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## TRAFFIC IMPACT ASSESSMENT

**550 Fitzgerald Street, NORTH PERTH WA 6006**

*Proposed Multi Unit Residential Development*

Prepared for:	Proud Property Group
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City of Vincent Development Application #:	TBA

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## 1. Introduction

Aus Wide Traffic Engineers were engaged by Proud Property Group to prepare a traffic impact assessment for the proposed multi unit residential development at 550 Fitzgerald Street in North Perth.

The subject proposal involves demolition of the existing building and construction of a three storey building which comprises of 12 residential units and associated car parking. A total of 12 resident parking spaces and 3 visitor parking spaces have been proposed at ground level which will be accessed off Fitzgerald Street via a common access way.

This report will assess the traffic and parking impacts of this proposed development on the surrounding environment and the compliance of the proposed car parking provision and design against City of Vincent Council DCP and the Australian Standards (AS 2890.1-2004) respectively. In particular, this report will also address the safety of vehicles exiting the subject site onto Fitzgerald Street in consideration of sight distance available to the drivers.

In the course of preparing this assessment, the subject site and its environment have been inspected, plans of the development examined, and all relevant traffic data collected and analysed.

## 2. Background and Existing Conditions

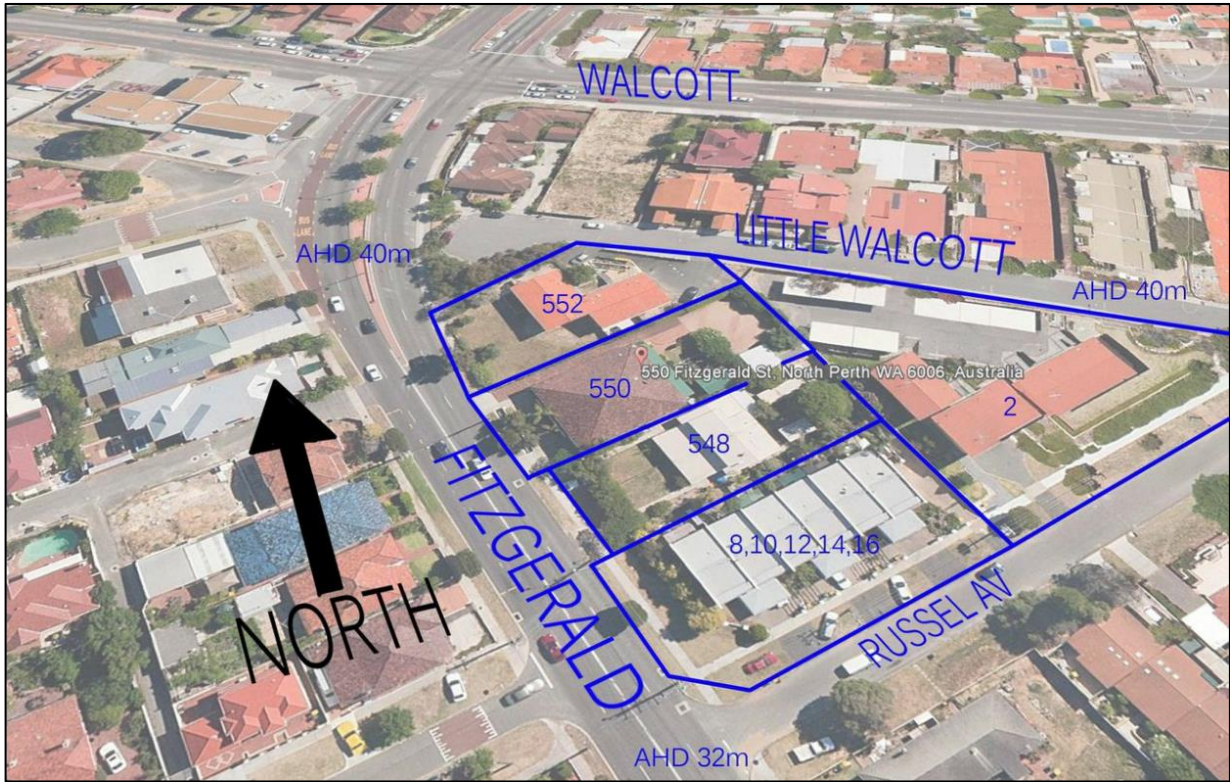
The subject site is located approximately 120m south of the Walcott Street/Fitzgerald Street intersection at a prominent location along Fitzgerald Street (a district distributor road) within the City of Vincent. Fitzgerald Street at the frontage of the subject site includes two lanes of traffic in each direction with a posted speed limit of 60 km/hr.

It is understood that the subject site currently includes a two storey residential dwelling. Access to the subject site is currently provided directly off Fitzgerald Street.

**Figure 1** provides an overview of the area and its surrounding land uses in aerial map perspective.

**Figure 2** provides an aerial view of the immediate area surrounding the subject site.

**Figure 3** illustrates a photograph of Fitzgerald Street at the frontage of the subject site.



**Figure 1: Overview of the Subject Site**



**Figure 2: Photographs of Subject Site Vicinity**



**Figure 3: Photograph of Fitzgerald Street at the Frontage of the Subject Site**

### **2.1 Public Transport Accessibility**

The subject site is located directly opposite a bus stop which provides access to the following bus services;

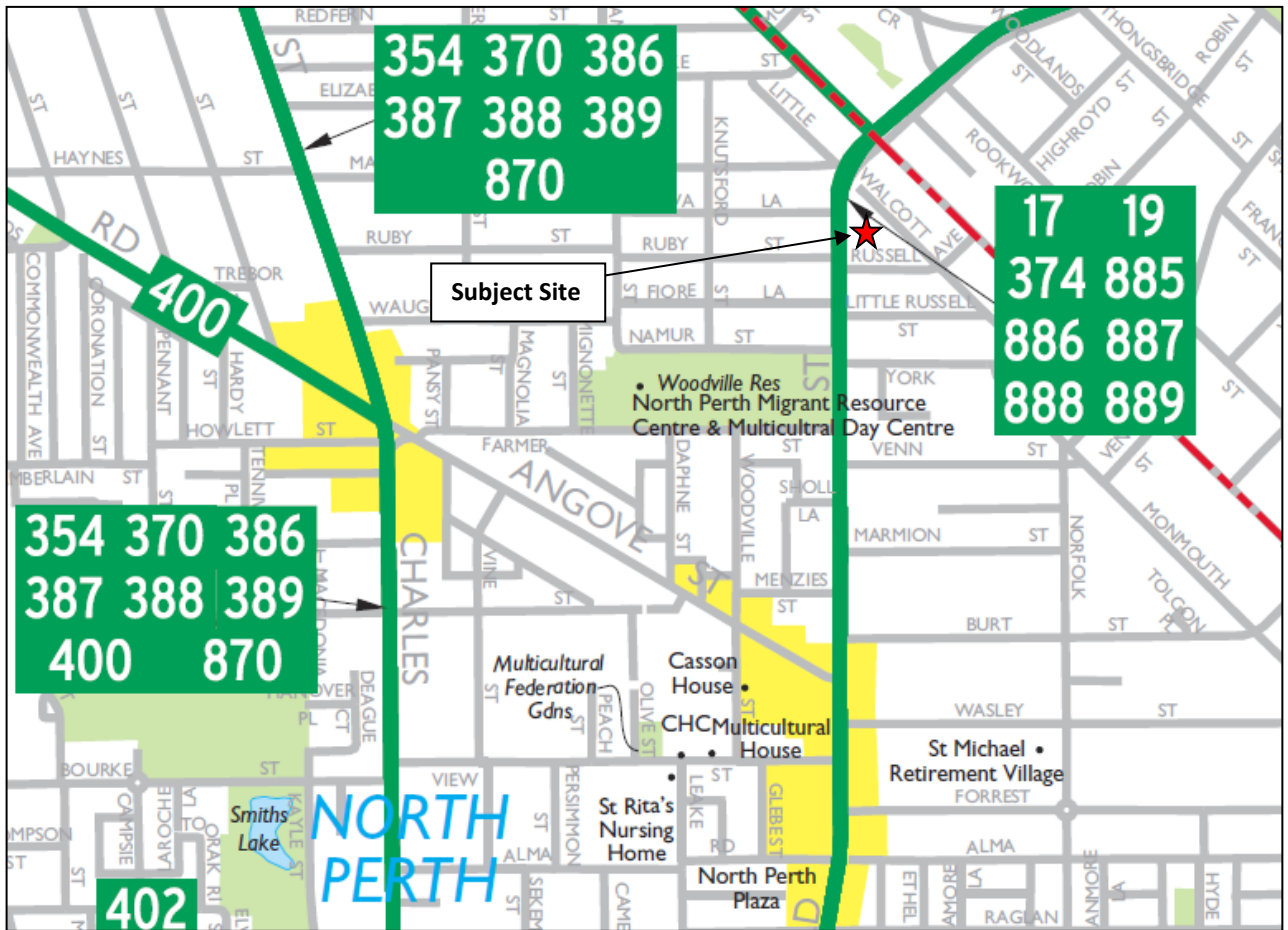
- Route 17 - Roe Street bus station to Morley bus station
- Route 19 - Roe Street bus station to Nangar St / Flinders Square
- Route 374 – Roe Street bus station to Belgrade Rd / Esther Loop
- Routes 885, 886, 887, 888 and 889 - Roe Street bus station to Guadalupe Drive / Marshall Road

In addition, the following services can be accessed at bus stops located along Charles Street approximately 800m from the subject site (10 minute walk);

- Route 354, 370 and 870 - Roe Street bus station to Mirrabooka bus station
- Routes 386, 387, 388, 389 - Roe Street bus station to Belgrade Rd / Esther Loop
- Route 400 – Roe Street bus station to Scarborough Beach

The above mentioned bus services operate with excellent service frequencies both during peak periods and inter-peak periods. As such, the residents of the proposed development can utilise these services to reach their desired destinations, thus reducing the overall number of vehicle trips generated by the development.

The following figure illustrates a bus network map for the subject site area.



**Figure 4: Local Bus Network Map**

### **3. Details of the Proposed Development**

The subject proposal relates to construction of a three storey building which comprises of 12 residential units and associated car parking. The unit structure is as follows;

- 4 x 1 bedroom units
- 8 x 2 bedroom units

A total of 12 resident parking spaces and 3 visitor parking spaces have been proposed at ground level which will be accessed off Fitzgerald Street via a common access way. Out of the 12 resident spaces, 10 are garage spaces and 2 are vehicle storage bays located on soft landscaping on the southern boundary of the site. In addition, 3 visitor parking spaces have also been provided on soft landscaping.

## 4. Traffic Impacts of the Proposed Development

The subject site is categorised under “Medium Density Residential Flat Building” in Section 3.3.2 of NSW RTA Guide to Traffic Generating Development (2002) document. The following trip rates have been outlined in this document;

- **Smaller units and flats (up to two bedrooms):**
  - Daily vehicle trips = 4-5 per dwelling
  - Weekday peak hour vehicle trips = 0.4-0.5 per dwelling.

Using the above rates for the subject site, we obtain the following peak hour trips;  
0.5 (upper bound) trips per unit X 12 units (1 and 2 bedrooms) = 6 trips

**Total peak hour trips generated by the proposed development = 6 trips**

This number of trips during each peak hour is rather insignificant as it represents 1 vehicle every 10 minutes during each peak hour (assuming 100% out during the AM peak hour and 100% in during the PM peak hour and a uniform distribution of trips across each hour – justified due to the residential nature of the development).

As such, it is clear that the additional development traffic represents a very small fraction of the existing traffic volumes and therefore the additional traffic generated from the proposal is unlikely to generate any material impact on the existing traffic operations in the vicinity.



## **5. Car Parking Provision and Design**

Part 5 – C3.1 of the 'WA State Planning Policy 3.1 Residential Design Code' document indicates a requirement of 1 parking spaces for each 1 bedroom or 2 bedroom dwelling (located within 250m of a high frequency bus route, measured in a straight line from along any part of the route to any part of a lot). In addition, site visitor car parking spaces for multi-unit developments shall be provided at a rate of one space for each four dwellings, served by a common access way.

As per the above, the subject proposal shall provide a total of 12 on-site car parking spaces for residents and 3 car parking spaces for visitors. The proposal includes a total of 12 resident and 3 visitor parking spaces on-site, and therefore is well compliant with the minimum statutory car parking requirements.

## 6. Car Parking Design

This section will investigate the compliance of the layout of the proposed car parking design with the relevant Australian Standard (AS 2890.1-2004) requirements.

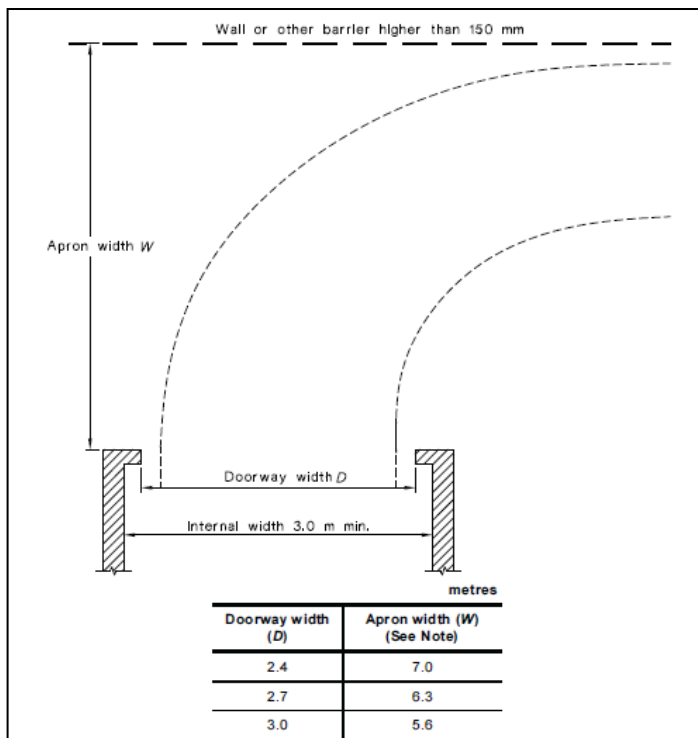
### 6.1 Car Park Design

The following section will carry out the necessary checks to certify whether the car parking area has been designed to satisfy the minimum requirements outlined by AS/NZS 2890.1:2004.

#### 6.1.1 Garage Space Dimensions

A total of 10 garages have been provided on-site to accommodate resident vehicles. As per AS 2890.1-2004, each garage shall be designed at 5.4m length and an overall internal width of 3.0m. Also, a doorway of 2.4 m minimum width shall be provided. As per the site plans, the necessary minimum dimensions as per AS 2890.1-2004 have been provided in the car park design.

For right angle access to a garage, the required width of apron for manoeuvring purposes is shown in the figure below.



**Figure 5: Minimum Dimensions for Garage Parking Spaces (excerpt from AS 2890.1-2004)**

The doorway width of proposed garage spaces is approximately 2.8m and therefore the apron width shall be provided at 5.6m. Referring to the site plans, this minimum required apron width has been provided at 6.0m.

### **6.1.2 Parallel Parking Spaces**

A total of 5 parallel parking spaces have been provided – 2 for residents and 3 for visitors. The dimensions of these spaces comply well with the minimum requirements outlined in AS 2890.1-2004 for parallel parking spaces.

### **6.1.3 Ramp Width and Grade**

AS 2890.1-2004 stipulates a minimum width of 5.5m for two-way ramps between kerbs not exceeding 150mm in height. In addition, the maximum allowable ramp grade for domestic driveways shall be 1 in 4 (25%) and the maximum gradient of the associated access driveway across a property line or building alignment shall be 1 in 20 (5%). Referring to the proposed site plans, it is evident that all the above requirements have been met in the proposed design.

## 7. Sight Distance Assessment

It is acknowledged that the crossovers which provide access to the subject site are located just after a bend on Fitzgerald Street. As such, sufficient sight distance must be provided for vehicles exiting the subject site onto the frontage road (Fitzgerald Street).

The property has previously been used as an office and consequently has rear parking for 6+ cars off the northern crossover driveway. The existing property also has an under-croft garage which is accessed off the southern crossover. The crossover is 135m from the Fitzgerald Street/Walcott Street signalised intersection.

In addition, it is noted that the existing southern crossover at the subject site (which has been existing for over many years) will be retained in its original position as a part of the subject proposal. As such, the sight distance assessment shall be undertaken in light of the increased number of vehicle egress movements at this location compared to the existing scenario.

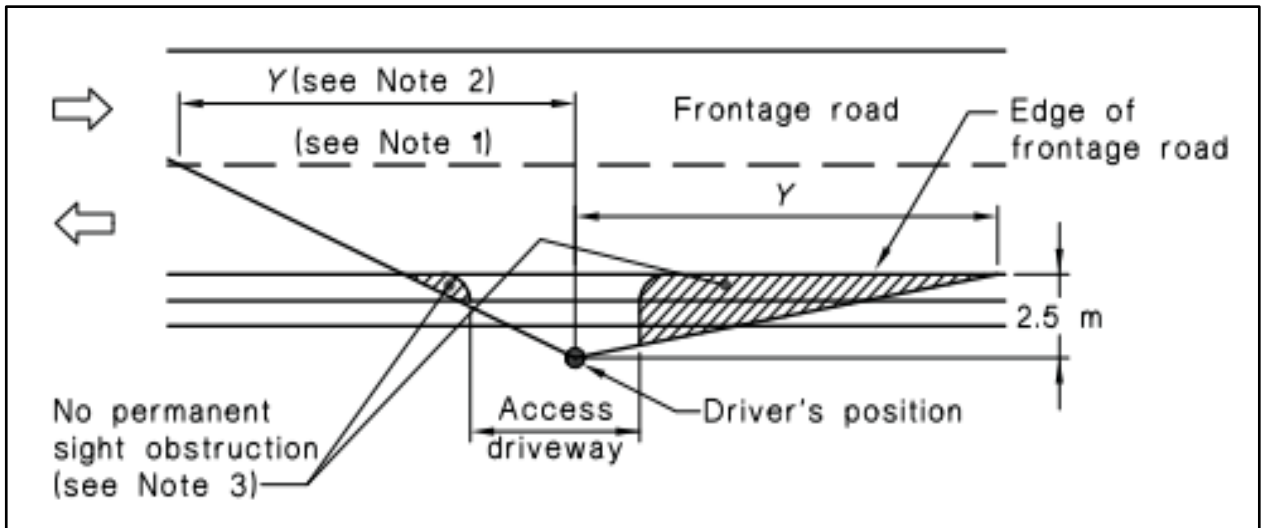
The existing site is currently used as a single dwelling, which is likely to generate 1 egress trip during the AM peak hour period on weekdays. The proposed development will generate some 6 vehicle trips (100% egress due to the residential nature of the development) as determined in **Section 4** above, which indicates an additional 5 vehicles exiting on to Fitzgerald Road from the subject site. Also, these egress vehicle trips will most likely occur during the AM peak hour period on weekdays, when Fitzgerald Street is fairly busy – thus existing vehicle speeds will be much lower than the posted speed limit.

In addition, the City of Vincent Council has mentioned that the Department of Planning proposed development is in line with the increased densities along major transport nodes. There is future road widening applicable to this site and others along Fitzgerald Street, which will enable further area for vehicles to exit the site.

Considering the above, the existing crossover location is supported on a traffic engineering perspective. The following section will outline the necessary sight distance provisions for drivers accessing the subject site from Fitzgerald Street.

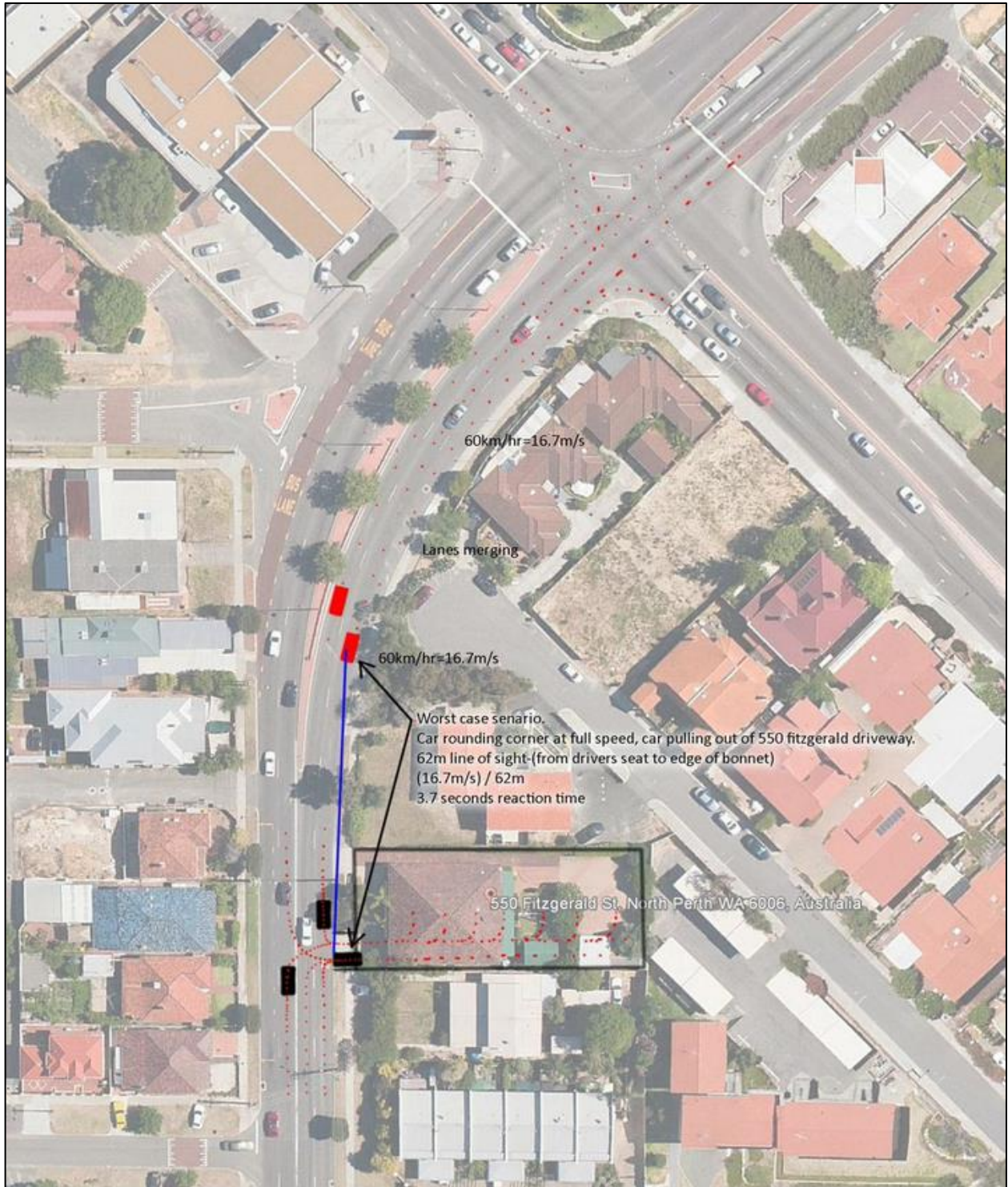
### **7.1 AS 2890.1-2004 Requirements**

At the frontage of the subject site, Fitzgerald Street is a district distributor road with a posted speed limit of 60 km/hr. Referring to Figure 3.2 of AS 2890.1:2004, it is recommended to leave the shaded area in the figure below (excerpt from AS 2890.1:2004) free of permanent obstacles for a length 'Y' of 55m.



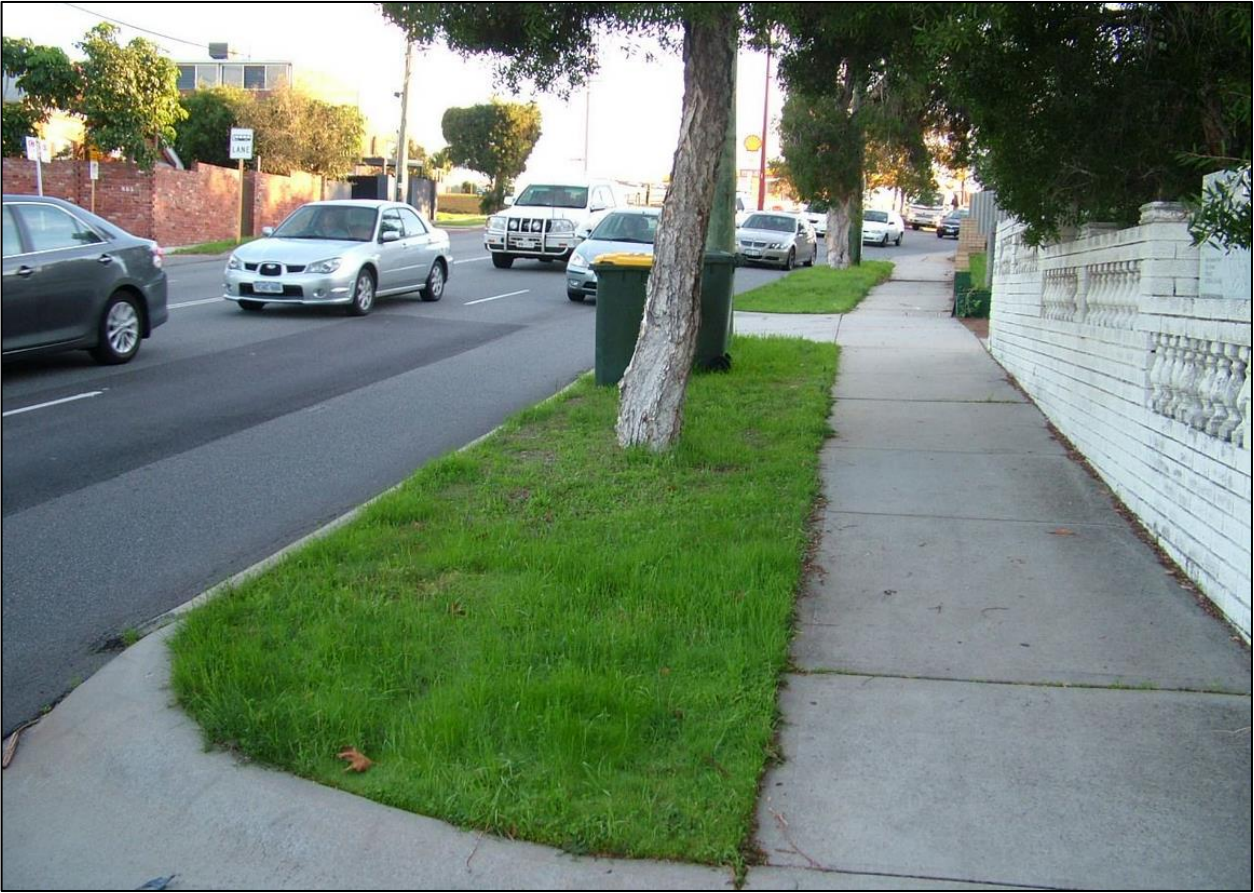
**Figure 6: Sight Distance Specifications (excerpt from AS/NZS 2890.1:2004)**

The subject site exit location has been assessed for sight distance and it was revealed that 62m clear line of sight can be achieved by a drive exiting the site on to Fitzgerald Street. This sight distance is well above the minimum requirement of 55m. In addition, this sight distance provision equates to 3.7 seconds reaction time, which is well above the average reaction time of 2.5 seconds. As such, the proposed crossover location is considered satisfactory in terms of sight distance. The following figure outlines the sight distance provision at the subject crossover.



**Figure 7: Sight Distance Available at the Subject Crossover**

The following photograph outlines the above mentioned availability of sight distance along the footpath at the crossover to the subject site. As can be seen in this photograph, sufficient sight distance can be achieved by a driver exiting the subject site onto Fitzgerald Street.



**Figure 8: Photograph of Sight Distance Available at the Subject Crossover**

## 8. Conclusions

Based on the assessment presented in this report, it is considered that:

- The subject property is located in a prominent location along a district distributor road (Fitzgerald Street) within the City of Vincent, providing extensive opportunities for public transport access from bus networks.
- The proposed site is deemed to generate a maximum of 6 vehicle trips during weekday AM and PM peak hours.
- These numbers of vehicle trips are considered insignificant and therefore the impacts of this traffic generation on the existing network traffic operations will be negligible.
- Based on WA State Planning Policy 3.1 Residential Design Code, the subject site shall provide a total of 12 resident and 3 visitor car parking spaces on-site.
- The subject proposal includes a total of 15 car spaces on site out of which 12 are allocated to residents and 3 are allocated to visitors. Therefore, this provision is well compliant with the minimum statutory requirements.
- The proposed car park design has been reviewed against the Australian Standard (AS 2890.1-2004) requirements and this design well satisfies the minimum requirements applicable.
- The crossover which provides access to the subject site is deemed to include sufficient sight distance provisions for drivers exiting on to Fitzgerald Road from the site.

As per the above, the subject development is endorsed within the context of traffic and parking. Therefore, the proposed development is unlikely to adversely impact on the existing traffic conditions in the vicinity and the car parking provision proposed on-site is deemed adequate for the proposed land use. The sight distance provision at the crossover to the site is considered satisfactory based on the minimum requirements outlined in Australian Standards.