summarised in Table 1.

Table 1: Brunswick West Proposed Apartment Mix

No. of Bedrooms	1-Bedroom	2-Bedroom	3-Bedroom	Total
Public Dwellings	55	31	5	91
Private Dwellings	70	96	11	177
Total	**125**	**127**	**16**	**268**

4 Car Parking Considerations

4.1 Proposed Parking Overlay

It is proposed to introduce a site-specific parking overlay to inform the redevelopment of the site. The parking objective of the parking overlay is to identify appropriate car parking rates for residential uses within the Brunswick West Estate.

The proposed car parking rates are detailed in Table 2.

Table 2: Proposed Parking Overlay Rates

Use	Rate
Dwelling (Social Housing)	0.6 spaces to each dwelling for residents
Dwelling (Private Housing)	0.8 spaces to each 1-bedroom dwelling for residents
	1 space to each 2-bedroom dwelling for residents
	1.3 spaces to each 3-bedroom dwelling for residents
Dwelling (All)	0.1 spaces to each dwelling for visitors

The proposed parking overlay specifies a permit is required to reduce the minimum number of car parking spaces specified in the schedule.

4.2 Adequacy of Proposed Car Parking Rates

An assessment of the adequacy of the proposed car parking rates follows.

4.2.1 Sustainable Modes of Transport

TravelSmart Map

Figure 11 provides an excerpt of the TravelSmart map for the city of Moreland in the vicinity of the site. It illustrates the numerous alternative transport modes accessible to the site, including public transport modes and bicycle and walking trails.

Pedestrian Accessibility

The site is well located to promote walking to everyday services.

The subject site scores 71 out of a possible 100 using the 'Walk Score', which is a measure of how easy it is to access everyday services by walking. This score classifies the site as 'very walkable' and that most errands can be accomplished on foot'.

Of note, the existing IGA convenience supermarket located and food and drink premises offer convenient access to these everyday services, and further services are available at Melville Road further to the east of the site.

Bicycle Accessibility

The City of Moreland is well serviced by the Principal Bicycle Network (PBN), with on-road and off-road bicycle paths directly linking the City of Moreland with surrounding municipalities.

The subject site is also well serviced by informal bicycle routes on many roads in the immediate vicinity of the subject site, including Albion Street, Duggan Street, and McLean Street as shown in both Figure 11 and Figure 12.

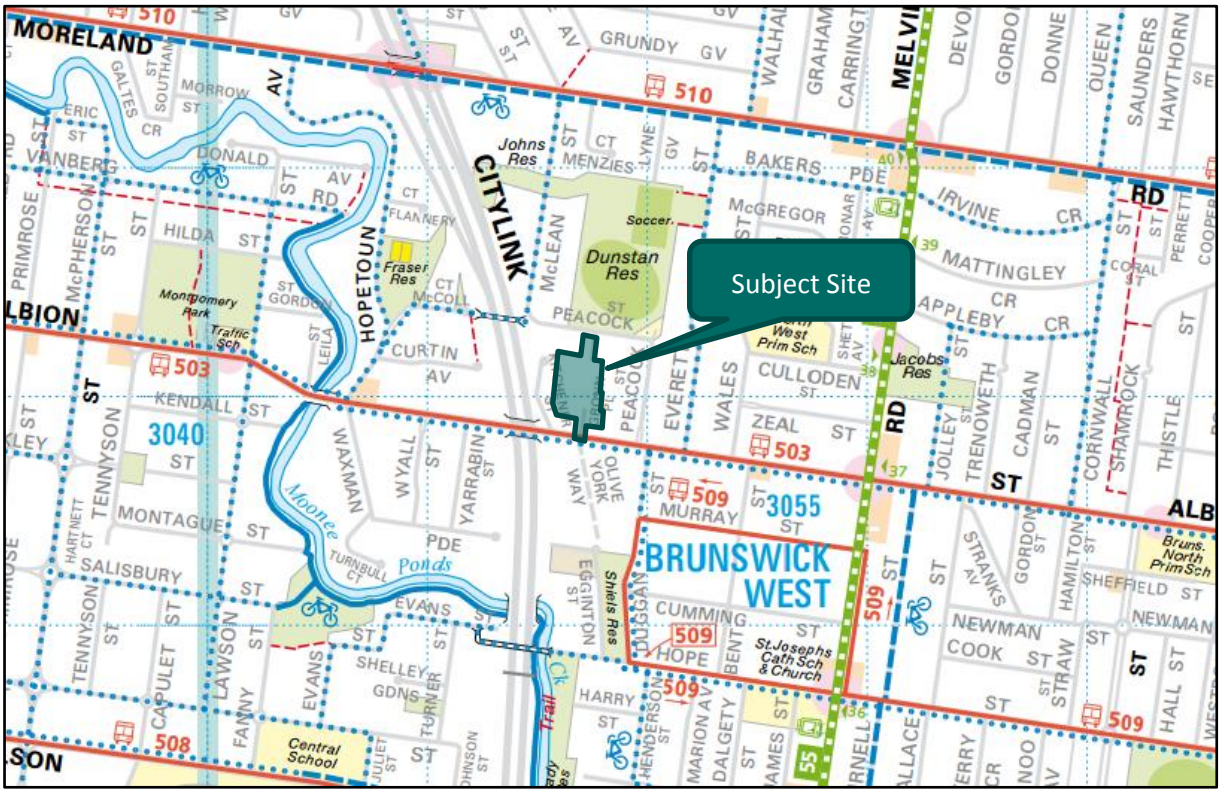

Figure 11: Moreland TravelSmart Map

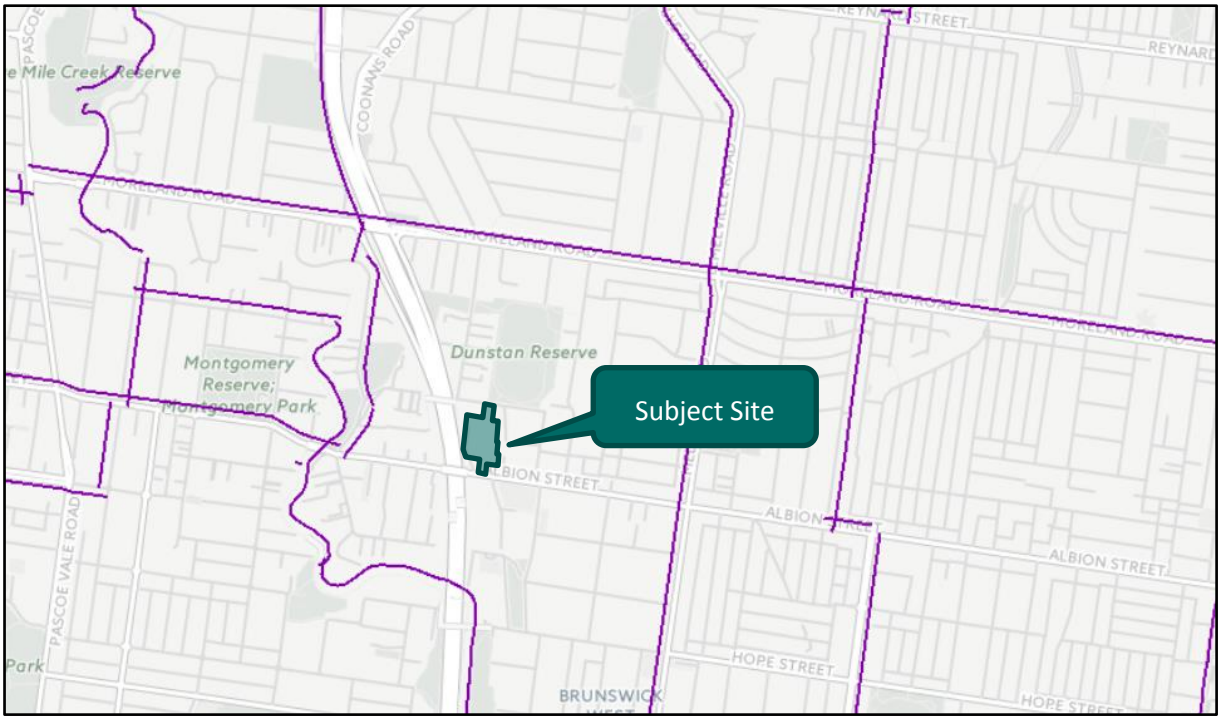

Figure 12: VicRoads Principle Bicycle Network Map

Public Transport

The site is also serviced by public transport with a bus stop on the site's southern abuttal on Albion Road (Route 503) and tram route 58 accessible approximately 500 metres to the east on Melville Road. Table 3 summarises the available services, whilst Figure 13 illustrates the nearby routes.

Table 3: Public Transport Services in the Vicinity of the Subject Site

Service	Route	Distance to Node
Metropolitan Tram Services		
Route 58	West Coburg - Toorak	~500m east on Melville Rd
Metropolitan Bus Services		
Route 503	Essendon – East Brunswick	Albion St Frontage
Route 510	Essendon – Ivanhoe Via Brunswick, Northcote & Thornbury	~650m north on Moreland Rd
Route 509	Brunswick West – Barkly Square SC via Hope St & Sydney Road	~400m south on Duggan St

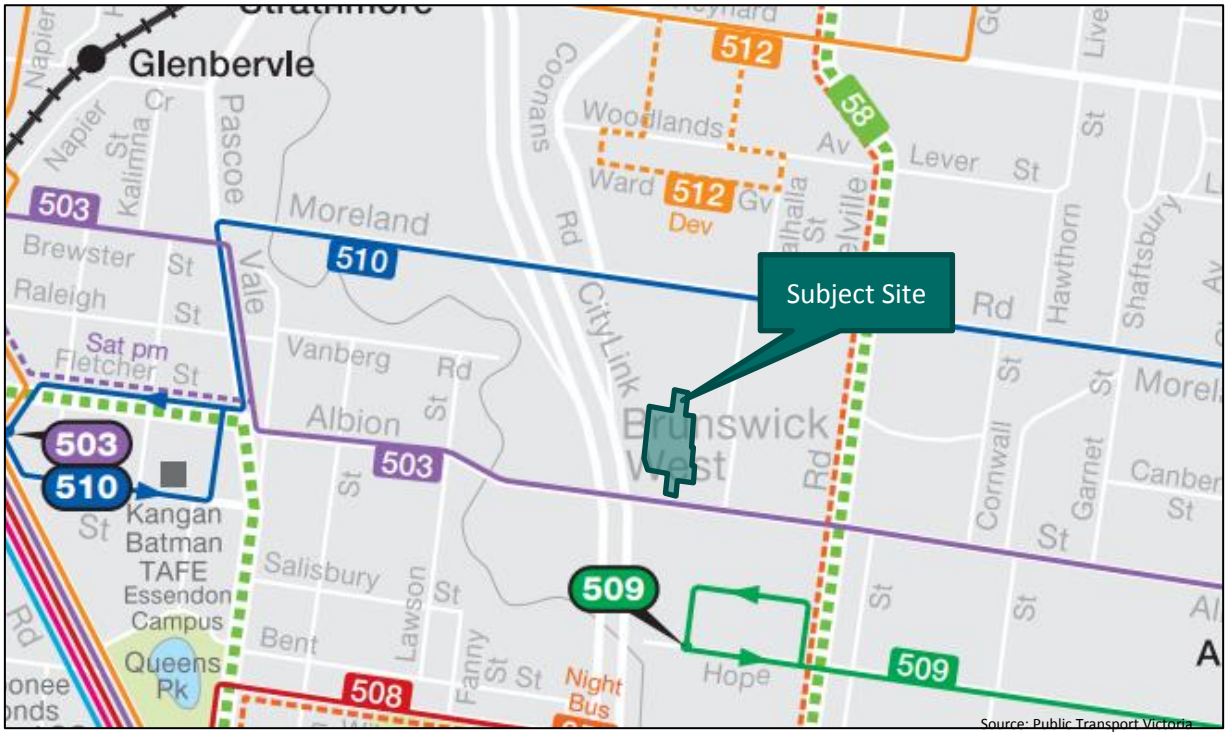

Figure 13: PTV Public Transport Map – Moreland

Car Share Facilities

Car share schemes have been operating within the City of Moreland for some years and a number of inner metropolitan Councils actively supporting their use by allocating on-street spaces throughout their municipalities for the purpose of accommodating 'car share' pods.

The availability of a car share scheme provides a suitable alternative to the private motor vehicle as it allows residents to make smarter travel choices and actively encourages them to seek alternate transport modes for the majority of trips.

Car share schemes provide access to a motor vehicle for the limited number of trips a car may be required. This opportunity to access a car is both convenient and cost-effective as motor vehicles can be hired on an hourly or daily basis.

At present, there are no existing car share pods located in the immediate proximity of the site, however it is expected that as demands in the area increase (not just associated with the subject site), a commercial provider may choose to negotiate with City of Moreland for the provision of a pod in the area.

4.2.2 Anticipated Parking Demand

Public Housing Residents

ABS Car Ownership Data from 2011 was sourced for public housing and private housing in order to achieve an understanding of suitable parking rates for future residents. Public housing car ownership data was separated from the remainder of car ownership data to establish the average rates.

We note that the existing dwellings on the site are typically larger dwellings, and the intention is that the redevelopment will provide for a change in the mix of apartments, being predominantly one and two bedroom apartments.

The following data relates to 'apartments, units or flats' in the suburb of Brunswick West and also for the wider Moreland municipality. A summary of the data is provided in Table 4 below.

Table 4: 2011 ABS Car Ownership Data – Public Housing Brunswick West & Moreland

Description	Type	Brunswick West		Moreland LGA	
		Av. rate	% ownership	Av. rate	% ownership
Public	1-bed	0.4	68 % w no veh	0.3	72 % w no veh
	2-bed	0.3*	68% w no veh	0.6	48 % w no veh
	3-bed	0.8	39% w 1 veh	0.8	39 % w 1 veh

**limited sample size*

These statistics indicate that the parking requirements for dwellings set out under the Planning Scheme are greater than the ABS car ownership statistics in this locality.

Public housing demands for 1-bedroom, 2-bedroom and 3-bedroom dwellings are typically less than one vehicle per dwelling, and car parking is not required by a proportion of residents.

Private Housing Residents

Private housing car ownership data was derived by subtracting the public housing data from the overall ABS Car Ownership Data from 2011.

The following data relates to 'apartments, units or flats' in the suburb of Brunswick West and also for the wider Moreland municipality. A summary of the data is provided in Table 5 below.

Table 5: 2011 ABS Car Ownership Data – Brunswick West & Moreland

Description	Type	Brunswick West		Moreland LGA	
		Av. rate	% ownership	Av. rate	% ownership
Private	1-bed	0.8	34 % w no veh	0.7	37 % w no veh
	2-bed	1.0	24 % w no veh	1.0	22 % w no veh
	3-bed	1.3	40 % w 1 veh	1.4	48 % w 1 veh

This data demonstrates that for private housing, whilst car ownership is typically higher than for public and social housing, the rates for one and three bedroom apartments are less than the rates listed in Clause 52.06 of the Planning Scheme.

Residential Visitors

To estimate the projected residential visitor car parking demand, car parking surveys undertaken by Cardno at apartment developments located at 127 and 147 Beach Street in Beacon Cove have been sourced.

The surveys were conducted over a 42 hour period from 6:00am on Friday 19 November to midnight on Saturday 20 November, 2010. The surveys recorded a peak parking demand for 0.1 spaces per apartment of an evening and weekend, with a peak business hours demand of 0.06 spaces per apartment recorded.

4.2.3 Local Policy

Council Planning Scheme Policies

Moreland City Council supports sustainable transport and design in new and existing developments through a number of policies and initiatives. Excerpts from some of the relevant Clauses within the Moreland Planning Scheme are provided as follows:

Clause 18.02-1 Sustainable personal transport

Encourage the use of walking and cycling by creating environments that are safe and attractive. Ensure development provides opportunities to create more sustainable transport options such as walking, cycling and public transport

Clause 21.02-3 MSS Strategic Directions

Strategic Direction 5: Environmentally Sustainable Development

Council is committed to best practice environmentally sustainable development (ESD). Development should integrate the principles of sustainable design early in the design process, at the planning stage, for the following benefits:

- *Easier and cheaper compliance with building requirements through passive design*
- *Reduced living costs associated with housing, such as energy costs*
- *Improved amenity and liveability*
- *Reduced greenhouse gas emissions*
- *Greater resilience to the impacts of climate change (such as heat waves).*

The MSS includes specific ESD objectives and strategies for energy efficiency, waste management and integrated water management. Broader aspects of environmentally sustainable development are integrated across the MSS to deliver the overall vision for sustainable neighbourhoods (such as urban consolidation in activity centres and the integration of transport and land use planning).

Strategic Direction 7: Transport Network

The Moreland Integrated Transport Strategy 2010 outlines a transport system that supports sustainable communities. The key principles of this transport system are:

- *Walking and cycling are the preferred modes of transport*
- *Good public transport services in all areas*
- *Streets are community spaces*
- *Local access to services, education and employment.*

Council encourages integrated transport and land use planning that will support residents and visitors to reduce their travel by ensuring access to local services, education and employment.

Council will continue to advocate for improved public transport services and grade separation at Glenroy Road, Glenroy and Bell Street, Coburg.

Freight and commercial vehicle access to activity centres and Core and Secondary Industrial and Employment Precincts will be protected in recognition of the needs of businesses.

The Strategic Framework of the MSS is predicated on developing sustainable neighbourhoods by integrating transport and land use planning decision making which maximise people's opportunities to walk, cycle and use public transport.

Clause 22.03 Car and Bike Parking and Vehicle Access

22.03-2 Policy Objectives

To ensure provision of car, bike and vehicle access and parking:

- *Contributes to an improved built environment.*
- *Is suitable to the likely demand and nature of the locality, and*
- *Encourages people to walk, cycle and use public transport.*

22.03-3 Policy

It is policy to:

- *Support reduced car parking rates in developments within and in close proximity to activity centres, with excellent access to a range of public transport options and with increased provision of bicycle parking above the rates specified in clause 52.34.*

Integrated Transport Strategy

Moreland City Council's Integrated Transport Strategy 2010-19 (MITS) establishes Council's strategic direction for transport planning until 2019. Four key objectives have been developed. They are:

- *To achieve a mode shift towards more environmentally sustainable travel behaviours*
- *To support social equity and ensure viable transport options for all sectors of the community*
- *To improve safety of all modes of transport to support an active and healthy community*
- *To support economic activity by providing for multi modal transport links for all forms of commerce in the city*

Key action areas of the strategy include:

Support mode shift through design, and travel demand measures

1) *Reallocate road space to prioritise pedestrians and cyclists*
2) *Advocate for priority for road-based public transport*
3) *Advocate for fairness and consistency in the application of public transport boundaries*
4) *Develop and implement travel behaviour change initiatives to encourage modal shift*

Zero Carbon Evolution (June 2014)

The Zero Carbon Evolution Strategy that sets out City of Moreland's plan to reduce carbon emissions across the Moreland community by 22% by 2020. The policy details that 34% of the Moreland Community emissions are currently associated with transport.

The Zero Carbon Evolution Strategy is based on 5 key strategies:

- *Generating local renewable energy*
- *Using energy efficiently*
- *Low emissions transport*
- *Minimising the urban heat island effect, and*
- *Activating the community to reduce emissions*

The relevant transport strategy is:

Strategy 3: Low emissions transport

2020 goals

- *25% reduction in car trips for personal use*

- *25% reduction in car trips for work*
- *500 car share bays, 5000 cars retired, 10% of new car registrations as electric vehicles*

The site is well located to encourage the use of sustainable transport modes and nearby services and reduced parking provisions would contribute to reducing future resident's reliance on motor vehicles.

4.2.4 Existing Car Parking Deficiency

Observations of the site indicate a reliance on on-street parking along Peacock Street, Kitchener Street and Albion Street.

Having regard to the rates at Clause 52.06, and considering the existing on-site provisions and dwelling numbers, the existing site is expected to have an associated statutory parking deficiency and long term reliance on on-street parking by residents.

The redevelopment of the site intends to provide all parking for residents on-site and therefore there may be a translation of these existing demands from the street onto the site, making parking on-street available.

This parking would be subject to Council management, but would be suitable for use by future residential visitors of the site and surrounding catchment.

4.3 Proposed Parking Provisions

Based on the preceding, and having particular regard to the proximity of the site to alternative transport modes, historic reliance on on-street parking, and local council policy, it is considered that the provision of parking at reduced rates from those specified within Clause 52.06 would be appropriate for this site.

The rates outlined within the proposed Schedule to the Parking Overlay and adopted within the Design Framework are considered appropriate for the site as they are generally consistent with the ABS Data for the area and dwelling types.

Application of the above rates would suggest that the Design Framework would have an associated parking requirement for 55 spaces for public housing residents, 166 spaces for private housing residents and 27 spaces for residential visitors as noted in Table 6.

Table 6: Proposed Parking Rates and Demands

Description	Type	No.	Suggested Parking Rate	Suggested Parking Provision
Public	1-bedroom	55 no.	0.6 spaces per apartment	33 spaces
	2- bedroom	31 no.	0.6 spaces per apartment	19 spaces
	3- bedroom	5 no.	0.6 spaces per apartment	3 spaces
	Total	**91 no.**		**55 spaces**
Private	1- bedroom	70 no.	0.8 spaces per apartment	56 spaces
	2- bedroom	96 no.	1 spaces per apartment	96 spaces
	3- bedroom	11 no.	1.3 spaces per apartment	14 spaces
	Total	**177 no.**		**166 spaces**
Visitors		268 no.	0.1 spaces per apartment	27 spaces

It is noted that there will be a small reduction in the existing indented parking along Kitchener Street, however the consolidation of the existing crossovers to the residential lots fronting Kitchener Street is likely to partially offset the loss of this parking.

Whilst the intention is to provide visitor parking on-site, it is noted that there has been a historical reliance on on-street parking by the existing social housing estate residents. The relocation of these demands onto the site would make those on-street parking spaces available for visitors of the redevelopment.

5 Bicycle Considerations

Clause 52.34 of the Moreland Planning Scheme specifies the bicycle parking requirement for new developments. The relevant requirements are summarised in Table 7.

Table 7: Statutory Bicycle Parking Requirements

Use	Statutory Requirement
Dwelling	1 space per 5 dwellings for residents 1 space per 10 dwellings for visitors

As a minimum, parking should be provided at the above rates to satisfy the requirements of Clause 52.34 of the Planning Scheme.

Parking for residents should be provided within secure areas and at dimensions that accord with Clause 52.34 and/or the requirements of AS2890.3:2015.

Consideration could be given to providing additional bicycle parking for future residents of the development to further encourage the use of alternative transport modes and reduce the reliance on cars as daily modes of transport.

Visitor parking should be provided in an appropriately accessible location and proximate to the site entries.

6 Traffic Considerations

6.1 Traffic Surveys

To understand the existing traffic conditions of the surrounding road network, Traffix Group commissioned traffic video surveys for the intersections of Gronn Place and Albion Street, Peacock Street and Albion Street, Kitchener Street and Albion Street and Peacock Street and Gronn Place on Thursday 4th May 2017 between 7am and 7pm.

Due to a technical issue, additional manual traffic counts were undertaken at the intersection of Kitchener Street and Albion Street during the morning and afternoon peak on Wednesday 11th May 2017 to supplement the data. The video surveys identified the morning peak hour occurred between 8am and 9am and the afternoon peak occurred between 4:45pm and 5:45pm. The through volumes on Albion Street on the second survey day were noted to be higher, and therefore have been adopted at all adjacent intersections to provide for a conservative assessment. A summary of the vehicle movements in the surrounding road network is provided at Figure 14.

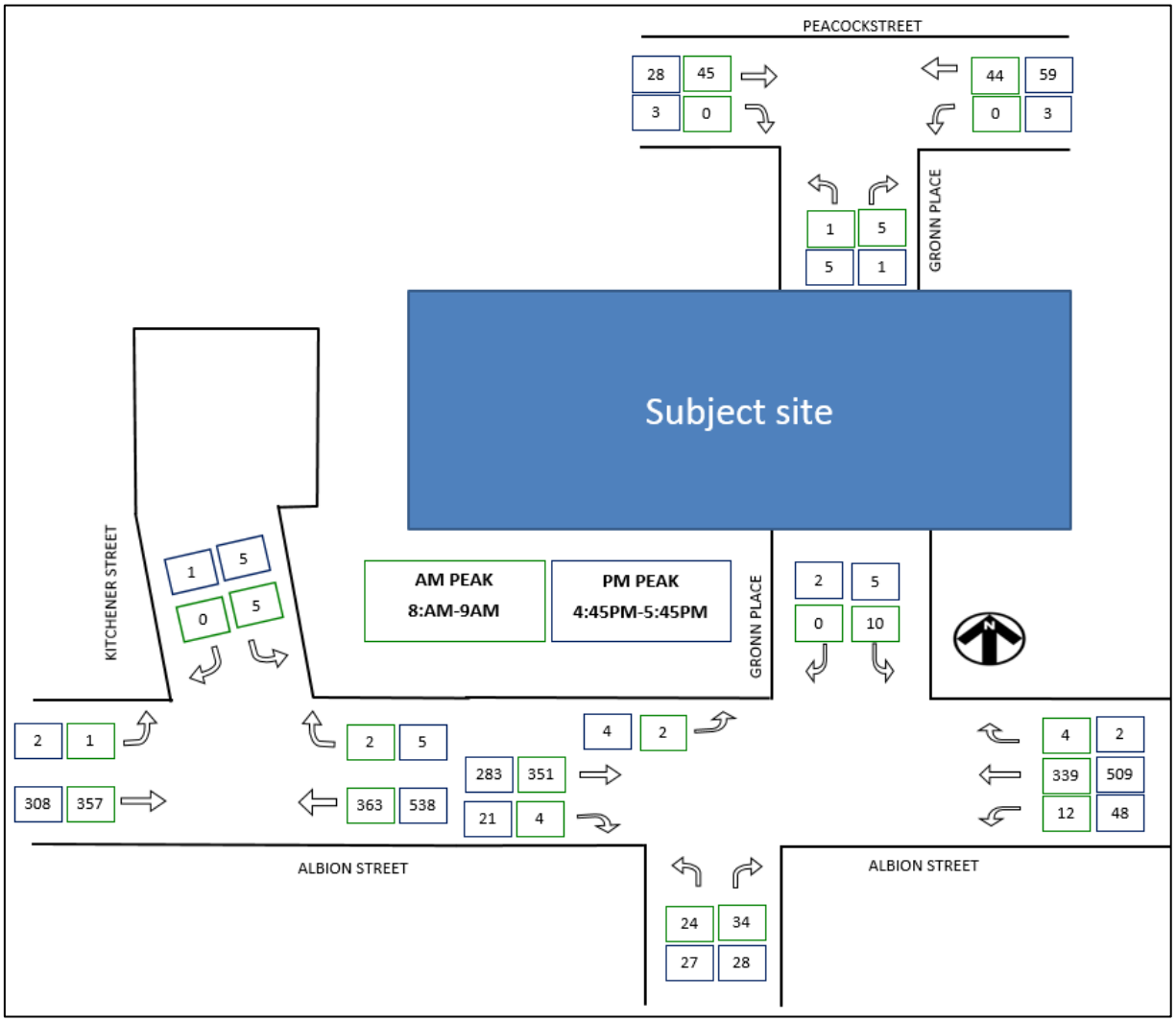

Figure 14: Existing Peak Hour Traffic Volumes

Our observations of traffic conditions showed that whilst the two-way volume along Albion Street in the peak hours is in the order of 700-850 vehicles per hour, gaps are afforded to motorists exiting the site, Kitchener Street and the adjacent side streets and exiting vehicles were observed to enter Albion Street with relative ease.

Peacock Street was recorded to have a peak hour two-way volume of around 87-89 vehicle movements. This is projected to relate to a daily two-way volume of around 900 vehicle movements.

6.2 Traffic Generation

6.2.1 Public Housing

The traffic surveys undertaken above include traffic movements associated with the existing public housing which takes access to Peacock Street and Albion Street and provides for 41 on-site car parking spaces.

A summary of the peak traffic generation at these intersections is summarised in Table 8.

Table 8: Existing Public Housing Traffic Generation to Phillips Court/Hales Court

Peak	Albion Street		Peacock Street		Total	
	In	Out	In	Out	In	Out
AM Peak	6	10	0	6	6	16
PM Peak	6	7	6	6	12	13

The surveys indicate that the existing public housing generates some 22 vehicle movements two-way in the AM peak hour and 25 vehicle movements two-way in the PM peak hour via these accesses.

Based on the existing provision of 41 spaces accessed via this location, this equates to a traffic generation rate of 0.54 vehicle movements per space during the AM peak hour and 0.61 vehicle movements per space during the PM peak hour.

Application of these rates to the expected public housing parking provisions (55 spaces) will result in a traffic generation of 30 vehicle movements during the AM peak hour and 34 vehicle movements during the PM peak hour.

It is noted that the majority of this traffic generation will already be on the road network and associated with the existing estate. In this regard, it is expected that the increase in total public housing dwelling numbers is likely to generate only an additional 3-4 vehicle movements during the peak hours.

6.2.2 Private Housing

The proposed private housing will have higher parking provisions and car ownership than the public housing component of the development.

In consideration of the location of the site and size of the dwellings and traffic generation rates adopted for other developments in the area, it is expected that the private residential component will generate traffic at a rate of 4 vehicle movements per dwelling per day, inclusive of 0.4 movements per dwelling in peak hours.

Application of this rate to the proposed 177 dwellings equates to a projected daily traffic generation of 708 movements, inclusive of 71 movements in peak hours.

We note that the reduced parking provisions for private residents is likely to contribute to even further reduced traffic generation for the proposal. However for the purposes of a robust and conservative analysis (and potential for higher private parking provisions on the site), the above rate has been applied to all dwellings regardless of parking allocation.

Assuming a typical AM peak traffic split of 20% arrivals and 80% departures and PM peak traffic split of 60% arrivals and 40% departures, it is projected the development will generate:

- AM PEAK: 14 arrivals and 57 departures
- PM PEAK: 43 arrivals and 28 departures

6.3 Traffic Impact

Based on the preceding, we expect that the proposal could generate some 74-75 additional movements during the network peak hours.

This level of traffic generation is relatively low in traffic engineering terms, equivalent to an average of approximately 1.2 vehicle movements being generated to the network every minute during the peak periods.

Allowing for the traffic generated by the existing housing estate, the redevelopment could be expected to generate up to 105 vehicle movements in the peak hours.

Having regard to the Design Framework and the distribution of the residential buildings and yield on the site, it is assumed that the traffic generated to/from the site will be split generally as 40% to the Albion Street access and the remaining 60% split evenly to Peacock Street and Kitchener Street.

The Albion Street access would therefore be expected to cater for a total of some 42 vehicle movements in the peak hours, whilst in the order of 32 vehicle movements would be generated to either of the Peacock Street and Kitchener Street accesses.

At the Albion Street access, this level of traffic represents an average generation of approximately one vehicle movements every 1.5 minutes. Considering that this access already caters for some 16-17 vehicle movements in the peak hours, the increase at this approximate location would only relate to 26 vehicle movements, or less than one additional vehicle movement every two minutes.

Observations of the operation of the existing access suggests that there is capacity in Albion Street to cater for this level of additional traffic generated to/from this access point.

Similarly, the level of traffic generated to the Kitchener Street intersection is considered to be low, and equal to a traffic generation of only one vehicle movement generated every two minutes in the peak hours. This is a low level of traffic and will be split between arrivals and departures and will be able to be accommodated by the surrounding road network.

Based on the preceding, there will be no significant impact at each of the proposed access points, or the intersection of Albion Street with Kitchener Street or Gronn Place (site access) as a result of the proposal

7 Additional Considerations

With regard to access points, internal design and pedestrian and bicycle connections through and around the site, the Design Framework includes consideration of these items.

The internal roadway contemplates an allowance for two-way traffic throughout the site with some indented parking for visitors.

If the internal road is to be public, and land vested as road to Council, it should be provided with a road reserve in accordance with Council requirements, and allow for appropriate footpaths, carriageway, verge widths and servicing allowances.

These provisions should accommodate service vehicle access and appropriate two-way circulation within the private accessways.

Whilst it is not expected to be a significant issue, it is suggested that internal traffic management devices could be employed along the internal road to prevent potential rat running and control internal road speeds.

Waste collection and emergency vehicle access should also be considered when incorporating at-grade vehicle accessways into the design of the site.

Reference is made to the MFB Planning Guidelines for Emergency Vehicle Access and Minimum Water Supplies within the Metropolitan Fire District which has minimum requirements to allow an emergency vehicle to turnaround on site and exit in a forward direction.

8 Conclusions

Having undertaken a detailed traffic engineering assessment of the DHHS Public Housing Renewal Program at Gronn Place, Brunswick West, we are of the opinion that:

a) The car parking requirements of Clause 52.06 are currently applicable to the site, however the proposal to include a Schedule to the Parking Overlay with reduced parking rates for this site is considered appropriate based on the following grounds:
   i) The site has access to everyday services, including retail, food and beverage and has access to public transport (buses) and other alternative transport modes (walking and cycling routes),
   ii) There is a demand for smaller dwellings without resident parking in this locality,
   iii) Local Policy for City of Moreland supports reduced parking provisions to encourage the use of sustainable transport modes and reduction in traffic congestion caused by private motor vehicle ownership
   iv) There has been a historical reliance on on-street parking by residents of the existing estate.

b) Appropriate rates for parking are set for public housing and private housing and suggest the Design Framework and expected yield would require the provision of in the order of 55 spaces for public housing residents, 166 spaces for private housing residents and 27 spaces for residential visitors.

c) Bicycle parking should be provided in accordance the requirements set out at Clause 52.34 of the Planning Scheme,

d) The level of traffic generated by the proposal is expected to be able to be accommodated by the existing road network and surrounding intersections, particularly when considering that:
   i) The public housing component is expected to generate in the order of only 3-4 additional vehicle movements in the peak hours;
   ii) The private housing component is expected to generate up to 71 additional vehicle movements in the peak hours,
   iii) There will be three access points provided to the existing road network, and once split, the proposed will generate an average of approximately one additional vehicle movement every two minutes to any one access point,

e) Once split to the multiple turning directions, this will have no discernible impact on the operation of the access intersections, and

f) There are no traffic engineering reasons why the redevelopment of the Brunswick West Estate, generally in accordance with the Design Framework Plan should not be permitted.

Traffic Engineering Assessment

Gronn Place, Brunswick West: DHHS Public Housing Renewal Program