

ATTACHMENT H

Traffic, Transport and Parking Study

Housing NSW

**Glebe Affordable
Housing Strategy**

Traffic and Transport and
Parking Study

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1 Introduction

Arup was commissioned by Housing NSW to undertake a traffic, transport and parking study for a proposed development bounded by Bay Street, Wentworth Street and Cowper Street, Glebe. The study area is shown in Figure 1. The report presents Arup's preliminary findings for incorporation into the Hill Thalys study.

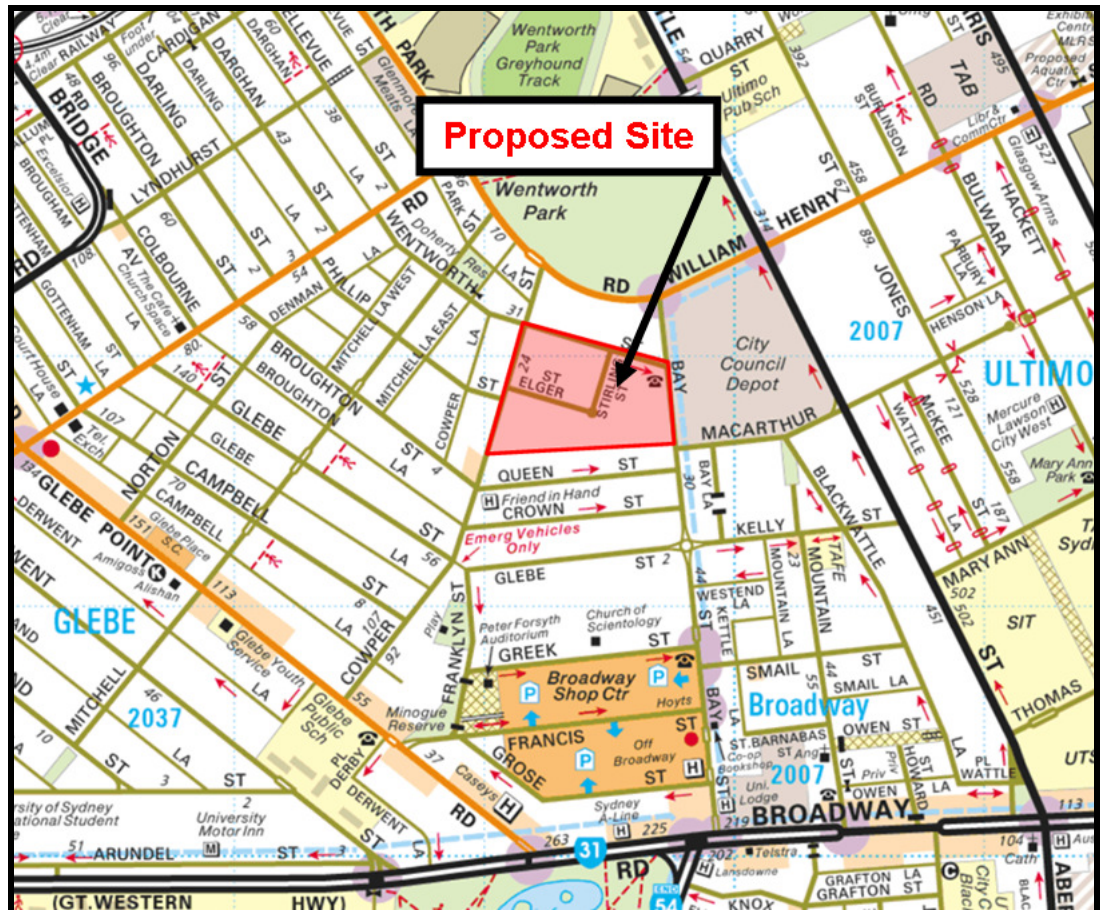


Figure 1 Study Area and existing road network (Source: Sydways)

1.1 Objectives

The objective of this study is to provide a transport review for developing the affordable housing proposal. This study will involve relevant transport planning issues, car parking analysis and maximising public transport, walking and cycling usages. The findings of this study would form the basis of the surrounding parking conditions around the site and the required amount of on site parking spaces necessary for the proposed development.

1.2 Key Documents

- Sydney Metropolitan Cycleway Maps
- Central Sydney DCP 1996 – Part 5 On site parking
- City of Sydney Local Environmental Plan 2005 – Chapter 2 part 5
- Australian Standards 2890.1:2004 – Off-Street Car Parking
- Working drawings of proposed lot layout and housing (Hill Thalys, 2009)
- Parking Requirement Impacts on Housing Affordability (20 January 2009) written by Todd Litman from Victoria Transport Policy Institute

1.3 Opportunities and Constraints

1.3.1 Opportunities

- There is the potential to allow vehicles to enter Wentworth Street from Bay Street, which will improve connectivity between developments. A roundabout could be explored at the Wentworth Street and Bay Street intersection to allow a safer and more direct route between developments. City of Sydney (CoS) however do not generally support the construction of new roundabouts because they may make crossing for pedestrians more difficult.
- An additional bus stop along the Bay Street routes could be investigated in consultation with Sydney Buses and CoS, promoting public transport usage from either precinct. The removal of parking spaces along Bay Street between Elger Street and Wentworth Street would provide room for a bus stop. If the bus stop was located along Bay Street, a pedestrian crossing facility should be provided to allow for safe pedestrian access.
- Cycle route connection on Bay Street, between the existing cycle path along Glebe Street and Wentworth Park Road could be proposed to promote cycling. Several types of bicycle facilities can be explored, such as a bicycle lane, bicycle paths (on road or off road) or a shared path in a road reserve.
- Further investigation into other forms of public transport will assist in the decrease usage of private vehicle usage. Such scheme could involve car sharing such as Go Get car share, bicycle parking facilities and additional bus stops will promote the use of public transport.

1.3.2 Constraints

- Limited manoeuvrability around the development site for garbage trucks and emergency vehicles due to the 5.5m road widths.
- The extension of Elger Street should contain the same conditions as Wentworth Street and Bay Street intersection which protect local streets from traffic intrusion.
- Walking distance from Central Station, approximately 1.5 kilometres.
- A pedestrian connection along the Elger Street extension needs to be investigated as the landform consists of a steep north east slope. The slope is approximately 1:5 according to ESRI ArcMap calculations, which might cause issues for the elderly or the disabled community, which may be represented in the development population.

2 Public Transport

2.1 Bus routes

The current bus network provides several bus routes from Glebe to the City, Balmain, Coogee and Leichhardt. The nearest bus stop is located at the corner of Mountain Street and Broadway.

- Route 431: Glebe Point - Millers Point/The Rocks; via Central Station, City and CBD:
- Route 432: Birchgrove - Millers Point; via Glebe, Central Station, City and CBD:
- Route 433: Balmain - Millers Point; via Glebe, Central Station, City and CBD:
- Route 434: Balmain - Millers Point; via Glebe Point, Glebe, Central Station, City and CBD:
- Route 370: Leichhardt to Coogee; via Glebe, Newtown, Alexandria, Randwick, Kensington and the University of New South Wales:
- Route 449: Pyrmont/Star City to Glebe; via Harris Street, Broadway Shopping Centre, Wentworth Park:
- Route 470: Lilyfield/Leichhardt Marketplace - Circular Quay, via Forest Lodge:

2.2 Central Train Station

The closest train station to the proposed site is Central Station which is located 1.5km east of the site. Central train station is situated on all lines except for Cumberland, Carlingford and Hunter. Central Station is a 30min walk for commuters from the proposed site.

2.3 Light Rail

The Metro Light Rail tram also runs between Central Station and Lilyfield. There are tram stops in Glebe, located at Bridge Road and Wentworth Park, and Jubilee Park, which are located 600m north of the site.

2.4 Cycling

According to the RTA's Sydney Metropolitan Cycleway Map the nearest bicycle route is along Glebe Street and Wentworth Park Road. These cycle routes have been assigned as moderately difficult on-road riding environment. There is an opportunity to provide a bicycle path along Bay Street between Wentworth Park Road and Glebe Street to connect the existing bicycle paths.

2.5 Site Access

The current road network does not allow vehicles to enter the proposed site from Bay Street, as Wentworth Street does not permit vehicles turning left from Bay Street. Therefore by extending Elger Street to Bay Street, this will allow vehicles to enter/by-pass through the site avoiding the traffic lights at the Wentworth Park Road and Bay Street intersection. The Elger Street and Bay Street intersection may need to contain similar traffic management conditions as Wentworth Street and Bay Street to prevent traffic by-passing through the site.

The location of the basement car park access point is quite close to the Wentworth Street and Stirling Street intersection. However, with the low traffic volume expected this location should not cause any issues with queuing.

2.6 Surrounding Parking Conditions

The proposed site currently has approximately 78 on street parking spaces, where 32 are unrestricted and 46 are unmetered 2 hour parking. The parking conditions surrounding the site are as follows:

- Elger Street allows unmetered 2 hour on street parallel and 90 degree parking on either side between 8am and 6pm.
- The western end of Wentworth Street contains 2 hour on street parking, while there is unrestricted all day parking on the eastern end of Wentworth Street. The eastern end of Wentworth Street is one way street only, therefore allowing vehicle to exit left out onto Bay Street.
- Cowper Street contains unmetered 2 hour on street parking on either side of the street between 8am – 6pm.
- Stirling Street permits unmetered 2 hour on street parking.

The on street parking facilitates mainly visitors, residences and customers of the surrounding dwellings and commercial businesses. The majority of the current parking conditions enable unmetered 2 hour parking, which is suitable to facilitate the precinct.

3 Parking Demand Assessment

3.1 Parking Forecast

Proposed Lot A and B contains 260 affordable housing dwellings and Lot C and D contains 154 social dwellings. The social housing component is proposed with no on-site parking. The affordable housing component is proposed with low rate parking provision, in the order of 37 car bays for 81 residential units.

According to the City of Sydney Local Environmental Plan 2005 – Chapter 2 part 5, the maximum car spaces that can be provided to residential dwellings are as follows:

- 1 bedroom apartments – 1 space per 2 apartments
- 2 bedroom apartments – 1 space per apartment plus 1 additional space per 5 apartments.
- 3 or more bedrooms – 2 spaces per apartment

Using the assumption that 40% are 1 bedroom, 40% are 2 bedrooms and 20% 2 bedroom apartments, there should be a requirement of 281 onsite car spaces. Affordable housing is aimed at the lower income range and according the Parking Requirement Impacts on Housing Affordability (20 January 2009) written by Todd Litman from Victoria Transport Policy Institute, lower income households own fewer automobiles than wealthier households with approximately 50% of tenants living in affordable dwellings own a vehicle, resulting in 156 car spaces being provided in option 1, which a suitable option. Further survey data on this issue would be desirable to demonstrate this issue to the authorities, based on existing Housing NSW data or surveys of similar sites.

The two basement car park options are suitable to allow for traffic flow in and around the basement the car park. The location of the car spaces are appropriate to allow for vehicles to enter and exit. With reference to the Australian Standards 2890.1:2004, figure 2.2 the standard parking dimensions of the car space has a width of 2.5 and a length of 5.4m.