

# LETTER

## Transport Engineering

REF: N170560

DATE: 20 August 2020

Health Infrastructure  
C/- Johnstaff Projects  
Level 5, 9 Castlereagh Street  
SYDNEY NSW 2000

Attention: Shamma Hasan (Project Manager)

Dear Shamma

### RE: LIVERPOOL HOSPITAL MULTI-STOREY CAR PARK (SSD-10388) – RESPONSE TO TRANSPORT-RELATED SUBMISSIONS

A State Significant Development Application (SSDA) has been submitted for a proposed new multi-storey car park (MSCP) at Liverpool Hospital. The proposed works are located in the northern portion of the western campus which is currently occupied by an existing four-storey car park and at-grade car parking. The site is legally described as Lot 501 in DP1165217. GTA Consultants (GTA) completed a Transport and Accessibility Impact Assessment (TAIA)<sup>1</sup> dated 6 May 2020 to support the SSDA.

Subsequent to the SSDA being lodged, a number of agency submissions have been received, with several items relating to traffic and transport. This letter has been prepared to specifically respond to submissions in this regard. The relevant comments are reproduced in Attachment 1 together with detailed responses.

Should you have any questions or require any further information, please do not hesitate to contact me on (02) 8448 1800.

Yours sincerely

GTA CONSULTANTS



Brett Maynard  
Director

encl.

Attachment 1 – Response to Transport Related Submissions

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<sup>1</sup> Liverpool Health and Academic Precinct MSCP, Transport and Accessibility Impact Assessment, Issue B dated 6 May 2020.

# ATTACHMENT 1

## Response to Transport Related Submissions

## Department of Planning, Industry and Environment comments

*DPIE comment: Clarification is sought with regards to the performance of the Hume Highway/Bigge Street intersection during the AM peak. The impact on the degree of saturation at this intersection (from 0.68 to 0.93) must be addressed, noting this intersection would almost be at capacity and require mitigation measures as part of this development accordingly.*

**GTA response:** The analysis in the TAIA indicates that the degree of saturation (DOS) increases from 0.68 to 0.89 in the AM peak hour when considering the traffic generation of the Liverpool Westfield and 26 Elizabeth Street developments. This then increases slightly to 0.93 with the additional traffic generated by the Liverpool Hospital redevelopment. As such, much of the change to the DOS at this intersection in the AM peak hour is as a result of surrounding developments. Notwithstanding, SIDRA modelling results indicate this intersection is expected to operate satisfactorily with average delay resulting in a level of service (LOS) C and B in the AM and PM peak hours respectively.

DOS for a signalised intersection is reported from the worst movement at the intersection. In this case, the reported DOS relates to the right turn from the Hume Highway into Bigge Street. SCATS currently allocates a significantly higher portion of green time to through traffic along the Hume Highway compared to the right turn into Bigge Street, in order to reduce the overall average delay over the intersection. This is due to through movements along the Hume Highway experiencing much greater traffic volumes than the right turn into Bigge Street.

SIDRA modelling was completed on the basis of maintaining existing phase times similar to existing conditions, as is typically required by TfNSW. The DOS for the intersection could be reduced by increasing the green time for the right turn into Bigge Street, however this would likely reduce the green time from the Hume Highway and would result in a higher average delay across the intersection and a worse LOS overall.

On the basis of the above, no mitigation measures are required (or easily implemented) at the Hume Highway/Bigge Street intersection, noting that the dynamic nature of SCATS will automatically implement minor operational adjustments.

*DPIE comment: Detail of the arrival times and the number of construction vehicles accessing the site is to be provided, including detail of where all construction vehicles will be accommodated and how impacts to the surrounding road network and community will be minimised. Cumulative impacts of the development of the adjoining integrated services building at the hospital campus are also to be considered.*

**GTA response:** It is difficult to provide detailed arrival times of construction vehicles and associated hourly volumes given a contractor is yet to be appointed for the project and will depend on their detailed methodology and staging. Construction vehicle arrivals would occur throughout the approved work hours and scheduled according to the available loading/ unloading area during each work stage. There would also be day-to-day differences in terms of general site activity and concrete pour days.

Notwithstanding, Section 9.6 of the TAIA details initial construction vehicle volume estimates of up to 100 vehicles per day or around 10 vehicles per hour during peak

activities which are expected to occur between January 2021 and December 2021 during construction of both the multi-storey car park and Main Works Stage 1. This estimate considers both sites, with the MSCP component expected to make up around 40 of these vehicles per day (four vehicles per hour). Vehicle arrivals will be during the approved work hours, with the anticipated work hours detailed in Section 9.4 of the TAIA and are reproduced below:

- Monday to Friday 7:00am and 6:00pm
- Saturday 8:00am and 3:00pm
- Sunday/ public holiday no work.

Truck volumes will be minimised as much as possible during road network peak periods. It is anticipated that construction vehicles will be accommodated on-site or within approved work zones. Given the Main Works site and the Multi-Storey Car Park site are located in different areas on the hospital campus, the sites will likely have different approach and departure truck routes which will minimise the cumulative construction traffic impact. The anticipated construction traffic can be accommodated on the surrounding road network, noting also that trucks would not be allowed to queue on the surrounding road network.

A detailed Construction Traffic and Pedestrian Management Plan (CTPMP) will be prepared prior to works commencing, including consultation with the relevant agencies to address any concerns associated with the arrival times and the number of construction vehicles accessing the site.

Section 11.6 of the TAIA discusses construction worker parking and traffic, with on-site constraints and off-site opportunities identified. Whilst Health Infrastructure will allow the appointed contractor to nominate a preferred option, initial discussions have been held with potential partners, including a location at Warwick Farm Racecourse. Shuttle bus arrangements would be implemented to transport workers between the site and any remote parking locations.

## Liverpool City Council comments

*LCC comment: The 'Traffic Impact Assessment' (TIA) submitted with the application has estimated traffic generation potential based on the survey of the existing car park in CP2. The trip generation rates are 0.54 and 0.38 trips per space in the AM and PM peak hours respectively.*

*Based on these traffic generation rates the proposed additional 500 car parking spaces will generate approximately 270 vehicular trips and 190 vehicular trips in AM and PM hours respectively.*

*The forecast additional traffic movements (and the redevelopment of the hospital) will have noticeable traffic impact on the access road to/from the car park.*

*To minimise traffic impact of the car park, a local traffic management plan is to be submitted to Council outlining traffic management scheme including signs and line marking, along the access road to/from the car park.*

*The other traffic related conditions are provided in Appendix B.*

GTA response: SIDRA modelling completed to support the SSDA demonstrates that the additional traffic generated by the proposed development can be adequately accommodated on the surrounding road network. These roadworks are currently being completed as part of a separate approval pathway, however the signage and linemarking plans prepared can be provided to Council.

## Transport for NSW comments

*TfNSW comment: The 33 accessible car parking spaces in the traffic report is calculated based on the Liverpool DCP requirement and the capacity of the new car park. This does not cater for the overall demand of accessible parking spaces across the whole hospital.*

*It is requested that the applicant review the needs for accessible parking across the whole site and if appropriate explore opportunities increase the number of accessible parking spaces in the new car park.*

GTA response: Liverpool DCP contains a higher accessible parking rate than what is typically required in other locations around Sydney. As such, reference is made to the Building Code of Australia (BCA) which specifies accessible parking should be provided at a rate of one space per 50 car parking spaces or part thereof for the first 1,000 car parking spaces, then 1 spaces per 100 car parking spaces or part thereof in excess of 1,000 car parking spaces.

The proposal for the MSCP has been modified since lodgement of the SSDA to now include an additional level of car parking. This will result in the MSCP and adjacent at-grade car park containing a total of around 1,248 spaces. Application of the BCA accessible parking rate results in a recommended provision of 23 accessible spaces across the LHAP. The proposal has been modified to provide a minimum of 23 accessible spaces in the MSCP to meet the recommended BCA accessible parking provision.

Accessible parking in the MSCP would not be within an appropriate walking distance of the southern portion of the campus, and therefore there is limited benefit in increasing the accessible parking provision in this location. These areas would continue to be serviced by existing accessible parking in the P1 and P3 basement car parks, as well as by new accessible parking bays in the Goulburn Street and Forbes Street pick-up and drop-off areas.

*TfNSW comment: It is noted the applicant submitted a Preliminary Construction Management Plan as part of the supporting documentation. However, it is also noted that the new multi-storey car park is located on the existing CP2 with the provision of 597 spaces. These parking spaces will not be available during the construction of the new car park. The previous parking survey indicated peak occupancy of 98% in CP2. The impact of this parking demand has not been assessed in the CTPMP and no method is given how this parking demand will be managed. The cumulative increase in construction vehicle movements from these projects could have the potential to impact on general traffic and public transport operations, as well as the safety of pedestrians and cyclists particularly during commuter peak periods.*

*It is requested that the applicant be conditioned to prepare a detailed Construction Traffic and Pedestrian Management Plan (CTPMP). The CTPMP is to assess how*

*existing parking demand will be managed during construction, detailing construction vehicle routes, number of trucks, hours of operation, access arrangements and traffic control. The CTPMP should be submitted to the relevant consent authority for approval prior to the issue of a Construction Certificate.*

GTA response: It is anticipated that during construction, a maximum of 230 parking spaces across the campus will be temporarily unavailable. This has been mitigated by providing additional parking at the Bigge Street/ Campbell Street car park and Liverpool Westfield. There will be a no net loss in overall parking numbers during construction.

A CTPMP will be developed prior to issue of the Construction Certificate with a strategy to manage parking demand related to the hospital throughout the construction of the MSCP.