Transport for NSW | Sydney Light Rail

PARSONS BRINCKERHOFF

CBD AND SOUTH EAST LIGHT RAIL PROJECT

STATE SIGNIFICANT INFRASTRUCTURE APPROVAL (SSI-6042)

SUBMISSIONS REPORT TO PROJECT MODIFICATION

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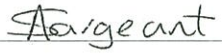
Approved by:	Anthea Sargeant	Date: 29/1/2015	

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Glossary and abbreviations

APS	Aesthetic Power Solution
ARI	average recurrence interval
ATC	Australian Turf Club (property managers of the Royal Randwick Racecourse)
CBD	central business district
CEMP	Construction Environmental Management Plan
CPTED	crime prevention through environmental design
CSELR	CBD and South East Light Rail
CPMPT	Centennial Park and Moore Park Trust
dB	(decibel) unit of measurement for sound pressure level
DDA	*Disability Discrimination Act 1992*
DP&E	(NSW) Department of Planning and Environment
EIS	Environmental Impact Statement
EMF	electro-magnetic fields
EMI	electromagnetic interference
EP&A Act	(NSW) *Environmental Planning and Assessment Act 1979*
EPA	(NSW) Environment Protection Authority
LRV	light rail vehicle
OHW	overhead wire
ONVR	Operational Noise and Vibration Review
NCA	noise catchment area
RFI	radio frequency interference
RMS	(NSW) Roads and Maritime Service
SCATS	Sydney Coordinated Adaptive Traffic System
SSI	State Significant Infrastructure
SSMF	Soil, Stormwater and Flood Management Plan
UNSW	University of NSW

Executive summary

Overview of the proposed modifications

Planning approval for the CBD and South East Light Rail Project (CSELR Project) was granted by the Minister for Planning under Part 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 4 June 2014. Section 115ZI of the EP&A Act allows for the modification of State Significant Infrastructure (SSI) approvals granted by the Minister for Planning under the EP&A Act.

Following determination of the CSELR Project, a series of proposed modifications have been developed as a result of ongoing consultation with stakeholders and design investigations. The proposed modifications to the CSELR project would result in a positive outcome overall in comparison to the approved project. However, some additional environmental impacts would also occur as a result of some of the modifications.

The design modifications that are proposed to the existing planning approval (SSI-6042) consist of:

- modification to the Grosvenor Street stop arrangement
- removal of World Square stop
- modification to Moore Park stop
- increase in the size of light rail vehicles (LRVs) and stop platforms to accommodate 67 metre LRVs
- realignment of the light rail alignment along Alison Road and flood mitigation changes at Centennial Park
- realignment of light rail alignment at the Anzac Parade/Alison Road intersection
- provision of third rail wire-free infrastructure within the CBD
- a revised construction methodology for the tunnel under Anzac Parade
- revision and amendment to substation sites
- amendment to the Randwick stabling facility building height condition of approval.

The Modification Report also identified three design clarifications to the project which were noted as part of the ongoing design of the approved project. This included clarification regarding the retention of the existing taxi rank on George Street, minor refinement to the design of the High Street LRV crossover location and minor amendments to the project boundary as a result of ongoing design refinement.

Planning approvals process

The CSELR Project was identified as a key priority transport infrastructure project for the NSW Government in the *NSW Long Term Master Plan*. *Sydney's Light Rail Future* presents the NSW Government's plan to expand light rail in Sydney.

The EP&A Act provides the statutory framework for the CSELR planning approvals. The CSELR Project was declared a Critical State Significant Infrastructure project by the Minster for Planning and Infrastructure (now Minster for Planning) under Part 5.1 of the EP&A Act and accompanying regulation on 23 June 2013. Planning approval for the project was granted by the Minister for Planning under Part 5.1 of the EP&A Act on 4 June 2014.

Pursuant to Section 115ZI of the EP&A Act, Transport for NSW is currently seeking approval for the modification of the SSI planning approval (SSI-6042).

Purpose of this report

This Submissions Report has been prepared to address the submissions received from the community, government agencies and project partners following the exhibition of the CSELR Project Modification Report. This Submissions Report provides:

- Summaries of issues raised in submissions.
- Responses to these issues.
- Any relevant new information concerning the proposal
- Identification of any relevant changes to the proposal and the potential impact of these changes (where relevant).
- Confirmation of the proposed mitigation and management measures for the proposal.

Overview of submissions

Submissions on the proposed modifications were received by the Department of Planning and Environment (DP&E) from government agencies, special interest groups and the community up until 24 December 2014. A total of 118 submissions were received. Of these submissions, four comprised responses from project partners and two responses were received from other government agencies. These responses included the following:

- City of Sydney Council
- Randwick City Council
- University of NSW (UNSW)
- Centennial Parklands
- Sydney Water
- NSW Environment Protection Authority (EPA).

A total of 112 submissions were received from the community, special interest groups and/or businesses. Of the community submissions, 12 submissions were received from special interest groups, 4 submissions were received from community action groups and one submission from a Member of Parliament. The special interest groups and community action groups consisted of the following organisations:

- Centennial Park Residents Association
- Sydney Boys High School
- Randwick Precinct
- Kingsford South Precinct Committee
- Sydney Girls High School
- Centennial Parklands Community Consultative Committee
- Kensington & West Kingsford Precinct
- BIKEast
- Bicycle NSW
- BIKESydney
- Paddington-Darlinghurst Community Working Group
- YHA
- People Unite Surry Hills
- Save our Suburbs
- Need Alison Road Parking
- Action for Public Transport
- Member for Sydney.

Most community submissions were concerned about the proposed modifications with respect to traffic, transport, and access issues, proposed design and operations issues and impacts to planted trees. Concerns regarding the planning approvals process (regarding timing of the exhibition), the need to further consider proposal alternatives, project justification, potential safety implications for pedestrians and potential flooding impacts along Alison Road were also raised as issues.

Key issues included:

- impacts to existing pedestrian paths and cycleways, in particular as a result of the proposed modification to the Royal Randwick Racecourse stop along the boundary of Centennial Park
- the reduced safety for pedestrians using or accessing the revised stop at the Royal Randwick Racecourse

- the increase in LRV length and the implications this might have for transit of intersections and waiting traffic
- objection to moving the alignment into Centennial Park and the adverse effects to the parkland that have the potential to occur as a result
- that longer LRVs would create excessive noise and disruption to the residents along the route
- impacts to planted trees including concerns regarding the quality of replacement trees proposed
- the potential impacts of the proposed modification along Alison Road and the increased added risk of flooding as a result of changes to the flood levee.

Conclusions and next steps

This Submissions Report has documented and considered the issues raised in community and stakeholder submissions on the proposed modifications to the approved CSELR project, as well as documenting Transport for NSW's response to these issues. It is proposed that the modified CSELR project, as described in Chapter 3 the CSELR Project Modification Report, should be submitted for determination by the Minister for Planning.

The Minister for Planning will subsequently decide whether to grant approval, or to refuse the proposed modifications, under Section 115ZI of the EP&A Act.

1. Introduction

This chapter outlines the background to the CBD and South East Light Rail Project (the 'CSELR Project'), the proposed modification to the CSELR project and the purpose of this Submissions Report.

1.1 Background

1.1.1 Overview of the CSELR Project

In December 2012, the NSW Government released two key strategic plans that set the framework for improving the central Sydney transport system:

- the *NSW Long Term Transport Master Plan* (NSW Government, 2012a) — which is a 20 year plan to improve the NSW transport system
- *Sydney's Light Rail Future — Expanding public transport, revitalising our city* (NSW Government, 2012b) — which details an integrated modal delivery plan for light rail, as one component of the *NSW Long Term Master Plan*.

As part of the Long Term Transport Master Plan the Sydney City Centre Access Strategy (NSW Government 2013) outlines a suite of initiatives to improve the way the Sydney CBD transport system operates.

In December 2014, the NSW Government also released *A Plan for Growing Sydney* (NSW Government 2014) that provides a comprehensive plan to manage the growth of Sydney over the next 20 years.

These strategic planning documents identify a number of transport, economic and other challenges facing Sydney — including catering for a growing city, the need to generate urban renewal and global competitiveness, and unlocking capacity on Sydney's transport network.

The documents also identify a range of strategies and projects to address these challenges. These include easing transport congestion in the Sydney CBD and improving public transport between key destinations in South East Sydney and the CBD by:

- expanding the current light rail services in inner Sydney, from Circular Quay to Randwick and Kingsford
- creating a pedestrian zone on George Street between Bathurst and Hunter Streets
- redesigning and better coordinating the Sydney CBD transport network (including buses, light rail, ferries, pedestrians and cyclists) to create an integrated public transport solution for the Sydney CBD.

The first two items in this bulleted list comprise the CSELR Project.

1.1.2 CSELR Project approvals

The CSELR Project was identified as a key priority transport infrastructure project for the NSW Government in the *NSW Long Term Master Plan*. *Sydney's Light Rail Future* presents the NSW Government's plan to expand light rail in Sydney.

The CSELR Project was declared Critical State Significant Infrastructure (SSI) by the NSW Minister for Planning and Infrastructure on 25 June 2013. Part 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) establishes an assessment and approval regime for SSI developments. Accordingly, an environmental impact statement was exhibited from 14 November 2013 to 16 December 2013. A subsequent Submissions Report (incorporating a preferred infrastructure report) was prepared and submitted to the (NSW) Department of Planning and Infrastructure (now the (NSW) Department of Planning and Environment (DP&E)) in March 2014. Planning approval was granted by the Minister for Planning under Part 5.1 of the EP&A Act on 4 June 2014.

1.2 Overview of the proposed modifications

1.2.1 Reasons for the proposed modification

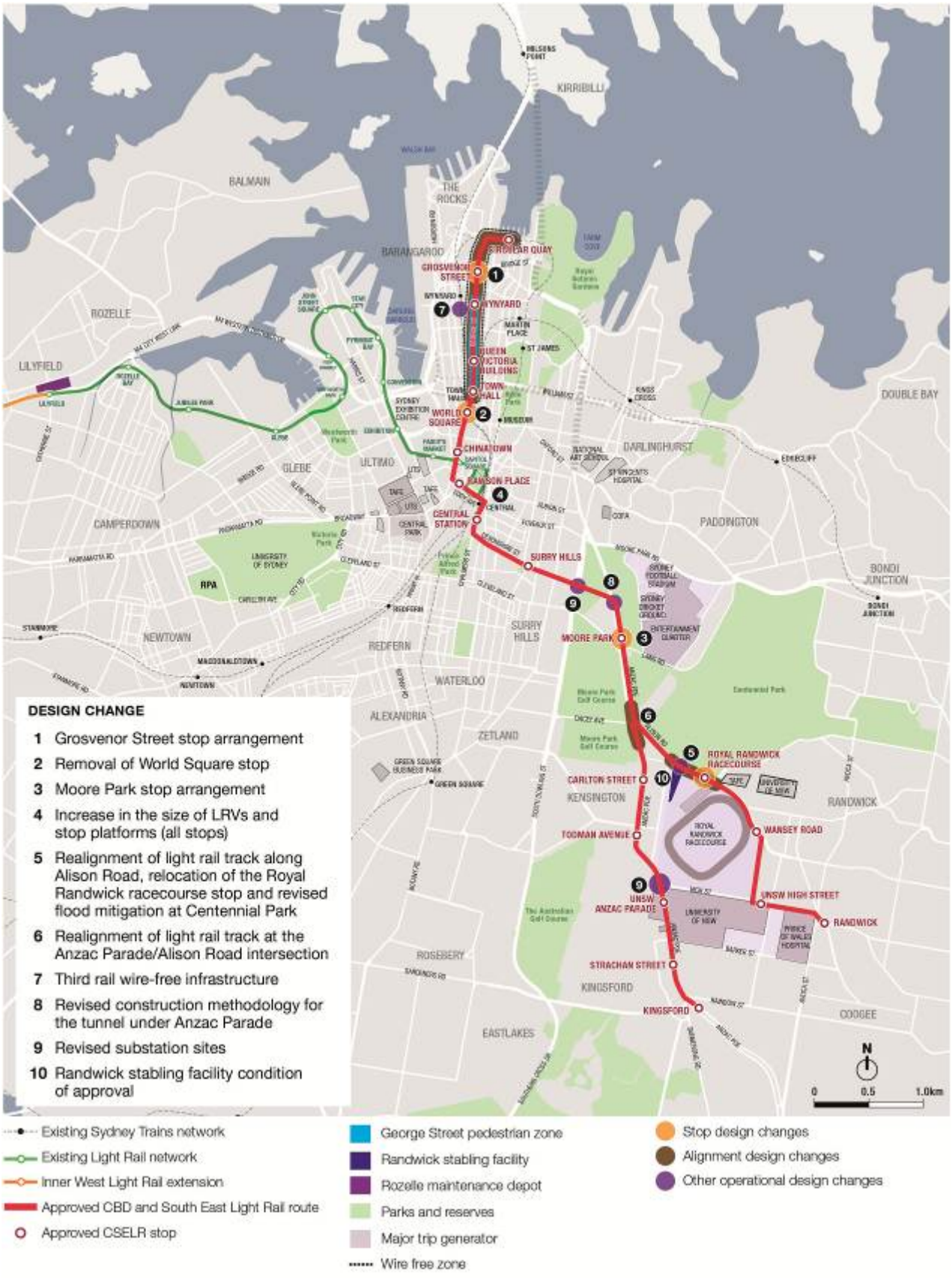
Following planning approval, Transport for NSW received proposals for the design, construction, and operation of the CSELR Project. The preferred tenderer has offered a number of innovations to improve the design, construction, and operation of the CSELR.

1.2.2 Key features of the proposed modifications

As described in Chapter 3 of the CBD and South East Light Rail Project Modifications report (Modification Report) 10 design modifications (referred to within this report as 'the proposal') have been proposed to the existing approved project (SSI-6042). These modifications consist of:

- modification to the Grosvenor Street stop arrangement
- removal of World Square stop
- modification to the Moore Park stop arrangement
- increase in the size of LRVs and stop platforms
- realignment of light rail along Alison Road and flood mitigation changes at Centennial Park
- realignment of light rail at the Anzac Parade/Alison Road intersection
- provision of third rail wire-free infrastructure within the CBD
- a revised construction methodology for the tunnel under Anzac Parade
- revised substation sites
- modification to the Randwick stabling facility building height condition of approval.

The locations of the above design modifications are shown in Figure 1.1.



Note: Indicative only. Subject to detailed design

Figure 1.1 Location of proposed design modifications

1.2.3 Key findings of the Modification Report

The proposed modifications to the CSELR Project as described in the CSELR Project Modification Report would result in a positive outcome overall in comparison to the approved project. However, some environmental impacts were identified as potentially occurring as a result of some of the modifications.

Numerous beneficial effects of the proposed design modifications to the approved CSELR Project were identified, including:

- Improved traffic and pedestrian impacts resulting from:
  - further refinement to the configurations of the Grosvenor Street stop
  - further refinement to the intersection of George Street and Ultimo Road
  - further refinement to the intersection of Anzac Parade and Alison Road
  - the provision of longer LRVs and greater frequency of LRVs in off-peak periods.
- Reduced visual impacts as a result of the adoption of alternative wire free infrastructure between Circular Quay and Town Hall; the reduced bulk and scale of the approved Moore Park stop; the reduced impact on Tay Reserve; and the relocation of the Surry Hills substation to a new underground location adjacent to the Moore Park west tunnel entrance.
- Improved public transport services through the provision of longer LRVs which would accommodate increased passenger capacities. Improved operations through the removal of the World Square stop and realignment of the Alison Road/Anzac Parade intersection.
- Reduced flooding impacts on the proposed stabling yard and downstream properties, in particular for Kensington and Kingsford by raising the existing flood levee along the southern boundary of Centennial Park.
- A decrease in the duration of construction, allowing the Project's benefits to the public to be realised earlier.

Some potential negative environmental impacts were also identified as potentially occurring as a result of the proposed design modifications. These included:

- An increase in the number of planted trees to be removed along approved CSELR alignment (up to approximately 14 trees) resulting in increased planted tree impacts and adverse visual impacts at these locations. These impacts are associated with the relocation of the Alison Road track alignment and Royal Randwick Racecourse stop between Doncaster Avenue and Darley Road and the revised construction methodology for the tunnel under Anzac Parade. The proposed increase in tree impacts only represents the actual number of trees impacted and does not take into account the relative significance (i.e. species, quality, age and context) of the newly affected trees in comparison to the proposed trees to be retained.

- An increase in the number of properties (approximately 86 receptor 'blocks') impacted by noise due to the increased length of the LRVs, in addition to some additional potential adverse noise impacts due to the modified alignment along Alison Road.

  As described in the Modification Report, the potential number of exceedances was represented by 'blocks' of receptors and not individual dwellings affected by the proposed modification. The actual number of affected receivers would be confirmed as part of the ongoing detailed design of the project as part of the Operational Noise and Vibration Review.

- Some additional impacts to non-Indigenous heritage, due to increased visual impacts to existing heritage items, such as the revised alignment along Alison Road and the relocated Royal Randwick Racecourse stop.

1.3 Purpose and content of this report

1.3.1 Purpose of this report

This Submissions Report has been prepared to address the submissions received from the community, government agencies and project partners following the exhibition of the CSELR Project Modification Report. This Submissions Report provides:

- Summaries of issues raised in submissions.
- Responses to these issues.
- Any relevant new information concerning the proposal
- Identification of any relevant changes to the proposal and the potential impact of these changes (where relevant).
- Confirmation of the proposed mitigation and management measures for the proposal.

1.3.2 Structure of this report

The structure of this Submissions Report is as follows:

- *Chapter 1 — Introduction:* Provides background to the CSELR Project and an overview of the key features of the proposed modifications; a summary of the key conclusions of the Modification Report; and the structure and purpose of this Submissions Report.
- *Chapter 2 — Consultation*: Provides an overview of consultation activities undertaken prior to, and during, the public exhibition of the CSELR Project Modification Report. Also includes a summary of ongoing and proposed consultations and communications.
- *Chapter 3 — Overview of submissions*: Provides an overview of the process that was used to analyse the issues raised in submissions, as well as an overview of the key issues raised by the community, government agencies and project partners.
- *Chapter 4 —Government agency and project partner submissions*: Summarises the issues raised in government agency and project partner submissions and Transport for NSW's response to these issues.

- *Chapter 5 — Response to community and stakeholder submissions*: Details the key issues raised in community and stakeholder submissions and Transport for NSW's response to these issues.

- *Chapter 6 — Design refinements and other design clarifications*: Provides detail on design refinements or clarifications identified through the review of the submissions.

- *Chapter 7 — Revised environmental management measures:* Provides a revised set of consolidated environmental management measures for the CSELR Project, which have been amended in response issues raised in submissions received during the public exhibition period.

- *Chapter 8 — Justification and conclusion:* Concludes the submissions report and requests determination by the Minister for Planning.

2. Community and stakeholder consultation

This chapter summarises the community and stakeholder consultation activities that Transport for NSW undertook during the exhibition of the Modification Report for the CBD and South East Light Rail Project.

2.1 Consultation during public exhibition of the modifications report

2.1.1 Stakeholder and community engagement

During the exhibition period, stakeholders, community members and government agencies (including State government agencies and local councils) had the opportunity to comment on the CSELR Project Modifications Report. Stakeholders and the community were invited to view the modifications report and make a submission.

Public exhibition of the modifications report

The CSELR Project Modifications report was publicly exhibited between 3 December and 17 December 2014. The CSELR Project Modifications Report was made available for information and comment on the DP&E website, and at the following locations:

- Department of Planning & Environment: Information Centre, 23–33 Bridge Street, Sydney
- City of Sydney Council: One Stop Shop, Town Hall House, Level 3, 456 Kent Street, Sydney
- Randwick City Council: Customer Service Centre, 30 Frances Street, Randwick
- Leichhardt Municipal Council: Customer Service Centre, 7–15 Wetherill Street, Leichhardt
- Transport for NSW: Community Information Centre, 388 George Street (corner King and George Streets), Sydney
- Randwick TAFE: Customer Service Centre, Building A, Lower Ground Floor, Corner Darley Road and King Street, Randwick
- Nature Conservation Council: Level 2, 5 Wilson Street, Newtown.

Project website

An electronic copy of the Modification Report was made available from the DP&E's website (http://www.majorprojects.planning.nsw.gov.au/).

Media release

A media release was issued on 2 December 2014 regarding the proposed modifications. This included an announcement by the Minister for Transport providing an update on the project and announcing the proposed modifications. The media release was also placed on the CSELR Project website (http://www.sydneylightrail.com.au/).

A link to the ministerial media release was posted on CSELR project's Facebook page on 3 December 2014.

Email update

An email update including the media release and advice on the proposed modifications was also issued to over 4,500 individuals registered on the CSELR project contact database.

Newspaper advertising

The display of the modifications report was advertised in Sydney Metro and relevant local newspapers on 3 December 2014. Submissions during this period were invited from all stakeholders.

- Sydney Morning Herald
- Daily Telegraph
- Inner West Courier
- Southern Courier
- Wentworth Courier.

Light rail community information centre

The light rail community information centre on the Ground Floor of 388 George Street, Sydney, was opened on 14 November 2013. The information centre is staffed Monday — Friday 9.00 am to 5.00 pm.

Available at the information centre is general proposal information, copies of the previous EIS and Submissions report, in addition to other CSELR documents. The Modification Report was also made available for viewing at this location.

Business and Community Forums and Reference Group meetings

Extraordinary Community and Business Forum and Reference Group meetings to brief local communities and businesses on the proposed planning modifications were held in precincts along the alignment during December 2014. These included:

- CBD Business Forum
- CBD Community Forum
- Surry Hills/Moore Park combined Business and Community Forum
- Randwick, Kensington and Kingsford combined Business and Community Forum

- Business Reference Group
- Community Reference Group
- Round Table.

Enquiries, request for information and complaints

The CSELR information line (1800 684 490) and email address (projects@transport.nsw.gov.au) were available to the community and stakeholders to allow them to ask questions of the project team. All formal submissions were directed to the DP&E.

2.2 Consultation with the Department of Planning and Environment

Transport for NSW notified the DP&E regarding its intention to modify the CSELR Project approval in October 2014. The Modification Report was prepared to assist the Minister for Planning in assessing and determining the potential impacts of the proposed modifications.

2.3 Proposed future engagement

Should the Minister for Planning approve the proposed modifications, community and stakeholder engagement activities will continue prior to and throughout construction of the CSELR Project. All stakeholders will be provided with project updates through a variety of means including:

- project newsletters
- notification of construction works (including targeted letterbox drops)
- regular updates to the project website
- regular updates to the Project Facebook page
- community and Business Forums
- community and Business Reference Groups
- round Table meetings
- clear signage at construction sites
- doorknocks where required
- community contact facilities (24-hour project information phone line, email and post)
- project email list (subscription based)
- complaints management process
- ongoing stakeholder meetings and consultation.

3. Overview of submissions

This chapter provides an overview of the process that was used to analyse the issues raised in submissions received for the proposal during the public exhibition of the CBD and South East Light Rail modification report.
This chapter also identifies the key issues raised in government agency, project partner and community submissions.

3.1 Analysis process

3.1.1 Receipt of submissions

Submissions from government agencies, special interest groups and the community were received by the DP&E. Submissions were received up until 24 December 2014. A total of 118 submissions were received. Of these submissions, four were responses from project partners (key stakeholders in the development of the CSELR Project) and two were responses from other government agencies. These responses included the following:

Project partners

- City of Sydney Council
- Randwick City Council
- University of NSW (UNSW)
- Centennial Parklands.

Government agencies

- Sydney Water
- NSW Environment Protection Authority (EPA).

A total of 112 submissions were received from the community, special interest groups and businesses. Of the community submissions, 12 submissions were received from special interest groups, 4 submissions were received from community action groups and 1 submission from a Member of Parliament. The special interest groups and community action groups consisted of the following organisations:

Special interest groups

- Centennial Park Residents Association
- Sydney Boys High School
- Randwick Precinct
- Kingsford South Precinct Committee
- Sydney Girls High School

- Centennial Parklands Community Consultative Committee
- Kensington & West Kingsford Precinct
- BIKEast
- Bicycle NSW
- BIKESydney
- Paddington-Darlinghurst Community Working Group
- YHA.

Community action groups

- People Unite Surry Hills
- Save our Suburbs
- Need Alison Road Parking
- Action for Public Transport.

Members of Parliament

- Member for Sydney.

Each submission was assigned an individual number by the DP&E. These numbers are referred to in Chapters 4 and 5 of this Submissions Report. Both formal submissions and email enquiries were considered from the community for the purpose of compiling all community feedback during the exhibition period.

3.1.2 Handling and responses to submissions

Government agency and project partner submissions

Government agency and project partner submissions were addressed individually (rather than with community submissions). Issues raised by government agencies and project partners were not categorised as the issues raised were largely dependent on each agencies technical discipline area.

Responses to issues raised by government agencies and project partners have been provided to each individual submission. These are presented in Chapter 4 of this Submissions Report.

Community submissions

Community submissions, including special interest groups, peak bodies, community action groups and the business community, were considered separately to government agency and project partner submissions. The content of each community submission was reviewed and categorised according to the key issues (e.g. noise and vibration) and sub-issues (e.g. construction noise) raised. A full list of the key issue and sub-issue categories used to categorise the issues raised in submissions is provided in Appendix A. A summary of the key issues raised in community submissions is provided in section 3.2 of this Submissions Report.

To avoid redundancy in this report, issues raised in community submissions were grouped together based on their assigned key and sub-issue categories with responses provided to these grouped issues.

Each issue is presented as a summary of the specific issues raised by individual submissions, meaning that, while the exact wording of a particular submission may not be presented in the summary of the issue, the intent of each individual issue raised has been captured. A tailored response has been provided to each grouped issue in Chapter 5 of this Submissions Report.

3.1.3 Consideration of petitions and form letters

No formal form letters were received as submissions during the exhibition period. Some submissions presented shared text; these respondents have been treated as individual submissions.

3.2 Summary of issues

The key issues raised in community submissions are summarised in Table 3.1. A complete breakdown of all key issues into sub-issue categories, and Transport for NSW's response to these issues, is provided in Chapter 5 of this Submissions Report.

Table 3.1 Summary of key issues raised in community submissions

Key issue	No. submissions raising issue
Traffic transport and access	62
Proposal design and operations	57
Planted trees	47
Proposal alternatives	26
Planning and statutory requirements	25
Proposal need and justification	24
Hazards and risks	21
Noise and vibration	21
Ground and surface water	19
Community and stakeholder consultation	17
Issues out of scope to the proposed modification	17
Land use and property	15
Visual and landscape character	14
Proposal construction	3
Socio-economic	3
Land stability soils and contamination	3
Biodiversity	3
Built and non-Indigenous heritage	2

Key issue	No. submissions raising issue
Waste energy and resources	1
Cumulative impacts	1

Analysis of community submissions

Support or opposition for the proposal

Of the 112 community submissions received, not including project partners, 4 indicated support for the proposals, 14 were neither in support or opposition to the proposal and 94 submissions indicated they were opposed to the proposals.

Analysis of issues

Over 680 individual issues were raised in the 112 community submissions received.

Figure 3.1 shows a breakdown of the key issues that were raised. Figure 3.2 provides a breakdown of the percentage of issues that were raised for each of the 10 modifications proposed.

As identified in Table 3.1, the top three issues raised by community submissions were as follows:

- traffic transport and access
- proposal design and operations
- planted trees.

Of the submissions raising concerns in relation to traffic transport and access approximately 33 per cent of the issues (37 respondents) raised related to pedestrian or cyclist impacts. In particular, concerns were raised regarding impacts to existing pedestrian paths and cycleways as a result of the proposed modification to the Royal Randwick Racecourse stop along the boundary of Centennial Park. Further analysis of the submissions indicated that a total of 24 submissions, or 21 per cent of the total amount of submissions, raised concerns specifically relating to traffic and access impacts, including impacts to access for Centennial Park and Little Riley Street.

Concerns relating to stops accounted for almost a fifth (19 per cent) of the issues raised relating to proposed design and operations. The movement of the Royal Randwick stop was raised in 19 per cent of submissions. General concern regarding the overall increase in the length of the LRVs and the resultant capacity were the other two key sub-issues relating to the proposed design and operations with a total of 18 percent and 15 per cent of submissions (of those that raised relating to proposal design and operations issues) raising these issues.

With regard to submissions raising concerns relating to planted trees, the sub-issue category that generated the most issues was the general concern for the overall impacts to planted trees as a result of the proposed modifications. This accounted for approximately 88 percent of the total responses for this issue. The remaining 12 percent raised concerns with the tree replacement strategy for proposed tree impacts.

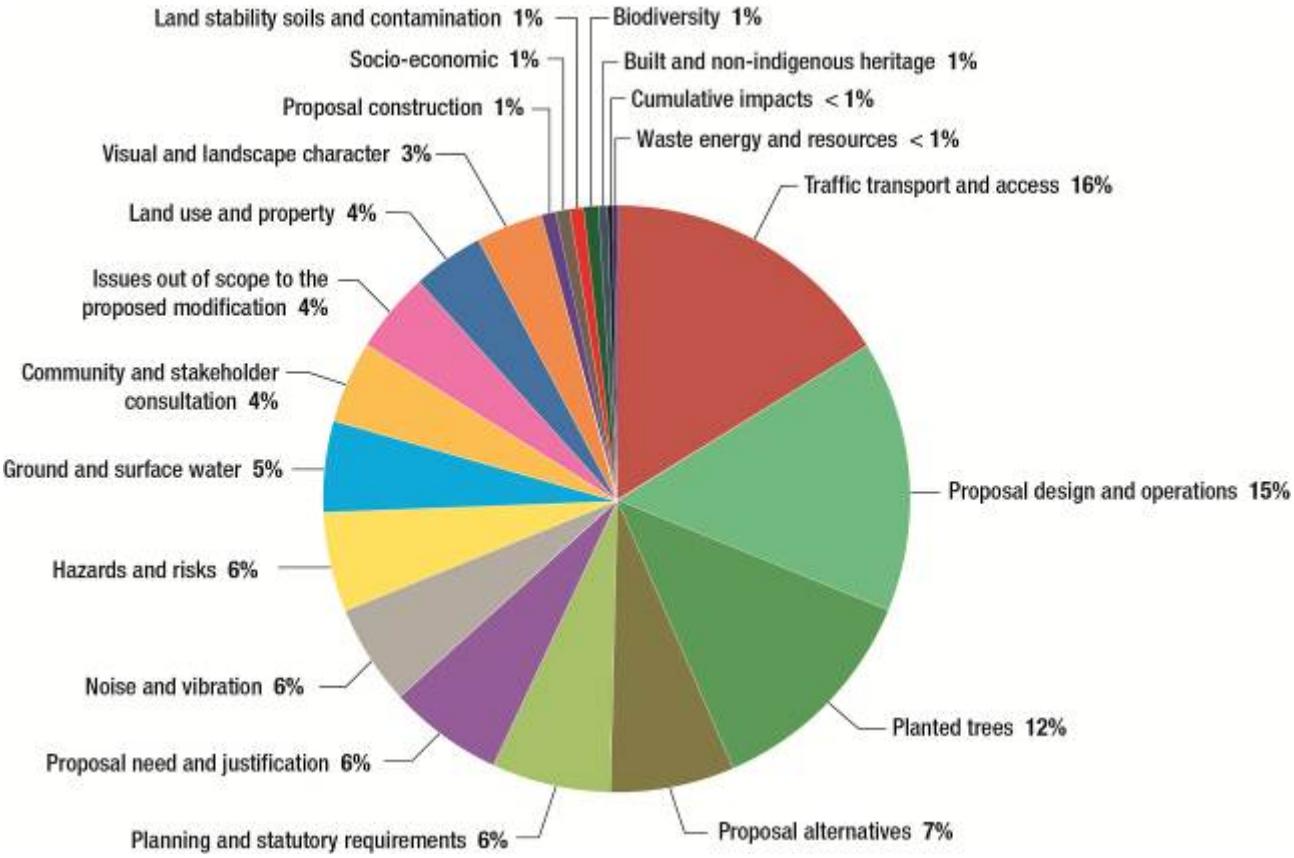


Figure 3.1 Summary of key issues raised by the community

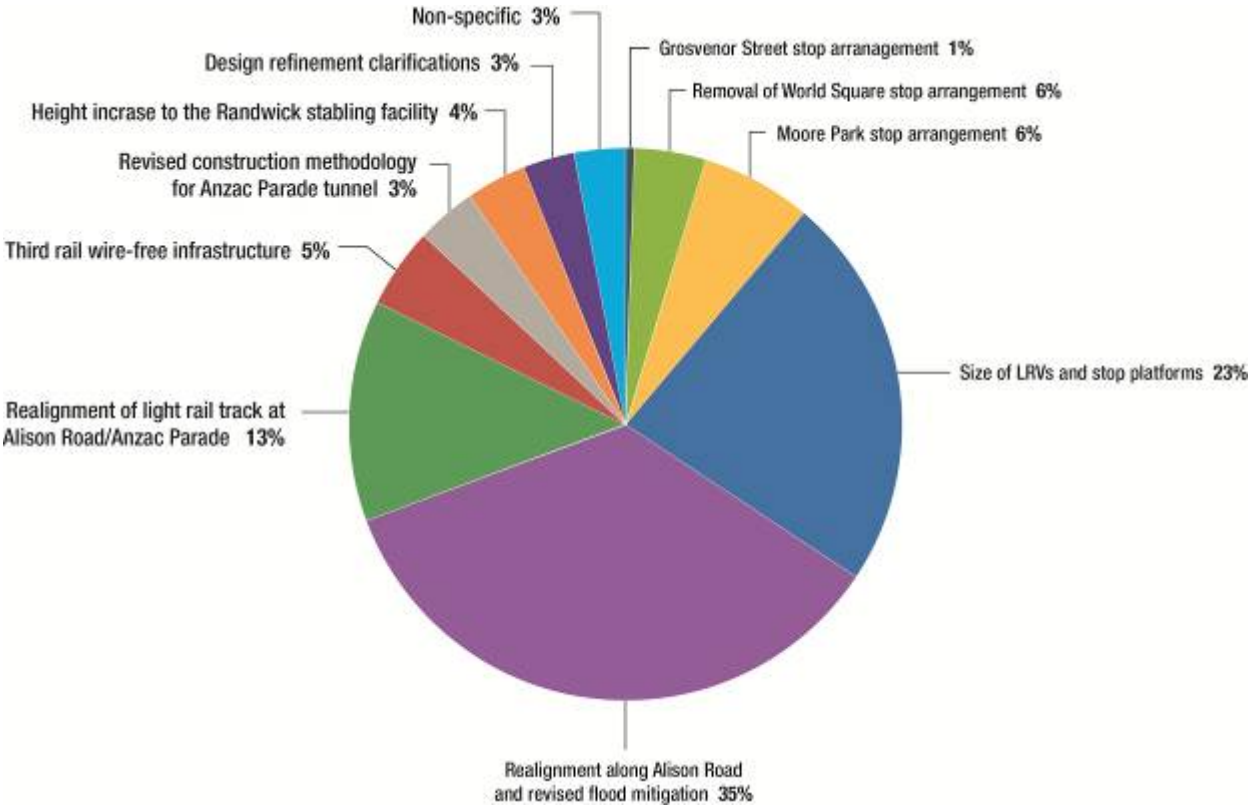


Figure 3.2 Breakdown of submissions by proposed modification

4. Government agency and project partner submissions

This chapter includes a summary of the submissions received from government agencies, local councils and project partners regarding the proposed modifications. Responses to government agencies and local councils have been provided in tabular format addressing comments raised by each.

4.1 City of Sydney Council

The City of Sydney Council (City of Sydney) provided a submission regarding the proposed modifications, dated 19 December 2014. City of Sydney raised a number of issues regarding the proposed modifications including:

- the need for close ongoing collaboration between the City of Sydney and Transport for NSW
- the need to address operational and functional issues arising from the extended length of the LRVs
- concerns and requests for additional information regarding proposed changes to some stops including Grosvenor Street and World Square
- clarifications regarding the proposed change in alignment of the light rail tracks along Alison Road and the Anzac Parade/Alison Road intersection
- concerns regarding potential impacts to the upstream drainage systems discharging into Centennial Park Ponds
- concern regarding the removal of additional trees along the alignment
- concern regarding the proposed minor amendments to the project boundary.

The issues raised by City of Sydney and Transport for NSW's responses to these issues are detailed in Table 4.1 below.

4.2 Randwick City Council

Randwick City Council provided a submission regarding the proposed modifications, dated 17 December 2014. Randwick City Council raised a number of issues regarding the proposed modifications including:

- loss of established and significant trees in Centennial Park
- encroachment and utilisation of historic Centennial parklands through the construction of a 300 metre long retaining wall of up to three metres high along Alison Road together with a light rail stop in the park
- disruption and relocation of existing cycleways connecting Randwick Prince of Wales Hospital and UNSW to Centennial Parklands, the CBD and greater metropolitan Sydney
- the use of larger light rail vehicles with increased noise impacts including in Randwick residential areas such as Wansey Road and High Street.

The issues raised by Randwick City Council and Transport for NSW's responses these issues are detailed in Table 4.2 below.

4.3 University of NSW

The University of NSW (UNSW) provided a submission regarding the proposed modifications, dated 17 December 2014. The UNSW raised a number of issues including:

- the potential impacts of the longer LRVs
- stop safety and capacity arising from the change in LRV frequencies
- the potential for increased risk of noise, vibration and electromagnetic interference
- visual impacts associated with the modifications
- lack of consultation between Transport for NSW and UNSW.

A summary of the UNSW submission and Transport for NSW's responses is provided in Table 4.3 below.

4.4 Centennial Park and Moore Park Trust

The Centennial Park and Moore Park Trust (CPMPT) provided a submission regarding the proposed modifications, dated 16 December 2014. The CPMPT raised a number of issues regarding the proposed modifications including:

- potential visual impacts and ecology of the park, including any reduction in the amenity of the parklands
- ongoing operations and maintenance of the parklands, and potential impacts of the project that may change this
- reinstatement or replacement of impacted parklands in consultation with CPMPT.

A summary of the CPMPT submission and Transport for NSW's responses are provided in Table 4.4.

4.5 Sydney Water

Sydney Water provided a submission regarding the proposed modifications, dated 9 December 2014. The main issue raised by the Sydney Water was the need to confirm potential impacts on existing assets during construction and the potential need for relocation and/or adjustment of various assets as a result of the proposed modifications.

A summary of the issues raised by Sydney Water are provided in Table 4.5.

4.6 Environment Protection Authority

The Environment Protection Authority (EPA) provided a submission regarding the proposed modifications, dated 16 December 2014. The main issue raised by the EPA was the proposed construction working hours for the project.

A summary of the issues raised by the EPA are provided in Table 4.6.

Table 4.1 Issues raised by City of Sydney Council

Item	Issue raised	Transport for NSW response to issue
1.0 Overall response		
1.1	The City of Sydney identified a series of issues that they consider as outstanding and unresolved arising from the CSELR planning approval phase. City of Sydney recommends that close collaboration with the City of Sydney is required to address the outstanding issues raised previously by the City.	The project Development Agreement between Transport for NSW and City of Sydney addresses various matters in relation to the proposed design and construction of the CSELR including those raised in the City of Sydney Submission. Collaboration with the City of Sydney will also continue via the Sydney Light Rail delivery phase Roundtable, Community and Business Reference Group and the CBD Business and Community Forums. In addition, the Project's governance structure provides for consultation with the City through the Urban Domain Reference Group. Transport for NSW will continue to honour these commitments and thereby resolve any potential issues during detailed design of the Project.
1.2	The City of Sydney considers that impacts such as the potential overflow of passengers from stops onto the City's footpaths, and the impacts of longer vehicles on pedestrian wait times have not been adequately explored. City of Sydney recommends that the proponent needs to address detailed operational and functional issues arising from the extended length of the LRV's, including, but not limited to, minimising stop infrastructure, pedestrian movement at and around light rail stops, and traffic considerations due to travel time through intersections.	Stops will be correspondingly longer and the vehicles will have correspondingly more doors which will reduce instances of passenger crowding. With respect to side platform stops the area over which light rail passengers would wait for services will increase. This could have a minor impact upon the use of the footpath by other pedestrians. Additional studies will be undertaken during detailed design stage as part of the Pedestrian and Cyclist Network and Facilities Strategy (required by condition of planning approval B33) development and these studies will be shared with City of Sydney. The project agreement between Transport for NSW and City of Sydney that addresses various matters in relation to the proposed design and construction of the CSELR remains in place. In addition, the Project's governance structure provides for consultation with the City of Sydney through the Urban Domain Reference Group. Transport for NSW will continue to honour these commitments and thereby resolve any potential issues during detailed design of the Project.

Item	Issue raised	Transport for NSW response to issue
2.0 Grosvenor Street stop arrangement		
2.1	There has been no change since the Infrastructure Approval that would generate additional northbound traffic and the City considers that only a single northbound lane is necessary. In addition, a single northbound lane in George Street will better provide for pedestrians as the crossing will be shorter and the footpaths can be widened. City of Sydney recommends that the proposed left hand turn from George Street to Grosvenor Street is deleted.	The modification of the Grosvenor Street stop to a central island platform configuration would provide some efficiencies with respect to the total width of platform required. This would allow a more compact light rail corridor between Jamison Street and Grosvenor Street, and the retention of the existing northbound left turn lane from George Street into Grosvenor Street (in addition to a single through traffic lane). This would represent a positive traffic benefit in comparison to the approved project design. Further examination of this proposed left hand turn will be considered as part of the detailed design.
2.2	The City of Sydney is concerned that the new arrangement for the Grosvenor Street stop raises the following issues: ▪ reduced functionality of the stop, as there will be no direct passenger access to the platform from the eastern footpath, which will be subject to the highest passenger load (in the PM peak) ▪ reduction in footpath width. City of Sydney recommends that the design for the Grosvenor Street stop revert to the previously approved side platform arrangement.	While pedestrians accessing the modified Grosvenor Street stop from the eastern footpath will have to cross the tracks to reach the platform, because of the stop location LRV speeds in this area will be low and the stop can be accessed safely. Additional footpath width was not proposed as part of the approved scheme, with the footpath being maintained in line with the existing kerb lines at this location. This will be reviewed further during detailed design in the development of the Stop Access and Design Plan.
2.3	City of Sydney recommends that the eastern and western footpaths on George Street adjacent to Grosvenor Street stop are as previously approved. City of Sydney also recommends that the proposed footpaths comply with the minimum paving widths as per Clause 1.6.9 of Schedule 7 – Technical Requirements of the Development Agreement.	The Technical Requirements of the Development Agreement per Clause 1.6.9 of Schedule 7 will be followed.

Item	Issue raised	Transport for NSW response to issue
3.0 Removal of World Square stop		
3.1	The City supports removal of the World Square platform provided footpaths on the eastern and western sides of George Street from Liverpool Street to Bathurst Street are widened. City of Sydney recommends that the footpaths between Bathurst and Goulburn streets are widened, in addition to the proposed widening along both sides of George Street between Wilmot and Bathurst streets.	Support for the proposed modification to remove the World Square stop is acknowledged. Clause 1.6.9 of the project agreement in place between Transport for NSW and City of Sydney includes the requirement for Transport for NSW to use its best efforts to ensure that footpath widths are as wide as possible and that there will be no reduction in footpath widths from existing. This agreement will continue to be honoured.
4.0 Moore Park stop arrangement		
4.1	City of Sydney recommends that the proposed location for the discharge of seepage water from the new underground infrastructure must be decided in consultation with the City of Sydney, and must consider flood studies and long term impacts to adjacent areas.	The project Development Agreement between Transport for NSW and City of Sydney addresses various matters in relation to the proposed design and construction of the CSELR including this point. In addition, the Project's governance structure provides for consultation with the City through the Urban Domain Reference Group. Transport will continue to honour these commitments and thereby resolve any potential issues during detailed design of the Project. Conditions of Approval B66 and B67 provide controls regarding the management of stormwater, flooding and groundwater which would be complied with as part of the construction and operation of the Project.
5.0 Size of LRVs and stop platforms		
5.1	The City of Sydney has concerns about the impact of the increase in LRV length from 45 metres to 67 metres, particularly considering the implications of the increased stop length in the pedestrian area of George Street. The City of Sydney is concerned that longer stops will result in: ▪ more infrastructure ▪ exacerbation of level differences between the footpath and platform levels ▪ loss of space in the public realm ▪ an impact on the economic vitality of the street.	The longer LRVs will increase available passenger capacity for LRV operations. In line with Transport for NSW's design commitments, infrastructure requirements would be considered on a stop by stop basis in the development of the detailed design in consultation with the Urban Domain Reference Group. This process aims to ensure customer needs are met and that a positive contribution is made to the public realm. The Urban Domain Reference Group was established to facilitate collaboration with key stakeholders and project partners, including the City of Sydney, so they could provide input to the proposed urban design elements. This continues to be the remit of the Reference Group. Further consultation with City of Sydney on specific issues in accordance with the project Development Agreement between Transport for NSW and City of Sydney will continue as the detailed design progresses. The detailed design process will include review and development of the vertical alignment of all aspects of the CSELR to optimise the design ground levels. This will include work to ensure that adjacent footpaths and platform levels are designed to tie-in to the greatest

Item	Issue raised	Transport for NSW response to issue
	City of Sydney recommends that the design of the public domain and resolution of the issues arising from the longer LRVs must be undertaken collaboratively with the City of Sydney through regular design consultation not solely through the Reference Group.	extent feasible. Where there are level differences, these would be designed to ensure full DDA compliance. Stop Access and Design Plans will also be prepared in accordance with condition B27 of the planning approval. The key objectives of the plans are to ensure all stops are designed to ensure safety, connectivity, efficiency and convenience is maximised. The plans will also outline urban design and landscaping elements. The stop platforms within the pedestrian area are designed to be an integral element in the public realm. Furthermore, the extended platform lengths would fall within the approved CSELR corridor within the CBD. As such the extended platforms are not considered to result in a loss of space in the public realm. In keeping with the overall project objectives, the proposed increase in stop length is not expected to detract from the economic vitality of George Street. Not only would the modified project not detract from the economic vitality of George Street, but the larger vehicles would provide increased mobility within the CBD and continued economic growth.
6.0 Realignment along Alison Road		
6.1	The City in principle supports the proposed modified light rail design to continue south on Anzac Parade past Dacey Avenue and Alison Road as this will improve the traffic signal operations at the intersection.	Support for the proposed modification at the Anzac Parade/Alison Road intersection is acknowledged.
6.2	Although not shown, the change does appear to require Anzac Parade to be widened on the western side, north of Dacey Avenue (grassed road reserve). City of Sydney requests clarification if Anzac Parade will be widened on the western side, north of Dacey Avenue (currently a grassed road reserve).	There are no changes proposed to the western side of Anzac Parade, north of Dacey Avenue.
6.3	The green area between Martin Road and the cycleway is part of Martin Road's road reserve. This reserve is under the authority of the City of Sydney. There is a significant impact for the residents of Martin Road and Robertson Road with the proposed additional removal of trees. City of Sydney recommends that the redesign of the shared section of the bus and light rail corridor south of Robertson Road and around to	The development of the detailed design and construction methodology will further review options which seek to minimise impacts to these trees. Transport for NSW acknowledges City of Sydney's suggestion for the location of the pedestrian/cycleway path on the western side of Martin Road and will examine options during detailed design which minimise impacts to these trees (refer to additional mitigation measure A.14 in section 7.2 of this Submissions Report.

Item	Issue raised	Transport for NSW response to issue
	Alison Road to have no or less impact on the trees, investigating the option to relocate the pedestrian/cycleway path to the western side of Martin Road.	
6.4	The new arrangement for Anzac Parade and Robertson Road did not indicate the traffic signal changes for the light rail access to and from the rail corridor. City of Sydney requests clarification whether the signalised pedestrian crossing at Anzac Parade is being retained.	As stated in Section 3.8.3 of the Modification Report (Transport for NSW 2014b), the signal phasing at the intersection of Alison road and Anzac Parade will retain existing pedestrian signal locations. At Robertson Road, where the LRVs would access the light rail corridor, the signalised crossing would be retained but would need to be double-cycled to allow for light rail priority.
6.5	There is a marked pedestrian/cycle crossing over the existing bus roadway and there is no indication if this will need to be signalised or left as an uncontrolled crossing. City of Sydney requests clarification whether the marked pedestrian/cycle crossing over the existing bus roadway will need to be signalised or whether it will be left as an uncontrolled crossing.	It is confirmed that this crossing would be signalised as part of the project.
6.6	City of Sydney requests clarification whether there is still a bus right turn from Anzac Parade to the Bus Roadway.	The northbound bus right turn from Anzac Parade to the Bus Roadway would be retained.
7.0 Revised flood mitigation at Centennial Park		
7.1	The additional design development and model assessment needs to evaluate if there are impacts to the upstream drainage systems that discharges into Centennial Park ponds due to the increase storage height. City of Sydney recommends that if impacts to the upstream drainage systems that discharge into Centennial Park Ponds are identified, the City of Sydney is to be briefed about the findings and their implications.	Additional flood modelling covering the upstream areas is currently being undertaken to inform the detailed design. The findings of this would be shared with City of Sydney. The project Development Agreement between Transport for NSW and City of Sydney addresses various matters in relation to the design of the CSELR and will continue to be honoured.
8.0 Third rail wire-free infrastructure within the CBD		
8.1	The option of a third rail to provide wire free sections of light rail is supported, as is the proposed extension of the wire-free section from Hunter Street to Alfred Street.	Support for the proposed modification to provide third rail wire-free infrastructure is acknowledged.

Item	Issue raised	Transport for NSW response to issue
8.2	It is understood that the system would likely require power supply boxes under the road and under the third rail itself, however there could be issues with the depth of road required to fit the necessary equipment. Should this additional power supply equipment require the road level to be raised, the implications to the flooding conditions are to be considered carefully as the capacity of the road to carry water will be significantly reduced. City of Sydney recommends that the vertical alignment of the light rail corridor needs to be clarified for the length of the route in the Sydney LGA.	The detailed design process would include review and development of the vertical alignment of all aspects of the CSELR to optimise the design ground levels. The final design will comply with the project Development Agreement between Transport for NSW and City of Sydney which addresses various matters including flooding in relation to the proposed design of the CSELR including these points. In addition, the Project's governance structure provides for consultation with the City through the Urban Domain Reference Group. Transport will continue to honour these commitments and thereby resolve any potential issues during detailed design of the Project.
8.3	The project's condition of consent B65 are fundamental and need to be maintained, including that the maximum increase of flood levels in a 100 year average recurrence interval flood event is 10 millimetres. City of Sydney recommends that any modification to the cross section of the road as a result of the introduction of the third rail wire free power supply must comply with consent condition B65.	As stated in the Modification Report (Transport for NSW 2014b), all conditions of approval identified in the State Significant Infrastructure approval (SSI-6042) granted on 4 June 2014 continue to apply and would be applied to the proposed modifications, if approved.
9.0 Revised construction methodology for the tunnel under Anzac Parade		
9.1	The City has serious concerns with the number of additional trees to be removed next to Anzac Parade and south of Gregory Avenue. The construction arrangement needs to be reviewed to try and avoid tree removal. City of Sydney recommends that an assessment of the number of trees to be removed under the option to have five lanes on Anzac Parade during construction should be undertaken.	In developing the proposed modification consideration was given to a five-lane option, however this did not reduce the number of trees directly impacted. The development of the detailed design and construction methodology will further review this option. This is consistent with the principles outlined in condition B47 of the planning approval. Environmental Management Measure T4 provides a commitment for construction techniques to minimise impacts to tree root zones where practicable. This would include consideration of compaction and root bridging techniques, permeable paving, tunnel boring of services, hydro-excavation and careful root pruning). The use of low impact construction techniques (on existing tree roots) for installation of new services would also be considered, where appropriate and feasible.

Item	Issue raised	Transport for NSW response to issue
9.2	City of Sydney recommends that a request should be made to RMS to approve five lanes and a tidal flow traffic option during construction of the Moore Park tunnel.	A six lane configuration is RMS current preferred position. Other options would be considered during the detailed design phase once sufficient design and onsite assessments to prove the impact to the trees have been undertaken.
10.0 Revised substation sites		
10.1	The City supports the proposed relocation of the Surry Hills substation from the new Wimbo Park to be underground within the western portal of the Moore Park tunnel.	Support for the proposed modification to the Surry Hills substation is acknowledged.
10.2	No clarification has been given about the final location of the Moore Park East substation. The project's Environmental Impact Statement identified the location of a substation at Moore Park East on the north eastern corner of Lang Road and Anzac Parade. The Submissions Report, on page 6-6 showed the proposed substation on the southern side of the intersection of Lang Road and Anzac Parade. City of Sydney also raised concerns regarding the proposed location of the substation over an existing stormwater drainage box culvert. City of Sydney recommends that the Moore Park East substation be located near the southern side of the intersection of Lang Road and Anzac Parade as presented in Figure 6.2d of the Submissions Report Volume 1.	The Moore Park East substation will be located in the approved position (illustrated in Figure 6.2d of the Submissions Report Volume 1(Transport for NSW, 2014a)).
11.0 George Street/Ultimo Road intersection		
11.1	The change to restrict the right turn to George Street will add to the congestion at the intersection of Harris Street and Ultimo Road. An option to relieve the congestion would be to relocate the existing pedestrian signals in George Street near Valentine Street to the intersection of Valentine Street. City of Sydney recommends that Valentine Street be signalised to allow a right hand turn to travel south along George Street by relocating the existing pedestrian signals in George Street near Valentine Street to the intersection of Valentine Street.	The project Development Agreement between Transport for NSW and City of Sydney that addresses various matters in relation to the proposed design, and construction of the CSELR remains in place. In addition, the Project's governance structure provides for consultation with the City through the Urban Domain Reference Group. Transport will continue to honour these commitments and thereby resolve any potential issues during detailed design of the Project. Further review of the position and phasing of pedestrian signals will be considered.

Item	Issue raised	Transport for NSW response to issue
11.2	City of Sydney recommends that footpath widening be undertaken at the George Street/Valentine Street intersection.	As the areas identified are outside the CSELR footprint, it is not proposed to undertake footpath widening at this location.
12.0 Little Riley Street, Surry Hills – Road Closure		
12.1	The road closure of Little Riley Street will have an impact on the access to a short section of Little Riley Street, however the City has confirmed that this will not impact garbage collection.	Acknowledged.
12.2	Currently Adelaide Street is closed between Little Riley Street and Steel Street; however this is not shown in the Modification Report. It should be noted that residents have previously opposed re-opening of this section of Adelaide Street. The City of Sydney recommends that the graphics in the Modification Report be amended to show closure of Adelaide Street as existing.	No change to the existing access along Adelaide Street is proposed to occur as a result of the proposal. For future use the graphic (shown as Figure 3.8 in the Modification Report) will be amended to reflect the existing closure of Adelaide Street between Little Riley Street and Steel Street. In response to community submissions further investigation into the closure of Little Riley Street has taken place, which determined that the modification of Little Riley Street as proposed has some functional constraints. An alternative proposal to retain access to Little Riley Street will be further assessed as part of the detailed design. This would consider changes to existing traffic management or road infrastructure in order to maintain existing access.
13.0 Reduced stop length – Chalmers Street		
13.1	The reduced length of the Chalmers Street stop to accommodate a 67 metre LRV (i.e. a 75 metre platform) instead of a 90 metre LRV is supported. This may also assist in facilitating the design of the required cycleway in Chalmers Street between Prince Alfred Park and Eddy Avenue.	Support for the proposed modification to reduce the proposed stop length of the Central Station stop is acknowledged.
14.0 Increased noise exceedances – Devonshire Street		
14.1	The extended length of the LRVs will result in increased sound exposure levels. The City of Sydney recommends that the intensification of the use is assessed in the forthcoming Operational Noise & Vibration Review (ONVR), along with the impact on noise affected receivers.	Section 3.6.6 of the Modification Report (Transport for NSW 2014) outlines the anticipated change in operational noise levels as a result of the longer LRVs. It was concluded that an additional 86 receptors are predicted to exceed the relevant noise trigger levels, compared to the 45 metre LRVs in the EIS. The calculated number of additional receptors takes into account the modified service frequency in addition to the increase in LRV length. As stated in Note 1 of Table 3.4 in the Modification Report, The potential number of additional

Item	Issue raised	Transport for NSW response to issue
		exceedances (86 receptors) is represented by 'blocks' of receptors and not individual dwellings within blocks or buildings (such as individual properties within a terrace or individual units within an apartment building) affected by the proposed modification. The actual number of affected receivers in any block would be confirmed as part of the ongoing detailed design of the project as part of the ONVR required by condition C12 of the planning approval. As stated in Table 4.1 in Section 4 of the Modification Report (Transport for NSW 2014b), the effects of the extended length of the LRVs and stop platforms will be included in the ONVR.
14.2	The City of Sydney recommends that at the ONVR stage, effective mitigation measures will need to be correctly identified and implemented to control noise impact in relation to trigger levels, and if this cannot be achieved, a solution is implemented in consultation with the noise and vibration affected parties.	The intent of the ONVR is to confirm the noise and vibration predicted levels and examine reasonable and feasible measures for those properties where the noise trigger levels are exceeded.
15.0 Tree removal		
15.1	The proposed modification to retain trees around the Grosvenor Street platform as a result of removal of the World Square stop is not supported. The City of Sydney recommends that redesign of the footpath, trees and lighting in lieu of World Square platform and around the Grosvenor Street platform be undertaken in consultation with the City.	The project agreement between Transport for NSW and City of Sydney that addresses various matters in relation to the proposed design and construction of the CSELR remains in place, and the Project's governance structure provides for consultation with the City of Sydney through the Urban Domain Reference Group. This includes reference to tree maintenance and replacement throughout the City of Sydney LGA. Transport for NSW will continue to honour these commitments and thereby resolve any potential issues during detailed design of the Project.
16.0 Impact of the longer vehicles on the functionality of Devonshire Street		
16.1	The City considers that the impacts of the longer LRVs on access to Ward Park, pedestrian wait times, and traffic flow due to LRV extending across intersections while waiting have not been adequately considered in the Planning Modification Report. The City of Sydney recommends that the design of the public domain and resolution of the issues arising from the longer LRVs must be undertaken collaboratively with the City through regular design consultation not solely through the Reference Group.	The design and placement of the stops and the generally dedicated corridors for the LRV means there would be no need for the LRVs to queue across intersections except in rare circumstances possibly arising due to traffic incidents. Additionally, the higher capacity LRV provides the opportunity for a lower frequency of service during the morning and afternoon peaks compared to the 45 metre LRV as patronage demand grows. Despite the longer LRV the potentially lower frequency of LRV movements (when compared to the required frequency of the 45 metre LRV for a given patronage) will facilitate the optimisation of signals to minimise overall traffic impacts over the long term. Similarly, the lower frequencies would also provide improved pedestrian wait times and access by minimising the LRV occupation of the intersections. The Urban Domain Reference Group was established to facilitate collaboration with key stakeholders, including the City of Sydney, so they could provide input to the proposed urban

Item	Issue raised	Transport for NSW response to issue
		design elements. This continues to be the remit of the Reference Group. In addition consultation will be undertaken in accordance with the project Development Agreement between Transport for NSW and City of Sydney during the detailed design process.
17.0 Retention of existing taxi rank on George Street		
17.1	The City supports the retention of the existing taxi rank at the Four Seasons Hotel providing that there is no loss of footpath.	Support for the identified design clarification is acknowledged. No change to the existing footpath is proposed in this location.
18.0 Minor amendments to project boundary		
18.1	No substantiation or program has been provided for the proposed extensions to the project boundaries. The City is concerned at the potential impact of these on businesses (e.g. on Crown Street, Surry Hills). The City rejects the extensions proposed in the Modification Report and considers that any extensions to the project boundary should be considered on merit. The City of Sydney recommends that the proposed amendments to the project boundary in the Sydney LGA not be approved.	The identified changes within the CBD are required to allow for optimised road tie-in works and these changes are not anticipated to affect any businesses or private property.
19.0 Stakeholder consultation		
19.1	The extent of the City of Sydney's LGA includes Martin Road in Centennial Park. As such, the arrangement of the Moore Park stop, changes to alignment on Anzac Parade and other issues in the area are of interest to the City as a stakeholder. The City of Sydney recommends that Transport for NSW consult with the City of Sydney in relation to any changes that impact on Martin Road.	The project Development Agreement between Transport for NSW and City of Sydney relating to the design of the CSELR remains in place. As such, the Project will continue to engage and consult with City of Sydney throughout the detailed design and construction of the CSELR in accordance with the project Development Agreement between Transport for NSW and City of Sydney. In addition, the Urban Domain Reference Group was established to facilitate collaboration with key stakeholders, including the City of Sydney, so they could provide input to the proposed design.

Table 4.2 Issues raised by Randwick City Council

Item	Issue raised	Transport for NSW response to issue
1.0 Overview and general comments		
1.1	The Council continues to support a well-designed, safe, reliable and accessible light rail system as an integrated part of the wider public transport network.	Support for the project is acknowledged.
1.2	As noted in separate correspondence dated 12 December 2014 Council has requested an extension of the public exhibition period to allow time for affected residents to review the impacts more fully.	Under clause 241 of the Environmental Planning and Assessment Regulations 2000 (EP&A Regulations), modifications are to be available for inspection for a period of at least 14 days. The Modification Report was on exhibition between 3 December and 17 December 2014, meeting the required exhibition timeframe.
1.3	In principle, Council supports the following aspects of the proposed modifications: ▪ Improved 'future-proofing' and increase capacity of the light rail system ▪ The 'splitting' of the Anzac Parade alignments further north, opposite Robertson Road ▪ Reduced impact on Tay reserve and retention of significant trees ▪ Reduced impact on heritage structures in Randwick Racecourse ▪ Reduced impact of 1 in 100 year flood downstream of Centennial Parklands. Randwick City Council also supports the undergrounding of the substation in Surry Hills, and the use of third rail power.	Support for the identified aspects of the proposed modifications is acknowledged.
2.0 Increase in LRV size and stop platforms		
2.1	Council re-iterates its objections to the light rail interchange location at High Cross Park. Council considers that the proposed modification will have further detrimental impacts on the park, and will reduce the overall customers experience, pedestrian accessibility and safety, and interchange efficiency. Council is also concerned that the longer platforms (including the necessary ramp access) will not physically fit within the existing boundaries of the Park, and will encroach well into the perimeter footpath zone. Council is preparing a study on a feasible alternative location and will be ready to discuss this with Transport for NSW in early 2015.	In the development of the modification, Transport for NSW has considered the modified footprint of each of the stops. Whilst the stop platform lengths will increase in line with the longer LRVs, this will still fit within the available space and would not result in further encroachment into High Cross Park, additional pedestrian impacts, DDA impacts, or loss of efficiency. The project agreement between Transport for NSW and Randwick City Council has been executed. That agreement addresses various matters in relation to the proposed design of the CSELR. In addition, the Project's governance structure provides for consultation with Randwick City Council through the Urban Domain

Item	Issue raised	Transport for NSW response to issue
		Reference Group. Stop Access and Design Plans will be prepared in accordance with condition B27 of the planning approval. The key objectives of the plans are to ensure all stops are designed to ensure safety, connectivity, efficiency and convenience is maximised. The plans will also outline urban design and landscaping elements.
2.2	Clarification is requested about the capacity and layout of the Kingsford interchange. Council considers a preferable location would be to move the stop south of Stuart Street or extend to Maroubra Junction as previously submitted.	No changes to the layout or location of the Kingsford interchange described for the approved project are proposed. In line with Transport for NSW's previous commitments, the detailed design of the stop would be progressed in consultation with Randwick City Council through the Urban Domain Reference Group.
2.3	Council does not support the introduction of additional physical barriers in the public domain to control pedestrian movements. This will introduce negative visual impacts, and works against the urban design principles of the project to integrate with the surrounds and create a seamless transition to light rail stops.	Transport for NSW is not seeking to introduce additional physical barriers to control pedestrian movement as part of this modification to improve the overall safety of pedestrians and customers along the alignment as part of the proposed modifications.
2.4	Council recommends that the detailed design stage should fully review the layout of each stop in relation to the capacity of the platforms and surrounding footpath network, and in particular review the layout and capacity of both the UNSW stops.	In developing the modification, Transport for NSW has considered the modified footprint of each of the stops. Specific requirements would continue to be considered on a stop by stop basis in the development of the detailed design in consultation with the Urban Domain Reference Group. Additionally, Stop Access and Design Plans will be prepared in accordance with condition B27 of the planning approval. The key objectives of the plans are to ensure all stops are design to ensure safety, connectivity, efficiency and convenience is maximised.
2.5	On Anzac Parade, details on how the new platform length at the UNSW stop will affect the right turn back into High Street (northbound) should be provided to the satisfaction of RMS.	The CSELR Project will continue to coordinate with RMS in relation to the optimisation of the light rail and road function during operation.
2.6	Council seeks clarification of the acceleration and braking characteristics of the longer LRVs, and any impact on stopping distances and journey times.	Acceleration and braking characteristics of the proposed LRVs remain consistent with the LRVs contemplated in the existing planning approval. Consequently stopping distances and journey times will be consistent to those previously expected.

Item	Issue raised	Transport for NSW response to issue
2.7	Council seeks clarification of the impact of longer LRVs at intersections, and the impacts or delays affecting non-light rail travel, including pedestrians and cyclists.	The initial modelling indicates that the use of longer LRVs will not introduce additional adverse impacts at intersections, although changes to the operation of some intersections would be required. Section 3.6.3 of the Modification Report summarises these changes. Additional modelling would be undertaken during the detailed design to optimise intersection performance for all road users. Because of the additional capacity provided by the longer vehicles the proposed frequency of operations on weekdays has been reduced, reducing impacts upon the general traffic network.
2.8	As per our previous submission: Any proposed physical separation between light rail and general traffic or pedestrian and general traffic on medians or road verges is to be discussed with Council and be in accordance with Council's design standards.	The project agreement between Transport for NSW and Randwick City Council has been executed. That agreement addresses various matters in relation to the proposed design of the CSELR. In addition, the Project's governance structure provides for consultation with Randwick City Council through the Urban Domain Reference Group.
2.9	Strong consideration should be given to an extension of the Anzac Parade alignment, beyond Kingsford to the southern side of Maroubra Junction.	An extension to Maroubra remains outside the scope of this proposal. The Kingsford interchange does not preclude the option of an extension in the future.
2.10	Council recommends that detailed pedestrian safety studies are conducted for each light rail stop.	Pedestrian safety remains paramount to Transport for NSW, therefore Safety in Design reviews and safety audits will be undertaken as part of the detailed design. Stop Access and Design Plans will be prepared in accordance with condition B27 of the planning approval. The key objectives of the plans are to ensure all stops will ensure safety, connectivity, efficiency and convenience is maximised.
2.11	Kingsford Terminus cross over / hold area south of interchange – consider landscape design treatments such as hedges or mass planting between tracks and Anzac Parade to soften the visual impact of longer LRVs.	Final landscape design treatments at all stops will be identified during detailed design and in consultation with the Urban Domain Reference Group and in accordance with the Urban Design and Landscape Plan and in accordance with condition B51 of the planning approval.
2.12	Council seeks clarification of the number of LRVs proposed to be housed in the stabling area, and the space occupied. The layout of the stabling area should be designed to minimise the visual bulk of the LRVs and associated maintenance and administration buildings and facilities when viewed from key vantage points and the public domain.	No changes to the footprint of this facility are proposed from the approved project.

Item	Issue raised	Transport for NSW response to issue
2.13	Existing conditions of consent in relation to management of noise impacts are considered suitable, and should apply to the newly affected properties.	All existing conditions of approval, including conditions with respect to mitigating noise impacts, would continue to apply as part of the proposed modifications.
2.14	Council maintains its position that other alternatives for the Randwick interchange should be further explored to minimise impacts on the heritage values of High Cross Park.	The impacts and mitigation measures associated with siting the interchange at the approved location are described in the EIS, and are subject to the State Significant Infrastructure approval conditions of approval. No change to the location of the interchange is proposed.
3.0 Realignment along Alison Road and flood mitigation changes		
3.1	Given that this proposal involves kerb realignment on the north side of Alison Road – there may be an opportunity to review the layout more broadly, such as re-considering the position of light rail tracks relative to vehicles. For example, there may be operational, passenger safety and visual/landscape impact improvements by having the light rail alignment on the southern side of Alison Road, and re-align general traffic lanes to the north.	The proposed realignment described in the Modification Report has been developed with a view to delivering operational improvements along this section and with reference to specific access issues raised in relation to the Royal Randwick Racecourse, Randwick TAFE and Centennial Park. These are described in Section 3.7.2 of the Modification Report. These access issues would remain if the light rail was aligned along the southern side of Alison Road.
3.2	Council requests that there is no reduction in effective footpath capacity on the route and recommends that further investigation, coordination and design development is needed in consultation with the Council to resolve any areas of conflict between light rail and pedestrian networks.	The project agreement between Transport for NSW and Randwick City Council has been executed. That agreement addresses various matters in relation to the proposed design of the CSELR. In addition, the Project's governance structure provides for consultation with Randwick City Council through the Urban Domain Reference Group. The detailed design will continue to seek to resolve any areas of conflict between the CSELR and pedestrian networks in consultation with the Urban Domain Reference Group.
3.3	Council recommends the existing shared bus way/proposed light rail way along the boundary of Centennial Park should shift laterally north to the foot of the Centennial Park embankment, and realign the pedestrian/cyclist path(s) to the south of the bus / light rail alignment, in order to meet the objectives of crime prevention through environmental design (CPTED).	The repositioning suggested would introduce a number of additional cycle crossings along this section and is considered less preferable. Additional changes to the alignment outside the modification described are not proposed, however the detailed design will be informed by the development of the Pedestrian and Cyclist Network and Facilities Strategy and will take into account CPTED.
3.4	Council requests re-instatement of the cycle path and footpath on the northern side of Alison Road, at no less quality than existing and with equivalent (or superior) connections to and from adjacent pedestrian and bicycle networks. The design should maintain the existing widths as a minimum. The current path widths at this location are 1.8 metres for pedestrians and 3.0 metres for the exclusive bicycle riders path.	Final design treatments and requirements will be identified during detailed design and in consultation with the Urban Domain Reference Group, including Randwick City Council. Designs would be prepared in accordance with the Urban Design and Landscape Plan required by condition B51 of the planning approval.

Item	Issue raised	Transport for NSW response to issue
3.5	Council requests more information and close consultation on the design of pedestrian and cycle paths in the vicinity of the alignment on Alison Road. Particular attention should be given to ensuring a high level of legibility, passive surveillance, accessibility and integration with the surrounding cycle and pedestrian network.	Final design treatments and requirements will be identified during detailed design and in consultation with the Urban Domain Reference Group, including Randwick City Council. Designs would be prepared in accordance with the Urban Design and Landscape Plan required by condition B51 of the planning approval.
3.6	Council requests inclusion of a right hand turn bay on Alison Road westbound into Darley Road.	As identified in the Modification Report, the Darley Road right turn from Alison Road (westbound) is currently used by approximately 50 vehicles in each of the morning and afternoon peak periods. To improve capacity along the Alison Road corridor, the right turn would be removed. Investigation of relevant origin and destination information associated with these turning vehicles indicated that the Darley Road right turn facilitates an undesirable 'rat-run' through Centennial Park. The most significant impact of the modified design would be during the weekend peak, noting that Alison Road and Darley Road provides a direct route to Centennial Park from the south-eastern Sydney area. The primary route to Centennial Park would be via Avoca Street and Darley Road, with negligible impact on the surrounding network operation. On this basis, it is not proposed to include a right hand turn bay on Alison Road westbound into Darley Road. The retention of the right turn bay into Darley Road would require additional land use impacts to private property; however detailed investigations to its reinstatement will be undertaken in the detailed design phase.
3.7	The western side of the Darley Road/Alison Road intersection should include a pedestrian crossing to facilitate access between the Racecourse and the light rail stop.	A crossing on this leg of the intersection does not currently exist due to the demanding operation of the intersection. Development of the EIS and the modified designs found that the inclusion of a crossing at this leg would adversely impact the operation of this intersection. Access to the Royal Randwick racecourse would be maintained via the crossing at Darley Road and the eastern crossing of Alison Road which is currently available for pedestrians.
3.8	Council does not support the introduction of vehicular access into residential streets via King Street at the Darley Road/Alison Road intersection, and recommends instead that buses use the existing roundabout on Darley Road for turning.	General vehicular access is not proposed at this location; however the modification does propose a repositioning of the bus-only access proposed in the approved scheme.

Item	Issue raised	Transport for NSW response to issue
3.9	Council does not support the location of the light rail stop midway between Doncaster Avenue and Darley Road, and recommends the stop is located closer to Darley Road, to improve passive surveillance and facilitate day to day access to destinations including TAFE and the recently approved Racecourse Hotel.	The proposed location of the stop described in the Modification Report is determined by a number of factors, including the requirement for cross over and a turn-back track for use by special events services in addition to minimising impacts on bus operations and access at the Royal Randwick Racecourse. In order to allow adequate space for the turn back track, it is not possible to position the stop closer to Darley Road. The turn-back track location and further discussion regarding the use of this track is provided in Section 6.1 of this report and shown on Figure 6.1. As described in the Modification Report, a new pedestrian crossing is proposed to be provided across Alison Road, between Darley Road and Doncaster Avenue. This crossing will provide access for pedestrians crossing between the proposed light rail stop and the southern side of Alison Road. This will assist in providing passive surveillance of this area and assist with facilitating access to the recently approved Racecourse Hotel. This crossing would be able to accommodate large numbers of passengers accessing the racecourse from the stop during special events. The proposed relocation of the stop to the north side of Alison Road will also improve the pedestrian connection between the light rail stop and Centennial Park, Randwick TAFE, and residential area to the north of Alison Road.
3.10	Council supports the light rail alignment within a natural landscape setting, but does not consider this is achieved. Council seeks design improvements to the alignment to address concerns relating to: ▪ Overall visual impact of the transport corridor with the removal of the mature trees along the north side of Alison Road. ▪ The visual impact/dominance of the three metre high retaining wall and light rail infrastructure. ▪ The potential for a hostile pedestrian/cycling environment, with eight lanes (Light rail and traffic), limited shade, and large expanses of hard surfaces. ▪ Loss of views into Centennial Park, with the retaining wall appearing as a strong visual barrier viewed from the south.	Further refinement of the retaining wall design has identified that the final height will be between 1.5 metres and 2.5 metres, including the additional 300 millimetres for flood alleviation. It therefore would not result in a total loss of views into Centennial Park. In addition, the provision of a shared cycle and pedestrian path on the park side of the embankment, and a refinement of the modification to enable the retention of the Maidens Row tree planting along the length of the alignment, will reduce the visual impact of the alignment from the park side. Figure 3.21 of the Modification Report provides an indicative cross-section. An Urban Design and Landscape Plan will be prepared in accordance with condition B51 of the planning approval that will identify design objectives and standards. The plan would also detail principles to enhance the public domain and integrate the project within the local environment. As part of the plan, opportunities for visually enhancing the proposed retaining wall, such as the creation of a ‘green wall’ would be considered.

Item	Issue raised	Transport for NSW response to issue
	▪ Poor legibility within the public domain for pedestrians, racecourse visitors and cyclists. ▪ Lack of identified opportunities for tree planting.	In addition to meeting the conditions of approval and delivering the environmental mitigation and management measures described in the EIS, consultation will be undertaken with the Urban Domain Reference Group during the detailed design process to ensure that a high quality finish is delivered for the project. This will include signage and way finding to improve legibility and measures to reduce the hard visual impact of the built elements. Transport for NSW has entered into a development agreement with CPMPT which includes the ability for the Project to plant trees within the parkland in conjunction with CPMPT.
3.11	Council is also concerned about the potential for the detail design process to reinforce the negative visual impact, and requests early consideration of design refinements to improve the landscape setting and character, soften the visual impact and improve safety, including: ▪ Use of turf or 'softscape' light rail tracks ▪ Balustrade location and design not to increase the sense of a visual barrier ▪ Review retaining wall options for incorporating green walls, use of articulation, a variety of materials and textures ▪ Opportunities for integration of high quality public art ▪ Lighting for pedestrian and cycle paths ▪ Differentiation of paving and surface materials ▪ Sensitive use of wayfinding to improve legibility ▪ Options for light rail poles/infrastructure to minimise clutter and integrate with other urban elements using multi-function poles (signage, banners etc.) ▪ Provision of verge planting and trees to soften the visual landscape and act as a buffer between pedestrians and vehicles.	An Urban Design and Landscape Plan will be prepared in accordance with condition B51 of the planning approval that will identify design objectives and standards. The plan would also detail principles to enhance the public domain and integrate the project within the local environment, for example replanting removed trees with equivalent or similar trees in an appropriate location as close to the existing locations as possible. In addition to meeting the conditions of approval and delivering the environmental mitigation and management measures described in the EIS, Transport for NSW will continue to consult with the Urban Domain Reference Group during the detailed design process to ensure a safe and high quality design outcome is delivered for the project.

Item	Issue raised	Transport for NSW response to issue
3.12	Council recommends retention of as many existing mature trees as possible, which will also act as a visual and noise buffer. If this is not possible during the detail design stage considerations should be given to the replacement of mature trees in this section of the alignment, or the relocation of the two significant fig trees at the corner of Alison Road and Darley Road.	The identification of potential tree losses as a result of the proposal represents the worst case scenario. Transport for NSW will seek to maintain mature trees wherever possible. The development of the detailed design and construction methodology will further review the impacts on these trees. This is consistent with the principles outlined in condition B47 of the planning approval. Environmental Management Measure T4 provides a commitment for construction techniques to minimise impacts to tree root zones where practicable. This would include consideration of compaction and root bridging techniques, permeable paving, tunnel boring of services, hydro-excavation and careful root pruning). The use of low impact construction techniques (on existing tree roots) for installation of new services would also be considered, where appropriate and feasible.
3.13	Significant trees that after detail design and further investigations cannot be retained are to be transplanted within the subject site area at a location that will assist in improving the visual amenity, pedestrian micro climate and in consultation with Randwick City Council and Centennial Parklands.	Environmental Management Measure T4 provides that, where the loss of trees is unable to be mitigated, trees removed as a result of the CSELR project would be offset in accordance with the Transport for NSW Vegetation Offset Guide (Transport for NSW 2013a), which includes a principle of replacing 'the amenity/visual landscape value of vegetation removed'. Replacement plantings would be agreed in accordance with the CSELR Landscape Strategy (Appendix F of the approved CSELR EIS). This is further strengthened through condition B52 of the planning approval. Opportunities for landscaping in this area would be considered during detailed design. This process would be guided by the Urban Design and Landscape Plan in accordance with condition B51 of the planning approval The landscape design and tree planting would be addressed in detailed design. Consultation would be undertaken with the Urban Domain Reference Group, Randwick City Council and Centennial Parklands during this process.
3.14	All existing Agathis robusta trees (*Queensland Kauri*) currently planted on the northern verge of Alison Road between Anzac Parade and Darley Road that require removal are to be replaced with 400 litre or super advanced trees of the same species and in a similar spacing pattern currently found on site. Replacement is to be along the northern verge of Alison Road.	Refer to response for 3.13.

Item	Issue raised	Transport for NSW response to issue
3.15	Tree replacement species for this section of the project is not included in the *Randwick City Council Light rail Urban Design Guidelines*, apart from the Agathis robusta trees to be used along the verge in Alison Road between Anzac Parade and Doncaster Avenue. Proposed trees species to be used for this section between Alison Road and Centennial Parklands is to be in consultation with Randwick City Council and Centennial Parklands through the detail design stage.	Refer to response for 3.13.
3.16	Review opportunities to increase the width of the pedestrian path along the north side of Alison Road between Doncaster Avenue and Darley Road, while minimising encroachment into Centennial Parklands, including consideration of minimum width traffic lanes.	Transport for NSW will consider the cyclist and pedestrian path in the broader precinct context. Transport for NSW will also continue to work closely with CPMPT during detailed design to ensure the outer perimeter trail is maintained.
3.17	Council requests clarification of the access points into the park, and seeks further resolution of the design of the new retaining wall to minimise impacts on significant park and public assets, including trees.	Transport for NSW will continue to work closely with CPMPT during detailed design regarding the access to the Parklands from the Doncaster Avenue residential precinct where it interfaces with the CSELR project. The Urban Domain Reference Group was established to facilitate collaboration with key stakeholders and project partners, including the Randwick City Council and they will be consulted with regarding the proposed urban design elements.
3.18	The proposal should avoid impact on existing trees along Alison Road where possible, or mitigate impact through tree relocation. Retention or replanting of trees will also assist in ameliorating the impact of the proposed retaining wall on surrounding heritage areas. The materials and detail of the retaining wall should be carefully considered to minimise visual impact.	Refer to 3.13 and 3.17. The project will continue to work during detailed design on the aesthetic treatment of the retaining wall and to minimise tree impacts.
3.19	The proposal does not identify the impact of the new alignment on the palisade fence and further documentation should be provided to clarify this impact.	The fencing bordering Centennial Park would not be affected by the proposed modification. The Project's governance structure provides consultation with Randwick City Council, ATC and CPMPT, through the Urban Domain Reference Group during the detailed design of fencing.

Item	Issue raised	Transport for NSW response to issue
3.20	Council recommends that the raising of the ground level in the stabling area does not result in the transference of floodwaters, or increase in flood levels on adjacent properties or properties downstream. If the raising of the levee is meant to detain floodwaters to offset the impacts of raising the stabling area then modelling must include all flood events. The assessment must include careful assessment of the mechanism of flooding and the performance of the Kensington Pond outlet structure to ensure that the impacts on private properties are within the tolerances set in the planning approval.	Randwick City Council's recommendation is noted and will be addressed through the detailed design process, in accordance with condition B65 of the planning approval. The existing condition of approval B65 addresses floodwaters and Transport for NSW is committed to adhering to that requirement.
3.21	Council recommends that any flood mitigation or detention works upstream of the stabling area be completed before the commencement of work on the stabling area.	Randwick City Council's recommendation will be considered in the development of construction staging plans.
3.22	Council recommends that the amount by which the existing levee between Kensington Ponds and Alison Road is raised includes a 500 millimetre freeboard to ensure that overtopping does not occur.	It is noted that inclusion of 500 millimetres of freeboard would introduce much greater visual impact for a potentially small benefit. The modification identifies that the height would be increased by a maximum of 300 millimetres to increase the level of downstream flood protection and this is not proposed to be raised at this stage in the design.
4.0 Realignment at Anzac Parade/Alison Road intersection		
4.1	It is recommended that Anzac Parade and the light rail tracks be realigned towards the west during detail design stage to avoid impact on four significant trees and improve the overall visual amenity. There is insufficient detail in the published documentation and it is not clear in the proposal how the strip of land between Anzac Parade and Martin Road which includes the bus laneway and pathways will be distributed. Opportunities with this strip of land need to be explored further.	Randwick City Council's recommendation is noted. Further analysis of the alignment within this area would be undertaken in the detailed design to seek to avoid or minimise the impacts to the trees in this area. It is also noted that City of Sydney Council raised a similar issue in their submission – refer to item 6.3.
4.2	If this is not possible it is recommended that these four significant trees be investigated for transplanting in nearby public domain locations. Council also requests that replacement mature trees are planted in this section of the alignment where trees are removed in order to provide an instant buffer to the residences along Martin Road and to provide some degree of immediate visual amenity at this location.	Further investigation would be undertaken during detailed design and construction planning to determine feasible and reasonable options of relocating these trees if required. Refer to response 3.13.
4.3	The modified proposal allows all of the trees within Tay Reserve to be retained, avoiding adverse impact on the heritage listed Reserve. The proposed realignment in the vicinity of Tay Reserve is supported in heritage terms.	Support for the retention of all trees in Tay Reserve is acknowledged.

Item	Issue raised	Transport for NSW response to issue
5.0 Revised substation sites		
5.1	Council re-affirms its recommendation for the light rail substation at High Cross Park to be either relocated to a less visually prominent or intrusive location, or placed underground.	This is not within the scope of the proposed modifications. During detailed design, further consideration of the design of the substation will be undertaken to mitigate the visual impact.
6.0 Realignment at Anzac Parade/Alison Road intersection		
6.1	Council requests a coordinated approach to address the design, layout and operation of the stabling area during detailed design stage, addressing the following issues: ▪ Views of the stabling areas including any buildings from key gateways and vantage points, such as Alison Road, High Street and Doncaster Avenue ▪ Clarification of the internal layout including the internal road and allowing for a public cycle path from the Racecourse to Centennial Park ▪ Clarification of flood/overland flow impacts of the raised ground levels ▪ Details of trees to be retained/removed and new tree planting in deep soil locations ▪ Impacts on the heritage values of the site and elements within it ▪ Inclusion of a design excellence process for any building/structures ▪ Types and circulation patterns of vehicles (including trucks), ensuring there is no use of reversing ‘beeps’ within the stabling area.	The Urban Domain Reference Group was established to facilitate collaboration with key stakeholders and project partners, including the Randwick City Council, so they could provide input to the proposed urban design elements. This continues to be the remit of the Reference Group. Condition B36 of the planning approval outlined performance based criteria that the design of the stabling facility should meet.

Item	Issue raised	Transport for NSW response to issue
6.2	Council recommends that the height of the silo be decreased and look for options to use two silos lower in height rather than one.	The driver for the silo height is the clearance required over the LRV, and maintaining safe clearance between the tracks. Opportunities for reducing the height and design of the silo will be considered during detailed design, subject to their meeting the safety and clearance requirements. These include a larger diameter silo with a reduced height or having two smaller silos.
6.3	Council recommends considering the placing of the silo structure within a landscaped area or integrated with the location and design of other structures, while still providing required access points for servicing and maintenance.	Given the functional requirements of the site as a stabling yard this may not be feasible. However, the Urban Domain Reference Group was established to facilitate collaboration with key stakeholders and project partners, including the Randwick City Council, so they could provide input to the proposed urban design elements. This continues to be the remit of the Reference Group.
6.4	Consider incorporating public art or a creative approach to its design to mitigate the negative visual impact.	Given the functional requirements of the site as a stabling yard this may not be feasible. However, the Urban Domain Reference Group was established to facilitate collaboration with key stakeholders and project partners, including the Randwick City Council, so they could provide input to the proposed urban design elements. This continues to be the remit of the Reference Group. Further consultation with Randwick City Council regarding art would also be undertaken as necessary during the detailed design process.
6.5	Ensure that the setback, ground levels, soil depth/conditions, surface water flows and drainage between the acoustic barrier and properties on Doncaster Avenue is suitable for the establishment and ongoing maintenance of mature screening trees. If necessary, the width of the setback should be increased.	Condition B36 of the planning approval outlined performance based criteria that the design of the stabling facility should meet. This condition requires that a structure (noise wall) that is higher than 3 metres shall be setback 1 metre from the residential boundary for every half a metre above 3 metres in height. Transport for NSW will ensure the setback, ground levels, soil depth/conditions, surface water flows and drainage between the acoustic barrier and properties on Doncaster Avenue is suitable for the establishment and ongoing maintenance of landscaping.
6.6	Council does not support the removal of the existing Moreton Bay Fig (*Ficus macrophylla*) at the western end of the site and requests the design to be reviewed at detail design stage to incorporate measures for the retention and protection of this species.	Transport for NSW is committed to minimising tree impacts wherever possible. Please note that no additional tree removal is proposed at this location over that proposed in the previously approved Project. However, consistent with the principles outlined in condition B48 of the planning approval an independent arborist would be engaged to prepare a comprehensive tree report. The report would recommend measures to avoid or minimise damage to, or removal of trees, where reasonable and feasible.

Item	Issue raised	Transport for NSW response to issue
6.7	Council requests further information addressing the heritage impact of the Randwick stabling facility on significant structures within and adjacent to the site, including the retaining walls, the brick pedestrian ramp and the Tramway Turnstiles Building. Similarly, the documentation addressing the heritage impact of the required ground fill on adjoining areas should also be provided.	Technical Paper 5 in Volume 4 of the EIS provides a detailed Heritage Impact Assessment for the CSELR. This impact assessment remains unchanged over that in the approved project.
7.0 Other modifications impacting Randwick City		
7.1	Council recommends converting the overhead bridge at Moore Park stop to a wide underpass (by extending the proposed subway under the light rail platforms) which would reduce the visual impact upon this area, where the impact of a large bridge has already occurred. Provided the underpass is wide enough, well illuminated and under CCTV coverage CPTED concerns will be addressed.	Transport for NSW does not propose to extend the subway as an underpass below Anzac Parade at this location. It is considered that the land-take and constructability requirements, in addition to CPTED concerns that could not be fully mitigated, making this a less favourable option to the proposed bridge at this location. As discussed in the Modification Report, the modified design of the Moore Park stop would be greatly reduced in both height and volume due to the removal of the elevated concourse and the associated high level shelter canopy. The modified height of the stop would be more easily integrated and sympathetically designed within the parklands environment. The modified design, with its reduced scale and overall visual envelope over the approved project, is therefore assessed to have a noticeable reduction in the visual and landscape impacts of the parkland environment that it is located within. When combined with the proposed minor reduction in platform length (refer to Section 3.6 of the Modification Report), the modified stop design would provide a beneficial visual impact over the approved project. Additionally, condition B36 of the planning approval outlined performance based criteria that the design of the pedestrian bridge should meet. These measures include minimising impacts on surrounding land uses.
7.2	It is recommended that the third rail wire free technology is introduced on Anzac Parade at the location of Kingsford and Kensington town centres.	It is not proposed to extend the wire free technology beyond the CBD as part of this project.

Table 4.3 Issues raised by the University of NSW

Item	Issue raised	Transport for NSW response to issue
1.0 General		
1.1	It is noted that a letter of response to the Infrastructure Approval was prepared by UNSW (dated 1 September 2014) and sent to the Department of Planning and Environment. UNSW was advised that the Department of Planning and Environment would respond in the near future when it has completed its investigation of the issues raised. To date, no formal response has been received.	Correspondence between the Department of Planning and Environment and UNSW is not within the control of Transport for NSW and a response cannot be provided by Transport for NSW on this matter. Transport for NSW cooperates with the Department of Planning and Environment regarding any requirements.
2.0 UNSW supports the Project		
2.1	As a key partner in this once-in-a-generation project, UNSW strongly supports the Project and its broader objectives and wide-ranging benefits it will bring to the CBD and the south-eastern suburbs.	Transport for NSW's acknowledges and appreciates UNSW's support for the project as a key partner.
3.0 Increased length of LRVs and platforms		
3.1	UNSW requires further information (such as plans) showing the proposed changes to the stops at High Street and Anzac Parade to be able to fully assess the impact at these stops.	Stop Access and Design Plans will be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups and major landowners, including UNSW, adjoining stop locations. Additionally, the Project's governance structure provides for consultation with UNSW through the Urban Domain Reference Group. The Urban Domain Reference Group will be consulted regarding these stops during the detailed design phase.
3.2	From the Modification Report it is unclear whether any physical changes will be required to the UNSW Anzac Parade or High Street stops, as no plans or specific details pertaining to each stop have been provided.	Refer to response for item 3.1

Item	Issue raised	Transport for NSW response to issue
3.3	It is unclear whether as a result of the increased length and capacity (and reduced frequency) any other design amendments will be considered, such as increased widths of platforms, additional pedestrian crossings, or increased canopy lengths.	The longer LRVs will increase available passenger capacity for LRV operations. As a result of the increased capacity longer LRVs the frequency of service during the peak hours on opening day is proposed to be every four minutes instead of every three minutes. As a result there may be some additional passengers waiting on each platform between LRVs. However, just as the extra capacity on the vehicles is accommodated by making the vehicles longer (not wider), so too is the extra capacity required on the platforms accommodated by the platforms being correspondingly longer without having the increase their width. The modification would not result in any changes to platform width or allow for any additional crossings (although the width of those crossings may need to be increased to accommodate greater pedestrian volumes when passengers are alighting). Other design amendments including canopy lengths would be finalised during detailed design. Also refer to response for item 3.1.
3.4	No details are provided regarding the proposed 67 metre long LRV such as door locations and swept paths. In particular, swept path changes at the intersection of High Street and Wansey Road may impact on the surrounding properties.	Swept paths at the intersection of High Street and Wansey Road have been assessed. It has been concluded that the swept paths are appropriate within the intersection and will not impact on the surrounding properties. The swept path is not a product of vehicle length and remains the same with the longer LRVs. The swept path is the product of the distance from the centre of the end bogie to the nose of the LRV. The swept path is mitigated through tapering the ends of the LRV. The swept path of the Alstom vehicle does not vary significantly from the reference vehicle.
3.5	Section 3.6.2 of the Modification Report notes that reductions in the length of the Central Station and Moore Park stops are proposed as part of the modifications. For the UNSW Anzac Parade stop (centre island arrangement), with a 98 metre platform length, the Modification Report does not provide any detail regarding proposed amendments or reductions, UNSW assumes that this will be retained.	Central Station and Moore Park stops have been approved to be 90 metres long based on having double length stops. This was for the purpose of accommodating longer LRVs during special events to move people more quickly between these two stations. With the implementation of the longer 67 metre LRVs as the standard operating LRV on this project, extended LRVs would no longer be required for special events. Therefore, stop length at these two locations have been reduced to align with the longest LRV used at the stops. The UNSW Anzac Parade stop was approved for a length of 45 metres in accordance with the original LRV length. With the proposed increase in LRV length, the modification report proposes to increase the length of each stop to

Item	Issue raised	Transport for NSW response to issue
		67 metres, including the UNSW Anzac Parade stop.
3.6	Within the Modifications report, there is also no discussion regarding the need to increase the width of any stops to cater for the increased capacity of LRVs in conjunction with increased wait times arising from reduced frequency of service. UNSW believes there is a real need to increase platform widths not just lengths to meet industry standard guidelines and design standards.	The lengthening of the platforms to cater for the 67 metre LRVs would provide the additional pedestrian capacity required as a result of greater LRV passenger capacity. The increased platform length is proportional to the increased length of the LRVs and will be sufficient to meet the required demand and maintain the level of service achieved in the EIS. Stop Access and Design Plans will be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans would confirm that pedestrian amenity and safety is appropriately catered for at the stops and immediate surrounds (platform access routes) using appropriate modelling. If additional capacity is found to be required as a result of this modelling the design will be reassessed including consideration of wider platforms. The plans will be prepared in consultation with relevant reference groups and major landowners adjoining stop locations.
4.0 Reduced frequency of service		
4.1	The proposed increase in the capacity of the LRV, in conjunction with the reduction in service frequency, particularly during peak hours, is considered to be a significant enough reason to review the capacity, operation and passenger safety of each of the UNSW stops. UNSW is quite concerned that the impacts of the proposed changes to the service frequency (and capacity of the LRV) on the stop operation, capacity and safety have not been adequately addressed.	The proposed increase in the capacity of the LRVs, in conjunction with the regularised service frequency, provides (for all time periods) a greater overall capacity than those identified in the EIS. Transport for NSW has undertaken an evaluation of the design and operations, considering stop operation, capacity and safety and is convinced that there are no issues based on the current level of design. Stop Access and Design Plans will be prepared in accordance with condition B27 of the planning approval during the detailed design stage. The plans would confirm that pedestrian amenity and safety is appropriately catered for at the stops and immediate surrounds (platform access routes) using appropriate modelling. If additional capacity is found to be required as a result of this modelling the design will be reassessed including consideration of wider platforms. The plans will be prepared in consultation with relevant reference groups.

Item	Issue raised	Transport for NSW response to issue
4.2	UNSW's estimated patronage (that includes only UNSW staff and students) using the most recent 2014 campus survey data predicts light rail passenger volumes (by 2021) at the Anzac Parade and High Street stops will be much higher than Transport for NSW's passenger volumes (for 2038) at these stops. UNSW is concerned that although additional services may be provided to cater for the additional growth in patronage over time, the size of the stops have not been designed to cater for this expected growth.	The issue of projected patronage is not related to the proposed changes outlined in the Modification Report. This issue was considered in Section 7 of the Submissions Report for the approved project (Transport for NSW 2014a). This issue is not discussed further in this Submissions Report. Transport for NSW notes the respondent has allocated all public transport mode share to the Light Rail. The Light Rail will replace most, but not all, bus services. A significant portion of demand (from areas not serviced by light rail) will continue to arrive by bus. This would significantly alter UNSW's estimated patronage. Transport for NSW will work with UNSW on patronage data estimations to develop understanding. The UNSW future demand was projected using evidence acquired through multiple sources including but not limited to bus passenger counts, the UNSW travel survey and enrolment trend data. Please note that the proposed modification will increase capacity on opening day by approximately 15 per cent at day of opening with up to a 50 per cent increase in capacity by 2036. Stop capacities and modelling will be used to refine stop designs; these will be undertaken considering the maximum forecast capacities of the light rail system and will be included within the interface with the Urban Domain Reference Group. As the stop length is proportional to the LRV length, there is no increase in platform width to go from 45 metre LRVs to 67 metre LRVs.
4.3	The Transport for NSW Additional Information Report (dated June 2014) provided a summary of predicted boardings and alightings at the UNSW stops. This information was analysed by Traffix Group and compared against the numbers provided within the recent 2014 Travel Survey. The respondent highlighted a series of apparent discrepancies between these reports.	This issue is not related to the proposed changes outlined in the Modification Report. This issue was considered in Section 7 of the Submissions Report for the approved project (Transport for NSW 2014a). As this has already been addressed as part of the approved project this issue is not further discussed in this Submissions Report. The methodology to project future demand draws on evidence from multiple sources as detailed above. This methodology has been independently peer reviewed by David Ashley.

Item	Issue raised	Transport for NSW response to issue
5.0 Increased risk to passenger safety		
5.1	It is understood from the Modification Report that Transport for NSW proposes to cater for the increased length of LRVs by lengthening the stop platforms proportionately, however this is unclear given that the revised design of each stop (in particular UNSW Anzac Parade and High Street) has not been provided with the Modification Report. Transport for NSW has also not provided any details of the pedestrian Level of Service categories used in its assessment of determining the proposed platform size or walkway widths.	Given that the platforms would be proportionally longer to cater for the 67 metre LRVs, pedestrian capacity on the longer platforms will be sufficient to meet the required demand. As such, no significant adverse pedestrian impacts are expected. Further detailed pedestrian modelling would be undertaken during detailed design to confirm that pedestrian amenity is appropriately catered for at the stops and immediate surrounds (platform access routes). This would be outlined in Stop Access and Design Plans that will be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups and major landowners adjoining stop locations.
5.2	UNSW has significant concerns that Transport for NSW has not addressed the issue of how passengers will safely and efficiently get on to and off each of the stop platforms, given the significant increase in carrying capacity, combined with a reduction in peak period frequency. There is no mention within the Modification Report as to how the 55% increase in passenger capacity on each LRV will impact the ramps and crossing points, and the subsequent traffic effects (such as increased vehicle wait times for pedestrians to cross).	Safety is of paramount importance to Transport for NSW and will be incorporated into the detailed design at all stages. Further consideration of safety requirements, including safety around capacity will be considered as the design process progresses. This would be outlined in Stop Access and Design Plans that will be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups and major landowners adjoining stop locations.
5.3	The need for the second crossing at the Anzac Parade stop (College Walk/NIDA) is considered essential to cater for the increased passenger flows. Presently, the approved Transport for NSW plans indicate these signals as only being ‘subject to further discussion with RMS’.	As outlined in the approved CSELR EIS, a second crossing across Anzac Parade would be considered during detailed design and may be developed subject to RMS approval.
5.4	At the Anzac Parade stop, it is highly unlikely that the capacity of a single LRV or 466 passengers would be able to cross Anzac Parade during the 30 seconds ‘walk’ phase (every 110 seconds) at the single pedestrian operated signals.	Further detailed pedestrian modelling would be undertaken during detailed design to confirm that pedestrian amenity is appropriately catered for at the stops and immediate surrounds (platform access routes). If additional capacity is found to be required as a result of this modelling the design would be reassessed including consideration of wider Anzac Parade crossings. This would be outlined in Stop Access and Design Plans that will be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups and major landowners adjoining stop locations.

Item	Issue raised	Transport for NSW response to issue
5.5	The proposed physical changes to the centre island stops at High Street and Anzac Parade are not addressed in the Modification Report. Without this further information contained within the Modification's Report, UNSW is not able to assess the proposed changes and safety implications, nor is the Department of Planning and Environment. It is requested that this information be provided to allow consideration of the impacts to be understood by UNSW as well as the Department of Planning and Environment.	Physical changes to the High Street and Anzac Parade stops include the lengthening of the stops from 45 metres to 67 metres. Changes to the associated infrastructure such as the canopies and bench provision would be finalised during detailed design. Other aspects of the stop design would remain as per detailed in the EIS. This would be outlined in Stop Access and Design Plans that will be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups and major landowners adjoining stop locations.
5.6	At the meeting with Transport for NSW on 17 November 2014, it was advised that Customer Service Attendants (37) would be included in the Project. However within the Modification Report, there is no mention of Customer Service Attendants being located at the UNSW Anzac Parade or High Street stops. UNSW does not consider that the use of Customer Service Attendants is an appropriate measure to mitigate a poor design outcome.	As per the current light rail services, Customer Service Attendants will be utilised on the light rail. These personnel are to complement operations to provide customer support, minimise fare evasion and other duties, as required. Stop designs have been developed that optimise the customer experience for each location. Customer Service Attendants are not required for stops to function efficiently or safely.
6.0 Increased noise and vibration impacts		
6.1	To ensure normal business is able to continue for UNSW and it is able to provide teaching and research consistent with its obligations to its students and its charter, particularly in relation to exam conditions, careful consideration needs to be made to prevent construction impacts during these periods and to preserve consistent amenity.	Transport for NSW will seek to deliver this project with minimal impact to surrounding land uses. All reasonable and feasible mitigation measures would be implemented to avoid noise impacts as outlined in the noise and vibration impact assessment. Based on the proposed activities and mitigation measures at the locations surrounding UNSW, it is considered that noise emissions would be within acceptable standards that would avoid disturbance to university activities. Additionally, Transport for NSW will undertake further consultation regarding construction activities and communicate with UNSW on an ongoing basis to address any concerns or issues that may arise.
6.2	We note any disruption to published and timetabled bus services during construction will also affect students' ability to arrive at the campus for classes and at exam locations.	Transport for NSW will minimise impact to bus services to the university during construction of the CSELR.
6.3	UNSW is concerned that the tables and associated figures provided within the Modification Report do not present the full impact of the increase in additional noise and vibrations exceedances. The Modification Report indicates a significant increase in the noise exceedances (above excepted levels) within the NCA04.2 catchment area which includes	As per the approved CSELR EIS, the educational facilities in this noise catchment (including New College building) have already been identified as exceeding the noise trigger levels so have not been shown in the Modification Report (only additional residential receivers affected by the proposed modification were presented in the maps). It is noted in the approved CSELR EIS that the majority of the exceedances result from the conservative assumption that receptors

Item	Issue raised	Transport for NSW response to issue
	Kensington and UNSW. Figure 3.17 of the Modification Report does not identify New College, a UNSW residential college located on the eastern side of Anzac Parade.	outside of the CBD have open windows and hence an outside-to-inside attenuation of only 10 dB. Given the existing noise environment of the area within existing transport corridors, many of the non-residential locations already have fixed glazing and provision of alternative ventilation. This means that actual noise impacts inside the buildings are likely to be lower than indicated from the noise trigger level exceedance as the outside-to-inside attenuation is likely to be 25 dB or greater for these types of buildings. The measured existing ambient noise levels (i.e. existing road traffic noise) in all cases are similar to or higher than the predicted light rail noise levels. For all buildings further analysis of noise levels will be undertaken as part of the ONVR during the detailed design stage.
6.4	It is also unclear from the Modification Report whether the modification will have any additional effect on other sensitive receivers within the Campus including sensitive research buildings.	Other than the catchments and buildings identified in the EIS no additional campus buildings have been identified as being impacted due to this Modification Report.
6.5	Given the methodology adopted in Table 3.4 of the Modification Report, concern is also raised that the extent of impact significantly under-represents the potential impact on UNSW's high density residential buildings.	The potential number of exceedances identified in the Modification Report is represented by 'blocks' of receptors and not individual dwellings within blocks or buildings (such as individual properties within a terrace or individual units) affected by the proposed modification. An approximate number of the receptor types (e.g. mixed use, commercial, separate dwelling, semi-detached, unit etc.) was presented in Table 3.4 of the Modification Report. The actual number of affected receivers in any block would be confirmed as part of the ongoing detailed design of the project as part of the ONVR required by condition C12 of the planning approval.
6.6	Additionally, it is noted that Figure 3.18 of the Modification Report identifies the location of the UNSW High Street stop on Wansey Road, rather than High Street as understood to be approved. It is therefore unclear whether the modelled noise impacts have been based upon the stop being on Wansey Road or High Street.	This was incorrectly shown on the map as a previous stop location. The modelling for the proposed modification is based on the approved alignment with the stop in the correct location in High Street.

Item	Issue raised	Transport for NSW response to issue
7.0 Increased electromagnetic interference (EMI) and radio frequency interference (RFI) impacts		
7.1	Despite being raised by UNSW previously, the effect of the proposed modification particularly increased vehicle lengths, as well as consideration of alternatives (such as the use of a third rail power system in the CBD) has not been considered in the Modification Report. Whilst the requirements of Condition B18 are acknowledged, it is requested that the associated impacts of the modification need to be included in the Environment Assessment section of the Modification Report, so that the impacts can be understood by UNSW. Without certainty around these issues UNSW is subject to a significant level of risk in terms of its ability to ensure business continuance or fulfil research missions. Given the significance of these impacts it is suggested by UNSW that a precautionary approach to managing the issues from design through to operations would be prudent.	Electro-magnetic fields (EMF) from the overhead wiring is assessed in Section 10.10, Volume 1A of the EIS. While each type of LRV has a unique EMI 'signature', it should be noted that as a result of the additional capacity provided by the longer vehicles, the proposed frequency of operations during weekday peak periods has been reduced. However the project remains committed to investigating equipment that is sensitive to electro-magnetic radiation during detailed design to understand the specific nature and approach to minimise impacts on such equipment, and to ensure there is no material adverse impact on existing sensitive equipment resulting from the proposal. As discussed in the approved EIS the use of wire-free technology would only occur on the portion of the line north of Bathurst Street. The Modification Report does not present any changes to the approved use of overhead wiring and therefore ongoing work with UNSW will not change from the approved EIS.
7.2	It is understood that the APS also provides a lower EMI outcome than the traditional methodology of suspended electrified wires to minimise the impacts on sensitive environments in and around the UNSW campus. UNSW requests further consideration of the use of third rail wire-free infrastructure.	As discussed in the approved EIS the use of wire-free technology would only occur on the portion of the line north of Bathurst Street. It should be noted that as a result of the additional capacity provided by the longer vehicles, the proposed frequency of operations during weekdays peak periods has been reduced, and that Transport for NSW remains committed to investigating equipment that is sensitive to electro-magnetic radiation during detailed design to understand the specific nature and approach to minimise impacts on such equipment and to ensure there is no material adverse impact on existing sensitive equipment resulting from the proposal. At this stage it is not proposed to implement wire-free APS along this section of the light rail alignment.

Item	Issue raised	Transport for NSW response to issue
8.0 Increased visual impact		
8.1	As noted above, the use of the APS power system (third rail) is being adopted within the CBD to minimise visual impacts. UNSW considers that the use of the third rail infrastructure surrounding the Campus will provide a significant aesthetic benefit, which will complement the importance of these locations, with material improvements to the EMI impacts to sensitive receivers within the Campus.	No changes to the layout or location of the overhead power supply system are proposed as a part of this modification. Therefore, there is no change to the visual impact from the approved Project. It should be noted that as a result of the additional capacity provided by the longer vehicles, the proposed frequency of operations on weekdays has been reduced, and that Transport for NSW remains committed to investigating electro-magnetic radiation during detailed design to understand the specific nature and approach to minimise impacts on such equipment, and to ensuring there is no material adverse impact on existing sensitive equipment resulting from the proposal. It is not proposed to extend the wire free technology beyond the CBD as part of this project.
8.2	As part of the Project, a number of trees are required to be removed along High Street and Anzac Parade. It is considered that the UNSW options provide opportunities to retain existing trees that should be further considered at the above stops. The opportunities are: ▪ two side platforms for High Street which locates the two light rail tracks as far north as possible this enables the south side of High Street to maintain several existing mature trees; ▪ third wire infrastructure (to remove need for overhead wires and poles); and ▪ pedestrianisation of High Street to minimise road widening.	Transport for NSW aims to minimise the removal of trees required due to the construction of the CSELR and acknowledge the suggested opportunities provided by UNSW. No additional trees were identified to be impacted along High Street as part of the proposed modification. No additional trees along High Street or along the alignment adjacent to the University would be impacted as a result of this modification. It is not proposed to extend the wire free technology beyond the CBD as part of this project. While condition B43 of the planning approval specifies that the light rail must be designed to not preclude a future potential pedestrianisation of High Street between Wansey Road and Botany Street, the pedestrianisation of High Street is not included in the proposed modification.

Item	Issue raised	Transport for NSW response to issue
9.0 Lack of consultation with UNSW		
9.1	Section 6.1 of the Modification Report refers to consultation undertaken with relevant stakeholders. As noted in the Modification Report a single meeting was held between UNSW and Transport for NSW on 17 November 2014 where no papers were provided or material released. The issues raised during this meeting, in previous submissions and correspondence were not fully addressed. Many have still not been addressed as part of the Modification Report as they relate to the UNSW, including: ▪ safety and capacity; ▪ platform crowding; ▪ High Street pedestrianisation; and ▪ protection of underground utilities.	Transport for NSW understands the University's concerns regarding safety and capacity, platform crowding, the pedestrianisation of High Street, and the protection of underground utilities, and believes that all of these issues have been adequately addressed. Given that the platforms would be proportionally longer to cater for the 67 metre LRVs, pedestrian capacity on the longer platforms will be sufficient to meet the required demand. As such, no significant adverse pedestrian impacts are expected. Further detailed pedestrian modelling would be undertaken during detailed design to confirm that pedestrian amenity is appropriately catered for at the stops and immediate surrounds (platform access routes). This would be outlined in Stop Access and Design Plans that will be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups and major landowners adjoining stop locations, including UNSW. Additionally, issues regarding High Street pedestrianisation and protection of underground utilities issues are not affected as a result of the proposed changes outlined in the Modification Report, and they were considered in Section 4 and Appendix C of the Submissions Report for the approved project (Transport for NSW 2014) and through the conditions of the planning approval (NSW Department of Planning and Environment 2014). As these issues have already been addressed as part of the approved project they are not further discussed in this Submissions Report.
9.2	To achieve suitable and meaningful input into the detailed design phase, UNSW seeks the preparation and implementation of a stakeholder liaison protocol and sign-off mechanism to address early works and main construction works to assist in input, feedback (and critically) notification of when certain works may be carried out.	The Urban Domain Reference Group was established to facilitate collaboration with key stakeholders and project partners, including the University of NSW, and to provide a forum for input into the proposed urban design elements. This continues to be the remit of the Reference Group. Further consultation with the University of NSW on specific issues would also be undertaken as required.

Item	Issue raised	Transport for NSW response to issue
9.3	UNSW proposes the following principles for the Upper and Lower campus stop designs and for the corridors on Anzac Parade and High Street as well as any services, utilities, bus stop and other impacts on the Kensington campus: ▪ Notice period of 13 business days for comment on any design changes; ▪ A clear rationale for any design changes with reference to UNSW's priorities, the social impact objectives of the project and previous design drawings and concepts; and ▪ Engagement of an independent certifier should there be a dispute between Transport for NSW and UNSW on a design solution.	These requests are outside the scope of works presented in the Modification Report and therefore cannot be addressed in this submissions report. The Urban Domain Reference Group was established to facilitate collaboration with key stakeholders and project partners, including the University of NSW, and to provide a forum for input into the proposed urban design elements. This continues to be the remit of the Reference Group. Further consultation with the University of NSW on specific issues would also be undertaken as required during the Project's detailed design phase.
9.4	As noted previously, a Business and Landowner Engagement and Management Plan as well as a Business Management and Assistance Strategy are to be implemented by Transport for NSW to proactively work with businesses. UNSW requests that it is defined as a business for the purposes of these plans and strategies.	Transport for NSW acknowledges UNSW's request. Under condition A16 of the planning approval, UNSW is required to be invited as a participating member of the Business Reference Group. Through the Business Reference Group, UNSW will be consulted on have the opportunity to influence the Construction Business Management Plan and thereby the business and commercial impacts of the construction of the approved project.
10.0 UNSW Anzac Parade stop		
10.1	The increased vehicle and platform length as well as the reduction in frequency of service (particularly during peak periods) will result in an increased number of people waiting on platforms than the approved scheme and more passengers alighting at any one time.	Refer to response for item 3.6.
10.2	Significant concerns are raised regarding the safety of pedestrians moving to and from the centre island platform, given the increased patronage whilst providing only one crossing (with the northern crossing subject to RMS approval).	Refer to response for item 5.4.
10.3	The current arrangement without a confirmed northern crossing will encourage pedestrians to cross during non-walk periods or cross outside of the marked pedestrian crossings.	Refer to response for item 5.3.

Item	Issue raised	Transport for NSW response to issue
10.4	Should additional time be allocated to the signalised pedestrian crossings, flow on impacts to vehicle traffic and LRV services reliability could be expected.	This would be outlined in Stop Access and Design Plans that will be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups.
11.0 UNSW High Street stop		
11.1	Transport for NSW has on many occasions discussed the benefits of platforms on either side of High Street in lieu of a central platform, which UNSW fully support. However, Transport for NSW has not provided any supporting details or documentation (such as plans) of this proposal. As a result UNSW has designed the High Street stop on this basis and this is now included in the submission.	Transport for NSW acknowledges the UNSW design submitted for the High Street stop and will consider it during the detailed design stage. The final design will be outlined in Stop Access and Design Plans prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups and major landowners adjoining stop locations.
11.2	The increase in LRVs and platform length affects the geometry and location of the High Street stop and reduces overall safety, particularly in relation to geometry and location of the rails as LRVs move through towards the Botany Street intersection.	Transport for NSW has looked at the issue raised in this submission regarding the effect of the increased LRV length on the geometry and location of the High Street stop, performance and safety, including the movement towards Botany Street. Transport for NSW has not identified any operational issues resulting from longer LRVs at this location.
11.3	The reduction in frequency of service (particularly during peak periods) will result in an increased number of people waiting on platforms than the approved scheme and reduce the overall safety at the stop.	Refer to response for item 3.6.
11.4	This increased platform length is likely to have impacts on existing utilities, services and UNSW properties, which have not been addressed within the Modification Report.	Additional impacts to the existing utilities, and services are unlikely to arise, and any additional impacts upon Property will be minimal. Should an impact arise, mitigation would be undertaken in consultation with the affected party.
11.5	The final location of the proposed shared pathway to provide access for bicycles (adjacent to the Racecourse boundary) is of concern to UNSW.	No changes to the layout or location of the cycleway adjacent to the Racecourse for the approved project are proposed. In line with Transport for NSW's previous commitments, the detailed design of the cycleway would be progressed in consultation with the Urban Domain Reference Group.

Item	Issue raised	Transport for NSW response to issue
12.0 Revised construction methodology for Anzac Parade tunnel		
12.1	UNSW is concerned that the impacts associated with the modified Anzac Parade tunnel construction methodology may increase the impact to the existing bus services and traffic in the immediate area which could impact on the reliability of public transport to and from the University, particularly during exam periods. As the busway along Anzac Parade is used by a significant number of buses that service UNSW, the impacts during construction must be minimised.	As stated in the Modification Report, the tunnel crossing would be staged to maintain traffic capacity along Anzac Parade with three lanes operating in each direction throughout the construction period. Temporary road pavement would be installed in order to maintain three lanes in each direction throughout construction as per the current arrangement. Additionally, traffic control would be implemented if considered necessary. Although minor delays may occur, Transport for NSW has assessed the potential impact to traffic and bus services along Anzac Parade during construction as being low with the implementation of these mitigation measures.
12.2	It is requested that consultation be undertaken with UNSW so that the construction program and staging are clearly communicated to ensure minimal disruption to staff and students, particularly during sensitive periods (such as exam periods).	An ongoing consultation process will be established as the design progresses. Through this process, clear communication would be established with UNSW and appropriate information would be shared to ensure potential disruptions are minimised.
13.0 Realignment of light rail track at Anzac Parade/Alison Road		
13.1	Overall, it is considered that the proposed modifications to the intersection provide a simpler and more efficient operation. It is noted that the realignment works at this intersection may impact the busway and bus services to UNSW. As the busway along Anzac Parade/Alison Road is used by a significant number of buses that service UNSW, the impacts during construction must be minimised.	Support for the proposed modification to the alignment of the light rail through the intersection of Anzac Parade and Alison Road is acknowledged. With respect to the proposed impacts to buses, staging of the proposed works would be undertaken at this intersection such that traffic and transport impacts for all vehicles is minimised as far as possible. This may include undertaking some works during night time periods to minimise impacts.
14.0 Modified Randwick Racecourse stop		
14.1	The Modification Report seeks to relocate the Randwick Racecourse, Alison Road stop from its approved location. There are no detailed plans that show the location and arrangement of the pedestrian crossings between Randwick Racecourse and the proposed stop.	Stop Access and Design Plans will be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups and major landowners adjoining stop locations.

Item	Issue raised	Transport for NSW response to issue
14.2	The proposed relocation is also not considered to directly service Randwick Racecourse. UNSW is of the view that this stop should be relocated closer to Darley Road to directly service the various local institutions such as the nearby TAFE or the UNSW Randwick Campus.	A turn-back is required to the east of the Randwick Racecourse stop as detailed in the original alignment. The turn back cannot be located further to the east due to geometry and space constraints around the Darley Road intersection, therefore the Randwick Racecourse stop location is constrained to its proposed location. The turn-back track location and further discussion regarding the use of this track is provided in Section 6.1 of this report and shown on Figure 6.1. The proposed relocation of the stop to the north side of Alison Road will improve the pedestrian connection between the light rail stop and Centennial Park, Randwick TAFE, UNSW Randwick Campus and residential areas to the north of Alison Road.
14.3	As Alison Road is used by students travelling to and from UNSW, particularly during exam periods (to the Racecourse) the impacts on bus services and roadways during construction must be minimised.	With respect to the proposed impacts to buses, staging of the proposed works would be undertaken such that traffic and transport impacts for all vehicles is minimised as far as possible. This may include undertaking some works during night time periods to minimise impacts to traffic. Notification of any proposed changes would be provided as part of ongoing communications advising of any potential impacts and alternative transport arrangements.
14.4	There is no discussion in the Modification Report regarding the impact of the removal of the westbound right turn in to Darley Road, which UNSW believes will have a traffic impact.	As identified in the Modification Report, the Darley Road right turn from Alison Road (westbound) is currently used by approximately 50 vehicles in each of the morning and afternoon peak periods. To improve capacity along the Alison Road corridor, the right turn would be removed. Investigation of relevant origin and destination information associated with these turning vehicles indicated that the Darley Road right turn facilitates an undesirable ‘rat-run’ through Centennial Park. The most significant impact of the modified design would be during the weekend peak, noting that Alison Road and Darley Road provides a direct route to Centennial Park from the south-eastern Sydney area. The primary route to Centennial Park would be via Avoca Street and Darley Road, with negligible impact on the surrounding network operation. On this basis, it is not proposed to include a right hand turn bay on Alison Road westbound into Darley Road. The retention of the right turn bay into Darley Road would require additional land use impacts to private property, however detailed investigations to its reinstatement will be undertaken in the detailed design phase.

Item	Issue raised	Transport for NSW response to issue
15.0 Arthur Street/Botany Street traffic signals		
15.1	Table 4.3 of the Modification Report identifies the revised 'Environmental Management Measures' for the CSELR operation. It is noted that under Traffic, transport and Access' (AH.6) that traffic signals (lights) have not been identified for the intersection of Arthur Street and Botany Street. UNSW considers that these signals are an important part of the project to facilitate access around the one way section of Wansey Road and the UNSW High Street stop.	This has not changed from the EIS. The current proposal is for the priority movement to be two way between Wansey (South of Arthur Street) and Arthur Street with the one way section of Wansey Road (west of Arthur Street) to operate with a stop sign. Traffic demand for this section of Wansey Road is low and sight lines for traffic exiting the one way section of Wansey Road does not warrant signalisation. Road Safety Audits and reviews will be undertaken at each stage of the detailed design. If this process identifies a requirement for signals then this will be further investigated.
16.0 Wansey Road shared path		
16.1	Table 4.3 of the Modification Report identifies the revised 'Environmental Management Measures' for the CSELR operation. Under the heading 'Traffic, Transport and Access' (AH.23) it is mentioned that the shared path would be reinstated on the 'outside' of the tracks (adjacent to Randwick Racecourse). However, on Wansey Road, adjacent to the UNSW High Street stop the shared path is currently proposed between Wansey Road and the light rail track. This creates a significant safety issue the intersection of Wansey Road and High Street. UNSW considers that the safer location for the shared path on Wansey Road is on the 'outside' of the tracks.	No changes have been proposed to the shared path on Wansey Road as a result of the Modification Request. Therefore the configuration of the shared path at this location would be as per the approved EIS.
17.0 Issues remaining for UNSW (outside of the Modification Report)		
17.1	It is essential that UNSW be able to operate as normally as possible during the Project construction works period. Maintaining traffic and transport access to the campus is fundamental to ongoing operations not being detrimentally affected.	The proposed modifications would not result in traffic, transport and access impacts additional to those assessed and approved in the EIS around the UNSW area. As per the commitment in the EIS, any traffic and access changes would be managed to avoid or minimise impacts. Access to UNSW would be maintained at all times.

Item	Issue raised	Transport for NSW response to issue
17.2	In addition to the 26,000 persons arriving by public transport, UNSW currently has approximately 7,000 staff and students arriving by private vehicle, 5,400 walking and more than 1,800 cycling to campus each day. In order to continue operations, sufficient access points and capacity for each of these modes needs to be managed and maintained throughout construction and beyond in a safe and efficient manner. Any changes to arrangements need to be coordinated and communicated in advance to avoid confusion and disruption to operations.	The proposed modifications would not result in access impacts additional to those assessed and approved in the EIS around the UNSW area. As per the commitment in the EIS, any access changes would be managed to avoid or minimise impacts. Access to UNSW would be maintained at all times.
17.3	Daily campus delivery requirements and campus specific construction traffic must be considered and managed during construction and delivery phases of the Project (including provision for oversized vehicles).	Refer to item 17.2
17.4	UNSW has a number of planned construction activities throughout the proposed CSELR project construction phase. UNSW seeks to work proactively with Transport for NSW to formulate a construction program that is mutually acceptable to both parties and considers the economic and business impacts of each project or entity.	The proposed modifications would not result in traffic, transport and access impacts additional to those assessed and approved in the EIS around the UNSW area. The project would maintain open communication with UNSW and other stakeholders regarding construction.

Table 4.4 Issues raised by Centennial Park and Moore Park Trust

Item	Issue raised	Transport for NSW response to issue
1.0 Relocation of the Surry Hills substation		
1.1	In order to minimise the impact on the parkland we request that the substation is placed entirely underground with access and ventilation being provided from within the tunnel portal so it will not be visible from the park and would have no other impact on park amenity.	The Surry Hills substation is to be located entirely underground. Access and ventilation will be provided from within the tunnel portal in Moore Park West.
2.0 Stairs from bridge over Eastern Distributor into Moore Park West		
2.1	Though not shown in the Modification Report, at a meeting between CPMPT and Transport for NSW, Transport for NSW presented images that include steps leading up into Moore Park West from the new Light Rail bridge crossing the Eastern Distributor. As these steps appear to be on CPMPT land and are a potential risk and maintenance liability, CPMPT requests that they be designed to the highest standards to ensure that are safe, robust, in keeping with the parklands, and with sufficient capacity to comfortably accommodate peak crowds moving through the area during major events. CPMPT wish to be consulted on the final design of these stairs.	The stairs adjacent to the northern side of the tunnel portal in Moore Park West were contained in the original design. A detailed design of the Moore Park Portals and Bridge over the Eastern Distributor would be prepared in accordance with Condition B39 of the planning approval. The Urban Domain Reference Group was established to facilitate collaboration with key stakeholders and project partners, including CPMPT, so they could provide input to the proposed urban design elements. This continues to be the remit of the Reference Group. Further consultation with CPMPT on specific issues would also be undertaken as required as the detailed design progresses.
3.0 'Throw' screen on the bridge over Eastern Distributor into Moore Park		
3.1	Although outside the Parklands, the appearance of the new bridge across the Eastern Distributor is important to CPMPT because of its potential visual impact on the Park. Particular attention should be paid to the detailed design of the pedestrian throw screens on the bridge as a visually dominant element on the structure. CPMPT therefore requests that for consistency and to minimise visual impacts, a similar approach to that of the RMS bridge over Anzac Parade be adopted where the throw screen design referenced colours and forms typical of the Moore Park landscape. CPMPT wish to be consulted on the final design.	A detailed design of the Moore Park Portals and Bridge over the Eastern Distributor would be prepared in accordance with Condition B39 of the planning approval. The Urban Domain Reference Group was established to facilitate collaboration with key stakeholders and project partners, including CPMPT, so they could provide input to the proposed urban design elements. This continues to be the remit of the Reference Group. Further consultation with CPMPT on specific issues would also be undertaken as required as the detailed design progresses.

Item	Issue raised	Transport for NSW response to issue
4.0 Construction of the tunnel under Anzac Parade		
4.1	As has been reinforced in previous discussions and submissions, the majestic avenue of predominantly Moreton Bay Figs along Anzac Parade is one of Sydney's best examples of a planted boulevard. It is a distinctive landscape element in the precinct of enormous visual and heritage significance. This has already been compromised through the loss of trees in the approved design. The proposed change, which will result in the removal of an additional four significant trees and potentially adverse impacts on the root zone of five others, is a major concern and in our view should be reconsidered.	The modified tunnel construction and shallower alignment helps both to avoid identified utilities in the vicinity of the tunnel and optimises the tunnel construction. Transport for NSW acknowledges the importance of the mature Moreton Bay Figs along Anzac Parade and will work to develop designs and construction methodologies which minimise the impacts on these trees. This is consistent with the principles outlined in condition B47 of the planning approval. Environmental Management Measure T4 provides a commitment for construction techniques to minimise impacts to tree root zones where practicable. This would include consideration of compaction and root bridging techniques, permeable paving, tunnel boring of services, hydro-excavation and careful root pruning). The use of low impact construction techniques (on existing tree roots) for installation of new services would also be considered, where appropriate and feasible. An Urban Design and Landscape Plan will be prepared in accordance with condition B51 of the planning approval that will identify design objectives and standards. The plan would also detail principles to enhance the public domain and integrate the project within the local environment, for example replanting removed trees with equivalent or similar trees in an appropriate location as close to the existing locations as possible.
5.0 Visual impact of the Moore Park stop		
5.1	We acknowledge that the removal of the upper level and reduction in platform length in the proposed modification will reduce the height and volume of the structure and its overall visual envelope. However the beneficial impacts of these improvements are offset to some extent by the addition of the stairs and ramps on the eastern side of Anzac Parade associated with the bridge connecting with the high school and the includes of what appears to be an amenities block for tram operators at the southern end of the stop (which whilst not specified in the Modification Report, we have been advised is proposed). CPMPT requests that the visual impact of the stop on the surrounding parkland be further reduced by: ▪ ensuring the designed design minimises the visual 'presence' of the proposed stairs and ramps; and	The stairs and ramps associated with the bridge were part of the original reference design and are now stand alone as a result of the removal of the mezzanine level. As a result of design development a need for as special event staff facilities block and supporting control centre has been identified. The amenities block is located at the Moore Park stop to: ▪ Provide facilities for drivers and special events staff at the last stop along the main line before branching during special events. The facilities need to be located at a stop as the LRV is unable to pause for the driver to use the facilities if they were to be located at intermediate locations along the alignment. ▪ Provide facilities for event management staff and a supporting operations

Item	Issue raised	Transport for NSW response to issue
	▪ deleting the proposed driver/operator amenities block above ground and instead, locating it underground as part of the subway or relocating it to an alternative site.	control centre when in high event mode. Further detail is provided in Section 6.5 of this report. Stop Access and Design Plans will also be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups and major landowners adjoining stop locations, including the CPMPT. While locating the amenities block underground would result in amenity and operational disadvantages such as a requirement for mechanical ventilation and artificial lighting, it has not been ruled out. Contextual designs and finishes for ancillary buildings such as the amenities block, will be developed during the detailed design phase, with materials and finishes to draw on the palette and architectural style of the setting. Additionally, condition B36 of the planning approval outlined performance based criteria that the design of the pedestrian bridge should meet. These measures include minimising impacts on surrounding land uses.
6.0 Moore Park Stop subway access		
6.1	CPMPT agrees that the proposed pedestrian subways provide a safer arrangement for access to the light rail platform. It is noted, however, that they will only be operational during event mode and will be closed at all other times. CPMPT is concerned that for the majority of time when they are not in use by the general public, the stairs leading down could become a haven for graffiti and other anti-social behaviour, and a potential refuge for the homeless. Security monitoring of this area should be considered in the detailed design.	Transport for NSW can confirm that access to the subway during non-event periods will be closed at the top of the stairs thereby ensuring no public access to any part of the stairwell or subway at these times. The system operator will be responsible for maintaining these stairs and tunnels and will face financial abatement if they are not kept clean and free of graffiti.
7.0 Catenary support poles		
7.1	Though not specified in the Modification Report, at a meeting between CPMPT and Transport for NSW, Transport for NSW proposed the placement of up to three poles on the west side of the bus roadway just south of the Moore Park stop to support the catenary cabling for the light rail. The location of the poles in amongst the tree canopy of the trees along Anzac Parade may require pruning of these trees. This would be undesirable because of the trees' visual and heritage significance.	The placement of poles along the alignment, including the Moore Park busway is being undertaken as part of ongoing detailed design and was therefore not considered to be a modification to the approved design. Notwithstanding, final placement of the catenary support poles along the entire length of the project would aim to minimise the need for both tree removal and pruning of significant trees such as the mature Moreton Bay Fig trees along Anzac Parade. Consultation with CPMPT will continue throughout the detailed design and

Item	Issue raised	Transport for NSW response to issue
	The final location of the poles should be discussed and agreed with CPMPT so as to minimise any impact on the trees.	construction phase regarding the location of these poles.
8.0 Realignment at Anzac Parade near Robertson Road		
8.1	The realignment of the Kensington branch line from the main light rail truck line at the end of Robertson Road is of concern to the CPMPT because of the additional land take and impact on trees in this location. The loss of additional significant trees on Anzac Parade is undesirable. Final design of the alignment should be done so as to minimise the loss of trees and loss of parkland.	The development of the detailed design and construction methodology will further review the impacts on these trees. This is consistent with the principles outlined in condition B47 of the planning approval.
9.0 Loss of trees at end of Martin Avenue / Robertson Road		
9.1	Though not as significant as those along Anzac Parade, the trees along the edge of the end of Robertson Road/Martin Avenue provide an important visual barrier between the Anzac Parade roadway and the adjacent parkland and residential area. Their removal will have a significant and adverse visual impact on the landscape in this location and the amenity of the adjoining land. We request that the light rail alignment in this location be amended to retain these trees.	The rationale for changes to the alignment near the Alison Road/Anzac Parade intersection is given in Section 3.8.2 of the Modification Report. Transport for NSW acknowledges the high amenity value of the trees at the end of Martin Road/Robertson Road. The development of the detailed design and construction methodology will further review the impacts on these trees. This is consistent with the principles outlined in condition B47 of the planning approval.
10.0 Realignment along Alison Road at the Doncaster Avenue intersection		
Impact on the proposed entry to Centennial Park, where there is a footbridge that crosses Kensington Pond		
10.1	This entry to the Park is critical, providing the most logical and practical access from the Doncaster Avenue residential precinct. With the increasing residential densities planned for this area, access into the Parklands from here will become increasingly important. CPMPT has planned for this in its recently completed Centennial Park Master Plan which recommends a substantial upgrade to this Park entry and the footbridge and the provision of new pathways in the vicinity which provide improved pedestrian and cycle connections. CPMPT requests that Transport for NSW provide funding and resources as required to undertake a revised master plan and to provide a replacement entrance to the park.	Transport for NSW will continue to work closely with CPMPT during detailed design in relation to access to the Parklands from the Doncaster Avenue residential precinct and achieve the objectives of the Centennial Park Master Plan where it interfaces with the CSELR project.

Item	Issue raised	Transport for NSW response to issue
Impact on the amenity and the character of the Park at the Doncaster Avenue intersection		
10.2	The more natural, wild and secluded character of the Park at the Doncaster Avenue intersection will clearly be diminished by the proximity of the light rail to the edge of the pond. Transport for NSW will need to consider this and work closely with CPMPT to ensure that this quality is maintained.	The Urban Domain Reference Group was established to facilitate collaboration with key stakeholders and project partners, including CPMPT, so they could provide input into the proposed urban design elements. This continues to be the remit of the Reference Group. Further consultation with CPMPT on specific issues would also be undertaken as required as the detailed design progresses to ensure the quality and character of the Parklands at this location is maintained.
Removal of trees at the Doncaster Avenue intersection		
10.3	The line of paperbark trees along the western edge of the Kensington Ponds, known as 'Maidens Row' is an important addition to the park. It appears that at least two of these trees will need to be removed with the proposed new alignment. The loss of any of these trees is undesirable, and Transport for NSW is requested to consider this in the detail design of the light rail track alignment.	Since the exhibition of the Modification Report, ongoing design development has identified that a reduction in the number of trees is expected to be affected by the proposed modification. Notably, this includes the retention of many of the 'Maidens Row' paperbark trees located between Alison Road and the western edge of Kensington Ponds in Centennial Parklands (refer to section 6.2 of this Submissions Report for additional details). Transport for NSW will continue to work closely with CPMPT during detailed design to ensure that any effect on trees is minimised. While the final alignment will be determined during the detailed design of the project it is expected that these trees would be retained.
Impact on the outer perimeter trail		
10.4	This feature to the Parklands is much loved by park uses as a 'special' jogging and walking track and is highly valued in this location in particular because of its proximity to the pond and the wilder character of the Park in this area. Because of the 'pinch point' between the pond and the proposed new alignment at this location, the outer trail will be significantly impacted – it is not clear how it would continue past this point. CPMPT requests that Transport for NSW fund works to create space between the edge of the pond and the track alignment which could be trough some land reclamation or a cantilevered boardwalk over the edge of the pond.	The project will continue to work closely with CPMPT during detailed design to ensure the outer perimeter trail is maintained.

Item	Issue raised	Transport for NSW response to issue
11.0 Flood mitigation		
	The impact of increased flooding inundation in the southwest corner of the Park is of concern to the CPMPT, particularly in relation to specific improvements currently being implemented in this area such as a new café and bike hire facility near the Children's Learners Cycleway. CPMPT requests that further environmental and flood modelling must be undertaken to better demonstrate the need for this work and to more clearly define impacts on the park lands and park facilities.	Further environmental and flood modelling studies will be undertaken during detailed design to define the impacts to the area of the Parklands near the Children's Learners Cycleway due to the raising of the embankment have been commissioned.
12.0 Loss of trees along Alison Road and the south west corner of Centennial Park		
12.1	The removal of the trees along the edge of Alison Road will have significant impact not only on views to the Park but views out of the Park, particularly from Ash Paddock in the very southwest corner with the result that the amenity of this space will be substantially diminished. Although on Randwick City Council land, these trees currently define the edge of the Park and provide a strong sense of enclosure which contributes to the quiet secluded character of the southwest corner.	The retention of Maidens Row and new plantings as part of works will contribute towards reducing visual and amenity impacts on the Parklands. It is acknowledged that there will be some impacts as the new plantings are established. Transport for NSW will seek to commence revegetation works as early in the program as practicable.
12.2	The loss of these trees would be compounded by the removal of the line of paperbark trees along the western edge of the Kensington Ponds, known as 'Maidens Row' from Doncaster Avenue to Darley Road. We now understand that the removal of these trees is not required. We accept this but, for the record, register our strong objection if this was reconsidered.	Transport for NSW will continue to work closely with CPMPT during detailed design to ensure that any effect on trees is minimised. While the final alignment will be determined during the detailed design of the project it is expected that the trees in Maidens Row would be retained.
12.3	Of equal importance is the possible loss of two mature Fig trees on CPMPT land at the end of the heritage perimeter fence on the corner of Alison and Darley Roads. Transport for NSW has indicated that the removal of these trees may not be required. We record out strong objection to the removal of these two trees, and can see no valid need for their removal, given their distance from the light rail tracks.	Transport for NSW acknowledges the importance of the mature fig trees near the corner of Alison and Darley Roads and will work to develop options during detailed design which minimise impacts to these trees. The development of the detailed design and construction methodology will further review the impacts on these trees. This is consistent with the principles outlined in condition B47 of the planning approval.

Item	Issue raised	Transport for NSW response to issue
13.0 Visual impact of retaining wall		
13.1	The partial excavation of the embankment and the construction of a retaining wall along the edge of the new alignment will have a major impact on views to the Park from Alison Road. CPMPT request that the final aesthetic design of the retaining structure is discussed and agreed with CPMPT to incorporate such features as 'greening' of the vertical face of the wall with planting.	The Urban Domain Reference Group was established to facilitate collaboration with key stakeholders and project partners, including CPMPT, so they provide feedback on the proposed urban design elements. This continues to be the remit of the Reference Group. Further consultation with CPMPT on specific issues would also be undertaken as necessary during the detailed design progresses to ensure the quality and character of the Parklands at this location is maintained.
13.2	CPMPT also requests that the light rail tracks be given a similar treatment and turfed to soften their visual impact on the landscape.	A range or track treatments were considered in the preparation of definition design for the EIS, taking into account the urban design context and principles being applied to the project. Further detail can be found in Chapters 4 and 5 (Volume 1A) of the EIS. As a result of this process it was determined that grassed tracks would be unlikely to thrive without regular watering and fertilising and grassed tracks do not form part of this project. The proposed modifications do not change this. Notwithstanding, urban design elements along the CSELR alignment and at light rail stops, including infrastructure, paving, lighting, street furniture, would be undertaken during detailed design and would include consultation with the Urban Domain Reference Group to finalise such elements.
14.0 Impact on separated pedestrian path and cycleway along Alison Road		
14.1	The recently constructed bi-directional pedestrian and cycle pathways along the Alison Road edge between Doncaster Avenue and Darley Road appears to be lost in the modified design with only a pedestrian path maintained near the Alison Road edge and bicycles relegated to a proposed shared path on top of the embankment. CPMPT requests that the design be reworked to enable the accommodation of separated pedestrian and cycle pathways (or at least a shared pathway) adjacent to Alison Road. And further that consideration be given to extending such a facility north along the Alison Road edge to the Dacey Avenue/Anzac Parade intersection.	It is intended that pedestrian and cycle access would be retained at this location, although the final layout and nature of the path (i.e. shared or separate) will be refined in detailed design. Transport for NSW will consider the cyclist and pedestrian path in the broader precinct context and will continue to consult with CPMPT on pathway design during the detailed design phase.

Item	Issue raised	Transport for NSW response to issue
15.0 Traffic impacts for access to Centennial Park		
15.1	The proposed removal of the right turn lanes from Alison into Darley Road is of concern. This is the dominant means of vehicular access to the Park from the south east, using the Randwick Gate. The loss of this option for these vehicles will require them to undertake a far more circuitous route to access the Park, either by filtering though the North Randwick residential area to Darley Road and back to the Randwick Gate or, by continuing along Alison Road, then Anzac Parade to Land Road and into the Park through the Robertson Road Gate.	As identified in the Modifications report, the Darley Road right turn from Alison Road (westbound) is currently used by approximately 50 vehicles in each of the morning and afternoon peak periods. To improve capacity along the Alison Road corridor, the right turn would be removed. Investigation of relevant origin and destination information associated with these turning vehicles indicated that the Darley Road right turn facilitates an undesirable 'rat-run' through Centennial Park. The most significant impact of the modified design would be during the weekend peak, noting that Alison Road and Darley Road provides a direct route to Centennial Park from the south-eastern Sydney area. The primary route to Centennial Park would be via Avoca Street and Darley Road, with negligible impact on the surrounding network operation. On this basis, it is not proposed to include a right hand turn bay on Alison Road westbound into Darley Road. The retention of the right turn bay into Darley Road would require additional land use impacts to private property, however detailed investigations to its reinstatement will be undertaken in the detailed design phase.
15.2	At peak park visitation times on the weekends, the loss of the Alison Road right turn capability seems unnecessary and more onerous for vehicles arriving from the south east. We therefore request that further modelling of the performance of the Alison Road/Darley Road intersection under the modified design be undertaken to better understand the broader impact on traffic patterns around the park, and confirm the need (or not) for this change.	Further traffic and transport studies on this intersection will be undertaken during detailed design to better understand the impacts of the removal of this right-turn lane upon weekend traffic.

Item	Issue raised	Transport for NSW response to issue
16.0 Construction impacts on the Park		
16	There is little detail in the Modification Report of what construction areas will be required for the proposed Alison Road realignment. CPMPT is concerned that sections of the south west corner of the Park (particularly Ash Paddock) will be required for this purpose which would have a significant impact on the use of this area. More detail is required about how construction activities in this area will be managed and, in particular, how any potential environmental impacts will be mitigated. Timing and extent of any works areas are to be agreed with CPMPT, however we note that at this stage Transport for NSW have advised that no additional construction work zones will be required beyond what was agreed for the original planning proposal.	Ash Paddock will not be affected by the construction or operation of the project. Details outlining the management of environmental impacts will be contained in a Construction Environmental Management Plan (CEMP). Transport for NSW confirms that no additional construction work zones will be required due to modifications of the original design.
16.2	We are also concerned about potential environmental impacts of construction activities on the sensitive landscape and ecology of the Kensington Ponds area.	The environmentally sensitive nature of the Kensington Ponds area is acknowledged. Consultation with CPMPT will continue to ensure impacts are minimised during the construction phase. For example, the retention of Maidens Row assisting with the preservation of the Ponds bank edge. Details outlining the management of any environmental impacts will be contained in a CEMP.

Table 4.5 Issues raised by Sydney Water

Item	Issue raised	Transport for NSW response to issue
1.0 Clause 3.3 – Grosvenor Street Stop		
1.1	The widening of the corridor at the stop on the western side will impact on the DN225 sewer pipe and various maintenance chambers. The sewer and MH may require adjustment.	Ongoing, detailed utility investigations and consultations with utility providers (including Sydney Water) are currently in progress to inform the design development and confirm the extent of adjustment/protection works required, and ongoing access arrangements. This includes consideration of planned utilities with the potential to be affected by the CSELR construction or operation. The impact of the CSELR project (including the proposed modifications) on any Sydney Water assets would be considered during detailed design and in consultation with Sydney Water. Where adjustments are required to be made to the identified utilities, any adjustments would be designed to ensure that Sydney Water has access for operational and maintenance purposes.
2.0 Clause 3.7 – Realignment along Alison Road, Royal Randwick Racecourse		
2.1	The track access into the stabling and maintenance facility will impact on: ▪ DN1650 Conc. Stormwater pipe ▪ DN600 & DN450 CICL watermain ▪ Scour valves between the watermains and stormwater pipe ▪ DN450 CI sewer pipe.	Refer response to issue 1.1.
2.2	The revised alignment will impact on: ▪ Vent line and vertical vent shaft east of the modified stop ▪ Crossing DN600 CICL and DN450 CICL watermains at Darley Street ▪ The regrading of Alison Road footpath for the retaining wall may reduce the cover over the 600 CICL watermain ▪ Construction activity along the realignment may impact on the 600 CICL watermain. A geotechnical and structural assessment will be required to	Refer response to issue 1.1.

Item	Issue raised	Transport for NSW response to issue
	determine the impact.	
2.3	Adjustment or protection of assets may be required.	Refer response to issue 1.1.
3.0 Clause 3.8 – Realignment of light rail tracks at the Anzac Parade and Alison Road		
3.1	The following mains are impacted and may need to be adjusted: ▪ Crossing DN375 CICL watermain ▪ Crossing DN500 CICL watermain ▪ Crossing DN600 CICL watermain ▪ Crossing DN200 CICL watermain ▪ DN400 sewer and maintenance chamber.	Refer response to issue 1.1.
4.0 Clause 3.10 – Revised construction methodology for the tunnel under Anzac Parade		
4.1	Moore Park Tunnel impacts: ▪ The DN375 CICL watermain in Anzac Parade will impact on the construction method ▪ The watermain will be required to be adjusted/protected to suit the proposed tunnel.	Refer response to issue 1.1. The construction methodology for the proposed tunnel across Anzac Parade will take into account all existing assets (including Sydney Water assets) and will implement a hierarchy of management measures (including avoidance, protection and relocation) to mitigate any conflicts between existing assets and the proposed tunnel.
5.0 Clause 3.12 – Height increase to Randwick Stabling Facility		
5.1	The increased ground fill will impact on the DN450 CIP sewer. An assessment is required to determine the loading impact on the sewer. Adjustment/protection may be required.	Refer response to issue 1.1.

Table 4.6 Issues raised by Environment Protection Authority

Item	Issue raised	Transport for NSW response to issue
1.1	The EPA notes that the construction hours referred to in Conditions B2 and B3 of the existing conditions of approval are not in accordance with the standard construction hours set out in the *Interim Construction Noise Guideline* (DECC 2009). The EPA considers that construction hours for the CSELR project, including works detailed in Modification No. 1, be limited to the following hours unless otherwise permitted in accordance with Condition B4: ▪ 7:00 am to 6:00 pm, Mondays to Fridays ▪ 8:00 am to 1:00 pm, Saturdays; and' ▪ at no time on Sundays or public holidays.	There has been no change to construction working hours as a result of this Modification. The nature of the construction means evening and night work would be required at times, particularly in areas around road intersections where construction work during the daytime would result in a significant impact on traffic congestion and safety. For some construction activities such as relocation of services, working extended hours along the alignment is an option that would reduce the overall duration of these activities (and hence the duration of impacts). At this stage, 24 hour construction is not proposed except in special circumstances, such as intersection works where night works are required to minimise disruption to road traffic, or in locations where those works will not adversely impact adjacent land-uses, such as the Moore Park tunnel. Additionally, working at night and out-of-hours is often required for works on major roads by road authorities (such as councils and Roads and Maritime Services) to avoid impacts to traffic during daytime hours.

5. Response to community and stakeholder submissions

This chapter details the issues raised in community submissions received during the public exhibition of the CBD and South East Light Rail Modification Report and Transport for NSW's response to these issues.

The order of the issues in this chapter is generally designed to reflect the order of the Modification Report (where relevant), and does not reflect the number of times a particular issue was raised. For each issue (or sub-issue) raised, a summary of the issue is presented, followed by a list of the relevant submission numbers and then Transport for NSW's response.

5.1 Planning and statutory requirements

5.1.1 Assessment process and documentation

Summary of issues raised

Insufficient information

Four submissions raised concerns regarding a lack of detailed information provided as part of the proposed modifications. In particular, the respondents noted that the proponent has provided no substantial information or data to validate the proposed modifications.

One respondent (submission number 10) noted the lack of proper studies and availability of information in public forums and on display – suggesting significant and unacceptable gaps for post approval permitting.

One respondent, (submission 110) noted specifically that no further details of the Rawson Place interchange have been provided arising from the proposed increase in length of the light rail vehicles.

Misleading or incorrect documentation and assessment

In addition, four submissions noted that the information provided in the report was inaccurate, was misleading or used incorrect terminology to describe elements of the project. One submission (submission number 94) also questioned the expertise and qualifications of the proponent's consultants.

Transparency regarding the studies that have been undertaken for the proposed modifications was also raised by one respondent (submission number 5).

Submission number(s)

5, 10, 16, 79, 80, 83, 88, 94, 110

Response

The Modification Report was completed by experienced professionals in accordance with all relevant environmental and planning legislation and other relevant procedures and guidelines required by government agencies. Whilst all efforts were made during the preparation of the Modification Report to provide accurate and consistent information throughout the report, some inconsistencies have been raised throughout the submissions process and these minor errors are noted. These minor errors do not impact the overall ability of the proposed modifications to be considered fully by the public or assessed by DP&E. The Minister for Planning will ultimately determine whether to approve the modification based on the information provided.

The project will continue to be further refined as design development of the project continues throughout the detailed design phase.

5.1.2 Planning approvals process

Summary of issues raised

A series of submissions raised concerns with the length of time that was provided to comment on the Modification Report, noting that it was too short a period of time to review the changes. In addition, the timing of the consultation period just prior to the Christmas and New Year period was also criticised by a number of respondents.

Requests were made to have the exhibition period extended to the end of January 2015 or early February 2015.

One respondent (submission number 61) raised concern that, although the exhibition period was between 3 December and 17 December 2014 the community was only fully informed of the modifications at a community meeting at Randwick TAFE on the 10 December 2014.

Submission number(s)

5, 7, 8, 10, 14, 15, 18, 31, 40, 54, 55, 61, 71, 79, 80, 82, 83, 88, 94

Response

The Environmental Planning and Assessment Regulations 2000 (EP&A Regulations) identifies the required exhibition timeframes for the Modification Report. Under clause 241 of the EP&A Regulations, modifications are to be available for inspection for a period of at least 14 days. The Modification Report was on exhibition between 3 December and 17 December 2014, meeting the required exhibition timeframe.

As noted in Section 2.1.1 of this Submissions Report, the display of the modifications report was advertised in a range of Sydney Metro and relevant local newspapers on 3 December 2014.

With respect to the lack of time to respond due to the timing of community meetings, electronic copies of the Modification Report was available on the DP&E website throughout the whole of the exhibition period. Hard copies of the Modification Report were also made available at seven display locations including various government agencies, local councils, Transports Community Information Centre and other community facilities (refer to Section 2.1.1 above) throughout the exhibition period.

5.1.3 Contracts

Summary of issues raised

Five submissions raised concerns regarding the signing of the contract for the Public Private Partnership so close to the closure of the exhibition period for the Modification Report.

One respondent (submission number 94) also noted that it will be necessary to ensure that the adoption of APS will not contribute to a monopoly situation applying to future procurement for the light rail system and its future extensions.

Submission number(s)

7, 20, 21, 31, 94

Response

The signing of the contract for the Public Private Partnership for the construction and operation of the CSELR Project was undertaken with consideration of the proposed modifications that were exhibited for the Project in December 2014. If the proposed modifications are approved by the Minister for Planning, the appointed construction contractor and operator of the CSELR Project would be required, as part of the contract, to operate in accordance with any requirements that are imposed as part of the approved modifications.

The Contract executed by Transport for NSW contains provisions to protect the NSW government regarding future procurement for the light rail system and its future extensions.

During the tender evaluation period Transport for NSW gave careful consideration as to the commercial consequences of adopting the APS technology. Firstly, LRVs from any supplier can be fitted to the appropriate collectors to allow operation on tracks fitted with APS. For example, the existing LRVs operating on the Inner West Line could be modified thereby enabling operation through to Circular Quay (although this is not part of the current project). Secondly, should Transport for NSW wish to extend the APS track in the future, the agreed contract has certain obligations on the APS supplier to provide this technology on fair and reasonable terms even if any future extension is built by another operator.

5.1.4 Did not address previously raised concerns

Summary of issues raised

Four submissions raised as a specific issue that the concerns raised as part of the previous submissions report had not been addressed. Respondents noted that the critical concerns of businesses and the local community documented to Transport NSW and the Department of Planning and Environment with regard to the design and impact of this project are not being heard and were not included as part of the proposed modifications.

One response noted specifically that the proposed location of the Rawson Place stop had not been moved to address the previously raised concerns of the YHA, with the preference for the stop location being to the west in Eddy Avenue.

Submission number(s)

20, 86, 98, 110

Response

Throughout the consultation process, community expectations and concerns have been addressed to the greatest extent practicable. Ultimately, the selection of the preferred project took into account transport needs, environmental impacts, engineering and cost constraints. In addition, a Submissions Report was prepared for the CSELR EIS in March 2014. This report addressed over 4,500 individual community issues providing responses to each.

While all efforts have been made to address the concerns of all respondents, not every request can be met given the range of parameters that must be taken into account when developing a project like the CSELR. It is also recognised that despite the consultation undertaken and design changes proposed for the project there are still people who oppose the proposal and the outcomes of the overall environmental impact assessment process.

With respect to the concern regarding the Rawson Place stop, a comprehensive assessment process was undertaken to identify the most appropriate location for stops along the alignment as part of the development of the CSELR Project. This approach was described in Section 4.1 and Section 4.4 of the EIS (Volume 1A) (Transport for NSW, 2013b). The assessment undertaken the identification of stops, including Rawson Place, is still valid when considered in conjunction with the proposed modifications. Transport for NSW considers that the proposed location for the Rawson Place stop is still appropriate.

5.2 Community and stakeholder consultation

5.2.1 Consultation regarding the proposed modifications

Summary of issues raised

Concern regarding the level of consultation undertaken with the community and stakeholders during the exhibition of the Modification Report was raised in a number of submissions. A summary of these issues is detailed below:

General concerns with consultation of the proposed modifications

- Doncaster Avenue residents were not notified as to the existence of the Modification Report.
- No communication of the Modification Report outside of the internet which isn't fair on people who do not have internet access but may be affected by the changes.
- Surprise that the Modification Report was not widely publicised and that it is not included on the CSELR website resources.
- Concern that the respondent had not been notified there was a new EIS concerning the CSELR on exhibition.

Concerns regarding changes to designs

- The newly proposed changes to the project invalidate the community consultation to date because the plans shown to the community for the EIS were not final.
- Community consultation has been deficient on accurate detail from inception.

Community forums

- Perception that the Community Reference Group meeting was not a serious attempt to engage with the community, but rather a box ticking exercise.
- Community forums do not provide opportunity for open discussion as a group and are limited to one question per person.
- Community forum meetings are called without proper notice and without papers for discussion being distributed before the meeting. Minutes of meetings are approved by Transport for NSW, not the meetings themselves. Only ten minutes is set aside for members of the community to ask questions. Transport for NSW determines when meetings will close.
- Disappointment that the Community Forum attended for Randwick did not provide adequate opportunity for issues to be appropriately considered and addressed.

Submission number(s)

7, 12, 18, 21, 31, 36, 42, 55, 78, 83, 98, 101, 112

Response

General concerns with consultation of the proposed modifications

Electronic copies of the Modification Report were available on the DP&E website throughout the whole of the exhibition period. Hard copies of the Modification Report were also made available at seven display locations including various government agencies, local councils and other community facilities (refer to Section 2.1.1 above) throughout the exhibition period.

Whilst concern was raised regarding the lack of detail and potentially unresolved issues, the level of assessment undertaken is considered appropriate given the level of design detail on which the Modification Report was prepared.

Concerns regarding changes to designs

While concern was raised regarding the changes to the proposed plans, and the fact that these changes invalidated the previous community consultation, Transport for NSW considers that the proposed changes address previously raised concerns. Therefore, the previous consultation is a key component of the currently proposed design changes.

The design and community consultation is an iterative process, the community is updated once new design work is available.

Community forums

Transport for NSW conducted Community and Business Forum and Reference Group meetings to brief local communities and businesses along the alignment on the proposed planning modifications during December 2014 (refer to Section 2.1.1 above).

These Forums and Reference Groups will be held regularly during the delivery of the project and provide an ongoing opportunity for communities, businesses and stakeholders to provide input and receive information. TfNSW has noted the concerns raised and will consider them where appropriate when organising future Forums and Reference Groups.

5.2.2 General concerns regarding Project consultation

Summary of issues raised

Concern regarding the level of consultation undertaken with the community and stakeholders during the exhibition of the Modification Report, and in relation to the CSELR Project in general, was raised in a number of submissions. A summary of these issues is detailed below:

- There has been no consultation with NSW taxpayers regarding the route.
- There has been no wide community consultation with open discussion of issues and genuine community concerns have been ignored.
- Transport for NSW has failed to reasonably consult with the Doncaster Avenue community thus far.
- Decisions appear to have been made without adequate consultation and without taking into account the views of the residents.
- Neither Transport for NSW nor Randwick City Council consult with residents on the need for this light rail transport system.

Submission number(s)

5, 31, 86, 93, 98

Response

Consultation for the overall CSELR Project has been undertaken for over two years has occurred throughout the strategic planning phase of the CSELR and will continue throughout the project delivery.

As detailed in Chapter 2 of the CSELR EIS (Volume 1A) (Transport for NSW 2014b), consultation with key proposal stakeholders prior to the exhibition of the CSELR EIS included:

- a year-long consultation process during the development of the NSW Long Term Transport Master Plan (NSW Government 2012)
- six Sydney Light Rail Round Table meetings (held during the feasibility phase of the CSELR proposal), involving key proposal stakeholders and elected State and council representatives
- four Light Rail Working Group sessions (held between October 2011 and June 2012), involving technical and expert level representatives of key government and institutional stakeholders
- stakeholder meetings (including with government agencies) to support the Round Table and Working Group process and to facilitate information exchange
- an industry briefing session (held on 9 April 2013) which included presentations by the Minister for Transport and the Deputy Director-General Transport Projects, Transport for NSW, and attracted over 350 attendees from a wide audience including industry groups, government agencies and private businesses

- briefings with key Moore Park sports and entertainment complex representatives and major users of these facilities (held on 5 August 2013 and 9 October 2013) to jointly discuss and provide input to the design process
- consultation with utility providers, which included a high level briefing of senior utility representatives (held on 16 May 2013)
- comprehensive stakeholder briefings and presentations (held since December 2012).

In addition, in April 2013, five community information stands were established at locations near the proposed CSELR alignment to receive local input on the proposal at an early stage. The information stands were attended by members of the proposal team, so that attendees' questions could be answered and feedback obtained.

During the development of the approved CSELR EIS a number of other consultation activities were undertaken including:

- door knocking
- various mail outs and project newsletters
- place manager met individually with interest groups
- a range of CSELR EIS exhibition activities (refer to the approved CSELR Submissions Report for details).

Since the approval of the CSELR Project in June 2014, ongoing consultation has continued with key stakeholders, businesses and communities to keep them informed regarding the progress of the project's development.

Transport for NSW conducted Community and Business Forum and Reference Group meetings to brief local communities and businesses along the alignment on the proposed planning modifications during December 2014 (refer to Section 2.1.1 above).

The suggested lack of consultation between Randwick City Council and its residents regarding the Project is outside the control of Transport for NSW and therefore Transport for NSW cannot make any comment regarding the level of consultation from the council.

5.3 Project alternatives

5.3.1 Alternative modes

Summary of issues raised

A series of submissions noted that alternative modes of transport should be considered instead of the proposed light rail project as proposed. A number of submissions noted that the proposed CSELR Project should not proceed and that a heavy rail line should instead be provided to the eastern suburbs. Specific comments raised by respondents are summarised below.

- Parking is currently at a premium and heavy rail extensions should be favoured over a cheap and ineffective light rail solution that will place further pressures on roads.

- The best plan for eastern suburbs public transport would be a heavy rail underground system.
- The government did not examine other public transport solutions such as heavy rail or improving the existing bus system.
- As the project will significantly hinder existing transport facilities it seems that $2.2 billion would be better spent on alternatives. This necessitates a system on a different grade, such as a driverless underground heavy metro-style rail.
- Look at heavy rail, buses or an alternate route for the light rail.
- The best short-term public transport solution for the south eastern suburbs is an improved bus service.

Submission number(s)

5, 12, 16, 25, 27, 30, 35, 48, 78, 86, 91, 92

Response

Issues regarding the consideration of alternative transport modes for the project were previously addressed in Section 5.4.1 of the approved CSELR Submissions Report (Transport for NSW 2014a).

As noted in the approved CSELR Submissions Report, the CSELR proposal was developed as part of a comprehensive options identification and assessment process consisting of three key stages — strategic assessment, options assessment and definition design. The options identification and assessment process is detailed in Section 3.4 of the EIS (Volume 1A).

The outcome of the strategic assessment process was that light rail was identified as the preferred solution to increase the capacity and improve the reliability of the inner Sydney and CBD transport network. Other transport modes, including bus improvements/redesigned bus network and heavy rail (including extensions to the existing network), were discounted during the strategic assessment as these did not meet the strategic needs and objectives which were identified in Section 4.1 of the approved CSELR EIS (Transport for NSW 2013b).

5.3.2 Stop and maintenance/stabling location alternatives

Summary of issues raised

Four respondents raised in their submissions alternatives regarding proposed stops and an alternative location for the proposed stabling and maintenance facility. Specific items raised are summarised below:

- Additional stations should be added to the CSELR to make it more attractive to users.
- More light rail stops should be considered in suburban areas during non-peak periods which will greatly assist and support wider community usage of the light rail.
- Use the large forecourt of the Prince of Wales Hospital on the corner of High Street and Belmore Road for the light rail terminus instead of High Cross Park.

One respondent (submission number 101) also noted that due to the revised length and frequency of the light rail, consideration of an underground option for the High Cross Park interchange area with underground pedestrian access to Prince of Wales Hospital should be made.

Submission number(s)

14, 87, 101, 111

Response

Stop locations

Issues regarding the proposed stop location alternatives were previously addressed in Section 5.4.12 of the approved CSELR Submissions Report (Transport for NSW 2014a).

The approach to selecting the location and configuration of stops for all of the CSELR Project was described in sections 4.1 and 4.4 of the approved CSELR EIS (Volume 1A) (Transport for NSW 2013b). A comprehensive assessment process was applied, which included consultation with key stakeholders.

The assessment process for the selection of stops initially involved the development of a long list of stop locations for the CSELR Project. Each of these locations was assessed against a broad set of criteria which are detailed in the approved CSELR EIS (Volume 1A) (Transport for NSW 2013b).

After applying these criteria, a short list of preferred stops was determined. The short list of CSELR proposal stops included 20 preferred stop locations selected through the assessment process described above to provide maximum benefit to the community. The design and layout of the 20 proposed light rail stops was dependent on a number of functional and urban design requirements, including interchange function, safety requirements (particularly around major trip generator stops), accessibility, integration with the existing public domain and minimising traffic impacts.

Adding more stops would slow down the LRV services, which risks reducing the total patronage and economic benefits of the proposal.

Randwick terminus location

Issues regarding the proposed terminus stop location were previously addressed in Section 5.4.11 of the approved CSELR Submissions Report (Transport for NSW 2014a). As noted in the previous submissions report, several submissions requested that a stop be located further west along High Street to serve the Prince of Wales Hospital. This location was identified as not being feasible, as a stop in this location would be limited by the steepness of High Street, which falls more steeply to the west. There is also a need to avoid impacts on the car and emergency vehicle access near Clara Street and Hospital Road.

Randwick terminus stop in High Cross Park is currently still the preferred stop location and layout due to the benefits it would provide in terms of overall transport interchange between the CSELR proposal and buses. Ongoing consultation with Randwick City Council and relevant stakeholders regarding this stop will continue during detailed design.

5.3.3 Route alignment alternatives

Summary of issues raised

A series of submissions were made regarding potential alternative alignments for the proposed light rail. In summary, the submissions suggested the following:

- a range of alternative alignments creating various loops within the Sydney CBD
- general objection to the alignment along Devonshire Street/through Surry Hills
- that the proposed alignment would be better served if it went along South Dowling Street to Green Square to support the new residential areas in this locality
- alternative alignments that continued along High Street, instead of impacting on Alison Road and Wansey Road
- that the alignment be located underground, primarily due to the longer length of the proposed LRVs.

Other specific alignments identified by the community included:

- The trams should travel down Oxford Street instead of cutting through Surry Hills.
- A route along Elizabeth Street and up Phillip Street has never been considered.
- A route along Broadway and Parramatta Road
- Light Rail from Coogee to Bondi Junction.

Submission number(s)

14, 18, 32, 34, 45, 48, 60, 73, 79, 93, 98, 110

Response

Issues regarding the consideration of alternative route alignments for the project were previously addressed in sections 5.4.3 to 5.4.10 of the approved CSELR Submissions Report (Transport for NSW 2014a).

The route selected for the proposal seeks to balance the needs of all road uses across the network. The route is designed to improve reliability and efficiency of travel to, from and within the CBD and suburbs to the South East, and to improve access to major destinations like Moore Park and UNSW. The proposed alignment has been designed to respond to current transport needs and demand projections in Sydney's CBD and South East.

5.4 Project justification and need

5.4.1 Need for the proposal

Summary of issues raised

A number of submissions raised concerns regarding the need for the CSELR Project. Specific comments are summarised as follows:

- The proposed project will not provide the claimed benefits and will severely disrupt local businesses.
- There is no justification regarding the need to increase the length of the LRVs.
- The business case needs to be provided publicly.
- Concern regarding the cancellation of existing bus services in order to accommodate the CSELR project.
- Comment that the intention of the branch lines and the Moore Park stop are focused on 'major events' and that 'major' sporting events and UNSW are the designed beneficiaries of the light rail given the very few stops on this line. Concern that the introduction of the light rail will have fewer options and longer journey times as a result of the project.

Submission number(s)

5, 6, 13, 79, 80, 84, 88, 91

Response

Issues regarding the general need for the CSELR project were previously addressed throughout Section 5.3 of the approved CSELR Submissions Report (Transport for NSW 2014a).

The Sydney Light Rail Project has been subject to a robust environmental and economic assessment process that included an assessment of costs and benefits. The project benefits outweigh the costs and these benefits will be realised by the local and broader communities on completion of the project.

The CSELR will provide additional public transport capacity to the South East suburbs and the major facilities along the route and would improve reliability of travel compared to buses, particularly for trips to and from the CBD. The benefits were discussed in Section 3.5 of the approved CSELR EIS.

A business case was prepared for the CSELR project and endorsed by the NSW Government. A summary of the business case was released publicly in November 2013, and is available on the Sydney Light Rail website, http://www.sydneylightrail.com.au/. Relevant information from the full business case was also incorporated into the approved CSELR EIS including a summary of the economic appraisal.

Moore Park and UNSW are identified as key destinations for the project. While these stops are key destinations, the south east section of the project would also provide an additional seven stops (along both the Randwick and Kensington/Kingsford branch lines) which is considered sufficient to meet the patronage needs of this area.

5.4.2 Patronage/growth forecasts

Summary of issues raised

Four submissions questioned the basis of the patronage analysis and requested further information be provided to justify the project with respect to meeting forecast public transport needs. These included specific requests (from submission number 94) to provide patronage documentation to justify the deletion of the World Square location.

Submission number(s)

16, 27, 80, 94

Response

Issues regarding the consideration of patronage forecasts were previously addressed in Section 5.3.3 of the approved CSELR Submissions Report (Transport for NSW 2014a).

The CSELR project is forecast to have up to 18,600 morning peak boardings in both directions by 2021 and 23,400 by 2036.

Patronage modelling undertaken for the CSELR project incorporates existing and planned development across the Sydney metropolitan area through to 2036. Overall, population in the CSELR study area is forecast to increase by 1.3 per cent per annum between 2006 and 2021, and 0.7 per cent between 2021 and 2036. Compounded, this represents significant growth over the next 20 years.

The CSELR project will support a range of travel patterns and trip purposes, including commuters from the South East who work in the CBD, students travelling to UNSW, short trips within the CBD, recreational trips to Moore Park and Royal Randwick racecourse, as well as other destinations in the South East such as the Sydney Boys and Girls High Schools. The CSELR project would therefore serve multiple purposes throughout the day and on weekends.

With respect to the World Square stop, the Modification Report notes that further investigation since the approval of the project has identified that the World Square stop would generate lower patronage than the Town Hall and Chinatown stops (Town Hall stop is approximately 200 metres to the north and Chinatown stop is approximately 325 metres to the south). As presented in the Modification Report, patronage in isolation was not the only consideration at this location; rather it was a combination of the lower patronage forecast and the extensive constructability constraints associated with the steep gradient and narrow working corridor at this location. This, in combination with the proximity of the Town Hall and Chinatown stops, has led to the proposed removal of the World Square stop from the project.

5.4.3 Project cost and value for money

Summary of issues raised

A series of specific comments regarding the project cost and value for money that the project would provide were raised by a series of respondents. These comments are identified in Table 5.1 below.

Table 5.1 Summary of specific issues relating to project cost and value for money

Specific issues raised in submissions	Response to specific issues	Submission No.
General concerns regarding the project cost and value for money that the project would provide were raised. Specific issues included: ▪ The EIS does not disclose the revised cost of the project once the modifications are included ▪ An independent Cost/Benefit analysis of the CSELR should be carried out and made public. ▪ Concern was raised regarding the cost increase from the initially identified $1.6 billion to $2.2 billion.	Issues regarding the cost of the project and value for money that the CSELR project would provide were previously addressed throughout Section 5.3 of the approved CSELR Submissions Report (Transport for NSW 2014). The benefits of the CSELR project have been assessed as having a total value of $4 billion. These values are very high compared to similar light rail and public transport initiatives currently being considered in Australia. It is therefore considered that the CSELR proposal represents outstanding value for money as a major public transport initiative. The range of benefits considered in the economic assessment was broad and included: ▪ public transport benefits from improved reliability ▪ reliability savings ▪ road user benefits including decongestion and reduced accident costs ▪ pedestrian amenity and time savings benefits ▪ bus network cost savings ▪ increased efficiency on the Inner West Light Rail line ▪ reduced air and noise pollution ▪ reduced greenhouse gas emissions ▪ health benefits ▪ wider economic benefits including agglomeration and infrastructure savings from increased development density.	4 ,7, 12, 14, 16 ,30, 32, 35 48, 93, 98
Concern was raised regarding the increased cost of providing the third rail wire-free infrastructure. Concern was also noted regarding the proprietary nature of this form of technology and the potential increased costs of maintaining this in the future.	Transport for NSW and the City of Sydney Council have committed to the provision of wire-free technology within sections of the Sydney CBD to allow for improved/reduced visual impacts of the project. The provision of third rail wire-free infrastructure will remove the need for overhead charging conductors at four stops and will assist in meeting the project Condition of Approval B44. In addition to the aesthetic benefits, as the Alstom ground level power supply (APS) does not rely upon batteries, there is a lower likelihood of vehicles losing power within the wire-free section. APS is considered to be a reliable form of wire-free technology. The contract entered into by the NSW Government provides sufficient protections to ensure the technology is available as needed for future projects/extensions by future operator(s). Furthermore the agreed contract places certain obligations on the APS supplier to provide this technology on fair and reasonable terms.	66, 73, 109, 94

5.5 Proposal design and operations

5.5.1 Catenary and APS

Summary of issues raised

A number of submissions included general concerns and suggestions about the use of the ground level power supply (APS) system these comprised:

- Suggestion that parts of the Surry Hills alignment should be wire-free to reduce visual, environmental and noise impacts.
- Concerns about the reliability of the APS system.
- Concerns that the proposed APS system will result in the inability to use regenerative braking and therefore degrade performance, safety of the LRVs and energy efficiency.
- Concern about the validation of the statement in Section 3.9.2 that the Modification Report that asserted that 'APS is also considered to be one of the most available transmission power supply technologies, reducing the impacts of poor weather on system performance and providing light rail customers with greater reliability'.
- Concern about the validation of the statement in the Modification Report that APS has been used in the Nice light rail system in Europe.
- Clarification of the direct translation of APS in French.
- Suggestion that the overhead wire section use a single contact wire and that the European style of overhead design be adopted.
- States that OHW fixtures should be affixed to existing structures.

Submission number(s)

13, 22, 66, 79, 94

Response

As stated in Section 3.9.2 of the Modification Report, the APS system represents proven technology which is in operation in a number of cities.

APS is in service in a number of locations across the world including Bordeaux, Reims, Orleans, Angers and Tours and has been ordered by the cities of Dubai, Cuenca and Rio. To date, approximately 150 Citadis LRVs equipped with APS have run over 12 million kilometres with an availability rate of over 99 per cent. Approximately 42 kilometres of single track are currently equipped with APS around the world.

In case of heavy rain, the infrastructure around the APS ground rail is designed in such a way that it is capable of draining and evacuating the water away from the contact zone. In the uncommon event of local accumulation of water, the APS system will inhibit the ground power supply, favouring a dedicated on-board battery for emergency use. The operation of the LRV is thus maintained seamlessly.

Due to the higher costs of this APS technology, additional areas of wire-free along the light rail alignment are not proposed.

One limitation of APS is that it doesn't allow for the capture of regenerative energy. Regenerative braking will be employed on the majority of the alignment.

Transport for NSW notes that Alstom adopts different definitions of APS using both Aesthetic Power Solution and "Alimentation par le Sol" in their marketing materials. The equivalent English translation of *alimentation par le sol* is 'ground-level power supply'.

There are no changes to the proposed design of the overhead wire sections in the Modification Report to those presented in the approved EIS. The design of this will be further considered during the detailed design phase.

5.5.2 Capacity-related issues

Summary of issues raised

The submissions received highlighted a number of general concerns about capacity, including:

- Concern that the project will result in reduced public transport capacity.
- Concern that the LRVs will not have the capacity to transport sufficient numbers of students from educational institutions along the alignment.
- Concern about the capacity comparisons used in the EIS
- Concern that the capacity of the larger LRVs of 466 is the nominal capacity stated by the manufacturer.
- Concern that the project has not accurately taken into account bus trips and public transport capacity to and from the South East.
- Concern that the capacity of the proposed LRVs is insufficient to move passengers for events at the Randwick Racecourse without the inclusion of bus transport.
- Suggestion that the Eastern Suburbs railway line should be reconsidered.

Submission number(s)

5, 7, 16, 30, 32, 52, 55, 86, 88, 91, 93, 96, 98, 99, 109, 112

Response

The proposed modification increases the capacity of the CSELR by at least 15 per cent on opening compared to the currently approved scheme. Given this increased capacity the modified scheme is better able to handle demand for travel by commuters, students and during special events.

The figures used reflect the actual capacity of LRVs proposed by Alstom including seated and standing passengers using the accepted standard of four people per square metre. In practice, the service is designed to ensure that loading (and as a consequence crowding) is, on average, significantly less than this standard. This spare capacity provides contingencies for surges in demand and growth in patronage.

Capacity comparisons of the light rail do not form part of the Modification Report so are not considered in this Submissions Report. Section 9.2.2 of the EIS contains information regarding capacity of the public transport system.

Rail alignment options do not form part of the Modification Report so are not considered in this Submissions Report. Further discussion of this is provided in Section 5.4 of the approved Submissions Report.

5.5.3 Landscaping and public domain

Summary of issues raised

One submission suggests that grassed track should be included as a condition of approval.

Submission number(s)

94

Response

A range or track treatments were considered in the preparation of definition design for the EIS, taking into account the urban design context and principles being applied to the project. Further detail can be found in Chapters 4 and 5 (Volume 1A) of the EIS.

As a result of this process it was determined that grassed tracks would be unlikely to thrive without regular watering and fertilising and grassed tracks do not form part of this project. The proposed modifications do not change this.

Notwithstanding, urban design elements along the CSELR alignment and at light rail stops, including infrastructure, paving, lighting, street furniture, would be undertaken during detailed design and would include consultation with the Urban Domain Reference Group to finalise such elements.

5.5.4 Corridor and alignment

Summary of issues raised

Two submissions that the Alison Road alignment should not be moved to the northern side of Alison road (as per the modification).

Submission number(s)

48, 111

Response

Through consultation with relevant stakeholders (including Randwick City Council, Centennial and Moore Park Trust and the Australian Turf Club (ATC)), further development of the alignment along Alison Road between Doncaster Avenue and Wansey Road has been undertaken. The alignment change along Alison Road has been determined necessary for a number of reasons as stated in Section 3.7.2 of the Modifications Report, including.

- potential impacts to the bus interchange area at the Alison Road entrance to Royal Randwick Racecourse
- potential issues relating to the access arrangement for Gate 1 and Gate 6 of the Royal Randwick Racecourse
- access to the Randwick TAFE
- access for Centennial Park and events held near this location.

The relocation of the Royal Randwick Racecourse stop also increases the stop catchment by making it more accessible to the residential areas on the northern side of Alison Road and the Randwick TAFE.

5.5.5 Light rail vehicles

Summary of issues raised

A number of submissions highlighted concerns and objections to the increased length of the LRVs, including:

- concern about the safety of the longer LRVs operating in residential areas
- concern that the longer LRV will mean that the vehicle will not be able to stop quickly enough
- concern that the driver will not be able to observe all door openings on the larger LRVs
- concern that there has been a lack of information on the safety of the longer LRVs including ‘crash worthiness’ and consequences on speed and safety
- concern that the nature and impact of the larger LRVs are not explained adequately
- concern that the longer LRV will not be able to navigate the narrow streets of Surry Hills.
- suggestion that the larger LRVs operate in their own corridor
- suggestion that the LRV size could be halved during off-peak times to minimise the chance of vandalism and reduce potential noise impacts.

Submission number(s)

4, 5, 7, 14, 18, 20, 21, 32, 34, 38, 42, 56, 74, 78, 79, 82, 83, 91, 98, 111

Response

The operation of 67 metre LRVs is an approach proven in operation in a number of cities around the world. For the CSELR, the 67 metre LRV's comprise two 33 metre LRV units joined; ensuring the same stopping, acceleration and crash-worthiness performance as the smaller units proposed in the original approved design.

The drivers are able to monitor the exterior of the LRV through CCTVs. Sensitive door edges (similar to those used in lifts) ensure the LRV can't move if there is obstruction in the doorways. The large LRV's must meet the same requirements for rail and road safety that apply to any shorter vehicles.

The LRV suppliers have confirmed that the CSELR alignment as proposed is suitable for the operation of the 67 metre LRVs.

5.5.6 Breakdowns

Summary of issues raised

Two submissions raised concerns regarding the impacts of the LRVs breaking down.
The specific comments raised by respondents are summarised below.

- Concern that the breakdown of one LRV could cause system blockages including roads crossing the alignment.
- Concern about the number of LRVs at High Cross Park at any one time, particular if there is a break down.

Submission number(s)

4, 101

Response

The LRVs proposed for the CSELR project are designed and maintained to be highly reliable. The LRVs are designed with redundancy so that should a fault develop they can continue to operate (albeit at reduced performance) until they can return to the depot for repair. In addition, the operator is bound by significant contractual obligations to ensure a reliable service is delivered.

Should an LRV fail completely, they can be towed by another LRV and/or a specialised recovery vehicle. In peak periods a defective LRV would be towed or pushed to an appropriate location to minimise impact on services. While such an event would have some impact of service quality it is expected to be an infrequent occurrence.

High Cross Park terminus cannot accommodate any more than two LRVs at any one time, and the operating scenario has been developed on this basis.

5.5.7 Frequency of service and trip duration

Summary of issues raised

Five submissions raised concerns about the reduced frequency of services and travel times including:

- Concern that travel times will be increased – particularly when having to change from buses to light rail.
- Concern about having to stand for 30 minutes.
- Concern that reduced frequency will cause over-crowding on platforms.

Submission number(s)

22, 48, 75, 98, 101

Response

As stated in Section 3.6.2 of the Modification Report, the changes to service frequencies have been made with a view to meeting passenger expectations.

During peak periods, service headway (LRV frequency) within the CBD line has increased from three minutes to four minutes (six minutes to eight minutes on the branches) with the introduction of longer LRVs. This increases average waiting time by 30 seconds (1 minute on branches) while the longer LRVs increase capacity by more than 15 percent. It is expected that the majority of trips will be shorter than 30 minutes; passengers taking longer trips will start their journey early on the route when seats are likely to be available. This is considered an appropriate balance of passenger convenience and system efficiency.

During the early morning and late evening period service headway have been reduced from 10 minutes to six minutes reducing waiting times. During the day and early evening no changes are proposed.

To accommodate the longer LRVs, the proposed stops have been lengthened proportionately, thereby addressing any risk of overcrowding at the stops. There will be increased passenger movements over pedestrian crossings and these will be reviewed during detailed design to ensure sufficient room is provided.

5.5.8 Randwick Stabling Facility

A number of submissions identify concerns with the design of the Randwick Stabling Facility. A summary of these is provided in Table 5.2.

Table 5.2 Summary of submissions on stabling and maintenance facility aspects of the proposal design and operation

Specific issues raised in submissions	Response to specific issues	Submission No.
Concern that the stabling facility design exceeds maximum height restrictions.	As stated in Section 3.12.2 of the Modification Report, the Randwick Stabling Facility site ground level will be raised by approximately 2 metres. Although the proposed sand silo on the site will be 9.5 metres above finished ground level height, the total height of this structure would be 11.5 metres when the raised ground level is taken in to consideration. This would represent an exceedance of 1 metre of the existing control limit identified in condition B36(e) which states that the '*The maximum height of any buildings or structures required as part of the stabling facility is 10.5 metres above ground level (existing)*' . Due to its location in the centre of the stabling site and its position away from the residential properties along the northern site boundary on Doncaster Road, the change in height related to the sand silo structure will be difficult to see from the surrounding properties. In addition, the proposed acoustic barriers on the eastern boundary would provide some screening of the silo for adjoining residential properties to the west of the site, resulting in a minor overall visual impact.	56
Concern that the increased ground level height of the stabling yard is unwarranted.	Ongoing refinement and development of the approved project has identified that the ground level will be raised by approximately 2 metres across the stabling yard site. This is proposed to allow vehicles more efficient entry and exit into the stabling yard. The raising of the ground level also improves the flooding impacts at the facility. The height increase would slope from the site boundary on the Doncaster Avenue side and therefore create a buffer between the residential properties and the increased height level. This buffer would alleviate many of the concerns raised including visual impact and loss of sunlight and breeze. It is currently proposed to plant trees along the eastern property boundary. These would provide privacy and visual screening to the residents. Additionally, the detailed design would take visual impact into account and aim to reduce any adverse impacts to residents through design and mitigation measures. Final design of these facilities will be identified during detailed design and in consultation with the Urban Domain Reference Group, including Randwick City Council.	56
Suggested that an underground railway stop should be incorporated in to the design of the stabling facility.	The inclusion of an underground stop is not considered value-for-money proposition, and is not being considered as part of this project. This would create additional design and operational constraints and impacts from flooding on the site.	73

5.5.9 Light rail alignment

A number of submissions raise concerns or make suggestions regarding the changes to the alignment proposed on Alison Road. One submission suggests further modifications to the Moore Park section of the alignment. A summary of these comments is provided in Table 5.3.

Table 5.3 Summary of submission relating to alignment changes

Specific issues raised in submissions	Response to specific issues	Submission No.
Suggested the removal of the alignment along Alison Road.	The proposed modifications do not make any changes to the basic route that the CSELR would traverse. The overall route will remain as outlined in the EIS. The alignment along the route would be as identified in the EIS and modification changes and would be subject to further refinement during detailed design.	48
Concerned about environmental and social impacts of the proposed alignment and suggests alignment should take a traffic lane.	Transport for NSW has considered the alignment option down the middle of Alison Road however it has been found to be unfeasible for operational traffic and safety reasons along this section, including maintaining traffic lanes for all users without causing confusion in the road layout. The alignment change of the Randwick stop and light rail to adjacent to Centennial Parklands has been determined necessary for a number of reasons associated with: ▪ potential impacts to the bus interchange area at the Alison Road entrance to Royal Randwick Racecourse ▪ potential issues relating to the access arrangement for Gate 1 and Gate 6 of the Royal Randwick Racecourse ▪ access to the Randwick TAFE ▪ access for Centennial Park and events held near this location. An Urban Design and Landscape Plan will be prepared in accordance with condition B51 of the planning approval that will identify design objectives and standards. The plan would also detail principles to enhance the public domain and integrate the project within the local environment. In addition to meeting the conditions of approval and delivering the environmental mitigation and management measures described in the EIS, consultation will be undertaken with the Urban Domain Reference Group during the detailed design process to ensure a high quality finish is delivered for the project. This will include signage and way finding to improve legibility and measures to reduce the hard visual impact of the built elements. Transport for NSW has entered into a development agreement with CPMPT which includes the ability for the Project to plant trees within the parkland in conjunction with CPMPT.	36, 63
Suggestion to ‘future proof’ the stop layout at Moore Park to include a loop track.	This is not relevant to the issues outlined in the Modification Report and therefore does not form part of this Submissions Report. Refer also to previous response in Section 5.5.2 of the approved Submissions Report.	109

5.5.10 Stop location and design

Numerous submissions were made regard stop location and design. These included concerns in relation to the relocation of the Royal Randwick Racecourse stop, the configuration of CBD stops and suggestions for additional stops. These submissions are summarised in Table 5.4.

Table 5.4 Summary of submissions relating to stops

Specific issues raised in submissions	Response to specific issues	Submission No.
General concerns and objections to the relocation of the Royal Randwick Racecourse stop: Concern about the impacts to Centennial Parklands. Concern that the relocation of the stop to the northern side of Alison Road will decrease safety for racecourse patrons having to cross the road. Concern that the distance between stops will mean an additional 400 metre walk. Suggestion that the stop should be located on the southern side of Alison Road to better service the ATC and reduce impacts on Centennial Parklands. Suggestion that the stop should be 90 metres in length.	The alignment change of the Randwick stop and light rail to adjacent to Centennial Parklands has been determined necessary for a number of reasons as stated in Section 3.7.2 of the Modifications Report. These include to address issues associated with: ▪ potential impacts to the bus interchange area at the Alison Road entrance to Royal Randwick Racecourse ▪ potential issues relating to the access arrangement for Gate 1 and Gate 6 of the Royal Randwick Racecourse ▪ access to the Randwick TAFE ▪ access for Centennial Park and events held near this location. The relocation of the Royal Randwick Racecourse stop increases the stop catchment by making it more accessible to the residential areas on the northern side of Alison Road and also to Randwick TAFE. It would also allow for the retention of existing bus facilities at the racecourse during light rail construction and operation. While this realignment would result in acquisition and encroachment on Centennial Park lands, careful consideration and design has taken place to minimise potential impacts. Transport for NSW is working with CPMPT to ensure the light rail is developed in as sensitive manner as possible to its surroundings. Additionally, the encroachment is considered to be minor and has been further minimised through the use of a retaining wall design for the levee. Visual impact to the Centennial Parklands has been minimised as far as possible. The retaining wall would be a series of staged walls design with different characters and treatments. The wall would be constructed at various heights and depths along the alignment. There would also be some sections where a retaining wall is not necessary. The retention of Maidens Row and new plantings will also contribute towards reducing visual amenity impacts on the Parklands. An Urban Design and Landscape Plan will be prepared in accordance with condition B51 of the planning approval that will identify design objectives and standards. The plan would also detail principles to enhance the public domain and integrate the project within the local environment. A 90 metre stop length is not considered necessary as the LRVs would be 67 metres. Improvements to the design of the stop will continue to be undertaken throughout the detailed design phase.	14, 15, 44, 48, 56, 68, 73, 74, 76, 81, 87, 88, 107, 108, 109

Specific issues raised in submissions	Response to specific issues	Submission No.
Suggestion that all stops along George Street, the Surry Hills and UNSW Anzac Parade stops should be island platform configurations and the Anzac Parade stop should be 90 metres in length to cater for large volumes of passengers.	As determined in the EIS, side platforms generally are the preferred arrangement where they can be integrated in the footpaths and space is not a constraint. Where island stops have been provided is predominantly due to space constraints. The stop layouts and sizing have been developed to optimise the customer experience and capacity, 90 metre platforms are no longer required with the planned service frequency and 67 metre LRVs. Detailed pedestrian modelling will be undertaken in the design phase to refine the designs of individual stops. No additional stop changes are proposed to those discussed in the Modification Report. Stop Access and Design Plans will also be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups and major landowners adjoining stop locations.	73
Suggestion that there should be a stop in Wimbo Park to provide access for residents.	The modifications report does not propose any additional stops in Surry Hills. Please refer to EIS submissions report Section 5.4.12 for discussions on alternative or additional stop locations.	79
Concern that the full impact of the Moore Park stop has not been addressed and that the figures in the report are only indicative.	As stated in Section 3.5.2 of the Modification Report, the approved project has been refined to reduce the scale and overall visual impact of the Moore Park stop to enable the stop to better sit within the existing park character. Figures 3.4, 3.5 and 3.6 provide indicative layouts of the proposed stop. These are only indicative as it will be subject to further refinement during the detailed design process.	88
Concern was raised regarding the adequacy of the stop shelter proposed at Rawson Place. It was noted that if the new shelters are inadequate then in bad weather with wind and rain, commuters will naturally choose the adjacent pedestrian area awning adding to congestion and potential for conflict between passengers and pedestrians.	As noted in Section 5.2.2 of the approved CSELR EIS (Transport for NSW, 2013b), the Rawson Place stop would include a larger canopy than the other stops to allow for appropriate weather protection. Further investigations into shelters would be considered during detailed design. Each interchange canopy design would be adapted to suit each location during detailed design. The modular design of the stops would also allow for weather protection shelters to be expanded in response to increased passenger or climatic need in the future.	110
Concern there are no public facilities allowed for at the Rawson Place interchange.	No public facilities (i.e. public toilets) are proposed to be provided at any of the stops. Driver/light rail staff facilities are proposed at each of the terminating stops at Circular Quay, Randwick and Kingsford. It is anticipated that the availability of public facilities in the local area will be sufficient to meet the needs of light rail passengers.	110

5.5.11 World Square stop removal

Summary of issues raised

A number of submissions raised concerns and objections to the removal of the World Square stop, including:

- Concern that the reduction in stops will mean the route through the CBD will not be effective.
- Concern about the impact on customers to World Square.
- Concern about the increased distances between stops.

Submission number(s)

5, 17, 55, 71, 80, 94

Response

The World Square stop was assessed further and it was found that the benefits it provided did not justify the cost and other impacts it would entail. Specifically, in order to comply with disability requirements, substantial engineering works would be required at the stop location and immediate surrounds, increasing the costs disproportionately to the benefits provided by the stop. The required re-grading of George Street would also significantly increase the construction impacts upon the community. These adverse impacts would be increased as a result of the requirement for a longer platform at this location.

A patronage assessment has determined that World Square Stop would not be a key trip generator for origin or destination trips and that it was close enough to the Town Hall and Chinatown stops to render it unnecessary. The stop originally proposed at World Square was located approximately 200 metres to the south of the Town Hall stop and approximately 325 metres to the north of the Chinatown stop. Therefore, with the deletion of the World Square stop, Town Hall and Chinatown stops would be located about 525 metres apart. Accordingly, the furthest that a patron would need to walk to access the light rail would be approximately 260 metres at this point. A 260 metre walk to a stop is considered appropriate within the CBD.

5.5.12 Subway access at Moore Park

Summary of issues raised

Seven submissions made comments about the Moore Park pedestrian subway:

- Concerned that the subway will be closed during non-event periods.
- Concerned that closing the subway during non-event periods will pose a public safety risk.
- Suggestion that provision should be made to open the subway crossings to allow students to use these at peak school times (i.e. morning and afternoon).
- Suggestion that the subway should include a ramp that is wheelchair accessible.

Submission number(s)

52, 73, 74, 83, 85, 109, 111

Response

The proposed modification includes pedestrian access to the Moore Park stop via an underground subway for use during special events only. Transport for NSW can confirm that access to the subway during non-event periods will be closed at the top of the stairs thereby ensuring no public access to any part of the stairwell or subway at these times. This is due to safety concerns including the lack of passive surveillance in the subway area.

The Moore Park stop will be wheelchair accessible in compliance with the *Disability Discrimination Act 1992* (DDA). Access for the mobility impaired will be at the pedestrian crossing over the light rail tracks at either end of the platform. During special events these at-grade accesses will be closed and attended. Those attendants will manually open the at-grade crossings for the mobility impaired during special events.

Transport for NSW will execute an extensive public information and education campaign to promote the safe integration and use of the Light Rail. This will include targeted campaigns for schools. At all times the speed of LRVs arriving at and departing the stop will be low, as all LRVs must stop. All LRVs will be fitted with warning bells for use on arrival and departure of the stop and to alert pedestrians in the area to their presence as required.

Safety is of paramount importance to Transport for NSW and the final design and stop arrangement will ensure safe access to the stop for all is achieved. In response to the concerns raised in the submissions, Transport for NSW is reviewing potential options to enhance the safe crossing of the light rail tracks by students. This includes the use of the subway in the morning and afternoon school peaks and other operational measures (refer to additional mitigation measure E.3 in section 7.2 of this report).

Stop Access and Design Plans will be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups and major landowners adjoining stop locations.

5.5.13 Accessibility

Summary of issues raised

Concerns were raised in some submissions regarding access to the light rail for mobility impaired individuals, parents with prams and/or toddlers, the elderly with canes, walkers and trolleys. The distance between stops is cited as a concern, as is getting to/from a footpath to a platform.

The ability to maintain accessibility due to the longer stops was also noted by one respondent.

Submission number(s)

55, 82, 83, 94, 110

Response

All components of the CSELR, including the proposed modification to the Moore Park stop, are designed with safety being a paramount consideration. The detailed design of all stops along the alignment will be developed in compliance with the DDA which will ensure that people are able to effectively access the stations and use the light rail. This includes the elderly, people with restricted mobility and parents with prams.

The distances between each stop are considered appropriate for the urban context within which they are located. The CSELR final design will comply with the requirements of the DDA and therefore will enable easy access and use by people within the community.

5.5.14 Traffic/bus/heavy rail integration

Summary of issues raised

One submission presents a concern about the need to change modes of transport in bad weather.

Submission number(s)

86

Response

The interchange between modes of transport do not form part of the Modification Report so are therefore not addressed in this Submissions Report. Further information can be found in the EIS (Chapter 5, Volume 1A) and the EIS Submissions Report (Transport for NSW, 2014a).

5.5.15 Moore Park tunnel

Summary of issues raised

One submission objected to the Moore Park tunnel methodology on the basis of undesirable impacts including additional tree removal for the realignment of Anzac Parade to maintain three lanes in each direction.

Submission number(s)

88

Response

The construction methodology has changed to cut-and-cover as it is considered a more feasible option for the tunnel depth and location by avoiding impacts to utilities known to be at this location. Anzac Parade will remain in operation throughout construction with three lanes open in either direction during peak periods.

Whilst it is acknowledged that the modified design would have some additional tree impacts in comparison to the approved project, a six lane configuration is currently the Roads and Maritime Services preferred construction option. Other options would be considered during the detailed design phase. The tree impacts identified represent the 'worst case impacts and Transport for NSW is committed to exploring and implementing measure to minimise these impacts where possible.

5.5.16 Retaining wall along Alison Road

Summary of issues raised

A number of responses identify concerns regarding the proposed retaining wall along Alison Road. Specific comments raised by respondents are summarised below.

- Concern that the retaining wall will present opportunities for graffiti.
- Concern that the building of the retaining wall will result in the loss of the bike track.

Submission number(s)

2, 8, 51, 56, 58, 59, 64

Response

Transport for NSW acknowledges in the Modification Report that the new retaining wall will introduce a visually dominant feature at this location. Further refinement of the design has identified that the final height will be between 1.5 metres and 2.5 metres, including the additional 300 millimetres for flood alleviation. It therefore would not result in a total loss of views into Centennial Park. In addition, the provision of a shared cycle and pedestrian path on the park side of the embankment, and a refinement of the modification to enable the retention of the Maidens Row tree planting along the length of the alignment, will reduce the visual impact of the alignment from the park side.

An Urban Design and Landscape Plan will be prepared in accordance with condition B51 of the planning approval that will identify design objectives and standards. The plan would also detail principles to enhance the public domain and integrate the project within the local environment.

In addition to meeting the conditions of approval and delivering the environmental mitigation and management measures described in the EIS, consultation will be undertaken with the Urban Domain Reference Group during the detailed design process to ensure a high quality finish is delivered for the project. This will include signage and way finding to improve legibility and measures to reduce the hard visual impact of the built elements.

Transport for NSW has entered into a development agreement with CPMPT which includes the ability for the Project to plant trees within the parkland in conjunction with CPMPT.

The treatments selected for the wall at a later design stage would consider potential impacts as a result of graffiti and would aim to provide finishes that are resistant to graffiti attacks.

5.5.17 Road configuration changes

Summary of issues raised

One submission was concerned about the impacts to the Anzac Parade/Alison Road intersection and that more park land will ultimately be required to fit the required traffic lanes.

Submission number(s)

36

Response

The total number of traffic lanes and light rail tracks has not changed from the approved design. Therefore, no additional parklands will be required at this location.

5.5.18 Pedestrian Bridge – Moore Park

Table 5.5 identifies two submissions relating to the pedestrian bridge over Anzac Parade at Moore Park.

Table 5.5 Submissions relating to the Moore Park bridge crossing

Specific issues raised in submissions	Response to specific issues	Submission No.
Questioned the need for the proposed pedestrian bridge at Moore Park due to the current construction of the RMS Albert Tibby Walkway.	The approved project includes a new pedestrian bridge over Anzac Parade to provide safe access across the road between the Sydney Boys and Sydney Girls High School campus. This aspect of the approved scheme has not changed as a result of the proposed modification to the Moore Park stop.	15
Suggested that the pedestrian bridge allows direct access on to the platforms which will reduce the need for children from Sydney Boys High School and Sydney Girls High School to cross the tracks.	Safety is of paramount importance to Transport for NSW and the final design and stop arrangement will ensure safe access to the stop for all is achieved. In response to the concerns raised in the submissions, Transport for NSW is reviewing potential options to enhance the safe crossing of the light rail tracks by students this includes the use of the subway in the morning and afternoon school peaks and other operational measures. In the approved project the existing pedestrian crossing of Anzac Parade at this location will be closed and the median fencing extended to prevent crossing of the road at-grade. As all LRVs will stop at the Moore Park stop, operating speed in the area will be reduced and driver awareness will be raised which will contribute to pedestrian safety in this area. Students will also receive targeted information about light rail safety as part of the education programme. Transport for NSW is reviewing potential options to enhance the safe crossing of the light rail tracks by students. This includes the use of the subway in the morning and afternoon school peaks and other operational measures. Stop Access and Design Plans will also be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups and major landowners adjoining stop locations.	96

5.6 Proposal construction

5.6.1 Construction compounds

Summary of issues raised

Two submissions raised concerns regarding the location of construction compounds. Specific comments raised by respondents are summarised below.

- Concerned about the use of Moore Park for a construction compounds
- Concerned about the use of the proposed Randwick stabling facility as a construction compound and the lack of consultation in relation to this.

Submission number(s)

88, 31

Response

There are no changes to the construction compounds in the Modification Report to those presented in the approved EIS. Section 6.7.1 of the EIS (Volume 1A) (Transport for NSW, 2013b) and Section 5.6.2 of the Submissions Report (Volume 1) (Transport for NSW, 2014a) discuss the use of Moore Park as a construction compound.

Ongoing consultation with the local residents regarding the use of the stabling facility site has occurred and is documented in the EIS Submissions Report (Transport for NSW 2014a) and will continue.

Both the Urban Domain Reference Group and the Community Reference Group will provide input into the design of the stabling facility itself and the development of the Construction Compound and Ancillary Facilities Management Plan as part of the CEMP.

5.6.2 Project boundary

Summary of issues raised

One response expressed concern about the extended project boundary.

Submission number(s)

86

Response

The identified amendments to the project boundary are required to allow for optimised vertical road tie-in works between the alignment and side street levels. These works will be localised, short-term and consist predominantly of the levelling of road surfaces, so are not anticipated to affect any businesses or private property.

5.7 Traffic, transport and access

A number of submissions raised issues in relation to traffic, transport and access. For ease of responding these issues have been grouped into the following areas:

- Traffic and access issues in operation
- Pedestrian and cyclist impacts in operation
- Bus impacts
- Intersection performance
- Assessment approach
- Other traffic, transport and access issues.

These are summarised in the following subsections.

5.7.1 Traffic and access issues in operation

A series of submissions noted specific issues in relation to traffic and access during operation of the project. These comments summarised in Table 5.6 below.

Table 5.6 Summary of submission relating to traffic and access issues in operation

Specific issues raised in submissions	Response to specific issues	Submission No.
Objection to potential access issues to properties located along George Street and Market Street due to the increase length of the light rail platforms to properties such as QT Hotel, State Theatre and other buildings in this block. Concern that the extended light rail platform, as described in the Modification Report and inferred by us, will cause substantial interference to the operation of the State Theatre's George Street loading dock, both for access by 19 metre articulated vehicles (semi-trailers) and 6.4 metre small rigid trucks. General concern that the proposed modification will reduce street access particularly in the city and Surry Hills and intensify amenity impacts.	In line with conditions B24 and B25 of the planning approval, Transport for NSW and ALTRAC will prepare local access plans for individual properties and accesses along the CSELR alignment. This will include inter alia provision of servicing requirements for loading zones and waste disposal. As part of this process, Transport for NSW will consult with affected parties. To the greatest extent possible, Transport for NSW will maintain access to all properties during construction and operation unless otherwise agreed with the relevant property owner or occupier.	3, 111
Concern that the project will diminish access to hospital and health services as well as endangering the public and emergency services personnel.	There are no changes regarding access to hospital and health services as a result of this Modification. In addition, conditions B30, B31 and B32 set out specific requirements for maintaining access and parking for the healthcare and medical facilities.	10, 83, 91, 98

Specific issues raised in submissions	Response to specific issues	Submission No.
Concern that the project will reduce access to vital health services. On High Street, when considered in conjunction with the required clearance for a pedestrian crossing on both sides of the intersection, the area within the intersection itself combined with the potential of two trains being held up implies no access for emergency vehicles. The requirement for very sick patients walk 200 metres on High Street to High Cross park is unworkable. To remove pick up and drop off for patients in High Street itself indicates this project is doomed.		
Objection to the removal of the right hand turn access to Centennial Park from Alison Road to the Main Gate in Darley Road	As identified in the Modification Report, the Darley Road right turn from Alison Road (westbound) is currently used by approximately 50 vehicles in each of the morning and afternoon peak periods. To improve capacity along the Alison Road corridor, the right turn would be removed. Investigation of relevant origin and destination information associated with these turning vehicles indicated that the Darley Road right turn facilitates an undesirable 'rat-run' through Centennial Park. The most significant impact of the modified design would be during the weekend peak, noting that Alison Road and Darley Road provides a direct route to Centennial Park from the south-eastern Sydney area. The primary route to Centennial Park would be via Avoca Street and Darley Road, with negligible impact on the surrounding network operation. On this basis, it is not proposed to include a right hand turn bay on Alison Road westbound into Darley Road. The retention of the right turn bay into Darley Road would require additional land use impacts to private property, however detailed investigations to its reinstatement will be undertaken in the detailed design phase.	12, 16, 55, 77, 78, 79, 83, 86, 93, 97, 99, 112
Objection to the proposal to close off Darley Road, a public road traversed intensively by local residents and apartment dwellers, using Centennial Park for daily exercise; cut off access to Centennial Park /Darley Road gates from Alison Road	There is no proposal to close off Darley Road. Only the westbound right hand turn lane is being considered for removal (refer above).	98, 112
Concern over the loss of the free left turn lane into Darley Road.	Removal of the existing free left hand turn into Darley Road will improve safety for pedestrians crossing Darley Road at that intersection. An additional lane is proposed in the modification to maintain the capacity for the left turn at this intersection.	33
A number of submissions raised concerns regarding the potential effect on traffic flow:	As compared to the approved Project, the reduction of LRV frequency from three minutes to four minutes (resulting from the use of 67 metre instead of 45 metre LRVs) will improve traffic flow as the LRVs will travel through the intersections less often.	27, 32, 88, 101

Specific issues raised in submissions	Response to specific issues	Submission No.
▪ Operating a rail line with 67 metre long vehicles as frequently as proposed would severely limit the movement along, and particularly across, the light rail corridor. ▪ The trams will cause disruption to the flow of vehicle traffic. ▪ Concerned about the disruptions and delays that will occur to vehicles travelling along the very busy Avoca Street and Belmore Road, particularly at peak times when the light rail travels across Avoca Street to and from High Street.	Detailed examination of the operation of intersections is being undertaken to inform the detailed design and optimise the performance for all road users, this will be informed by the Network Management Plan (condition B26).	
Concern that light rail vehicles will have right-of-way across South Dowling, Bourke, Crown, Elizabeth and Chalmers streets. The CSELR will greatly increase traffic congestion in the area. To increase the length of the trams will exacerbate these impacts creating serious, permanent traffic problems at South Dowling, Bourke, Crown, Elizabeth and Chalmers streets as well as the CBD. The project will obstruct the only arterial road, Anzac Parade, connecting six south eastern suburbs with the CBD.	There are no changes regarding the light rail crossings of South Dowling, Bourke, Crown, Elizabeth and Chalmers Streets or in the CBD as a result of this Modification (other than the length of LRV's and the frequency of the LRV crossings). As compared to the approved Project, the reduction of LRV frequency from three minutes to four minutes (resulting from the use of 67 instead of 45 metre vehicles) will improve traffic flow as the LRVs will travel through the intersections less often. There are no obstructions of Anzac Parade.	16, 18, 21, 35, 86, 98
Alison Road will still be subject to traffic delays as the tram will continue to cross it further east.	The proposed realignment described in the Modification Report has been developed with a view to delivering operational improvements along this section. Reference to specific access issues raised in relation to the Royal Randwick Racecourse, Randwick TAFE and Centennial Park are described in Section 3.7.2 of the Modification Report. In addressing these access issues, Alison Road is expected to operate at an equivalent or better level of service than the existing situation. Further modelling to refine this is being undertaken to inform the detailed design.	12
Concern that the proposed modification will result in stopped traffic due to three pedestrian crossings; two light rail crossings and one stop within one road block (between Doncaster Avenue and Darley Road).	LRV movements to/from the stabling facility will generally only happen outside of peak traffic and so would not have a significant adverse impact on traffic flow. The only significant change in pedestrian crossings of Alison Road will be during events at the Royal Randwick Racecourse. Alison Road operates in degraded mode during those events and as such these pedestrian crossing will not adversely impact the traffic operations in the area.	33

Specific issues raised in submissions	Response to specific issues	Submission No.
Concern that at the Royal Randwick Racecourse stop that when an LRV is stopped, that all the traffic behind it will have to stop as well to prevent road deaths. Stopping the traffic for the trams will in itself lead to massive traffic compression waves.	The Royal Randwick Racecourse stop is separated from general traffic. As a result LRVs stopping will not affect the flow of road traffic.	33
There is no right turn from Anzac Parade into Alison Road. Therefore, all traffic wishing to utilise Alison Road from the South have to turn into Doncaster Avenue, and travel up Doncaster Avenue to turn right on Alison Road. This massive traffic input to Alison Road seems to be totally ignored in any of the documents I have read.	There is currently no right turn from Anzac Parade into Alison Road at this location. Neither the approved scheme nor the modification proposes to change this. Traffic movements from Doncaster Avenue are described in Technical Paper 1 in Volume 2 of the EIS.	33
The proposed modification to remove access to Little Riley Street from Devonshire Street will severely impact rear lane vehicle access to Riley Street properties with rear lane access bound by Steel Lane and Adelaide Street. The left hand turn required from Steel Lane into Little Riley Street is impossible to make.	Further investigation into the identified issue has been undertaken, which has determined that the modification of Little Riley Street as proposed has some functional constraints. An alternative proposal to retain access to Little Riley Street will be further assessed as part of the detailed design. This would consider changes to existing traffic management or road infrastructure in order to maintain existing access.	39, 46, 53, 89
Anzac Parade has many streets branching off it and the CSELR will cause increased traffic flow in streets that are totally ill equipped to manage this.	The alignment along Anzac Parade, with the exception of the modification to the alignment at the intersection with Alison Road, forms part of the approved project. The impacts to Anzac Parade and its intersecting streets, and the associated mitigation required is described in the EIS (Transport for NSW 2013b) and will be addressed through the Network Management Plan in line with condition B26 of the planning approval.	40
Restricting Ultimo Road traffic from making a right hand turn into George Street will exacerbate traffic congestion. If any traffic change is to be made at this intersection it should be a right hand turn only from Ultimo Road into George Street. The plan for a Pedestrian only zone for George Street will not work if traffic is to be allowed to turn left at Ultimo Road. While the Pedestrian only zone does not commence until Bathurst Street, if there is no disincentive to drive down George Street in a North Bound direction, all you will get is grid lock on George Street that is worse than it is now.	The impact and mitigation will be assessed as part of the Network Management Plan required by condition B26. Initial assessments indicated that the restriction of the right turn from Ultimo Road is required to ensure optimum traffic network and light rail operations. Journeys currently making the right turn can exit at the other end of Ultimo Road and turn left at Harris Street. This provides good access to destinations south, south west. It also provides good access to the east via Broadway/Eddy Avenue or Via Lee Street and Cleveland Street. Note Rawson Place is closed to general traffic reducing accessibility to the east via this movement. Good accessibility to key routes to the east, west and north as well as other destinations within the Sydney CBD is retained with the left turn. The left turn provides good access to Goulburn Street, Bathurst Street, Liverpool and Kent Streets, Pier Street, the Cross City tunnel and the Western Distributor Freeway.	73

Specific issues raised in submissions	Response to specific issues	Submission No.
Objection to right-of-way across intersections and the limited right hand turns restricting resident access to homes by the most direct route-again increasing traffic on the road by being on the road longer.	Under the approved Project, the effective operation of the CSELR for both LRVS and other road users necessitates provision of priority to LRVs; this is still the case with the modifications proposed. There has been no change to right turns across the Light rail alignment (with the exception of the Alison/Darley intersection) as a result of this modification. As identified in the Modification Report, the Darley Road right turn from Alison Road (westbound) is currently used by approximately 50 vehicles in each of the morning and afternoon peak periods. To improve capacity along the Alison Road corridor, the right turn would be removed. Investigation of relevant origin and destination information associated with these turning vehicles indicated that the Darley Road right turn facilitates an undesirable 'rat-run' through Centennial Park. A review of all intersections along the alignment will be undertaken as part of the detailed design to optimise the performance of these intersections for all users.	86
Concern was raised regarding the location of the modified Randwick Racecourse stop due to the fact that it is not an existing busy entry point for Centennial Park, so there is no real service need for the stop to be located there. Concern regarding the negative impact that the proposed modification will have on traffic along Alison Road during race days.	As described in the Modification Report, the realignment of the CSELR along Alison Road was developed in response to a number of specific access concerns raised by ATC, CPMPT and Randwick City Council.	97, 109
Objection to the proposed realignment of the light rail on Alison Road Randwick on the basis that the proposed realignment will have a detrimental impact on traffic on Alison Road and Darley Road. The change to the Randwick Race course stop will re-route more traffic through local streets, putting more pressure on local residents and amenities.	LRV movements will be maintained separate to general traffic flow along this section and so will not interfere with traffic flow. The exception to this will be when LRVs need to access or exit the stabling facility, a movement which will generally only happen outside of peak traffic and so would not have a significant adverse impact on traffic flow. Detailed examination of the signal phasing during operation is being undertaken to inform the detailed design and optimise the performance for all road users and the overall performance of the network.	55, 85
Objection to the removal of right turns from and into Anzac Parade. Only two intersections are proposed: Todman Avenue and Barker Street.	These changes form part of the approved scheme and are outside of the scope of the modification report. No changes are proposed to this section of Anzac Parade.	98

Specific issues raised in submissions	Response to specific issues	Submission No.
Objection to the proposed diversion of traffic into local streets. Concern regarding increased traffic in York road for residents there none of whom have been advised they are to be impacted.	The operational assessment on Page 51 of the Planning Modifications report – refers to displaced traffic volumes of 50 vehicles in the peak hours. Through traffic to Bondi Junction from this direction is expected to take key cross regional routes such as those outlined in the modification report. The impacts to these streets, and the associated mitigation required is described in the EIS (Transport for NSW 2013b) and will be addressed through the Network Management Plan in line with condition B26 of the planning approval.	98, 99

5.7.2 Pedestrian and cyclist impacts in operation

Many of the submissions noted specific concerns in relation to pedestrian and cyclist impacts during operation of the project. These comments summarised in Table 5.7 below.

Table 5.7 Summary of submissions on pedestrian and cyclist impacts in operation

Specific issues raised in submissions	Response to specific issues	Submission No.
There is concern that, given existing pedestrian crowding on the footways in the Precinct, the proposed larger vehicles have the potential to increase this crowdedness over and above that of the approved project. Crowding at signal controlled pedestrian crossing facilities is currently substantial and impedes the passage of other pedestrians not intending to cross.	The longer vehicles do not themselves generate greater patronage. Because the vehicles will operate less frequently during the morning and afternoon peaks there will be short periods of time when there will be more passengers waiting for the LRV to arrive. This will not affect stop crowding or boarding time as the stops will be correspondingly longer and the vehicles will have correspondingly more doors. For stops on footpaths while the density of waiting passengers will not increase (as the stops will also increase in size). This could have a minor impact upon the use of the footpath by other pedestrians. Additional studies are being undertaken which will inform the detailed design of the project to provide an optimised outcome.	3
There will be a severe disruption of cycle ways.	Transport for NSW will identify safe, coherent and visible alternative cycle paths during construction and operation. This strategy is to be prepared in consultation with councils RMS, BicycleNSW and relevant reference groups.	5
Why is there a separate walkway and bridge being built from Moore Park?	The approved project includes a new pedestrian bridge over Anzac Parade to provide safe access across the road between the Sydney Boys and Sydney Girls High School campus. This aspect of the approved scheme has not changed. However, with the modification of the Moore Park stop to remove the mezzanine this foot bridge access to the stop would be provided by crossing the light rail tracks onto the platform.	5
The increased length will take longer to pass across intersections thereby interrupting foot traffic/cyclists and other road traffic causing chaos. Light rail vehicles and stops will create a barrier between the north and south of Devonshire Street.	The electric motors on light rail vehicles allow those vehicles to accelerate very quickly. As a result the increased time for a 67 metre long LRV to cross an intersection is only a few seconds longer than it takes a 45 metre long LRV to cross the same intersection. The impacts of this additional crossing time are offset by the reduction of LRV frequency from three minutes to four minutes (resulting from the use of 67 metre LRVs instead of 45 metre LRVs), the net result being improve traffic flow at intersections for all users.	6A, 111

Specific issues raised in submissions	Response to specific issues	Submission No.
Objection to the moving of the light rail into Centennial Park from the other side of the road and the effect on the cycleway and pedestrian area. Concern regarding the proposed justification for the movement of the Royal Randwick Racecourse stop to the northern side of Alison Road, given that the approved location would provide operational and pedestrian-safety benefits.	As described in the Modification Report, the realignment of the CSELR along Alison Road was developed in response to a number of specific access concerns raised by ATC, CPMPT and Randwick City Council. Transport for NSW will consider the cyclist and pedestrian paths in the broader precinct context and will continue to consult with CPMPT and Randwick City Council on pathway design during the detailed design phase.	8, 69, 108, 109
Objection to the disruption and need to re-locate the existing cycle ways connecting Randwick, Prince of Wales Hospital and UNSW to Centennial Parklands, the CBD and greater metropolitan Sydney.	The purpose of the strategy is to identify safe, coherent and visible alternative cycle paths during construction and operation. This strategy is to be prepared in consultation with councils RMS, BicycleNSW and relevant reference groups.	16, 86
Concern and objections to the loss of the bike and pedestrian tracks along the boundary of Centennial Park. Expression of the hope that the proposed light rail will not reduce the current cycle ways in that area in any way. Comment that the plan to remove the (newly built) cycle path from the north side of Alison Road, Randwick will meet with significant community opposition [as] it is clear there is space available on the other side of the road. Comment that the rerouting of bicycle paths is a waste of tax payers' money. Objection to the removal of the historic cycling track and making no provision for substitute track; cycling has been part of the Centennial Park 'Centennial Park' since inception. Request for the Modification Report to be updated to address the updated project's interaction with the cycling network. How the revised project will uphold existing levels of provision particularly in the in Alison Road precinct is unclear. Request that the modified cycleway must be separated from the footpath and pedestrians.	The existing path will be replaced; consideration is still being given to the final alignment and whether this will be a shared-use path with pedestrians at this location. Transport for NSW will consider the cyclist and pedestrian path in the broader precinct context and will continue to consult with CPMPT on pathway design during the detailed design phase.	26, 29, 48, 51, 58, 59, 63, 65, 72, 75, 77, 83, 87, 90, 98, 106, 107, 112

Specific issues raised in submissions	Response to specific issues	Submission No.
Signalised pedestrian crossings should be at either end of the island platform to enable safe access across Alison Road to the Racecourse.	In addition to the proposed new pedestrian crossing just west of the revised stop platform, crossings will also be retained at the Doncaster Avenue and at Darley Road intersections.	73
Why have the safety impacts for cyclists not been covered?	Safety of all users is paramount to Transport for NSW. Assessment of the impacts to cycling infrastructure was covered in the EIS. The Modification Report deals with any changes to the main assessment as a result of the modifications proposed. As part of the Pedestrian and Cyclist Network and Facilities Strategy (condition B33), Transport for NSW will consider the cyclist and pedestrian path in the broader precinct context, to provide safe cycle access in operation.	83
Wherever the LRV travels there will be increased injury potential to pedestrians. The roads on which the LRV travels are not designed for mixed LRV and vehicular traffic even though ANZAC Parade once carried trams.	Public safety is paramount to Transport for NSW. While the roads on which the LRV's will travel are not currently designed for mixed LRV and vehicular traffic, changes to the roads will be implemented as necessary to ensure the safe operation of both LRV's and vehicular traffic. Consideration of the safety of the alignment will be undertaken through the detailed design, informed by a range of plans and studies including Stop Access and Design Plans (condition B27), Pedestrian and Cyclist Network and Facilities Strategy (condition B33) and the Network Management Plan (condition B26).	40
Concern regarding the details of the shared path between Darley Road and Wansey Road, and that there is no information on the proposed location of the shared path. Concern that mobility impaired individuals who move at significantly slower speeds be protected from cyclists travelling at up to and over 40 kmh.	As presented in Table 15.10 of the EIS, the existing off-road shared cycleway and footpath between Darley Road and Wansey Road would be reinstated between the proposed CSELR alignment and Royal Randwick Racecourse. No changes are proposed the approved project.	83
Pedestrians will be forced to compete with light rail passengers when trying to walk along the footpath along Belmore/Cuthill or Avoca Street.	As assessed in the EIS, it is acknowledged that there will be changes to the pattern of pedestrian movements as a result of the approved project. This will be mitigated by a number of studies to inform the works during the detailed design period, including the Pedestrian and Cyclist Network and Facilities Strategy (condition B33) and the Stop Access and Design Plans (condition B27).	83
Concern that the removal of the World Square stop will adversely impact on pedestrian movement along the already highly congested Cinema Strip and increase the already high level of congestion surrounding the Town Hall stop and Town Hall (Railway) station.	Preliminary modelling has been undertaken to understand the impacts of the change associated with the longer LRVs on pedestrians and footpaths. Additional studies are being undertaken and these studies will inform the detailed design of the project to provide an optimised outcome.	94

Specific issues raised in submissions	Response to specific issues	Submission No.
Disappointment that the report does not reference the need for cycling and cycling infrastructure, other than a few brief comments on shared paths. This is a major shortcoming of the report, particularly as significant recently completed cycling infrastructure is directly affected by the proposed realignment along Alison Road between Doncaster Avenue and Darley Road.	Assessment of the impacts to cycling infrastructure was covered in the EIS. The Modification Report deals with any changes to the main assessment as a result of the modifications proposed. Transport for NSW will consider the cyclist and pedestrian path in the broader precinct context and will continue to consult with CPMPT on pathway design during the detailed design phase.	100, 102
The proposed shared path cannot safely accommodate the high volumes and speeds of bicycles mixed with pedestrians. Many incidents have been reported of conflicts between pedestrians and cyclists prior to construction of the separated path, when is operated as a shared path.	This will be reviewed as part of the Pedestrian and Cyclist Network Facilities Strategy which is required under condition B33.	100, 102
The location of the shared path on the levee bank, buffered by a 3 m high retained wall and the light rail corridor presents an environment with significant potential for personal security problems.	Transport for NSW will consider the principles of CPTED and other design safety concerns during the detailed design.	100, 102
Assertion that the Modification Report ignores impacts on, and opportunities for, cycling. Comment emphasising importance of bicycle crossings on both sides of Alison Road. Comment that report poorly documents the crossing facilities for pedestrians across Alison Road, Doncaster Avenue and Darley Road. The various intersection diagrams and plans do not show any pedestrian crossings at all across Alison Road. The report does not at all reference bicycle crossings. Concerned that the current plans for the light rail do not include a bicycle crossing at Alison Road. Request for bicycle (and pedestrian) crossings be included at four locations: ▪ West side of the new signalised intersection with the CSELR stabling yard ▪ East side of the new signalised intersection with	Transport for NSW acknowledges the importance of maintaining good pedestrian and cycle links across Alison Road. The Modification Report focussed on setting out differences between the approved project and the modified project. Pedestrian crossings would be retained near the intersection of Alison Road with Doncaster Avenue and Darley Road. An additional crossing is proposed just west of the modified Royal Randwick Racecourse stop. Installing a new pedestrian crossing on the west side of the Darley Road Alison Road intersection would significantly impact the capacity of Alison Road, and has not therefore been proposed to be added. Figure 3.19 and Figure 3.20 show indicative locations for new pedestrian crossings. Where these are not labelled in the drawings, the existing crossings would be retained. Further review of the position and phasing of pedestrian signals will be considered in the detailed design and through the development of the Pedestrian and Cyclist Network and Facilities Strategy.	100, 102, 103, 104, 105, 106, 107

Specific issues raised in submissions	Response to specific issues	Submission No.
the CSELR stabling yard ▪ West side of the Darley Road intersection ▪ East side of the Darley Road intersection.		
Suggestion that the primary cycle route be located on the southern side of Alison Road, for the full length between Doncaster Avenue and Wansey Road, to ensure good connectivity with the existing cycling facilities along both Wansey Road and Doncaster Avenue. The proposed shared path on the levee bank should remain as an alternate route to avoid conflicts during special events. The facility on the southern side of Alison Road must be designed as a separated path, ideally with a landscaped buffer between the walking and cycling components. West of the new signalised intersection with the stabling yard, the path would cross Alison Road to the north side. The path should be relocated between the northern kerb of the road carriageway and the busway with a view to Police and community concerns for personal security.	An off-road cycleway is not currently proposed at this location. Transport for NSW will consider the cyclist and pedestrian path in the broader precinct context and will continue through the development of the Project.	100, 102, 107
Concern that if bicycle infrastructure is not carefully constructed and crossings put into place, there will be a great deal of confusion and conflict between road and footpath users.	Transport for NSW will consider the cyclist and pedestrian path in the broader precinct context during the detailed design phase. This will include signposting and other way finding aids as required and will be informed by the Stop Access and Design Plans (condition B27) and the Urban Design and Landscape Plan (condition B51).	105
The Modification proposes a pedestrian underpass at the Moore Park Stop. This is an incredulous “change of heart” from the State Government regarding pedestrian tunnels across Anzac Parade. A tunnelled crossing for pedestrians and cyclists was requested, justified and shown to be viable as part of the light rail’s crossing of Anzac Parade.	The Moore Park stop underpass does not provide a crossing of Anzac Parade. The underpass proposed is only for pedestrians to access the other side of the stop from the east during event times.	107
The Modification Report should be updated to justify the lack of consolidation of the various crossings of Anzac Parade.	Details of crossings of Anzac Parade form part of the approved project and are not within the scope of the Modification Report.	107

Specific issues raised in submissions	Response to specific issues	Submission No.
The Modification Report should be updated to justify why a permanent tunnelled crossing of Anzac Parade cannot be provided for cyclists. Subway access should be extended under Anzac Parade in order to remove the need for the overhead bridge associated with the stop connecting east and west.	Details of crossings of Anzac Parade for part of the approved project and are not within the scope of the Modification Report. Transport for NSW does not propose to extend the subway as an underpass below Anzac Parade at this location. It is considered the land-take and constructability requirements, in addition to CPTED concerns that could not be fully mitigated, make this a less favourable option to a bridge crossing.	107, 111
Concern that the proposed location of the Rawson Place stop will result in increased pedestrian and passenger congestion and cause increased conflicts for those pedestrians with luggage.	Kerbside arrangements for the precinct around the Rawson Place stop are being investigated with the City of Sydney as part of the SCCAS. There are several opportunities for passenger pick up/set down within close proximity of Rawson Place to provide continuity of access for Rawson Place businesses. Wayfinding and footpath amenities would be considered as part of detailed design.	110
Concern that the longer LRVs with increased capacity and reduced frequency will result in more people waiting at the Rawson Place stop, reducing the amenity of the area.	As a result of the longer LRVs, the frequency of service during the peak hours (at commencement of operations) is proposed to operate every four minutes (instead of the previously proposed three minutes). As a result, there will be additional passengers waiting on each platform. However, the extra capacity provided by the longer LRVs is anticipated to be able to cater for the increased number of passengers waiting for light rail services. The modification would not result in any changes to platform width or allow for any additional crossings (although the width of those crossings may need to be increased to accommodate greater pedestrian volumes when passengers are deboarding. Other design amendments including canopy lengths would be finalised during detailed design.	110

5.7.3 Bus impacts

Summary of issues raised

Two responses commented specifically on the broader changes to the bus network. The comments highlighted:

- Concern regarding the lack of clarity regarding the proposed changes to the existing bus network that will occur as a result of the project.
- An objection to the reduction in peak hour capacity of all-stop buses and capacity provided by dedicated student buses.

Submission number(s)

93, 98

Response

While Transport for NSW notes the both the concern and the objections raised, changes to the bus network are outside of the scope of this modification report.

Further information on the Sydney City Centre Access Strategy (SCCAS) is available on the Transport for NSW website. The CBD bus network for the construction period is being finalised and will be communicated well in advance of changes. The bus plan for after opening of the light rail will be refined closer to completion of the light rail and further consultation will occur with the community.

5.7.4 Intersection performance

A number of submissions noted specific concerns in relation to intersection performance and other intersection impacts during operation of the project. These comments are summarised in Table 5.8 below.

Table 5.8 Summary of submissions relating to intersection performance or intersection impacts

Specific issues raised in submissions	Response to specific issues	Submission No.
A number of submissions highlight concerns over the increase in LRV length and the implications this might have for transit of intersections and waiting traffic. Specific comments include: ▪ Traffic will be impacted heavily with the new tram length possibly blocking multiple intersections at times and creating a flow on effect with traffic delayed due to the length of time the vehicles will take to clear intersections. ▪ The proposed increase in the length of the LRV-sets will mean that they occupy intersections for longer, and therefore will have a bigger impact on traffic flows, especially in the maximum-capacity scenario of 2.5 minute headways. Of particular concern is the George/Grosvenor intersection, because of the length of the intersection and the traffic volumes. ▪ The increased length of the trains will have an impact on congestion at traffic junctions. ▪ As the trains do not have the ability, even with absolute priority accorded by PTIPs, to interrupt a pedestrian crossing phase, the longer time frame	In developing the proposed modifications, consideration has been given to the potential impact of the longer LRVs on intersection. The electric motors on light rail vehicles allow those vehicles to accelerate very quickly. As a result the increased time for a 67 metre long LRV to cross and intersection is only a few seconds longer than it takes a 45 metre long LRV to cross the same intersection. The impacts of this additional crossing time are more than offset by the reduction of LRV frequency from three minutes to four minutes (resulting from the use of 67 instead of 45 metre vehicles), the net result being improve traffic flow at intersections for all users. The signal phasing in some location would need to be adjusted to optimise intersections. Detailed examination of the operation of intersections is being undertaken to inform the detailed design and optimise the performance for all road users. The SCATS will incorporate the light rail and is designed to ensure that the operation of each intersection achieves the optimal performance of the network as a whole. In addition a Pedestrian and Cyclist Network Facilities Strategy is being developed to address a number of aspects including pedestrian and cyclist safety. The design of the CSELR will also be subject to a number of safety audits during the detailed design development.	5, 7, 13, 16, 83, 86, 93, 111

Specific issues raised in submissions	Response to specific issues	Submission No.
required to clear an intersection will be more disruptive to traffic flows.		
Concern that changes to intersections may lead to confusion and accidents.	Public safety is paramount to Transport for NSW. All elements of the project design have user safety at their core. In implementation, clear signage and published notifications will be used to inform road users of any temporary or permanent changes in the road layout.	98
Changes to crossings and signals along Alison Road: ▪ Darley Road/Alison Road intersection will be degraded by trams crossing. ▪ New traffic signalisation is proposed on Alison Road to provide for patron access from the Racecourse and also to permit the light rail cars access the stabling facility. Additional adjustments to the traffic signals at the intersection of Alison Road and Darley Road will also adversely impact traffic flows in this vicinity. ▪ Residents of Alison Road would object to another set of lights being installed on Alison Road to facilitate the passage of patrons across Alison Road. ▪ These pedestrian lights would also increase traffic congestion along Alison Road, Doncaster Avenue and Darley Road	The removal of the right turn from Alison Road into Darley Road will allow this intersection to operate on three signal phases, thereby ensuring the intersection provides an acceptable level of service on Alison Road. LRV movements to/from the stabling facility will generally only happen outside of peak traffic and so would not have a significant adverse impact on traffic flow. The only significant change in pedestrian crossings of Alison Road will be during events at the Royal Randwick Racecourse. Alison Road operates in degraded mode during those events and as such these pedestrian crossings will not adversely impact the traffic operations in the area. Detailed examination of the signal phasing during operation is being undertaken to inform the detailed design and optimise the performance for all road users and the overall performance of the network. The Sydney Coordinated Adaptive Traffic System (SCATS) will incorporate the light rail and is designed to ensure that the operation of each intersection achieves the optimal performance of the network as a whole.	12, 56, 85, 90
The proposed change to the entry/exit of the LRVs onto Anzac Parade heading to Kingsford creates an adverse impact on the surrounding intersection operation and making it especially dangerous for cyclists.	Preliminary traffic modelling reported in the modification report indicates that the Alison road/Anzac Parade intersection would benefit from an improved level of service compared to the approved project. Furthermore the double-cycling of the signal at Robertson Road is expected to benefit both pedestrians and cyclist by providing more crossing time at this point on Anzac Parade. LRV movements to/from the stabling facility will generally only happen outside of peak traffic and so would not have a significant adverse impact on traffic flow.	79, 83

5.7.5 Assessment approach

A number of submissions noted specific concerns in relation to the assessment approach, including the availability of information used in the assessment of the project. These comments are summarised in Table 5.9 below.

Table 5.9 Summary of submissions on assessment approach or availability of information

Specific issues raised in submissions	Response to specific issues	Submission No.
Parsons & Booz have been involved in this CSELR project where by passengers numbers are everything and again their creative team has made sure the CSELR project is viable by fudging whatever numbers are required to make the project sustainable. The community has been calling for transparency, traffic modelling and the business case before wasting over $2 billion on this ill-conceived project.	No revision to the passenger numbers has been proposed as part of the modification. The passenger forecasts and traffic impact assessment was presented in Volume 1A of the EIS and Technical Paper 1 in Volume 2 of the EIS.	21
Given the significant increase in length of the trains from 45 to 66 m, why haven't the traffic modelling, traffic intersection phase modelling, journey times, capacity modelling and LATM plans all been redone? No modelling on intersection and journey times has been provided to justify the significant increase in the proposed length of LRVs.	During the tender assessment phase, modelling of the effects of the longer LRVs together with the proposed timetable was undertaken at key critical intersections. The modelling indicated a net improvement in intersection capacity for all modes. The length of the LRVs does not affect the travel time. Additional modelling will be undertaken in partnership with RMS to develop a priority strategy/policy which will in turn inform the overall travel time. The longer vehicles combined with the proposed timetable provides an additional 15 per cent capacity at day of opening with up to a 50 per cent increase in capacity in the future.	78, 79, 83
No traffic counts or modelling has been published or undertaken on Fridays, weekends and public holidays. At Todman Avenue/ Anzac Parade intersection, on Saturday mornings at least 70 cars are left behind at each traffic light change.	The traffic impact assessment was presented in Technical Paper 1 in Volume 2 of the EIS. Further review is being undertaken as part of the development of the Network Management Plan (condition B26).	98
No modelling on capacity has been provided to justify the significant increase in the proposed length of LRVs	The capacity forecast used for the design of the project as presented in the EIS was used in evaluating the adoption of longer LRVs. As presented in Section 3.6.2 of the Modification Report, review of this information showed that the longer LRVs, operating a reduced frequency would exceed the opening year forecast demand, thereby reducing passenger crowding. These LRVs also present the opportunity to 'future proof' these routes against the further increases in demand predicted.	79
We are concerned that no independent transport capacity analysis has been provided to the taxpayer in relation to actual peak capacity of the CBD and South	The case for the CSELR and the operational capacity assumptions are set out in Chapters 3 and 5 of the EIS respectively. This is not changed by the proposed modifications.	98

Specific issues raised in submissions	Response to specific issues	Submission No.
East Light Rail.		
The Modification still omits detail about intersection and signal phasing design. This information is vital in assessing the viability of the project's impact on the behaviour of people (walkers, joggers, riders, motorists) at intersections.	The iterative nature of the detailed design process means that the final intersection and signal phasing design is still under development. Detailed examination of the operation of intersections is being undertaken to inform the detailed design and optimise the performance for all road users. The SCATS will incorporate the light rail and is designed to ensure that the operation of each intersection achieves the optimal performance of the network as a whole.	107
The lack of a proper traffic management plan for outside the City core remains, and the impact on residential streets.	The impacts to streets outside the CBD, and the associated mitigation required is described in the EIS (Transport for NSW 2013b) and will be addressed through the Network Management Plan in line with condition B26 of the planning approval.	75

5.7.6 Other traffic, transport and access

A number of submissions concerning traffic transport and access did not fit within a specific category, or were related to the broader impacts of the project. These comments are summarised in Table 5.10 below.

Table 5.10 Summary of other traffic, transport and access submissions

Specific issues raised in submissions	Response to specific issues	Submission No.
Concern the project will degrade the current roads.	Overall providing an improved public transport system will benefit the road system. However, Transport for NSW will be undertaking work to record the condition of roads, footpaths, parks, heritage items likely to be used or affected by construction. Any damage resulting from the construction of the CSELR, aside from normal wear and tear will be repaired. As set out in the EIS (Transport for NSW 2013b) in operation it is expected that the CSELR will have a beneficial effect on the operation of the road network, particularly against projected future year traffic volumes without the project, by reducing congestion and promoting a shift towards public transport.	10
Does not support extending the length of the trams. It means less frequent service; longer platforms; increased risk of causing traffic jams – imagine the chaos accompanying an accident or breakdown while crossing a major intersection.	Even with the reduced service frequency, the longer LRVs would still operate on a 'turn up and go' service with an LRV every 4–5 minutes between 7 am and 10 pm in the CBD, and every 8–10 minutes between 7 am and 10 pm on the branch lines. While longer platforms will be required, the Modification Report documents that the impacts associated with these are not significantly different to the approved project.	36
The indicated performance in the EIS, in terms of passenger capacity, is way beyond any known light rail system and verges on the physically impossible without shutting down most of the non-light rail surface transportation system along the alignment.	Review of the justification for the approved project is outside the scope of the modification. The passenger carrying capacity of the CSELR both in the approved EIS project and as a result of the proposed modifications is consistent with international experience and practise. Modelling of the operation of the CSELR both the approved EIS project and the proposed modifications (both the longer vehicle and the reduced timetable) indicates a net improvement for other road users.	27

Specific issues raised in submissions	Response to specific issues	Submission No.
The modification report suggests that after Darley Street there will now be two lanes of traffic running east towards Coogee, instead of the current three lanes.	This is correct and was part of the EIS design. The modification report did not change this.	93
Concerned about the increase in length of the light rail from 45 metres to 67 metres and the impact that this will have on Wansey Road, High Street and High Cross Park.	The operation of 67 metre LRVs is an approach proven in operation in a number of cities. For the CSELR, the 67 metre LRV's comprise two 33 metre LRV units joined; ensuring the same stopping, acceleration and crash-worthiness performance as the smaller units proposed in the original approved design. The LRV suppliers have confirmed the CSELR alignment as proposed is suitable for the operation of the 67 metre LRVs. In the development of the modification, Transport for NSW has considered the modified footprint of each of the stops. Whilst the stop platform lengths will increase in line with the longer LRVs, this will still fit in within the available space. Stop Access and Design Plans will also be prepared in accordance with condition B27 of the planning approval. The key objectives of the plans are to ensure all stops are designed to ensure safety, connectivity, efficiency and convenience is maximised. The plans will also outline urban design and landscaping elements.	101

5.8 Land use and property

A number of submissions raise concerns on the specific impacts of the modifications on existing land use or property. These are summarised in Table 5.11 below.

Table 5.11 Summary of submissions on land-use and property

Specific issues raised in submissions	Response to specific issues	Submission No.
Concerned about the LRV length leading to longer platforms and the resultant impact on suburbs including encroachment on Centennial Parklands, Ward Park and High Cross Park.	The longer LRVs would result in stops being increased from 45 metres to 67 metres in length with the exception of the Central and Moore Park stops which would have shorter platforms. Accordingly, the longer stops do have implications for the sites cited by the respondent as below: ▪ Centennial Parklands – Whilst this realignment would result in encroachment on Centennial Park lands, careful consideration and design has taken place to minimise potential impacts. Transport for NSW is working with Centennial Parklands Trust to ensure the light rail is developed as effectively as possible for its surroundings. Additionally, since the publication of the Modification Report, some design development has occurred which has led to a reduction in the number of trees expected to be affected. Notably, this includes the retention of the symbolically significant 'Maidens Row' located between Alison Road and the western edge of Kensington Ponds in Centennial Parklands retaining an additional 18 trees from the original design. ▪ Ward Park – Further design and investigation following the release of the modification report has ensured that the southern side of the alignment along Ward Park remains unchanged for the length of the stop.	5

Specific issues raised in submissions	Response to specific issues	Submission No.
	▪ High Cross Park – The increased platform length would be within the approved rail alignment, therefore the extra platform area would only encroach on an area already impacted by the approved project.	
Requests details regarding the potential impacts from the longer LRVs and stops at High Cross Park.	With the exception of a minor visual change present in the longer stop, there would be no change in impact as the extended length of the platforms has been accommodated to the west where the light rail tracks were already impacting on the park.	88
Objection to moving the alignment into Centennial Park and adverse effects to the parkland as a result of encroachment.	The realignment at Centennial Park occurred due to the reasons stated on page 46 of the modification report. This was mainly to alleviate access issues for the nearby land uses including: ▪ potential impacts to the bus interchange area at the Alison Road entrance to Royal Randwick Racecourse ▪ potential issues relating to the access arrangement for Gate 1 and Gate 6 of the Royal Randwick Racecourse ▪ access to the Randwick TAFE ▪ access for Centennial Park and events held near this location. Transport for NSW is working with the CPMPT to achieve a design that meets expectations and minimises impacts.	8, 12, 16, 21, 75, 87, 98, 99, 111, 112
Concern that modification would alienate part of Centennial Parkland.	There will be no alienation of Centennial Parkland land. Transport for NSW is working with CPMPT to ensure the design along Alison Road minimises any impacts the Centennial Parklands.	44
Believes that the justification for encroachment into Centennial Park, is an unacceptable expropriation of public land for private profit.	As discussed previously, the realignment of the light rail into Centennial Parklands is necessary due to accessibility issues posed in the previous design described in the EIS. These issues are described on page 46 of the modification report. While the light rail system will be operated by a private party, it will do so in partnership with the government for the provision of public transport services.	98
Objection to loss of parkland as a result of the Moore Park stop. Concern that the additional ramps and stairs for the subway entrance would result in significant and unacceptable encroachment on public green open space.	No further park land would be lost at the Moore Park stop due to the proposed modifications. With the increase in LRV length, the Moore Park stop length would be decreased from 90 metres and would therefore have a smaller visual impact. No change to the project site boundary has been proposed from the approved EIS at this location.	88, 111
Concerned about the impact to residents who have had their properties acquired and believes the project to be of little benefit to the taxpayers.	Transport for NSW acknowledges this concern which has previously been addressed in EIS and the resultant Submissions Report (March 2014). The proposed modifications do not require any further private property acquisition.	5
Concern that the proposed modification/ straightening of the rail track route at the Alison Road corner and along Alison Road itself will bring the rail closer to the residential area as well as degrading the southwest corner and the southern boundary of	Transport for NSW will provides mitigation to impacts as a result of this modification as required.	45

Specific issues raised in submissions	Response to specific issues	Submission No.
Centennial Park.		
Notes the amenity of homes in the Martin/ Robertson Road area is protected by registered covenants on their titles. Respondent advises that damages for a breach of these covenants by way of class action could exceed $100 million plus costs, and Exemplary Damages.	The rationale for changes to the alignment near the Alison Road/ Anzac Parade intersection is provided in section 3.8.2 of the Modification Report. Transport for NSW acknowledges the high amenity value of the existing trees at the end of Martin Road/ Robertson Road. The development of the detailed design and construction methodology will further review the impacts on these trees in order to retain as much of the existing amenity as possible. This is consistent with the principles outlined in condition B47 of the planning approval.	45, 48
Respondent questions the legality, and environmental appropriateness of the proposed appropriation of significant slabs of environmentally sensitive land for a noisy, highly intensive surface transport project in proximity to a fresh water catchment.	Transport for NSW has followed the legal requirements for the design and development of this project as required under the *Environmental Planning and Assessment Act 1979* and associated legislation. Legal processes and requirements would continue to be followed throughout the project life. The CSELR is considered environmentally appropriate as it will present environmental benefits through the removal of around 220 buses from the CBD during peak hour. Additionally, the design has been developed with the aim of avoiding unnecessary impacts to sensitive land uses along the route. Light rail is considered a clean form of transport and the operation of the CSELR would not result in potential impacts to water quality within any catchment area.	98

5.9 Noise and vibration

Summary of issues raised

A number of responses commented specifically on the potential noise and vibration impacts associated with the proposed modifications to the CSELR. These included:

- Concern that longer LRVs would create excessive noise and disruption to the residents along the route.
- Concern that the LRVs would be too loud during night time.
- Specific concerns were highlighted regarding impacts to:
  - Surry Hills
  - Devonshire Street
  - Alison Road
  - Anzac Parade
  - Martin Road
  - Robertson Road.

- Concern that the project had been given double the normal margin above background noise levels compared with virtually any other project or development in NSW. Declaring 'minor' increases in noise impacts at 86 sites is disingenuous given the starting noise limits.
- Concern that there will be an increase in noise levels due to the increased length and frequency of trains, especially during the noise sensitive periods of 5.00 am to 7:30 am and 7.00 pm to 1.00 am. Assertion that the chart at 3.15 of the Modification Report appears to have the same errors embedded as were in the original EIS.
- Request that noise reduction designs developed are clearly outlined now showing what improvements could be made with treatments such as rubber around the rails, slower speeds, removal of overhead power lines etc.
- Concern raised regarding the proposed height extension modification for the Randwick Stabling Facility, in particular, the proposed fill and the potential impact that this would have on noise implications for residents along Doncaster Avenue.
- Concern that the proposed LRVs will be nosier within the stabling yard and that the stabling yard will operate 24/7.
- Concern that the statement that there is no vibration impact from running 67 metre trains at speed alongside flood levee banks is inaccurate.
- Concern that there will be increased noise impacts on social housing properties where large numbers of people with limited mobility spend large amounts of time at home.
- Request that the raised levee bank and new retaining wall are subject to detailed engineering analysis to assess the likelihood of the bank collapsing when exposed to vibration from the LRVs.

Submission number(s)

5, 6A, 15, 13, 16, 18, 31, 32, 37, 42, 48, 55, 56, 78, 79, 83, 86, 91, 93, 98, 111, 112

Response

As stated in Section 3.6.3 of the Modification Report, the maximum noise from the longer LRVs will be the same as the shorter LRV however the duration of impact will be marginally longer, as it will take each LRV slightly longer to pass any single point. While the frequency of impacts at some times of day will be less due to the reduced frequency of LRVs, there will be more LRVs passing between 10 pm and 1 am.

To mitigate noise and vibration impacts, an ONVR will be prepared that confirms operational noise and vibration impacts at affected receivers and identifies the proposed mitigation measures to be used to meet the applicable noise and vibration criteria. Following commencement of operations, Transport for NSW will undertake operational noise and vibration compliance monitoring to assess the adequacy of noise mitigation measures and to identify further reasonable and feasible measures to reduce noise levels to acceptable criteria.

Transport for NSW is required to comply with noise and vibration guidelines and criteria established by the NSW EPA and NSW Department of Planning and Environment. It is the experience of Transport for NSW that these criteria are applied consistently for projects in NSW.

Transport for NSW is sensitive to the community's concerns regarding noise impacts and is undertaking to ensure that noise impacts are accurately identified and adequately addressed through mitigation as part of the detailed design. The illustrated noise impact locations reflected in Figures 3.14 to 3.18 of the Modification Report provide graphical indication of the results of the initial noise modelling done for the work. As explained in the Modification Report, these figures are indicative only and will be subject to further refinement during the detailed design through the preparation of the ONVR.

Transport for NSW notes that LRVs travelling adjacent to the flood levee will be travelling at low speed as they will either be slowing for the stop or accelerating away from the stop. No vibration impacts over those described in the EIS are expected. Notwithstanding, the design of the levee and retaining wall would be subject to detailed analysis to ensure that that comply with engineering standards.

With regard to the concerns raised about additional noise impacts at the Randwick Stabling Facility, the maximum noise levels associated with the operation of the facility remain as presented in the EIS. While the facility will operate 24 hours a day, 7 days a week, noisier operations would be restricted to day time hours wherever possible, as presented in the EIS. No changes to the operation of the Randwick Stabling Facility are proposed as part of the modification.

The final ground levels are still subject to detailed design, but are not expected to be significantly different to those assumed in the EIS; as a consequence there is no change to the noise dispersion assumptions for the noise impact assessment, or the results of the assessment. Further refinement of the noise impacts associated with the Randwick Stabling Facility will be undertaken in line with the ONVR.

5.10 Planted trees

The Modification Report highlighted further planted tree impacts as a result of the changes to the construction method at Anzac Parade, the realignment of a section of the project along Alison Road, and realignment of the project at the Alison Road/Anzac Parade intersection. A number of submissions raise concerns in relation to these impacts on planted trees. These are summarised in Table 5.12 below.

Table 5.12 Summary of submissions on planted tree impacts

Specific issues raised in submissions	Response to specific issues	Submission No.
General concerns and objections to removal of additional trees as a result of design modifications: ▪ Concerned about the amenity and environmental impacts to Centennial Parklands due to the modified alignment along Alison Road. ▪ Concerned that the trees lost would be a substantial burden to the parklands and existing streetscape. ▪ Concerned about the additional	There will be an increase of approximately 14 trees to the total number of planted trees to be removed along the approved CSELR alignment as a result of the proposed modifications. Since the publication of the Modification Report, some design development has occurred which has led to a reduction in the number of trees expected to be affected. Notably, this includes the retention of the symbolically significant 'Maidens Row' located between Alison Road and the western edge of Kensington Ponds in Centennial Parklands retaining an additional 18 trees from the original design. The importance of the mature Moreton Bay Figs along Anzac Parade is acknowledged. Further consideration to develop options to minimise impacts on those trees will be	2, 5,8, 9, 12,13, 16, 18, 26, 29, 32, 35, 36, 43, 47, 48, 49, 50, 51, 55, 56, 57, 58, 59, 60, 62, 63, 65, 67, 68, 69, 71, 76, 78, 79, 83, 86, 88, 111, 112

Specific issues raised in submissions	Response to specific issues	Submission No.
Moreton Bay Fig trees along Anzac Parade to be removed due to the modified tunnel construction method. ▪ Concerned that no modifications proposed with regards to retaining trees and parkland. ▪ Concerned about the impacts to wildlife in the area.	undertaken during detailed design. Prior to construction, Transport for NSW will commission an independent arborist – approved by the NSW Department of Planning and Environment – to prepare a comprehensive tree report for the project. The report will identify the impacts of the project on trees and vegetation and will outline measures to avoid or minimise damage or removal of trees (refer to existing mitigation measure N.3, outlined in section 7.2 of this report). Construction techniques that minimise impacts to tree root zones would be employed where practicable. This would include consideration of compaction and root bridging techniques, permeable paving, tunnel boring of services, hydro-excavation and careful root pruning). The use of low impact construction techniques (on existing tree roots) for installation of new services would also be considered, where appropriate and feasible (refer to existing mitigation measure T.4, outlined in section 7.3 of this report). Ecological impacts associated with the project were described in Chapter 10 of the EIS. Given the urban context of the proposed modification, the conclusions of this assessment still stand. Potential impacts to biodiversity will be mitigated in line with the measures set out in the EIS and through appropriate provisions in the CEMP.	
Concern about the removal of trees and vegetation at the end of Martin Avenue and the removal of four additional Moreton Bay Fig trees near the intersection of Alison Road and Anzac Parade due to the modified alignment.	The rationale for changes to the alignment near the Alison Road/Anzac Parade intersection is given in Section 3.8.2 of the Modification Report. Transport for NSW is committed to minimising tree impacts wherever possible. However, consistent with the principles outlined in condition B48 of the planning approval, an independent arborist would be engaged to prepare a comprehensive tree report. The report would recommend measures to avoid or minimise damage to, or removal of trees, where reasonable and feasible.	26, 29, 45, 47, 48, 78, 79, 83,
Concerned about the quality of replacement trees.	The visual amenity, heritage, social and biodiversity value of the trees along the proposed alignment is recognised. Further work will be undertaken during the detailed design phase to minimise the impact to these trees to the greatest extent possible. Where tree removal is unavoidable, Transport for NSW will ensure that all vegetation loss is appropriately offset through replanting in accordance with Transport for NSW's Vegetation Offset Guide (Transport for NSW, 2013a). This includes replacing trees that cannot be retained at a ratio of between 2:1 and 8:1 depending on the size of the affected tree. The species, size and planted location of the replacement trees will be decided in consultation with the City of Sydney, Randwick City Council and other affected stakeholders where relevant (such as Centennial Park and Moore Park Trust). The priority is to plant replacement trees as close as possible to the location of removed trees and to maintain/enhance biodiversity outcomes.	13, 26, 29, 47, 51, 58, 59, 83
Concerned about the aesthetic treatment of the levee bank along Alison Road.	Transport for NSW will continue to work closely with CPMPT during detailed design on the aesthetic treatment of the levee to minimise visual impacts both from Alison Road and Centennial Parklands.	33

Specific issues raised in submissions	Response to specific issues	Submission No.
Concerned that all trees on Devonshire Street will be removed and that large parts of Ward Park will be lost.	There are no changes to the proposed project along Devonshire Street or in Ward Park in the Modification Report to those presented in the approved EIS. Section 13.6 of the EIS (Volume 1B) and Section 5.5.5 of the Submissions Report (Volume 1) address impacts to planted trees, and Table 6.4 in Section 6.7.2 of the approved CSELR EIS (Volume 1A) and Section 5.6.2 of the Submissions Report (Volume 1) describes the construction compound in Ward Park.	34
Requirement that replacement trees must be advanced and planted as early as possible to re-establish green tree cover and habitat corridors.	Transport for NSW seek to maintain mature trees wherever possible. The development of the detailed design and construction methodology will further review the impacts on these trees. This is consistent with the principles outlined in condition B47 of the planning approval. The species, size and planted location of the replacement trees will be decided in consultation with the City of Sydney, Randwick City Council and other affected stakeholders where relevant (such as Centennial Park and Moore Park Trust). The priority is to plant replacement trees as close as possible to the location of removed trees and to maintain/enhance biodiversity outcomes	111

5.11 Visual and landscape character

A number of submissions raise concerns on the specific visual impacts of the modifications. These are summarised in Table 5.13 below.

Table 5.13 Summary of submissions on visual and landscape character impacts

Specific issues raised in submissions	Response to specific issues	Submission No.
Concerned about the visual and amenity impact that would result from the encroachment into Centennial Parklands, the construction of a three metre high and 300 metre long retaining wall along Alison Road and a light rail stop in the park.	Transport for NSW acknowledges in the Modification Report that the new retaining wall will introduce a visually dominant feature at this location. Further refinement of the design has identified that the final height will be between 1.5 metres and 2.5 metres, including the additional 300 millimetres for flood alleviation. It therefore would not result in a total loss of views into Centennial Park. In addition, the provision of a shared cycle and pedestrian path on the park side of the embankment, and a refinement of the modification to enable the retention of the Maidens Row tree planting along the length of the alignment, will reduce the visual impact of the alignment from the park side. An Urban Design and Landscape Plan will be prepared in accordance with condition B51 of the planning approval that will identify design objectives and standards. The plan would also detail principles to enhance the public domain and integrate the project within the local environment. In addition to meeting the conditions of approval and delivering the environmental mitigation and management measures described in the EIS, consultation will be undertaken with the Urban Domain Reference Group during the detailed design process to ensure that a high quality finish is delivered for the project. This will include signage and way finding to improve legibility and measures to reduce the hard visual impact of the	18, 26, 29, 75

Specific issues raised in submissions	Response to specific issues	Submission No.
	built elements. Transport for NSW has entered into a development agreement with CPMPT which includes the ability for the Project to plant trees within the parkland in conjunction with CPMPT.	
Suggests that the retaining wall along Alison Road may be unnecessary if the trees are retained and the light rail is realigned into the centre of Alison Road.	As described in the Modification Report, the realignment of the CSELR along Alison Road was developed in response to a number of specific access concerns raised by ATC, CPMPT and Randwick City Council. Transport for NSW has considered the alignment option down the middle of Alison Road however it has been found to be unfeasible.	26, 29
Concern that raising the ground level of the stabling yard facility would reduce amenity to houses along Doncaster Avenue. Concerns include a negative visual impact, loss of sunlight, breeze and privacy, increased water runoff and replacement of fig trees with built structures.	The ground level within the stabling yard site is proposed to be raised by up to two metres to maintain a finished ground level contiguous to Alison Road. The height increase would slope from the site boundary on the Doncaster Avenue side therefore creating a buffer between the residential properties and the increased height level. This buffer would alleviate many of the concerns raised including visual impact and loss of sunlight and breeze. It is currently proposed to plant trees along the eastern property boundary. These would provide privacy and visual screening to the residents. Additionally, the detailed design would take visual impact into account and aim to reduce any adverse impacts to residents through design and mitigation measures. Water runoff would be managed within the site boundary through appropriate drainage design and runoff would not affect surrounding properties. A Soil, Stormwater and Flood Management Plan (SSMF) would be developed as required by condition B66. The SSMF is required to address a range of issues including flooding and hydrology, water quality and erosion and sedimentation control. Due to the operation of the stabling facility site, the existing fig trees cannot be retained.	31, 33, 54
Concern that the proposed noise barrier at the stabling yard is too close (three metres) and too high (eight metres) to private properties.	The height of the noise barrier would be finalised to optimise benefits to the adjoining properties by reducing noise emissions as far as possible. The noise wall would be set back off residential property boundaries by a minimum of one metre for every half a metre above three metres height. So for a 6 metre high noise barrier the minimum set back would be 6 metres.	56
Concern about the visual impact resulting from the installation of over 300 metres of wires along parklands and the removal of over 50 significant mature trees along Alison Road.	It is stated in the Modification Report there will be up to approximately 14 additional trees removed along the approved CSELR alignment. Since the publication of the Modification Report, some design development has occurred which has led to a reduction in the number of trees expected to be affected. Notably, this includes the retention of the symbolically significant 'Maidens Row' located between Alison Road and the western edge of Kensington Ponds in Centennial Parklands retaining an additional 18 trees from the original design. Prior to construction, Transport for NSW will commission an independent arborist - approved by the NSW Department of Planning and Environment – to prepare a comprehensive tree report for the project. The report will identify the impacts of the project on trees and will outline measures to avoid or minimise	83, 93, 111

Specific issues raised in submissions	Response to specific issues	Submission No.
	damage or removal of trees (refer to existing mitigation measure N.3, outlined in section 7.2 of this report). Construction techniques that minimise impacts to tree root zones would be employed where practicable. This would include consideration of compaction and root bridging techniques, permeable paving, tunnel boring of services, hydro-excavation and careful root pruning). The use of low impact construction techniques (on existing tree roots) for installation of new services would also be considered, where appropriate and feasible. (refer to existing mitigation measure T.4, outlined in section 7.3 of this report).	
Concern that the proposed modification to the Randwick Road stop is only to the benefit of the Racecourse so that they can retain bus operations. This change gives this transport proposal dominating control over the visual and environmental quality of this southwest area of Centennial Park.	There are multiple benefits associated with the relocation of the Randwick Stop on Alison Road as detailed on page 46 of the modification report. The relocation alleviates many access issues to major land uses including locating the stop closer to Randwick TAFE. The visual impact of the CSELR on Centennial Park would be mitigated through careful design as described above.	88
Concern that the longer platforms require a larger bulk for the platform construction to deal with gradient of Rawson Place which falls from Pitt Street to George Street, impacting on visual amenity of Rawson Place.	Consistent with the assessment presented in the CSELR Project EIS (Volume 1B) (Transport for NSW, 2013), each of the stops would become a dominant feature of the local viewpoints surrounding each stop. As noted in Section 3.6.3 of the Modification Report, each stop would add additional visual elements at street level, created by the platforms, new pedestrian crossings and roadside barriers (where proposed as part of the approved project). The proposed modification to stop lengths are not considered to substantially alter this assessment, resulting in a minor increase in visual impact overall.	110, 111

5.12 Built and non-Indigenous heritage

5.12.1 Impacts to heritage

Summary of issues raised

One submission objected to the proposed loss of the historic gates and access to Centennial Park.

One submission also noted specific concern with the increased impact on the heritage streetscape around Rawson Place, and in particular potentially impacts of the extended platform facades.

Submission number(s)

48, 110

Response

The proposed modifications do not propose to impact on the existing historical gate entrances to Centennial Park. Impact resulting from the proposed change to the proposed access arrangement to Centennial Park (due to the proposed removal of the right hand turn, westbound, from Alison Road) is addressed in Section 3.7.3 of the Modification Report and Section 5.8 of this Submissions report.

The proposed impact of the approved stops was identified to have a minor to minor/moderate adverse impact on existing heritage items or conservation areas, with the impacts predominantly consisting of visual impacts to the setting and appreciation of the identified heritage items or conservation areas. With respect to the potential impacts of the proposed longer platform lengths, the extension of the approved stops to accommodate the longer LRVs would not result in any substantial additional heritage impacts to the approved project. The additional length of the stops would have the same visual characteristics of the approved stops, and would therefore result in a similar impact to that previously assessed.

5.13 Socio-economic

Summary of issues raised

Three responses raised concerns regarding the potential socio-economic impact of the project. These comprised:

- Concerns about the impact to businesses along the alignment
- Concerns about the impact to the medical facilities in Randwick.

Submission number(s)

12, 16, 98

Response

There are no changes to the proposed project along Anzac Parade in Randwick and Kensington in the Modification Report to those presented in the approved EIS. Section 15.9 of the EIS (Volume 1B) (Transport for NSW, 2013b) addresses the potential social and economic impacts to the Randwick Precinct during construction and operation, and Section 16.9 of the EIS (Volume 1B) (Transport for NSW, 2013b) addresses the potential social and economic impacts to the Kensington/Kingsford Precinct during construction and operation. Section 5.14 of the Submissions Report (Volume 1) (Transport for NSW, 2014a) outlines the socio-economic impacts along the alignment.

5.14 Ground and surface water

A number of submissions raise concerns on the specific visual impacts of the modifications. These are summarised in Table 5.14 below.

Table 5.14 Summary of submission relating to groundwater or surface water impacts

Specific issues raised in submissions	Response to specific issues	Submission No.
Objection to the potential impact to existing aquifers within the project which will lead to the stagnation of the Centennial Park Ponds.	The majority of the project will be constructed above ground with no impact to groundwater. Prior to the construction of the Moore Park Tunnel, further investigations into groundwater and geotechnical issues will be undertaken and management strategies developed.	10
Objection to the relocation of the light rail alignment into Centennial Park from the other side of the road due to potential impacts of heavy rain and flooding on the ponds and Centennial Park.	Condition B56 requires the preparation of a SSMF. The SSMF is required to address a range of issues including flooding and hydrology, water quality and erosion and sedimentation control. A key commitment of the conditions of approval is that the construction of the CSELR shall not worsen flooding and that erosion and sediment control measures are installed that comply with industry best practice guidelines and Environment Protection Authority Requirements	8, 97
Objection to the increased/added risk due to flooding as a result changes to the flood levee. Concern that studies regarding impacts have not been carried out.	The proposed change to the height of the levee of approximately 300 millimetres will reduce flooding in the inhabited area south of the levee. These specific issues will be incorporated into the SSMF as required by condition B56 (refer to second response in this table above).	10, 16, 21, 36, 55, 86, 88, 90
The proposed changes to the flood levee banks increases the risk of severe inundation throughout Kensington especially with the vibration impact of LRVs with metal wheels on metal tracks. Questions who will compensate residents if the levee banks fail.	The proposed change to the height of the levee will reduce flooding in the inhabited area south of the levee. These specific issues will be incorporated into the SSMF as required by condition B56 (refer to second response in this table above).	77, 78, 83
There is still a concern for flooding in Doncaster Avenue.	The proposed change to the height of the levee will reduce flooding in the inhabited area south of the levee. These specific issues will be incorporated into the SSMF as required by MCoA B56 (refer to second response in this table above).	93
The levee banks in Kensington concern the respondent who requests more time to understand the potential impact that the light rail will have as there has already been disruption to the protection without the addition of 100 tonne plus light rail carriages.	These specific issues will be incorporated into the SSMF as required by condition B56 (refer to second response in this table above). The EIS for the Modification Report has been displayed for a period of 2 weeks which is the statutory timeframe.	40

Specific issues raised in submissions	Response to specific issues	Submission No.
Concern raised regarding proposed height extension modification for the Randwick Stabling Facility, in particular, the proposed fill and the potential impact that this would have on flood implications for residents along Doncaster Avenue. How will the water runoff be managed and what erosion strategies have been considered?	The proposed change to the height of the levee will reduce flooding in the inhabited area south of the levee. Condition B56 requires the preparation of a SSMF. The SSMF is required to address a range of issues including flooding and hydrology, water quality and erosion and sedimentation control. A key commitment of the conditions of approval is that the construction of the CSELR shall not worsen flooding and that erosion and sediment control measures are installed that comply with industry best practice guidelines and Environment Protection Authority Requirements.	31, 33, 54, 70, 83
Concern regarding the modification of the base height in the proposed Randwick Stabling Yard. Noted that the proposed elevation of the Centennial Park levee will help mitigate flood damage resulting from major flood events. Concern that no additional consideration has been made in regards to surface water run-off mitigation resulting from 2 metre level increase of the stabling site during heavy rain. Respondent questions the necessity of raising the base level of the proposed Randwick stabling yard given they already have additional protection from elevating the Centennial Park levee. There has been no assessment of the runoff waste/rain water from the stabling site to the local resident's properties and the additional noise impact now that the stabling yard is raised up by 2 metres.	The increase in ground level within the Randwick Stabling Facility is necessary to obtain the required track level into the site. The final ground levels are necessary to maintain a finished ground level contiguous to Alison Road as vehicles enter and exit the stabling yard during operation. This arises from the types of maintenance activities taking place within the yard that require a level track surface. These levels remain similar to the reference design used in the approved CSELR EIS. The proposed change to the Centennial Park levee to mitigate potential flooding is independent of the need to increase the stabling level height. The specific issues relating to runoff and drainage will be incorporated into the SSMF as required by condition B56 (refer to second response in this table above).	70

5.15 Land stability, soils and contamination

A number of submissions raise concerns on the specific impacts of the project on land stability and soils. These are summarised in Table 5.15 below.

Table 5.15 Summary of submission relating to land stability and soils

Specific issues raised in submissions	Response to specific issues	Submission No.
How much volume of soil/landfill will you need to bring onto the site so you can raise it by two meters above ground level? Have you done any studies to look at soil sub-siding and/or eroding over time and how this is ultimately affect resident's backyard all along Doncaster Avenue?	The volume of soil required will be determined during the detailed design. The stabling yard will be designed to prevent subsidence as this would affect operation of the light rail. In addition there will be a noise wall between the stabling area and the adjacent residences.	54
There are no detailed geological and engineering surveys in the report justifying the proposed changes to the flood levee banks.	The development of the detailed design and construction methodology will further review the impacts on flooding, including detailed flood modelling, with the objective of not worsening existing flood characteristics. This is consistent with condition B65 of the planning approval. These specific issues will be considered in the SSMF as required by condition B66. The SSMF is required to address a range of issues including flooding and hydrology, water quality and erosion and sedimentation control.	79
Concern regarding the increased risk of subsidence in Centennial Park as a result of augmenting the levee bank of Kensington ponds. We have not been provided with any detailed professional analysis of one in 100 storm events.	The development of the detailed design and construction methodology will further review the impacts on flooding, including detailed flood modelling, with the objective of not worsening existing flood characteristics. This is consistent with condition B65 of the planning approval. These specific issues will be considered in the SSMF as required by condition B66. The SSMF is required to address a range of issues including flooding and hydrology, water quality and erosion and sedimentation control.	98

5.16 Biodiversity

Three submissions raise specific concerns on the impacts of the project on biodiversity. These are summarised in Table 5.16 below.

Table 5.16 Summary of submissions on biodiversity

Specific issues raised in submissions	Response to specific issues	Submission No.
General concerns regarding the overall environmental and ecological impacts of the project.	A project of the scale and nature of the CSELR will result in a range of environmental and ecological impacts. However, the project has been approved subject to a number of conditions that must be complied with during construction. These conditions set specific environmental performance standards that must be complied with and requires the project to replace lost vegetation. This issue is further discussed in Section 5.10 of this Submissions Report.	10
Objection to the realignment of the light rail into Centennial Park from the other side of the road due to the effect on native flora and fauna.	Section 6.0 of this report outlines refinements which have been made to the design since the exhibition of the Project Modification Report. Refinement of the construction footprint in this area has led to a reduction in the number of trees expected to be affected. Notably, this includes the retention of the majority of the 'Maidens Row' located between Alison Road and the western edge of Kensington Ponds in Centennial Parklands. The potential impacts to native flora and fauna as a result of this alignment would be relatively minor.	8
The fact that there is a migration of eels from Centennial Park via the waters that feed to Botany Bay must be taken into account in associated construction work and/or water infrastructure changes.	This issue will be accounted for in the preparation and implementation of detailed Environmental Management Plans for the construction and operational phases of the project.	88
The statement that vegetation by the ponds requires periodic inundation suggests that no one has looked at what plants are actually there.	Further studies regarding the potential changes to the flooding regime in the vicinity of the Kensington Ponds area would be undertaken during detailed design. Should the results of this study identify marked changes in inundation within the vicinity of the Kensington Ponds, management of impacts to flora would be further considered.	88

5.17 Waste, energy and resources

Summary of issues raised

One submission asked where the waste water from the Randwick Stabling Facility maintenance activities would go.

Submission number(s)

70

Response

There are no changes regarding waste water from the Randwick Stabling Facility as a result of this Modification.

5.18 Hazard and risk

5.18.1 General pedestrian impacts

Summary of issues raised

Five submissions raised a number of concerns regarding the potential for pedestrian injuries resulting from longer LRVs.

Submission number(s)

11, 18, 32, 75, 77

Response

The 67 metre LRV's are comprised of two 33 metre LRV units joined; ensuring the same stopping performance as the smaller units proposed in the original approved design. In addition, the increased sized vehicles provide an improved capacity which means light rail vehicles will operate less frequently, thereby reducing the likelihood of any pedestrian injuries.

In addition, the light rail alignment is predominantly within existing road reserves and in other areas where pedestrian access is restricted. Where light rail tracks are adjacent to traffic lanes, LRVs would operate within the existing posted road speed limits, that is, at the same or lower speed to traffic in adjacent traffic lanes. Furthermore as described in Section 5.2.4 of the approved CSELR EIS (Volume 1A) (Transport for NSW, 2013b), it is proposed that LRVs would travel at maximum speeds of approximately 20 kilometres per hour through the George Street pedestrian zone. This design speed provides for the safe operation of LRVs and pedestrians where there is no physical barrier between them to best manage the risk of collisions. This is consistent with the maximum speed of LRVs on the existing light rail through the Haymarket pedestrian area.

In addition, Road Safety Audits and reviews will be undertaken at each stage of the detailed design. Any findings or recommendations from these audits would also be considered as part of the final design of intersections along the alignment.

5.18.2 Pedestrian crossing of Alison Road

Summary of issues raised

A number of submissions raised concerns regarding the reduced safety for pedestrians using or accessing the revised stop Royal Randwick Racecourse stop location.

Concern was raised that, in particular racecourse patrons will have to cross six lanes of traffic across Alison Road resulting in safety concerns for these pedestrians.

Submission number(s)

12, 36, 90, 44, 56, 69, 77, 78, 79, 82, 83, 93, 95, 97, 111

Response

As noted as part of the proposed modification, pedestrian footpaths would be provided to the stop from the east (from Darley Road) and from the west (between the stop and Doncaster Avenue. A new, signalised pedestrian crossing would also be provided across Alison Road (approximately 140 metres east of Doncaster Avenue).

Existing fencing along Alison Road (on the southern side and within the median of Alison Road) would be maintained in order to direct passengers to the crossing points along Alison Road. On the northern side of Alison Road, new footpaths would provide access to the stop. These footpaths would also allow for queuing passengers during special event operations.

The proposed relocation of the alignment and associated stop to the northern side of Alison Road would result in an overall improvement for most pedestrians who are anticipated to access the Royal Randwick Racecourse stop. The modified position also results in an improvement of pedestrian links between the CSELR project and Centennial Park, the Randwick TAFE campus, and the residential area to the north of Alison Road.

Race day management

In line with current practices safety of patrons exiting Royal Randwick Racecourse as pedestrians would be managed through appropriate special event/crowd management procedures. This would include retention of the existing fencing along the southern side and within the median of Alison Road in order to direct passengers to the pedestrian crossing points.

Crowd control would be used for special events held at the racecourse and would not be required for the everyday use of the stop. The stop would be located approximately mid-way between the Darley Road intersection and the new signalised pedestrian crossing of Alison Road, allowing for crowds to be dispersed to approach from either end of the platform. A management plan would be developed jointly between the Royal Randwick Racecourse, bus operators and the light rail operator as a shared responsibility in relation to special events. These measures are considered sufficient to manage the safety and well-being of racecourse patrons exiting the Royal Randwick Racecourse.

5.18.3 Moore Park stop pedestrians

Summary of issues raised

A series of submissions raised objection to the removal of the direct connection between the proposed pedestrian bridge over Anzac Parade and the revised Moore Park stop as a result of the removal of the previously proposed mezzanine level. Concern was raised that school children from the Sydney Boys High School and Sydney Girls High School would be required to cross the LRV tracks in order to access their desired platform. Concern was also raised that the number of students crossing the tracks unsupervised (up to 2,000 students in the morning and afternoon periods) would also result in potential safety issues.

Concern was raised that no additional safeguards had been identified for school children to cross tram tracks compared to the additional safeguards dealing with crowds emerging from sporting events.

It was suggested by some respondents that stairs should be built from the proposed pedestrian overpass to allow the students to directly access both light rail stop platforms rather than requiring the students to cross the light rail tracks.

Submission number(s)

52, 78, 79, 83, 96

Response

Condition B27 of the planning approval requires the preparation of Stop Access and design plans for each stop. Key objectives of these plans are to ensure all stops are designed to ensure safety, connectivity, efficiency and convenience is maximised. The plans will include transport and access facilities and services, connecting footpaths and integration between current and proposed public domain.

Safety is of paramount importance to Transport for NSW and the final design and stop arrangement will ensure safe access to the stop for all is achieved. In response to the concerns raised in the submissions, Transport for NSW is reviewing potential options to enhance the safe crossing of the light rail tracks by students this includes the use of the subway in the morning and afternoon school peaks and other operational measures.

The platform size for the Moore Park stop will be designed to accommodate the anticipated patronage from Sydney Boys and Girls High Schools and additional LRV services will operate before and after school which will help to alleviate congestion.

As identified as part of the approved CSELR project, a mitigation measure was identified (mitigation measure AL.1) that targeted road safety campaigns would be used in the lead up to the opening of the CSELR and during operation to raise awareness around the operation of LRVs and to promote the safe operation of the proposal. This would focus on raising awareness and promoting safe behaviours in shared zones and at key CSELR crossings. As part of this campaign, targeted sessions would be made available to the Sydney Boys High School and Sydney Girls High School to assist in promoting the safe use of light rail.

As all LRVs will stop at the Moore Park stop, operating speed in the area will be reduced and driver awareness will be raised which will contribute to pedestrian safety in this area. LRV drivers would also sound horns and warning bells in emergency situations to make students aware of vehicle movements. Additionally, pedestrian barriers would be installed where appropriate to minimise the locations for pedestrians to cross. The final location and extent of fencing/barriers would be determined during the detailed design of the stop.

5.18.4 Other

Summary of issues raised

Concern was raised by one respondent that the proposed third rail infrastructure would constitute a significant trip hazard in areas of high pedestrian activity (such as the George Street pedestrian zone).

Submission number(s)

94

Response

In areas of high pedestrian activity where the third rail infrastructure is proposed, the existing surface will be regraded so that the trip hazard is eliminated or minimised as far as possible.

5.19 Cumulative impacts

Summary of issues raised

Concern was raised regarding the cumulative impact to public transport that would occur as a result of the removal of the World Square stop. It was noted by the respondent that with the introduction of light rail on George Street, the nearest key bus corridor to World Square will be along Castlereagh/Elizabeth and Park Streets. As such, an area between Castlereagh Street, Town Hall, the Sydney International Convention, Exhibition and Entertainment Precinct, and Chinatown will be without direct access to public transport, restricting access to one of the densest precincts in Sydney.

Submission number(s)

80

Response

With the deletion of the World Square stop the nearest light rail stops would be Chinatown and Town Hall. The distance between these stops is approximately 460 metres which is an appropriate, easy walking distance in a CBD environment. All destinations in this catchment are within easy walking distance of the remaining stops.

The Chinatown stop is within 60 metres of the Goulburn Street/George Street entry to Works Square and provides the same level of access as the World Square stop. The existing light rail also provides good, direct access to Chinatown and the Sydney International Convention, Exhibition and Entertainment Precinct.

Currently the CBD bus network for the construction period is being finalised and will be published in the near future. The bus plan for after the opening of the light rail will be refined closer to the completion of the light rail.

5.20 Issues external to the CSELR Modification Report

5.20.1 Car parking

Summary of issues raised

A series of concerns were raised with respect to car parking issues which were outside the scope of the proposed modifications. These issues are summarised below.

- Concern was raised that the Government is allowing substantial increases in CBD off-street parking to take place. Concern was raised that this, in conjunction with the provision of the CSELR, would increase traffic congestion in the CBD.
- Objection to the new 45 degree car parking on Nobbs Lane.
- Extension of parking permit designated areas should occur.
- Council should be encouraged to assist residents to construct off street parking solutions on their premises.
- Additional resident-only parking should be built nearby (to Alison Road).

Submission number(s)

7, 28, 93

Response

Transport for NSW is not responsible to the provision of car parking within in the CBD. The proposed CSELR will provide an alternative transport mode to the CBD. This should result in a reduction in congestion in the CBD.

With respect to the parking arrangements in Nobbs Lane, these were not amended as part of the proposed modifications assessed. The provision of parking in this location was assessed as part of the approved CSELR EIS (subject to ongoing detailed design) and is therefore not relevant to this submission repot.

With respect to the request for extension of parking permit designated areas and the proposal that Council should be encouraged to assist residents to construct off street parking solutions on their premises is outside the responsibility of Transport for NSW. It is recommended that the respondent discuss these concerns directly with Council.

With respect to the request for the provision or construction of additional residential parking is not proposed as part of the scope of works for the CSELR project and is not applicable to proposed design changes assessed as part of the current modifications.

5.20.2 High Cross Park

Summary of issues raised

A series of concerns were raised with respect to various impacts on High Cross Park which were outside the scope of the proposed modifications. These issues are summarised below.

- Objection to the removal of High Cross Park open space.
- Concern that the footpaths in High Cross Park are not shown along the Cuthill Street or Avoca Street frontages.
- Concern regarding the proposed shifting of the Randwick Interchange to the western side of High Cross Park.
- Objection to further encroachment on land in High Cross Park to allow for the cross-over rail to be located within the park.

Submission number(s)

16, 83, 86, 86, 87, 98, 99

Response

Impacts of the CSELR project on High Cross Park were addressed as part of the approved CSELR EIS.

As described in Section 4.4.2 of the approved CSELR EIS (Volume 1A) (Transport for NSW, 2013b), High Cross Park is the preferred location for the Randwick stop and transport interchange due to benefits in interchange function, including avoiding the need for customers to cross Avoca Street or Belmore Road to interchange between bus and light rail from existing bus stops.

As described in the previous CSELR Submissions Report, design changes were made in response to community concern to mitigate the impact of the CSELR proposal on the park including increasing the turfed area and narrowed footpaths.

The images of High Cross Park included in the modification report are sketches produced to provide an indication of the modified location of the cross-over point for the light rail tracks. No changes to the proposed footpaths along Cuthill Street or Avoca Street are proposed. No extra land is required for the relocation of the light rail track cross-over point. The cross-over is located between the existing tracks.

With respect to the concern regarding a shift in the location of the Randwick interchange, the modification to the approved project does not modify the location of the Randwick Interchange to the western side of High Cross Park. The proposed location of the Randwick Stop is the same as that described in the approved CSELR EIS.

5.20.3 Other specific issues

A number of submissions noted specific issues outside the scope of the currently proposed modifications or which related to other transport matters. These comments are identified in Table 5.17 below.

Table 5.17 Summary of submissions raising issues outside of the modification scope

Specific issues raised in submissions	Response to specific issues	Submission No.
Two submissions objected to the continued lack of consideration regarding provision of light rail services to additional locations including: ▪ Victoria Park and Waterloo ▪ Darlinghurst via Taylors Square.	Issues regarding the consideration of alternative route alignments for the project were previously addressed in sections 5.3.3 above. The consideration of light rail services to Victoria Park, Waterloo and Darlinghurst are not relevant to proposed design changes.	35, 86
No traffic management has been instituted across Southern Cross Drive in Victoria Park. High rise apartments are constructed with no on-site parking resulting in parked cars from that area overflowing into Kensington.	The provision of specific traffic management provisions across Southern Cross Drive in Victoria Park are outside the scope of the proposed modifications. The provision of on-site parking from recent residential developments is not the responsibility of Transport for NSW.	98
Concern was raised regarding the need to extend the exhibition period of the REF for the Sydney City Centre Capacity Improvement Plan	The exhibition of the Sydney City Centre Capacity Improvement Plan is being undertaken by Roads and Maritime Services. The Sydney City Centre Capacity Improvement Plan is not part of the scope of works for the approved CSELR project.	7
The respondent suggested that in order to assist in minimising traffic congestion, that utilising a GPS-based congestion pricing system to charge for road use be implemented.	The suggested use of GPS-based congestion pricing system to charge for road use is noted. This is however outside the scope of the proposed modifications and overall CSELR project.	27
Concern regarding potential reductions to traffic and pedestrian flow along High Street which would result in disruption to medical practices in that area.	Impacts to traffic and pedestrian flow along High Street as a result of the project were previously considered as part of the approved CSELR EIS and Submissions Report. No additional impacts would occur along this section of High Street as a result of the proposed modifications.	40
Objection to a possible pedestrian closure on High Street.	The pedestrianisation of a section of High Street is not proposed as part of the proposed modifications.	86
Concern regarding the engagement of an 'international' company to undertake the construction works for the project	This issue is outside the scope of the proposed design changes currently being proposed by Transport for NSW. Transport for NSW selected the preferred tenderer based on a rigorous commercial assessment process to ensure the most experienced and commercially beneficial project team were engaged to undertake the construction and operation of the project.	93

Specific issues raised in submissions	Response to specific issues	Submission No.
Concern that the project will be sold off to private operators following completion of the project.	This issue is outside the scope of the proposed design changes currently being proposed by Transport for NSW. There are no current plans to sell the project upon completion.	98
Object to the resumption of 50 metres of land around Barker Street.	This issue is outside the scope of the proposed design changes currently being proposed by Transport for NSW. No additional land is proposed to be impacted around Barker Street as part of the proposed modifications. Overall impacts to property as a result of the project were previously considered as part of the approved CSELR EIS and Submissions Report.	98
Todman Avenue should have a bus layover and roundabout constructed in the Eastern limb, from Anzac parade to Todman Avenue to enable bus routes 391, 392, 393, 394 and 399 to turn around.	The provision of a bus layover and roundabout at Todman Avenue is not proposed as part of the scope of works for the proposed modifications or the proposed design changes currently being proposed by Transport for NSW.	98
The construction of the 'Tibby' Cotter Bridge (Anzac Parade) does not provide a safe riding connection from the deck of the to the Anzac Parade shared path. Massive amounts of Moore Park land are already being alienated by the Tibby Cotter Walkway and the proponent should be required to minimise further damage.	The Tibby Cotter bridge is being constructed by the NSW Roads and Maritime Service and is not part of the CSELR Project. The provision of connections from this bridge and the existing would form part of the scope of works for this project. The CSELR project would not impact cyclists who plan to utilise this bridge. Opportunities for reusing Tibby Cotter bridge construction compound sites during CSELR construction to minimise environmental impacts would be considered during detailed design.	107, 111
The Modification Report should be updated to specify controls to the proposed 'all-over' advertising of light rail vehicles.	This issue is not relevant to the design modifications proposed by Transport for NSW. Notwithstanding, relevant stakeholders including the City of Sydney Council and Randwick City Council would be consulted with in relation to any proposed advertising on LRVs.	107
There is opportunity to develop the airspace over Central Station to include an all-weather interchange accommodating both the remaining commuter buses and vehicles servicing visitors.	This issue is not relevant to the design modifications proposed by Transport for NSW. The development of the airspace over Central Station is outside the scope of the CSELR Project. The proposed stop at Rawson Place will incorporate a shelter sufficient to provide adequate weather protection for passengers at the station and transferring to adjoining areas.	110

5.21 Other issues raised

A number of submissions highlighted either support or opposition to the project as a whole, or raised general concerns which did not clearly sit within one category. Expressions of support or opposition to the project include:

- Submissions 74, 87, 94, 97, 100, 102, 105, 107, 111 all expressed their support for the project.
- Submissions 19, 20, 23, 24, 30, 32, 41, 98 expressed their opposition to the CSELR project as a whole.
- Submissions 26, 29, 47, 50, 51, 58, 59, expressed their support for modification of the Anzac Parade/Alison Road intersection if it ensures the preservation of trees in Tay Reserve, Randwick.

Other submissions provided objections to one or more elements of the proposed modifications. These have been addressed in the preceded sections of this Submissions Report.

Uncategorised issues are summarised in Table 5.18 below.

Table 5.18 Summary of other issues raised in the consultation

Specific issues raised in submissions	Response to specific issues	Submission No.
Respondent appreciates the wire-free technology, the World Square change, and the George/ Grosvenor change.	Transport for NSW acknowledges the respondents positive position on wire-free technology.	7
Objection to claims that these modifications will result in an overall improvement. No improvements have been proposed with regards to tree loss, natural habitat, climate change issues, socio-economic, biodiversity, air quality, utilities and services, or greenhouse gases issues.	The proposed modifications do not present any changes to climate change, socio-economic, air quality or greenhouse gas issues. With regards to tree loss, natural habitat and biodiversity impacts, the proposed modification, it is stated in the Modification Report that there will be an increase in the total number of planted trees to be removed along approved CSELR alignment of up to approximately 14 trees. Since the publication of the Modification Report, some design development has occurred which has led to a reduction in the number of trees expected to be affected. Notably, this includes the retention of many of the 'Maidens Row' paperbark trees thereby retaining an additional 18 trees from the original design. The modifications have resulted in the retention of numerous trees along the alignment. The revised construction methodology for the tunnel under Anzac Parade allows utilities to be avoided in the vicinity of the tunnel and assists in optimising the tunnel construction.	2, 26, 29, 51, 59

Specific issues raised in submissions	Response to specific issues	Submission No.
The CSELR proposal appears to ignore both international "best practice" and common sense. It seeks to replace a large number of frequent bus services (some of which have an easily-fixed reputation for poor timekeeping) with a system employing gigantic trams running a relatively infrequent service along a limited route which will permanently remove two or three lanes from busy existing roads.	This submission does not relate to any of the proposed modifications. Concerns have previously been addressed in prior planning documents. Section 5.3.1 of this report provides a summary of the alternative considered and outlined in the EIS.	14
Compared to current bus services, the CSELR offers an intimidating combination of much longer distances between stops, far fewer seats, and will force many travellers to change between a LRV and a bus one or more times.	This submission does not relate to any of the proposed modifications. Concerns have previously been addressed in prior planning documents. Section 5.3.1 of this report provides a summary of the alternative considered and outlined in the EIS.	16
Objection to the longer LRVs.	Transport for NSW acknowledge the respondents objection to the longer LRVs. Please see responses in Section 5.5.5, Section 5.5.7, Section 5.7, Section 5.9 and Section 5.18.1 of this Submissions Report regarding specific concerns related to the longer LRVs.	28, 37, 48
Concerned the project fails to address long term public transport issues.	This submission does not relate to any of the proposed modifications. Justification with respect to the CSELR Projects ability to address long term public transport issues have previously been identified in Chapter 3 of the approved CSELR EIS (Transport for NSW, 2013b).	25
Concern regarding the loss of flexibility on a daily basis and in the long term.	This submission does not relate to any of the proposed modifications. Concerns have previously been addressed in prior planning documents. Refer to previous response in Section 5.5.5, Section 5.5.7, Section 5.7, Section 5.9 and Section 5.18.1 regarding longer LRVs.	48
Concerned that Kensington would be placed at a higher risk of flooding due to the changes in the flood levee. Respondent believes changes are being made to save the winning consortium money.	Numerous options have been assessed for the CSELR alignment and the most feasible present in the approved CSELR EIS and Modification Report. The proposed raising of the existing levee bank adjacent to the southern end of Centennial Park would provide increased flood protection for up to the 1 in 100 year flood event. This would provide an improved operational reliability for the light rail (in particular the operation of the Randwick stabling facility) in addition to wider benefits to the local road network and residential properties within the vicinity of the stabling facility. Condition B56 requires the preparation of a SSMF. The SSMF is required to address a range of issues including flooding and hydrology, water quality and erosion and sedimentation control. A key commitment of the condition is that the construction of the CSELR shall not worsen flooding and that erosion and sediment control measures are installed that comply with industry best practice guidelines and Environment Protection Authority Requirements. Therefore changes in the flood levee would not impact existing flooding conditions in Kensington.	83

Specific issues raised in submissions	Response to specific issues	Submission No.
Figure 3.19 in the Modification Report shows a broken blue line beside the 2 rail tracks. Respondent believes that this indicates a 3rd rail track, for use if an extra train is needed for a major event. Given that, how much further into Centennial Park is land taken.	Chapter 6 of this Submissions Report provides some clarifications, including clarification on the figure in question. The broken blue line shown on the Figure 3.19 in the Modification Report indicates the location of the proposed levee bank to be raised. The CSELR is proposed to be located within Centennial Park land. The precise area to be acquired for this project would be determined through negotiations with the Centennial Park Trust during the detailed design process.	88
Concern regarding the proposed widening of Barker Street. Concern regarding what this means for bus services along this street.	The widening of Barker Street is not proposed as part of the approved CSELR Project or the proposed modifications.	112

6. Design refinements and other design clarifications

This chapter documents refinements that have been made to the design since the exhibition of the CSELR Project Modification Report. This section also provides clarifications to the Project Modification Report in response to feedback received from the community and other stakeholders during the exhibition period.

6.1 Third track for entry into stabling facility

Figure 3.19 of the Project Modification Report identified two tracks running parallel to the northern side of Alison Road between the entry to the Randwick stabling facility and Darley Road.

Following exhibition of the Modification Report, ongoing design refinement of the proposed modification to the light rail alignment along Alison Road has identified the need for an additional turnback track to allow special event services to shuttle between Central Station Stop and the Royal Randwick Racecourse Stop. This turnback track would be located between the identified main tracks either side of the identified stop. Therefore, between the stabling facility and Darley Road, there would be three sets of light rail tracks. This would not change the area of land impacted by the proposed modification in comparison to the area identified as being impacted in the Modification Report (Transport for NSW, 2014b).

The revised figure which outlines the track arrangement along Alison Road to allow improved access into the Randwick stabling facility is shown in Figure 6.1 below.

In addition, Road Safety Audits and reviews will be undertaken at each stage of the detailed design. Any findings or recommendations from these audits would also be considered as part of the final design of the crossing of Alison Road into to the Randwick stabling facility.

6.2 Retention of trees along Alison Road

Figure 3.22 of the Project Modification Report outlines the potential impacts to vegetation and planted trees along Alison Road. Since the exhibition of the Modification Report, ongoing design development has identified that a reduction in the number of trees is expected to be affected by the proposed modification. Notably, this includes the retention of many of the ‘Maidens Row’ paperbark trees located between Alison Road and the western edge of Kensington Ponds in Centennial Parklands.

The revised figure which outlines the trees to be retained is shown in Figure 6.2 below.

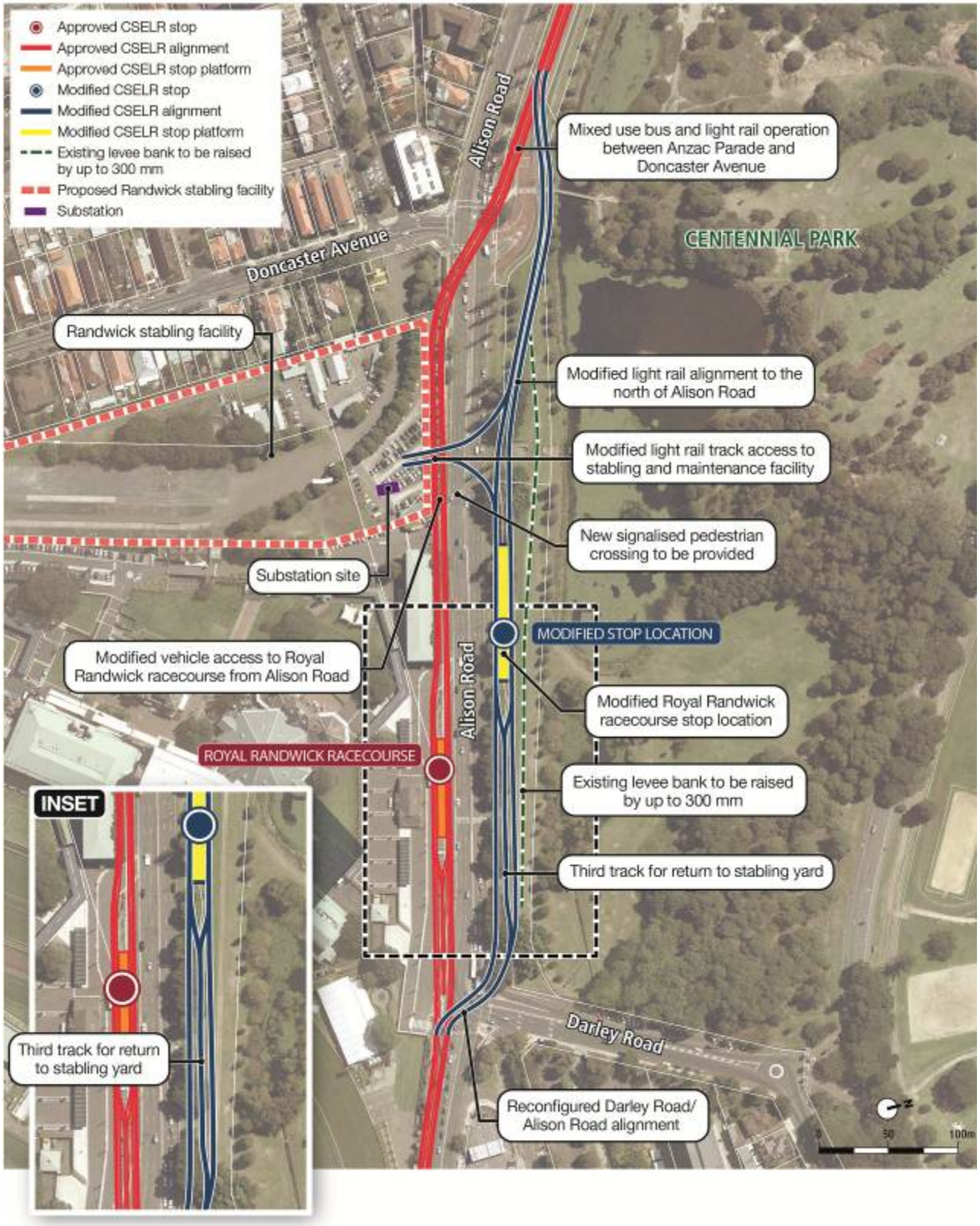


Figure 6.1 Clarification on the position of the turn back track at Royal Randwick Racecourse stop

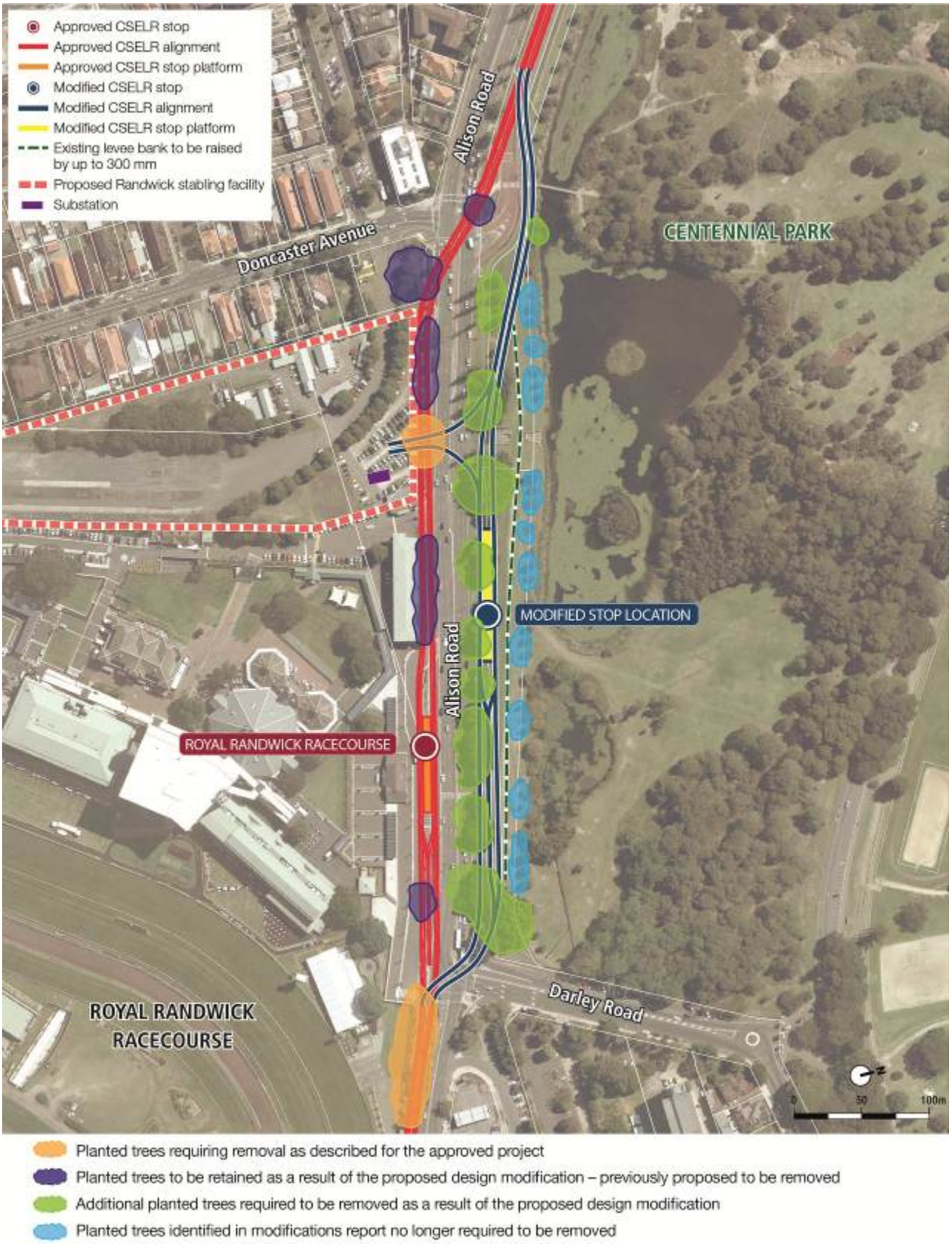


Figure 6.2 Clarification on planted tree impacts along Alison Road realignment

6.3 Examples of wire-free infrastructure around the world

Section 3.9 of the Modification Report outlines the proposed wire-free infrastructure to be used within the CBD. The Modification Report provided examples of where this technology has been applied to rail systems in Europe and included Nice as an example. The wire-free rail system in Nice does not utilise the preferred technology, Alstom's ground level power supply Aesthetic Power Solution (APS), but is operated using on-board batteries.

The identification of Nice as an example of where APS has been implemented was incorrect. The system has been used in the city of Tours in France, a town of well-preserved cultural heritage.

6.4 Operational noise treatments

As part of the preparation of the Modification Report, Transport for NSW has undertaken further preliminary acoustic modelling of the proposed longer vehicles and has identified areas where exceedances of the Rail Infrastructure Noise Guideline criteria are likely to occur (refer to Section 3.6 of Modification Report) (Transport for NSW 2014b).

The preliminary modelling has identified an additional 86 exceedance areas which may require architectural treatment to mitigate operational noise impacts.

The process for implementing these architectural treatments for all identified exceedance locations will involve the following steps:

- Detailed design of the alignment, expected to be completed by August 2015.
- Undertake an Operational Noise and Vibration Review (ONVR) based on the detailed design and proposed LRV models, expected to commence in August 2015 and be completed by October 2015.
- Identification of properties requiring architectural treatments based on the detailed design.
- Consultation with the owners/occupiers of relevant properties and initial property inspection to identify the most appropriate treatment for the property.
- Installation of property treatment.

As stated in Note 1 of Table 3.4 in the Modification Report, The potential number of additional exceedances (86 receptors) is represented by 'blocks' of receptors and not individual dwellings within blocks or buildings (such as individual properties within a terrace or individual units within an apartment building) affected by the proposed modification. The actual number of affected receivers in any block would be confirmed as part of the ongoing detailed design of the project as part of the ONVR required by condition C12 of the planning approval.

6.5 Staff facilities building at Moore Park stop

As a result of design development a need for as special event staff facilities block and supporting control centre has been identified. It is proposed that these facilities would be located in a small building within the approved project footprint at the Moore Park stop.

The building is expected to comprise a kitchenette, toilet facilities and storage for use by special events service staff. In addition it is proposed that a back-up control and communications room would be located within the building.

The staff facilities block is located at the Moore Park stop to:

- Provide facilities for drivers and special events staff at the last stop along the main line before branching during special events. The facilities need to be located at a stop as the LRV is unable to pause for the driver to use the facilities if they were to be located at intermediate locations along the alignment.

- Provide facilities for event management staff and a supporting operations control centre when in high event mode. This would double as a back-up control centre should the main facility fail.

The design for the block has yet to be finalised. Contextual designs and finishes for ancillary buildings such as the amenities block, will be developed during the detailed design phase, with materials and finishes to draw on the palette and architectural style of the setting. Stop Access and Design Plans will also be prepared in accordance with Condition B27 of the planning approval during the detailed design stage. The plans will be prepared in consultation with relevant reference groups and major landowners adjoining stop locations, including the CPMPT.

7. Environmental management measures

This chapter presents the environmental management measures that are proposed to be implemented to reduce the identified environmental impacts associated with the proposed modifications.

7.1 Overview

7.1.1 Environmental management measures

Chapter 4 of the CSELR Modification Report (Transport for NSW, 2014) documented a range of (updated) environmental management measures that will be implemented to reduce the identified environmental and social impacts associated with the construction and operational phases of the CSELR Project.

The management and mitigation commitments documented in Tables 4.1 to 4.3 of the Modification Report have been considered and revised (where necessary) in response to the submissions received during the public display of the modification report. New measures that are proposed have been denoted in Tables 7.1 to 7.3 with underlined text, while any environmental management measure proposed to be removed (or have text deleted from the measure) has been shown with ~~strikethrough text~~.

7.1.2 Conditions of approval

The project, including all proposed modifications, would also be undertaken in accordance with all of the current conditions of approval identified in the State Significant Infrastructure approval (SSI-6042), granted on 4 June 2014.

Following determination of the proposed modifications (if approved), any additional conditions of approval (subsequent to the current conditions of approval for the project) would also guide the subsequent phases of the project. All work associated with the CSELR Project will be in accordance with the specified environmental management measures and all applicable conditions of approval.

7.2 Detailed design

The environmental management measures to be implemented during the detailed design phase with respect to the proposed modifications are listed in Table 4.1.

Table 7.1 Revised environmental management measures for the proposed modifications – detailed design

CSELR EIS ID	Environmental management measure – detailed design and pre-construction phase	Modification(s) to which the management measures would be applicable
Traffic, transport and accessibility		
A.3	The key actions specified in the detailed access plans for each of the proposed light rail stops, included in Section 7.3 of Technical Paper 1 (*Transport Operations Report*) of the CSELR EIS (addressing potential multimodal access, customer safety, or to improvements to access) would be further considered during detailed design.	▪ Grosvenor Street stop arrangement ▪ Moore Park stop arrangement ▪ Increase in the size of LRVs and stop platforms
A.10	Opportunities to stage construction works on the Anzac Parade and Alison Road corridors would be investigated during detailed design to provide additional capacity during construction and reduce increases to travel time.	▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Revised construction methodology for the tunnel under Anzac Parade
A.12	Tidal flow operation on Anzac Parade during construction would be considered, to provide a bus priority lane in the peak direction and protect bus journey time reliability along the corridor during construction works. This would involve further review by RMS, including traffic modelling, to assess the impacts and feasibility in more detail. The final bus priority measures to be implemented would be determined in consultation with Randwick City Council and Roads and Maritime Services.	▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Revised construction methodology for the tunnel under Anzac Parade
A.13	A single lane would be retained along the entire length of the existing Anzac Parade Busway and complementary bus priority measures on Alison Road. Potential mitigation measures would be developed to allow bus priority lanes in the peak direction during peak hours together with bus priority measures at the intersection of Anzac Parade and Alison Road. These priority measures would be explored as part of the Traffic Management Plans in consultation with the bus operators and the relevant Road Authority.	▪ Moore Park stop arrangement ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection

CSELR EIS ID	Environmental management measure – detailed design and pre-construction phase	Modification(s) to which the management measures would be applicable
A.14	Opportunities for alternative locations of the pedestrian/cycleway path adjacent to Martin Road (including the western side of Martin Road) would be examined during detailed design to with the intention of minimising impacts to the existing trees in this location.	▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection
Noise and vibration		
B.1	The predicted noise and vibration levels in the EIS, and the determination of as-required noise and vibration mitigation, would be verified during the detailed design phase of the proposal. An Operational Noise and Vibration Review would be prepared to determine the final design of mitigation measures.	▪ Increase in the size of LRVs and stop platforms
B.11	Additional assessment of construction road traffic noise impacts of night-time truck movements (if required) would be undertaken at detailed design stage when the finalised traffic plan is determined.	▪ Increase in the size of LRVs and stop platforms ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Revised construction methodology for the tunnel under Anzac Parade ▪ Substation locations
B.12	During detailed design, further assessment of the operational noise impacts on sensitive receivers would be undertaken in accordance with the NSW *Road Noise Policy*. This assessment would be limited to roads that result in increased traffic due to road closures or diversions directly as a result of the CSELR proposal.	▪ Increase in the size of LRVs and stop platforms ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Revised construction methodology for the tunnel under Anzac Parade ▪ Substation locations
Visual and landscape		
C.1	Detailed design would consider opportunities for siting mature Fig trees within the Royal Randwick racecourse grounds in the vicinity of the intersection of Wansey Road and Alison Road, and in the Wansey Road nature strip (between Arthur and High streets) to recreate the canopy of the lost street trees on the western side of Wansey Road in consultation with the Australian Turf Club.	▪ Increase in the size of LRVs and stop platforms ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse and stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Increase to existing levee bank in Centennial Park

CSELR EIS ID	Environmental management measure – detailed design and pre-construction phase	Modification(s) to which the management measures would be applicable
Built and non-indigenous heritage		
D.11	The detailed design of the CSELR would aim to retain as many as practicable of the significant trees along the route, where feasible without compromising rail safety, in particular at the Royal Randwick racecourse.	▪ Moore Park stop arrangement ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Increase to existing levee bank in Centennial Park ▪ Revised construction methodology for the tunnel under Anzac Parade
~~**D.13**~~	~~The following measures would be implemented for Tay Reserve:~~ ~~▪ Detailed design of the CSELR proposal would minimise the area of Tay Reserve to be removed for the cross over at Anzac Parade.~~ ~~▪ A photographic archival recording of Tay Reserve would be undertaken prior to works commencing.~~	▪ *Note: this measure is no longer required due to the proposed realignment of the light rail tracks at the Anzac Parade/Alison Road intersection.*
D.15	Further investigation of the design of the relocated Wansey Road stop would be undertaken during detailed design with the aim of reducing or avoiding impacts on Wansey Cottage and significant trees in the racecourse.	▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop)
Safety and security and hazard and risk		
E.1	Detailed design would incorporate the principles of Crime Prevention through Environmental Design (CPTED). This would include, but not be limited to, a full review and assessment in accordance with the CPTED principles of the each of the proposed stops and the proposed pedestrian bridge over Anzac Parade.	▪ Grosvenor Street stop arrangement ▪ Moore Park stop arrangement ▪ Increase in the size of LRVs and stop platforms
E.3	Transport for NSW would review potential options during detailed design to enhance the safe crossing of the light rail tracks by students at the Moore Park stop. This would include the use of the proposed subway in the morning and afternoon school peaks and other operational measures.	▪ Moore Park stop arrangement

CSELR EIS ID	Environmental management measure – detailed design and pre-construction phase	Modification(s) to which the management measures would be applicable
Regional land use and community outcomes and property acquisition		
F.1	Where property acquisition is required, it would be acquired in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*. A Property Acquisition Plan would be prepared as part of detailed design.	▪ Moore Park stop arrangement ▪ Increase in the size of LRVs and stop platforms ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Increase to existing levee bank in Centennial Park ▪ Substation locations
F.2	Transport for NSW would consult with directly affected land owners during the detailed design of the CSELR proposal.	
Hydrology, drainage and surface water quality		
G.1	For flood affected locations, the CSELR would be designed to ensure compliance with the *NSW Floodplain Development Manual* which includes a requirement to not increase flood levels above existing levels. Flood mitigation measures that could be considered include: ▪ increasing downstream drainage capacity ▪ diverting upstream flows around or under the track formation ▪ providing stormwater detention under or adjacent to the track formation.	▪ Increase to existing levee bank in Centennial Park
Groundwater		
H.1	Additional investigation/assessment of dewatering requirements for the construction of the Moore Park tunnel would be undertaken during detailed design and in consultation with the NSW Office of Water. Groundwater modelling would be undertaken to determine the potential impacts from the permanent interruption of groundwater flow, including the extent of the drawdown and the potential for settlement.	▪ Revised construction methodology for the tunnel under Anzac Parade
H.2	A dewatering system for excavations proposed in the Botany Sands aquifer would be developed. This could comprise the reinjection of groundwater back into the same aquifer to minimise the spatial extent of drawdown (and therefore settlement).	▪ Revised construction methodology for the tunnel under Anzac Parade

CSELR EIS ID	Environmental management measure – detailed design and pre-construction phase	Modification(s) to which the management measures would be applicable
Planted trees		
N.2	The large mature Figs adjacent to Anzac Parade, Alison Road, Wansey Road, within the George Dan Reserve and within the proposed Randwick stabling facility would be reviewed by a suitably qualified arborist during detailed design to confirm if these trees could be retained and/or relocated. This review could include root zone mapping of potentially impacted Figs to determine the likely extent of their tree roots adjacent to and beneath the road surface (This would be undertaken in conjunction with the mitigation measure identified in mitigation measure C.1). Where feasible semi-mature Figs directly impacted by the construction of the CSELR proposal would be transplanted to an alternative suitable location, in consultation with CPMPT and Roads and Maritime Services (where Fig trees are proposed to be planted within the Anzac Parade road corridor). A detailed relocation and maintenance strategy for the impacted trees would be developed during detailed design, in consultation with CPMPT, Randwick City Council and the Australian Turf Club where required.	▪ Moore Park stop ▪ Increase in the size of LRVs and stop platforms ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Increase to existing levee bank in Centennial Park
N.3	Qualified arboricultural advice would be employed during detailed design and construction to confirm the expected impacts of the CSELR proposal on planted trees and to identify appropriate mitigation measures for such impacts. The advice would include root zone mapping of potentially impacted trees to determine the likely extent of their roots. This assessment would employ the most recent methods for assessing trees and impacts. The aim of this additional assessment would be to reduce the number of planted trees that would be impacted by the CSELR proposal.	▪ Moore Park stop arrangement ▪ Increase in the size of LRVs and stop platforms ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Increase to existing levee bank in Centennial Park

7.3 Construction

The environmental management measures to be implemented during the construction phase with respect to the proposed modifications are listed in Table 4.2.

Table 7.2 Revised environmental management measures for the CSELR proposal – construction

CSELR EIS ID	Environmental management measure – construction phase	Modification(s) to which the management measures would be applicable
Traffic, transport and accessibility		
Q.4	An application to the NSW Roads and Maritime Services would be made for any proposed adjustment to speed limits whether they are temporary (such as those required for short-term road occupancies), longer term (such as for the duration of a construction stage) or permanent. No adjustments to speed limits would be undertaken without an approved speed zone authorisation.	▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Revised construction methodology for the tunnel under Anzac Parade
Q.48	An alternate path would be provided for pedestrians and cyclists at the location where the proposed CSELR route crosses over the existing shared pedestrian and cycle path located adjacent to the busway within Moore Park. This alternate path would be provided within the same segment of the intersection and would not require crossing of Anzac Parade or Alison Road.	▪ Moore Park stop arrangement ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection
Q.51	The construction of the CSELR across Alison Road in the Randwick Precinct would be undertaken in stages to maintain a minimum of two lanes of travel in each direction during each works stage. A minimum of two traffic lanes would be retained along Anzac Parade in each direction within the Kensington/Kingsford Precinct. Where achievable, an additional city-bound lane would be provided which would operate as a peak period bus only lane and off-peak parking zone.	▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Revised construction methodology for the tunnel under Anzac Parade
Q.59	During events scheduled at Royal Randwick Racecourse, construction activities adjacent to the main entrance to the racecourse on Alison Road would be reviewed so as to not significantly impact on the roundabout operation at the intersection of Ascot Street and Doncaster Avenue, and to maintain safe pedestrian access across the worksite.	▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop)

CSELR EIS ID	Environmental management measure – construction phase	Modification(s) to which the management measures would be applicable
Q.60	The proposed signalisation of the Wansey Road/Alison Road intersection would be implemented as part of the early works so that pedestrians can safely cross Alison Road during the construction phase.	▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop)
Q.66	CSELR construction works at the Alison Road/Anzac Parade intersection and within the wider Kensington/ Kingsford Precinct would be undertaken during week nights and weekends to minimise the impact on adjacent properties and the road network.	▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection
Property and land use		
R.2	Consultation would be undertaken with the Centennial and Moore Park Trust as the key land holder for a majority of the land uses impacted by the CSELR proposal within the Moore Park Precinct.	▪ Moore Park stop arrangement ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Increase to existing levee bank in Centennial Park ▪ Revised construction methodology for the tunnel under Anzac Parade
R.3	For the Randwick precinct, consultation would be undertaken with agencies such as Randwick City Council, utilities providers and other potential stakeholders such as the UNSW, the ATC and the Prince of Wales Hospital throughout construction of the proposal to minimise ongoing impacts to existing land uses.	▪ Moore Park stop arrangement ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Increase to existing levee bank in Centennial Park ▪ Revised construction methodology for the tunnel under Anzac Parade
Noise and vibration		
S.1	A Construction Noise and Vibration Management Plan (CNVMP) would be developed to document all necessary measures to manage and mitigate potential noise and vibration levels during standard daytime and out of hours construction activities. In general this would include some or all of the following measures: ▪ For construction concentrated in a single area, such as at the stops, worksites, substation construction-sites, bridge sites and stabling/maintenance facility locations, temporary acoustic fencing/barriers around the site perimeter would be considered where feasible and reasonable to mitigate off-site noise levels. ▪ Given the potentially high noise levels at residential receptors, adherence to daytime construction hours is recommended for excavation, demolition or rock breaking activities, and for activities concentrated in a single area (i.e. activities that do not move along the alignment, and do not require out of hours activities for safety reasons or to minimise disruption to road networks).	▪ Moore Park stop arrangement ▪ Increase in the size of LRVs and stop platforms ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Increase to existing levee bank in Centennial Park ▪ Revised construction methodology for the tunnel under Anzac Parade ▪ Substation locations

CSELR EIS ID	Environmental management measure – construction phase	Modification(s) to which the management measures would be applicable
	▪ Noise generating night works should be programmed to minimise the number of consecutive nights work impacting the same receptors. ▪ Consultation would be undertaken with nearby local schools prior to noise intensive works to ensure impacts are minimised during examination periods and/or other critical periods in the school calendar (where works are predicted to exceed the relevant construction noise management level for this receiver). Consultation with nearby childcare centres to be undertaken to potentially avoid noisy works during rest periods at the centres. ▪ Where feasible, simultaneous operation of noisy plant in close proximity to sensitive receptors would be avoided. ▪ Equipment which is used intermittently is to be shut down when not in use. ▪ Where possible, the offset distance between noisy plant items and nearby noise sensitive receptors should be as great as possible. ▪ Where possible, equipment with directional noise emissions should be oriented away from sensitive receptors. ▪ Regular compliance checks on the noise emissions of plant and machinery regularly used to determine whether such plant comply with predicted noise emissions or are higher than predicted. Compliance checks would also be used to identify defective silencing equipment on the items of plant. Ongoing noise monitoring during construction at sensitive receptors during critical periods to identify and assist in managing high risk noise events. ▪ Reversing of equipment should be minimised so as to prevent nuisance caused by reversing alarms. ▪ Loading and unloading should be carried out away from sensitive receptors, where practicable. ▪ Work should be scheduled to provide respite periods from the noisiest activities, and impacted residents should be communicated with to clearly explain the duration and noise levels for the works. ▪ Where all feasible and reasonable practices have been applied and noise would be more than 5 dB above the noise affected level, the proponent should negotiate with the community to determine the schedule for the works or provide respite to occupants where sleep disturbance is likely to occur.	

CSELR EIS ID	Environmental management measure – construction phase	Modification(s) to which the management measures would be applicable
S.3	Site specific CNVMPs would be developed. These would provide a detailed assessment of potential noise levels and site specific measures to control potential noise impacts and minimise the potential for disturbance at affected receptors. A range of feasible and reasonable construction noise mitigation measures would be provided. Within the Randwick Precinct, the CNVMP would include communication with the owners of the horse stables near the proposed works to clearly explain the timing, duration and likely noise levels for the works.	▪ Moore Park stop arrangement ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Increase to existing levee bank in Centennial Park
S.6	During construction, attended measurements would be undertaken at the commencement of rockbreaking activities in the vicinity of the premises listed in Table 64 of Technical Paper 11 (*Noise and Vibration Impact Assessment*) of the EIS, to assist in evaluating and managing construction ground-borne noise impacts in conjunction with the premises operators. Alternative construction methods such as smaller rockbreakers, rock saws or respite periods would be considered if required to minimise noise impacts. In the event that lower impact equipment cannot be substituted, all efforts would be made to reschedule work to less sensitive times in consultation with affected communities.	▪ Revised construction methodology for the tunnel under Anzac Parade
S.7	Where vibration intensive construction activities are proposed within 100 metres of sensitive receptors, these works would be confined to the less sensitive daytime period where possible. The potential impacts from vibration are to be considered in the site-specific CNVMPs. In general, mitigation measures that would be considered include: ▪ Relocate vibration generating plant and equipment to areas within the site in order to lower the vibration impacts. ▪ Investigate the feasibility of rescheduling the hours of operation of major vibration generating plant and equipment. ▪ Use lower vibration generating items of excavation plant and equipment (e.g. smaller capacity rockbreaker hammers). ▪ Minimise consecutive works in the same locality (if applicable). ▪ Use dampened rockbreakers and/or 'city' rockbreakers to minimise the impacts associated with rockbreaking works. ▪ If vibration intensive works are required within the safe working distances, vibration monitoring or attended vibration trials would be undertaken to ensure that levels remain below the cosmetic damage criterion. ▪ Building condition surveys would be completed both before and after the works to identify existing damage and any damage due to the works.	▪ Increase in the size of LRVs and stop platforms ▪ Revised construction methodology for the tunnel under Anzac Parade

CSELR EIS ID	Environmental management measure – construction phase	Modification(s) to which the management measures would be applicable
	▪ Measurements of existing ambient vibration levels would be undertaken at receptors with vibration sensitive equipment during the detailed design phase. This information would be used to inform the site-specific CNVMPs for works near these locations.	
Planted trees		
T.1	Trees that would not be directly impacted by the proposed CSELR permanent works (e.g. overhead wires, substations, light rail stops, kerb realignments, service relocations, etc.) — or significantly impinge on required clearances to such infrastructure, such that the tree would need to be removed to allow for the safe operation of the CSELR — would be retained. All trees to be retained would be protected prior to the commencement of construction in accordance with AS4970 the Australian Standard for *Protection of Trees on Development Sites and Adjoining Properties*. Some trees would require one-off or ongoing maintenance, for example pruning of low branches that would interfere with the overhead wiring. Where pruning of trees is required, a qualified arborist would be engaged to assess the health and condition of the tree and to plan and undertake any pruning works.	▪ Moore Park stop arrangement ▪ Increase in the size of LRVs and stop platforms ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Increase to existing levee bank in Centennial Park ▪ Revised construction methodology for the tunnel under Anzac Parade ▪ Substation locations
T.2	Exclusion fencing would be established around the drip lines of each tree to be retained to minimise the risk of impact to the viability of the trees. Where impact to the drip line area cannot be avoided (due to space constraints), opportunities to raise construction facilities (e.g. demountable) above the ground level would be investigated so as to avoid impacting on the underlying tree roots, in accordance with *Australian Standard AS 4970 Protection of Trees on Development Sites.*	▪ Moore Park stop arrangement ▪ Increase in the size of LRVs and stop platforms ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Increase to existing levee bank in Centennial Park ▪ Revised construction methodology for the tunnel under Anzac Parade
T.3	Where the loss of trees is unable to be mitigated, trees removed as a result of the CSELR would be offset in accordance with the Transport for NSW *Vegetation Offset Guide* (Transport for NSW 2013), which includes a principle of replacing 'the amenity/visual landscape value of vegetation removed' even if the vegetation may not have significant ecological value. Replacement plantings would be agreed in accordance with the CSELR Landscape Strategy (Appendix F of the EIS) and consultation with relevant stakeholders. Replacement plantings would be maintained by the Operator (or as otherwise agreed with any relevant stakeholders) for a period no greater than two years.	
T.4	Construction techniques that minimise impacts to tree root zones would be employed where practicable. This would include consideration of compaction and root bridging techniques, permeable paving, tunnel boring of services, hydro-excavation and careful root pruning). The use of low impact construction techniques (on existing tree roots) for installation of new services would also be considered, where appropriate and feasible.	

CSELR EIS ID	Environmental management measure – construction phase	Modification(s) to which the management measures would be applicable
T.7	Fig species (consistent with existing plantings) and *Lophostemon confertus* (Brush Box) would generally be used along Anzac Parade as replacement trees.	
T.8	Potential impacts to the large mature Figs adjacent to Anzac Parade would be reviewed by a suitably qualified arborist during detailed design, once the final tunnel construction technique has been determined. To minimise the potential impacts associated with dewatering activities on the viability of the surrounding Figs, an irrigation strategy would be developed for any Fig that is deemed to be at risk of being affected by a potential lowering of the water table.	
T.9	The health of Fig trees within Moore Park would be monitored by a suitable qualified arborist both during and post construction. Appropriate management responses would be developed by a suitably qualified arborist, in consultation with Moore and Centennial Parks Trust so as to minimise impacts to any potentially affected trees.	
T.12	Where possible, trees would be planted within the same locality from which they are removed.	
Visual and landscape		
U.16	Reinstate planting, where removed for construction purposes, on the periphery of Centennial Park in the Randwick Precinct in accordance with the Centennial Parklands Conservation Management Plan.	▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Increase to existing levee bank in Centennial Park ▪ Revised construction methodology for the tunnel under Anzac Parade
Built and non-Indigenous heritage		
V.1	The mitigation measures for Historical Archaeological Management Units (HAMUs) listed in section 6.2.2 of Technical Paper 5 (*Heritage Impact Assessment*) of the CSELR EIS would be implemented, in accordance with the HAMU zones documented in Figures 4.4 to 4.12 of Technical Paper 5 (*Heritage Impact Assessment*) of the CSELR EIS.	▪ Grosvenor Street stop arrangement ▪ Moore Park stop arrangement ▪ Increase in the size of LRVs and stop platforms ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Wire-free infrastructure within the CBD ▪ Increase to existing levee bank in Centennial Park ▪ Revised construction methodology for the tunnel under Anzac Parade ▪ Substation locations

CSELR EIS ID	Environmental management measure – construction phase	Modification(s) to which the management measures would be applicable
V.6	Works in George Street north HAMU, Ward Park HAMU, Devonshire Street Central HAMU (particularly in the location of the proposed substation), Devonshire Street East HAMU, Kensington/Kingsford HAMU and the University of NSW HAMU are likely to require some open area excavation and archival recording during site works, and post-excavation analysis and reporting. The nature and intactness of the archaeological resource may warrant interpretation. Advice from an archaeological specialist would be obtained where these areas are affected.	▪ Grosvenor Street stop arrangement ▪ Increase in the size of LRVs and stop platforms
V.9	The following mitigation measures would be implemented for the Moore Park West HAMU and Moore Park East HAMU: ▪ Works in this HAMU where air raid shelters were located are likely to require some open area excavation and archival recording during site works, as well as post excavation analysis and reporting (limited to the extent of the area affected by the CSELR proposal). The nature and intactness of the archaeological resource may warrant interpretation. ▪ Areas with nil archaeological potential would be managed in accordance with the outlined Zone 4 mitigation measures.	▪ Revised construction methodology for the tunnel under Anzac Parade ▪ Substation locations
V.20	The following mitigation measures would be implemented for Centennial Park, Moore Park, Queens Park and the Moore Park Conservation Area: ▪ The area required for excavation would be minimised to reduce the impact of the works on Moore Park. ▪ The size and form of the tunnel portal structures would be as recessive as possible to reduce permanent visual impacts on the landscape of Moore Park. Any new structures/infrastructure would be recessive and allow the broader landscape to remain the dominant feature. ▪ The location and design of the Moore Park stop would minimise impacts on significant views of the Sydney Cricket Ground and former RAS buildings from Anzac Parade and within Moore Park. ▪ Where feasible, areas excavated for construction of the CSELR would be reinstated to the current condition on completion of construction. This includes areas to be used for construction compounds/laydown areas. ▪ A photographic archival recording of the areas of Moore Park that would be subject to impacts from construction of the CSELR, including the Anzac Parade avenue of trees, would be undertaken prior to works commencing.	▪ Moore Park stop arrangement ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Increase to existing levee bank in Centennial Park ▪ Revised construction methodology for the tunnel under Anzac Parade

CSELR EIS ID	Environmental management measure – construction phase	Modification(s) to which the management measures would be applicable
	▪ Works in this HAMU may require some open area excavation and archival recording during site works, as well as post excavation analysis and reporting (limited to the extent of the area affected by the CSELR proposal). The nature and intactness of the archaeological resource may warrant interpretation.	
V.21	Where significant trees must be removed in the Martin Road Conservation Area suitable replacements would be made, where possible, to screen the conservation area from the CSELR.	▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection
Groundwater		
Z.1	A construction groundwater management plan would be prepared prior to construction, and would detail the control measures that aim to minimise potential impacts to groundwater resources and receiving environments during construction. The purpose of the plan is to provide practical impact mitigation principles and measures for the design and construction of the proposal consistent with relevant legislation and standard guidelines.	▪ Moore Park stop arrangement ▪ Revised construction methodology for the tunnel under Anzac Parade
Z.2	The construction groundwater management plan would include details of a groundwater monitoring program, which would be implemented prior to construction to identify changes in groundwater quality and levels during the construction. The monitoring program would be developed in consultation with the NSW Office of Water.	▪ Moore Park stop arrangement ▪ Revised construction methodology for the tunnel under Anzac Parade
Z.3	Excavation techniques would be adopted to minimise impacts on aquifers.	
Z.4	Groundwater encountered during the construction of the proposal would be tested, managed and disposed of in accordance with the *Waste Classification Guidelines* (EPA 2014) and Transport for NSW's (Transport for NSW 2012) *Water Discharge and Re-use Guideline*. Groundwater would be disposed to ensure it does not cause the pollution of waters in accordance with Section 120 of the *Protection of the Environment Operations Act 1997*.	▪ Moore Park stop arrangement ▪ Revised construction methodology for the tunnel under Anzac Parade
Z.6	Construction techniques would aim to reduce the volume of dewatering required at the deeper sections of the tunnel.	

CSELR EIS ID	Environmental management measure – construction phase	Modification(s) to which the management measures would be applicable
Aboriginal heritage		
AA.1	All contractors would receive a Heritage induction advising and informing them of the archaeological potential and actions to be implemented in the event of any unexpected remains.	▪ Grosvenor Street stop arrangement ▪ Moore Park stop arrangement ▪ Increase in the size of LRVs and stop platforms ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Wire-free infrastructure within the CBD ▪ Increase to existing levee bank in Centennial Park ▪ Revised construction methodology for the tunnel under Anzac Parade ▪ Substation locations
AA.2	A qualified archaeologist would be nominated and available to attend in the event that unidentified archaeological remains are discovered during construction.	
AA.4	Should Aboriginal objects or other archaeological evidence be identified in these areas during works, works would cease in the immediate area and the archaeologist contacted to assess the evidence. Additional investigation, such as salvage excavation, may be required.	

7.4 Operation

The environmental management measures to be implemented during the operational phase with respect to the proposed modifications are listed in Table 4.3.

Table 7.3 Revised environmental management measures for the CSELR proposal – operation

CSELR EIS ID	Environmental management measure – operational phase	Modification(s) to which the management measures would be applicable
Traffic, transport and access		
AH.6	The following intersections would be signalised as part of the CSELR to manage light rail conflicts with pedestrian and traffic movements: ▪ Devonshire Street/Marlborough Street intersection. ▪ Devonshire Street/Bourke Street intersection. ▪ South Dowling Street southbound and northbound traffic lanes at the CSELR crossing point. ▪ Wansey Road/Alison Road intersection would be signalised (on all arms) to provide pedestrian access from the residential catchments in the north and east to the Wansey Road stop. ▪ High Street/Wansey Road intersection would be signalised to accommodate pedestrians and the light rail turning movements between Wansey Road and High Street. Pedestrian crossings would be provided across Wansey Road and the eastern arm of High Street as a minimum, which would replace the existing zebra crossing on High Street. ▪ High Street/Hospital Road intersection. ▪ High Street/Clara Street intersection. ▪ The existing Nine Ways roundabout would be reconstructed and upgraded to incorporate traffic signals.	▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop)
AH.23	The off-road shared pedestrian and cyclist path between Darley Road and Wansey Road would be reinstated between the proposed CSELR route and Royal Randwick racecourse.	▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Increase to existing levee bank in Centennial Park

CSELR EIS ID	Environmental management measure – operational phase	Modification(s) to which the management measures would be applicable
Noise and vibration		
AI.1	For ~~the Surry Hills Precinct, at~~ locations where the *Rail Infrastructure Noise Guideline* (RING) (EPA 2013) operational noise trigger levels are predicted to be exceeded by more than 2 dB, a detailed investigation of feasible and reasonable noise mitigation measures would be undertaken to minimise the worst-case predicted noise levels. As detailed further in ~~Chapter 13 of the EIS and~~ Technical Paper 11 (*Noise and Vibration*) of the EIS, potential measures to be considered include: ▪ more stringent specification of LRV noise emissions in the procurement process, which would only be recommended following consultation with rolling stock providers to establish whether more stringent noise specifications could feasibly be achieved ▪ higher absorption track forms, including those described in the EIS ▪ speed restrictions to 30 kilometres per hour during the night-time between the Central Railway Station and the Surry Hills stops (with the exception of during special events) ▪ minimising wheel and rail roughness through specifications for CSELR operations, such as maintaining the rail surface (via rail grinding) and train wheel conditions (via a wheel lathe) in accordance with defined acceptance standards ▪ individual property treatments, in the event that the above alternatives are determined as not feasible or reasonable. The final form of the proposed mitigation measures would be documented in the Operational Noise and Vibration Review, as required as part of mitigation measure B.1.	▪ Increase in the size of LRVs and stop platforms
Visual and landscape		
AJ.3	Use semi-mature to mature tree specimens, in accordance with the Transport for NSW '*Vegetation Offset Guide*' (Transport for NSW, 2013d) and the Landscape Strategy (Appendix F of the EIS) to replace the character of those lost on a 'like for like' basis, in consultation with the City of Sydney and Randwick City Council.	▪ Moore Park stop arrangement ▪ Increase in the size of LRVs and stop platforms ▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Increase to existing levee bank in Centennial Park ▪ Revised construction methodology for the tunnel under Anzac Parade

CSELR EIS ID	Environmental management measure – operational phase	Modification(s) to which the management measures would be applicable
AJ.10	Provide a boulevard of street trees along Anzac Parade to improve the streetscape and extend the ceremonial avenue of street trees.	▪ Realignment of light rail alignment along Alison Road (including the relocation of Royal Randwick Racecourse stop) ▪ Realignment of light rail track at the Anzac Parade/Alison Road intersection ▪ Revised construction methodology for the tunnel under Anzac Parade
Hazards and risks		
AL.1	Targeted road safety campaigns would be used in the lead up to the opening of the CSELR and during operation to raise awareness around the operation of LRVs and to promote the safe operation of the proposal. This would focus on raising awareness and promoting safe behaviours in shared zones and at key CSELR crossings.	▪ Grosvenor Street stop arrangement ▪ Increase in the size of LRVs and stop platforms ▪ Wire-free infrastructure within the CBD

8. Justification and conclusion

The CSELR Project Modification Report provided an assessment of the likely environmental impacts of 10 proposed modifications to the approved project (SSI-6042). This included an assessment of issues raised by project partners, government agencies and the community following exhibition of the modifications as well as Transport for NSW's response to these issues.

The CSELR Project Modifications report was publicly exhibited between 3 December and 17 December 2014. The CSELR Project Modifications report was made available for information and comment on the DP&E website, and at seven locations including the Department of Planning & Environment, relevant councils and other publically available locations.

Submissions from government agencies, special interest groups and the community were received by the DP&E. A total of 118 submissions were received. Of these submissions, 4 comprised responses from project partners and 2 responses were received from other government agencies. These responses included the following:

- City of Sydney Council
- Randwick City Council
- University of NSW (UNSW)
- Centennial Parklands
- Sydney Water
- NSW Environment Protection Authority (EPA).

A total of 112 submissions were received from the community, community groups and/or businesses. Of the community submissions, 12 submissions were received from special interest groups, and 4 submissions were received from community action groups.

Most community submissions were concerned about the proposed modifications with respect to traffic, transport, and access issues, proposal design and operations issues and impacts to planted trees. Concerns regarding the planning approvals process (regarding timing of the exhibition), the need to further consider proposal alternatives, project justification, potential safety implications to pedestrians impacts and potential flooding impacts along Alison Road were also raised as important issues.

Key issues of most concern to the community included:

- impacts to existing pedestrian paths and cycleways, in particular as a result of the proposed modification to the Royal Randwick Racecourse stop along the boundary of Centennial Park
- concerns regarding the reduced safety for pedestrians using or accessing the revised stop Royal Randwick Racecourse stop location
- concerns over the increase in LRV length and the implications this might have for transit of intersections and waiting traffic

- objection to moving the alignment into Centennial Park and the adverse effects to the parkland that have the potential to occur as a result of the modification
- concern that longer LRVs would create excessive noise and disruption to the residents along the route
- impacts to planted trees including concerns regarding the quality of replacement trees proposed
- the potential impacts of the proposed modification along Alison Road and the increased added risk of flooding as a result changes to the flood levee.

The proposed modification would reduce the overall environmental impact of the approved CSELR Project or would provide an improved overall project outcome compared to the design of the approved project.

It is recommended the proposed modifications, as described in the Modification Report, and supported by this Submissions Report, should be submitted for determination by the Minister for Planning.

9. References

(NSW) Department of Environment and Climate Change (DECC) 2009, *Interim Construction Noise Guideline*.

NSW Government 2012a, *NSW Long Term Transport Master Plan*, December 2012.

NSW Government 2012b, *Sydney's Light Rail Future: Expanding Public Transport, Revitalising Our City*, December 2012.

NSW Government 2013, *Sydney City Centre Access Strategy*. December 2013.

NSW Government 2014, *A Plan for Growing Sydney*, December 2014.

Transport for NSW 2013a, *Vegetation Offset Guide*, April 2013.Transport for NSW 2013b, *CBD and South East Light Rail Project State Significant Infrastructure Application, Supporting Document*, June 2013.

Transport for NSW 2013b, *CBD and South East Light Rail Project – Environmental Impact Statement*, November 2013.

Transport for NSW 2014a, *CBD and South East Light Rail Project – Environmental Impact Statement Submissions Report*, March 2014.

Transport for NSW 2014b, *CBD and South East Light Rail Project State Significant Infrastructure Approval (SSI-6042) – Modification Report*, December 2014.

Appendix A

Key issue and sub issue categories

Key issue and sub-issue categories

Table A.1 Key issue and sub-issue categories

Key issue	Sub issue(s)
Planning and statutory requirements	Assessment process and documentation
	Planning approvals process
	Contracts
	Did not address previously raised concerns
Community and stakeholder consultation	Consultation regarding the proposed modifications
	General concerns regarding Project consultation
Proposal alternatives	Alternative modes
	Stop and maintenance/stabling location alternatives
	Route alignment alternatives
Proposal need and justification	Need for the proposal
	Patronage/growth forecasts
	Project cost and value for money
Proposal design and operations	Catenary and APS
	Capacity-related issues
	Landscaping and public domain
	Corridor and alignment
	Light rail vehicles
	Breakdowns
	Frequency of service and trip duration
	Randwick Stabling Facility
	Light rail alignment
	World Square stop removal
	Subway access at Moore Park
	Accessibility
	Traffic/bus/heavy rail integration
	Moore Park tunnel
	Retaining wall along Alison Road
	Road configuration changes
	Pedestrian Bridge – Moore Park

Key issue	Sub issue(s)
Proposal construction	Construction compounds
	Project boundary
Traffic, transport and access	Traffic and access issues in operation
	Pedestrian and cyclist impacts in operation
	Bus impacts
	Intersection performance
	Assessment approach
	Other general traffic, transport and access
Land use and property	Land use impacts – general/other
Noise and vibration	General noise and vibration concern
	Noise impacts – operation
	Vibration impacts – operation
Planted trees	Impacts on trees – along the CSELR alignment
	Tree replacement/mitigation
Visual and landscape character	General visual amenity concern
	Visual impacts – operation
Built and non-Indigenous heritage	Built and landscape heritage impacts - operation
Socio-economic	Impacts to local businesses – operation
Ground and surface water	Ground water impacts – operation
	Surface water impacts – operation
Land stability, soils and contamination	Impact assessment approach
	Land stability and soil impacts - operation
Biodiversity	General biodiversity impacts
Waste, energy and resources	Management and mitigation
Hazards and risks	General pedestrian impacts
	Pedestrian crossing of Alison Road
	Moore Park stop pedestrians
	Other operational hazards
Cumulative impacts	Cumulative impacts – operation
Issues outside the scope of the proposed modifications	Car parking
	High Cross Park
	Other general comments

Appendix B

Table of issues per community submission

Table of issues per community submission

Table B.2 Table of issues per community submission

Sub. no.	Submitter	Key issue	Sub-issue	Section
1	UNSW	Refer to Chapter 4		
2	Community member	Proposal design and operations	Retaining wall along Alison Road	5.5.16
		Planted trees	General planted tree impacts	5.10
		Other issues raised	Other general issues	5.21
3	Community member	Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Pedestrian and cyclist impacts in operation	5.7.2
4	Community member	Project justification and need	Project cost and value for money	5.4.3
		Proposal design and operations	Light rail vehicles	5.5.5
			Breakdowns	5.5.6
5	Community member	Planning and statutory requirements	Assessment process and documentation	5.1.11
			Planning approvals process	5.1.2
		Community and stakeholder consultation	General concerns regarding Project consultation	5.2.2
		Project alternatives	Alternative modes	5.3.1
		Project justification and need	Need for the proposal	5.4.1
		Proposal design and operations	Capacity-related issues	5.5.2
			Light rail vehicles	5.5.5
			World Square stop removal	5.5.11
		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
			Intersection performance	5.7.4
		Land use and property	General land use and property impacts	5.8
		Noise and vibration	General noise and vibration impacts	5.9
		Planted trees	General planted tree impacts	5.10
6	Community member	Project justification and need	Need for the proposal	5.4.1
7	Community member	Planning and statutory requirements	Planning approvals process	5.1.2
			Contracts	5.1.3

Sub. no.	Submitter	Key issue	Sub-issue	Section
		Community and stakeholder consultation	Consultation regarding the proposed modifications	5.2.1
		Project justification and need	Project cost and value for money	5.4.3
		Proposal design and operations	Capacity-related issues	5.5.2
			Light rail vehicles	5.5.5
		Traffic, transport and access	Intersection performance	5.7.4
		Issues external to the CSELR Modification Report	Car parking	5.20.1
			Other issues external to the modifications report	5.20.3
		Other issues raised	Other general issues	5.21
8	Community member	Planning and statutory requirements	Planning approvals process	5.1.2
		Proposal design and operations	Retaining wall along Alison Road	5.5.16
		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Land use and property	General land use and property impacts	5.8
		Planted trees	General planted tree impacts	5.10
		Ground and surface water	General ground and surface water impacts	5.14
		Biodiversity	General biodiversity impacts	5.16
9	Community member	Planted trees	General planted tree impacts	5.10
10	Community member	Planning and statutory requirements	Assessment process and documentation	5.1.1
			Planning approvals process	5.1.2
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Other traffic, transport and access	5.7.6
		Ground and surface water	General ground and surface water impacts	5.14
		Biodiversity	General biodiversity impacts	5.16
11	Community member	Hazard and risk	General pedestrian impacts	5.18.1
12	Centennial Park Residents Association	Community and stakeholder consultation	Consultation regarding the proposed modifications	5.2.1
		Project alternatives	Alternative modes	5.3.1
		Project justification and need	Project cost and value for money	5.4.3
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Intersection performance	5.7.4
		Land use and property	General land use and property impacts	5.8

Sub. no.	Submitter	Key issue	Sub-issue	Section
		Planted trees	General planted tree impacts	5.10
		Socio-economic	General socio-economic impacts	5.13
		Hazard and risk	Pedestrian crossing of Alison Road	5.18.2
13	Coles Supermarket	Project justification and need	Need for the proposal	5.4.1
		Proposal design and operations	Catenary and APS	5.5.1
			Pedestrian bridge – Moore Park	5.5.18
		Traffic, transport and access	Intersection performance	5.7.4
		Noise and vibration	General noise and vibration impacts	5.9
		Planted trees	General planted tree impacts	5.10
14	Community member	Planning and statutory requirements	Planning approvals process	5.1.2
		Project alternatives	Stop and maintenance/stabling location alternatives	5.3.2
			Route alignment alternatives	5.3.3
		Project justification and need	Project cost and value for money	5.4.3
		Proposal design and operations	Light rail vehicles	5.5.5
			Stop location and design	5.5.10
		Other issues raised	Other general issues	5.21
15	Community member	Planning and statutory requirements	Planning approvals process	5.1.2
		Proposal design and operations	Stop location and design	5.5.10
		Noise and vibration	General noise and vibration impacts	5.9
16	People Unite Surry Hills	Planning and statutory requirements	Assessment process and documentation	5.1.1
		Project alternatives	Alternative modes	5.3.1
		Project justification and need	Patronage/growth forecasts	5.4.2
			Project cost and value for money	5.4.3
		Proposal design and operations	Capacity-related issues	5.5.2
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Pedestrian and cyclist impacts in operation	5.7.2
			Intersection performance	5.7.4
		Land use and property	General land use and property impacts	5.8
		Noise and vibration	General noise and vibration impacts	5.9

Sub. no.	Submitter	Key issue	Sub-issue	Section
		Planted trees	General planted tree impacts	5.10
		Socio-economic	General socio-economic impacts	5.13
		Ground and surface water	General ground and surface water impacts	5.14
		Issues external to the CSELR Modification Report	High Cross Park	5.20.2
		Other issues raised	Other general issues	5.21
17	Community member	Proposal design and operations	World Square stop removal	5.5.11
18	Community member	Planning and statutory requirements	Planning approvals process	5.1.2
		Community and stakeholder consultation	Consultation regarding the proposed modifications	5.2.1
		Project alternatives	Route alignment alternatives	5.3.3
		Proposal design and operations	Light rail vehicles	5.5.5
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
		Noise and vibration	General noise and vibration impacts	5.9
		Planted trees	General planted tree impacts	5.10
		Visual and landscape character	General Visual and landscape character impacts	5.11
		Hazard and risk	General pedestrian impacts	5.18.1
19	Community member	Other issues raised	General objection to the project	5.21
20	Community member	Planning and statutory requirements	Contracts	5.1.3
			Did not address previously raised concerns	5.1.4
		Proposal design and operations	Light rail vehicles	5.5.5
		Other issues raised	General objection to the project	5.21
21	Community member	Planning and statutory requirements	Contracts	5.1.3
		Community and stakeholder consultation	Consultation regarding the proposed modifications	5.2.1
		Proposal design and operations	Light rail vehicles	5.5.5
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Assessment approach	5.7.5
		Land use and property	General land use and property impacts	5.8
		Ground and surface water	General ground and surface water impacts	5.14

Sub. no.	Submitter	Key issue	Sub-issue	Section
22	Community member	Proposal design and operations	Catenary and APS	5.5.1
			Frequency of service and trip duration	5.5.7
23	Community member	Other issues raised	General objection to the project	5.21
24	Community member	Other issues raised	General objection to the project	5.21
25	Community member	Project alternatives	Alternative modes	5.3.1
		Other issues raised	Other general issues	5.21
26	Community member	Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Planted trees	General planted tree impacts	5.10
		Visual and landscape character	General Visual and landscape character impacts	5.11
		Other issues raised	Support for the preservation of trees in Tay Reserve, Randwick	5.21
			Other general issues	5.21
27	Save our Suburbs community action group	Project alternatives	Alternative modes	5.3.1
		Project justification and need	Patronage/growth forecasts	5.4.2
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Other traffic, transport and access	5.7.6
		Issues external to the CSELR Modification Report	Other issues external to the modifications report	5.20.3
28	Community member	Issues external to the CSELR Modification Report	Car parking	5.20.1
		Other issues raised	Other general issues	5.21
29	Community member	Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Planted trees	General planted tree impacts	5.10
		Visual and landscape character	General Visual and landscape character impacts	5.11
		Other issues raised	Support for the preservation of trees in Tay Reserve, Randwick	5.21
			Other general issues	5.21
30	Community member	Project alternatives	Alternative modes	5.3.1
		Project justification and need	Project cost and value for money	5.4.3
		Proposal design and operations	Capacity-related issues	5.5.2

Sub. no.	Submitter	Key issue	Sub-issue	Section
31	Community member	Planning and statutory requirements	Planning approvals process	5.1.2
			Contracts	5.1.3
		Community and stakeholder consultation	Consultation regarding the proposed modifications	5.2.1
			General concerns regarding Project consultation	5.2.2
		Proposal construction	Construction compounds	5.6.1
		Noise and vibration	General noise and vibration impacts	5.9
		Visual and landscape character	General Visual and landscape character impacts	5.11
		Ground and surface water	General ground and surface water impacts	5.14
32	Community member	Project alternatives	Route alignment alternatives	5.3.3
		Project justification and need	Project cost and value for money	5.4.3
		Proposal design and operations	Capacity-related issues	5.5.2
			Light rail vehicles	5.5.5
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
		Noise and vibration	General noise and vibration impacts	5.9
		Planted trees	General planted tree impacts	5.10
		Hazard and risk	General pedestrian impacts	5.18.1
		Other issues raised	General objection to the project	5.21
33	Community member	Traffic, transport and access	Traffic and access issues in operation	5.7.1
		Visual and landscape character	General Visual and landscape character impacts	5.11
		Ground and surface water	General ground and surface water impacts	5.14
34	Community member	Project alternatives	Route alignment alternatives	5.3.3
		Proposal design and operations	Light rail vehicles	5.5.5
		Planted trees	General planted tree impacts	5.10
35	Community member	Project justification and need	Project cost and value for money	5.4.3
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
		Planted trees	General planted tree impacts	5.10
		Issues external to the CSELR Modification Report	Other issues external to the modifications report	5.20.3

Sub. no.	Submitter	Key issue	Sub-issue	Section
36	Community member	Community and stakeholder consultation	Consultation regarding the proposed modifications	5.2.1
		Project alternatives	Alternative modes	5.3.1
		Proposal design and operations	Light rail alignment	5.5.9
			Road configuration changes	5.5.17
		Traffic, transport and access	Other traffic, transport and access	5.7.6
		Planted trees	General planted tree impacts	5.10
		Ground and surface water	General ground and surface water impacts	5.14
		Hazard and risk	Pedestrian crossing of Alison Road	5.18.2
37	Community member	Noise and vibration	General noise and vibration impacts	5.9
		Other issues raised	Other general issues	5.21
38	Community member	Proposal design and operations	Light rail vehicles	5.5.5
39	Community member	Traffic, transport and access	Traffic and access issues in operation	5.7.1
40	Community member	Planning and statutory requirements	Planning approvals process	5.1.2
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Pedestrian and cyclist impacts in operation	5.7.2
		Ground and surface water	General ground and surface water impacts	5.14
		Issues external to the CSELR Modification Report	Other issues external to the modifications report	5.20.3
41	Community member	Other issues raised	General objection to the project	5.21
42	Community member	Community and stakeholder consultation	Consultation regarding the proposed modifications	5.2.1
		Proposal design and operations	Light rail vehicles	5.5.5
		Noise and vibration	General noise and vibration impacts	5.9
43	Community member	Planted trees	General planted tree impacts	5.10
44	Community member	Proposal design and operations	Stop location and design	5.5.10
		Land use and property	General land use and property impacts	5.8
		Hazard and risk	Pedestrian crossing of Alison Road	5.18.2

Sub. no.	Submitter	Key issue	Sub-issue	Section
45	Community member	Project alternatives	Route alignment alternatives	5.3.3
		Land use and property	General land use and property impacts	5.8
		Planted trees	General planted tree impacts	5.10
46	Community member	Traffic, transport and access	Traffic and access issues in operation	5.7.1
47	Community member	Planted trees	General planted tree impacts	5.10
		Other issues raised	Support for the preservation of trees in Tay Reserve, Randwick	5.21
48	Community member	Project alternatives	Alternative modes	5.3.1
			Route alignment alternatives	5.3.3
		Project justification and need	Project cost and value for money	5.4.3
		Proposal design and operations	Corridor and alignment	5.5.4
			Frequency of service and trip duration	5.5.7
			Light rail alignment	5.5.9
			Stop location and design	5.5.10
		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Land use and property	General land use and property impacts	5.8
		Noise and vibration	General noise and vibration impacts	5.9
		Planted trees	General planted tree impacts	5.10
		Built and non-Indigenous heritage	Impacts to heritage	5.12.1
		Other issues raised	Other general issues	5.21
49	Community member	Planted trees	General planted tree impacts	5.10
50	Community member	Planted trees	General planted tree impacts	5.10
		Other issues raised	Support for the preservation of trees in Tay Reserve, Randwick	5.21
51	Community member	Proposal design and operations	Retaining wall along Alison Road	5.5.16
		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Planted trees	General planted tree impacts	5.10
		Other issues raised	Support for the preservation of trees in Tay Reserve, Randwick	5.21
			Other general issues	5.21

Sub. no.	Submitter	Key issue	Sub-issue	Section
52	Sydney Boys High School	Proposal design and operations	Capacity-related issues	5.5.2
			Subway access at Moore Park	5.5.12
		Hazard and risk	Moore Park stop pedestrians	5.18.3
53	Community member	Traffic, transport and access	Traffic and access issues in operation	5.7.1
54	Community member	Planning and statutory requirements	Planning approvals process	5.1.2
		Visual and landscape character	General Visual and landscape character impacts	5.11
		Ground and surface water	General ground and surface water impacts	5.14
		Land stability, soils and contamination	General land stability, soils and contamination impacts	5.15
55	Community member	Planning and statutory requirements	Planning approvals process	5.1.2
		Community and stakeholder consultation	Consultation regarding the proposed modifications	5.2.1
		Proposal design and operations	Capacity-related issues	5.5.2
			World Square stop removal	5.5.11
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
		Noise and vibration	General noise and vibration impacts	5.9
		Planted trees	General planted tree impacts	5.10
		Ground and surface water	General ground and surface water impacts	5.14
56	Community member	Proposal design and operations	Light rail vehicles	5.5.5
			Randwick stabling facility	5.5.8
			Stop location and design	5.5.10
			Accessibility	5.5.13
			Retaining wall along Alison Road	5.5.16
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Intersection performance	5.7.4
		Noise and vibration	General noise and vibration impacts	5.9
		Planted trees	General planted tree impacts	5.10
		Visual and landscape character	General Visual and landscape character impacts	5.11
		Hazard and risk	Pedestrian crossing of Alison Road	5.18.2
57	Community member	Planted trees	General planted tree impacts	5.10

Sub. no.	Submitter	Key issue	Sub-issue	Section
58	Community member	Proposal design and operations	Retaining wall along Alison Road	5.5.16
		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Planted trees	General planted tree impacts	5.10
		Other issues raised	Support for the preservation of trees in Tay Reserve, Randwick	5.21
59	Community member	Proposal design and operations	Retaining wall along Alison Road	5.5.16
		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Planted trees	General planted tree impacts	5.10
		Other issues raised	Support for the preservation of trees in Tay Reserve, Randwick	5.21
			Other general issues	5.21
60	Community member	Project alternatives	Route alignment alternatives	5.3.3
		Planted trees	General planted tree impacts	5.10
61	Community member	Planning and statutory requirements	Planning approvals process	5.1.2
62	Community member	Planted trees	General planted tree impacts	5.10
63	Community member	Proposal design and operations	Light rail alignment	5.5.9
		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Planted trees	General planted tree impacts	5.10
64	Community member	Proposal design and operations	Retaining wall along Alison Road	5.5.16
65	Community member	Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Planted trees	General planted tree impacts	5.10
66	Community member	Project justification and need	Project cost and value for money	5.4.3
		Proposal design and operations	Catenary and APS	5.5.1
67	Community member	Planted trees	General planted tree impacts	5.10
68	Community member	Proposal design and operations	Stop location and design	5.5.10
		Planted trees	General planted tree impacts	5.10
69	Community member	Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Planted trees	General planted tree impacts	5.10
		Hazard and risk	Pedestrian crossing of Alison Road	5.18.2

Sub. no.	Submitter	Key issue	Sub-issue	Section
70	Community member	Ground and surface water	General ground and surface water impacts	5.14
		Waste, energy and resources	General waste, energy and resources impacts	5.17
71	Community member	Planning and statutory requirements	Planning approvals process	5.1.2
		Proposal design and operations	World Square stop removal	5.5.11
		Planted trees	General planted tree impacts	5.10
72	Community member	Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
73	Community member	Project alternatives	Route alignment alternatives	5.3.3
		Project justification and need	Project cost and value for money	5.4.3
		Proposal design and operations	Randwick stabling facility	5.5.8
			Stop location and design	5.5.10
			Subway access at Moore Park	5.5.12
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Pedestrian and cyclist impacts in operation	5.7.2
74	Community member	Proposal design and operations	Light rail vehicles	5.5.5
			Stop location and design	5.5.10
			Subway access at Moore Park	5.5.12
		Other issues raised	General support for the project	5.21
75	Community member	Proposal design and operations	Frequency of service and trip duration	5.5.7
		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
			Assessment approach	5.7.5
		Land use and property	General land use and property impacts	5.8
		Visual and landscape character	General Visual and landscape character impacts	5.11
		Hazard and risk	General pedestrian impacts	5.18.1
76	Community member	Proposal design and operations	Stop location and design	5.5.10
		Planted trees	General planted tree impacts	5.10
77	Community member	Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Pedestrian and cyclist impacts in operation	5.7.2
		Ground and surface water	General ground and surface water impacts	5.14

Sub. no.	Submitter	Key issue	Sub-issue	Section
		Hazard and risk	General pedestrian impacts	5.18.1
			Pedestrian crossing of Alison Road	5.18.2
78	Community member	Community and stakeholder consultation	Consultation regarding the proposed modifications	5.2.1
		Project alternatives	Alternative modes	5.3.1
		Proposal design and operations	Light rail vehicles	5.5.5
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Assessment approach	5.7.5
		Noise and vibration	General noise and vibration impacts	5.9
		Planted trees	General planted tree impacts	5.10
		Ground and surface water	General ground and surface water impacts	5.14
		Hazard and risk	Pedestrian crossing of Alison Road	5.18.2
			Moore Park stop pedestrians	5.18.3
79	Community member	Planning and statutory requirements	Assessment process and documentation	5.1.1
			Planning approvals process	5.1.2
		Project alternatives	Route alignment alternatives	5.3.3
		Project justification and need	Need for the proposal	5.4.1
		Proposal design and operations	Catenary and APS	5.5.1
			Light rail vehicles	5.5.5
			Stop location and design	5.5.10
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Intersection performance	5.7.4
			Assessment approach	5.7.5
		Noise and vibration	General noise and vibration impacts	5.9
		Planted trees	General planted tree impacts	5.10
		Land stability, soils and contamination	General land stability, soils and contamination impacts	5.15
		Hazard and risk	Pedestrian crossing of Alison Road	5.18.2
			Moore Park stop pedestrians	5.18.3
80	Brookfield Commercial Operations	Planning and statutory requirements	Assessment process and documentation	5.1.1
			Planning approvals process	5.1.2
		Project justification and need	Need for the proposal	5.4.1
			Patronage/growth forecasts	5.4.2

Sub. no.	Submitter	Key issue	Sub-issue	Section
		Proposal design and operations	World Square stop removal	5.5.11
		Cumulative impacts	General cumulative impacts	5.19
81	Randwick Precinct Committee	Planning and statutory requirements	Assessment process and documentation	5.1.1
		Proposal design and operations	Stop location and design	5.5.10
82	Community member	Planning and statutory requirements	Planning approvals process	5.1.2
		Proposal design and operations	Light rail vehicles	5.5.5
			Accessibility	5.5.13
		Hazard and risk	Pedestrian crossing of Alison Road	5.18.2
83	Kingsford South Precinct Committee	Planning and statutory requirements	Assessment process and documentation	5.1.1
			Planning approvals process	5.1.2
		Community and stakeholder consultation	Consultation regarding the proposed modifications	5.2.1
		Proposal design and operations	Light rail vehicles	5.5.5
			Subway access at Moore Park	5.5.12
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Pedestrian and cyclist impacts in operation	5.7.2
			Intersection performance	5.7.4
			Assessment approach	5.7.5
		Noise and vibration	General noise and vibration impacts	5.9
		Planted trees	General planted tree impacts	5.10
		Visual and landscape character	General Visual and landscape character impacts	5.11
		Ground and surface water	General ground and surface water impacts	5.14
		Hazard and risk	Pedestrian crossing of Alison Road	5.18.2
			Moore Park stop pedestrians	5.18.3
		Issues external to the CSELR Modification Report	High Cross Park	5.20.2
		Other issues raised	Other general issues	5.21
84	Community member	Project justification and need	Need for the proposal	5.4.1

Sub. no.	Submitter	Key issue	Sub-issue	Section
85	Community member	Proposal design and operations	Subway access at Moore Park	5.5.12
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Intersection performance	5.7.4
86	Community member	Planning and statutory requirements	Did not address previously raised concerns	5.1.4
		Community and stakeholder consultation	General concerns regarding Project consultation	5.2.2
		Project alternatives	Alternative modes	5.3.1
		Proposal design and operations	Capacity-related issues	5.5.2
			Traffic/bus/heavy rail integration	5.5.14
		Proposal construction	Project boundary	5.6.2
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Pedestrian and cyclist impacts in operation	5.7.2
			Intersection performance	5.7.4
		Noise and vibration	General noise and vibration impacts	5.9
		Planted trees	General planted tree impacts	5.10
		Ground and surface water	General ground and surface water impacts	5.14
		Issues external to the CSELR Modification Report	High Cross Park	5.20.2
			Other issues external to the modifications report	5.20.3
		Other issues raised	Other general issues	5.21
87	Community member	Project alternatives	Stop and maintenance/stabling location alternatives	5.3.2
		Proposal design and operations	Stop location and design	5.5.10
		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Land use and property	General land use and property impacts	5.8
		Issues external to the CSELR Modification Report	High Cross Park	5.20.2
		Other issues raised	General support for the project	5.21
88	Community member	Planning and statutory requirements	Assessment process and documentation	5.1.1
			Planning approvals process	5.1.2
		Project justification and need	Need for the proposal	5.4.1
		Proposal design and operations	Capacity-related issues	5.5.2
			Stop location and design	5.5.10

Sub. no.	Submitter	Key issue	Sub-issue	Section
			Moore Park tunnel	5.5.15
		Proposal construction	Construction compounds	5.6.1
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
		Land use and property	General land use and property impacts	5.8
		Planted trees	General planted tree impacts	5.10
		Visual and landscape character	General Visual and landscape character impacts	5.11
		Ground and surface water	General ground and surface water impacts	5.14
		Biodiversity	General biodiversity impacts	5.16
89	Community member	Traffic, transport and access	Traffic and access issues in operation	5.7.1
90	Need Alison Road Parking community action group	Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
			Intersection performance	5.7.4
		Ground and surface water	General ground and surface water impacts	5.14
		Hazard and risk	Pedestrian crossing of Alison Road	5.18.2
91	Community member	Project alternatives	Alternative modes	5.3.1
		Project justification and need	Need for the proposal	5.4.1
		Proposal design and operations	Capacity-related issues	5.5.2
			Light rail vehicles	5.5.5
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
		Noise and vibration	General noise and vibration impacts	5.9
92	Community member	Project alternatives	Alternative modes	5.3.1
93	Community member	Community and stakeholder consultation	General concerns regarding Project consultation	5.2.2
		Project alternatives	Route alignment alternatives	5.3.3
		Project justification and need	Project cost and value for money	5.4.3
		Proposal design and operations	Capacity-related issues	5.5.2
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Bus impacts	5.7.3
			Intersection performance	5.7.4
			Other traffic, transport and access	5.7.6
		Noise and vibration	General noise and vibration impacts	5.9

Sub. no.	Submitter	Key issue	Sub-issue	Section
		Visual and landscape character	General Visual and landscape character impacts	5.11
		Ground and surface water	General ground and surface water impacts	5.14
		Hazard and risk	Pedestrian crossing of Alison Road	5.18.2
		Issues external to the CSELR Modification Report	Car parking	5.20.1
			Other issues external to the modifications report	5.20.3
94	Community member	Planning and statutory requirements	Assessment process and documentation	5.1.1
			Planning approvals process	5.1.2
			Contracts	5.1.3
		Project justification and need	Patronage/growth forecasts	5.4.2
			Project cost and value for money	5.4.3
		Proposal design and operations	Catenary and APS	5.5.1
			Landscaping and public domain	5.5.3
			World Square stop removal	5.5.11
			Accessibility	5.5.13
		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Hazard and risk	Other general hazards and risks	5.18.4
		Other issues raised	General support for the project	5.21
95	Community member	Hazard and risk	Pedestrian crossing of Alison Road	5.18.2
96	Sydney Girls High School	Proposal design and operations	Capacity-related issues	5.5.2
			Pedestrian bridge – Moore Park	5.5.18
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
		Hazard and risk	Moore Park stop pedestrians	5.18.3
97	Centennial Parklands Community Consultative Committee	Traffic, transport and access	Traffic and access issues in operation	5.7.1
		Ground and surface water	General ground and surface water impacts	5.14
		Hazard and risk	Pedestrian crossing of Alison Road	5.18.2
		Other issues raised	General support for the project	5.21
98	Kensington & West Kingsford Precinct	Planning and statutory requirements	Did not address previously raised concerns	5.1.4
		Community and stakeholder consultation	Consultation regarding the proposed modifications	5.2.1
			General concerns regarding Project consultation	5.2.2
		Project alternatives	Route alignment alternatives	5.3.3

Sub. no.	Submitter	Key issue	Sub-issue	Section
		Project justification and need	Project cost and value for money	5.4.3
		Proposal design and operations	Capacity-related issues	5.5.2
			Light rail vehicles	5.5.5
			Frequency of service and trip duration	5.5.7
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Pedestrian and cyclist impacts in operation	5.7.2
			Bus impacts	5.7.3
			Intersection performance	5.7.4
			Assessment approach	5.7.5
		Land use and property	General land use and property impacts	5.8
		Noise and vibration	General noise and vibration impacts	5.9
		Socio-economic	General socio-economic impacts	5.13
		Land stability, soils and contamination	General land stability, soils and contamination impacts	5.15
		Issues external to the CSELR Modification Report	High Cross Park	5.20.2
			Other issues external to the modifications report	5.20.3
		Other issues raised	General objection to the project	5.21
99	Community member	Proposal design and operations	Capacity-related issues	5.5.2
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
		Land use and property	General land use and property impacts	5.8
		Issues external to the CSELR Modification Report	High Cross Park	5.20.2
100	BIKEast	Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Other issues raised	General support for the project	5.21
101	Community member	Community and stakeholder consultation	Consultation regarding the proposed modifications	5.2.1
		Project alternatives	Stop and maintenance/stabling location alternatives	5.3.2
		Proposal design and operations	Breakdowns	5.5.6
			Frequency of service and trip duration	5.5.7
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Other traffic, transport and access	5.7.6

Sub. no.	Submitter	Key issue	Sub-issue	Section
102	Bicycle NSW	Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Other issues raised	General support for the project	5.21
103	Community member	Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
104	Community member	Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
105	Community member	Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Other issues raised	General support for the project	5.21
106	Community member	Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
107	BIKESydney	Proposal design and operations	Stop location and design	5.5.10
		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
			Assessment approach	5.7.5
		Issues external to the CSELR Modification Report	Other issues external to the modifications report	5.20.3
		Other issues raised	General support for the project	5.21
108	Paddington-Darlinghurst Community Working Group	Proposal design and operations	Stop location and design	5.5.10
		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
109	Action for Transport	Project justification and need	Project cost and value for money	5.4.3
		Proposal design and operations	Capacity-related issues	5.5.2
			Light rail alignment	5.5.9
			Stop location and design	5.5.10
			Subway access at Moore Park	5.5.12
		Traffic, transport and access	Traffic and access issues in operation	5.7.1
			Pedestrian and cyclist impacts in operation	5.7.2
110	YHA	Planning and statutory requirements	Assessment process and documentation	5.1.1
			Did not address previously raised concerns	5.1.4
		Project alternatives	Route alignment alternatives	5.3.3
		Proposal design and operations	Stop location and design	5.5.10
			Accessibility	5.5.13
		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Visual and landscape character	General Visual and landscape character impacts	5.11
		Built and non-Indigenous heritage	Impacts to heritage	5.12.1

Sub. no.	Submitter	Key issue	Sub-issue	Section
		Issues external to the CSELR Modification Report	Other issues external to the modifications report	5.20.3
111	Member for Sydney	Project alternatives	Stop and maintenance/stabling location alternatives	5.3.2
		Proposal design and operations	Corridor and alignment	5.5.4
			Light rail vehicles	5.5.5
			Subway access at Moore Park	5.5.12
		Traffic and transport	Traffic and access issues in operation	5.7.1
			Pedestrian and cyclist impacts in operation	5.7.2
			Intersection performance	5.7.4
		Land use and property	General land use and property impacts	5.8
		Noise and vibration	General noise and vibration impacts	5.9
		Planted trees	General planted tree impacts	5.10
		Visual and landscape character	General Visual and landscape character impacts	5.11
		Hazard and risk	Pedestrian crossing of Alison Road	5.18.2
		Other issues raised	Other issues raised	5.21
		Other issues raised	General support for the project	5.21
112	Community member	Community and stakeholder consultation	Consultation regarding the proposed modifications	5.2.1
		Proposal design and operations	Capacity-related issues	5.5.2
		Traffic and transport	Traffic and access issues in operation	5.7.1
			Pedestrian and cyclist impacts in operation	5.7.2
		Land use and property	General land use and property impacts	5.8
		Noise and vibration	General noise and vibration impacts	5.9
		Planted trees	General planted tree impacts	5.10
		Other issues raised	Other issues raised	5.21
6A		Traffic, transport and access	Pedestrian and cyclist impacts in operation	5.7.2
		Noise and vibration	General noise and vibration impacts	5.9