ARUP

Subject	Sydney Football Stadium Redevelopment - Response to submissions		
Date	25 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 – post event scenario

Arup previously undertook 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 modelling previously undertaken considered the operation of intersections in the Moore Park precinct prior to the start of the double header. Further modelling has now been undertaken which considers the operations of these intersections following the conclusion of the double header.

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

- Traffic surveys undertaken on Saturday 4 August 2018 were used as a base for 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 number of vehicles driving and parking in Moore Park (and therefore traffic movements at intersections) 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 conjunction with Transport for NSW as published in the Response to Submissions document. These mode share forecasts are appended to this document.
- There are forecast to be approximately 5,100 additional people picked up 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 this equates to an additional 1,890 vehicles travelling through the precinct.
- As a worst case scenario, it has been assumed that events at the SFS and the SCG would conclude at the same time. It is more likely however that finish times would be staggered given the different match times of the football codes held at these venues.
- 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. In this context a conservative assumption of 30% of pick up movements has been assumed to occur within the immediate precinct – with the remainder 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 connecting to the designated walking route along Devonshire Street and across the Tibby Cotter Bridge.

The results of the updated SIDRA modelling are provided in the table below. These results report on the worst 30 minutes during the peak hour.

Scenario (post event)	4 August 2018 (50,000 people)		Theoretical 95,000 people in precinct	
Performance measure	DoS	LoS	DoS	LoS
Moore Park Road & Driver Avenue	0.73	B	0.83	B
Moore Park Road & Regent Street	0.77	A	0.79	B
Anzac Parade, Cleveland Street & Lang Road	0.91	C	0.96	C
Lang Road & Driver Avenue	0.83	B	0.87	C
Moore Road Rd & Anzac Parade & Flinders St, Fitzroy St, M1	0.79	B	0.91	C

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

- The Anzac Parade / Lang Road / Cleveland Street and Moore Park Road / Driver Avenue intersections continue to operate at acceptable levels of service.
- The Moore Park Road / Regent Street, Driver Avenue / Lang Road and Moore Road Rd / Anzac Parade / Flinders St 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.
- 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 our 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.
- As part of the Stage 2 DA (should the Stage 1 application be approved) Infrastructure NSW will have to work closely with key stakeholders including Transport for NSW, Transport Management Centre and City of Sydney to update the event management plan for Moore Park. This work will consider measures to improve the operation of the transport network prior to and following the conclusion of events, including for major double headers.
- There is a commitment to work on integrated ticketing which will encourage people to utilise public and active transport.

Justification for Modal Shift

Travel surveys undertaken by Arup at the SFS and SCG throughout 2018 have confirmed that, as the overall attendance increases, the private vehicle mode share decreases. This is a result of the constrained parking environment in the precinct which restricts people's ability to drive to area. For events where attendance was approximately 20,000 people, the private vehicle mode share was between 40% and 50%. This mode share reduced significantly to 34% for the event on Saturday 4 August 2018 (double header) where 50,000 people were in the precinct – confirming the reduction in private vehicle mode share when major events are held.

The transport assessment has forecast a mode share of approximately 17% private vehicle (car driver) for a double header of 95,000 people. This forecast mode share reflects the quantum of parking available in the Moore Park precinct, with no additional parking proposed as part of the proposal.

The forecast private vehicle mode share figure for a 95,000 attendance double header was calculated on the following basis:

- There are 5,540 formal car parking spaces in the precinct
- Each car has an occupancy of 2.78 people (based on Arup surveys)
- Therefore 15,400 people arrive by car and park in formal car parking areas
- A further 270 on-street car spaces are used by people attending events on nearby streets such as Oxford Street (adjacent to Centennial Park), Moore Park Road and within Centennial Park. This is equivalent to a further 750 people arriving by car in the precinct
- Therefore there are forecast to be 16,150 people arriving to the precinct by car, which is 17% of the total 95,000 people in the double header scenario considered.

It should also be noted that the transport impact assessment, including the mode share forecasts, were developed following extensive consultation with Transport for NSW.