
Transport Assessment

Arup

Infrastructure NSW

**Sydney Football Stadium
Redevelopment**

**Transport Assessment for Stage 2
Development Application**

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This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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1 Introduction

This report supports a State Significant Development (SSD) Development Application (DA) for the redevelopment of the Sydney Football Stadium, which is submitted to the Minister for Planning pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The redevelopment is being conducted in stages comprising the following planning applications:

- **Stage 1** – Concept Proposal for the stadium envelope and supporting retail and functional uses as well as development consent for the carrying out of early works, including demolition of the existing facility and associated structures.
- **Stage 2** – detailed design, construction and operation of the stadium and supporting business, retail and functional uses.

Development consent was granted for the Concept Proposal and detailed approval to carry out early works and demolition (SSD 18_9249) by the Minister for Planning on 6 December 2018.

This report relates to the Stage 2 application and considers the detailed design, construction and operation of the new Sydney Football Stadium pursuant to the approved Concept Proposal.

Infrastructure NSW is the proponent of the Stage 2 DA.

1.1 Background

The Sydney Football Stadium (SFS) is a significant component of the sports facilities that comprise the Sydney Cricket and Sports Ground. Completed in 1988, the SFS has hosted numerous sporting events in its 30 years of operation for a number of sporting codes including football (soccer), rugby league and rugby union as well as occasional music concerts.

The NSW Stadia Strategy 2012 provides a vision for the future of stadia within NSW, prioritising investment to achieve the optimal mix of venues to meet community needs and to ensure a vibrant sports and event environment in NSW. A key action of the strategy included development of master plans for Tier 1 stadia and their precincts covering transport, integrated ticketing, spectator experience, facilities for players, media, corporate and restaurant and entertainment provision. SFS is one of three Tier 1 stadia within NSW, the others being Stadium Australia (Olympic Park) and the Sydney Cricket Ground.

In order to qualify for Tier 1 status, a stadium is required to include:

- Seating capacity greater than 40,000;
- Regularly host international sporting events;
- Offer extensive corporate facilities, including suites, open-air corporate boxes and other function/dining facilities; and
- Be the home ground for sporting teams playing in national competitions.

On 6 December 2018, development consent was granted for the Concept Proposal and Early Works/ Demolition stage of the SFS redevelopment (SSD 18_9249). This consent permitted the completion of demolition works on the site and established the planning and development framework through which to assess this subsequent Stage 2 application. Specifically, State Significant Development Consent SSD 18_9249 encompassed:

(i) A Concept Proposal for:

- A maximum building envelope for the stadium with capacity for 45,000 seats (55,000 patrons in concert mode) and 1,500 staff.
- Urban Design Guidelines and a Design Excellence Strategy to guide the detailed design of the stadium at Stage 2.
- General functional parameters for the design and operation of the new stadium, including:
 - Range of general admission seating, members areas, premium box/terrace, function/lounge and corporate suite options;
 - Administration offices;
 - New roof with 100% drip-line coverage of all permanent seating;
 - Flood lighting, stadium video screens and other ancillary fittings;
 - Food and beverage offerings;
 - Facilities for team, media, administration and amenity such as changing rooms, media rooms and stadium; and
 - Provision for ancillary uses within the stadium and surrounds.
- Principles and strategies for transport and access arrangements.
- Indicative staging of the development.

(ii) Detailed consent for the following works:

- The demolition of the existing SFS and ancillary structures, including the existing Sheridan, Roosters, Waratahs and Cricket NSW buildings down to existing slab level.
- Site and construction management, including use of the existing MP1 car park for construction staging, management and waste processing, and provisions for temporary pedestrian and vehicular access management.
- The protection and retention of Tree 125 (Moreton Bay Fig adjacent to Moore Park Road) and Tree 231-238 cluster (Hills Weeping Fig and others near Paddington Lane) and all existing street trees located outside of the site boundary, with the removal of all other vegetation within the proposed future building footprint.
- Works to make the site suitable for the construction of the new stadium (subject to this separate Stage 2 application).

1.2 Assessment requirements

1.2.1 Secretary's environmental assessment requirements

The Department of Planning and Environment (DP&E) issued a list of the Secretary's Environmental Assessment Requirements (SEARs) which inform the Environmental Impact Statement (EIS). Table 1 lists the SEARs that are specific to transport and accessibility.

Table 1 Compliance with SEARs

SEARs	Where addressed in report
accurate details of the current daily and peak hour vehicle, existing and future public transport networks, special event bus network and pedestrian and cycle movement provided on the road network surrounding the stadium on a typical weekday and weekend (event day) with consideration of simultaneous events within the Moore Park Precinct and parking occupancy on a typical weekday and weekend (event day) including peak events (full capacity) and double header (two peak events occurring within the precinct);	Appendix A
indicate the activities at the stadium, including type of events, number of events and capacity of the various type of events;	Appendix A
details of estimated total daily and peak hour trips generated by the completed stadium including vehicle (including point-to-point transport), public transport, coaches, special event buses, pedestrian and bicycle trips, major events (full capacity), double header events (full capacity), minor events (half capacity) and no event scenarios and the impact upon the surrounding road network with consideration of simultaneous events within the Moore Park Precinct;	4.1
the adequacy of existing public transport or any future public transport infrastructure within the vicinity of the site including the Sydney Light Rail, pedestrian and bicycle networks and associated infrastructure, including future enhancements, to meet the demand for the future development;	Appendix A
the estimated future daily and peak hour trips and movements for each event scenario in the surrounding road network, including cumulative impact from nearby development, within and outside of the Moore Park Precinct, including from point to point transport and continued operation of special event buses;	4.1
the impact of trips generated (pedestrians, bicycle, motor vehicles and public transport (including the Sydney Light Rail and special event buses) by the development on nearby intersections, with consideration of the cumulative impacts with appropriate traffic modelling from other approved developments in the vicinity and simultaneous events within the Moore Park Precinct	6.5
the identification of infrastructure required to manage any impacts on transport efficiency and public transport operation (including the Sydney Light Rail and special event buses) and road safety impacts associated with the future development, including details on improvements required to affected intersections	5.3, 6.5, 7
the impact of increased demand generated by operations of the stadium on the existing and future public transport network, (including the Sydney Light Rail and special event buses), pedestrian and bicycle networks and point-to-point transport and coach facilities and the adequacy of the networks and facilities to cater for the development	4.1, 6.5
integration of the development with the existing/future public transport network including the Sydney Light Rail;	7

SEARs	Where addressed in report
measures to encourage worker staff and visitors to travel by public transport, walking, cycling and car sharing, including minimal on-site parking for spectator use, integrated ticketing between events and transport providers;	Appendix B
provision of adequate bicycle parking and end of trip facilities and improved connections between the stadium and public transport nodes and pedestrian and bicycle networks;	5.2, 5.4, 5.5, 7
the wayfinding strategy and associated infrastructure (including lighting) to support the movement of large crowds to and from public transport servicing the Moore Park Precinct (including from the CBD, Central Station and Kings Cross Station), special event buses, coach and point to point transport pick-up and drop-off locations, including consideration of signage height and illumination and decision points	Refer to separate wayfinding strategy prepared for the project
the operational access arrangements, including internal circulation network (for motor vehicles, pedestrians and cyclists), and measures to mitigate any associated traffic and road safety impacts and impacts on the road network, public transport and pedestrian and cycle networks	6
the impact of any proposed roads or driveways	6.6.1
access arrangements for emergency vehicles	6.2
strategies and associated infrastructure to segregate hostile vehicles from public transport users (including paths between the stadium and public transport nodes) and areas of people congregation;	Refer to separate security strategy prepared for the project
provisions of adequate set-down/pick-up facilities for buses, coaches, taxis and ride-share point to point transport vehicles and coaches (including coach layover) for each event scenario to meet the demand of the development; compliance with the relevant and Australian Standards for vehicle parking with accessible areas close to main entries incorporating lighting and passive surveillance;	7.2, 8
service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type, routes and the likely arrival and departure times).	6.1
Provide a plan for the management of traffic and transport for the various event scenarios of the development to ensure that event traffic and transport, including pedestrians and cyclist is safely and efficiently managed, including during simultaneous events within the Moore Park precinct	9
Provide an indicative mapping of potential overflow parking impacts on surrounding suburbs and areas including Centennial Park, parts of Kensington and northern parts of Randwick during a major event, in the Green Travel Plan or Travel Demand Management Strategy to be submitted with the application	Appendix B

1.2.2 SSD 9249 conditions

In addition to the SEARs, this report addresses the future assessment requirements set out in Schedule 2 Part B of the State Significant Development Consent SSD 9249 as follows:

Table 2 Relevant SSD 9249 conditions

No.	SSD 9249 Condition	Section addressed in report
C39	The future development application must maintain the number of car spaces currently available and the vehicular access to the MP1 car park.	6.6.1
C40	The future development application must be accompanied by a detailed assessment of the traffic and transport impacts associated with the proposed use including:	n/a
	a) impact on the operation of the road network and footpaths, with emphasis on road user safety before, during and after events and suitable management and mitigation measures;	5.3, 6.5
	b) cumulative impacts on traffic and road safety of simultaneous events in the precinct and suitable management and mitigation measures;	6.5
	c) design solutions and/or management and mitigation measures to address traffic and pedestrian conflicts at the junction of Driver Avenue and the entry to MP1 car park;	6.4
	d) analysis of the post-event traffic movements around the site, the resultant traffic conflicts due to post-event closure of Driver Avenue and use of alternate vehicular routes and supporting design solutions or management measures;	6.5
	e) an integrated ticketing strategy to be introduced to promote public transport and alternate modes of transport.	4.2
C41	All future development applications for the detailed design, construction and operation of a new stadium on the site must include a Construction Pedestrian and Traffic Management Plan detailing the management of construction traffic and the likely impacts on the surrounding road network during future construction works.	10
C43	The future development application, must be accompanied by the following plans and associated documentation to ensure that the future development satisfactorily caters for the patrons on the site:	n/a
	a) a plan which addresses whether adequate and dedicated passenger pick-up/drop-off facilities for point to point transport services are provided for the development;	8
	b) a plan which addresses whether adequate dedicated coach passenger pick-up/drop-off and layover facilities are provided for the development;	7.2
	c) a plan identifying all pedestrian routes between the nearby public transport nodes and the site;	5.2

No.	SSD 9249 Condition	Section addressed in report
	d) a pedestrian route analysis plan which addresses whether the existing pedestrian routes are of adequate capacity and in satisfactory condition to support the anticipated pedestrian movement to and from the stadium during events within the future stadium and also taking into consideration simultaneous events within the Moore Park precinct	5.3
	e) a plan of alternative proposed pedestrian routes or improvements to surrounding pedestrian infrastructure (public) to support the pedestrian movements between the site and the nearby transport nodes, in case the existing pedestrian route analysis plan (required by condition Schedule 2 B48d) concludes that the existing routes are not satisfactory to cater for the future development on the site	5.3
	f) a plan which addresses whether the Moore Park Road separated cycleway is integrated appropriately with the future site layout and operational plans for the site (subject to availability of detailed plans at the time of lodgement of the development application);	5.5
	g) a site plan identifying adequate number of bicycle parking facilities (designed per Austroads guidelines) within the site, located in secure, convenient and accessible areas close to the proposed formalised entrances, with adequate lighting and passive surveillance opportunities	5.4
	h) a Wayfinding and Signage Strategy, including a lighting strategy, to improve wayfinding and signage between public transport nodes and from within the Moore Park Precinct.	Refer to separate wayfinding strategy prepared for the project
C44	Evidence of consultation with the relevant public authorities and presentation to CCC as required by Schedule 2, condition B16, and with other stakeholders and landowners in the Moore Park precinct in the preparation of the plans under Schedule 2 condition C43, must be provided as a part of the future development application.	Refer to separate consultation document
C45	<p>The future development application must be supported by a proposed amendment to the Moore Park Precinct Event Transport Operations Plan. The amended Traffic Management Plan must incorporate the proposed development, including its infrastructure and operation, and the planned traffic and transport infrastructure improvements in the Moore Park Precinct, to address the safe and efficient management of event traffic and transport</p> <p>The amendment is to be proposed in consultation with the Sydney Coordination Office and Transport Management Centre within TfNSW, Roads and Maritime Services, NSW Police, the Council, Sydney Cricket and Sports Ground Trust and Centennial Park and Moore Park Trust and evidence provided as part of the development application.</p>	9

No.	SSD 9249 Condition	Section addressed in report
C46	<p>The future development application for the detailed design and operation of the stadium on the site must include a Travel Demand Management Strategy and Green Travel Plan to increase the mode share of public transport and active transport for the development in conjunction with other stakeholders and landowners in the Moore Park Precinct, including the provisions for bicycle parking with end-of-trip facilities (where relevant).</p> <p>The strategy and plan must be prepared in consultation with the Sydney Coordination Office and Transport Management Centre within TfNSW, Roads and Maritime Services, NSW Police, the Council, Sydney Cricket and Sports Ground Trust and Centennial Park and Moore Park Trust and the CCC. Evidence of consultation must be provided with the development application.</p>	Appendix B
C47	<p>A future development application for the detailed design and operation of the stadium must address whether there is an impact on the timing or delivery of the Sydney Light Rail's Project's programme of works, including, but not limited to, footpaths, kerbs, gutters and road restoration works. The supporting documentation must include appropriate management and mitigation measures to avoid conflicts with the timing and delivery of the Sydney Light Rail's Project's programme of works.</p>	10

1.3 Scope of work

The traffic and transport assessment outlines a strategy for a safe, simple, enjoyable and seamless arrival and exit arrangements for patrons, irrespective of the mode of travel by which they propose to attend events. The objective of this assessment is to support the Stage 2 planning report by assessing and reporting the existing and future conditions. It includes the following items:

- Parking environment
- Pedestrian and cycling routes
- Key roads into the precinct
- Existing performance of the key intersections providing access to the site
- Travel demand analysis, including existing and future mode share
- Typical current daily and peak hour movements of existing facility
- Public transport availability (standard bus routes and event buses)
- Arrangements for taxis and other point to point services
- Construction traffic and pedestrian management during the Stage 2 works

2 Description of the Proposal

2.1 Site location

The site is located at 40-44 Driver Avenue, Moore Park within the Sydney Cricket Ground Precinct. It is bound by Moore Park Road to the north, Paddington Lane to the east, the existing SCG stadium to the south and Driver Avenue to the west. The site is located within the City of Sydney local government area.

The site is legally described as Lots 1528 and 1530 in Deposited Plan 752011 and Lot 1 in Deposited Plan 205794. The site is Crown Land, with the SCSGT designated as the sole trustee under the *Sydney Cricket and Sports Ground Act 1978*. The site is wholly contained within designated land controlled by the Sydney SCSGT under Schedule 2A of the *Sydney Cricket and Sports Ground Act 1978*.

In a broader context, the site is largely surrounded by Centennial and Moore Parks, the Fox Studios and Entertainment Quarter precincts and the residential suburb of Paddington. Located approximately 3km from the Sydney CBD and approximately 2km from Central Station, the site is connected to Sydney's transport network through existing bus routes and will benefit from a dedicated stop on the soon to be completed Sydney CBD and South East Light Rail.

The locational context of the Site is shown in Figure 1 whilst the site boundaries and existing site features are shown in Figure 2.