Declaration in accordance with Schedule 2, Part 3 of the Environmental Planning and Assessment Regulation 2000

Submission of Environmental Impact Statement prepared under Part 5.1 of the (NSW) Environmental Planning and Assessment Act 1979

Environmental Impact Statement prepared by:

<table>
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<tr>
<th>NAME:</th>
<th>HUGH SWINBOURNE ON BEHALF OF PARSONS BRINCKERHOFF PTY LTD</th>
<th>ALEX MCDONALD ON BEHALF OF PARSONS BRINCKERHOFF PTY LTD</th>
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<tr>
<td>Qualifications</td>
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<td>BSc (Environmental Biology)</td>
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<td>Level 27, Ernst &amp; Young Centre 680 George Street Sydney NSW 2000</td>
<td>Level 27, Ernst &amp; Young Centre 680 George Street Sydney NSW 2000</td>
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<tr>
<td>In respect of</td>
<td>Sydney CBD and South East Light Rail Project Environmental Impact Statement</td>
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<tr>
<td>Applicant name</td>
<td>Transport for NSW</td>
<td></td>
</tr>
<tr>
<td>Applicant Address</td>
<td>Level 5, Tower A, Zenith Centre 821 Pacific Highway Chatswood NSW 2067</td>
<td></td>
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<tr>
<td>Proposed development</td>
<td>Construction and operation of a new light rail service in Sydney, including approximately 13 kilometres of new light rail track from Circular Quay to Central, Kingsford and Randwick via Surry Hills and Moore Park (including track for light rail vehicle stabling and maintenance facilities). The proposal also includes a pedestrian zone on George Street in the Sydney CBD between Hunter and Bathurst streets. Full details of the proposed development are included in chapters 5 and 6 of the Environmental Impact Statement.</td>
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<td>Land to be developed</td>
<td>Generally along existing roadways. Requires some acquisition of private land in adjacent areas. Please refer section 5.3 of the Environmental Impact Statement.</td>
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<td>Environmental Impact Statement:</td>
<td>An Environmental Impact Statement is attached that assesses all matters specified in the Director-General’s Requirements dated 5 August 2013, in accordance with Part 5.1 of the (NSW) Environmental Planning and Assessment Act 1979 and other relevant legislation.</td>
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<tr>
<td>Declaration</td>
<td>I certify that I have prepared the contents of the Environmental Impact Statement in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000 and the Director-Generals Requirements dated 5 August 2013, and that, to the best of my knowledge the information contained in the Environmental Impact Statement is not false or misleading.</td>
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<td>Signatures</td>
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</tr>
<tr>
<td>Name</td>
<td>Hugh Swinbourne</td>
<td>Alex McDonald</td>
</tr>
<tr>
<td>Date</td>
<td>11 November 2013</td>
<td>11 November 2013</td>
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## Glossary and abbreviations

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<td>AARNET</td>
<td>Australia’s Academic and Research Network</td>
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<td>AAP</td>
<td>Area of archaeological potential</td>
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<td>ABS</td>
<td>Australian Bureau of Statistics</td>
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<td>ACT</td>
<td>Australian Capital Territory</td>
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<tr>
<td>AHIMS</td>
<td>Aboriginal Heritage Information Management System</td>
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<tr>
<td>ATC</td>
<td>Australian Turf Club</td>
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<tr>
<td>AFL</td>
<td>Australian Football League</td>
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<tr>
<td>ANZAC</td>
<td>Australian New Zealand Army Corp</td>
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<tr>
<td>ANZECC</td>
<td>Australian and New Zealand Environment and Conservation Council</td>
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<td>APDG Site</td>
<td>Alfred, Pitt, Dalley and George Streets site</td>
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<td>ARI</td>
<td>Average recurrence interval</td>
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<td>ASS</td>
<td>Acid sulfate soils</td>
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<td>BCR</td>
<td>Benefit-cost ratio</td>
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<td>BDA</td>
<td>Barangaroo Development Authority</td>
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<td>BITRE</td>
<td>Bureau of Infrastructure, Transport and Regional Economics</td>
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<td>BRT</td>
<td>Bus rapid transit</td>
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<td>BTS</td>
<td>Bureau of Transport Statistics</td>
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<td>CAMBA</td>
<td>China Australia Migratory Bird Agreement</td>
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<td>CBD</td>
<td>Central business district</td>
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<tr>
<td>CCTV</td>
<td>Closed circuit television</td>
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<td>CEMP</td>
<td>Construction environmental management plan</td>
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<tr>
<td>CF₄</td>
<td>Tetrafluoromethane</td>
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<td>CH₄</td>
<td>Methane</td>
</tr>
<tr>
<td>CMA</td>
<td>Catchment management authority</td>
</tr>
<tr>
<td>CO</td>
<td>Carbon monoxide</td>
</tr>
<tr>
<td>CO₂</td>
<td>Carbon dioxide</td>
</tr>
<tr>
<td>CO₂-e</td>
<td>Carbon dioxide equivalent</td>
</tr>
<tr>
<td>CPTED</td>
<td>Crime Prevention Through Environmental Design</td>
</tr>
<tr>
<td>CSELR</td>
<td>CBD and South East Light Rail (the proposal)</td>
</tr>
<tr>
<td>CSIRO</td>
<td>Commonwealth Scientific and Industrial Research Organisation</td>
</tr>
<tr>
<td>CSR</td>
<td>Combined services route</td>
</tr>
<tr>
<td>CSTTC</td>
<td>Central Sydney Traffic and Transport Committee</td>
</tr>
<tr>
<td>dB</td>
<td>Unit of measurement of Sound Pressure Level</td>
</tr>
<tr>
<td>dBA</td>
<td>A-weighted decibels</td>
</tr>
<tr>
<td>DBYD</td>
<td>Dial-before-you-dig</td>
</tr>
<tr>
<td>DC</td>
<td>Direct current</td>
</tr>
<tr>
<td>DCP</td>
<td>Development control plan</td>
</tr>
<tr>
<td>DDA</td>
<td>Disability Discrimination Act 1992</td>
</tr>
<tr>
<td>DEC</td>
<td>(NSW) Department of Environment and Conservation (now the Office of Environment and Heritage)</td>
</tr>
<tr>
<td>DECC</td>
<td>(NSW) Department of Climate Change (now the Office of Environment and Heritage)</td>
</tr>
<tr>
<td>DECCW</td>
<td>(NSW) Department of Climate Change and Water (now the Office of Environment and Heritage)</td>
</tr>
</tbody>
</table>
DEWHA  (Commonwealth) Department of the Environment Water Heritage and the Arts (now Department of Environment)
DGRs  Director General’s requirements
DoS  Degree of saturation – ratio of demand flow to capacity
DP&I  NSW Department of Planning & Infrastructure
DSAPT  Disability Standards for Accessible Public Transport 2000
DSEWPaC  Department of Sustainability, Environment, Water, Populations and Communities (now Department of Environment)
EIS  Environmental Impact Statement
EMF  Electromagnetic field
EPA  NSW Environment Protection Authority
EP&A Act  NSW Environmental Planning & Assessment Act 1979
EPBC Act  Commonwealth Environment Protection and Biodiversity Act 1999
ESA  Environmental site assessment
ESBS  Eastern Suburbs Banksia Scrub
ESD  Ecologically sustainable development
ESR  Eastern suburbs rail
FM Act  Fisheries Management Act 1994
FSR  Floor space ratio
GPO  General Post Office, Martin Place, Sydney CBD
GSP  Gross state product
HAMU  Historical Archaeological Management Units
HFCs  Hydrofluorocarbons
ICNG  Interim Construction Noise Guideline (DECC 2009)
INP  NSW Industrial Noise Policy (EPA 2000)
IPCC  Intergovernmental Panel on Climate Change
ISEPP  State Environmental Planning Policy (Infrastructure) 2007
JAMBA  Japan Australia Migratory Bird Agreement
KG  Kilogram
kL  Kilolitre
KPIs  Key performance indicators
kWh  Kilowatt hour
$L_{Aeq}$  The ‘energy average noise level’ evaluated over a defined time period. The LAeq can be likened to a noise dose representing the cumulative effects of all the noise events occurring in the relevant time period.
$L_{A_{max}}$  The maximum noise level occurring during a noise event
$L_{AE}$  The Sound Exposure Level, which is used to indicate the total acoustic energy of an individual noise event. The sound exposure levels are applied in the calculation of LAeq noise levels from light rail operations.
  The subscript “A” indicates that the noise levels are filtered to match normal human hearing characteristics (i.e. A-weighted).
LED  Light-emitting diode
LEP  Local environmental plan
LGA  Local government area
LNG  Liquefied natural gas
LoS  Level of service – performance parameter used to describe the operation of an intersection
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPG</td>
<td>Liquefied petroleum gas</td>
</tr>
<tr>
<td>LRVs</td>
<td>Light rail vehicles</td>
</tr>
<tr>
<td>mAHHD</td>
<td>Metres above Australian Height Datum</td>
</tr>
<tr>
<td>Master Plan</td>
<td><em>The NSW Long Term Transport Master Plan</em> (December 2012)</td>
</tr>
<tr>
<td>MCA</td>
<td>Multi-criteria analysis or Museum of Contemporary Art</td>
</tr>
<tr>
<td>MyZone</td>
<td>Sydney’s integrated transport zoning system</td>
</tr>
<tr>
<td>N2O</td>
<td>Nitrous oxide</td>
</tr>
<tr>
<td>NBN</td>
<td>National Broadband Network</td>
</tr>
<tr>
<td>NCA</td>
<td>Noise catchment area</td>
</tr>
<tr>
<td>NE</td>
<td>North-east</td>
</tr>
<tr>
<td>NEPC</td>
<td>National Environmental Protection Council</td>
</tr>
<tr>
<td>NEPM</td>
<td>National Environmental Protection Measure</td>
</tr>
<tr>
<td>NES</td>
<td>Matters of national environmental significance</td>
</tr>
<tr>
<td>NIDA</td>
<td>National Institute of Dramatic Art</td>
</tr>
<tr>
<td>NOx</td>
<td>Oxides of nitrogen</td>
</tr>
<tr>
<td>NO2</td>
<td>Nitrogen dioxide</td>
</tr>
<tr>
<td>NSW</td>
<td>New South Wales</td>
</tr>
<tr>
<td>NW</td>
<td>North-west</td>
</tr>
<tr>
<td>O3</td>
<td>Ozone</td>
</tr>
<tr>
<td>OEH</td>
<td>NSW Office of Environment and Heritage</td>
</tr>
<tr>
<td>OEMP</td>
<td>Operational Environmental Management Plan</td>
</tr>
<tr>
<td>OHW</td>
<td>Overhead wiring</td>
</tr>
<tr>
<td>Opal card</td>
<td>Sydney integrated electronic ticketing system, currently in trial</td>
</tr>
<tr>
<td>PA</td>
<td>Public address</td>
</tr>
<tr>
<td>PAD</td>
<td>Potential archaeological deposit</td>
</tr>
<tr>
<td>PAH</td>
<td>Polycyclic aromatic hydrocarbon</td>
</tr>
<tr>
<td>PCBs</td>
<td>Polychlorinated biphenyls</td>
</tr>
<tr>
<td>PM&lt;sub&gt;2.5&lt;/sub&gt;</td>
<td>Particulate matter with a diameter less than 2.5 micrometres</td>
</tr>
<tr>
<td>PM&lt;sub&gt;10&lt;/sub&gt;</td>
<td>Particulate matter with a diameter less than 10 micrometres</td>
</tr>
<tr>
<td>PIDS</td>
<td>Passenger information display systems</td>
</tr>
<tr>
<td>PIR</td>
<td>Preferred Infrastructure Report</td>
</tr>
<tr>
<td>Porte Cochere</td>
<td>A porch at the main or secondary entrance to a building where vehicles stop for passengers to depart or alight</td>
</tr>
<tr>
<td>PPP</td>
<td>Public private partnership</td>
</tr>
<tr>
<td>PTPM</td>
<td>Public Transport Project Model</td>
</tr>
<tr>
<td>PVC</td>
<td>Polyvinyl chloride</td>
</tr>
<tr>
<td>QVB</td>
<td>Queen Victoria Building</td>
</tr>
<tr>
<td>Randwick LEP</td>
<td><em>Randwick Local Environmental Plan 2012</em></td>
</tr>
<tr>
<td>RBL</td>
<td>Rating background level</td>
</tr>
<tr>
<td>REA</td>
<td>Rapid economic appraisal</td>
</tr>
<tr>
<td>RING</td>
<td><em>Rail Infrastructure Noise Guideline</em> (EPA 2013)</td>
</tr>
<tr>
<td>RMS</td>
<td>NSW Roads and Maritime Services</td>
</tr>
<tr>
<td>RNP</td>
<td>NSW Road Noise Policy</td>
</tr>
<tr>
<td>ROKAMBA</td>
<td>Republic of Korea Australia Migratory Bird Agreement</td>
</tr>
<tr>
<td>ROL</td>
<td>Road occupancy licence</td>
</tr>
<tr>
<td><strong>Round Table</strong></td>
<td>The Sydney Light Rail Round Table. A forum of executive representatives from key stakeholders</td>
</tr>
<tr>
<td><strong>SCATS</strong></td>
<td>Sydney Coordinated Adaptive Traffic System</td>
</tr>
<tr>
<td><strong>SCCAS</strong></td>
<td>Sydney City Centre Access Strategy</td>
</tr>
<tr>
<td><strong>SCG</strong></td>
<td>Sydney Cricket Ground</td>
</tr>
<tr>
<td><strong>SE</strong></td>
<td>South-east</td>
</tr>
<tr>
<td><strong>SEPP</strong></td>
<td>State environmental planning policy</td>
</tr>
<tr>
<td><strong>SEPP 55</strong></td>
<td><em>State Environmental Planning Policy No. 55 – Remediation of Land</em></td>
</tr>
<tr>
<td><strong>SF₆</strong></td>
<td>Sulfur hexafluoride</td>
</tr>
<tr>
<td><strong>SFS</strong></td>
<td>Sydney Football Stadium (also called Allianz Stadium)</td>
</tr>
<tr>
<td><strong>SHFA</strong></td>
<td>Sydney Harbour Foreshore Authority</td>
</tr>
<tr>
<td><strong>SHR</strong></td>
<td>State Heritage Register</td>
</tr>
<tr>
<td><strong>SIA</strong></td>
<td>Social impact assessment</td>
</tr>
<tr>
<td><strong>SICEEP</strong></td>
<td>Sydney International Convention, Exhibition and Entertainment Precinct</td>
</tr>
<tr>
<td><strong>Skyglow</strong></td>
<td>The illumination of the night sky or parts of it, typically as a result of artificial light</td>
</tr>
<tr>
<td><strong>SO₂</strong></td>
<td>Sulfur dioxide</td>
</tr>
<tr>
<td><strong>SRD SEPP</strong></td>
<td>State Environmental Planning Policy <em>(State and Regional Development)</em> 2011</td>
</tr>
<tr>
<td><strong>SREP SHC</strong></td>
<td><em>Sydney Regional Environmental Plan (Sydney Harbour Catchment)</em> 2005</td>
</tr>
<tr>
<td><strong>SRZ</strong></td>
<td>Structural root zone</td>
</tr>
<tr>
<td><strong>SSI</strong></td>
<td>State significant infrastructure</td>
</tr>
<tr>
<td><strong>SULE</strong></td>
<td>Safe useful life expectancy</td>
</tr>
<tr>
<td><strong>Sydney LEP</strong></td>
<td><em>Sydney Local Environmental Plan</em> 2012</td>
</tr>
<tr>
<td><strong>SW</strong></td>
<td>South-west</td>
</tr>
<tr>
<td><strong>tCO₂-e</strong></td>
<td>Tonnes of carbon dioxide equivalent</td>
</tr>
<tr>
<td><strong>TAFE</strong></td>
<td>Technical and Further Education</td>
</tr>
<tr>
<td><strong>TMC</strong></td>
<td>Traffic Management Centre</td>
</tr>
<tr>
<td><strong>TPZ</strong></td>
<td>Tree protection zone</td>
</tr>
<tr>
<td><strong>Tree study area</strong></td>
<td>The area that would be directly affected by the CSELR proposal for the purpose of the preliminary tree assessment in Technical Paper 9.</td>
</tr>
<tr>
<td><strong>TSC Act</strong></td>
<td><em>Threatened Species Conservation Act</em> 1995</td>
</tr>
<tr>
<td><strong>UAP</strong></td>
<td>Urban Activation Precinct</td>
</tr>
<tr>
<td><strong>UNSW</strong></td>
<td>University of New South Wales</td>
</tr>
<tr>
<td><strong>UTS</strong></td>
<td>University of Technology, Sydney</td>
</tr>
<tr>
<td><strong>VDV</strong></td>
<td>Vibration dose value</td>
</tr>
<tr>
<td><strong>VMS</strong></td>
<td>Variable message signs</td>
</tr>
<tr>
<td><strong>WHS</strong></td>
<td>Work health and safety</td>
</tr>
<tr>
<td><strong>YHA</strong></td>
<td>Youth Hostel Australia</td>
</tr>
</tbody>
</table>
Executive summary

The proposal

The Central Business District (CBD) and South East Light Rail Project (‘the CSELR proposal’ or ‘the CSELR’) comprises the construction and operation of a new light rail service in Sydney, including approximately 12 kilometres of new light rail track from Circular Quay to Central, Kingsford and Randwick via Surry Hills and Moore Park.

What are the key features of the proposal?

The key infrastructure elements of the CSELR are detailed on in Figure E.1. The proposal includes 20 light rail stops, a pedestrian zone on George Street (between Hunter and Bathurst streets), approximately 12 substations to provide power for the light rail vehicles (LRVs), an LRV stabling facility in Randwick and a maintenance depot in Rozelle. The CSELR requires a total of 13 kilometres of track including track required for proposed maintenance and stabling facilities. Key operational features of the proposal include:

- high frequency, ‘turn up and go’ services every two to three minutes during peak periods within the CBD; with services operating every five to six minutes between Moore Park and the Randwick and Kingsford branches
- additional special event services between Central Railway Station and the Moore Park and Royal Randwick racecourse stops
- interchange with heavy rail at major rail stations (Circular Quay, Wynyard, Town Hall and Central), ferry interchange at Circular Quay, and bus interchanges at the Town Hall, Queen Victoria Building, Rawson Place, Central Station, Randwick and Kingsford stops
- a fleet of 30 electric-powered LRVs (including spare LRVs), approximately 45 metres long, featuring air conditioning and accessible low-floor design
- a highly reliable service with the capability to carry up to 9,000 passengers per hour in each direction
- capacity for approximately 80 seated and 220 standing passengers in each LRV
- public domain improvements including concepts for paving, street trees, lighting and furniture.

The proposal also includes changes to property and utilities access, and traffic management changes as a result of the CSELR and within the direct corridor of the proposal.

The proposal is also integrated with, but does not include, a redesign of the Sydney bus network, which is proposed as part of a suite of projects under the (draft) *Sydney City Centre Access Strategy* (NSW Government 2013a).

Transport for NSW is the proponent for the CSELR, and will deliver the planning and concept design phases of the proposal, and the early works. The detailed design, construction, maintenance and operation of the proposal would most likely be delivered through a public private partnership (PPP) arrangement. It is anticipated that it would take approximately five to six years to build the CSELR, with work beginning at multiple sites from mid-2014 (subject to planning approval).
Figure E.1 CSELR proposal - key infrastructure elements
Why is the proposal needed?

The CSELR would transform the transport system within inner Sydney and provide a step change in transport capability, reliability and capacity. The CSELR proposal is designed to address three key challenges facing the Sydney CBD and inner south-eastern suburbs, as summarised below and in Figure E.2:

- **Customer travel experience is currently degraded by unreliable journey times and a confusing bus network** — In response the CSELR would improve the reliability of travel and provide an efficient connection between the CBD and major trip generators in the south-eastern suburbs such as the Moore Park sports and entertainment complex, Royal Randwick racecourse, the University of NSW (UNSW) and the Randwick health precinct. Light rail stops are proposed at Moore Park, Royal Randwick racecourse, UNSW, and adjacent to the Prince of Wales and Sydney Children’s hospitals.

- **Congestion is reducing Sydney’s productivity and urban amenity** — which has created transport congestion, unreliability, significant economic and social impacts and a degraded environment (particularly along the George Street corridor). In response the CSELR would free up road capacity, transferring CBD trips from existing buses and private vehicles onto the light rail and along the proposed George Street pedestrian zone. In tandem with other Sydney bus network changes as part of the Sydney City Centre Access Strategy (SCCAS), the CSELR proposal would lead to approximately 220 fewer bus trips during the morning peak periods within the CBD.

- **The transport system does not have the capacity to support growth** — In response the CSELR would support future economic growth by improving public transport capacity, quality and reliability.

Figure E.2 Problem, objectives and benefits alignment

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>CSELR OBJECTIVES</th>
<th>CSELR TARGET BENEFIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer travel experience is being degraded by unreliable journey times and a confusing bus network</td>
<td>Improve reliability and efficiency of travel to, from and within the CBD and suburbs to the South East</td>
<td>Faster, comfortable and more reliable public transport journeys</td>
</tr>
</tbody>
</table>
| | Improve access to major destinations in the South East, including Moore Park, UNSW, Royal Randwick racecourse and Randwick health precinct  
Improve the overall amenity of public spaces in the CBD and suburbs to the South East  
Increase the use of sustainable transport modes in the CBD and suburbs to the South East  
Satisfy long-term travel demand between the CBD and suburbs to the South East | Operating benefit  
A net reduction in congestion and accident costs for private vehicle users  
A reduction in pedestrian travel time and improved pedestrian amenity |
| Congestion is reducing Sydney’s productivity and urban amenity | Customer benefit  
A net saving in public transport operating costs |
| The transport system does not have the capacity to support growth | Broader community benefit  
Environmental and health benefits in some areas, such as reduced noise and emissions |
| | Wider economic benefit  
Sustainability benefit associated with urban densification  
Broader value to the community associated with the provision of a new public transport service |
As well as meeting the challenges discussed above, the CSELR proposal is expected to lead to a number of significant benefits for users, the community and the wider economy. As well as meeting the challenges discussed above, the CSELR proposal is expected to lead to a number of significant benefits for users, the community and the wider economy. The total economic benefits arising from the CSELR proposal are estimated to be $4 billion, including customer, operating, community and wider economic benefits. The anticipated benefits of the proposal are described in detail in Chapter 3 of this Environmental Impact Statement (EIS). The anticipated benefits of the proposal are described in detail in Chapter 3 of this Environmental Impact Statement (EIS).

The planning, design and decision-making process

How was the proposal developed?

The development of the CSELR proposal has been an iterative process that has taken into account issues arising from community and stakeholder involvement and the environmental investigations undertaken as part of the preparation of the EIS. The proposal was developed as part of a comprehensive options identification and assessment process in three key stages (refer Figure E.3 below). This process involved developing and assessing the feasibility of alternative options to deliver the necessary transport system capacity within inner Sydney and the CBD.

The planning and design process is ongoing and the proposal may be subject to further refinement as a result of submissions received in response to the public exhibition of this EIS and further consultation during detailed design (should project approval be granted).

Figure E.3 CSELR options assessment process
What is the planning approval process?

The CSELR proposal was declared a critical ‘State significant infrastructure’ project by the NSW Minister for Planning and Infrastructure on 20 May 2013. Part 5.1 of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act) establishes an assessment and approval regime for ‘State significant infrastructure’ (SSI). Under Part 5.1 of the EP&A Act, the planning and approvals process includes the following key steps:

1. Submission of an SSI application with an accompanying supporting document to the Director-General of the NSW Department of Planning and Infrastructure (DP&I) to seek Director-General’s requirements (DGRs) for the proposal — An SSI application was submitted to the Director-General of DP&I on 25 June 2013.

2. Preparation and submission of an EIS (this report), addressing the matters outlined in the DGRs — The Director-General of DP&I issued the DGRs for the CSELR proposal on 5 August 2013 (refer to Appendix A).

3. Public exhibition of the EIS for a minimum of 30 days. During the exhibition period, government agencies, interested groups and the community will be invited to make written submissions to the DP&I on the CSELR proposal.

4. Preparation of a submissions report and if required, a preferred infrastructure report, to address community and stakeholder comments and any potential design changes.

5. Assessment of the application by the DP&I and preparation of the Director-General’s environmental assessment report.

6. Determination by the Minister for Planning and Infrastructure, including if approved, any conditions of approval.

Approval from the Minister for Planning and Infrastructure is required before Transport for NSW can proceed with the CSELR proposal.

How have the community and stakeholders been involved?

Consultation with stakeholders and the community has occurred progressively through the development of the CSELR proposal and has been supported by a public information campaign. Place managers have been appointed to act as the ‘face’ of the proposal in the communities along the proposed route. The consultation strategy has been designed to inform the community and key stakeholders about the proposal and encourage participation to allow the development of the CSELR to benefit from stakeholder knowledge and understanding of specific needs. Consultation activities will continue as the project progresses to detailed design and construction.

The Environmental Impact Statement (EIS)

What is the purpose of the EIS?

This EIS has been prepared to assess and document the potential environmental impacts of the construction and operation of the CSELR proposal. It also documents the key features of the proposal, including the likely construction method and operation. The CSELR proposal would be constructed and operated in accordance with the mitigation measures proposed in this EIS and any submissions report or preferred infrastructure report, and the Minister’s conditions of approval.

The EIS has been prepared in accordance with the DGRs for the proposal, which incorporate the requirements of Part 3 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (refer Appendix A).

How were the impacts assessed?

The EIS was prepared through community and stakeholder consultation and detailed specialist assessment of key environmental issues, including surveys, data analysis and predictive modelling where appropriate. The EIS process included a detailed environmental risk analysis to scope the level of assessment required, identify key risks and confirm those issues that require the most focus in terms of management and mitigation.
This main EIS (Volumes 1A and 1B, with appendices in 1B) takes a regional and local (or precinct-based) approach to assessment of potential environmental impacts. Regional impacts include regional planning, transport and socio-economic issues, and are described in Chapter 9 of Volume 1A. Local impacts are described in individual chapters for the various precincts/localities through which the CSELR would pass (refer Chapters 12–17 in Volume 1B). This approach was taken in recognition of the relatively distinctive character of the local precincts, and to make it easier and clearer for the local communities to determine how they might be affected by the proposal.

**What are the key findings of the EIS?**
Key regional and local impacts (positive and negative impacts) during operation and construction of the CSELR proposal are summarised in the following tables.

**How would the impacts be managed?**
A large suite of management and mitigation measures is proposed to be implemented to reduce the potential adverse impacts of the proposal (refer Chapter 18 and Appendix I of the EIS). These measures would be incorporated into the construction environmental management plan (CEMP) and sub-plans for the proposal and subsequently (if necessary), the future operator’s environmental management system.
### Key regional impacts and benefits of the CSELR

<table>
<thead>
<tr>
<th>ISSUE</th>
<th>IMPACTS DURING OPERATION – POSITIVE (+VE) AND NEGATIVE (-VE)</th>
<th>IMPACTS DURING CONSTRUCTION – POSITIVE (+VE) AND NEGATIVE (-VE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional traffic, transport and access (Note: Local impacts such as parking and access are described in the next table)</td>
<td>• Transport and access benefits (+ve): Substantial regional transport benefits, including a notable increase in public transport carrying capacity and reliability along the CSELR corridor, and pedestrian capacity in the George Street pedestrian zone. Significantly enhanced access to major event precincts and community/education facilities within the corridor such as Moore Park, Royal Randwick racecourse and UNSW, leading to an increased public transport mode share and reduced congestion around these facilities.</td>
<td>• Road network performance (-ve): Road network is expected to function satisfactorily during the morning peak period; however, the afternoon peak period conditions may present problems for the CBD. In particular, the afternoon peak period forecasts indicate that implementation of adequate management measures would be critical to ensure priority bus corridors are protected against increased levels of congestion. In the South East corridor, challenges would relate to maintaining acceptable operations on Anzac Parade and Alison Road during construction.</td>
</tr>
<tr>
<td></td>
<td>• Traffic and access changes in tandem with the SCCAS and redesign of the South East bus network (+ve and -ve): Significant adjustments to the road hierarchy, traffic operating patterns and uses in the CBD and along the key regional corridors of Anzac Parade and Alison Road. Consolidation of right-turn movements along the CSELR corridor. South East bus network changes would not be implemented until after the CSELR is operating.</td>
<td>• Road network changes during construction (+ve and -ve): Functional changes to the road network proposed for the operational phase of the CSELR proposal would be implemented during construction, where appropriate and compatible with construction requirements.</td>
</tr>
<tr>
<td></td>
<td>• Road network performance (+ve and -ve): Displacement of existing traffic from the light rail corridor is not predicted to significantly impact the performance and functionality of the wider network, and would reduce the level of traffic growth forecast without the CSELR, due to a shift to public transport. Predicted four per cent improvement in general travel speeds in the wider CBD and South East road network in the afternoon peak. Very minor reduction in travel speeds or general traffic in the morning peak (from CSELR only), and a significant improvement in bus speeds on the network in conjunction with wider bus network changes resulting from the redesign of the city centre bus network.</td>
<td>• Buses (+ve and -ve): Redesign of the city centre bus network would be implemented prior to construction of the CSELR. The redesign would improve reliability of bus travel times and in some cases, improve bus speeds. Some diversions of the new routes would be required in the CBD during construction. Impacts on the amended network would be managed through a mixture of local route diversions and construction staging.</td>
</tr>
<tr>
<td></td>
<td>• Intersection performance (+ve and -ve): Intersection delays predicted to shift to the southern section of the CBD (with some exceptions) and away from the George Street corridor. Increases in intersection delays predicted in the alternative north-south corridors such as College, Elizabeth and York streets. Potential increases in east-west traffic movements.</td>
<td></td>
</tr>
</tbody>
</table>
### Regional Land Use and Community Outcomes

**Impacts during Operation – Positive (+VE) and Negative (-VE):**
- Regional planning and land use implications (mainly +ve): Planning and land use changes could occur to take advantage of predicted improvements in amenity and/or accessibility, and/or changes to planning and land use controls by local councils where factors like improved access have the potential to create pressure for development. Pressure for development is likely to be focused around stops, the George Street pedestrian zone, retail strips along Anzac Parade, and the retail/medical precinct in High Street and Belmore Road (including supporting the development of the proposed Randwick Urban Activation Precinct).

**Impacts during Construction – Positive (+VE) and Negative (-VE):**
- Impacts on community values (-ve): Some disruption expected to amenity, character, human health and well-being, access to community facilities and public spaces, and urban connectivity during construction.

**Impacts on Community Values (+ve):**
- Significant benefits expected in relation to amenity, character and human health/well-being, enhanced regional access to public spaces and community facilities, enhanced urban connectivity, and improvements to social sustainability and communities by linking communities across the CBD and South East suburbs.

### Regional Economic Development

**Macroeconomic benefits (+ve):**
- Including providing support for the anticipated growth across the CBD and South East suburbs; reducing the economic costs of road congestion, which would also improve the attraction of Sydney as a place to invest in and operate businesses; likely increases in land values along the alignment (benefits for owners); enhanced workforce accessibility; and generation of over 200 permanent jobs per annum with flow-on benefits for the wider economy (including supporting the development of the proposed Randwick Urban Activation Precinct).

**Other Economic Benefits (+ve):**
- Including (in some locations) improved customer access and enhanced passing trade; stimulation and support of capacity and floor space density increases and activities close to the CSELR; increases in commercial rents (benefits for property owners); and benefits for business viability.

**Adverse Economic Impacts (-ve):**
- Including (in some locations) impacts on access, and delivery and servicing constraints; and some impacts on passing trade due to restrictions in parking and access.

**Macro-economic benefits (+ve):**
- Creation of approximately 4,500 direct jobs between 2014 and 2020, and approximately 6,100 indirect (offsite) jobs.

**Other Economic Benefits (+ve):**
- Including (in some locations) increase in passing trade, especially for businesses at pedestrian crossing points; trade increases for businesses close to construction sites that sell goods to construction workers; and significant growth in demand for construction-related businesses.

**Adverse Economic Impacts (-ve):**
- Including (in some locations) disruptions to deliveries, distribution and customer access; reduced trade due to amenity impacts; especially for outdoor dining areas; reduced passing trade due to changes in vehicle and pedestrian flows; travel time impacts on workplace productivity and vehicle operating costs; and utility shutdowns.

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**Key regional impacts and benefits of the CSELR cont.**

** ISSUE **

<table>
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<tr>
<th>Regional land use and community outcomes</th>
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<tbody>
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<td><strong>Regional planning and land use implications (mainly +ve):</strong> Planning and land use changes could occur to take advantage of predicted improvements in amenity and/or accessibility, and/or changes to planning and land use controls by local councils where factors like improved access have the potential to create pressure for development. Pressure for development is likely to be focused around stops, the George Street pedestrian zone, retail strips along Anzac Parade, and the retail/medical precinct in High Street and Belmore Road (including supporting the development of the proposed Randwick Urban Activation Precinct).</td>
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<td><strong>Impacts on community values (-ve):</strong> Some disruption expected to amenity, character, human health and well-being, access to community facilities and public spaces, and urban connectivity during construction.</td>
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<td><strong>Impacts on community values (+ve):</strong> Significant benefits expected in relation to amenity, character and human health/well-being, enhanced regional access to public spaces and community facilities, enhanced urban connectivity, and improvements to social sustainability and communities by linking communities across the CBD and South East suburbs.</td>
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## Key local impacts and benefits of the CSELR

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<td>Local traffic, transport and access (Note: Regional impacts are described in previous table).</td>
<td>• Transport and access benefits (+ve): Many of the regional transport/access benefits would also be felt locally, such as improved transport and pedestrian capacity in the City Centre Precinct.&lt;br&gt;• Permanent removal of parking spaces along the CSELR alignment (-ve): Permanent removal of a significant number of on-street parking spaces is required to allow space for the CSELR.&lt;br&gt;• Changes to private property access (-ve): Access to private property would be maintained; however, some access arrangements would be changed, including ‘no entry’ controls to the George Street pedestrian zone (other than emergency and service vehicles), and limiting access to left-in left-out arrangements at other locations along the alignment.&lt;br&gt;• Disruptions to special events within the CBD (-ve): Potential need to relocate/reroute some special events that typically utilise George Street and Circular Quay – to be further assessed and managed in consultation with the City of Sydney, Sydney Harbour Foreshore Authority and other stakeholders.</td>
<td>• Disruption to pedestrians/cyclists (-ve): Diversions of pedestrian and cyclist routes and restrictions in pedestrian crossings in some locations to allow for safe construction.&lt;br&gt;• Changes to property access (-ve): Impacts similar to operational impacts.&lt;br&gt;• Disruptions to existing bus services within the south-eastern suburbs (-ve): Some diversions of routes required. Potential minor increase in travel times and distances for some bus services.&lt;br&gt;• Disruptions to emergency access (-ve): Access would be maintained within all precincts. No significant disruptions anticipated with the application of adequate traffic management measures.&lt;br&gt;• Disruptions to special events at Moore Park and Royal Randwick racecourse (-ve): Temporary relocation of passenger set-down and pick-up areas for special event buses. Construction footprint to be configured so as to avoid impacts to special event parking area at Moore Park during special events.&lt;br&gt;• Disruptions to special events within the CBD (+ve): Impacts similar to operational impacts.&lt;br&gt;• Pedestrians (-ve): Some diversions necessary; however, existing pedestrian movements parallel to the CSELR alignment would also be maintained along footpaths for most construction works. Movements crossing the light rail route would be maintained at existing pedestrian crossing facilities.&lt;br&gt;• Cyclists (-ve): Some existing cycle routes would be occupied by construction worksites (e.g. Devonshire, Wansey Road and Alison Road), with proposed diversions identified in the EIS.&lt;br&gt;• Emergency vehicles (-ve): Some diversion of emergency vehicle access routes likely during short periods of major construction and loading/unloading activities.</td>
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<td>Local property and land use impacts</td>
<td>• Permanent impacts on land use and property (-ve): Permanent loss of some recreation and open space land uses (e.g. for substation and stop locations in parks, such as Moore Park, Ward Park, High Cross Park). Some permanent impacts on private properties, including in Surry Hills (between Bourke Street and South Dowling Street), Moore Park (land owned by the Centennial and Moore Park Trust) and at Royal Randwick racecourse. Private property to be acquired in accordance with the Land Acquisition (Just Terms Compensation) Act 1991.&lt;br&gt;• Revitalisation of the public domain and creation of open space (+ve): Potential to create open space area within/adjacent to the existing Olivia Gardens apartment complex in Surry Hills. Opportunities to revitalise the public domain in areas such as George Street, Circular Quay, Devonshire Street, Wimbo Park and Ward Park.</td>
<td>• Temporary impacts on land use and property: Some temporary disruption to land uses affected by the construction footprint, such as open space and recreation uses in parks (e.g. Moore Park, Belmore Park, Prince Alfred Park, Ward Park, High Cross Park and Robertson Road sportsfields).</td>
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### Key local impacts and benefits of the CSELR cont.

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| Noise and vibration impacts | • **Airborne noise impacts from LRV passbys (-ve and +ve):** Minor noise guideline exceedances predicted along Devonshire Street, Surry Hills (with mitigation) and at some locations in the City Centre, Kensington/Kingsford and Randwick precincts. Reduction in background noise predicted at a number of locations such as within the Sydney CBD.  
| | • **Noise impacts from stabling and maintenance facility operations (-ve):** With proposed mitigation, noise levels are predicted to comply with applicable criteria.  
| | • **Operational noise from substations (-ve):** Noise expected to comply with applicable criteria with proposed mitigation in place.  
| | • **Groundborne noise/vibration from LRV passbys (-ve):** Potential impacts at a small number of particularly sensitive locations along the route (subject to further assessment during detailed design).  
| | • **Operational road traffic noise impacts (-ve and +ve):** Changes in road traffic flows predicted to cause potential increase in noise levels at some locations in the CBD in the morning and evening peak traffic times (up to 3.9 dB). Receptors affected are mixed use but mainly commercial or office spaces.  
| | • **Operational noise (+ve):** Removal of traffic along George Street between Hunter Street and Bathurst Street would reduce noise impacts from existing traffic within this area. Other areas would also experience a benefit from reduced car and bus levels.  
| | • **Benefits (+ve):** Potential opportunities to enhance tree planting in many areas (such as along George Street, Devonshire Street and Wimbo Park) through implementation of a landscape strategy for the proposed CSELR corridor.  
| | • **Removal of planted trees along the CSELR route (-ve):** Construction impacts (refer right) would also be permanent impacts, where not able to be mitigated.  
| | • **Visual and landscape benefits (+ve):** Substantial improvements anticipated in areas such as the George Street pedestrian zone, the plaza on Alfred Street (Circular Quay), and the potential new open space within/adjacent to the existing Olivia Gardens apartment complex.  
| | • **Visual and landscape impacts (-ve):** Impacts anticipated in some areas due to tree removal and introduction of infrastructure such as catenary overhead wiring. The most affected areas include Elizabeth Street Gardens (at the corner of Elizabeth and Foveaux streets), George Street (view north of World Square), Devonshire Street (removal of street trees), Moore Park (removal of fig trees), Royal Randwick racecourse (Alison and Wansey Roads), High Cross Park and parts of Anzac Parade. Some night-time visual impacts associated with lights from the LRVs themselves, and lighting at stops, Randwick stabling facility and the Rozelle maintenance depot.  
| | • **Removal of planted street trees along the CSELR route (+ve):** A large number of planted trees would be removed along and adjacent to the proposed CSELR route, including a number of significant trees along Anzac Parade, Alison Road and Wansey Road. The most significant impacts are predicted within the Randwick, Moore Park and Surry Hills precincts (particularly along Alison Road, Wansey Road and Devonshire Street, as well as within High Cross Park). Where the loss of trees is unable to be mitigated, trees would be replaced at a ratio of between 2:1 and 8:1, depending on the size of the tree affected.  
| | • **Visual and landscape impacts (-ve):** Temporary impacts anticipated at construction worksites, particularly at First Fleet Park, Martin Place and Belmore Park. Also impacts from construction hoardings and light spill from construction vehicles and plant. |
### Key local impacts and benefits of the CSELR cont.

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<td>Built and non-Indigenous heritage impacts</td>
<td>• <strong>Impacts on listed heritage items</strong> (-ve): Direct impact to and permanent changes to the setting context and appreciation of various heritage items and heritage conservation areas along the alignment. Major permanent impacts predicted at the Palace Hotel complex (City Centre Precinct), Devonshire Street significant trees and Wimbo Park (Surry Hills Precinct), Wansey Road significant trees, the Racecourse Precinct Heritage Conservation Area, Royal Randwick racecourse significant trees and High Cross Reserve and significant trees (Randwick Precinct), and Tay Reserve and UNSW significant trees (Kensington/Kingsford Precinct).&lt;br&gt;• <strong>Impacts on areas of potential archaeological significance</strong> (-ve): Impacts would occur during construction (refer right column), but would be permanent.</td>
<td>• <strong>Impacts on listed heritage items</strong> (-ve): Disturbance to and temporary changes to the setting, context and appreciation of various heritage items and heritage conservation areas along the alignment. Major temporary impacts predicted at First Fleet Park (Circular Quay) and Moore Park.&lt;br&gt;• <strong>Impacts on areas of potential archaeological significance</strong> (-ve): Disturbance to or loss of significant (including State significant) archaeological resources predicted at some locations along the alignment. Potential impacts predicted in the City Centre Precinct (e.g. First Fleet Park, Town Hall), and at High Cross Park (Randwick Precinct) and Tay Reserve (Kensington/Kingsford Precinct).</td>
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<td>Socio-economic impacts</td>
<td>• <strong>Local social benefits</strong> (+ve): Significantly positive social impacts predicted in some areas, including in some parts of the City Centre, Moore Park, Randwick and Kensington/Kingsford precincts, due to increased accessibility to local shops and services, in addition to increased pedestrian visibility and accessibility along the George Street pedestrian zone.&lt;br&gt;• <strong>Local social impacts</strong> (-ve): No significantly adverse impacts predicted.&lt;br&gt;Some moderately negative impacts, including community and cultural impacts from the Kingsford stop, local amenity/character impacts in Alison and Wansey roads, and community and cultural impacts at High Cross Park.&lt;br&gt;• <strong>Local economic benefits</strong> (+ve): Significantly positive economic impacts predicted in some areas, including in the City Centre, Moore Park and Randwick precincts.&lt;br&gt;• <strong>Local economic impacts</strong> (-ve): No significantly adverse impacts predicted during operation due to improved accessibility resulting from the proposed light rail, reducing the need for parking. Moderately adverse impacts predicted in the Kensington/Kingsford precinct due to permanent loss of car parking.</td>
<td>• <strong>Local social impacts</strong> (-ve): Significantly adverse social impacts predicted during construction in some areas, including in the City Centre, Surry Hills, Randwick and Kensington/Kingsford precincts due to construction impacts such as noise, dust, potential loss of business trade and increased traffic and access impacts to local residents and local businesses.&lt;br&gt;• <strong>Local economic impacts</strong> (-ve): Significantly adverse economic impacts predicted in relation to loss of street car parking during construction in the Kensington/Kingsford Precinct. Additionally, adverse economic impacts predicted in relation to loss of pedestrian traffic in George Street during construction.</td>
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<td>Cumulative impacts</td>
<td>• Cumulative benefits associated with simultaneous operation of CSELR and other major proposed developments along the alignment (+ve); Most major developments would be integrated with the CSELR and mutually beneficial in regard to transport, access and amenity. • Cumulative impacts associated with simultaneous operation of CSELR and other major proposed developments along the alignment (-ve); Potential cumulative impacts (land use change, noise and visual impacts) expected in tandem with the wider redesign of the Sydney bus network around those light rail stops with bus interchange facilities. Potential cumulative noise/visual impacts at the Rozelle maintenance depot locality with the Inner West Light Rail Extension project. Potential traffic and associated amenity impacts on CBD streets along which buses and road traffic are proposed to be diverted as part of the SCCAS and the CSELR.</td>
<td>• Cumulative impacts associated with simultaneous construction of CSELR and other major proposed developments along the alignment (-ve); Potential impacts predicted where adjacent projects are likely to overlap in timing. Most potential for impacts in the City Centre and Randwick precincts due to concentration of major projects there.</td>
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<td>Surface water hydrology/drainage</td>
<td>• Local stormwater flooding and drainage impacts (-ve); Not considered likely to be significant overall, but may result in localised adverse impacts in existing problem areas such as George Street (near King Street), Hay Street and Anzac Parade/Alison Road. Proposal would be designed with the objective of not worsening existing stormwater drainage issues.</td>
<td>• Local stormwater flooding and drainage impacts, increased risk of contamination (-ve); Not considered to have potentially significant impacts – recognising proposed application of design, and construction management and mitigation measures.</td>
</tr>
<tr>
<td>Other environmental issues</td>
<td>• Assessed in EIS (refer Chapter 10) including issues such as Aboriginal heritage, biodiversity, air quality, utilities, contamination, and greenhouse gases; however, not considered to have potentially significant impacts – recognising proposed application of design, and operational management and mitigation measures.</td>
<td>• Assessed in EIS (refer Chapter 10); however, not considered to have potentially significant impacts – recognising proposed application of construction management and mitigation measures.</td>
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Justification and conclusions

There is strong justification for the CSELR proposal in relation to its need, the anticipated benefits and costs/impacts, the objectives of the EP&A Act and matters of ecologically sustainable development (refer Chapter 19 of the EIS).

Provided the measures and commitments specified in the EIS are applied and effectively implemented during the design, construction and operational phases, the identified environmental impacts are considered to be acceptable and manageable.

How to make a submission on the CSELR proposal

The EIS will be placed on public exhibition by DP&I. During the exhibition period, government agencies, interested groups and the community will be invited to make written submissions to the DP&I on the CSELR proposal. Further community consultation will be undertaken by Transport for NSW during the exhibition period to enable the community to comment and Transport for NSW to answer questions about the proposal. Written submissions should be sent to DP&I before the end of the exhibition period and should be addressed to:

**Department of Planning and Infrastructure**
CBD and South East Light Rail Project – SSI 6042
23–33 Bridge Street,
Sydney NSW 2000
GPO Box 39, Sydney NSW 2001

Copies of all submissions received by the Director-General will be provided to the proponent, the Department responsible to the Minister of the Environment and relevant public agencies. Submissions would also be made available on the DP&I’s website. Submitters can request that personal details be withheld from publication; however, the content of the submission will still be made publicly available.