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Mike Robinson
Macquarie Health Corporation

29 July 2016

Dear Mike

Royal Prince Alfred Hospital Lucas Street Mult-Storey Staff Car Park - Traffic Assessment Review

1 Introduction

Arup was engaged by Macquarie Health Corporation to undertake a peer review of the transport impact assessment (prepared by GTA Consultants) for the proposed Lucas Street multi-storey car park serving Royal Prince Alfred Hospital. This peer review considers the adequacy of the transport assessment undertaken, particularly assumptions relating to site traffic generation and traffic modelling.

2 Background and Site Description

A proposal is currently being considered by Health Infrastructure to construct a Multi-Storey Staff Car Park (MSCP) on a site located on Lucas Street, which will provide 996 staff car parking bays. The site is located on the south-eastern corner of the intersection of Lucas Street and Church Street in Camperdown.

To enter the MSCP, drivers must use New Hospitals Road (from Carillon Ave) and then Brodie Street (from New Hospital Rd). Egress from the car park is via Lucas Street (one way eastbound) or Church Street.

The site location and proposed access arrangements are illustrated in Figure 1

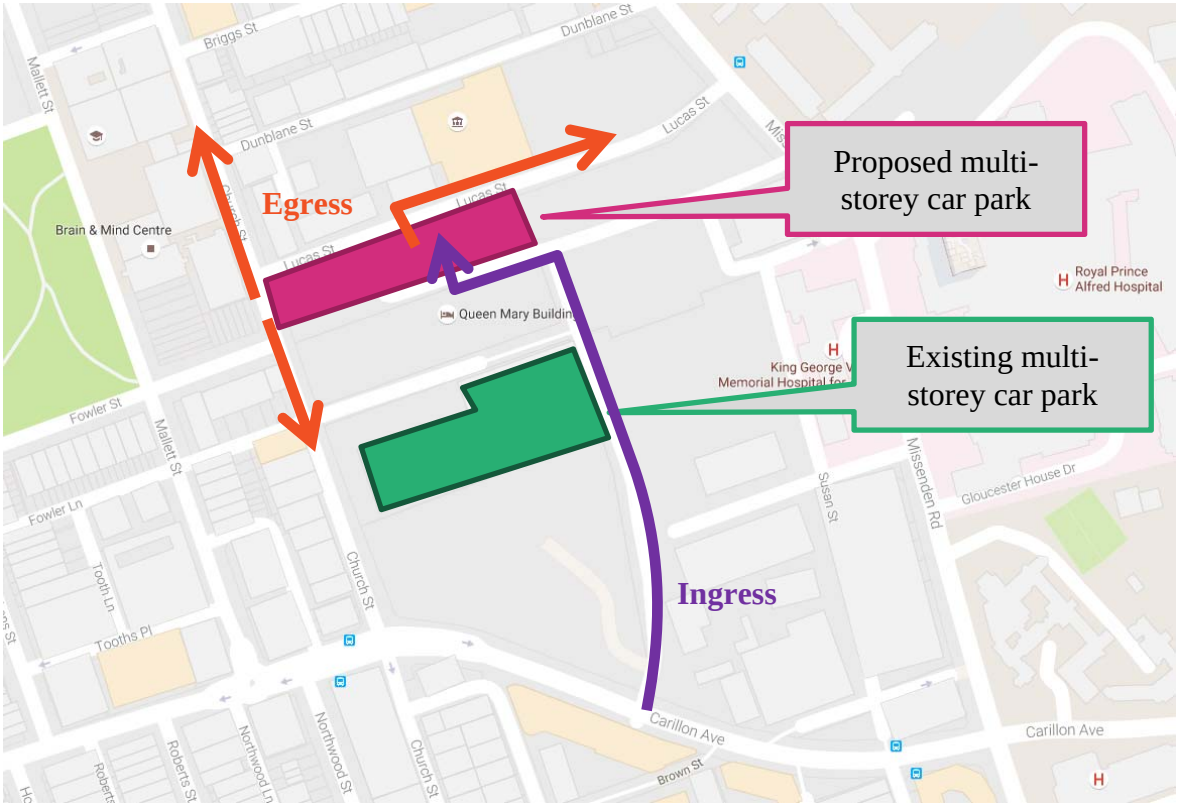

Figure 1 Site location and access arrangements

3 Transport Assessment

3.1 Baseline Traffic Volumes

Traffic counts undertaken as part of transport assessment demonstrated the road network peak hour was between 7.45am to 8.45am. However, the traffic modelling undertaken to support the development has considered traffic volumes on the road network between 6.30am to 7.30am, as it has been assumed this time coincides with the peak traffic generation of the new car park.

It is important to note that there is a significant difference in road network conditions during these two separate time periods. Based on the traffic counts provided in the GTA report, between 6.30am and 7.30am traffic volumes a key intersections in the vicinity of the site are approximately 25% less than those observed between 7.45am and 8.45am. This is illustrated in Figure 2 below.

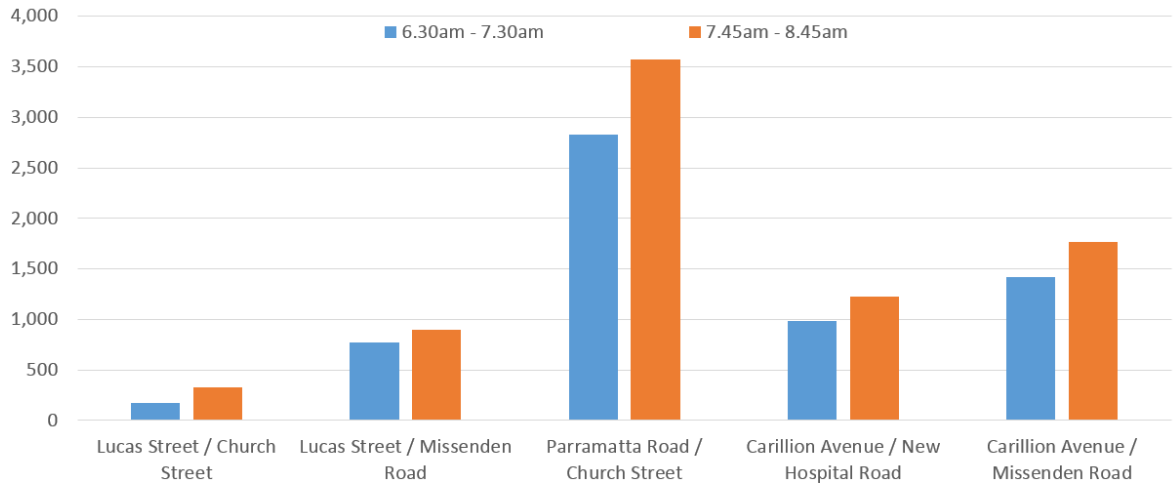

Figure 2 Existing traffic volumes at key intersections

The fact that the traffic modelling has been based on traffic volumes observed between 6.30am and 7.30am, well outside of the road network peak hour, results in intersection performance levels which are not reflective of that during the road network peak hour.

3.2 Site Traffic Generation

As previously noted, the traffic modelling undertaken to support the development has assumed the car park generates the majority of its traffic between 6.30am to 7.30am in the morning peak period. Arup has obtained data from Macquarie Health Corporation relating to the current profile of demand generated by the existing multi-storey car park immediately south of the site.

Figure 3 below illustrates the profile of traffic demand accessing the existing multi-storey car park over a typical day in July 2016. The values indicated represent net traffic movements (entrances less exits) over each hour of the day. This profile indicates the busiest time period in terms of vehicle movements (both in and out) of the car park is between 8am and 9am – coinciding with the road network peak hour previously identified. Between 6am and 7am, which encapsulates half of the site peak hour assumed by GTA, only a small number of net vehicle movements was recorded.

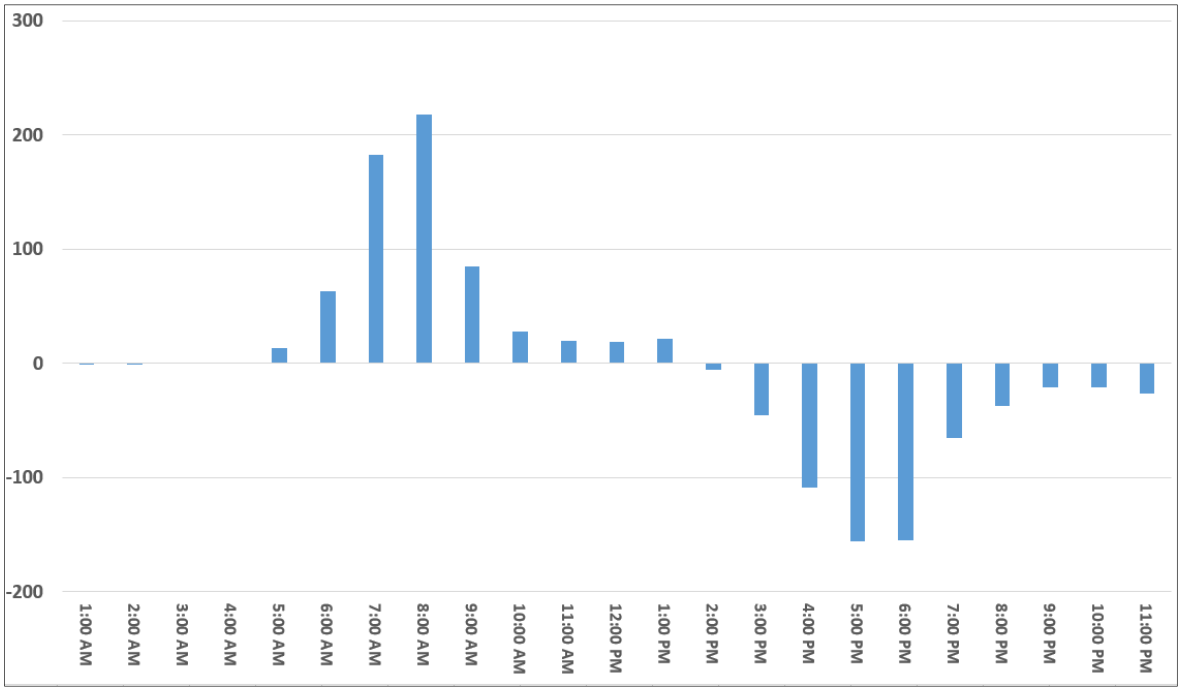

Figure 3 Existing traffic demand profile

3.3 Cumulative Traffic Impacts

On 19 June 1997, the Land and Environment Court approved a development application for the construction of a 200 bed Private Hospital – immediately south of the existing multi-storey car park. Based on rates provided in the RMS Guide to Traffic Generating Developments, this private hospital would generate in the order of 185 vehicle trips during the AM peak hour. The traffic assessment undertaken for the proposed car park has not considered the future levels of traffic associated with this private hospital development.

3.4 Traffic Modelling

It has been demonstrated that the traffic modelling undertaken for the proposed multi-storey car park has not properly considered the full traffic impacts associated with the project, given:

- The profile of traffic activity accessing the existing multi-storey car park demonstrating peak activity occurring between 8am and 9am;
- Significantly higher traffic volumes observed between 7.45am and 8.45am compared to those used in the modelling (6.30am to 7.30am); and
- The failure of the assessment to consider future traffic volumes associated with the approved private hospital development.

It is therefore considered that the traffic modelling results indicated in the traffic assessment do not accurately represent the likely operation of key intersections in the vicinity of the site. In particular, the operation of the Carillion Avenue / New Hospital Road intersection, as well as the Carillion Avenue / Missenden Road intersection, are likely to operate at levels beyond that indicated in the traffic report.

3.5 Impacts to Pedestrians

The reliance on New Hospital Road as the sole point of access for vehicles places additional pressures on pedestrian movements and safety in the precinct. The volume of traffic using New Hospital Road generated by the proposal would create a significant barrier to east-west pedestrian movements in the precinct. This is highlighted in Figure 4 below.

The various land uses in the precinct, particularly new student accommodation, health and commercial, coupled with the future development of the private hospital, results in significant pedestrian trips across New Hospital Road on a daily basis. The proposed multi-storey car park, with it's reliance on New Hospital Road for access, would put at risk potential to provide active street frontages and a high quality public domain supporting the approved private hospital development.

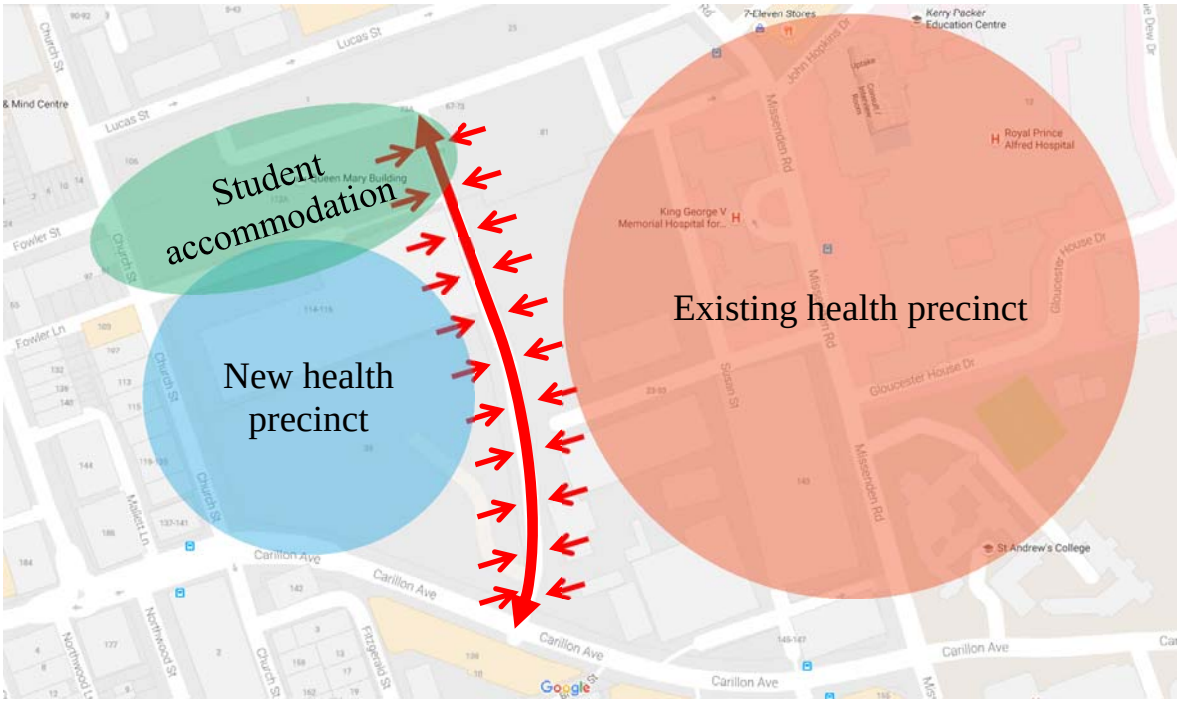

Figure 4 Pedestrian accessibility

4 Conclusions

Arup was engaged by Macquarie Health Corporation to undertake a peer review of the transport impact assessment for the proposed Lucas Street multi-storey car park serving Royal Prince Alfred Hospital. The peer review has concluded that the traffic modelling undertaken to support the proposal under-represents the likely operation of key intersections in the vicinity of the site, given:

- The adoption of a site peak hour (6.30am-7.30am) which is not reflective of current conditions in the existing multi-storey car park
- The significantly higher traffic volumes observed between 7.45am and 8.45am compared to those used in the modelling (6.30am to 7.30am); and
- The failure of the assessment to consider future traffic volumes associated with the approved private hospital development.

In light of the information presented in this report relating to an under-representation of traffic movements during the critical AM road network peak hour, consideration should be given to providing alternative access arrangements for vehicles entering the car park. The proposal is currently fully reliant upon the use of New Hospital Road which was not designed to cater for the volume of traffic resultant from the construction of a new 1,000 space car park. Further, the projected levels of traffic using New Hospital Road would create a significant barrier to east-west pedestrian movements in the precinct.

It is recommended that alternative access arrangements, such as via Church Street and/or Lucas Street, be investigated to better distribute the traffic load across the precinct and minimise barriers to east-west pedestrian movements.

Should you have any questions or require clarification please do not hesitate to contact the undersigned.

Yours sincerely

Joshua Milston
Senior Transport Planner MIEAust CPEng