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Lewisham Development Traffic Advice

Australian Consultant Architects Pty Ltd

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Appendix A

Ground Plan

1. Introduction

CW were commissioned by Australian Consultant Architects Pty Ltd to ~~have~~ review the traffic and transport implications of the Lewisham development. This response summarises our preliminary assessment which is subject to the following limitations:

- No survey data was collected to calibrate the existing conditions
- Intersection modelling has not been undertaken

The outcomes of this study are therefore liable to change significantly should more detailed analysis be undertaken.

The scope of work for this qualitative assessment is summarised:

- Site visit
- Estimation of current traffic conditions, congestion and flows in the AM and PM peak periods
- Calculation of trip generating characteristics of the development
- A qualitative assessment of the impact this traffic may have on the adjacent intersections and road network (this assessment is not based on survey data or intersection modelling)
- Discussion of key issues
- Identification in broad terms of what sort of improvements may be required to facilitate traffic movements.

2. Site inspections

A site inspection was undertaken on Wednesday 5 November 2008 during the PM peak and Thursday 6 November 2008 during the AM peak. During the site visit the surrounding road network was observed to identify intersection controls and road restrictions.

The location is shown in Figure 1.

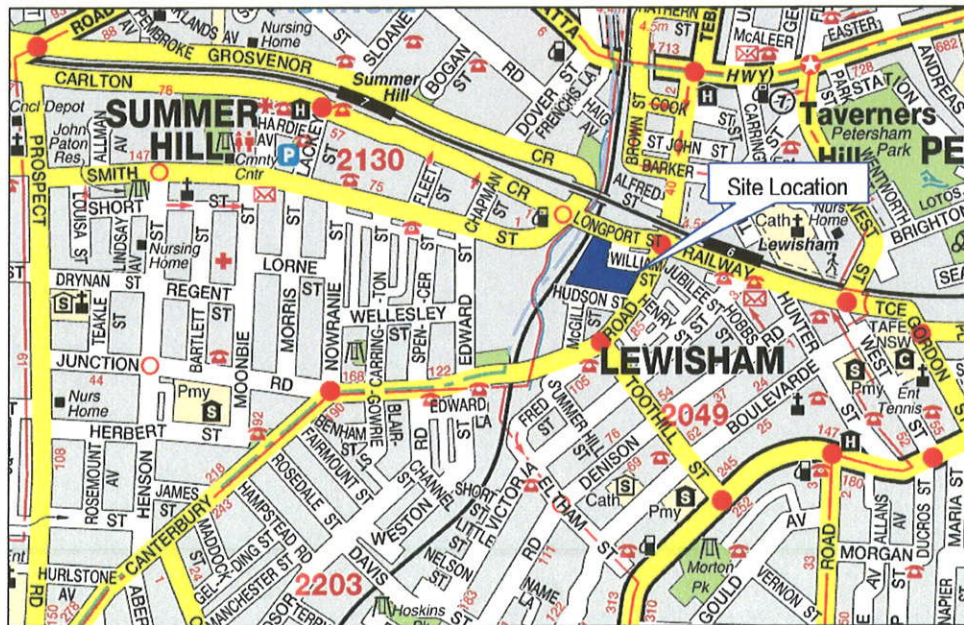


Figure 1. Location of proposed development

The following observations were made:

2.1 Road network

Old Canterbury Road is a four-lane two-way road south of the intersection with Longport Street and Railway Terrace, where the northbound direction is reduced to one lane due to the railway overhead. There are parking restrictions on Old Canterbury Road during the peak commuter periods in each direction.

Railway Terrace is on the eastern side of Old Canterbury Road and Longport Street is on the western side of Old Canterbury Road. It is a two-lane two-way road, except for a short section of the eastbound direction between the intersection with Old Canterbury Road and the bridge over the railway tracks west of the intersection. Although there are no parking restrictions, vehicles were observed to park on the southern side of Longport Street. It must be noted that Railway Terrace and Longport Street are used by commuters travelling to and from the city avoiding the congestion on Parramatta Road.

Brown Street and William Street are both narrow two-way roads. Both provide parking on one side of the street. Currently Brown Street extends into the Old Canterbury Road Industrial Complex Lewisham. Accesses to residential/ industrial properties outside of the development scope are on William Street.

Hudson Street and McGill Street are both narrow two-way roads. Both provide parking on one side of each street. Both streets have access to industrial properties outside the development scope.

2.2 Intersections

Intersection	Control	Restrictions
Old Canterbury Rd / Railway Tce / Longport St	Signals	No right hand turns for southbound and westbound movements - permanent No right hand turns for northbound and westbound movements - from 6 am to 10 pm and 3 pm to 7 pm
Old Canterbury Rd / Toothill St	Signals	-
Railway Terrace / West St	Signals	-
Longport St / Carlton Cres / Smith St / Grosvenor Cres	Roundabout	-
Old Canterbury Rd / William St	Priority	No right hand turns from 6 am to 10 pm and 3 pm to 7 pm
Old Canterbury Rd / Hudson St	Priority	-
Old Canterbury Rd / McGill St	Priority	-
Longport St / Brown St	Priority	-

2.3 Current traffic conditions

The site inspection was undertaken during the AM and PM peak traffic conditions based on the RTA Traffic Volume Data 2002 (TVD) for the Sydney region for within the surrounding area. The inspection commenced prior to the peak demands as stated by the TVD and extended into the peak periods.

It was observed that the intersection of Old Canterbury Road, Railway Terrace and Longport Street had queues along each direction from the intersection. There were extensive queues along Railway Terrace in the westbound direction during the PM peak and along Longport Street in the eastbound direction during the AM peak. It was noted that during the AM peak, the queue extended past the roundabout to the west of the intersection, with the queue extending to the Hume Highway along Carlton Crescent. Although there was queuing in the other directions, they were observed to mostly dissipate during the green intervals. The afternoon queue is shown in Figure 2 and the morning queue is shown in Figure 3.

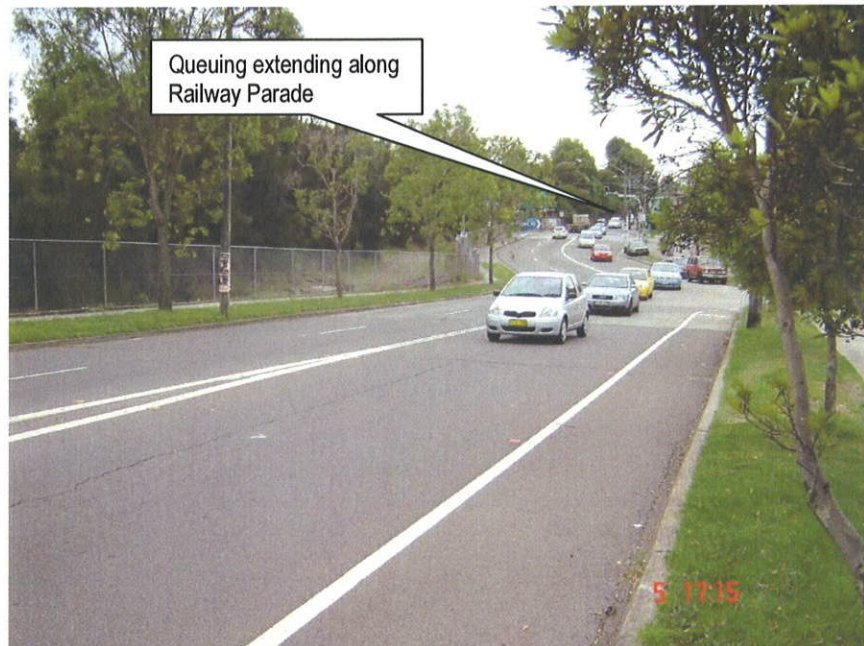


Figure 2. Queue of westbound traffic along Railway Parade during the PM peak



Figure 3. Queue of eastbound traffic along Carlton Crescent during the AM peak

Based on the operation of the intersection of Old Canterbury Road, Railway Terrace and Longport Street, and queues generated along Railway Terrace and Longport Road during the relevant peak periods, it can be assumed that the intersection is at maximum capacity during these periods. It should be noted that the AM peak queue is a result of intersections east of Old Canterbury Road.

During the PM peak there was queuing in the southbound direction from the intersection of Old Canterbury Road and Toothill Street. This queue was observed to reach William Street, however it appeared to have little to no effect on the intersection of Old Canterbury Road, Railway Terrace and Longport Street. The queue dissipated in one to two green intervals.

The intersection of Old Canterbury Road and Toothill Street appeared to be operating smoothly, with no queues in the eastbound or northbound direction.

2.4 Traffic generation

The RTA Guide to Traffic Generating Developments was used to calculate the traffic generated by the proposed development. The information provided on the size and use of the development was used with the traffic generation rates. The proposed development consist of the following

- Commercial area break up
 - Retail 1,284 sqm
 - Food market 1,594 sqm
 - Super market 3,345 sqm
 - Fruit and Veg 1,116 sqm
 - Kiosk 48 sqm
 - Internal circulations 1,407 sqm
 - Storage 309 sqm
 - Lobbies 58 sqm

- Residential area break up
 - Block A 126 units
 - Block B 140 units
 - Block C 90 units
 - Block D 60 units
 - Block D 108 units

524

The traffic generation calculation for retail is based on the Gross Leasable Floor Area (GLFA). Based on the RTA Guide, the commercial area will generate 1058 vehicular trips during the PM peak period on a weekday. The vehicular trips during the PM can be split 50 in: 50 out movements, resulting in 529 movements in and 529 movements out.

The residential area will generate 152 vehicular trips during the PM peak period on a weekday. The calculation is based on high density residential flat buildings for metropolitan sub-regional centres. The vehicular trips during the PM can be split 70 in: 30 out movements, resulting in 106 movements in and 46 movements out.

Based on the combination of the commercial and residential development, the site will generate a total of 1210 movements during the peak period, with 635 in movements and 575 out movements during the peak period. A summary is shown in Table 1 below

Table 1. Movement summary

	IN	Out	Total
Retail	529	529	1058
Residential	106	46	152
Total	635	575	1210

2.5 Public Transport

2.5.1 Railway Station locations

Both the Lewisham and Summer Hill Train Stations are within close proximity to the proposed development, 150 metres and 500 metres respectively. These two stations service Sydney's Inner West.

2.5.2 Bus services

There is a bus service that travels along Old Canterbury Road and Rail Parade from Campsie Railway Station into the City. There are a number of bus stops with close proximity to the proposed development both on Old Canterbury Road and Railway Parade.

It may be assumed that both rail and bus services will be utilised by residents of the development, and has been accounted for in the calculations for the traffic generation for residents of the units block.

3. Development Impact - Qualitative assessment

Based on the distribution between the proposed site accesses amongst the network, it may be assumed that the movements may be distributed across four directions, assuming access points onto the road network via Longport Street, William Street, Hudson Street and McGill Street. This equates to each access point will have approximate 112 in movements and 100 out movements. From this, 21 in movements and 9 out movements will be residential. It can be assumed that some of the traffic generated by the retail sector of the development would already be on the road network. It may be assumed that approximately 10% of the traffic generated will be from existing flow.

Due to the location of the access points and their proximity to the signalised intersections, it may be assumed that vehicles will be able to enter and exit the site in between the breaks in the traffic.

The traffic generated by the development may result in the intersection of Old Canterbury Road, Railway Terrace and Longport Street approaching capacity.

It may be assumed that the intersection of Old Canterbury Road and Toothill Street will absorb the majority of the traffic generated by the site. It was observed that there was little delay to road users, except for the queuing towards the northern intersection. The other two directions of the intersection appeared to operate smoothly with little queuing that would dissipate during the green periods.

3.1 Key issues

The following key issues were identified.

- Traffic queues on Longport Street and Railway Terrace during the AM and PM peak periods
- No right hand turns in to / out of William Street between 6 am to 10 pm and 3 pm to 7 pm.
- Vehicles accessing via right hand turns into the adjoining streets to access the site
- The width of Brown Street, William Street, Hudson Street and McGill Street

3.2 Suggested improvements to facilitate traffic movements

During the peak period, Longport Street and Railway Terrace are operating at or near capacity. It can be assumed that some of the vehicles generated by the site may be passers by and are already on the network. It can also be assumed that the majority of the traffic generated by the site will not use Longport Street and Railway Terrace in the peak periods to avoid the delays at these intersections.

There are possibilities of improving the access arrangements to the site. The site locations are shown in the ground plan attached to Append A. The locations of these improvements are shown in Figure 4, with access locations numbered for identification.



Figure 4. Access arrangement improvement locations

3.3 Access arrangement improvement locations

It is believed from a safety aspect that the "No right hand turn" restriction at the intersection of Old Canterbury Road and William Street (1) should remain. This restriction is in place to reduce the chance of queuing into the intersection to the north.

3.3.1 Longport Street

There is concern about the access on Longport Street for right hand movements, due to safety issues resulting from the crest in the road restricting the site distance of eastbound traffic. There may be value in the following improvements:

- (1) Access to / from basement car park:
 - Widen Longport Street and provide turning bays for right turn movements into the site.
 - Have two lanes for the car park exit ramp, marked for the direction they will be turning (right or left)
 - Move pedestrian refuge island west towards the roundabout and widen – to facilitate provision of right turn bay.
- (2) Access to / from Brown Street
 - Movements to be left in / left out only as sight distance not adequate.

3.3.2 Old Canterbury Road

Access from Old Canterbury Road, (not including William Street) has the potential for providing access for a proportion of the traffic associated with the development. The following improvements are suggested

- (3) Access to / from Hudson Street
 - Intersection may be capable of catering for a proportion of the traffic generated by the site without modification
 - Should more detailed analysis indicated a capacity problem, there is the possibility of signalling this intersection to manage traffic to and from the site. Coordination between the intersections either side will have to be done.

- (4) Access to / from McGill Street
 - Intersection may be capable of catering for a proportion of the traffic generated by the site without modification
 - Should more detailed analysis indicated a capacity problem, there is the possibility of signalling this intersection to manage traffic to and from the site. Coordination between the intersections either side will have to be done.

The widening of the Brown Street, William Street and Hudson Street should be included in the design of the development. This is vital for vehicle movements, especially Hudson Street, where the movements of delivery vehicles may result in the delay of other vehicles entering and exiting the road network. Although McGill Street is not in the scope of the development, it is suggested that parking is removed from the street to provide unrestricted two-way movements.

4. Conclusion

Based on our assessment which has not included any analysis of count data or computer modelling of any intersections we believe that with some modifications to the adjacent intersections and access arrangements to the development, the network may have the capacity to cater for the additional traffic. A quantitative analysis of the road network would be required to determine the impact of this development on the surrounding road network. This conclusion should be regarded as preliminary and is subject to change on completion of more detailed analysis.

This assessment is based on a qualitative assessment of the existing traffic flow with calculations based on the existing design.

Appendix A

Ground Plan