ARUP

Subject	Sydney Football Stadium Redevelopment - Response to submissions		
Date	10 October 2018	**Job No/Ref**	259995-00

This document provides a response to traffic and transport related issues raised by the Department of Planning and Environment (DPE) in relation to the Stage 1 DA for the Sydney Football Stadium (SFS) Redevelopment.

Revised SIDRA modelling

Arup has undertaken updated SIDRA modelling to consider a 'worst case' double header scenario where both the SCG and SFS stage concurrent events to their full capacity – 95,000 people in total in the precinct. It should be noted that this is an extremely unlikely scenario, with the highest ever combined attendance for a double header in the Moore Park precinct of approximately 78,000 people in January 2017.

The methodology used to undertake this worst case scenario was as follows:

- Traffic surveys undertaken by Arup on Saturday 4 August 2018 were used to inform the traffic modelling. These surveys were undertaken on the evening of the double header Roosters vs Cowboys and Swans vs Collingwood where there were 50,000 people in Moore Park precinct.
- Discussions with the Transport Management Centre have confirmed that all available car parking in the Moore Park precinct was fully occupied at the time these surveys were undertaken. Given no additional parking is proposed as part of the SFSR project, the total parking occupancy for a double header with 95,000 people will be no different to that surveyed on 4 August 2018.
- Revised SIDRA modelling has been undertaken to account for the increased number of drop off movements (e.g. taxi / uber/ private vehicle drop off) expected for a 95,000 capacity double header. These additional movements are based off the mode split forecasts developed in consultation with Transport for NSW as published in Attachment 5 to the Response to Submissions.
- There are forecast to be approximately 5,100 additional people dropped off in the precinct by Uber, taxi or private vehicle in the 95,000 capacity double header scenario compared to that surveyed on 4 August 2018. Based on an average vehicle occupancy of 2.7, and that 60% of people arrive in the peak hour (based on Arup surveys), this equates to an additional 1,100 vehicles travelling through the precinct.
- A conservative assumption of half of these drop offs occurring in the wider precinct including Paddington in the east with patrons walking from Oxford Street and Surry Hills in the west with patrons walking via the route along Devonshire Street and across the Tibby Cotter Bridge has been adopted. An additional 550 vehicles were modelled as entering Driver Avenue evenly via Lang Road and Moore Park Road.

Following the conclusion of the event no vehicles are permitted to access Driver Avenue to pick up passengers. Therefore, post-match pick up occurs over a more dispersed area compared to drop off. The results of the updated SIDRA modelling are provided in the table below. For completeness the Moore Park Road & Anzac Parade & Flinders St, Fitzroy Street and M1 intersection has been modelled to demonstrate the impact of the increase in drop-off activities. These results report on the worst 30 minutes during the peak hour.

Scenario	4 August 2018 (50,000 people)		Theoretical 95,000 people in precinct	
Performance measure	DoS	LoS	DoS	LoS
Moore Park Road & Driver Avenue	0.63	A	0.94	C
Moore Park Road & Regent Street	0.66	A	0.87	B
Anzac Parade, Cleveland Street & Lang Road	0.87	C	0.89	C
Lang Road & Driver Avenue	0.68	B	0.83	B
Moore Park Road Rd & Anzac Parade & Flinders St, Fitzroy St, M1	0.76	B	0.83	B

The SIDRA modelling indicates that during the most congested 30 minutes of the peak hour:

- The Anzac Parade / Lang Road / Cleveland Street, Driver Avenue / Lang Road and Moore Road Rd & Anzac Parade & Flinders St intersections continue to operate at acceptable levels of service.
- The Moore Park Road / Driver Avenue and Moore Park Road / Regent Street intersection performance are forecast to slightly deteriorate with additional drop off movement but continue to operate at acceptable levels of service.

Notwithstanding the above analysis, the following is important to note

- The transport assessment supporting the Stage 1 DA has separately considered the impacts on the overall transport network (all modes) arising from a double header with 95,000 people in the precinct. These events are heavily managed by Transport for NSW and the Transport Management Centre, with strong communication provided prior to the match informing people to arrive earlier and leave their cars at home if possible. Therefore, the assumptions used in the SIDRA modelling are considered highly conservative.
- For the reasons outlined in Arup's transport assessment supporting the Stage 1 DA, particularly regarding improved public transport accessibility and promotion of active transport to Moore Park, it is expected that the future stadium will generate less vehicle traffic during major events when compared to the existing stadium (refer to section 5 of Appendix J- Transport Impact Assessment of the Stage 1 EIS).
- The transport strategy developed seeks to reduce private vehicle dependence by encouraging people to arrive by walking, cycling and public transport. For this reason, no additional car parking is proposed as part of the application. Upgrading roads to accommodate demands for an event that would occur very infrequently (if ever) would be in conflict with this transport strategy.
- It is not a sustainable nor cost effective strategy to design roads to accommodate demand under this scenario. Upgrading intersections to accommodate the potential traffic demands would reduce available space for pedestrians and other street users.
- The design of intersections in Moore Park are intended to accommodate day to day weekday traffic and traffic associated with major events, which typically range from between 10,000 people and 60,000 people. In the history of events in Moore Park no double header has

exceeded an attendance of 78,000 people – and even in this circumstance the start times were slightly staggered.

- The Final Mitigation Measures outlined in section 5.1 of the Response to Submissions report are considered suitable to address issues of traffic and transport for the development. These measures include a commitment to continue working with Transport for NSW, City of Sydney and the Centennial Parklands and Moore Park Trust regarding operational traffic, reducing car dependency and integrated ticketing for the development.

Modal Shift

The transport assessment has forecast a mode share of approximately 17% private vehicle (car driver) for a double header of 95,000 people. These mode share targets were developed following extensive surveys in consultation with Transport for NSW. This mode share reflects the quantum of parking available in the Moore Park precinct, with no additional parking proposed as part of the development.

Surveys undertaken on 4 August 2018 for a double header in the Moore Park precinct indicated an average vehicle occupancy of 2.7 people / car. Based on 16,150 people arriving by car for a 95,000 double header this would generate 5,810 car parking spaces being required. This is 270 spaces more than provided in the formal car parks described in the transport assessment, however it does not account for on-street parking surrounding the precinct that would be available for use by stadia patrons. Under the unlikely and hypothetical scenario of 95,000 attendees, these small number of additional spaces would be made up on nearby streets such as Oxford Street (adjacent to Centennial Park), Moore Park Road and within Centennial Park. Other locations include off-street car parks on the fringe of the city, with people transferring to bus services currently and in future the light rail. As discussed above, the intention of the development is to discourage private vehicle travel to the site and the measures outlined at section 5 of the Transport Impact Assessment are expected to increase more sustainable travel to the stadium in the future.