

# CrossRiverRail



## Environmental Impact Statement – Supplementary Report

March 2012



Cross River Rail

**Environmental Impact Statement –  
Supplementary Report**

FINAL

March 2012

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# Glossary of Terms

The following abbreviations have been used in this document

<b>AEP</b>	Annual Exceedance Probability
<b>BRUV</b>	Boggo Road Urban Village
<b>CBD</b>	Central Business District
<b>CHMP</b>	Cultural Heritage Management Plan
<b>CRR</b>	Cross River Rail
<b>CTMP</b>	Construction Traffic Management Plan
<b>Cumulative impacts</b>	The combined impact on the environment from the successive effects of a number of different projects or activities
<b>dBA</b>	A-weighted decibels
<b>DEEDI</b>	Department of Employment, Economic Development and Innovation
<b>DERM</b>	Department of Environment and Resource Management
<b>DIP</b>	Department of Infrastructure and Planning
<b>DLGP</b>	Department of Local Government and Planning
<b>DPW</b>	Department of Public Works
<b>EIS</b>	Environmental Impact Statement
<b>EMP</b>	Environmental Management Plan
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
<b>GHG</b>	Greenhouse Gas
<b>ICRCS</b>	Inner City Rail Capacity Study
<b>km</b>	kilometre
<b>LAeq</b>	The A-weighted average noise level. It is defined as the steady noise level that contains the same amount of acoustical energy as a given time-varying noise over the same measurement period
<b>LOS</b>	Level of Service
<b>m</b>	metre
<b>m<sup>2</sup></b>	square metre
<b>mm</b>	millimetre
<b>NGR</b>	New Generation Rollingstock
<b>PAH</b>	Princess Alexandra Hospital
<b>pm</b>	Afternoon
<b>PM<sub>10</sub></b>	Particulate matter with equivalent aerodynamic diameter less than 10 µm
<b>PPV</b>	Peak Particle Velocity
<b>Qld</b>	Queensland
<b>QAS</b>	Queensland Ambulance Service

<b>Rail corridor</b>	the extent of land or land parcel within which the rail tracks are located
<b>RBWH</b>	Royal Brisbane and Women's Hospital
<b>RNA</b>	The Royal National Agricultural and Industrial Association of Queensland
<b>SDPWO Act</b>	<i>State Development and Public Works Organisation Act 1971</i>
<b>SEQ</b>	South East Queensland
<b>Spoil</b>	material (such as rock and soil) removed during excavation and mining (including tunnelling) and dredging
<b>SPP</b>	State Planning Policy
<b>TBM</b>	Tunnel Boring Machine
<b>TEM</b>	Transmission Electron Microscope
<b>the Project</b>	Cross River Rail
<b>TOD</b>	Transit Oriented Development
<b>ToR</b>	Terms of Reference
<b>ULDA</b>	Urban Land Development Authority
<b>WHO</b>	World Health Organisation

# 1 Introduction

## 1.1 Purpose of Environmental Impact Statement – Supplementary Report

This Environmental Impact Statement – Supplementary Report has been prepared to respond to written submissions received on the Cross River Rail Environmental Impact Statement (EIS) dated July 2011, during the public notification period between Tuesday, 30 August 2011 and Friday, 21 October 2011.

This Environmental Impact Statement – Supplementary Report has been prepared on behalf of the Queensland Government, through the Department of Transport and Main Roads, as the proponent for Cross River Rail.

The EIS was prepared in accordance with the terms of reference (ToR) issued by the Coordinator-General in August 2010 under the *State Development and Public Works Organisation Act 1971*.

Following notification and public display of the EIS, 111 written submissions were received, including 98 community submissions from individuals, organisations and elected representatives, and 13 submissions from State and local government agencies.

The Environmental Impact Statement – Supplementary Report provides a summary of and response to the key issues raised in submissions as well as specific responses to each issue. The key issues relate to:

- closure of the open level crossing and local road changes at Salisbury
- local access and car parking arrangements for commuters at Yeerongpilly Station during construction
- existing and anticipated commuter parking at Yeerongpilly Station during operation of the Project
- the impacts of increased freight rail traffic particularly between Yeerongpilly and Dutton Park
- spoil haulage, including haulage routes, alternative spoil transport options, and hours of haulage, particularly in relation to Dutton Park and Yeerongpilly
- construction work hours, including for surface works, underground works and haulage of materials and spoil
- impacts on the local road network, including the pedestrian network, in the Brisbane CBD during construction
- impacts on Victoria Park arising from the reference design and from the proposed construction worksite
- The Royal National Agricultural and Industrial Association of Queensland (RNA) Showgrounds, including RNA operations and future RNA redevelopment.

A summary of all submissions received on the EIS, including the issues raised and specific responses, is provided in **Appendix A**.

The report also provides recommendations to the Coordinator-General in relation to the conditional approval of the Project.

## 1.2 Consultation on the EIS

Community consultation undertaken during the public exhibition period for the EIS aimed to:

- notify the community that the EIS had been lodged for evaluation by the Coordinator-General
- fulfill the requirements of the SDPWO Act in relation to the exhibition of the EIS and explain the process for written submissions

- provide information to stakeholders and the community about the reference design, and potential impacts and mitigation measures
- provide information on refinements made to the reference design during the preliminary consultation phase conducted during preparation of the reference design and the EIS
- keep stakeholders and the community informed about the Project, including the potential timing of government decisions about the Project.

A range of communication and consultation activities were undertaken with community members and stakeholders to assist their review of the EIS. These included:

- publication of a notice in The Courier Mail, The Australian and local Quest newspapers, informing the public of the availability of the EIS for public review, including invitation for community members and agencies to make written submissions to the Coordinator-General
- formal public display of the EIS and reference design at seven locations, within or near to the study corridor, from Tuesday, 30 August 2011 to Friday, 21 October 2011
- publication of the EIS, including on CD, in hard copy and on the Cross River Rail website ([www.crossriverrail.qld.gov.au](http://www.crossriverrail.qld.gov.au)), <http://www.deedi.qld.gov.au/cg/cross-river-rail.html>, <http://www.deedi.qld.gov.au/cg/resources/project/cross-river-rail/CRR-EIS-submission-form.pdf>
- distribution of Newsletter 4 (dated August 2011) to approximately 230,000 households, businesses, property owners and other registered stakeholders
- eight community information sessions at various locations within or near to the study corridor, attended by approximately 280 people
- three meetings of the southern local advisory group, two meetings of the northern local advisory group. A further meeting was held with both local advisory groups following the EIS exhibition period to provide an update on the Project and overview of submissions received on the EIS.
- whole of agency briefing to Queensland Government agencies responsible for reviewing the EIS, on Tuesday, 6 September 2011 and follow up briefings with relevant State Government agencies around specific environmental issues and technical disciplines
- whole of Council briefing to Brisbane City Council on Wednesday, 7 September 2011 as well as separate briefings to Queensland Rail and Department of Transport and Main Roads on Monday, 19 September 2011
- briefings to, and meetings with community representatives and key stakeholders, including the RNA, Woolloongabba Traders Association, St Fabian's Church, Queensland University of Technology, Rail Back on Track, Brothers St Brendan's Rugby League Club and Friends of South Brisbane Cemetery as well as Local, State and Commonwealth elected representatives
- communication and consultation with directly affected property owners, including distribution of approximately 1,901 letters to property owners with a surface or volumetric requirement for the Project, or who would no longer be affected by a requirement for their property, and face-to-face meetings at the request of property owners
- communication with property owners near the ventilation and emergency access building, including distribution of approximately 43 letters notifying them of the change to the location of the ventilation and emergency access building to that proposed in November 2010
- ongoing staffing of the 1800 project information line, email and reply paid mailing address.

The process and outcomes of consultations conducted during the public notification period for the EIS are summarised in the Consultation Report included in **Appendix B**.

## 1.3 Coordinator-General's Evaluation Report

Following the preparation of the Environmental Impact Statement – Supplementary Report, the Coordinator-General will prepare a report evaluating the EIS. In evaluating the Project, the Coordinator-General will consider:

- the EIS
- all properly made submissions and other submissions accepted by the Coordinator-General about the EIS
- other material the Coordinator-General considers relevant to the Project, such as the responses to matters raised on the EIS provided in this Environmental Impact Statement – Supplementary Report and comments and advice from advisory agencies.

In the evaluation report for the Project, the Coordinator-General may:

- evaluate the environmental effects of the Project and any other related matters
- state conditions for later approvals required for the Project
- make recommendations for other approvals required for the Project
- impose conditions for the undertaking of the Project, where there is no other mechanism for conditions to be imposed ('imposed conditions').

In setting imposed conditions, the Coordinator-General may:

- state when the imposed conditions take effect
- nominate an entity that is to have jurisdiction for the condition ('the nominated entity').

## 2 Overview of submissions to the EIS

This chapter provides an overview of the written submissions received from the public and agencies, including a description of the notification process for the EIS, the number of written submissions received and a summary of the issues raised in the submissions.

### 2.1 Notification of the EIS

The public exhibition period for the Cross River Rail EIS commenced on Tuesday, 30 August 2011 and closed on Friday, 21 October 2011.

A public notice was published in the Courier Mail and The Australian newspapers on Tuesday, 30 August 2011, informing the community that the EIS was available for review and inviting written submissions on the EIS to the Coordinator-General. A further notice was also published in local Quest newspapers covering the study corridor on Wednesday, 31 August 2011.

During the submission period, any person (individual or organisation) could make a submission to the Coordinator-General about the EIS. The Coordinator-General accepted all properly made submissions. The Coordinator-General accepted other submissions that were not properly made.

Submissions received included letters addressed to the Coordinator-General, comment forms prepared by the Office of the Coordinator-General, email and on-line submission forms.

Copies of all submissions received were provided to Department of Transport and Main Roads as the proponent for Cross River Rail. A request was subsequently made by the Coordinator-General on 12<sup>th</sup> March 2012 for Department of Transport and Main Roads to prepare responses in relation to matters raised in the submissions.

### 2.2 Overview of submissions received

A total of 111 written submissions were accepted by the Coordinator-General on the Cross River Rail EIS. This included 97 submissions that were made within the notification period and an additional 14 submissions that either were made after the submission period or did not include an address. This Environmental Impact Statement – Supplementary Report addresses all submissions received.

Of the 111 submissions, 98 submissions were received from individuals, organisations, or elected representatives and 13 submissions were received from State or Local government agencies.

#### 2.2.1 Government agency submissions

A total of 13 submissions were received from government agencies, including 12 from Queensland Government agencies and one from Brisbane City Council. These are summarised in **Table 2-1**.

**Table 2-1 Summary of key issues raised in government agency submissions**

Government Agency	Branch	Summary of key issues raised in submissions
Department of Justice and Attorney-General	Hazardous Industries and Chemical Branch, Workplace Health and Safety Queensland	<ul style="list-style-type: none"> <li>No interest in the Project unless it involves significant quantities of dangerous goods.</li> </ul>
Department of Employment, Economic Development and Innovation (DEEDI)	Regional Economic Strategy Branch	<ul style="list-style-type: none"> <li>Impacts on businesses affected by construction works, including need for consultation with affected businesses.</li> </ul>
	Regional Service Delivery	<ul style="list-style-type: none"> <li>Provision of economic and employment opportunities in any future land use planning considerations for industrial land resumed for the project, but not required post-construction.</li> <li>Engagement with businesses and industrial landowners seeking alternative accommodation due to property acquisition.</li> </ul>

Government Agency	Branch	Summary of key issues raised in submissions
	Office of Clean Energy – Clean Energy Partnerships	<ul style="list-style-type: none"> <li>Need for Project to be designed to meet and demonstrate energy efficiency, energy conservation and renewable energy objectives.</li> </ul>
	Planning and Assessment, Fisheries Queensland	<ul style="list-style-type: none"> <li>Approval requirements and permits in relation to structures within a waterway and disturbance of vegetation or marine plants in Breakfast Creek and Enoggera Creek.</li> </ul>
	Employment and Indigenous Initiatives	<ul style="list-style-type: none"> <li>Need for further information about the specific skill-sets needed for the Project workforce to facilitate better workforce planning.</li> <li>Workforce participation for local people, especially Indigenous people, young people and people from jobless households.</li> </ul>
	Science Partnerships and Awareness, Science Strategy and Capability, Science	<ul style="list-style-type: none"> <li>Potential impacts on the Transmission Electron Microscope (TEM) and other sensitive laboratory work at the Ecosciences Precinct (Boggo Road Urban Village).</li> <li>Potential dust impacts from construction activities on the operations and activities at the Ecosciences Precinct.</li> <li>Construction traffic management at Boggo Road Urban Village.</li> </ul>
Queensland Police Services	Office of the Commissioner	<ul style="list-style-type: none"> <li>Queensland Police Services raised no specific concerns with the content of the EIS. However, would like to be advised when the construction traffic management plans are released.</li> </ul>
Department of Communities	Evidence and Modelling, Corporate Planning, Performance and Reporting	<ul style="list-style-type: none"> <li>Property impacts on Department properties, including from property acquisition and potential for damage from tunnelling construction.</li> <li>Potential impacts on the Department's tenants due to property acquisition and noise, dust and disturbance.</li> <li>Displacement of existing rental tenants from affordable rental properties acquired for the Project.</li> </ul>
Queensland Health (QH)		<ul style="list-style-type: none"> <li>Air quality impacts at sensitive receptors, including health and education facilities, near worksites and potential risk to human health.</li> <li>Assessment of noise impacts, including noise goals relating to sleep disturbance, and impacts on community health and well-being.</li> <li>Consideration of requirements for people with intellectual disabilities or from culturally and linguistically diverse population groups.</li> <li>Importance of maintaining current levels of active transport during construction and operation.</li> <li>Need for cycle parking to be provided at all stations and adequate end of trip facilities, kiss 'n' ride and commuter parking to prevent excessive street parking and impacts on resident amenity.</li> <li>Project alignment with Herston Health Precinct Smart Community Plan.</li> </ul>
Department of Public Works (DPW)		<ul style="list-style-type: none"> <li>Boggo Road Station, including: <ul style="list-style-type: none"> <li>construction worksites - managing potential impacts, including worksite location, car parking, proximity to sensitive receptors and future residential development, noise vibration and air quality at Ecosciences Precinct and elsewhere</li> <li>maintenance of safe pedestrian access between the Boggo Road Urban Village and Park Road Station and Boggo Road Busway Station, and</li> </ul> </li> </ul>

Government Agency	Branch	Summary of key issues raised in submissions
		<ul style="list-style-type: none"> <li>safe areas for school pickup and drop off</li> <li>need for ongoing consultation with DPW and the Boggo Road Urban Village stakeholders about traffic management.</li> <li>Woolloongabba Station, including: <ul style="list-style-type: none"> <li>transport and traffic issues for the Landcentre, including worksite access and haulage routes</li> <li>working with contaminated land, including potential health impacts for workers at the Landcentre</li> <li>potential impacts on the Goprint building and Landcentre, including timing and costs associated with the potential relocation of staff and facilities from these buildings</li> <li>potential for exceedances in air quality and day-time noise goals and potential impacts on Landcentre workers.</li> </ul> </li> <li>Roma Street Station, including: <ul style="list-style-type: none"> <li>potential impacts on the proposed Roma Street pedestrian and cycle bridge.</li> <li>proposed use of the College Close car park and potential impacts on Roma Street Parkland including local streets during construction, impacts on access to residential buildings</li> <li>potential impacts and management of noise and air quality for residents near the Roma Street precinct</li> <li>potential impacts on major events at the Roma Street Parkland during construction.</li> </ul> </li> <li>Albert Street Station, including: <ul style="list-style-type: none"> <li>need for the management of changes to pedestrian and vehicle access in the vicinity of the Albert Street worksite</li> <li>potential impacts for workers of nearby government buildings from dust, noise and vibration from construction activities at the Albert Street worksite.</li> </ul> </li> </ul>
Department of Community Safety	Strategic Policy Division	<ul style="list-style-type: none"> <li>Need for the EIS to address bushfire hazard and risk of landslides, in relation to SPP 1/03.</li> <li>Fire and life safety, including codes, standards and guidelines referenced in the design and emergency service access and intervention.</li> <li>Need for Queensland Ambulance Services (QAS) Brisbane Region to be notified in advance of any road closures, changes to road conditions and other works that may affect QAS response or operations.</li> </ul>
Princess Alexandra Hospital (PAH)	Director of Planning and Development	<ul style="list-style-type: none"> <li>Impacts from the use of Cornwall Street for spoil haulage, including on access to the PAH Emergency Department and Geriatric Rehabilitation Unit, pedestrian access to the hospital from nearby public transport and congestion and queuing on Cornwall Street.</li> <li>Increased traffic using Kent Street to access the Translational Research Institute.</li> <li>Potential dust impacts on the PAH.</li> </ul>
Department of Transport and Main Roads	Integrated Transport Planning	<ul style="list-style-type: none"> <li>Strongly support the Project.</li> </ul>

Government Agency	Branch	Summary of key issues raised in submissions
Department of Environment and Resource Management (DERM)		<ul style="list-style-type: none"> <li>• Satisfied that the EIS adequately addresses the requirements of the ToR and supports the proposed approach to managing potential environmental impacts.</li> <li>• Proposal to introduce longer construction hours in return for shorter impact/duration times would require significant community engagement.</li> <li>• Distance to Swanbank from the spoil extraction points and environmental effects of transporting this material.</li> </ul>
TransLink Transit Authority (Translink)		<ul style="list-style-type: none"> <li>• Recognises the need to augment rail capacity in South East Queensland and to address the constrained capacity of the inner city rail and bus network.</li> <li>• Cross River Rail is critical to TransLink's strategy of building a trunk and feeder public transport network, relying on key rail stations on which bus services can be based.</li> <li>• Management of the public transport network until such a time that the additional capacity is delivered by Cross River Rail.</li> </ul>
Department of Local Government and Planning (DLGP)		<ul style="list-style-type: none"> <li>• The need for post-construction use of worksites to be addressed through a parallel process.</li> <li>• The need for green space to be considered at Mayne North, as part of the Project.</li> <li>• Commuter parking at Yeerongpilly, including the need for innovative approaches to parking provision to be considered.</li> <li>• Consideration of a direct pedestrian/cycle connection from the Boggo Road Station to the PAH campus.</li> <li>• Connectivity between the new Yeerongpilly Station and the proposed Yeerongpilly Transit Oriented Development (TOD) and Queensland Tennis Centre.</li> </ul>
Brisbane City Council		<ul style="list-style-type: none"> <li>• Accessibility and movement around stations, including: <ul style="list-style-type: none"> <li>• possible alternative entry/exit points at underground stations</li> <li>• further analysis of pedestrian movements for Roma Street, Albert Street, Woolloongabba and Yeerongpilly stations, and in Mary Street between Albert and Edward streets</li> <li>• need for a catchment assessment for Woolloongabba Station.</li> </ul> </li> <li>• Provide statement of modelling assumptions, relating to the bus rail interchanges (where, how, warrant for interchange).</li> <li>• EIS does not adequately explain why there would be a significant diversion away from bus transport as suggested by the modelling.</li> <li>• Construction impacts, including: <ul style="list-style-type: none"> <li>• potential impact on Victoria Park (eg area of land, loss of significant trees) and proposals for rehabilitation of the worksite following construction</li> <li>• need to maintain capacity in Alice Street and no impact on the City Botanic Gardens during construction of Albert Street Station</li> <li>• spoil haulage – rail is the preferred option and should be pursued as far as practical</li> <li>• construction traffic - no 24 hour haulage on Council arterial roads</li> <li>• no haulage during peak hours if there is an adverse impact on the functioning of the road</li> </ul> </li> </ul>

Government Agency	Branch	Summary of key issues raised in submissions
		<p>network.</p> <ul style="list-style-type: none"> <li>• Any road closures resulting in traffic diversion will require further impact assessment before approval is granted.</li> <li>• The property at the corner of O'Connell Terrace and Sneyd Street is required for the Legacy Way toll road control centre and is not available as a construction site.</li> <li>• Proposed changes to O'Connell Terrace, including:           <ul style="list-style-type: none"> <li>• need to refine the O'Connell Terrace/Bowen Bridge Road intersection</li> <li>• need to provide an appropriate cross-section for O'Connell Terrace (footpath, four lanes, bike lanes)</li> <li>• impact on the proposed Legacy Way toll road control centre.</li> </ul> </li> <li>• Concerned with the capacity and potential performance of intersections in the vicinity of Yeerongpilly Station (eg Wilkie Street/Cardross Street, Ipswich Road/Lucy Street). Both are substandard accesses.</li> <li>• Commuter parking, including:           <ul style="list-style-type: none"> <li>• need to provide park 'n' ride facilities at Yeerongpilly Station</li> <li>• need for parking controls in the vicinity of stations, potential bus interchange and park 'n' ride facilities.</li> </ul> </li> </ul>

## 2.2.2 Community submissions

A total of 98 community submissions were received, including submissions from local residents, businesses, property owners, organisations, elected representatives and individuals. A summary of the issues raised in public submissions is provided in **Table 2-2**.

**Table 2-2 Summary of key issues raised in community submissions**

Issue/location	Description
Construction impacts generally	<ul style="list-style-type: none"> <li>• Noise and vibration from worksites, surface rail works and rail tunnelling activities.</li> <li>• Air quality impacts, due to potential dust nuisance.</li> <li>• Hours of work for construction, in particular surface works (eg works in the 'live' rail corridor) and at worksites.</li> <li>• Impacts arising from construction traffic and spoil haulage by road, in particular:           <ul style="list-style-type: none"> <li>• road noise impacts</li> <li>• hours of work (deliveries, spoil) to/from worksites</li> <li>• need for spoil to be removed by rail.</li> </ul> </li> <li>• Increased traffic hazards and safety concerns adjacent to worksites in residential areas and community facilities (eg potential interference with vehicle access to PAH).</li> <li>• Duration of construction program, particularly in terms of impacts on residential communities and nearby community facilities.</li> </ul>
Operations impacts generally	<ul style="list-style-type: none"> <li>• Concern about operations impacts, such as:           <ul style="list-style-type: none"> <li>• increases in noise from additional rail freight traffic and hours of operation</li> <li>• impact on future land uses and redevelopment potential around the new stations</li> <li>• commuter car parking at some stations (eg Yeerongpilly) where there are existing issues.</li> </ul> </li> </ul>
Salisbury/Rocklea	<ul style="list-style-type: none"> <li>• Closure of existing Beaudesert Road (service road) open level crossing.</li> <li>• Emergency access to Beaudesert Road for major flood events.</li> <li>• Need for noise barriers or other mitigation measures to reduce rail noise.</li> </ul>

Issue/location	Description
Yeerongpilly	<ul style="list-style-type: none"> <li>• General construction impacts (ie noise, dust, traffic).</li> <li>• Spoil haulage at Lucy Street.</li> <li>• Potential impacts on St Fabian's Church and Wilkie Street.</li> <li>• Access to existing Yeerongpilly Station during construction and consideration of changing back to the earlier location for Yeerongpilly Station.</li> <li>• Adequacy of car parking provided at new station, potentially increasing road traffic and car parking pressure in surrounding residential streets.</li> </ul>
Boggo Road	<ul style="list-style-type: none"> <li>• General construction impacts (ie noise, dust, traffic).</li> <li>• Specific impacts on TEM in Ecosciences Precinct (construction, operations).</li> <li>• Need for coordination with Boggo Road Urban Village – development, construction timing.</li> </ul>
Victoria Park	<ul style="list-style-type: none"> <li>• Construction impacts on Victoria Park (eg loss of fig trees and other vegetation, impact on amenity and use of park).</li> <li>• Operation impacts from the permanent loss of parkland, amenities and access arrangements.</li> </ul>
RNA Showgrounds	<ul style="list-style-type: none"> <li>• Construction activities as they would affect specific RNA requirements during events, including the Ekka, concerts, festivals and trade shows.</li> <li>• Construction activities as they would affect RNA development proposals along O'Connell Terrace.</li> <li>• Design impacts, including the new station design and pedestrian access under the railway to/from Sideshow Alley and Gregory Terrace.</li> <li>• Potential impacts on heritage structures and facilities.</li> <li>• Potential impacts during operation (eg station ticketing, queuing and entry/exit arrangements).</li> </ul>

## 3 Project description

### 3.1 Overview

A ‘reference design’ was developed for the purposes of investigating the feasibility of the Project and assessing the benefits and impacts of the Project in accordance with the EIS ToR.

The reference design defines the scope of the Project, including the tunnel alignment and portals, stations, surface tracks and associated infrastructure. The delivery method for the Project is defined through the proposed construction methodology and operations strategy for the Project. It is intended to inform community and stakeholders about the scale and form of the Project and its benefits and impacts.

#### 3.1.1 Detailed design

The procurement phase addresses detailed design, construction and operation and maintenance aspects of the Project. The detailed design phase includes design refinements necessary to inform the preparation of tender specifications, design refinements conducted for the tender process, and design refinements conducted up to selection of the preferred construction entity.

The procurement process includes the Coordinator General’s Change Report process. It does not include any further detailed design work undertaken by the construction entity after the contract is awarded, unless an unforeseeable event arises which affects the detailed design.

Based on present understandings, the procurement phase is anticipated to be completed by the end of 2014.

After the Coordinator-General’s evaluation of the EIS, and assuming the Project is approved to proceed, any significant departure from the reference design that may be identified during subsequent stages of the Project’s development, may require a change report to be prepared in accordance with the SDPWO Act.

### 3.2 Design issues raised in submissions

Submissions to the EIS raised issues about some aspects of the reference design, including:

- impacts on future development at the RNA Showgrounds and RNA operations
- impacts of the design of the ventilation and emergency access building at Fairfield
- the location of the new Yeerongpilly Station in relation to the Queensland Tennis Centre, Yeerongpilly transit oriented development (TOD) and Brisbane City Council customer centre, currently being constructed
- design of the rail bridge over Muriel Avenue
- proposed diameter of the rail tunnels
- impacts of the raising of O’Connell Terrace (Bowen Hills) on adjoining land uses and development.

Submissions to the EIS also raised a number of issues in relation to aspects of the construction methodology, including:

- the location of construction worksites at O’Connell Terrace, Victoria Park and Boggo Road
- spoil haulage, including haulage routes, hours of spoil haulage and need to consider haulage of spoil by rail
- construction work hours
- construction of the ventilation and emergency access building at Fairfield.

In response to issues raised in submissions about the construction methodology, the following refinements have been made to the proposed construction methodology:

- location or layout of construction worksites at O'Connell Terrace, Victoria Park and Boggo Road
- haulage route for inbound spoil haulage vehicles at the Boggo Road worksite.

All other aspects of the reference design are as described in the EIS.

### 3.3 Refinements to the construction methodology

#### 3.3.1 Bowen Hills construction worksite

Brisbane City Council's submission to the EIS identified that Council's property at 45 O'Connell Terrace, which was identified as a worksite, is required for construction of the Legacy Way toll road control centre and is not available for Cross River Rail.

The Bowen Hills site was identified in the EIS as a construction support site for the re-grading of O'Connell Terrace, including construction of the road over rail bridge (refer Section 4.1.7 of the EIS). The Project recognises that this site is no longer available and no longer intends to use this site for the construction of the Project. Construction support for O'Connell Terrace would be provided within the proposed RNA worksite footprint and remaining worksites to the east (refer to construction worksite plans within Volume 2 – Reference Design Drawings.)

#### 3.3.2 Victoria Park construction worksite

Following feedback in written submissions to the EIS, the layout of the northern portal worksite at Victoria Park has been refined to reduce impacts on two mature fig trees that were located within the boundary of the proposed construction worksite.

The revised worksite layout for Victoria Park is shown in **Appendix C**, along with the worksite arrangement proposed in the EIS, Volume 2 – Reference Design Drawings.

The revised worksite layout includes an area of land immediately east of the proposed worksite and has been refined to exclude from the worksite boundary the two fig trees located at the southern end of the 'general site area'. The revised worksite layout, including the alignment of the internal access road, also avoids impacts on other areas of vegetation of local value identified in submissions to the EIS.

Refinements made to the construction worksite would avoid the need to remove the large fig trees at Victoria Park for construction activities. The refined worksite also avoids direct impacts on the dog off-leash park. Other impacts relating to matters such as noise, construction air quality, nature conservation, cultural heritage and social values would remain as described in the EIS.

The pedestrian and cycle path has been further realigned to avoid the revised construction worksite and to address concerns raised by Brisbane City Council about potential conflicts between the cycle path and the access path to the children's play group facilities. The further realignment of the pedestrian and cycle path would maintain important local connections as described in the EIS.

Prior to works commencing, a qualified arborist would develop an appropriate management plan for these figs to minimise construction impacts on fig tree roots.

#### 3.3.3 Boggo Road construction worksite

A refinement has been made to the location of a section of the Boggo Road worksite located at the intersection of Peter Doherty Street and Annerley Road in response to a submission about the future development of the southern portion of the worksite.

The part of the worksite south of Peter Doherty Street was identified in the EIS for worker car parking with space for up to 30 car parks, site offices and workshop/store. These activities would relocate to an alternate worksite to be situated further to the south-east along Peter Doherty Street.

The part of the worksite north of Peter Doherty Street, identified in the reference design for activities such as spoil loading, water treatment and compressor/plant would be retained and continue to be used for these activities.

The revised worksite arrangement, including the alternate worksite, is shown in **Appendix C**, along with the worksite arrangement identified in the EIS, Volume 2 – Reference Design Drawings.

The alternative worksite would be located near to the site of the planned Leukemia Foundation accommodation development, which is proposed to be completed in early 2012. This alternative worksite would include site offices and hardstand for workforce car parking, construction plant and materials storage. No other activities are proposed on this alternative worksite. There would be no exposed earth on this worksite, once established.

Consequently, the alternative worksite would not cause any additional impacts to those described in the EIS for the Leukemia Foundation in relation to construction noise or air quality.

Refinements are also proposed to the remaining portion of the construction worksite on the northern side of Peter Doherty Street, to provide site access from Annerley Road via Peter Doherty Street. This would allow Peter Doherty Street to be reopened once the station roof has been constructed for the southern portion of the underground station.

During the period that Peter Doherty Street is closed to allow construction of the underground station, access to the worksite located adjacent to the railway corridor would be via Boggo Road. This would generally be by light vehicles only and is not expected to impact on local access in the precinct. Spoil haulage and delivery materials vehicles would enter the site from Annerley Road via Peter Doherty Street as proposed in the EIS.

### 3.3.4 Spoil haulage route – Boggo Road

A proposed refinement is proposed in relation to the inbound spoil haulage route at Boggo Road. This is in response to the following issues raised in submissions to the EIS:

- the geometry of the intersection of Cornwall Street and Ipswich Road
- the ability for spoil haulage trucks to make a left turn into Cornwall Street from Ipswich Road
- the appropriateness of spoil trucks using Cornwall Street that is a primary access route to the PAH.

The revised route for spoil haulage vehicles, is shown in **Figure 3-1**, and includes:

- Annerley Road, Cornwall Street and Ipswich Road for haulage vehicles travelling from the Boggo Road worksite to the spoil placement site at Swanbank (outbound)
- Ipswich Road, Fairfield Road and Annerley Road for haulage vehicles travelling from Swanbank to the Boggo Road worksite (inbound).

Fairfield Road was identified in the EIS as a potential material delivery route to the Boggo Road worksite.


**LEGEND**

- Inbound Haulage Routes
- Alternatve Inbound Haulage Routes
- Outbound Haulage Routes
- Potential Material Delivery Inbound Routes
- Potential Material Delivery Outbound Routes (return vehicles only)
- Worksite Extent
- Existing Structure
- Worksite

**CROSS RIVER RAIL  
ENVIRONMENTAL IMPACT STATEMENT**
**Figure 3-1**
**Revised Truck Access Routes  
Boggo Road Construction Site**

0 50 100 150 200 250 m  
1:8,500 at A4

**CrossRiverRail**
**SKM** **aurecon**  
CRR JOINT VENTURE

The refinement to the spoil haulage route would result in the following changes to truck movements:

- a decrease in the number of westbound truck movements on Cornwall Street (east of Annerley Road), by an average of 36 trucks per day and up to 89 trucks per day during peak spoil haulage times
- an increase in the number of northbound truck movements on Fairfield Road, by an average of 36 trucks per day and up to 89 trucks per day during peak spoil haulage times.

Spoil haulage from Boggo Road would occur between 6.30 am and 6.30 pm, Monday to Saturday.

The peak increase in trucks on Fairfield Road northbound equates to approximately 0.8% more vehicles over the 12 hour haulage period, or an 11% increase in heavy vehicles.

Existing (2009) morning peak period traffic performance on these road links is reported as being within capacity with a degree of saturation of less than 75%.

Degree of Saturation is the calculated ratio between the demand flow rate and the capacity for each traffic movement. When the maximum degree of saturation for any movement is above 95% then the intersection is regarded as over saturated or operating above its practical capacity. This means that it will take more than one cycle of the signals to progress through the intersection. Degree of Saturation values above 1.0 typically indicate that several movements will fall within this category.

Given the relatively low numbers of truck movements compared to background flows and existing traffic capacity, the change to the spoil haulage route is not expected to result in any discernible adverse traffic or access impacts for Fairfield Road.

The expected change in average traffic noise levels at residential receivers adjacent to or near Fairfield Road would be directly related to the low volumes of construction traffic. Consequently, potential changes in traffic noise due to an increase in the number of spoil haulage truck movements is expected to be negligible.

The proposed amended spoil routes would remove inbound spoil trucks from using Cornwall Street. This would avoid the constrained geometry of the Ipswich Road – Cornwall Street intersection. The risk would be removed for spoil trucks having to wait behind vehicles turning right to access the PAH emergency access causing additional delay and then being required to make a hill start.

Outbound spoil trucks would continue to Cornwall Street and turn right onto Ipswich Road. The peak hour volume of trucks making this movement is expected to be no more than eight trucks per hour. This increase in spoil haulage traffic during the peak hour on Cornwall Street would not increase the length of traffic queues on Cornwall Street on the eastbound approach to Ipswich Road by more than one vehicle length. Consequently, the delay to traffic flow on Cornwall Street and impact on the PAH emergency access would be minimal.

## 4 Key issues raised in submissions

The key issues raised in submissions to the EIS are identified and discussed below, in order progressing from the southern end of the study corridor to the northern end of the study corridor.

### 4.1 Closure of the open level crossing and local road changes – Salisbury

#### 4.1.1 Closure of the open level crossing

##### **Issues raised in submissions**

Concerns about proposed changes to local roads at Salisbury and particularly the closure of the Beaudesert Road (service road) open level crossing were raised in a number of submissions to the EIS from residents of Rocklea and Salisbury.

The open level crossing was identified in submissions as providing access for residents of Rocklea to Salisbury, Moorooka and other neighbouring suburbs as well as to schools, retail facilities and other work places. The crossing was also identified in submissions to the EIS as an important access during flood events for many flood-affected properties in Rocklea south of the rail corridor. In particular, the open level crossing was the only access route to Rocklea during the flood in January 2011.

Specific issues raised in submissions to the EIS about the proposed changes to local roads at Salisbury and the closure of the open level crossing included:

- there are too many positive benefits for the ongoing use of the open level crossing, particularly when traffic congestion issues occurs on Beaudesert Road and Ipswich Road
- the closure of the open level crossing will cost time and money, and cause frustration, particularly to areas of Salisbury during peak hours. It is doubted that the government will reimburse the community for this inconvenience. Residents will be required to go to Ipswich Road and through Evans Road to get to Salisbury
- find it hard that trains will be coming and going every five minutes during peak hour and that a vital access and back-up access for Beaudesert Road is being removed during all other hours of the day. The proposal to increase rail traffic won't solve the issue because Queensland Rail is rarely on time during peak hours. The proposal will cost rate payers more money and won't give rate payers noticeable returns on investment
- the forecast number of trains using the open level crossing does not justify its closure
- if there is an accident on the (Beaudesert Road) bridge, people in Rocklea won't be able to access their homes. This situation has happened before and all traffic has been diverted across the open level crossing. This also banks traffic up Granard Road and Evans Road. There is not an alternative route to access the Rocklea area except via the open level crossing
- removing the open level crossing will force a greater amount of traffic onto Beaudesert Road, creating a larger number of problems
- local businesses rely on the open level crossing for transporting goods and removing this will make it more dangerous at the lights at the end of the lights
- the proposed traffic lights at the end of Beaudesert Road would flood before any other area of Rocklea resulting in residents not being able to evacuate.

A number of residents identified alternatives to the closure of the open level crossing. These included:

- maintaining the level crossing
- keeping the level crossing and allowing motorists using the level crossing to wait during the peak hour traffic

- building a bridge for the new rail lines or a tunnel for traffic to go under the rail lines to keep access across the rail corridor
- providing removable bollards/barriers which enable residents to access the high point as an ‘escape route’ and that will allow heavy vehicles to enter Rocklea as soon as flood waters recede.

Concerns were also raised in submissions that most residents in Rocklea do not know about the closure of the open level crossing as the “flyer” was unclear or people did not receive the flyer. The need for further public notice about the closure of the crossing, including door knocking and signage at the level crossing to make motorists aware of the proposed changes was also raised.

### **Response to issues raised in submissions**

The rail corridor would be widened at Salisbury and Rocklea to accommodate two additional rail tracks, increasing the width of the open level crossing to five tracks. The number of train services in this section of the track is expected to almost double with Cross River Rail in the peak periods by 2021 compared to the existing number of train services. This would result in long wait times for motorists at the crossing, leading to increased queuing and congestion on local roads and impacts on access to nearby business and residential properties, as well as increased safety concerns.

Information provided by Queensland Rail on the open level crossing indicates that the level crossing is currently (2011) open to allow road traffic to cross for a total of 38 minutes during the morning peak hour (ie approximately 63% of the time). If the level crossing was to remain open, with the Project operating, the period for which it was open would decrease to:

- 20 minutes during the morning peak hour (approximately 33%) in 2020 (based on the forecast number of passenger trains as outlined in Section 5.5.4 of the EIS, of six car sets and two freight trains)
- 17 minutes during the morning peak hour (approximately 28%) in 2031 (based on 29 passenger trains as outlined Section 5.5.4 of the EIS, consisting of nine car sets and two freight trains).

The closure of the level crossing is essential to address the high road and rail safety risk associated with the increased train frequency and crossing width. Closure of the open level crossing is consistent with the Queensland Government’s strategy for improving transport system efficiency and safety by progressively removing open level rail crossings, as outlined in the draft *Queensland Level Crossing Safety Strategy 2010-2014*.

As recognised in Section 5.7.2 of the EIS, the closure of the Beaudesert Road (service road) open level crossing would require traffic to divert along alternative routes. The Beaudesert Road overpass, along with the proposed modifications to the road network for the reference design, would provide appropriate alternative routes. This would result in increased travel distances of approximately 800 m for residents south of the rail corridor accessing northern destinations, and approximately 1.4 km for residents north of the corridor accessing destinations to the south. Signalisation of the intersection of Gladstone Road and Muriel Avenue is proposed as part of the reference design to provide improved access for motorists turning right from Gladstone Road.

The provision of traffic signals at the intersection of Lillian Avenue, Beaudesert Road and Tramore Street would provide access to the north and south for local businesses and residents. This would also provide improved access and safety for motorists turning right to or from Beaudesert Road. Traffic analysis was undertaken for the Project to assess the performance of Beaudesert Road and the proposed signalised intersection at Lillian Avenue and Tramore Street.

The analysis found that the intersection would continue to function with an acceptable Level of Service (LOS) for all vehicles with a LOS A in the AM peak and LOS B in the PM peak by 2031. LOS is a key measure of the performance of the road network. It can be measured at a mid-block point or at an intersection. The LOS range is from A (very good) to E (congested) and F (very congested). The provision of traffic signals at this intersection would also improve safety for traffic exiting or entering local roads.

In the event of a traffic incident on the Beaudesert Road overpass bridge, Queensland Police Service and emergency services would need to divert traffic via alternate routes around the incident. Potential alternative routes are available, including via Ipswich Road and Granard Road, to maintain access to Rocklea, and via Evans Road and Orange Grove Road for example, to maintain access to Salisbury. This would be considered a reasonable response to a likely rare event.

The reference design includes a new emergency access point from the Beaudesert Road service road to the Beaudesert Road overpass during a major flood event in recognition of the lower flood immunity of the proposed signalised intersection of Beaudesert Road, Lillian Avenue and Tramore Street compared to the existing open level crossing. This proposed emergency access point would provide access to Beaudesert Road from Rocklea south of the rail corridor, at a similar flood immunity to the existing open level crossing and above the peak January 2011 flood level.

The provision of the emergency access point to the Beaudesert Road overpass would provide safer access to alternative temporary solutions identified in submissions (ie provision of removal bollards/barriers) by avoiding potential conflicts with the live rail corridor. The emergency access would not require the ongoing maintenance of safety systems (ie warning alarms and boom gates) at the crossing that the suggested alternatives would.

In relation to the issues raised about the level of community awareness of the proposed closure, the proposal to close the open level crossing was released as part of the reference design in November 2010. This included distribution of more than 200,000 newsletters to residents and businesses in the study corridor and beyond, community information sessions, advertisements in local papers and public displays. Information was also available on the project website. Information on the closure of the open level crossing was also made available with the release of the EIS in August 2011. The EIS was publicly notified between Tuesday, 30 August 2011 and Friday, 21 October 2011 as detailed in **Section 2.1**.

#### 4.1.2 Operation of the emergency access

##### Issues raised in submissions

Issues relating to the operation of the emergency access proposed as part of the reference design in response to community concerns about flood access were also raised in submissions. In particular, concerns were raised that:

- many heavy vehicles would not be able to use the proposed “emergency gates”
- there was no suitable means to ensure that the emergency flood gate is open when it is needed and that residents would need to endure the oncoming traffic to make it across to the other side of the bridge
- access to the overpass would be locked, removing a potential means of getting into and out of the area in a flood.

##### Response to issues raised in submissions

The operation of the emergency access during a major flood event would be managed by the emergency services in accordance with a specific emergency operations management plan. It is noted that during the January 2011 floods, the Queensland Police Service implemented road closures and traffic diversions at locations impacted by flooding. A specific emergency operations management plan would need to be developed by Transport and Main Roads, as the proponent of the Project, in consultation with the emergency services, including the Queensland Police Service, Queensland Ambulance Service, Queensland Fire and Rescue Service and the State Emergency Service.

The design of the emergency access would be refined during the detailed design phase of Cross River Rail in consultation with the local community and the emergency services. Nevertheless, the emergency access point would be able to accommodate most large vehicles (eg fire trucks, emergency vehicles and articulated buses) undertaking a U-turn movement from the Beaudesert Road service road to the northbound carriageway of the Beaudesert Road overpass given the combined road widths exceed 30 m.

## 4.2 Commuter parking and station access – Yeerongpilly

### 4.2.1 Commuter parking during Cross River Rail operations

#### Issues raised in submissions

Residents of Yeerongpilly raised a number of issues in relation to commuter parking at Yeerongpilly during the operation of Cross River Rail and the need for a large commuter car park (or park ‘n’ ride facilities) to be constructed on land used for the worksite during construction.

Commuter parking in local streets was identified as an existing issue in a number of submissions, with Wilkie Street, Green Street, Stamford Street and Livingston Street “parked out” by 7.30 am weekdays. Concerns were identified that the existing situation would become much worse and that these issues would increase due to increased patronage and the popularity of the new underground services at Yeerongpilly.

Specific concerns raised in submissions relating to commuter parking at Yeerongpilly included:

- with the increase in patronage, there will be a corresponding increase in the need for parking. Wilkie Street is congested as it is, especially when there is a wedding or funeral at the Church
- with Cross River Rail, Yeerongpilly Station will become a significant park ‘n’ ride station as it would provide the main access point to the new express services for residents of the south and east (being in close proximity to the Ipswich Motorway). This is not captured in Table 5-32 of the EIS as it assumes no increase in patronage of the station by customers arriving by car.
- as Yeerongpilly Station will be bigger and have express trains to the City, it is likely to attract more train users from Moorooka and Tarragindi. If there is no car park, people won’t take the train and will drive into the city or park illegally around the railway station
- residents do not deserve to be affected by the parking of the inevitably huge increase in passengers who will want to use Cross River Rail. The neighbourhood should not be seen as a car park to compensate for poor planning and tight budgets.
- excessive street parking in surrounding streets may impact on residential amenity
- a number of car parks at Yeerongpilly Station will be removed and not replaced. The new Yeerongpilly Station will have a kiss ‘n’ ride, but no car parking spaces, including for people with disabilities. This is one of the few stations in the area with disability access and is used by people with disabilities who can presently park and use the train.
- the current TransLink policy of no car parking at railway stations within 10 km of the CBD ignores the reality of working families who are time poor and need to be able to use cars to take children to child care and schools before catching public transport to work
- the comment about the 2009 TransLink Park ‘n’ Ride survey (referred in the EIS) is misleading as it does not indicate the “occupancy” of these facilities. The existing parking facilities are full by 7.00 am every morning, before peak commuting. The survey was completed by TransLink, which is the very organisation that does not want park ‘n’ ride facilities.
- the failure to include any park ‘n’ ride facilities in the project scope is a major shortcoming of the proposal.

A number of submissions proposed that the current TransLink policy of not providing park ‘n’ ride within 10 km of the city needed an exception or to be revisited and for a commuter parking (either paid or free parking) to be provided on industrial land used for the construction worksite at Station Road. This was considered in submissions as a way to remove the need for Yeerongpilly residents to be subjected to an unnecessary and restrictive car parking management plan.

Other suggestions identified in submissions to the EIS to address issues associated with commuter parking at Yeerongpilly included:

- need to investigate innovative approaches to parking provision, such as shared car parking for residents of the new development, retail consumers and commuters as part of the redevelopment of the Yeerongpilly worksite
- commuter car parking at Yeerongpilly should provide for at least 200 commuter car parks and an area closer to the station for up to 10 car parks for people with disability. The land adjacent to Moolabin Creek would be ideal given that this area is flood prone and buildings should not be built on this area of land
- need for a school bus service between the new Yeerongpilly Station and Yeronga State School, Yeronga State High School and TAFE
- park 'n' ride facilities should be built over Clapham Rail Yard, accommodating 500 plus cars. This would provide shelter and safe holding yards for trains and would service traffic from the Ipswich Motorway, Beaudesert Road and Moorooka
- provide a large amount of parking at Rocklea and advertise this to the public
- on-street parking should be limited through the introduction of a residents parking scheme, with two hour park limits during week days in Green Street, Livingston Street, Stamford Street and Crichton Street
- traffic slowing devices should be provided in Green Street, Livingston Street, Stamford Street and Crichton Street for safety
- provide off-street parking on the site adjoining the church in Wilkie Street for use by the parish, with access to be provided through the church property. This would allow parishioners to use a secure parking facility and reduce the prospect of major accidents on Wilkie Street due to tight parking
- the need for a substantial bus/train interchange on the industrial land at Station Road
- the need for adequate end of trip facilities, kiss 'n' ride and an appropriate level of commuter parking to prevent excessive street parking.

A submission also raised concerns that a pay car park on industrial land at Station Road does not consider the significant increase in negative impacts from noise, pollution and negative social consequences associated with large scale car parks. These impacts would add to the cumulative impacts affecting those living in Bow and Livingston streets endured during the construction of Cross River Rail. Any pay car park should be situated on the other side of Fairfield Road on the current Department of Primary Industry site away from residential areas.

#### **Response to issues raised in submissions**

Commuter parking at Yeerongpilly Station is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly Station as part of the reference design.

This is in keeping with TransLink's Park 'n' Ride Policy for areas within 10 km of the Brisbane CBD. The policy aims to encourage walk, cycle, bus and kiss 'n' ride as the mode of access for stations close to the CBD, such as Yeerongpilly, with park 'n' ride facilities located in outer areas that do not have sufficient land use densities to support local bus feeder services.

Experience elsewhere in inner Brisbane (ie Albion Station), shows that park 'n' ride facilities in inner areas have the effect of drawing large volumes of traffic from long distances, resulting in increased congestion in inner suburbs and local streets surrounding the park 'n' ride facilities.

At greater distances from the CBD, TransLink has implemented park 'n' ride stations at a number of rail and busway stations where it is less practical for passengers to access the stations by non-vehicular modes. TransLink has recently completed upgrades to park 'n' ride facilities including those at Dinmore, Ormiston, Bald Hills, Bray Park and Morayfield. New park 'n' ride projects being implemented by TransLink include those at Birkdale, Capalaba, The Gap, Jindalee, Rosewood and Sandgate.

TransLink would continue to monitor park 'n' ride demand across the rail network following the opening of Cross River Rail as part of its on-going strategic planning. This would include analysing overspill parking onto residential streets along the Beenleigh/Gold Coast line corridor and examining options for enhancing park 'n' ride capacity at strategic locations along the corridor.

There would be no additional park 'n' ride facilities provided at Yeerongpilly as part of Cross River Rail. The EIS investigations (refer to Table 5-32, Chapter 5) do not show any material increase in patronage of the station by customers arriving by car. Nevertheless, there would be some increase, principally in kiss 'n' ride trips, which are forecast to increase by 50% compared to the Without Cross River Rail scenarios. This was discussed in Section 5.7.2 of the EIS, with further details provided in Section 6.6.4 of the Transport Technical Report.

Prior to operation of Cross River Rail, TransLink would explore opportunities to enhance bus services to Yeerongpilly Station and to take advantage of new bus-rail interchange opportunities offered by Cross River Rail. This could include services that link the new Yeerongpilly Station to local education facilities such as each of the schools and the TAFE car park.

To mitigate the impact of on-street parking by commuters on the residential streets at Yeerongpilly, the EIS proposed a number of measures that include the implementation of an on-street parking management scheme and a range of measures to encourage walking, cycling, passenger drop-off and bus interchange.

The implementation of an on-street parking management scheme would include local parking restrictions, such as a controlled parking zone or 'traffic area' that restricts on-street commuter parking. Brisbane City Council has recognised the need for parking controls at Yeerongpilly in its submission. The nature of parking controls would be developed further in the detailed design phase in consultation with Brisbane City Council. Commuters who would have used the street network around Yeerongpilly but are not resident permit holders would be required to either find an alternative park 'n' ride location to drive to, or to use a different access mode to reach the station (eg walk, cycle, bus or kiss 'n' ride).

To facilitate trips to Yeerongpilly Station by other modes of transport, the reference design incorporates a range of measures to encourage walking, cycling, passenger drop-off and bus interchange. This includes improvements to the pedestrian environment on Wilkie Street, cycle facilities (including seventeen bicycle racks and a secure bicycle cage with an indicative capacity of around ten bicycles) at the new Yeerongpilly Station, passenger drop-off (kiss 'n' ride) facilities, taxi bay and new bus stops near the station entry to improve transport interchange.

These elements of the design are described in detail in Section 5.7.2 of the EIS and are shown in drawing CRR-YEE-A-3000 rev C.

The information presented in Section 5.7.2 of the EIS regarding park 'n' ride demand at Yeerongpilly is based on a survey undertaken by TransLink in 2009. The survey was intended to provide an indication of park 'n' ride demand at the station and involved a survey of cars parked in both the formal car park areas (an existing capacity for 24 vehicles) and informally in surrounding streets. The survey identified that approximately 85% of car parks in the formal car park area were occupied at the time of the survey (ie mid morning on a weekday). However, the survey also showed demand for additional commuter parking, with informal on-street parking exceeding 90 cars.

Yeerongpilly Station currently has 24 car parks. These would be replaced in the future with Cross River Rail. The reference design would also include parking for people with disability at the new Yeerongpilly Station to replace the existing one disability parking space that is currently available at Yeerongpilly Station and maintaining step free access to the station. Any required additional disabled parking would be provided on street, in consultation with Brisbane City Council.

Planning for the future use of the worksite would be undertaken as part of a separate planning process to the Project. Any planning process would need to include consultation with the local community and stakeholders, building on the consultation process implemented for Cross River Rail. This process would need to include an assessment of impacts associated with various land use options, including the provision of parking. Planning for the re-use of the Yeerongpilly worksite would need to reflect current legislation and policy directions.

#### 4.2.2 Commuter parking during construction

##### Issues raised in submissions

Concerns were raised in submissions about potential impacts on commuter parking at Yeerongpilly during the construction of the Project. Submissions also identified the need to consider parking for commuters as well as construction workers.

In particular, concerns were raised about the potential impacts of the realignment of Wilkie Street and the closure of Station Road. Such impacts were thought to include an increase in traffic in Green Street and demand for parking in streets adjacent to the Yeerongpilly Station, such as Wilkie Street, Green Street, Livingston Street, Crichton Street and Stamford Street. This is likely to increase the incidences of “wild parking”, with cars parking across driveways and close to street corners.

Submissions requested that parking in streets surrounding the Yeerongpilly Station be limited on weekdays to two hours, with parking permits available for residents.

It was also suggested that the primary focus of construction works should commence at the St Fabian’s Church end of Wilkie Street to minimise the loss of on-street parking.

##### Response to issues raised in submissions

Potential impacts for on-street parking due to construction works at Yeerongpilly are discussed in Section 5.10.5 of the EIS. The Yeerongpilly construction worksite is not located in a controlled parking area, however a resident parking zone is proposed by Cross River Rail to be implemented prior to the start of rail operations associated with the Project in order to control commuter parking.

This scheme could be introduced prior to construction commencing, subject to agreement with Brisbane City Council, to further mitigate any potential workforce parking impacts on surrounding residential streets and enforce worker parking within the designated off street area.

Table 24-10 Element 2 of Section 24.9 of the EIS describes a draft outline Environmental Management Plan for the traffic and transport components of the construction phase of Cross River Rail. This includes the preparation and implementation of a Construction Traffic Management Plan (CTMP) for the Yeerongpilly worksite, which would include measures to manage impacts in the streets surrounding the worksite during construction.

Performance measures addressed in the CTMP would include:

- disruptions to the road network and the public transport network due to construction works are avoided during peak periods and minimised during off-peak periods
- haulage vehicles, ie spoil haulage, fill haulage, construction equipment and associated material haulage, only travel on designated construction routes, unless approved by the relevant traffic authority
- local roads are not used by construction vehicles, unless approved by the relevant traffic authority in consultation with the local community serviced by such roads
- traffic flows near construction works are maintained during peak traffic periods and managed during off-peak periods to minimise disruption
- construction traffic is managed and worker parking is provided in sufficient numbers and managed to avoid impact on communities near to construction worksites
- information about the timing and scale of changes to traffic and transport conditions on passenger rail operations and the road network in the vicinity of construction works is provided in good time to the local community, commuters and on request to other people interested in the construction works
- safe access is maintained for passers-by and for passengers to and from public transport facilities, including rail stations, busway stations and bus stops

- pedestrian and cycle access to community facilities is not disrupted by construction works, unless approved by the relevant traffic authority in consultation with the manager of the community facilities.

#### 4.2.3 Access to Yeerongpilly Station during construction

##### **Issues raised in submissions**

A number of submissions raised concerns about the loss of pedestrian access to the Yeerongpilly Station and across the railway corridor during construction of Wilkie Street and the southern portal.

##### **Response to issues raised in submissions**

During construction, access to the existing Yeerongpilly Station and across the rail corridor would be maintained from both sides of the rail corridor, apart from short periods such as overnight or weekends, when works associated with the extension of the overpass for example, or when works require the closure of the rail system itself (eg due to track works). The process for planning and carrying out rail shutdowns is outlined in Section 5.10.4 of the EIS. As outlined in Table 24-11 Element 2 of Section 24.9 (Draft outline EMP) of the EIS, bus replacement services would be provided where passenger rail operations are interrupted.

An initial assessment of construction sequencing around Yeerongpilly Station proposes to prioritise the extension of the current pedestrian overpass to align with the new Wilkie Street alignment early in the construction program, prior to other works to widen the railway itself. While construction works are carried out for the realignment of Wilkie Street, access would be maintained to Yeerongpilly Station from the existing Wilkie Street via the pedestrian overpass. Once the realigned Wilkie Street is constructed, the existing pedestrian overpass would be extended to the realigned Wilkie Street, which would allow access to the existing station and across the rail corridor.

### 4.3 Freight rail operations

A number of submissions raised issues relating to freight operations, including freight forecasts used in the EIS, impacts associated with increased freight movements such as noise and dust, need for alternate freight corridors and impact on freight operations during the construction of Cross River Rail.

#### 4.3.1 Rail freight forecasts

##### **Issues raised in submissions**

Specific issues raised in submissions about future rail freight forecasts include:

- clarification is needed of the numbers of trains presented in Table 16-64 of the EIS, including whether they relate to train operations per day and trips in both directions (ie north and south) as well as the number of existing (2011) freight traffic, as the number of freight trains seems higher than the 28 trains indicated in Table 16-64 of the EIS for 2009
- the Tennyson Residents' Association raised concerns relating to an increase in freight train traffic via Tennyson due to Cross River Rail. The figures presented in Table 5-24 of the EIS are considered to under-estimate increased rail traffic through Tennyson as the Project would allow longer trains, "flighting" and fewer restrictions on operating hours.
- plans for the new generation rolling stock and whether these would be used to pull coal trains or inter-modal freight only
- Table 5-16 of the EIS is incomplete and potentially misleading, as it does not provide the actual freight movements currently and implies that almost all future freight access would be restricted to coal and that inter-modal freight would be almost eliminated. The validity of this assumption was questioned given the investment in the Acacia Ridge freight facility. The table also suggests that increasing the number of freight movements to 197 trains is a foregone conclusion.
- clarification is needed on the restrictions to freight movements at present and how these will change with and without the Project, hours of night-time operations, and how much the movement of coal would increase from current levels

- the statement in the EIS that rail freight could have greater capability from Cross River Rail implies that there will be a loosening of current restrictions on freight operations that will lead to greater movements (eg longer trains and/or “flighting” in which one train closely follows another train). Issues were raised that any restrictions to passenger train frequencies should be avoided and that the needs of Brisbane’s citizens should not be overlooked to satisfy the demands of the coal industry.
- Port of Brisbane comments that the EIS does not provide any indication of the maximum freight capacity with the Project, making it impossible to determine whether an increase in freight demand can be met, beyond that forecast in the EIS. The maximum capacity for import/export (IMEX) and domestic freight should be indicated.
- Port of Brisbane also notes that the long-term demand for IMEX freight appears to be underestimated.
- Clarity is required on the future objectives for the use of the rail line between Tennyson and Dutton Park. In particular, concerns were raised that local passenger services to Fairfield, Yeronga and Yeerongpilly would suffer as increased freight reduces available times.

Queensland Transport and Logistics Council (QTLC) raised a number of specific issues relating to future rail freight forecasts, including:

- the EIS neglects to mention the time of day goods can be received at their destination
- the freight train demand for paths presented in Table 3-7 of the Executive Summary may be overstated if those paths cannot be utilised due to constraints elsewhere on the network (ie Western Corridor, Toowoomba Range, etc). Increased demand would occur for rail services on the Western Corridor with or without construction of the Surat Basin Railway. As such, current and future rail freight demand for the Western Corridor may be understated
- clarity is required about any undisclosed presumptions made about the Surat Basin Rail or Inland Rail
- the EIS also makes no mention of the Southern Rail Freight Corridor nor the contribution that corridor would have in terms of exploiting the train paths to the Port of Brisbane and Acacia Ridge that Cross River Rail would potentially open up
- the EIS should present the maximum number of freight paths available in future years to get an appreciation of the redundancy Cross River Rail could afford in the event demand forecasts presented in the EIS prove incorrect.

Brisbane City Council also observes that potential impacts to the coal and grain industry without Cross River Rail may be understated.

A number of submissions suggested that the Rail Operations Report and Addenda (2010 and 2011) need to be made available to affected residents to allow them to fully understand the impact of future rail operations with the Project. Submissions by residents also suggested that:

- guarantees should be provided that the use of the existing railway for freight would not increase to unreasonable levels and that clear guidelines need to be set as to how many train movements per day will be conducted and between what hours
- longer trains, particularly those carrying coal, should be avoided as increased frequency of operations will lead to almost permanent periods of noise
- if freight volumes are to increase significantly, it should be a requirement that locomotives hauling all freight, including coal, through residential areas are electric to reduce the disturbance caused by diesel locomotives
- residents should be given reassurances that there is no intention to massively increase the amount of coal freight along the corridor should the Project proceed. The environmental impact on changing this situation should be properly evaluated, including the need to factor into projected Greenhouse Gas (GHG) emission benefits of the Project the burning of additional volumes of exported coal overseas.

## Response to issues raised in submissions

The impacts and benefits of the Project on freight operations are also discussed in Section 5.6.8 of the EIS.

Section 5.6.8 of the EIS stated that Cross River Rail provides additional passenger tracks through the corridor and frees up a dedicated, dual gauge freight track from Salisbury to Park Road. This would provide the missing section of a dedicated freight route through the southern Brisbane rail network, from Acacia Ridge to the Port of Brisbane. The existing dual gauge line, once dedicated to freight, would allow all projected 2031 rail freight demand to be accommodated in this section.

The Project would unlock freight capacity within the corridor during peak hours in particular, by removing conflicting rail movements between Yeerongpilly and Park Road. The total freight able to be carried on the network, including through the part of the network that Cross River Rail serves, would be determined by wider factors including infrastructure beyond the corridor and as well as other physical and contractual requirements.

This assessment was based on the development of indicative freight timetables required to meet projected freight demands outlined in Section 3.4.1 of the Technical Report No.1 – Transport.

Following discussions with Queensland Rail, medium growth assumptions were used for the freight analysis, consistent with the growth rates used in the Inner City Rail Capacity Study (ICRCS). The medium freight growth rates considered different growth rates for various types of freight and for segments of the South East Queensland rail network. This assumed no inland rail route with interstate freight movements continuing into Acacia Ridge via the existing standard gauge link to the south of the terminal. These growth forecasts assume that coal freight grows by 5% per annum up to a limit of 10 million tonnes per annum (mtpa) which is the assumed capacity of the Port of Brisbane coal terminal. The assumptions table notes that substantial exploitation of the Surat Basin coal reserves which would result in volumes above this level would be contingent on the development of the Surat Basin Railway ('Southern Missing Link') allowing exports through the Port of Gladstone.

Freight demands were translated into train loads and apportioned to the different time periods of the day. These were aggregated into weekly freight demands to provide an understanding of the potential weekly freight paths available. In developing these indicative freight timetables the following factors were assumed:

- no service "flighting" (ie one train immediately following another) would be introduced
- current train consist lengths (620 m) would be maintained. For the purposes of rail noise modelling, freight trains between Salisbury and Park Road have been assumed to be 620 long for the existing and future modelling year 2021. Freight trains between Salisbury and Park Road have been assumed to be 1,500 m long for the future year 2031 as a 'worst case' scenario
- current hours of operation would be maintained, including the restriction of freight rail operations in passenger peak periods where necessary, with freight traffic using train paths on the passenger network during the off-peak period
- off-peak passenger service levels would be the same for both the with and without Project scenarios, and increased to 15 minute headways on most lines
- rail network infrastructure external to the Cross River Rail study corridor would have been augmented allowing demand to be supplied to the boundaries of the study corridor without constraint (ie other bottlenecks on the network outside of the Cross River Rail study corridor would have been addressed by other projects)
- removal of the passenger peak period curfews in the 'with Project' case only where the Project provides dedicated freight rail infrastructure.

While the train paths forecast may be conservative (potentially under-estimates), they allow a consistent comparison between scenarios.

It is noted that a separate Queensland Government study has been undertaken into the development of a Southern Freight Rail Line (a line connecting the Western Line (to/from Toowoomba) at Rosewood to the Interstate line (to/from Sydney) south of Acacia Ridge, bypassing the Ipswich Line and Tennyson Line. The Southern Freight Rail Line would alter freight rail operations substantially within South East Queensland.

It would create a dedicated freight network from Rosewood to the Port of Brisbane, and take maximum advantage of reduced rail traffic on the surface rail tracks. This would mean that the Tennyson Line would no longer carry coal or bulk freight (grain etc), reducing the number of trains on this link by over 200 per week by 2031. However, as the Southern Freight Rail Line is not yet funded, it has not been included in the base freight rail operations assessment.

In response to submissions requesting clarity on assumed train numbers by year and by specific geographic sectors of the network, **Table 4-1** provides an overview of the existing (2009) and future rail freight train forecasts with and without the Project. This was reported in Section 5.6.8 of the EIS.

Total (ie maximum) rail freight capacity on the proposed freight line through the Cross River Rail corridor is a function of several factors including train length, signalling systems, hours of operation (eg lower off-peak frequencies pre-morning peak and post-evening peak), train speed and slotting opportunities among others. As stated in Section 5.6.8 of the EIS, the availability of freight paths would be able to match the rail freight demand for all lines in 2021 and 2031. The total freight able to be carried on the network (including through the part of the network that Cross River Rail serves) will also be determined by wider infrastructure constraints beyond the corridor which the Project is not scoped to investigate in detail.

**Table 4-1** describes the location of freight movements and also states that the information for 2009 is actual freight train movements as opposed to demand. However, the information is the same as that presented in Section 5.6.8 of the EIS.

**Table 4-1 Freight train forecasts, with and without the Project**

Location	Weekly freight (both directions)					
	2009 (Freight movements)	2021			2031	
		Demand	Without CRR	With CRR	Demand	Without CRR
Salisbury – Yeerongpilly	137	172	24 (14%)	172 (100%)	209	24 (11%)
Yeerongpilly – Port (inter-modal)	62	78	3 (4%)	78 (100%)	94	3 (3%)
Yeerongpilly – Port (coal)	133	197	197 (100%)	197 (100%)	232	198 (85%)
Yeerongpilly to Port (Total)	195	275	201 (73%)	275 (100%)	326	201 (62%)
						326 (100%)

As indicated in **Table 4-1**, in 2009 (Project base case), a total of 195 freight trains (ie two directions) operated between Yeerongpilly and Park Road (en route to the Port of Brisbane) each week.

With the Project, this is expected to grow to a total of 326 trains per week by 2031. Without the Project, the total number of freight train services is likely to be capped at 201 trains per week. This is due to operational restrictions within the study corridor (ie the need for both passenger and freight rail services to use the dual gauge track).

The number of coal trains operating between Yeerongpilly and Park Road (en-route to the Port of Brisbane) is expected to increase from 133 trains per week in 2009 to 232 trains per week in 2021. Without the Project, the total number of coal trains is expected to increase to 198 trains per week over the same period.

Queensland Rail would continue to manage the operation of the network with regards rail freight and other services, having regard to capacity and other operating practices.

### *Increase in freight trains through Tennyson*

**Table 4-2** presents the weekly forecast number of trains that would travel between Corinda and Yeerongpilly (ie via Tennyson). It is assumed that the demand for inter-modal, bulk and coal freight would be met with Cross River Rail operating. This shows an increase in weekly total forecast freight train movements from 323 trains in 2009 to 524 trains in 2031.

**Table 4-2 Freight train forecasts between Corinda and Yeerongpilly with Cross River Rail**

Location	Weekly freight (both directions)		
	2009 (freight movements)	2021	2031
Corinda – Yeerongpilly (inter-modal and bulk freight)	190	240	292
Corinda – Yeerongpilly (coal)	133	197	232
Corinda – Yeerongpilly (Total)	323	438	524

### *New generation rolling stock*

The New Generation Rollingstock (NGR) project is related to passenger rail and not freight rail. The NGR project is seeking to purchase up to 200 new three-car electric passenger trains (or equivalent six-car trains) for the city network providing newer, more comfortable and more frequent rail services.

#### 4.3.2 Impacts of increased freight movements

##### **Issues raised in submissions**

Submissions to the EIS raised a number of concerns about the increased movement of freight on the surface rail network and the potential for this to increase noise and dust impacts for communities along the rail corridor.

In particular, issues identified in submissions included:

- concerns relating to the expected noise increases due to increased frequency of freight trains between Tennyson and the Port of Brisbane and negative impacts (ie increased noise) of this increased frequency for residents living within close proximity to the rail tracks
- current movement of heavy trains, particularly coal, creates unacceptable shunting and squealing noises at all hours of the day
- clarification on whether longer trains have been taken into account when modelling impacts of coal dust
- the Tennyson Residents' Association is concerned that the EIS does not specifically address negative impacts on Tennyson residents and others along the corridor from increased freight traffic due to Cross River Rail and consequent increase in rail noise reducing the ability of residents to live comfortably within an acceptable level of amenity
- concerns about the lack of existing noise monitoring undertaken south of Dutton Park Station
- failure to deal with the fact that much of the increase in freight traffic will be at night-time, leading to increased sleep disturbance. The World Health Organisation (WHO) standards used in the EIS have been called into question by more recent research into the causes of sleep disturbance, with frequency of noise events and tonality being significant contributors.
- while noise mitigation measures are proposed at Yeerongpilly, the bottom of Green Street will continue to be exposed to noise between 59 dBA and 62 dBA. With increasing frequency of passenger trains, this noise levels will become less tolerable
- the EIS does not mention how noise generated by trains passing over rail switching points at Yeerongpilly will be minimised, which is of particular concern given the number of trains, especially freight trains that the EIS predicts

- while the EIS states that a 2 dBA increase in noise is virtually undetectable, based on experience, a significant increase in the frequency of intrusive events such as coal freight traffic is extremely detectable and will significantly decrease the enjoyment and amenity of our property. This would suggest that the 2 dBA standard is inappropriate.
- despite the proposed increase in freight traffic, no noise mitigation measures are proposed in the vicinity of Lake Street. No noise contours are available for properties at Lake Street and request the opportunity to make further submissions should this information become available.
- the EIS requires the Project to develop an analysis of acoustic noise levels from proposed rail traffic against criteria stated in the Queensland Rail Code of Practice for Rail Noise Management. As no noise contours are available for properties in Lake Street, no analysis of acoustic noise levels against the criteria was available at the time of submission. The EIS does not contain a proper analysis of acoustic noise levels from proposed rail traffic for our property at Lake Street. The Code of Practice has not been appropriately interpreted and applied by the EIS where conclusions and mitigation have been made.
- the EIS ToR specifies that the EIS should describe the impact of noise generated during the Project operations. The EIS does not contain proposals to minimise or eliminate the effects of noise on properties at Lake Street and does not develop noise and management measures relevant to Lake Street.

A range of suggested mitigation measures were also identified in submission to manage noise and dust impacts of increased rail freight traffic. These included:

- need for all coal train wagons to be covered or an automatic spray provided at the Fairfield Road bridge to dampen coal
- provision of double glazing to homes to mitigate noise and dust impacts of increased freight
- need for the increased efficiency of noise barriers or new barriers constructed through densely populated urban areas between Ipswich and the Port of Brisbane. Specific locations identified in submissions included the southern side of Dutton Park Station and on the over bridge, from the southern portal through to Fairfield.
- if freight volumes are to increase significantly, it should be a requirement that locomotives hauling freight through residential areas should be electric. Submissions identified Gladstone as a precedent for this, with freight lines from mine sites being electrified.
- need for effective sound deflecting and absorbing barriers to be installed along the Tennyson rail corridor (ie from Softstone Street to Oxley Creek). All other or secondary noise amelioration measures should reasonably be considered for effectiveness and utilised if found to be effective.

### **Response to issues raised in submissions**

Future noise levels from the surface rail tracks between the portals at Yeerongpilly and Victoria Park are discussed in Section 16.5.3 of the EIS.

Freight rail operations, including those on the Tennyson Line, are managed under contractual arrangement with Queensland Rail and operated in accordance with Queensland Rail's Code of Practice for Railway Noise Management and Network Noise Management Plan. These set out noise guidelines on how Queensland Rail would mitigate unreasonable noise.

With regard to concerns that the EIS does not specifically address impacts on Tennyson residents, the impact of changes in freight rail operations on the rail network arising from any project must be managed to satisfy the Code of Practice.

Cross River Rail does not propose, nor require any general changes to freight rail operations.

The incremental changes to the daily averaged LAeq(24hour) noise emission levels have been assessed from the existing surface rail tracks between the portals, due to the change in freight and passenger train numbers with the Project (refer to Section 16.5.3 of the EIS). The noise modelling undertaken for the EIS shows that the LAeq (24 hour) noise emission levels would increase by up to 2 dBA for the Year 2031, due to the changes in freight and passenger trains.

The predicted increase in noise levels from surface rail traffic at sensitive locations would not be discernible at these predicted increases.

As stated in Section 16.5.3 of the EIS, the maximum noise level during train passbys would not change due to the change in passenger and freight train numbers. There would only be a change to the number of train pass-by events. Without Cross River Rail the number of freight rail passbys would increase slightly from 195 passbys per week to 201 passbys per week. With Cross River Rail, the forecast increases for freight rail passbys in 2021 would be an additional 74 passbys per week, and an additional 125 passbys per week in 2031. Over time, it is likely that the maximum noise levels from passenger train passbys would be reduced as new generation rolling stock is progressively introduced into Queensland Rail's operation.

With regard to future plans to increase the length of freight trains, the existing freight trains operating between Salisbury to Park Road are currently 620 m in length and are proposed to increase up to 1,500 m in length by 2031. The change in train length has been incorporated in the noise modelling as a 'worst case' for both coal and inter-modal freight movements. The maximum noise level during train passbys would not change due to the change in freight train numbers. There would only be a change to the number of train pass-by events. In Year 2031, there would be no discernible changes in peak noise levels for properties in close proximity to the surface rail tracks, and a predicted increase in average noise levels between the portals of approximately by 2 dBA. This predicted increase in average noise levels generally would be indiscernible.

With respect to the issue of longer trains and modelling the impacts of coal dust, the management of coal dust on the Queensland Rail network is the responsibility of the Network Manager and the rail operators, in liaison with DERM. Section 15.5.4 of the EIS outlines a range of dust control methods currently used by freight operators to manage particulate emissions from coal trains, such as profiling the coal load in the wagon to reduce exposure to wind and applying a special veneering spray suppressant. The veneer suppressant can be applied to the surface of loaded coal wagons which binds the surface particles together to provide a membrane that is resistant to dust lift off. The suppressant can be applied to the surface of the loaded coal wagons using a spray system.

The Project would not have any impact on wider freight demands as they reflect economic activity and demand for goods and services beyond the study corridor. That is, freight will continue to be transported between required origins and destinations. However, it is likely that where a shortfall below expected demand is shown in the 'without Project' case, then additional operational changes including longer trains and longer hours of operations would need to be considered in order to meet demand.

Cross River Rail has the benefit of being able to accommodate projected demand under current operational practices, and would allow the current curfew arrangements to be lifted during the commuter peak period within the study corridor. Regarding the Tennyson Line in particular, an alternative corridor is currently proposed as part of a separate Queensland Government study to take freight rail from the Western Line at Rosewood to the Interstate line south of Acacia Ridge, bypassing the Ipswich Line and Tennyson Line. The southern freight rail bypass would address many of the concerns about freight rail traffic of residents along both the Ipswich and Tennyson Lines by removing all grain and coal trains from the west from this line, as well as intermodal container trains from west, equalling over 200 trains per week in 2031. The assessment does not include the southern freight rail bypass.

Cross River Rail is intended to address rail traffic congestion in the inner city rail network arising from forecast passenger demand. It is not intended nor is a single project able to resolve all issues in the South East Queensland rail network. Further detail is provided in Section 3.3 of the EIS.

With regard to concerns about the absence of noise monitoring south of Dutton Park Station, external noise monitoring was carried out at Dutton Park State School, Dutton Street and at Fenton Street in Fairfield, to characterise the existing noise environment at this locality (refer to Section 16.3.1 of the EIS). Both operator attended and unattended noise measurements were conducted, consistent with DERM's EcoAccess Guideline Planning for Noise Control. In their submission, DERM considered that the Cross River Rail EIS addressed the Terms of Reference.

With respect to the concerns raised about the absence of noise barriers in the vicinity of Dutton Park Station, noise modelling for the Project has identified four sections where noise barriers would be required to achieve compliance with Queensland Rail's rail noise criteria (refer to Section 16.5.3 of the EIS). Queensland Rail also has a Code of Practice for Railway Noise Management and a Network Noise Management Plan that sets out noise guidelines and how it might mitigate unreasonable noise. Under Queensland Rail's guidelines, regular reviews and noise monitoring occurs across the network. If additional noise mitigation measures are required due to the incremental growth in rail traffic, then consultation with residents would occur to address specific mitigation requirements.

With regard to noise increases at Green Street from surface rail operations, the rail tracks entering and exiting the southern portal and dive structure will be approximately 4.0 m below existing ground level. Noise from trains using the tunnels would be partially screened by the retaining structure. In 2031, predicted noise levels for rail traffic between the portals are predicted to increase by 2 dBA, resulting in no discernible changes in noise at properties on Green Street. The maximum noise level during train passbys would not change due to the change in passenger and freight train numbers. There would only be a change to the number of train passby events. Over time, it is likely that the maximum noise levels from train passbys would be reduced as new generation rollingstock are progressively introduced into Queensland Rail's operation.

The Project would be designed to satisfy the environmental objectives and the performance criteria stated in the draft Outline EMP (Operations) included in Chapter 24 of the EIS. Future noise monitoring would be conducted in response to complaints in accordance with Queensland Rail's Code of Practice for Railway Noise Management. If future noise monitoring shows that the relevant noise criteria for surface track noise emissions are not achieved, then further mitigation options would be investigated.

With regard to minimising noise and vibration from rail switching points, rail points have been modelled assuming a 5 dBA increase in noise emissions, in accordance with standard's developed by Queensland Rail in their Network Noise Management Plan (NNMP) Development Standard Gauge Line and which is used elsewhere. Railway vibration is generated by dynamic forces at the wheel-rail interface. Higher vibration levels occur in the presence of rail and wheel surface irregularities. This vibration propagates via the rail mounts into the ground or track support structures. It then travels through the ground or structures. If the levels of vibration are sufficiently high (ie in buildings very close to rail tracks), then rattling or visible movement of loose objects (crockery, plants, etc) may also sometimes occur.

The ground-borne noise and vibration modelling considers the parameters critical to determining the absolute levels of ground-borne noise and vibration. Such parameters include route alignment, rolling stock design, rail type, track form design, tunnel design, construction tolerances, operations and maintenance. In 2031, an increase in noise levels of 2 dBA is predicted from surface rail operations between the portals and would not be discernible at sensitive locations.

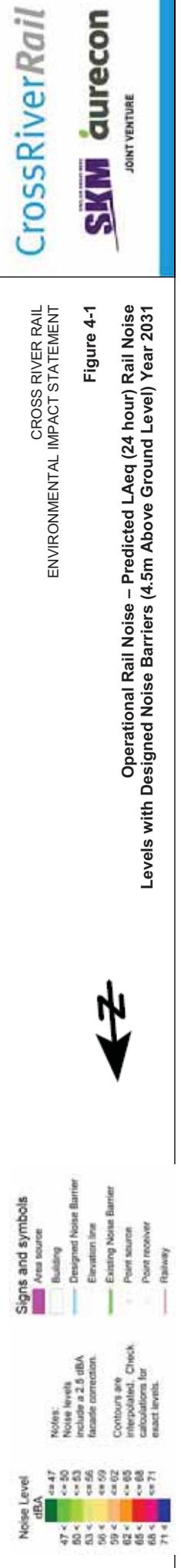
The Queensland Rail Code of Practice represents a balance between maintaining the effective transport system, including freight transport, with the needs of environmental amenity for local communities. Any departure from this code of practice would need a state wide revision to this strategic approach.

With respect to noise from surface rail tracks in Yeronga, properties on Lake Street were included in the modelling illustrated in noise contour mapping in Figure 16-48 of the EIS. A mapping error has shown the location of Lake Street incorrectly in this figure. Properties on Lake Street are partially screened by an existing noise barrier along the eastern side of the rail corridor. **Figure 4-1** shows the correct location of Lake Street at Yeronga.

In 2031, there would be no discernible changes in noise at properties on Lake Street, as a consequence of Cross River Rail. Section 16.6.2 of the EIS identifies the sensitive locations in the southern section of the Project where noise barriers are proposed to achieve compliance with Queensland Rail's rail noise criteria.

As stated in Chapter 16 of the EIS, goals for noise and vibration during operation have been established in consultation with stakeholders to measure performance in relation to the environmental objectives. Noise goals for railway surface track airborne noise emissions have been examined in accordance with Queensland Rail's Code of Practice – Railway Noise Management. Where exceedances of noise and vibration operation goals have been predicted, mitigation measures are proposed in Chapter 24 of the EIS.

The electrification of freight rail services was beyond the scope for Cross River Rail and is a matter for Queensland Rail. In managing railway noise including noise from freight rail traffic, Queensland Rail could consider a range of measures to achieve the goals provided under the code of practice. The Chief Executive of Transport and Main Roads has a concurrence agency role in respect of development applications within or within proximity to certain rail corridors. The chief executive has an ongoing interest to ensure that appropriate noise attenuation measures are included in the design of noise sensitive development, so that the strategic importance of the rail network to the State and local economies can be maintained.



### 4.3.3 Alternate freight corridors

#### **Issues raised in submissions**

A number of submissions to the EIS identified the need for a dedicated freight rail line, which does not have to interact with the urban network, to be constructed to the Port of Brisbane on an alternate corridor around the city and outside of residential areas.

Some submissions noted that while the Project provides a short-term increase in import-export (IMEX) freight capacity through the urban network, it does not increase capacity for freight from the Western line, which comprises over 90% of IMEX freight to and from the Port of Brisbane. Cross River Rail does not provide a long-term solution for IMEX freight. The benefits for the Port of Brisbane are marginal and short-term.

Concerns were also raised that it was not sustainable for IMEX freight to be travelling on the urban rail network and that encouraging higher density development along rail corridors, increased frequency of passenger services and extensions of services into new locations would exacerbate the difficulties of transiting the urban network.

Issues were also raised in submissions that the EIS assumes that increased rail freight had purely positive impacts. However, submissions identified concerns that increased rail freight would result in increased noise and dust through residential areas and decreased property values, including for the proposed Yeerongpilly TOD.

The provision of a dedicated freight rail line on an alternate corridor was identified in submissions as an appropriate solution to these issues.

#### **Response to issues raised in submissions**

Connecting SEQ 2031 and the Queensland Infrastructure Plan provide the Queensland Government's long term plan for the development of the freight network, including the rail freight network, to support economic development and growth in Queensland.

The need for an alternate rail corridor from the west of Brisbane has been addressed in a separate investigation by Transport and Main Roads. The Southern Freight Rail Corridor study has recently identified a new railway route connecting the Western Line near Rosewood to the interstate railway at Kagaru, south of Acacia Ridge. There is no confirmed date for the implementation of the Southern Freight Rail Corridor.

This rail line would serve as a major freight link connecting a future Melbourne to Brisbane Inland Rail line with the existing South East Queensland rail freight network south of the Acacia Ridge Multi-modal freight terminal. This would avoid the need for freight trains to use the Ipswich Line and Tennyson Line. The Southern Freight Rail Corridor, combined with the dedicated dual gauge freight line between Yeerongpilly and Park Road created by Cross River Rail, would cater for projected 2031 rail demands.

With regard to perceived conflicts between continued freight rail operations in the study corridor and various state and local plans for additional residential development, it is also noted that all new assessable development within 100 m of the Cross River Rail tracks will be required to be assessed by Brisbane City Council and the State Government to ensure that appropriate noise attenuation measures are incorporated into the development design and that impacts on both residential amenity and freight rail operations are minimised.

### 4.3.4 Freight operations during construction

#### **Issues raised in submissions**

Issues were raised in submissions to the EIS regarding the potential impacts on the movement of freight rail during the construction of Cross River Rail and the need to ensure any disruptions would not impact significantly on freight operations. In particular, Pacific National Queensland (PNQ) and Toll Intermodal noted the importance of the freight rail network to the state and that disruption to the network has the potential to significantly impact on the delivery of food supplies and other essential goods to and from North Queensland.

The need for early and ongoing consultation with key freight rail stakeholders was identified in submissions to the EIS. Specifically, submissions identified the need for consultation on potential impacts on the freight network and potential changes to freight operations during construction, as well as proposed mitigation measures to minimise disruptions to freight customers.

Advanced planning and communication to freight customers of proposed alterations to the freight network during construction was also identified as important.

### **Response to issues raised in submissions**

Section 5.10.4 of the EIS notes that staged surface rail works would interface with the existing rail network, in or close to areas where passenger and freight rail services operate. Section 5.10.9 of the EIS outlines mitigation measures relating to the need for early and ongoing planning and notification to Queensland Rail and rail freight operators of the timing and duration of rail corridor possessions, likely disruptions to services and alternative arrangements to be implemented.

Section 5.10.9 also identifies the need for rail corridor possessions to be agreed with Queensland Rail through the Scheduled Closure Access System, prior to the commencement of works, in order to minimise disruption to the rail network.

It is proposed that an interface agreement between the Proponent and Queensland Rail be established to provide the planning, consultation and management arrangements for the necessary rail corridor possessions. The proposed interface agreement would address the following issues:

- safety for construction workforce, rail operator workforce, rail customers and passengers
- maintenance of existing freight paths during rail shutdowns
- input to detailed design development to identify design and construction options, or opportunities to minimise the extent of corridors affected by possessions and to identify opportunities to avoid or minimise whole of corridor closures
- establishment of a liaison group comprising the Proponent, Queensland Rail and other major stakeholders such as freight rail operators to identify constraints and opportunities to maintaining access to the rail network.

During the detailed design phase of the Project, the extent and frequencies of rail corridor possessions would be developed. This planning would consider the impact on freight rail operations and, where and when possible, isolation of the electrified overhead wiring system, as opposed to a rail corridor possession. Isolation of the electrified overhead wiring system allows all freight services to continue to operate as they are powered by diesel fuel.

## **4.4 Spoil haulage**

A number of submissions to the EIS raised issues in relation to spoil haulage, including the need to consider alternatives to haulage by road, haulage routes and traffic management on haulage routes. Issues related to construction traffic (excluding spoil haulage) are discussed in Section 4.6 of this report.

### **4.4.1 Alternative haulage options**

#### **Issues raised in submissions**

The need to consider alternatives to haulage of spoil by road was raised in a number of submissions on the EIS, including Brisbane City Council, particularly for spoil removed from the Yeerongpilly worksite. Specific issues raised in relation to alternative haulage options included:

- the community has previously requested that all spoil from Yeerongpilly be removed by rail, the expense of which would be offset by the reduction of traffic and subsequent increased delays along Ipswich Road

- spoil haulage from Yeerongpilly could use the empty coal trains on their backhaul from Fisherman Island that are going straight past the Yeerongpilly portal location. This would eliminate the enormous adverse impacts of heavy vehicles on the local road network and the Ipswich Motorway and would eliminate delays for the Project contractors from daily congestion on the Ipswich Motorway. A conveyor system that uses “off the shelf” belt over roller conveyors would minimise design and commissioning costs
- all spoil from the Project should be hauled by rail to Swanbank and should be conditioned as a key component of the Project. Incentives should be offered to tenderers to design and deliver an innovative, world class spoil removal system via the existing rail network
- proximity of the Boggo Road worksite to the Brisbane River raises the questions as to why water-borne spoil was not adopted from the outset. The initial expense of building a suitable riverside loading facility would be justified by reduction in carbon emissions, fuel costs, traffic hazard and noise pollution for local residents
- the removal of spoil from the ventilation and emergency access shaft at Fairfield via conveyor and trains should be investigated, as this would eliminate the enormous adverse impacts of heavy vehicles on the very limited local road network. The equipment could be sold on completion of the works to recoup a substantial proportion of the costs.

### **Response to issues raised in submissions**

The haulage of spoil by rail was considered in the development of the reference design and is discussed in Section 3.4.3 of the EIS. While spoil transport by road has been adopted for the purposes of the EIS assessment, the option of transporting spoil by rail is being maintained for consideration by tenderers.

The proposal to transport spoil by road was adopted for the purpose of the EIS assessment for a number of reasons including:

- apart from Victoria Park, Exhibition and Yeerongpilly, no other worksite has convenient and practical access to the rail network. Consequently, approximately a quarter of the tunnel boring machine (TBM) spoil only could potentially be transported by rail
- the relatively low quantities of spoil to be removed from the ventilation and emergency access shaft at Fairfield and the distance from this site to Clapham Rail Yard (approximately 2 km), would make removal of spoil from this site via conveyor and rail costly and impractical
- double handling for both the loading and unloading operations of spoil would be required. In particular, spoil arriving at a receiving depot would need to be removed from trains and transported to a placement site
- the ability for spoil trains to be loaded and accommodated on the congested rail network would need to be further investigated. The rate of spoil production would likely require spoil trains to stand in a purpose-built siding in the network for some time, if such a siding could be accommodated.

Having regard to other submissions regarding the perceived impacts of conducting additional works in the rail corridor for the Project, any additional works including loading facilities and sidings for spoil trains would have the potential to exacerbate those other concerns.

Considering the multiple worksites required to construct Cross River Rail, the transport of spoil by road presents the greatest flexibility to a construction contractor, and consequently, would offer a shorter construction period for the Project than rail transport. Other submissions have raised concerns about the duration of the proposed construction program.

Transport of spoil via barge on the Brisbane River was considered in the planning for the Project. However, in addition to the extensive infrastructure required to support this method, there would be a number of environmental risks in relation to impacts on water quality and wetland habitats in Moreton Bay.

The decision by the Australian Government Department of the Environment, Water, Heritage and the Arts in relation to the Project referral under the Environment Protection and Biodiversity Conservation Act (EPBC Act) for Swanbank to be used as the spoil placement site, also means that spoil transported to the Port of Brisbane via the Brisbane River would then need to be transported by road to Swanbank. Consequently, this option was not pursued further.

A further consideration for rail transport is the need to establish both loading and unloading facilities, including rail sidings, storage bins, conveyors and equipment. On arrival at a receiving depot, spoil would then need to be removed from trains and transported to the placement site. This would require double handling for both the loading and unloading operations.

Due to the likely operational constraints, the use of empty coal trains returning from Fisherman's Island to transport spoil is unlikely to be possible for the Project. Such constraints would include scheduling additional trains to maintain the flow of coal to port while spoil is loaded and transported to Swanbank, with a further re-routing of trains from Swanbank to Ackland and other mines.

#### 4.4.2 Spoil haulage routes

##### Issues raised in submissions

A number of submissions raised issues in relation to proposed spoil haulage routes. The issues related to the proposed route for the construction worksite for the Boggo Road Station along Cornwall Street to access Ipswich Road, the impact of spoil haulage on traffic operations on Ipswich Road and the impact of spoil haulage from the Yeerongpilly construction worksite.

Concerns were raised in submissions about the use of Cornwall Street as a spoil haulage route for the Boggo Road construction worksite. These included concerns by the PAH that this road provides the access point for ambulances entering or exiting the PAH emergency department as well as the hospital's Geriatric Rehabilitation Unit and that an increase in heavy transport traffic along Cornwall Street has the potential to interfere with this access.

Submissions also noted that the intersection of Cornwall Street with Ipswich Road is currently congested during peak periods and that even a small number of spoil trucks making turning movements at this intersection would add to the congestion.

Other issues identified in relation to the use of Cornwall Street for spoil haulage from Boggo Road included:

- unreasonable that Cornwall Street would carry the load of all spoil haulage from Boggo Road, when Annerley Road could also provide a suitable route
- Cornwall Street is a high volume pedestrian access point, including for people with disabilities, from the bus stop outside the PAH and from Dutton Park Station to various health facilities along Cornwall Street
- the PAH's concerns about the potential dust impact on the hospital
- potential for increased traffic to use Kent Street as the access for the Translational Research Institute.

The PAH submission suggested that spoil haulage from Boggo Road would be shared with other routes, including Annerley Road and Fairfield Road.

The impact of managing spoil haulage trucks on Ipswich Road and the consequential impact on traffic congestion were also raised in submissions.

The issue raised in relation to the Yeerongpilly construction worksite related to the need for truck movements to the worksite to be via Ipswich Road and that there should be no access or queuing for any trucks or work vehicles to or from the worksite via Wilkie Street, Cardross Street and Fairfield Road.

## Response to issues raised in submissions

### *Spoil haulage routes relating to the Boggo Road construction worksite*

The proposed spoil haulage routes and the expected number of trucks that would use this route in relation to the construction worksite for the Boggo Road Station is presented in Section 5.10.5 of the EIS. The proposed route on Annerley Road and Cornwall Street to Ipswich Road is direct and would avoid residential receivers on Annerley Road between Rusk Street and Ipswich Road. The expected number of spoil truck movements is low at 89 trucks per day during peak construction times. Spoil haulage from the Boggo Road Station worksite would occur 6.30 am to 6.30 pm, Monday to Saturday.

It is recognised that traffic movements through the intersection of Cornwall Street and Ipswich Road and the traffic movement to the various access points to health facilities on Cornwall Street is congested. It is accepted that even the small number of spoil truck movements proposed could create additional congestion. Consequently, it is proposed to modify the spoil haulage arrangements for the Boggo Road worksite as follows:

- The inbound (northbound) spoil haulage route would be via Fairfield Road and Home Street from Ipswich Road. The outbound (southbound) spoil haulage route would remain on Cornwall Street
- The peak increase in trucks on Fairfield Road northbound equates to around 0.8% more vehicles over a typical weekday (over the 12 hour haulage period), or an 11% increase in heavy vehicles. Existing (2009) morning peak period traffic performance on Fairfield Road (Home Street) northbound is under capacity with traffic volumes less than 75% of capacity. Given the low numbers of truck movements compared to background traffic volumes and existing capacity, the change to the spoil haulage route is not expected to result in any discernible adverse traffic or access impacts for Fairfield Road
- The spoil truck movement on Cornwall Street would have a minimal impact on the PAH Emergency access (as identified in **Section 3.3.4**)
- Ensure ‘Keep Clear’ markings are installed on the road at the entrance to the PAH Emergency access and that spoil haulage trucks are fitted with GPS trackers to ensure their position is monitored and any infringement onto the keep clear markings are reported to road authorities on a monthly basis.

The proposed amended change to the spoil routes would remove inbound spoil trucks from using Cornwall Street (refer to **Section 3.3.4**). This would remove the risk of spoil trucks having to wait behind vehicles turning right to access the PAH causing additional delay and then being required to make a hill start. Outbound spoil trucks would continue to Cornwall Street and turn right onto Ipswich Road. The peak volume of trucks making this movement is expected to be no more than eight trucks per hour. This increase in traffic would not increase delays by more than around five seconds and queue lengths by more than one vehicle length.

### *Impact of spoil haulage trucks on Ipswich Road*

The draft Outline EMP (Construction) included in Chapter 24 of the EIS proposes that the movement of trucks would be controlled through fleet management techniques such as GPS tracking to avoid queuing at worksites and to avoid congestion and traffic incidents on haul routes. The draft Outline EMP also proposes that the construction vehicle fleet be monitored and managed actively to avoid adverse impacts on the road network and the amenity of near neighbours.

### *Spoil haulage trucks at the Yeerongpilly construction worksite*

Section 5.10.5 of the EIS proposes that the removal of spoil from the southern portal at Yeerongpilly would be only via Station Road and Lucy Street. Spoil would be taken from the working areas through the worksite to be loaded for haulage via Station Road and Lucy Street. There would be no spoil haulage using either Wilkie Street or Cardross Street. All spoil trucks accessing the worksite would make use of the existing signalised intersection of Lucy Street and Ipswich Road. No additional traffic control is envisaged which would delay traffic on Ipswich Road. Monitoring and mitigation impacts including road condition surveys would form part of the CTMP.

Section 5.10.5 of the EIS reported that the impact of spoil trucks at the intersection of Lucy Street and Ipswich Road would be acceptable based on the current phase arrangement and proposed truck volumes. More detailed analysis of alternative phase arrangements would be required during detailed design to assess the impacts and benefits of alternative intersection operations suggested by Brisbane City Council. Prior to the commencement of works, alternative phase arrangements would form part of the CTMP for the Yeerongpilly construction worksite.

#### *Management of spoil trucks*

Table 24-11 of the draft Outline EMP provides mitigation strategies, tasks and actions to achieve the environmental objectives and performance criteria. The performance criteria provide that haulage vehicles only travel on designated construction routes, that local roads are not used by construction vehicles (except where specified), and that traffic flows near construction works are not materially worsened during peak traffic periods and managed during off-peak periods to minimise disruption.

The draft Outline EMP also proposes that, prior to the commencement of construction works, the Proponent prepare and implement a Construction Vehicle Management Sub-plan, which provides measures to manage the operation of the construction truck fleet, including, but not limited to:

- real-time monitoring of truck position, speed, route and performance in relation of traffic conditions and schedule requirements
- managing truck speed and position to avoid queuing near construction worksites and sensitive community facilities and residential neighbourhoods
- managing traffic signals on nominated spoil haulage routes in night-time hours to achieve optimum performance of the truck fleet and to minimise impacts on communities along the designated routes (refer to Table 24-11 of the draft Outline EMP) so that the number of times that spoil trucks have to stop at traffic lights is minimised which would provide benefits through improved traffic flow and reduced traffic noise as the impacts associated with trucks stopping and starting would be reduced. This measure would only apply to spoil trucks that access worksites from arterial roads as haulage in night-time hours would only be permitted for those worksites.
- maintaining all haulage vehicles to a high standard (ADR28/01) in relation to noise emissions, exhaust emissions, traffic safety and operational safety
- ensuring all vehicles leaving a construction worksite pass over or through devices that remove soil and other materials before entering the road.

#### *Impact of spoil haulage trucks at other worksites*

While not raised in submissions to the EIS, it is possible that community concerns about spoil haulage routes and impacts may arise as the Project progresses at other worksites not mentioned in this section, such as those at Roma Street, Albert Street and Woolloongabba. Key spoil haulage issues are reported in Section 5.10.5 of the EIS and Section 7 of the Technical Report No.1 – Transport. The key means of managing and monitoring construction traffic issues will be through CTMPs for each worksite. The CTMPs would be prepared and implemented in consultation with the Department of Transport and Main Roads and Brisbane City Council. These plans would identify measures to avoid, or mitigate and manage impacts of construction traffic on local communities, transport networks and the environment and are to be prepared prior to the commencement of construction work.

## 4.5 RNA Showgrounds

The RNA, Lend Lease and Brisbane City Council raised a number of issues regarding the impact of the Project on the RNA Showgrounds and RNA activities. These issues are discussed below.

### 4.5.1 Design issues

#### **Issues raised in submissions**

Issues raised in submissions relating to the design in the vicinity of the RNA Showgrounds included:

- No allowance has been made for managing construction and freight train noise impacts on the RNA's new Convention/Exhibition Centre, which will be completed by the end of 2012.

- Detailed design of many components associated with the new station and track arrangements will have significant impacts on the RNA including station platform design, horizontal and vertical track alignments, horizontal and vertical alignments to O'Connell Terrace, pedestrian/vehicle/animal movements under the railway to/from Sideshow Alley and the Gregory Terrace side of the site (including the proposed widths of pedestrian subways underneath the railway viaduct).
- Timing of final design works (ie O'Connell Terrace vertical and horizontal changes) are of key concern for the RNA and Lend Lease as new buildings are likely to be designed and constructed on O'Connell Terrace prior to the design of Cross River Rail in this area being complete (ie commercial building west of the railway).
- The impact that resumption of land for the proposed Exhibition Railway Station and realigned rail lines would have on the approved Master plan and the RNA's Developer partner's (Lend Lease) ability to achieve commercially attractive and feasible design outcomes.
- Station design needs to consider the interface between Ekka Station and RNA entrance ticket booths, and make allowance for queuing areas for RNA patrons and Ekka Station passengers and their interaction as part of event management during peak periods.
- The amount of land required by the RNA to ensure the Ekka and other major events will remain viable during the construction works. Constructing the platform and rail lines on an elevated structure through the RNA site would minimise the land lost due to earth embankments, and provide opportunity for RNA uses in the space under the elevated structure.
- Lend Lease have concerns regarding the impacts of road resumptions along O'Connell Terrace on the Approved Masterplan and ability of Developers to achieve commercially attractive and feasible design outcomes. Brisbane City Council commented that the O'Connell Terrace/Bowen Bridge Road intersection requires further refinement.
- Many of the detailed design requirements to address noise, light spill, vibration, dangerous goods, stormwater runoff etc, on existing and future surrounding development on RNA land have not been addressed in detail.

Suggestions identified to these issues within these submissions included:

- Coordinator-General to condition the EIS approval with a requirement that RNA review and approval is required for design elements which have direct impact on the RNA site
- Coordinator-General to condition the EIS approval with a requirement that the platform and rail lines through the RNA site be placed on elevated structure for the greatest extent possible through the RNA site, and that the RNA confirms that the amount of land remaining after resumptions is sufficient for it to run and maintain a viable Ekka and other major events
- Coordinator-General to condition the EIS approval with a requirement that if Cross River Rail commences after the design has been finalised for any Lend Lease (or RNA) buildings along O'Connell Terrace, then any vertical or horizontal alignment changes to O'Connell Terrace as a consequence of Cross River Rail, will need to be designed to suit the finished ground floor levels of buildings constructed by the RNA and Lend Lease along O'Connell Terrace
- Coordinator-General to condition the EIS approval with a requirement that the RNA's requirements are included in the functional design brief, and its review and approval is required prior to the finalisation of design for the new station and vertical/horizontal track alignments etc where these elements will have an impact on the RNA's operations or ability to conduct its events. The design and works should be designed to enable future development to be integrated and accommodated within the Cross River Rail structure consistent with the Master plan. As a minimum, the dedicated pedestrian access ways should be 25 m wide during major events.

## Response to issues raised in submissions

As identified in Table 24.9 of the draft Outline EMP, and to assist in managing potential impacts for both projects, the reference design would be developed and implemented in consultation with the RNA (who may seek advice from Lend Lease) with regard to the design, access, heritage and construction schedules of the Project and RNA. Such consultation would be conducted within the framework established in an interface agreement to be reached between the Proponent and the RNA.

This framework would establish the 'ground rules' for consultation, engagement and negotiation within the context of the interface agreement, which would then be developed in the early stages of the detailed design process. The interface agreement would then govern interactions between the RNA (including Lend Lease) and the Project, throughout the process of detailed design and procurement, in preparation for construction.

While there is no proposal to change the reference design, there may be an alternative design solution for the O'Connell Terrace alignment, which would be investigated during the detailed design phase. Should the Coordinator-General recommend that Cross River Rail proceed, further development of the reference design would be required and would need to address, among many other things, the urban design and environmental management requirements, established through the EIS process.

The specific design measures referred to in the RNA submission would be considered during detailed design development and resolved to the extent reasonable and practicable for Cross River Rail. These design issues would include:

- the interface between Ekka Station and RNA entrance ticket booths, including queuing areas for RNA patrons and Ekka Station passengers and their interaction as part of event management during peak periods
- the potential use of elevated structures (as opposed to embankments) to support the new infrastructure
- the vertical and horizontal alignment of O'Connell Terrace and the future O'Connell Terrace/Bowen Bridge Road intersection
- pedestrian, animal and vehicle access ways across the site post construction, including the width of dedicated pedestrian access ways.

The coordination of construction works for Cross River Rail and the RNA redevelopment is addressed in **Section 4.5.2** of the Environmental Impact Statement – Supplementary Report.

The movement of freight along the Exhibition Line occurs at present and would continue to be managed in accordance with Queensland Rail's Code of Practice for Railway Noise Management. This will remain the responsibility of the Railway Manager. The movement of freight rail on the Exhibition Line would not result in an increase in peak noise emissions, or a discernible increase in average noise emissions. As with other parts of the rail corridor, designs for new buildings should include measures to mitigate railway noise.

Detailed access proposals for each development site within the RNA Masterplan area would be addressed as part of individual planning applications to the ULDA. Each application would need to consider the requirements for Cross River Rail requirements, including changes in the level of O'Connell Terrace and access arrangements.

The draft Outline EMP proposes appropriate stormwater controls for the design rainfall event (ie two hour duration two year AEP) at construction worksites and work areas prior to the commencement of construction. RNA would be consulted in the design of any stormwater controls within the worksite and likely to affect RNA land.

## 4.5.2 Construction management

### Issues raised in submissions

Issues raised in relation to construction management for works within or near to the RNA Showgrounds, included:

- the proposed construction laydown areas would require demolition of the existing Dairy and Beef Cattle Pavilions and the Dairy Goat Pavilion, as well as impacting on the Horse Pavilion
- worker car parking on the RNA Showgrounds
- closure of the existing Exhibition Station for at least one Ekka show, impacting also on other planned RNA event transport arrangements
- request for dilapidation reports to be performed on all buildings within 50 m either side of the works corridor
- the extent of impact on the heritage structures contained within the RNA Showgrounds
- the impact on the transport operations of the Ekka show for at least two years during the construction phase
- management of construction noise effects on occupants of new private development on O'Connell Terrace.

Suggestions identified to address these issues within the submissions included:

- the development of a Construction Management Plan CMP to be reviewed and approved by the RNA, with a working group consisting of the RNA, Lend Lease, Cross River Rail project team and the Contractor that meets weekly and coordinates construction activities with RNA events and Lend Lease's development on RNA land. The CMP, when initially prepared, would include projections of upcoming RNA events that will need to be coordinated with Cross River Rail construction activities
- Coordinator-General to condition the EIS approval with a requirement that funding for a new Cattle Pavilion is to be provided to the RNA by Cross River Rail prior to access being made available for construction laydown areas that impact existing RNA Cattle facilities
- Coordinator-General to condition the EIS approval with a requirement that any use of the RNA's land for worker car parking would only be on the basis that the RNA has surplus available after all its other needs have been satisfied and that it is provided on the same commercial terms as other car parking provided by the RNA
- noise from construction activities during construction shall not exceed the allowable average or maximum noise limits to the RNA's new Convention/Exhibition Centre or new private development (ie commercial, residential or retail)
- noise from freight trains during both construction and operation shall not exceed the allowable average or maximum noise limits to the RNA's new Convention and Exhibition Centre or new private development (ie Commercial, residential or retail)
- Coordinator-General to condition the EIS approval with a requirement that the RNA's review and approval is required to any sections of the Cultural Heritage Management Plan (CHMP) that makes reference to an RNA building or area and that the RNA are involved with the selection of the heritage consultant. Any new CHMP prepared over RNA buildings should be coordinated with the existing CHMP and the RNA should review and approve the final Cultural Heritage Management Plan sections that apply to RNA Buildings or land
- Coordinator-General to condition the EIS approval with a requirement that a full dilapidation report be performed on all buildings within the RNA site where predictive modelling undertaken during the detailed design phase indicates construction vibration and operational vibration may impact on an RNA building.

### Response to issues raised in submissions

In terms of the construction laydown area, no impact is expected upon the Horse Pavilion. The proposed construction laydown areas would require demolition of the existing Dairy and Beef Cattle pavilions and the Dairy Goat Pavilion, if not already demolished for the RNA redevelopment.

While there is no proposal to change the reference design, there may be alternative design solutions that ameliorate construction impacts on the RNA, which would be investigated during the detailed design phase. Should the Coordinator-General recommend that Cross River Rail proceed, further development of the reference design would be required and would need to address the construction schedule, construction impacts and the construction footprint.

As identified in Section 24.8 of the draft Outline EMP (Table 24-9), the reference design is to be developed and implemented in consultation with the RNA, who may be advised in those consultations by parties working for the RNA (for example, Lend Lease). This consultation process would be conducted in accordance with the interface agreement described in Section 4.5.1 above, and would have regard to the design, access, heritage aspects and construction schedules of the Project and the RNA Showgrounds redevelopment. The consultative process would assist in managing potential cumulative impacts for both projects.

Construction of the Cross River Rail works would proceed according to an overall program of works and a Construction EMP. Both the program of works and the Construction EMP would be developed by the Proponent, having regard to consultations with the RNA.

As discussed with the RNA during the preliminary consultation process supporting preparation of the reference design and the EIS, construction of the Project works within the RNA Showgrounds would be managed, to the extent relevant, according to a 'specific event construction management sub-plan'. The sub-plan would be developed in consultation with the RNA and would form part of the Construction EMP.

The 'specific event construction management sub-plan' would include a consultative process aimed at:

- coordinating construction activities of the RNA and Cross River Rail within the RNA Showgrounds
- coordinating RNA and Cross River Rail construction activities during major scheduled RNA events
- managing impacts on Cross River Rail construction program, RNA operations and RNA developments (who may seek advice from Lend Lease).

The RNA acknowledges that its planned redevelopment of the Showgrounds entails the demolition and redevelopment of land on which the Beef Cattle Pavilion presently stands. The RNA acknowledges further that through its redevelopment program, it may have already provided a new Beef Cattle Pavilion by the time construction commences for Cross River Rail. If not, then Cross River Rail would consult with the RNA about the 'bring forward' cost impact of the RNA constructing the cattle pavilion.

The interface agreement between the Proponent and the RNA would also provide the framework for an agreement with respect to car parking during the construction phase of Cross River Rail and development of the RNA Showgrounds. As discussed with the RNA during the preliminary consultation process, car parking for the Cross River Rail construction workforce would be provided within the temporary worksite, or, through other arrangements either within the RNA Showgrounds or elsewhere.

The draft Outline EMP (Table 24-10) proposes that construction work at the RNA Showgrounds would be undertaken during day-time hours (ie 6.30 am – 6.30 pm, Monday to Saturday). To minimise disruptions to the city's transport system (road, rail) there would likely be a need for out of hours work both within the rail corridor and on O'Connell Terrace. In the instance of out of hours works, the EIS provides for goals to achieve the environmental objectives relating to a range of potential impacts including noise, air quality and traffic management. These are described further in Table 24-17 (dust and air quality) and Table 24-18 (noise and vibrations) of the draft Outline EMP, as well as Table 24-11 (traffic and transport – construction).

Where predictive modelling ahead of out of hours work indicates the potential for the goals to be exceeded, the proponent would consult with stakeholders, including the RNA, in determining effective mitigation measures in accordance with the draft Outline EMP.

Prior to the commencement of works, including demolition works and site preparation works, mitigation measures, such as acoustic barriers or screens would be installed around the RNA worksite, to assist in achieving the environmental objectives (refer Table 24-18 in the draft Outline EMP). The effectiveness of the mitigation measures would be monitored and reported upon during the works, including the out of hours works.

In addition, early and ongoing consultation with near neighbours, including those north of O'Connell Terrace, and stakeholders such as the owners and operators of Clem Jones Tunnel and the RNA, would be undertaken to address potential construction impacts.

The draft Outline EMP (Table 24-20) proposes that a Cultural Heritage Management Plan (CHMP) be prepared for Cross River Rail works that would impact on the heritage values of the RNA Showgrounds. This aspect was discussed during preliminary consultation with the RNA. Consistent with the framework to be established in the interface agreement, the Proponent would seek the views of stakeholders, including the RNA, in relation to the CHMP for Cross River Rail works. The Proponent would consult with the RNA about any CHMP for Cross River Rail works that might be prepared over RNA buildings or other items of cultural heritage significance. The Proponent notes that there would be other CHMPs prepared with regards for the redevelopment of the RNA Showgrounds.

Consistent with the framework to be established in the interface agreement, the RNA would be consulted in relation to aspects of the emergency evacuation plan involving the RNA's land (eg emergency evacuation routes, marshalling areas). The emergency evacuation plan would include contact details for the nominated person or the nominated delegate about who should be notified in case of an emergency.

The draft Outline EMP (Table 24-18) proposes that pre-construction building surveys and monitoring be undertaken where vibration-intensive construction works occur within 10 m of heritage structures in the RNA Showgrounds. Additionally, a building conditions report would be required where predictive modelling indicates construction or operational vibration would exceed the goals for vibration on a heritage building within the RNA Showgrounds. This would be confirmed during the detailed design phase.

The movement of freight along the Exhibition Line occurs at present and would continue to be managed in accordance with Queensland Rail's Code of Practice for Railway Noise Management. This will remain the responsibility of the Railway Manager. The movement of freight on the Exhibition Line would not change as a consequence of Cross River Rail (ie the network would be managed to maintain a balanced response to freight rail demand (refer to Table 5-16 of the EIS).

The draft Outline EMP identifies the approvals, licensing conditions and permits required for hazardous substances and dangerous goods. The contractor engaged by the Proponent would develop and implement an emergency response plan, provide training for staff in the appropriate use, handling, storage and transportation of dangerous goods and hazardous substances and would also monitor compliance of personnel with safety procedures.

#### 4.5.3 Access to (and within) site

##### Issues raised in submissions

Issues raised in submissions in relation to access included:

- suitable pedestrian and vehicular access needs to be provided between Sideshow Alley and the Gregory Terrace side of the RNA site, as well as under Bowen Bridge Road to Victoria Park for the Ekka and other major RNA events
- construction activities will need to cease and fence lines pulled back during major RNA events including the Ekka, major trade shows, concerts etc
- the RNA will require access for vehicles entering/exiting from O'Connell Terrace into the Sideshow Alley car park to be maintained all year round

- a dedicated access way for moving large animals from the new Cattle Pavilion to the Main Oval needs to be provided, at a minimum of 5 m wide and separated from pedestrians
- maintaining access to the new private development on O'Connell Terrace for new tenants, residents or staff.

Suggestions identified to these issues within these submissions included:

- Coordinator-General to condition the EIS approval with a requirement that Exhibition Station is to remain open during the construction period for the Ekka and other major RNA events as required and that the LOS requirements as currently provided are maintained
- the access way for moving large animals from the new Cattle Pavilion/Showring 2, must align with the entry point onto the Main Oval to minimise travel distance for animals, and potential for conflict with pedestrians. During the Ekka, a 5m dedicated access way for large animals underneath the railway is required. The dedicated large animal access way is to be separated from pedestrians
- conditional requirement of EIS approval that vehicle and pedestrian access to/from any new commercial, residential, retail or RNA buildings along O'Connell Terrace shall be maintained to the same functional extent as pre-Cross River Rail construction
- conditional requirement of EIS approval that noise from construction activities and rescheduling of freight trains shall not exceed allowable average or maximum noise limits – as outlined for finished state – at RNA's new Convention and Exhibition Centre or new private development
- conditional requirement of EIS approval that continuity of services to surrounding buildings/development sites be maintained during construction. Any modifications to the alignment/capacity of services are to be undertaken at the cost of Cross River Rail
- the widening of the O'Connell Terrace bridge in conjunction with its raising needs to be done so to ensure the footpath widening is maintained and provision is made for four lanes plus bike lanes on O'Connell Terrace.

### **Response to issues raised in submissions**

The RNA submission raises many matters of detail which would normally be addressed at subsequent stages of project development, such as detailed design, detailed construction planning, and construction management. A reasonable and practical approach involves the Proponent and the RNA entering into an interface agreement in which the complex dynamics between the Cross River Rail design and construction, RNA redevelopment design and construction, and RNA events and operations, can be addressed within a clear decision-making framework. Neither the RNA nor Lend Lease is entitled to seek and obtain 'approval' rights over a project of declared State significance.

The Cross River Rail EIS, through the draft Outline EMP proposes a consultative process involving the RNA (who may seek advice from Lend Lease). The heads of consideration for the interface agreement would include:

- informing design development for Cross River Rail about RNA requirements with regards to internal access and movement systems for people, traffic, exhibits and livestock; events schedules, development and construction programs
- the matters set out for inclusion in the 'specific event construction management sub-plan' in **Section 4.5.1** of this Environmental Impact Statement – Supplementary Report (ie coordinating construction programs for both projects)
- the consultative process and the role of the RNA, (who may seek advice from Lend Lease) and other stakeholders.

Generally for Cross River Rail, construction staging would seek to maintain the Exhibition Station open to deliver special event services (the Ekka). In the event that a stage of construction requires closure and coincides with defined events, then arrangements to provide alternative transport would be agreed in advance of the staged works.

Where disruptions are unavoidable, bus shuttle services would be provided between appropriate stations to the major event venues, or to bypass the disrupted section in the network, as identified in Table 24-11 of the draft Outline EMP.

Hauling of goods and materials through the RNA worksite would be on a temporary haul road, which may move depending on the stage of construction, other construction activities or the type of activity or event occurring on site. This haul road would provide access at all times. Special arrangements would be required via the 'specific events construction management sub-plan' for circumstances when public or worker safety could be compromised during a defined event.

Where, practicable, safe pedestrian and vehicle access for RNA traffic would be maintained through (or around) the Exhibition Rail viaduct and Ekka Station construction site. Where such access cannot be maintained, the Proponent would consult with the RNA in advance of changes to access arrangements.

Where practicable and safe, construction planning and programming for Cross River Rail would seek to maintain pedestrian and vehicle access to and from any new commercial, residential or RNA buildings along O'Connell Terrace, including pedestrian access to Bowen Hills Station. Where pedestrian and cycle access to community facilities is changed, local access strategies are to be developed in consultation with local communities, community facility managers and relevant stakeholder groups.

A heavy vehicle access off O'Connell Terrace to the RNA Showgrounds (Sideshow Alley car park) would need to be maintained where safe and practicable. If such access was to be closed, the Proponent would consult with the RNA in advance about the change and about possible mitigation measures.

As identified in Table 24-11 of the draft Outline EMP, safe and functional pedestrian and cycle access would be maintained to public transport facilities near Project works. In particular, access would be maintained to Exhibition Station and RNA Showground facilities, during the Ekka events and to Bowen Hills Station, including along O'Connell Terrace from the Royal Brisbane and Women's Hospital.

On-going consultation with the RNA will be undertaken to maintain access to the RNA Showgrounds for livestock and delivery vehicles during the Ekka and other major scheduled events at the RNA Showgrounds. General road access is also to be maintained to the RNA Showgrounds during the course of the Project works.

The proposed widening of the O'Connell Terrace bridge would include retaining the existing road capacity of two westbound lanes and one eastbound lane along with on road cycle lanes and footpaths on both sides of the road. Any additional road widening beyond that would be expected to be negotiated by the ULDA as part of ongoing development approvals in the area.

## 4.6 Construction traffic

### 4.6.1 Construction traffic management

#### Issues raised in submissions

A number of submissions to the EIS raised issues in relation to construction traffic management and impact on local roads. These have been grouped by theme or geography below.

General comments raised in submissions in relation to construction traffic principals included:

- Brisbane City Council state that the existing capacity of the road network must be maintained
- any road closures resulting in traffic diversion will require traffic modelling and impact assessment before Brisbane City Council approval is granted
- Brisbane City Council comment that haulage during peak hours will not be permitted if there is an adverse impact on the functioning of the road network and Council will not permit 24 hour haulage on Council arterial roads
- the need to minimise or avoid construction traffic using residential streets.

Specific concerns raised in relation to the northern section of the study corridor included:

- the proposed construction works around O'Connell Terrace in the vicinity of the Clem Jones Tunnel northern portal may have a negative effect on Clem Jones Tunnel traffic and revenue
- Brisbane City Council will not agree to the right turn pocket on Gregory Terrace (approaching Victoria Park worksite) by reducing the carriageway to one lane.

Specific comment raised by Brisbane City Council in relation to the CBD included:

- existing capacity of four lanes must be maintained on Alice Street and Margaret Street during peak hours.

Specific comments raised by Brisbane City Council in relation to Woolloongabba include:

- construction worksite and heavy vehicle access routes at the Woolloongabba construction worksite could cause significant transport and traffic issues.

Specific comments raised by Government agencies in relation to Boggo Road and the Ecosciences Precinct included:

- DEEDI raised the need for close consultation with the Ecosciences Precinct is required when developing traffic plans, scheduling road closures for Peter Doherty Street and Boggo Road, and determining the placement of barriers when blocking the pedestrian boulevard. The need for early advice was identified as being critical to minimising disruption on the operation of the Ecosciences Precinct
- Brisbane City Council expressed concern over the impact of heavy vehicles on the condition of the road surface within the Boggo Road Urban Village precinct
- Brisbane City Council noted that the proposed right turn bay from Annerley Road to Peter Doherty Street will reduce capacity of Annerley Road and extend cycle time at the intersection, when an existing right turn bay is available at the Boggo Road intersection.

Specific comments raised by local residents in relation to Boggo Road and the Ecosciences Precinct included:

- concern about the impact of the addition of Boggo Road construction traffic on the performance of the Ipswich Road and Cornwall Street intersection
- concern about the potential for construction traffic to 'rat run' from Ipswich Road to Annerley Road via Carville Street to avoid multiple sets of traffic lights
- the safety of local school children, moving to and from school, in light of spoil haulage routes
- heavy trucks, moving spoil at significant speeds as well as the cumulative effect of trucks removing spoil from both the Woolloongabba and Boggo Road worksites.

Specific comments raised in relation to Yeerongpilly included:

- potential for trucks travelling to and from Lucy Street to Ipswich Road to cause a backlog of traffic
- through traffic unable to use Lucy Street will use Green and Stamford streets to access Fairfield Road
- concerns regarding the performance of the Wilkie Street/Cardross Street and Ipswich Road/Lucy Street intersections. Both are considered sub-standard and cannot accommodate increased traffic demand. It was suggested that the Ipswich Road/Lucy Street intersection would need to be looked at closely during detailed design if it is expected to carry large spoil haulage volumes. It was also suggested that signals at this intersection may need split phasing of side roads (ie Durack Street and Lucy Street) due to sightline issues.

Specific comments raised in relation to Moorooka include:

- it is imperative that trucks do not close up and impede the normal flow of traffic at the intersections of Keats Street and Hamilton Road with Ipswich Road

- concerns about pedestrian safety at the Keats Street and Hamilton Road intersections, which include pedestrian crossings providing access to Moorooka Station and bus stops.

## Response to issues raised in submissions

### *General traffic principals*

The draft Outline EMP (refer to Section 24.9 of the EIS) addresses the need to avoid using local streets for construction traffic access. The relevant performance criteria provide for haulage vehicles to travel only on designated construction routes and for local roads not to be used by construction vehicles, unless approved by the relevant traffic authority.

The draft Outline EMP also identifies mitigation measures relating to the real-time monitoring of truck position, speed, route and performance. This would address the concern raised regarding construction traffic 'rat running' from Ipswich Road to Annerley Road via Carville Street.

A CTMP would be prepared for each worksite, outlining measures to avoid where practicable, or minimise and mitigate, impacts on local traffic and access during construction. This would include consultation with relevant stakeholders in the development of mitigation measures. Early and ongoing consultation and communication with local communities about proposed changes to local traffic access arising from Project works would also be undertaken during construction.

As with any major project, construction traffic from Cross River Rail worksites inevitably would have some impact on road capacity. However, the comparative traffic assessment for Cross River Rail, based on Transport and Main Road's Guide to Road Impacts of Development, analysed the pre-construction and during construction performance of intersections and road links on key construction traffic routes. This assessment was provided in Section 7.13.2 of Technical Report No.1 - Transport and summarised in Section of 5.10.7 of the EIS.

Due to the relatively small volumes of construction traffic compared to background flows, the impact of construction vehicles at intersections even in peak periods would be less than ten seconds in increased average intersection delay at all intersections that have been assessed. The majority have an average intersection delay of less than five seconds. This impact would have a minimal, if any noticeable, impact on traffic conditions.

Despite the relatively minor impact of construction traffic on peak period traffic conditions, Table 24-11, Element 2 of the draft Outline EMP states that spoil haulage activities at some locations would avoid peak traffic periods, being 7.00 am to 9.00 am and 4.00 pm to 6.00 pm, Monday to Friday, for traffic and pedestrian safety reasons. Such locations include:

- the Brisbane CBD
- at Woolloongabba (specifically to/from Stanley Street in the morning peak, and to/from Vulture Street in the afternoon peak).

Note that Table 24-10, Element 1 of the draft Outline EMP sets out the hours of work for spoil haulage and material/equipment delivery for each worksite.

Planning for the timing, sequencing and detailed management of likely impacts of road construction activities including any required closures, would be undertaken in the detailed design phase and addressed in the CTMP for each worksite. The CTMP would identify specific measures to avoid, or mitigate and manage impacts of construction traffic on local communities, transport networks and the environment. Table 24-11, Element 2 of the draft Outline EMP proposes that a CTMP would be prepared and implemented in consultation with Department of Transport and Main Roads and Brisbane City Council.

As stated in Table 24-11 of the draft Outline EMP, damaged road pavements would be repaired by the Proponent (or its agent or contracted entity) periodically to maintain traffic safety, traffic amenity and pre-existing levels of service. Generally where impacts occur, the relevant traffic and road management agencies are to be consulted to devise and agree appropriate mitigation measures.

#### *Specific construction traffic issues in the north of the corridor*

The Project does not impact directly on the Clem Jones Tunnel infrastructure. The southern connections of Clem Jones Tunnel to the road network are distant from Project construction worksites. Some construction related traffic would use the road network to which the northern connections of Clem Jones Tunnel connect. Truck movements to the northern portal and northern surface works of the Project are small in number with a truck movement every five minutes on average at the peak of construction spread over a number of routes. The anticipated impact on the operations of the Clem Jones Tunnel including Bowen Bridge Road and the Inner City Bypass (ICB) would be negligible.

With regard to worksite access at Victoria Park (refer Section 7.6.3 of Technical Report No.1 – Transport), it is proposed to occupy four car parking spaces on the southern side of Gregory Terrace to allow the right-turn lane to be created. While Gregory Terrace westbound is marked as two lanes, these four kerbside parking bays are legally used during peak times. Only one westbound lane is currently available for traffic. By suspending these bays, the creation of the right turn pocket would have no impact on through traffic capacity on Gregory Terrace.

#### *Specific construction traffic issues in the CBD*

Construction traffic management in the CBD would be planned and implemented in consultation with Brisbane City Council. Key considerations would include the maintenance of traffic flows in peak conditions, and the maintenance of safe and convenient pedestrian movements around worksites. Similar measures to those employed for other CBD construction sites would be proposed. This approach is addressed in the draft Outline EMP (refer to Section 24.9, Table 24-11).

The draft Outline EMP also proposes to manage construction traffic to avoid the morning and afternoon peak traffic conditions (refer to Table 24-11).

Alice Street currently carries three through-lanes of traffic in peak times, with the fourth lane (southern-most kerbside lane) used for parking or bus layover at all times. During the detailed design phase a range of options would be investigated with the aim of maintaining the status quo (ie three traffic lanes on Alice Street during peak hours).

The introduction of a CityCycle station on the southern side of Margaret Street, east of Albert Street, restricts Margaret Street to only three through lanes on Margaret Street. Three traffic lanes, rather than four, would be expected to be kept open during peak times.

During different phases of construction including during traffic switches, lane and road closures may be required in the CBD. The timing and sequencing of these would be assessed in the detailed design phase and captured in the CTMP which would be developed in consultation with Brisbane City Council.

#### *Specific construction traffic issues at Woolloongabba*

Table 24-9 of the draft Outline EMP proposes that existing traffic flows near construction works would be maintained during peak traffic periods and managed during off-peak periods to minimise disruption. With respect to the Woolloongabba worksite, the draft Outline EMP proposes that major haulage tasks should be avoided during peak traffic periods, that is between 7.00 am and 9.00 am and between 4.00 pm and 6.00 pm, Monday to Friday avoiding Stanley Street in the morning peak specifically, and Vulture Street in the afternoon peak.

Specific traffic and pedestrian management arrangements would be required during major events at The Gabba stadium, such as major cricket and football matches.

The Proponent would continue to work with DPW and the Landcentre during the detailed design phase and in the development of CTMPs around the Gabba Station construction worksite.

### *Specific construction traffic issues at Boggo Road*

Vehicle volumes to and from the Boggo Road worksite are relatively modest at only nine truck movements per hour during peak construction times. Spoil haulage trucks would only use the haulage routes set out in the CTMP and described in **Section 4.4.2** of the Environmental Impact Statement – Supplementary Report. No other roads would be permitted for use by haulage vehicles. Proposed measures to achieve this objective are set out in the draft Outline EMP in Section 24.9 of the EIS and include the use of construction vehicle management measures such as GPS tracker and weekly reporting of vehicle movement to road authorities (Brisbane City Council and Department of Transport and Main Roads).

The introduction of the temporary right-turn from Annerley Road into Peter Doherty Street would avoid trucks travelling past the vehicular entrance to Dutton Park State School. Section 5.10.5 of the EIS states that there would be a small number of construction vehicles turning into Peter Doherty Street. This right turn would occur in the shadow of the right turn into Boggo Road with no additional delay occurring to southbound traffic. However should this temporary right turn pocket and phase not be supported by Council, construction traffic would use the alternative route identified, ie via Boggo Road.

The Proponent would consult further with DEEDI and DPW during the detailed design phase to manage the construction traffic impacts on the Ecosciences Precinct and wider Boggo Road Urban Village respectively. This would include pre and post construction condition surveys on road surface condition, with a requirement that damage caused by Cross River Rail construction is repaired.

### *Specific construction traffic issues at Yeerongpilly*

Spoil haulage routes are proposed on the shortest and most appropriate routes from the Yeerongpilly worksite to the arterial road network. As reported in Section 5.10.5 of the EIS and **Section 4.4.2** of this Environmental Impact Statement – Supplementary Report, the Yeerongpilly worksite would cater for the removal of spoil from the southern portal with trucks using Station Road, Lucy Street, and Ipswich Road only. There would be no vehicular access between Yeerongpilly east of Wilkie Street and the worksite. There would be no residential or school traffic conflicting with haulage and delivery trucks associated with the construction of Cross River Rail.

The intersection of Lucy Street, Durack Street and Ipswich Road currently caters for traffic associated with businesses along Station Road as well as through trips from Wilkie Street and points north and west. The EIS presented a worst case assessment (refer Section 5.10.7 of the EIS) assuming the Cross River Rail construction traffic would be in addition to existing traffic, and concluded that minor additional delays of just over five seconds in the morning peak and around seven seconds in the afternoon peak would be experienced.

Queuing on Lucy Street currently occurs in the PM peak. Table 7-42 of the EIS Technical Report No.1 – Transport shows that queues are forecast to be around 30 m (5 cars) longer under the construction traffic scenario but that even without the Project, queuing on Lucy Street would be expected to extend over 100 m (17 cars) in 2016. The detailed design phase presents a further opportunity to refine signal timings and potentially re-phase signals as suggested by Brisbane City Council. It must be noted that the addition of any new traffic phases would likely have a worse traffic effect on all vehicles than the currently proposed status quo. These must all be considered in light of existing operations and existing physical (including sight line) constraints.

Green Street would remain open for local access from Yeerongpilly to Ipswich Road during the closure of Station Road/Wilkie Street. Green Street would not be signed or designated as a through route.

Wilkie Street and Cardross Street would not form part of the Yeerongpilly worksite spoil haulage or route for other construction traffic. It would not be involved by the Project. Consequently, the intersection of Cardross Street and Fairfield Road has not been assessed in detail in the EIS. This intersection was the subject of a qualitative assessment in the Transport Technical Report. Section 6.5.2 of Technical Report No.1 – Transport concluded that any change to traffic conditions would be minor.

The construction work on Wilkie Street would occur during site preparation works and would be accessed from the south, via the main worksite at Yeerongpilly. **Appendix D** provides a summary of indicative construction vehicle trips generated by spoil haulage and material deliveries at each of the major worksites during key phases of construction. Details of the sequence and timing of construction vehicle access arrangements for each stage of construction would be addressed in the detailed design phase and captured in a CTMP and subject to approval by Council.

#### *Specific construction traffic issues at Moorooka*

There is no proposed spoil haulage or materials delivery activities proposed via Keats Street or Hamilton Road with trucks to remain on Ipswich Road through these intersections. As such there would be no impact on the performance of these intersections or changes in safety envisaged.

#### 4.6.2 Construction worker parking

##### **Issues raised in submissions**

A number of submissions to the EIS raised concerns about workforce car parking at construction worksites, including the need for additional parking at some worksites and the potential impacts of workforce parking on local streets. Submissions expressed concerns that impacts on local streets could include the use of kerb space by workforce parking resulting in possible limited availability of kerb space for residential, business and rail commuter car parking; traffic congestion due to workforce car parking movements; and noise generated by the workforce.

Specific issues raised in submissions about construction workforce parking included:

- only 14 car park spaces are provided at the Ventilation and Emergency Access Building construction worksite, although 50 to 80 workers are required at the worksite
- concerns about construction workers parking in local streets surrounding worksites
- site parking arrangements appear inadequate for the workforce numbers at a number of construction worksites, including Clapham Rail Yard, the Ventilation and Emergency Access Building at Fairfield and Boggo Road
- if an insufficient number of workforce car parks are provided within the worksites then this could result in restrictive parking management plans being imposed on residents
- concerns about the impacts of dust and noise created from parking for construction workers
- project management must be held responsible for providing adequate off-street parking.

##### **Response to issues raised in submissions**

Construction workforce parking arrangements are summarised in Section 5.10.6 of the EIS. The Project would provide car parking within construction worksite boundaries for 858 cars. This would cater for over 80% of the estimated number of peak workforce. Section 7.7 of the EIS Technical Report No. 1 - Transport provides details of the number of car parks provided at each worksite, the forecast peak demand for workforce parking and a suggested measure should the demand for parking be greater than the provision of car parks.

It is expected that a peak workforce of about 2,200 workers would be required for the construction of the Project, with a maximum shift of approximately 1,325 workers (refer to Section 4.4.6 of the EIS). A breakdown of workforce requirements for each worksite is provided in Table 4-11 of the EIS. A search of published sources was made to benchmark the manpower estimates provided in the EIS. This identified that the Clem Jones tunnel and Airport Link project, which in terms of scale most closely resemble Cross River Rail, were associated with manpower requirements of between 1000 to 3000 workers. An analysis of manpower requirements was conducted for Cross River Rail using resource histograms to predict the workforce deployment. The results shows that the manpower estimates for the surface workforce (ie approximately 200 full time equivalents for the northern surface works and 200 full time equivalents for the southern surface works) are reasonable. It is also considered that the estimate for the workforce for the underground works (ie approximately 1200) is comparable to Clem Jones tunnel and Airport Link.

Several worksites, including Woolloongabba, Albert Street, Roma Street and the Ekka Station, are in reasonable proximity to high quality public transport, enabling many construction workers to travel on those modes. Other worksites, such as Boggo Road, Salisbury and Yeerongpilly also are readily accessible from the public transport network (rail, bus or both). Construction site management could support this further by subsidising travel by workers on public transport.

Overall the level of car parking provided is expected to be sufficient to cater for overall workforce parking demands across the construction program. While some worksites do not have sufficient car parking capacity to cater for the anticipated demand, the Yeerongpilly worksite has a capacity for over 420 vehicles with a peak demand for 118 vehicles. The EIS proposes that this spare capacity at Yeerongpilly will provide construction parking servicing other construction worksites at Woolloongabba, Boggo Road and Fairfield with dedicated buses to transfer workers to and from the worksites.

Additional mitigation measures include:

- seeking changes to the operational dates of existing traffic areas including the Dutton Park Traffic Area and Gabba Traffic Area to include Saturday to manage the potential effects of uncontrolled workforce parking in local streets
- seeking to extend and make permanent the current event-only traffic area around the Queensland Tennis Centre, to cover potential commuter parking in streets at Yeerongpilly
- encouraging Cross River Rail workers to catch public transport or car pool where possible. This will be somewhat self enforcing given the lack of available on-street all-day parking and cost of commercial off street parking at inner city locations (eg CBD, Woolloongabba, Bowen Hills, Dutton Park)
- manage on-site parking at Roma Street and Albert Street in particular to prioritise site visitors and workers with no other option (due to equipment or work type etc).

The Proponent would be responsible for the management of car parking as provided within the CTMPs that would be developed in consultation with the road authorities, Queensland Police Services and other emergency services.

#### 4.6.3 Public and active transport access

##### Issues raised in submissions

Some concerns were raised in submissions about public and active transport access in the corridor during construction, including buses travelling along Annerley Road should not be inconvenienced with (further) traffic delays because of the surface work. Issues in relation to access to Yeerongpilly Station are discussed in **Section 4.2.3**.

##### Response to issues raised in submissions

A short section of Annerley Road, between Boggo Road and Cornwall Street, would be used by construction traffic. However, it is expected that the number of spoil truck movements would be low at nine truck movements per hour during the peak construction period. The performance of the intersections and bus movements on Annerley Road would not be unduly impacted by this limited number of heavy vehicle movements.

As discussed in Section 5.10.4 and Section 5.10.5 of the EIS, the effect of construction activities on public transport service in the CBD is expected to be minor, with safe access being maintained for passengers to and from public transport facilities, including rail stations, busway stations and bus stops.

At Roma Street Station, temporary diversion of trains to other platforms may be required while construction activities are undertaken to platforms three and ten. Changes to bus access at the intersection of George Street and Herschel Street would not be completed until the main station construction and fit out is complete.

The construction of these works would result in minor impacts only over a short period of time. Temporary measures to ensure appropriate station capacity and arrangements for pedestrians, bus and rail passengers and bus and train movement would be considered in the detailed construction management plans to deal specifically for events held at Suncorp Stadium for which Roma Street station is a key transport node.

At Albert Street, there is anticipated to be a minor impact to pedestrians due to the temporary occupation of footpaths. Bus loading and layover in Alice Street would need to be relocated permanently as construction of the pedestrian underpass would require the permanent closure of the kerbside lane for the new station entrance. Alternative bus bays could be provided in Albert Street (east side) between Alice Street and Margaret Street following demolition of the Royal on the Park hotel and the establishment of the worksite. While the construction of the underpass could impact on bus routes operating along Alice Street for a period of a few months, alternative route strategies would be investigated in the detailed CTMP to mitigate these impacts.

At Woolloongabba, construction works would be undertaken in stages to ensure busway operations are maintained and to limit the impacts on bus services. It is anticipated that some short impacts to bus operations would occur at certain stages of construction and would be timed to occur during off-peak periods, such as weekends or night time, and to avoid major events at the Gabba Stadium. During events at the Gabba Stadium, short term management strategies would be developed for the site under processes identified in the CTMP. Strategies may include a short term stop to trucking activities at the site or additional traffic control measures. Pedestrian access between the Gabba Stadium and the Woolloongabba Busway Station and other bus stops used by event attendees would not be impacted by the location or extent of the Woolloongabba worksite.

All road and pathway closures will be subject to assessment in the CTMP for each worksite, with specific measures required where there are any temporary closures affecting pedestrian, cyclist or public transport access in and around worksites. These would need to include advanced warning, timing of closures to minimise disruption and alternative access wherever possible.

## 4.7 Victoria Park

A range of issues were raised in submissions to the EIS about potential impacts of the Project's design and construction on Victoria Park, including impacts of the construction worksite, particularly on vegetation, amenity for park users during construction and permanent loss of open space.

### 4.7.1 Construction worksite

#### Issues raised in submissions

Concerns were raised in submissions about the location and layout of the proposed worksite and potential impacts on vegetation, animal habitats and use of the park. In particular, issues related to:

- the removal of several mature fig trees located within the proposed worksite boundary
- the loss of vegetation and mature trees, including eucalyptus trees, and the subsequent impact this would have on animal habitat and the general environment. Specific concerns included the loss of mature trees and the subsequent impact on bird populations, including the nesting of stone curlews in the eastern end of the park
- the impact of the proposed worksite on the social and recreational areas in the park, including the pedestrian and cycle paths, playground and dog park areas which are used extensively
- temporary loss of green space for park users, including within the worksite and from the widening of the access road from Gregory Terrace
- negative impacts on visual amenity when mature trees are removed from the park. These trees were considered to block the impact of the ICB and railway line for park users and comments were made that the replacement of these mature trees with small trees would not provide the same greening and visual amenity for a number of years
- the impact on the children's playground near the proposed worksite, particularly with respect to noise, dust and access issues.

A number of submissions requested that every effort be made to ensure that the construction activities do not cause the permanent loss of the fig and eucalyptus trees and other vegetation, and identified the need for alternative areas and sites be considered for the construction activities. Submissions also suggested some measures to avoid or reduce the potential impacts on Victoria Park, including:

- moving the 'general site area' away from the fig trees and closer to the dog off leash area in order to avoid impacting directly on the fig trees. Approximately 1,800 m<sup>2</sup> could be taken out of the proposed 'general site area' to preserve the old fig trees and, if required, approximately 3,000 m<sup>2</sup> of the parkland adjacent to the dog off leash area could be used for a temporary 'general site area'. The playground should remain untouched and the pedestrian and cycle path could be realigned to skirt the dog fence, run along the bottom of the bushland area, which is to remain untouched, and out onto the road leading to Gregory Terrace
- if possible, all mature trees should be preserved, especially the mature fig trees, the eucalypts and the various trees in the current Brisbane City Council depot. The mature trees should be fenced off at the drip-line with the root areas protected.

#### **Response to issues raised in submissions**

As identified in **Section 3.3.2**, refinements made to the Victoria Park worksite layout would avoid the need to remove the large fig trees for construction activities. Further investigations during detailed design would also seek to minimise clearance of other vegetation to that necessary for construction. The removal of vegetation in this area would require clearing permits prior to works commencing. In particular, construction impacts on the existing mature trees located within the central section of Victoria Park would be minimised.

Mitigation proposals relating to the potential impacts on local recreational facilities, including the children's playground, would be determined at the detailed design stage, once the final form of construction has been determined. While the refined layout for the reference design avoids the playground, its proximity would impact on the recreational amenity of the setting.

As identified in Table 24-17 of the draft Outline EMP, a dust and odour management sub-plan would be required, specifying measures for avoiding and managing nuisance dust impacts. In addition, prior to the commencement of works, including demolition works and site preparation works, acoustic barriers or screens would be installed to protect local communities to the south of Gregory Terrace and the Centenary Aquatic Centre (ref draft Outline EMP, Table 24-18). Early and ongoing consultation with residents of Gregory Terrace and the users and owners of the Centenary Aquatic Centre would be undertaken to identify and avoid or minimise potential impacts.

Table 24-19 of the draft Outline EMP identifies the need for the ecological, habitat and natural asset values of Victoria Park, to be maintained. The removal of trees within Victoria Park will result in a minor reduction in the habitat value of the area until planted native vegetation matures. Those values stem from temporary roosting in native and other vegetation and landscape relief in an inner city setting. The removal of trees within Victoria Park will result in an insignificant reduction in the habitat value of the area. Replanting the disturbed areas with native vegetation would reinstate and maintain the ecological values of Victoria Park south of the transport corridor formed by the Inner City Bypass and the Exhibition Line railway.

As identified in Table 24-11 of the draft Outline EMP, safe pedestrian and cycle access would be maintained near construction works for open space areas that are not occupied by Project worksites, such as Victoria Park. Safe, alternative access would be provided for bikeways disturbed by construction works, including the bikeway in Victoria Park.

#### **4.7.2 Wider impacts on Victoria Park**

##### **Issues raised in submissions**

In addition to issues raised in relation to the construction worksite, submissions by residents also raised a number of issues about wider impacts on Victoria Park. These include:

- impact on the amenity for park users due to the increased noise and dust from construction activities

- loss of access to community park lands for the general public during construction
- risk to the public who use the park, paths and dog park due to pollution during construction of the Project
- impact of construction-related parking in Victoria Park
- the role of Victoria Park, which is held in trust by Brisbane City Council for park purposes
- the relocation of the bikeway to the Gregory Terrace side of the facility, due to the higher speed bikeway conflicting with the main access footpath to the play area
- long term loss of existing fauna and permanent loss of parkland areas due to the widening of the corridor for new tracks.

Suggestions identified in the submissions to the EIS to remove or reduce the impacts of construction activities on Victoria Park included:

- a commitment should be made to plant more trees as part of the necessary rehabilitation process to mitigate the loss of vista from the dog park and playground areas once the car park is built
- consideration of alternative options so that the whole of Victoria Park is kept as an inner city park. Possible alternatives identified included using unused railway land at Roma Street/Bowen Hills, the Queensland Rail car parks, the Ekka site, the sports grounds (alternative car parking site during the Ekka) or the island of land situated between Gregory Terrace and the car park for the Centenary Swimming Pool. The use of the existing Council depot for the storage of plant, material and site office was also identified
- the alignment of Cross River Rail at the northern portal should be located closer to the alignment of the redundant rail tracks to minimise impacts on Victoria Park
- consideration of alternative options for worker parking, including using more area of the unused parts of the railway line and the sites where the buildings are to be demolished, transporting workers to Victoria Park by bus rather than allowing them to park at the worksite
- use the Legacy Way northern portal spoil site for placement of spoil from the Cross River Rail northern portal
- all sites within Victoria Park that are impacted should be restored to public green space post construction and where possible enhanced. This would partially compensate for the permanent loss of land due to the widening of the rail corridor
- all significant trees to be preserved within the parkland. The parkland to be restored and enhanced following the completion of construction and vacating of the worksite
- the temporary construction sites need to provide for safe walking and cycling activity and ensure that the existing facilities such as playgrounds can continue to be used.

#### **Response to issues raised in submissions**

Section 9.3.3 of the EIS recognises that Victoria Park is important for providing numerous formal and informal recreational activities, as well as a buffer between residential uses adjacent to Gregory Terrace, the Exhibition rail line and the ICB.

As identified in **Section 3.3.2**, proposed refinements to the construction worksite layout would avoid the need to remove the large fig trees for construction activities at Victoria Park. Further investigations during detailed design would seek to minimise clearance of native vegetation to that necessary for construction, site maintenance and operation. The necessary statutory clearing permits would be required prior to works commencing.

Following construction, the worksite in Victoria Park would be rehabilitated and landscaped with plantings of native species, suitable for its ongoing use as open space and park. In the longer term, only a small area of Victoria Park would be acquired for the Project. The utility of this southern section of Victoria Park would not be affected.

Potential impacts on Victoria Park from increased construction are discussed in Section 16.4.5 and Section 15.4.2 of the EIS respectively. The goals identified in the EIS for construction noise and air quality are consistent with relevant State and national guidelines and legislation. Such guidelines account for potential effects on human health.

As outlined in Table 16-25 of the EIS, the predicted 'worst case' noise levels for the construction phases at the northern portal worksite indicate, with mitigation, there would be a marginal (2 dBA) exceedance of the relevant noise goals at the nearest residential receivers and a 6 dBA exceedance at the Centenary Aquatic Centre. This would occur during early works, such as site establishment, initial trough excavation and spoil removal.

The EIS outlines a range of mitigation measures to manage potential noise impacts for park users. These are outlined in Table 24-18 of the draft Outline EMP and include using the quietest available construction plant, ie fitted with appropriate exhaust silencers, mufflers or acoustic covers. Early and ongoing consultations with residents of Gregory Terrace and the users and owners of the Centenary Aquatic Centre would be undertaken to identify potential impacts and possible mitigation measures.

Air quality studies undertaken for the EIS identified that, without management and mitigation, that PM<sub>10</sub> concentrations have the potential to exceed the EPP (Air) objective in parkland and community areas, immediately south-east of the northern portal worksite. However, PM<sub>10</sub> concentrations are expected to be below the goal in all residential, education and commercial premises near the worksite. Without management, the predicted dust deposition rates and dust nuisance goals also have the potential to be exceeded in a section of the park immediately south-east of the worksite. The potential impacts are expected to be greatest over approximately 10 weeks, while the shaft and trough are excavated. As identified in Table 24-17 of the draft Outline EMP, a dust and odour management plan would be developed which would specify measures for avoiding and managing dust nuisance impacts for park users and nearby sensitive receptors.

A CTMP would be developed for the northern portal worksite in consultation with Transport and Main Roads, Brisbane City Council and emergency service providers (refer to Table 24-11 of the draft Outline EMP). The CTMP would outline measures to manage traffic flows and ensure safe traffic movement near construction works at Victoria Park. The CTMP would also ensure safe pedestrian and cycle access would be maintained near construction works, to open space within Victoria Park not affected by the Project and for the bikeway in Victoria Park. As provided in **Section 3.3.2** of this Environmental Impact Statement – Supplementary Report, the pedestrian and cycle path within the park has been further realigned to address concerns raised in submissions about potential conflicts between the cycle path and the access path to the children's playground.

As described in Section 3.3.4 of the EIS, the location of the northern portal was driven by a range of factors, including the location and depth of the Roma Street Station, connections to the existing railway and impact on nearby bridges. None of the alternatives for the portal location, including those identified in submissions were considered feasible, with the proposed location considered the most pragmatic solution available for the corridor and selected alignment. As described in **Section 3.3.2**, refinements are proposed to the construction worksite layout that would avoid the need to remove the large fig trees for construction activities at Victoria Park.

The peak workforce demand at Victoria Park is estimated to be approximately 40 people (refer to Section 4.4.6 of the EIS). It is proposed to provide 80 car parking spaces at this worksite, including 40 spaces within the former Brisbane City Council facility and an additional 40 spaces within the worksite adjacent to the Energex Building. It is expected that the excess capacity could be used to accommodate overspill from the Ekka Station and O'Connell Terrace worksites, and it should be noted that the construction contractor may not require the additional car parks.

Table 24-19 of the draft Outline EMP provides for site management procedures to be introduced to avoid or minimise potential for harming native fauna and responding to incidents where fauna enter the construction worksite. These measures may include:

- fencing of construction worksite boundaries to separate fauna from construction works
- harvesting hollow bearing trees cleared for Project works and retro-fitting to form nest boxes

- education and training of construction workers about native fauna being protected and procedures to avoid harming fauna
- using a qualified and registered fauna spotter/catcher prior to and during the initial vegetation clearing to capture and relocate disturbed fauna
- relocating, repairing or replacing where necessary the existing fauna boxes situated in the northern section of Victoria Park
- restricting the use of lighting for night-time activities and preventing the use of mercury lamps, where safety considerations allow, which can attract insects and other fauna to construction areas adjacent to Victoria Park.

## 4.8 Noise and vibration

### 4.8.1 Construction noise and vibration

#### Issues raised in submissions

Specific concerns were raised in submissions relating to construction noise and vibration by residents surrounding the new Yeerongpilly station. These included:

- excessive noise during early phases of construction activity, particularly at weekends during the early morning period. Other issues include the duration of the construction works, including predicted exceedances of the noise goals
- removing properties and trees on Wilkie Street will result in increased noise to properties on Tees Street from existing sources and from construction activities
- numerous aspects of the Project and site locations are forecast to provide decibel readings in excess of statutory health and safety guidelines
- concerns were raised on vibration impacting on one property and at the community facility of St Fabian's Church.

QH recommended that noise criteria specified within the WHO's Guidelines for Community Noise and the Environmental Health Council's guideline *The health effects of environmental noise – other than hearing loss*, be adopted. QH submitted that the assessment of noise against 'goals', particularly during the construction phase, is unclear.

Issues relating to construction noise and vibration at the ventilation and emergency access building were also identified by residents in the vicinity of the structure, specifically:

- construction work at the ventilation and emergency access building are predicted to exceed the stated noise goals for a period of 17 weeks out of a planned construction phase of 28 weeks
- as the ventilation shaft is to be constructed before drilling commences, this will result in increased noise coming from the vent.

DPW raised a concern that noise levels during construction activities would impact on office workers at the Landcentre building (Woolloongabba), Roma Street precinct and 53 Albert Street.

A concern was raised that an increase in noise or vibration would not be acceptable to the functioning of the Church of Jesus Christ of Latter Day Saints located at River Terrace, Kangaroo Point.

At Woolloongabba, one concern was raised relating to noise and vibration impacts on a property as excavation would be too close to the ground surface. A suggestion was made to locate Boggo Road Station deeper underground, or move it to a location where the ground is at the same level as properties nearby.

## Response to issues raised in submissions

With regard to the issues of excessive noise, particularly at weekends, the Project would be required to meet the performance criteria provided in the draft Outline EMP of the EIS (refer to Table 24-18 in Chapter 24 draft Outline EMP). The Yeerongpilly residential community would be consulted on the program of works, including the anticipated duration of surface works, as required by the draft Outline EMP.

Where out-of-hours work is required in 'special circumstances' (defined in Table 24-11, Element 1 of the draft Outline EMP), advance consultation with potentially affected owners and occupants of nearby properties would be undertaken to devise mitigation measures for potential noise and vibration impacts.

### *Yeerongpilly*

The EIS confirms that some early construction activities are likely to generate high levels of noise and would be restricted to daytime hours, except in special circumstances. For the Yeerongpilly worksite, 'worst case' noise levels have been predicted with 3 m or 6 m high noise hoardings. Noise levels for short-term site establishment works (eg demolition of existing buildings) and work requiring possessions of the live rail corridor in the vicinity of the southern portal are predicted to exceed noise goals.

Advance notice and consultation with potentially affected owners and occupants would be required to determine suitable mitigation measures (refer to Section 16.4.5 of the EIS). Existing warehousing and other structures surrounding the proposed spoil shed would be retained to provide an effective noise barrier. Acoustic hoardings also would be erected on the northern boundary of the worksite.

At the Yeerongpilly worksite, the predicted exceedances of the noise goals during construction are detailed in Section 16.4.5 and Section 16.6.1 of the EIS. Nearby sensitive receptors affected include St Fabian's Church, residences on Tees Street, Wilkie Street, Livingstone Street, Fairfield Road and Cardross Street. Demolition of existing buildings would occur during the daytime period for approximately six weeks during early site establishment works. Piling works would also be required immediately adjacent to the operating rail line, for approximately six weeks.

It is proposed that these works are carried out during weekend rail possessions and during the day-time only. If night-time construction work is required, consideration would be given to the early installation of part of, if not the entire, acoustic enclosure to provide significant and effective noise attenuation.

Predicted construction noise levels exceeding the goals at floors above ground level would vary for each receiver. Consequently, further predictive noise modelling would be required during the detailed design phase. Noise from the spoil receiving, handling and loading operations would be mitigated by siting such activities within a purpose built acoustic enclosure or acoustic shed. Consultations would be conducted with property owners to address specific construction impacts and mitigation requirements (refer to Table 24-22 of the draft Outline EMP).

With respect to construction noise levels exceeding statutory health and safety guidelines in the study corridor and the use of WHO's Guidelines, numerical noise goals are provided in the EIS to manage the adverse impacts on the community for both the day and night-time periods (refer to Section 16.2.2 of the EIS). The Queensland Rail Code of Practice planning noise levels were adopted to assess the impact of relatively short term construction noise levels from Cross River Rail surface track worksites.

The locations where predicted exceedances of the noise and vibration impact assessment goals occur are provided in Chapter 16 Noise and Vibration. A rigorous program of noise and vibration monitoring would be undertaken at locations where the goals and criteria are predicted to be exceeded (refer to Table 24-18 in Chapter 24 draft Outline EMP).

Further monitoring may also be required in response to specific complaints. Monitoring would be conducted throughout construction to ascertain achievement of the environmental objectives. With respect to alternative noise guidelines and noise goals, the environmental objectives and related performance criteria, including the specific goals adopted in the EIS were subject to extensive consultations and agreement with relevant agencies, Brisbane City Council and other stakeholder groups during the early stages of EIS preparation. The goals for noise and vibration are substantially similar, if not the same, as those adopted for and approved by the Coordinator-General for implementation on other major transport infrastructure projects in Brisbane.

The major construction works in the vicinity of Green Street is the portal and dive structure located immediately south of the tunnel portal. No impacts from ground-borne vibration are predicted from these works. TBM works commence approximately 250 m north of properties on Green Street. All residential receivers on Green Street are predicted to comply with the ground-borne vibration goals from TBM operations. With respect to construction vibration impacts, ground-borne noise and vibration monitoring, together with pre-condition building surveys would be carried out where predictive modelling conducted prior to the commencement of works indicated the potential for exceedances of the goals (refer to Table 24-18 of Chapter 24 draft Outline EMP). Vibration predictions would be updated based on monitoring during construction and further mitigations developed, if required.

Construction noise levels represent 'worst case' scenarios (ie assuming all plant items operate simultaneously). Where special circumstances surface works occur outside normal day-time hours, a range of management measures would be implemented to achieve the environmental objectives and reasonable living conditions for near neighbours (refer to Table 24-18). Consultations with property owners would be conducted in advance of construction, as described above.

With respect to construction works impacting on Tees Street, the Project would meet the performance criteria provided in the draft Outline EMP (refer to Table 24-18). A hierarchy of controls is also proposed to mitigate noise from the Yeerongpilly worksite, particularly where higher levels of noise are predicted. As part of the draft Outline EMP, consultation would be conducted in advance of construction. The applicable assessment criteria for noise and vibration are provided in Section 16.2 of the EIS and in Table 24-18 and Table 24-33 in Chapter 24 draft Outline EMP.

#### *Ventilation and emergency access building*

The predicted noise levels for some early construction activities at the ventilation and emergency access building would exceed the day-time construction noise goals for residences on Railway Road, Fairfield Road, Sunbeam Street, Venner Road, Love Street, Baptist Union of Queensland Church, and commercial premises on Railway Road and Byrnes Street which are closest to the worksite (refer to Section 16.4.7 of the EIS).

The 'worst case' construction noise scenario for this site would be the installation of piles to support the shaft. If required, piling would occur over a period of approximately five weeks and would proceed during daytime hours only. Construction noise emission levels would progressively decrease over time as the excavation work progressed deeper into the shaft. Should the noise goals be exceeded, consultation with potentially affected people would assist in identifying options for mitigating the noise impacts (refer to Table 24-22 in Chapter 24 of the EIS)

#### *Boggo Road*

With respect to the excavation works near Boggo Road Station, increasing the depth of the tunnels would significantly increase the cost of building Boggo Road Station and could require a cavern station instead of a box station in poor geological conditions. The distance from the tunnel crown is approximately 14 m below the existing ground surface at Quarry Street. Maximum (ie 'worst case') ground-borne vibration levels from tunnelling at this location show indicative maximum vibration levels of between 0.1 mm/second and 1.4 mm/second (refer to Table 16-54 of the EIS). Ground-borne vibration levels are predicted to be 'easily noticeable'.

Modelling of ground-borne noise levels from TBM tunnel excavations at Quarry Street show indicative maximum ground-borne noise levels of between 27 dBA and 57 dBA (refer to Table 16-55 of the EIS). 'Worst case' ground-borne noise levels from TBM tunnel excavations are predicted to be 'very low to high'. For each TBM passby, ground-borne noise and vibration would gradually build-up to the predicted level over three to five days and then rapidly diminish as the TBM passes ahead of sensitive receivers. For each TBM pass-by, the maximum number of days where noticeable vibration could occur would only be up to seven days.

Mitigation measures are detailed in Table 24-18 of the draft Outline EMP and would include ground-borne noise and vibration monitoring to inform and refine the predictive modelling, and to provide feedback to the community and regulatory agencies on performance in relation to the goals for construction noise and vibration. Construction activities would need to satisfy the requirements of a construction noise and vibration management plan which would be prepared and approved prior to works commencing.

#### *Woolloongabba and Kangaroo Point*

With respect to the Landcentre building, predicted noise levels during demolition of the existing Goprint building at Woolloongabba indicate exceedances of up to 15 dBA of the noise goal for daytime operations which is anticipated to occur over a six week period (refer to Section 16.4.4 of the EIS). Measures to minimise demolition noise during the six week period would include undertaking initial site establishment and piling activities during daytime hours (ie 6.30 am to 6.30 pm) only. Monitoring of construction noise would also be conducted. If noise levels exceed the goals, the construction Contractor would be responsible for immediately investigating exceedances and implementing noise controls, or amending the work activities to prevent recurrences.

For construction works required at Woolloongabba, near the Landcentre building, it may prove onerous to apply absolute noise goals in acoustic environments characterised by relatively constant high ambient noise levels. Noise barriers would not be effective for very tall buildings overlooking the worksite. Construction activities in similar urban areas, such as the CBD do not usually have noise restrictions for daytime construction.

With regard to potential impacts on the Church of Jesus Christ of Latter Day Saints, internal noise goals for places of worship have been provided in Table 16-4 of the EIS. The internal noise goals are stringent and can be achieved during construction and operation. Maximum ('worst case') ground-borne noise and vibration levels have been predicted when the TBM is located at the shortest distance to the receiver (ie generating the maximum ground-borne noise and vibration). The tunnel crown is approximately 46 m below the existing ground surface at this location.

Modelling of ground-borne vibration levels from tunnelling at the Church show indicative maximum vibration levels of between 0.1 mm/second and 0.3 mm/second (refer to Table 16-54 of the EIS). Ground-borne vibration levels are predicted to be 'barely noticeable'. The degree of human perception to vibration is provided in Table 16-11 of the EIS. At levels of about 0.15 mm/second, people will just be able to feel continuous floor vibration. The motion becomes 'noticeable' at a level of approximately 1mm/second.

Modelling of ground-borne noise levels from TBM tunnel excavations for the Church show indicative maximum ground-borne noise levels of between 18 dBA and 39 dBA (refer to Table 16-55 of the EIS). 'Worst case' ground-borne noise levels are predicted to be 'very low to low'. For each TBM pass-by, ground-borne noise and vibration would gradually build-up to the predicted level over three to five days and then rapidly diminish as the TBM passes ahead of sensitive receivers.

Table 24-18 in Chapter 24 draft Outline EMP requires ground-borne noise and vibration monitoring together with pre-condition building surveys, where deemed necessary. For each TBM pass-by, the maximum number of days where vibration could occur would only be up to seven days. No impacts from ground-borne noise or vibration are predicted during operation.

## CBD

With regard to the Parkland Crescent residential apartments at Roma Street, the predicted ‘worst case’ construction noise levels for demolition, piling and shaft excavation works at the station would exceed the noise goals during the night-time period with 3 m high hoardings. Surface works would be restricted between 6.30 pm and 10.00 pm, Monday to Friday and mitigation measures implemented prior to the commencement of work between these hours. Acoustic barriers or screens would be erected around the worksites to protect local communities in Roma Street Parkland and to the west of Roma Street. This would include an acoustic shed over each shaft if night-time works are proposed underground.

Prior to construction, owners and occupants of nearby properties would be consulted and given advance notice of activities likely to approach or exceed the noise or vibration goals. Monitoring of ground-borne vibration and noise at residential premises in the Roma Street Parkland would also be undertaken.

The urban environment at Roma Street Station is characterised by relatively constant high ambient noise levels. Furthermore, the existing Brisbane city landscape has many high-rise building construction worksites that operate with no daytime noise limits. It is likely that noise sensitive receivers in the vicinity of Roma Street Station worksites would associate initial Cross River Rail construction work involving site establishment, demolition and piling, with typical high-rise building construction works, particularly at the major southern worksite adjacent to the Station precinct.

With respect to office workers in Albert Street (located at the northern corner of Albert and Margaret streets), the predicted ‘worst case’ noise levels for worksite establishment, including demolition of the existing buildings at the two Albert Street Station worksites indicate exceedances of up to 5 dBA of the noise goal for daytime operations with 3 m high hoardings. Demolition works for the north shaft would take approximately 10 weeks and approximately 20 weeks for the south shaft. Initial site establishment works would be conducted during the daytime hours (6.30 am to 6.30 pm) only.

Prior to construction, owners and occupants of properties adjacent to the station works would be consulted in advance on the program of works, including advance notice of activities likely to approach or exceed the noise or vibration goals. Monitoring of ground-borne vibration and noise would also be undertaken at several places representative of the sensitive receptors in the vicinity of Albert Street.

Similar to Roma Street Station, predicted Cross River Rail construction noise levels should be considered with respect to existing high ambient noise levels in the vicinity of the two Albert Street Station worksites and its inner city location, which contains many high-rise building worksites that operate with no daytime construction noise limits.

### *Noise and vibration goals*

All reasonable and practical measures, as detailed in the Noise and Vibration component of the CEMP would be implemented in an endeavour to meet the goals identified in **Table 4-3**, for all construction works undertaken during the daytime and evening (except early site works). These measures must be in place prior to the commencement of construction works.

**Table 4-3 Goals for internal noise daytime and evening – construction (except daytime early site works)**

		Monday – Saturday 6.30 am – 6.30 pm	Monday – Saturday 6.30 pm – 10 pm	Monday – Saturday 7.00 am – 6.00 pm
<b>Continuous</b> $(L_{Aeq\ adj}(1hr))$	Dwelling	35	35	Blasting (airblast) 130dB linear peak
	Library and educational institution, including a school, college and university	35	35	
	Hospital, surgery or other medical institution. Visiting hours	35	35	
	Hospital, surgery or other medical institution. Anytime, other than visiting hours	30	30	
<b>Intermittent</b> $(L_{A10\ adj}(1hr))$ (LA Max)	Dwelling	40	40	

**Implementation Notes:**

1. All goals are internal noise levels.
2. Early Site Works means works to prepare the site for development, including site clearance and establishment, demolition works, piling and excavation necessary for site establishment, remediation of contamination, spoil haulage and material deliveries during site establishment, and the construction of noise mitigation structures and buildings of a temporary nature that are associated with the Project.
3. Where internal noise levels are unable to be measured or monitored, the typical noise reductions presented in *Guideline Planning for Noise Control*, Ecoaccess, DERM, July 2004 apply.
4. Construction noise between 6.30 pm and 10.00 pm Monday to Saturday would be permitted only in those locations identified for surface works during those hours.

Long term night-time noise goals for surface construction works is provided in **Table 4-4**.

**Table 4-4 Long term night-time noise goals –surface construction**

Noise type	Time of day	$L_{A10\ adj}(10mins)$ (measured at a sensitive place) <sup>1</sup>	$L_{A1\ adj}(10mins)$ (measured at a sensitive place) <sup>1</sup>
Steady construction noise	Monday – Saturday 10 pm – 6.30 am Sundays, Public Holidays	Background + 3 dB(A)	Background + 5 dB(A)

Implementation Notes:  
Measured in accordance with the most recent edition of the Queensland Government's Noise Measurement Manual.

**Table 4-5** provides a summary of the proposed objectives for regenerated noise where underground works are conducted during the night-time period.

**Table 4-5 Night-time regenerated noise objectives**

Time	Objectives – $L_{Aeq\ adj}(15\ min)$ <sup>1</sup>
6.30 pm to 10.00 pm	40 dB(A)
10.00 pm to 6.30 am	35 dB(A)

Implementation Notes:  
1 Measured in accordance with the most recent edition of the Queensland Government's Noise Measurement Manual.

Table 24-18 of the draft Outline EMP would be revised to incorporate the noise and vibration goals presented in **Table 4-3**, **Table 4-4** and **Table 5-5** (refer to Chapter 24 of the EIS).

#### 4.8.2 Operational noise and vibration

##### Issues raised in submissions

Issues raised in submissions relating to operational noise and vibration included:

- removing properties and trees on Wilkie Street will result in increased operations noise to properties on Tees Street, Yeerongpilly
- concerns that the noise barrier proposed for Fairfield Road would have the effect of bounding rail noise back towards Tees Street
- concerns about future noise levels arising from an increase in surface rail traffic
- concerns that residents at the end of Heaton Street, Tramore Streets and Nyanda State High School will experience a significant increase in noise and vibration during Cross River Rail operation
- concerns about ground-borne vibration levels during operation, particularly that timber houses on stumps or columns provide less attenuation and timbers floors can amplify background vibration.

One submission also related to the location of ventilation and emergency access building in a quiet residential area (supporting a vet and church) and its effects during construction and ongoing operations.

##### Response to issues raised in submissions

Predictive studies conducted for the EIS for impacts from operational rail noise at properties on Tees Street are not expected to exceed Queensland Rail's operational noise criteria. Consequently, noise barriers would not be provided as part of the Project. Train noise reflecting off the existing noise barrier on Fairfield Road would be minimal. During a train pass-by, any reflected train noise would be directed onto the passing train itself, which would act as a noise screen.

Operational noise at all eleven residences adjacent to the realigned section of Wilkie Street would comply with Queensland Rail's noise goals in the Code of Practice. There would be no specific mitigation required in this location. If monitoring or updated estimates indicate this is not the case, then the need for mitigation would be re-examined. Future noise monitoring would also be undertaken and the modelling updated, if required, to ensure noise predictions are accurate. If noise goals are shown not to be achievable, then the need for mitigation would be reappraised.

With regard to noise impacts from increased rail traffic, the issue of rail corridor noise is discussed in Chapter 16 of the EIS. A 2 dBA increase in peak noise levels is predicted from the predicted increase in surface rail operations between the portals by 2031 (refer to Section 16.5.3 of the EIS). The noise increase in peak noise levels would not be discernible to residents living near the surface rail corridor. Surface rail traffic would need to be managed to achieve the criteria set out in Queensland Rail's Code of Practice for Railway Noise Management (ie 87 dBA assessed as a Single Event Maximum Sound Pressure Level, or 65 dBA assessed as the 24 hour average equivalent continuous A-weighted sound pressure level) (refer to Section 4.2 of the Queensland Rail Code of Practice).

With respect to concerns that residents at Heaton Street, Tramore Streets and Nyanda State High School would experience an increase noise and vibration during operation, noise levels from trains using the surface rail tracks have been modelled for future operations. Noise levels from surface rail tracks at these locations are predicted to comply with Queensland Rail's operations noise criteria. As such, mitigation measures are not required for this section of the Project. Future monitoring would be undertaken and the modelling reviewed to ensure the noise predictions are accurate.

If the noise goals in Table 24-33 of the draft Outline EMP are shown not to be achievable, then the need for mitigation will need to be reconsidered. Future monitoring would be undertaken and the modelling reviewed to ensure the noise predictions are reasonable and representative. If the noise goals in Table 24-33 of the draft Outline EMP are not to be satisfied due to exceedances, the need for mitigation will need to be reconsidered.

With respect to the effects of ground-borne noise and vibration during operation and impacts on older Queensland housing, the predictive modelling includes for propagation of noise and vibration into, and within residential buildings (refer to Section 6.2 and Section 7.2 of the Noise and Vibration Technical Report). During operation, the regenerated noise and vibration levels for timber houses on stumps or columns would be within the goals with the proposed track-fastening and other design features. Consequently, the modelling indicates the environmental objectives would be achieved (refer to Section 16.5.1 and Section 16.5.2 of the EIS).

With respect to noise emanating from the ventilation and emergency access building, a study was made in the EIS to examine noise generated from underground train passbys which has the potential to escape from the tunnels via the ventilation shaft (refer to Section 16.5.4 of the EIS). The predicted maximum noise level at the nearest sensitive receiver (approximately 35 m from the proposed shaft) from a train passby is predicted to be 50 dBA LMax. This would achieve the operational planning levels in the Queensland Rail Code of Practice for Rail Noise Management. Train noise break-out through the tunnel ventilation shaft from trains operating within the tunnel is not expected to exceed the noise goals and is expected to be comparable (or quieter) than car pass-by noise levels from Fairfield Road.

#### 4.8.3 Noise goals in the rail corridor

##### Issues raised in submissions

An issue was raised in submissions about noise goals relevant to construction activities in the rail corridor. In particular, concerns related to Queensland Rail's noise limits.

The submissions state that while occasional loud work at night-time is tolerable, residents near to the southern portal are unlikely to tolerate loud work every night for extended periods. It was requested in submissions that given the amount of night-time work in the rail corridor during construction, a lower maximum noise limit (ie 65 dBA) should be adopted for night-time works in the rail corridor.

##### Response to issues raised in submissions

Queensland Rail prescribes 'Planning Levels' within their Code of Practice – Railway Noise Management (Queensland Rail Code of Practice). The Queensland Rail Code of Practice planning noise levels have been adopted to assess the impact of relatively short term construction noise levels from Cross River Rail surface track worksites. The Planning Levels used are:

- 65 dBA, assessed as the LAeq(24hour)
- 87 dBA, assessed as the LMax,adj.

As described in Section 16.2.2 of the EIS, numerical noise goals were developed in consultation with stakeholders to achieve environmental objectives, and in so doing, manage any adverse impacts on the community, including for day-time and night-time construction activities. During the night-time period, the environmental objective would be to protect the internal noise amenity of neighbouring residences.

At the southern portal worksite, piling works within the live rail corridor would be required. Such works would be approximately six weeks in duration and would impact on property owners in Tees Street, Wilkie Street, Livingstone Street, Fairfield Road and Cardross Street (refer to Section 16.4.5 of the EIS).

Construction noise levels predicted at properties are 'worst case' scenarios, which assumes all plant and equipment operate simultaneously. Where exceedances of the noise goals are predicted, a hierarchy of practical controls is described in Chapter 24 draft Outline EMP (Construction), in order to minimise noise levels predicted at nearby properties.

Construction noise from general surface track works is examined in 16.4.10 of the EIS. All construction activities would need to satisfy the requirements of a construction noise and vibration management plan prepared prior to the commencement of construction works, including works within the rail corridor.

Consultation with near neighbours would be required to inform them of approaching work, the character and duration of such work, and the potential impacts such work is predicted to have on the acoustic amenity of their locality. Such consultation would be taken into account in construction planning and programming to avoid, where possible, particularly sensitive periods in the year, and to devise mitigation measures which achieve a reasonable acoustic amenity for people living and working near to the works.

Prior to construction, predictive modelling would be updated to ensure the noise predictions are accurate. Where the works in a locality are predicted to exceed the construction noise goals, mitigation measures would include early ongoing and consultations with potentially affected owners and occupants of premises predicted to be affected by exceedances of the goals for construction noise, to determine suitable mitigation measures.

Work associated with construction of new rail track or the upgrading of existing rail track is relatively short in duration, particularly because the work is often confined to shut down periods (eg night-time, weekend, public holidays etc). Where possible, works immediately adjacent to the operating rail line would be carried out during weekend rail possessions and in the day-time period, although some short-term night-time work is anticipated to reduce disruption to rail services.

Should a lower maximum construction noise limit (ie 65 dBA, as proposed by residents in Yeerongpilly) be imposed for night-time works in the rail corridor, this could potentially result in an extension of the Cross River Rail construction program.

## 5 Other issues raised in submissions

This section provides an overview of responses to other issues raised less commonly in submissions than the key issues. Other issues relate to:

- Project rationale
- location of project infrastructure (ie location of Yeerongpilly Station and the ventilation and emergency access building)
- future land use and planning, particularly redevelopment of surplus land following construction
- property impacts
- project operations
- specific disciplines (ie air quality, flood management, cultural heritage, natural environment and economic assessment).

### 5.1 Project rationale and scope

#### Issues raised in submissions

A number of submissions recognised the need for and strategic importance of the Project in addressing existing capacity constraints of the inner city rail network. However, a number of issues were raised in submissions relating to the rationale for the Project and project scope.

Issues were raised that the EIS overlooked a number of key aspects, including the:

- opportunity to align Cross River Rail benefits with the future strategic requirements of the rail network as defined by the Connecting SEQ 2031
- interface between the Salisbury to Flagstone/Beaudesert study and Cross River Rail at Salisbury Station.

Brisbane City Council also suggested that the rationale for the Project should emphasise the benefits to productivity by linking population in the region with jobs in inner Brisbane. It was also suggested that the Project only partly addresses the overall solution to the transport needs of inner Brisbane and substantial additional investment is required in the Brisbane public transport network to address the issue.

A submission suggested that the proposed tunnel from Yeerongpilly to Exhibition only provides a resolution of constraints at Park Road, Merivale Bridge and the junctions west of Roma Street and that there should be further investigation of capacity, freight operation, efficiency and patronage effects of a variation to the Project. Such a variation could extend the tunnels south to avoid future Salisbury junction conflicts and north to avoid the Mayne/Bowen Hills junctions.

A submission raised the need for the Project to consider the very high speed east coast rail project by making provision for dual gauge high capacity rolling stock. In particular, the need was identified for the Project to include high-speed standard gauge structure clearances and performance criteria, including allowance for the “CoastLink” services proposed in Connecting SEQ 2031.

The need was also identified for the EIS to move beyond the normal and narrow EIS focus of the project boundaries. In particular, a submission to the EIS suggested that the Coordinator-General needed to take a strategic view of the project and its potential inter-generational contribution by considering a 100 year approach to assessing the benefits of this important nation building project. Further, the submission identified the need for the Project to look beyond addressing the current inner city narrow gauge capacity constraints and that the scope of the Project should be broadened to at least consider other nation building opportunities.

Other issues raised in relation to the project rationale and scope included:

- Cross River Rail only provides two tracks and doesn't allow for increased passenger capacity flows
- need for the design to include four tracks to be consistent with 100-year planning
- dual platforms at Roma Street and Gabba stations and six platforms at Albert Street station
- need for a review of the strategic benefits and costs of maintaining Rocklea Station given the catchment and close proximity to the Moorooka Station and Salisbury Station, particularly in the context of improved pedestrian connectivity from Rocklea to a newly repositioned Salisbury Station
- need to retain Moorooka Station considering how close it would be to the proposed location of the Yeerongpilly Station.

### **Response to issues raised in submissions**

The rationale for Cross River Rail is discussed in Chapter 2 of the EIS, while alternatives considered in the development of the Project are described in Chapter 3 of the EIS.

The EIS recognises that the provision of the Project is identified by *Connecting SEQ 2031* as critical to resolving regional rail capacity constraints and therefore allowing future rail projects to be accommodated. This benefits the wider rail network as well opportunities to further integrate the rail network with other public transport modes. The development of the reference design interfaced with the separate process being undertaken for the Salisbury to Beaudesert study. The design of the works in this area has taken into consideration the potential works being considered in the Salisbury to Beaudesert study. Consultation between the two projects will be ongoing through the detailed design phase of Cross River Rail.

The Project Rationale (Chapter 2 of the EIS) and Economic Assessment (Chapter 21 of the EIS) have considered and recognised the importance of linking people in outer suburbs with jobs in inner city Brisbane. This is a key principle underlying the need for this project. The EIS does not state that Cross River Rail address all inner city public transport needs. *Connecting SEQ 2031* identifies a range of additional public transport projects that are required to address the public transport needs of Brisbane and South East Queensland.

The reference design separates north-south regional express passenger trains from all-stops surface passenger trains and surface freight trains through inner Brisbane. This removes significant capacity constraints and conflicts on the inner city rail network. Suggestions in regard to addressing other issues within the rail network, such as east-west train movements and separating freight trains from passenger trains are outside of the scope of the Project. *Connecting SEQ 2031* identifies separate future rail projects to address other constraints within the rail network. Constraints with the Salisbury junction would be addressed through the Salisbury to Beaudesert study and constraints north of Mayne Rail Yard would be addressed through the proposed North West Rail Corridor.

The rail corridor south of Moorooka provides limited opportunity to locate a portal without significantly increased costs or impacts on existing rail operations or private properties.

Comprehensive studies informed the proposed location for the southern portal in Yeerongpilly. Factors influencing the location are set out in Section 3.3.5 of the EIS and included:

- environmental considerations and land use patterns
- engineering factors – topography, geology, hydrology and track design
- city-building opportunities with regards future transit oriented development
- rail operations – operating strategy, location of future stabling facilities
- property impacts
- cost and risk
- community feedback during preliminary consultation
- stakeholder feedback (Queensland Rail, TransLink, former DIP).

Generally, the feedback received during consultation associated with notification of the EIS indicated community acceptance and support for the proposed location of the southern portal.

Cross River Rail has been designed to cater for Queensland Rail passenger trains. Interstate trains from New South Wales stop at the surface Roma Street Station and then return southwards and therefore would not use the tunnels. However, the development process considered the provision of dual gauge tracks. A key issue was the need for larger tunnels meaning more expensive construction.

The EIS has focused on Cross River Rail and the ToR for the EIS released by the Coordinator-General in August 2010. Issues outside the Project and outside the ToR have not been addressed by the EIS.

The decision to design twin single track running tunnels was made early in the detailed feasibility phase based on operational, design, risk, constructability and whole of life cost criteria.

Dual platform faces for an underground scheme were considered in the Project development phase. However, they were not considered feasible without additional landtake at the station location and approaches and significantly elevated costs associated with construction of wide openings at depth; and elevated costs associated with transitions from running tunnel to station. The rail operational modelling for Cross River Rail is reported in Section 5.6.6 of the EIS. This concluded that the proposed platform and signal arrangement would operate reliably, therefore avoiding the need for dual platform faces and the associated additional cost and construction impact. As such, the reference design includes only single platform faces.

Rocklea Station was retained in the surface design as it caters for the residential and commercial land uses along and to the east of Ipswich Road.

## 5.2 Location of Yeerongpilly Station

### Issues raised in submissions

The location of Yeerongpilly Station was raised as a concern in a number of submissions to the EIS. In particular, concerns were raised about the location of the station 250 m south of the existing station and the loss of connectivity between the station and nearby land uses such as the proposed Yeerongpilly TOD, the Queensland Tennis Centre, the new district park at Tennyson Reach and the new Brisbane City Council office, which is currently under construction.

Conversely, feedback received during the consultation associated with notification of the EIS indicated overwhelming community acceptance of and support for the proposed location of the Yeerongpilly Station. Some of the supporting views identified the reduction in the number of properties required, the reduction in the number of properties affected by construction, and the reduction in the visual effects of the project infrastructure both north and south of Cardross Street. Typically, very few submissions if any, are made in support of major projects.

Specific issues raised in submissions to the EIS included:

- very few local residents, including future planned residents in the proposed TOD, will use the station when the existing Yeerongpilly Station is more accessible
- the \$8 million invested in the new TransLink overpass is now wasted with the new Yeerongpilly Station location
- the significant cost of relocating, rebuilding and expanding Yeerongpilly Station does not appear to be an efficient way to spend the project budget. The existing station already provides essentially the same amenity including a pedestrian link to the Queensland Tennis Centre and TOD
- the impact that moving the Yeerongpilly Station may have on residential land and property values
- if the location of the new station is to service a new TOD or major redevelopment of the industrial site, the government should be clear about its intentions to ensure the community is properly consulted.

Issues were also raised in some submissions about the loss of connectivity between the two stations at Yeerongpilly, including concerns that this would limit passenger movements between Cross River Rail and other stations.

A number of submissions suggested that the station should remain in its existing location and that an integrated station should be constructed. This was also considered in submissions to maximise connectivity and public transport options for local residents and provide connectivity for commuter services from the Tennyson spur line.

A submission also suggested that an underground platform should be included in the new Yeerongpilly Station to connect to the existing station, which would encourage greater network coverage.

A number of alternatives were also identified to a new Yeerongpilly Station. These included:

- a new underground station at the eastern end of Yeronga Memorial Park near Chardon's Corner, integrated with or linking to the proposed TOD at Yeronga TAFE college and Yeronga State High School
- a station under Ipswich Road at Annerley near the intersection with Annerley Road, providing opportunities for a TOD at this location
- opportunity at Yeronga station for a TOD linking into the shopping village and RSL across the road.

#### **Response to issues raised in submissions**

Some of the submissions seem to have misunderstood the intent of Cross River Rail. The new station would cater for Cross River Rail trains from the Gold Coast and Beenleigh as well as accommodating existing surface rail services. This would allow transfer for passengers between Cross River Rail and other surface rail services.

The existing station at Yeerongpilly would be closed and decommissioned following construction of the new Yeerongpilly Station. Future use of the existing station building would be determined by Queensland Rail and is beyond the scope of Cross River Rail.

With respect to moving the Yeerongpilly Station and impact on residential land and property values, properties which would front onto the newly realigned Wilkie Street may appreciate in value following construction, as a result of being located in close proximity to the new station (refer to Section 21.3.4 of the EIS).

The existing pedestrian overpass at Yeerongpilly Station will be retained and extended eastwards to the realigned Wilkie Street. The reference design also includes improvements to pedestrian access, with a new covered walkway extending along the realigned Wilkie Street between the extended pedestrian overpass and the new station plaza. This would provide pedestrian access from the station to the Brisbane City Council regional office, the proposed TOD and Queensland Tennis Centre.

While the new Yeerongpilly Station would be located further south than the existing station, the future development of the Yeerongpilly TOD would allow for pedestrians to travel along a much more direct east-west open space link. This future pedestrian link would generally off-set the distance by which the new station would move south, with a walking distance of approximately 950 m compared to approximately 900 m currently to the Queensland Tennis Centre.

Other options for the location of Yeerongpilly station were suggested in submissions. Alternative locations for the southern portal and southern station were investigated for the development of the reference design and are described in Section 3.3.5 of the EIS. Yeerongpilly was identified as the preferred location for a new station primarily because it supports city building outcomes by supporting the proposed Yeerongpilly TOD. The location was moved south to allow for more efficient connections between Cross River Rail and the surface rail network, and to reduce both construction and operations impacts on nearby residents. A combination of technical design factors does not allow the existing Yeerongpilly station to service the Cross River Rail tunnel. In particular, a new, off-line track alignment is required to provide high levels of service, together with longer platforms to accommodate Cross River Rail rolling stock.

A number of options for the southern portal were developed and considered, including Fairfield, Yeronga, Yeerongpilly (Wilkie Street) and Moorooka (Clapham) (refer to Section 3.3.5 of the EIS). The Fairfield option had the greatest number of property impacts and potentially the greatest construction impacts in terms of disruption to the surrounding community and road network. The Yeronga option would cost more than Fairfield and would have significant property impacts, disruption to the surrounding community and road network. The Moorooka option was the highest cost option and provided no access to Cross River Rail from any stations in this section of the corridor, particularly Yeerongpilly.

The factors which influenced the identification of the preferred location in Yeerongpilly (Wilkie Street) included environmental factors, design and construction requirements, operational requirements, potential property effects, community feedback received during design development, and opportunities for an integrated land use and transport development outcome. The preferred location was identified for the following reasons:

- maintains rail functionality and would facilitate enhanced integration with the surface railway at Yeerongpilly Station
- better ground conditions for construction, leading to a smaller construction footprint than other options
- would minimise property impacts
- would not preclude a possible future connection from Cross River Rail to the Tennyson loop
- would facilitate integration with the planned, future Yeerongpilly TOD.

## 5.3 Ventilation and emergency access building

A number of submissions to the EIS raised concerns about the location of the ventilation and emergency access building at Railway Road and potential impacts for local residents from the construction and operation of the building.

In particular, concerns were raised that the location of the building at Railway Road has greater impacts on the community than the site proposed as part of the reference design in November 2010 near Fairfield Gardens Shopping Centre. Impacts identified in submissions for local residents included:

- the building will cause a reduction in visual amenity of the surrounding area
- ongoing pollution that may result from operation of the vent (refer to **Section 5.9.2**)
- operation of the ventilation shaft will result in heat being released (refer to **Section 5.9.2**)
- construction work at the ventilation and emergency access building is predicted to exceed the stated noise goals for a period of 17 weeks out of a planned construction phase of 28 weeks (refer to **Section 4.8.1**)
- as the ventilation shaft is to be constructed before drilling commences, this will result in increased noise coming from the vent (refer to **Section 4.8.1**)
- the extended impact on the limited local road network of spoil removal from the ventilation and emergency access building at Railway Road, which will occur for approximately 15 months
- the location of proposed site in a quiet residential area (supporting a vet and a church) is invasive during construction and ongoing operations (refer to **Section 4.8.1** and **Section 4.8.2**)
- access to properties near the corner of Cross Street and Bledisloe Street during construction will be dangerous due to site traffic using Bledisloe Street.

Issues raised in submissions relating to the ventilation and emergency access building and flooding were also identified, specifically:

- properties closest to the proposed ventilation and emergency access building are prone to flooding from storm water backup if the storm water drains which pass through the proposed construction site are obstructed. Work at the construction site has the potential to obstruct these drains and the flood risk to properties needs to be investigated and appropriate mitigation measures developed if required (refer to **Section 5.11**)
- the location of the proposed emergency access point may be subject to flooding and did flood in January 2011. This flood level was lower than 1974 and earlier floods (refer to **Section 5.11**)
- there is no benefit in relocating the ventilation and emergency access building to Railway Road as it is clearly documented that flooding would not have occurred in the original location at Fairfield Road (refer to **Section 5.11**).

Submissions identified the need to relocate the building back to the site near the shopping centre or to an alternative location in which fewer residents were disrupted. Proposed locations identified in submissions included land near the roundabout on Fairfield Road opposite the RSPCA and the existing Queensland Rail car park at the corner of Fairfield Road and Kadumba Street, Yeronga. These sites were considered to reduce impacts on residents, business and the church adjacent to the proposed Railway Road site.

Issues associated with the realignment of Railway Road were also raised in submissions, particularly that the realignment of Railway Road will allow headlights of vehicles to shine directly into residential properties, including bedrooms. A suggestion was identified in submissions that Railway Road should not be re-aligned as an easy alternative route exists via Cross Street.

The site should be made into a park after construction, which would to some extent mitigate the loss of amenity caused by the structure and provide a better congregation area in the case of evacuation from the tunnel. It is also likely to cost less. Another possibility is for money saved to be used to buy more of the Energex site to make a bigger park, which would give something back to the nearby residents.

### **Response to issues raised in submissions**

During operation, the ventilation and emergency access building would achieve relevant noise and air quality goals, although some short term impacts on amenity may be experienced due to increased noise and dust during the construction phase.

As described in Section 10.3.3 of the EIS, the ventilation and emergency access building would be visible to travellers along Fairfield Road, Railway Road, Bledisloe Street and Sunbeam Street as well as from nearby properties. The building would cause a change to the visual environment that is generally not representative of the structures that currently exist in this area. An assessment of potential visual impacts is provided in Section 10.3.4 of the EIS. The loss of vegetation, the realignment of Railway Road and the establishment of the worksite during construction is expected to have a moderate to highly adverse impact on the existing visual amenity of the local area, although this would be offset by the nearby substation and Fairfield Road.

In the longer term, the building is expected to have a moderate impact on visual amenity. However, these longer term impacts are expected to be partially mitigated by an architectural finish and the reinstatement of vegetation within the available greenspace. A representative view of the ventilation and emergency access building is shown in Figure 10.7 of the EIS.

The preferred location of the ventilation and emergency access building is mid-way between Boggo Road Station and the southern portal. Locating the ventilation and emergency access building mid-way maximises the operational efficiency in relation to ventilation and passenger safety. The mid-way point for the southern tunnel section of the reference design is at Bledisloe Street. A ventilation shaft at the RSPCA would be approximately 250-350 m south of the mid-way point and would require the alteration of the horizontal alignment of the tunnels. Similarly, an alternative site at the Yeronga park 'n' ride would be about 600 m south of the mid-point. Consequently, both of these suggested alternatives are considered to be less effective in relation to passenger safety and ventilation operation than the location at Bledisloe Street.

With respect to the removal of spoil via the local road network, spoil transport by road has been adopted for the purposes of the EIS assessment (refer to Section 3.4.3 of the EIS). The removal of spoil from the ventilation and emergency access shaft at Fairfield would occur over an extended period due to the low rate of removal from the small worksite. Consequently only a few trucks would leave the site each day, with traffic flows being well within the capacity and the amenity of the local roads.

The removal of spoil from this site via alternative means, such as conveyor and rail are costly and impractical. Furthermore, spoil could not be transported via a conveyor through the tunnel itself as the shaft needs to be excavated in advance of the running tunnels.

A response to the concerns expressed in relation to potential flooding implications for the ventilation and emergency access building is provided in **Section 5.11** of this Environmental Impact Statement – Supplementary Report.

A Construction EMP would be developed and implemented, which would include measures for minimising dust and noise. This will include air quality goals that are based on the EPP (Air) and that consider the impacts on human health (including asthma) (refer to Chapter 24 draft Outline EMP).

Construction noise for this essential facility is challenging, regardless of location due to the nature of the works and the scale of the shaft. Piling would be required. The height of a piling rig usually would exceed the height of an acoustic barrier or screen. In this location, the construction of an acoustic shed of sufficient scale to accommodate a piling rig would be more intrusive than the works themselves. The most effective way to manage and minimise the potential noise impacts of constructing this facility is to progress as quickly as possible. It should be noted that the construction noise scenario presented in Chapter 16 of the EIS is also very much a worst case scenario in order to inform people fully.

Construction traffic would access the ventilation and emergency access building worksite from Fairfield Road and Bledisloe Street (near the intersection of Fairfield Road). Construction vehicles would not be required to use Cross Street and would be required to use a small section of Bledisloe Street only. Expected traffic volumes associated with this worksite are not expected to be significant, at about three trucks per hour during peak construction. Access to properties on Bledisloe Street, including near the corner of Cross Street and Bledisloe Street will be maintained during construction.

The possible effects of vehicle headlights shining into residential properties would be investigated during the detailed design phase and mitigation proposed, where required. Alternatives to the realignment of Railway Road would also be investigated during the detailed design phase.

The development of part of the site for green space or public garden has merit and would be investigated during the detailed design phase. This proposal would contribute partly towards recovering any amenity losses incurred as a consequence of the ventilation and emergency access building.

## 5.4 Construction work hours

### Issues raised in submissions

Concerns were raised in submissions to the EIS about proposed construction work hours, including for surface works at Yeerongpilly, works within the rail corridor, and hours of spoil haulage and materials delivery.

A number of submissions from community members at Yeerongpilly raised issues about proposed work hours on Saturday, particularly during the two six week periods of demolition works at Wilkie Street and installation of piles along the rail corridor when noise levels are predicted to exceed the day-time noise goals outlined in the EIS, in the worst case scenario. Concerns were expressed that the commencement of these works as early as 6.30 am on Saturday mornings would be very distressing and would impact negatively on the lives of residents in the immediate vicinity of the southern portal. The submissions suggested that during the demolition and piling phases near the southern portal, no noisy works should be undertaken before 10.00 am on Saturday mornings in order to let working families rest.

An issue was also raised that procedures for changes to work hours were not adequately covered by the EIS. It was suggested in some submissions that when surface works are undertaken outside of the standard work hours (ie 6.30 am to 6.30 pm, Monday to Saturday), that it should be mandatory for local residents to be informed.

A submission also suggested that construction at the worksites at Yeerongpilly and at Fairfield should not be allowed under any circumstances on New Year's Day, Good Friday, Easter Saturday, Easter Monday, Christmas Day and Boxing Day. The submission also suggested that if spoil was to be moved by road, rather than rail, that work times should be limited to 7.00 am to 7.00 pm, Monday to Saturday with no work on the public holidays outlined above.

Issues were raised in submissions about potential impacts of 24 hour spoil haulage for households located along the proposed key traffic routes as well as potential disruption to local residents from 24 hour haulage at Yeerongpilly. Alternatives to 24 hour spoil haulage identified in submissions included:

- Any associated or incidental truck movements should be limited to approved operating hours of 6.30 am to 6.30 pm, with strict penalties included in the project conditions for any breach of operating hours by people or truck movements.
- Haulage at Yeerongpilly should be 6.30 am to 6.30 pm, Monday to Saturday, or at worst 6.30 am Monday to 6.30 pm Saturday, with Sunday and public holidays free from haulage.
- No construction works should be undertaken beyond normal working hours/days to allow residents adequate rest and recuperation to assist in normal functioning. Alternatively, homeowners should be adequately compensated or relocated at the Project's expense.

A suggestion was also made in submissions that work hours should be mandated to include the arrival of the workforce after 6.30 am and the departure of the workforce before 6.30 pm, although reasonable exceptions could be made for project management staff.

### **Response to issues raised in submissions**

Hours of work during construction are described in Section 4.4.4 and Section 24.9 of the EIS, while potential noise impacts from construction activities are discussed in Section 16.4 of the EIS.

The hours of work for construction activities, including surface works, underground works and spoil haulage, have been identified to ensure the shortest practical work program, while recognising the need to avoid or minimise impacts of the Project on the community.

The hours of work for day-time surface construction activities as outlined in the draft Outline EMP, ie 6.30 am to 6.30 pm Monday to Saturday, with no work on Sundays or public holidays are consistent with the standard hours of work identified in the *Environmental Protection Act 1994*. State and local government policies and regulations do not specify noise limits for construction activity between these hours.

Works conducted underground or within an acoustic enclosure would be undertaken 24 hours a day, seven days week, providing the environmental objectives are achieved. Spoil haulage undertaken outside of day-time hours would also need to ensure that the environmental objectives are achieved.

As identified in the draft Outline EMP in Section 24.9 of the EIS, some surface works may be required to be undertaken outside of the day-time construction hours in special circumstances, such as to avoid disruption to peak traffic flows and rail services, works involving oversized plant, equipment, components or structures, or emergency works. In particular, construction works in the live rail corridor may be required to be undertaken during extended possession periods of the rail corridor such as on long weekends, Easter and Christmas, to minimise disruption to rail services and to ensure the shortest possible work program.

In such circumstances, near neighbours would be notified in advance, as is common practice now when Queensland Rail conducts construction works in the rail corridor.

Restricting the hours for demolition, site establishment and piling activities at Yeerongpilly on Saturday mornings, spoil haulage activities or works within the rail corridor, would have the effect of extending the duration of these activities.

A range of mitigation measures are identified in the draft Outline EMP to mitigate potential noise impacts on local residents during demolition, site preparation and piling works at Yeerongpilly, including the establishment of acoustic barriers. Ongoing consultation and communication would also be undertaken with local communities about the timing, duration and potential impacts of construction activities, including proposed mitigation and management measures. This would include information on surface works undertaken outside of the standard day-time work hours.

In relation to the arrival and departure of the workforce, where the changeover of workers occurs prior to 6.30 am or after 6.30 pm, impacts on nearby residents would be minimised through the implementation of appropriate mitigation measures and worker behaviour protocols. Access to worksites, such as Yeerongpilly, would be through industrial areas using arterial roads.

## 5.5 General construction impacts

### Issues raised in submissions

Issues raised in submissions relating to general construction impacts included:

- potential impacts to residential amenity, including noise, dust, lighting and construction traffic, for residents located near to construction worksites
- hazards to human health for both the workers and the general community during demolition works
- construction impacts to existing rail operations and maintenance within Mayne Rail Yard and Clapham Rail Yard.

### Response to issues raised in submissions

As stated in the draft Outline EMP (refer to Section 24.9 of the EIS), measures would be implemented to minimise or avoid construction impacts to residential amenity, including controls for noise, dust, lighting and construction traffic (refer to Table 24-18, Table 24-17, Table 24-21 and Table 24-11 in the draft Outline EMP). A complaints management process would also be established to enable affected residents to raise their concerns.

All construction activities would need to be planned and implemented so as to satisfy the requirements of noise and air quality management plans. These plans would be prepared and approved prior to the commencement of construction works.

Demolition is considered to be a construction activity and is treated as such in the EIS. Appropriate dust controls presented in the draft Outline EMP (Refer to Section 24.9 (Table 24-17) of the EIS) would apply for demolition activities, including the use of water sprays and covering loads of material transported from the sites. Other measures may be initiated, particularly in respect to buildings containing hazardous or potentially hazardous materials. Specialised/licensed contractors will be engaged to undertake works relating to the demolition of buildings anticipated or found to contain hazardous materials. Dust management measures implemented at worksites would ensure that trucks transporting construction spoil are covered to prevent wind-blown dust during transport.

The EIS recognises that without appropriate management and site set-up, light spill from Cross River Rail worksites may be experienced during construction (refer to Section 10.3.5 of the EIS). Directional night lighting would be required, particularly for worksites in close proximity to sensitive receptors (eg Wilkie Street and Yeerongpilly). However, as the Project is located within an urban environment and surface works would be located near to rail corridors and major roads, it would be unlikely for mitigation measures to completely avoid the impacts of night lighting.

The Proponent would enter into an interface agreement with Queensland Rail, with such agreement providing the framework for subsequent agreements regarding construction activities in live rail corridors including at Mayne Rail Yard and Clapham Rail Yard. Other matters, such as worker safety, scheduling of works in the rail corridor, the duration and extent of corridor possessions, and implications for Queensland Rail customers, would also be addressed.

## 5.6 Impact on Ecosciences Precinct

Several submissions raised concerns about both the construction and operational phases of Cross River Rail potentially impacting on sensitive equipment and activities at the Ecosciences Precinct.

### 5.6.1 Transmission Electron Microscope and other sensitive equipment

#### Issues raised in submissions

##### *Transmission Electron Microscope*

Potential impacts on the construction and operation of Cross River Rail on the TEM located at the Ecosciences Precinct at the Boggo Road Urban Village were raised DEEDI and DPW in submissions to the EIS. In particular, concerns were raised by DEEDI and DPW about potential impacts on the TEM during construction from vibration levels that exceed the operational vibration tolerances of the microscope.

The need for ongoing consultation between the Project team, TEM users and the TEM manufacturer was identified along with further studies and on-site monitoring to assess and validate predicted ground borne vibration during construction and operation. The need to monitor vibrations at the commencement of, and for a period following, Cross River Rail operations was also identified to ensure that the operational vibration tolerances of the TEM are achieved as predicted in the EIS.

Concerns were also raised in submissions about potential impacts on the TEM's operation due to train passbys in the tunnels during operation of Cross River Rail. A moving train can disturb the magnetic field of Earth along its path, such that the field would temporarily warp at the location where the train is passing, for the duration of its passage. This means that the magnetic field of Earth near the proposed railway tunnel would be fluctuating with the passage of trains. Consequently, the proximity of the Project to the TEM may have a distorting effect of moving metal objects within the magnetic field of the TEM. The current shielding for the TEM does not protect against the type of effect that will be caused by the Project during operation.

The need for mitigation measures to be developed in consultation with the TEM operators was also identified. Suggested mitigation measures included coordinating hours of work to enable continued operation of the TEM during construction or relocation of the TEM elsewhere in the building or to an off-site facility should predicted vibrations be in excess of tolerances or impacts on the operation of the TEM from train passbys be found. The costs of any such relocation should be met by the Project.

##### *Other sensitive equipment*

The predicted compliance of vibration levels during the construction and operation of Cross River Rail with sensitive laboratory work (eg microscopes and balances) was noted in the submission by DEEDI. However, submissions also raised the need that should vibration levels exceed these predictions and a demonstrated impact on sensitive equipment be identified, mitigation measures such as 'vibration pads' or 'vibration free benches' would be required.

#### Response to issues raised in submissions

Potential impacts on the TEM were discussed at a meeting held in October 2011 with DEEDI, TEM users and the TEM manufacturer, in addition to briefings conducted during the preparation of the EIS (refer to Appendix C of the EIS). Consultations with TEM stakeholders would continue during future phases of the Project, including detailed design, construction and operation to address specific mitigation requirements.

Suggested mitigation measures could include coordinating hours of work to enable continued operation of the TEM during construction or relocation of the TEM elsewhere in the building or to an off-site facility should predicted vibrations be in excess of tolerances or impacts on the operation of the TEM from train passbys be found. The costs of any such relocation would be met by the Project.

Procedures for vibration monitoring during construction and operation also would be developed and implemented in consultation with TEM users and other relevant stakeholders (refer to Table 24-18 of the draft Outline EMP). This would include conducting pre-condition surveys for the TEM prior to construction of the underground station and tunnelling works. Monitoring results would be made available to the various TEM stakeholders. Ongoing consultation and communication would be undertaken during construction with the various TEM stakeholders to ensure any impacts on TEM operations are identified and appropriately managed.

With regard to potential impacts in the operational phase, a preliminary study for the EIS addressed the potential for the Project to cause interference with the TEM's operation. Without mitigation, there is a theoretical risk that the operation of the underground station and rail tunnels may impact on the operation of the TEM. There is a range of possible mitigation measures available to deal with this potential impact, including further shielding of the TEM room, overhead earth wire, inductive loops attached to the wall of the tunnels or installation of shielding metal within the tunnel walls. Further investigations would be undertaken during the detailed design phase to determine any required mitigation measures. This would be carried out in consultation with various TEM stakeholders.

With respect to other sensitive laboratory equipment in the Ecosciences Precinct, should the noise and vibration monitoring identify impacts on this particular equipment, appropriate mitigation measures would be identified in consultation with DEEDI and other relevant stakeholders.

## 5.6.2 Dust impacts on Ecosciences Precinct

### Issues raised in submissions

Concerns were raised by DEEDI and DPW in submissions to the EIS about potential dust impacts from construction activities on the Ecosciences Precinct operations. In particular, concerns were raised about potential dust impacts and contamination of the air intake for dive stores and specialist laboratory spaces that require High Efficiency Particulate Air (HEPA) filters. This includes the potential for the filters to become clogged, which would increase the frequency that these would need replacing.

Potential dust impacts on plant and weeds research facilities was also identified, including the potential requirement for users to cover ponds to mitigate dust impacts.

Concerns about dust from construction activities impacting on the outside dining areas of the Ecosciences Precinct café were also raised, with screening identified as a possible mitigation measure.

The need to establish dust monitoring points at the Ecosciences Precinct and for ongoing consultation with DEEDI during detailed design to identify appropriate mitigation measures was also raised in submissions.

### Response to issues raised in submissions

Potential dust impacts associated with construction works at Boggo Road Urban Village are discussed in Section 15.4.4 of the EIS.

The EIS found that, without site management, PM<sub>10</sub> concentrations have the potential to exceed the EPP (Air) objective of 50 µg/m<sup>3</sup> at the Ecosciences Precinct, with the greatest potential for air quality impacts occurring over approximately seven weeks during the open excavation through the centre of the worksite. The EIS also found that, without site management, the predicted dust deposition rate has the potential to exceed the guideline of 120 mg/m<sup>2</sup>/day, while TSP concentrations (24 hour average) have the potential to exceed the dust nuisance goal of 80 µg/m<sup>3</sup>. Without mitigation, exceedances in these air quality goals during construction may impact on some uses at the Ecosciences Precinct, such as the air intake for the dive stores, specialist laboratory spaces, plant and weeds research facilities and outside dining areas.

Mitigation measures to manage dust impacts at the Ecosciences Precinct are outlined in Section 15.4.5 and the draft Outline EMP included in Section 24.9 of the EIS. A dust management plan would be implemented as part of the Construction EMP. This will outline strategies to avoid or manage dust nuisance from construction activities on all sensitive receptors at the Ecosciences Precinct.

Early and ongoing consultations would also be undertaken with DEEDI and other relevant stakeholders to identify specific mitigation measures, as required, to manage dust impacts on the operation of specific facilities within the Ecosciences Precinct, such as the dive stores, specialist laboratory spaces, research facilities and outdoor dining areas. This consultation would commence during the detailed design phase and continue for the duration of the construction phase.

Daily monitoring of ambient air quality would also be undertaken during the construction phase to measure compliance with the air quality goals identified in Table 24-17 of the draft Outline EMP. The precise locations of dust monitoring points for works at Boggo Road Urban Village would be determined in consultation with DEEDI and other relevant stakeholders. Additional monitoring may be required to address the potential for localised impacts from construction activities.

As provided in the draft Outline EMP (refer Section 24.9, Table 24-17, of the EIS), monitoring results would be reported monthly. The draft Outline EMP also provides a mechanism for dealing with complaints and non-compliances quickly and effectively.

## 5.7 Redevelopment of surplus land

### Issues raised in submissions

A number of submissions to the EIS raised issues relating to the future redevelopment of land acquired for the Project that would not be required following construction. In particular, the future redevelopment of the Yeerongpilly worksite and land at Wilkie Street was raised in several submissions.

Specific issues raised about the future development of land at Wilkie Street included:

- It is not acceptable that the EIS does not mention what will happen to land along Wilkie Street that is not required post-construction. The residents who stay behind and endure the construction have to wait to see whether the area becomes a slum.
- Clarification of the long term plans for the land freed up by the resumption of properties along Wilkie Street, whether this would be redeveloped for housing or parkland, and if redeveloped for high density housing, concerns about being overlooked by new properties and experiencing increased noise levels from residents on balconies that could be built directly overlooking nearby properties.
- Residents whose properties immediately back on to land at Wilkie Street available for redevelopment post-construction would want to be fully consulted on the proposed use of this land well before demolition works begin. Residents would expect any building plans to be sympathetic to current conditions of privacy.
- Concerns that buildings removed around St Fabian's church on Wilkie Street would create an open space that would decrease the overall security in the immediate vicinity.
- Concerns were identified that if the land were to be made into park land, it would be easy for trespassers to gain access to the back of properties.

It was suggested in some submissions that the land should be made available to residents to choose what to do with the land. Other suggestions included that planting of bushes and trees to provide a natural but secure deterrent while suitable walls would address security and privacy concerns, or using the space as a car park for the nearby church and community hall at Wilkie Street.

In relation to other land, the submission from DEEDI indicated that it was important that adequate provision is made for economic and employment opportunities in any future land use planning considerations for industrial land resumed for the Project.

The submission from DLGP indicated that the department was able to undertake a parallel planning process of proposed surplus sites, in consultation with Transport and Main Roads, to achieve the highest and best use for surplus land. Land not required post-construction should be assessed for the ability of the State, through DLGP, to support the State's investment in the Project.

## Response to issues raised in submissions

This issue is addressed in Section 9.4.4 of the EIS.

The Yeerongpilly worksite at Station Road is currently included in the general industry area identified by the City Plan. Given the site's proximity to the new Yeerongpilly Station and subsequently improved public transport access, the area adjacent to the Yeerongpilly worksite and new station may experience pressure for redevelopment to high density residential or mixed use commercial. A separate planning process to the Project by Brisbane City Council and/or the Queensland Government would be required. This would require consultation with the local community, stakeholders and relevant government agencies to ensure that the impacts of future development for local residents are appropriately managed.

For other sites, land occupied by construction worksites not required for the Project would become available, where appropriate, for redevelopment, in accordance with the relevant Local and State planning policies. This includes land at Wilkie Street acquired for the Project.

At Yeerongpilly, land use change would continue to be managed by Brisbane City Council through the Stephens Local Plan and other elements of the City Plan. Should Brisbane City Council or the Queensland Government propose any changes to the existing land use classification within this area, consultation would be required with local communities.

Any redevelopment of land would be managed by the relevant planning and assessment manager and would be undertaken separately to the Project. In relation to the redevelopment of surplus land at Wilkie Street, this would need to consider the requirements of the City Plan, including those relating to issues such as privacy, building height and density, and local character and amenity to ensure that impacts on surrounding residents are avoided or appropriately managed. Applications to redevelop surplus land would also need to be publicly notified in accordance with the *Sustainable Planning Act 2009*. This notification gives interested community members an opportunity to review and provide comments on a development application.

The redevelopment of potential surplus land on Wilkie Street as a car park for the church and community hall suggested in submissions is noted. However, any redevelopment of land for these purposes is beyond the scope of the Project. Post-construction, this land would be rehabilitated to a condition suitable for some future use compatible with the setting. Any redevelopment of these sites would be in accordance with the process already discussed.

In relation to Albert Street, the southern Albert Street worksite is currently included in the multi-purpose centre identified by the City Plan. In accordance with City Plan, possible redevelopment opportunities include high density commercial, residential, accommodation or mixed use development. Redevelopment of this land would be separate to the Project and in accordance with a separate planning process by the Queensland Government.

## 5.8 Operational transport

### 5.8.1 Transport and patronage modelling

#### Issues raised in submissions

A number of submissions raised questions about the assumptions for the patronage forecasting and local area traffic modelling around stations.

One submission raised a concern that the Cross River Rail modelling had inconsistencies with the draft Connecting SEQ 2031 vision for mode share targets (2006-2031), which include a doubling of public transport mode share from 7% to 14%.

There was also a comment that the modelling did not account for a major rail timetable change introduced on 6 June 2011 that addressed run times, sectorisation and standardised stopping patterns. The submission asserts that this would have a significant influence on the on-time reliability, LOS and capacity on the network with existing infrastructure.

Another submission proposed that the EIS undertake an analysis of how Cross River Rail would reduce congestion, including its social and economic costs, improve air quality and road traffic noise in the five, 10 and 15 years following completion of the project – compared to a ‘do nothing’ approach.

Brisbane City Council questioned the bus rail interchange assumptions in the project model. One submitter asserted that city-wide bus patronage would increase by approximately 80% whether or not Cross River Rail was built with a high degree of interchanging from bus to rail in the inner sections of the network. However, the EIS had not produced data to show where these interchanging points would be and whether projected development and configurations support the degree of interchanging inferred by the data.

The traffic analysis presented in the EIS was questioned, in particular the need to incorporate road closures during construction, and the consequential re-distribution of traffic on connecting roads. It was asserted that traffic analysis around worksites also needed to incorporate haulage traffic and traffic generated by project workers.

A submission also raised concerns with the use of the BSTM-MM public transport network model and suggested that an independent review should be undertaken in relation to the forecasting figures for the Cross River Rail study to determine if the model is “fit for purpose” in establishing viable forecast figures. The submission suggested that the figures presented in Chapter 5 of the EIS appear to be inadequate.

Suggestions raised in submissions include:

- consider one consistent mode share target for South East Queensland
- update the Cross River Rail Project modelling to incorporate the changes made by the 2011 timetable
- review bus patronage and interchange capacities.

#### **Response to issues raised in submissions**

The ‘mode share target’ in Connecting South East Queensland 2031 applies across the region. The mode share outcome reported in the EIS is an output of the model used to investigate the contribution that Cross River Rail would make to the regional target.

The base year adopted for the Cross River Rail study, including patronage forecasting, is 2009. That year provided the most recent dataset available at the start of the study in 2010. This is standard practice for major studies where large volumes of data are required and the most recent is used. More recent data such as the latest Queensland Rail timetable, fare prices and Queensland Rail passenger load survey, which are now available would only affect the base case reporting and not materially affect the relativity of projections of future patronage.

Cross River Rail has been assessed against the ToR for the EIS. The EIS assesses the benefits and impacts of the Project in both 2021 (first full year of opening) and 2031 (10 years after opening) compared to the base case, which was 2009 for patronage modelling purposes. As part of this assessment, Section 5.6.10 of the EIS outlines the reduction in vehicle trips expected in 2021 and 2031 with the Project compared to the ‘without Project’ scenario, as well as the road crash savings this could deliver.

The future bus networks (2021 and 2031), with and without the Project, were based on the latest available network assumptions provided by TransLink. These assumptions anticipate relatively low growth in peak hour bus capacity in the CBD. The modelling included a sensitivity test using an alternative bus network, equating to an increase in seat capacity of 34% in 2021 (compared to 2009) and 48% in 2031 (compared to 2009). The theoretical increase in bus capacity, when compared the original modelled network (EIS), would result in a reduction of rail alightings in the CBD of only 1-2% (compared to that reported in the EIS). Variations of this scale are within expected daily fluctuations in patronage. The core modelling results including rail patronage estimates reported in the EIS are considered robust.

The introduction of Cross River Rail is forecast to deliver an increase in transfers from bus to rail. Across all stations, bus to rail transfers are projected to increase in 2021 from 10,700 trips in the ‘without Project’ case to 16,200 trips in the ‘with Project’ case in the morning two hour peak period. The largest numbers of bus to rail transfers (ie 1,000+ passengers) would occur at Altandi, Woolloongabba, Darra, Park Road and Roma Street. In the ‘without Project’ case, reduced bus to rail transfer activity is forecast with only Darra station expected to cater for over 1000 passenger transfers in the morning peak of the same year.

The modelling approach is considered conservative as a range of ‘transfer penalties’ were built into the mode choice decisions in the model including a ‘boarding penalty’, a time to walk from service to service, and additional wait time. With these penalties as well as a ‘crowding penalty’ on the trains themselves (with Cross River Rail), bus to rail transfers in 2021 are forecast due to the overall journey time savings afforded by the Project despite the aforementioned ‘transfer penalties’.

With regards the effects of construction, the timing, sequencing and impacts of road or lane closures would be modelled in the detailed design phase and potential impacts addressed specifically in the CTMP for each worksite. The analysis of construction traffic impacts provided in the EIS was for the morning and afternoon peak periods with no road or lane closures in place at those times (ie 7.30 am to 8.30 am and 4.30 pm to 5.30 pm, Monday to Friday).

Considering that work hours for most sites would be 6.30 am to 6.30 pm, Monday to Saturday, most worker trips would occur outside these peak traffic periods. Further refinement of the traffic analysis of worker trips would be undertaken in the detailed design phase, once the Contractor’s intended workforce numbers become known. Modelling would be refined also by addressing reductions in background flows in situations where existing trip generators would be displaced by the Project.

The patronage modelling used for Cross River Rail was based on State Government policy and was developed in consultation with key agencies, including Transport and Main Roads and TransLink. Independent reviews have been carried out by Glen D’Este Consulting and Veitch Lister Consulting. The latter generated patronage forecasts for the project using an alternative patronage forecasting methodology. The peer review concluded that the patronage forecasting methodology and its application was appropriate. The Veitch Lister Consulting forecast showed a strong correlation of patronage forecasts between the two different modelling tools.

## 5.8.2 Pedestrian and cycle access

### Issues raised in submissions

A number of submissions raised the issue of more effectively addressing and incorporating bikeway/pedestrian pathways through the Cross River Rail corridor including:

- through the corridor at Moorooka, Rocklea and Salisbury.
- Wilkie Road and Station Road at Yeerongpilly provide an attractive link for cyclists getting to Moorooka, Rocklea and Salisbury, without using Fairfield Road. This route would be impacted severely by the Project during and post-construction due to increases in traffic and parking.
- a pedestrian/cycle connection from Boggo Road Station to the PAH is required. Without this link, the ability of the Boggo Road Station to draw on the existing 6,000 plus working population of the PAH precinct, or maximise the benefits to be yielded from the State’s \$110 M investment in the Translational Research Institute would be reduced significantly.
- grade-separated pedestrian and cycle linkages across major roads should be provided at Gabba Stadium.
- the EIS does not include the contribution of cycling in the transport mix nor does it address the impact of the Project on cycling.

Suggestions identified in submissions included:

- the provision of a level link between the Brisbane River cycle ways and Goburra Street, Tramore Street and Riawena Road cycleway Rocklea would be extremely advantageous to workers and residents accessing these local suburbs and should be incorporated in the Project

- grade-separated pedestrian linkages to the Gabba Stadium, Mater Hill and the Woolloongabba South areas would be critical and need to be incorporated into the Gabba station design
- the need for a grade-separated pedestrian link over Roma Street, from the Roma Street Station.

### **Response to issues raised in submissions**

The reference design includes preliminary station designs for which indicative provisions were made for bicycle parking. There is no bicycle parking proposed at Roma Street and Albert Street stations as they would be destination stations with walk, bus or rail access the predominant mode of access. Nevertheless, through the detailed design phase, the exact form of bicycle parking and required capacity would be developed further in consultation with stakeholders (eg Transport and Main Roads, Brisbane City Council, Bicycle Queensland).

The EIS has not identified any potential impact arising from Cross River Rail which would give rise to a need for a cycleway through Rocklea, Moorooka and Salisbury. This link is not proposed as part of Cross River Rail.

At Yeerongpilly, the detailed design process would refine the detailed form and layout of the realigned Wilkie Street and Station Road. During the approximate six week construction time to re-aligned Wilkie Street, alternative access would be available for cyclist from Fairfield Road to Ipswich Road via School Road or Green Street/Gow Street. Following the re-alignment of Wilkie Street, Livingstone Street would also provide access for cyclists.

The Gabba Station has been designed and located to accommodate crowds travelling to and from major events held at the Gabba Stadium. The station entrance would be located several hundred metres to the west of Main Street. The capacity of the vertical transportation within the Gabba Station and the capacity of the pedestrian route from the Gabba Stadium would be such that the queue of stadium patrons to the station would not block Main Street during the post event period.

Similarly, there would be sufficient queuing space within the Gabba Station precinct for stadium patrons crossing Main Street to access the Gabba Stadium from the station. As currently occurs at major events at the Gabba Stadium, pedestrian crossing of Main Street would be under the supervision of the police and traffic control officers.

No grade separated pedestrian links are required at Woolloongabba to allow Cross River Rail to operate safely and effectively from opening date. It is also noted that additional high capital and operational costs coupled with concerns around concealment and lack of surveillance often outweigh the perceived benefits of grade separated crossings. Department of Transport and Main Roads's Traffic and Road Use Manual - Grade Separation (Pedestrian Underpass and Overpass) Guidelines were consulted as part of this assessment.

At Boggo Road, Cross River Rail identified the strategic 'connectivity' value of a pedestrian and cycle link over the rail corridor, for rail and bus passengers, cyclists and pedestrians moving between the Boggo Road Urban Village and the PAH. However, there is no direct impact or requirement for this link arising from the implementation of Cross River Rail. It is expected that Cross River Rail and other unrelated development around the Boggo Road Station would benefit from this link.

Investigations in relation to the reference design indicated there was no requirement arising from Cross River Rail for a grade-separated pedestrian crossing from the Roma Street Station to either Roma Street or George Street. However, the grade-separated pedestrian bridge over Roma Street, proposed separately to link the law courts precinct with Roma Street and upper Albert Street, would enhance connectivity in the North Quarter of the CBD if it were to be provided concurrently with Cross River Rail.

### 5.8.3 Local traffic movement

#### Issues raised in submissions

Traffic circulation in and around Yeerongpilly Station during operation of the Project was raised in several submissions. The key issues were:

- it is unrealistic to assume that all traffic currently using Wilkie Street will divert via Fairfield Road. There will be an increase in vehicles diverting along Crichton Street, Stamford Street, Livingstone Street and Green Street to access Ipswich Road
- the performance of intersections in the vicinity of Yeerongpilly Station is a concern and has not been addressed in the EIS (eg Wilkie Street/Cardross Street, Ipswich Road/Lucy Street intersections). Both intersections are substandard and cannot accommodate increased traffic demand.

At Rocklea, issues relating to local road changes, other than the open level crossing traffic issues addressed separately in this Environmental Impact Statement – Supplementary Report, included:

- the removal of parking spaces at the front of the Brothers St Brendan's Football Club would have a significant impact. With the loss of these spaces, the club believes it will struggle to attract loyal patrons to continue trading.
- the proposed change in access to Beaudesert Road service road would leave properties in Heaton and Tramore streets, Rocklea without street access.
- the additional railway bridges over Muriel Avenue at Rocklea would not resolve and could make the existing problems at the Sherwood Road/Fairfield Road/Muriel Avenue intersection worse. The crossing of the Rocky Waterholes Creek is affected by flooding cutting access to Muriel Avenue. The height of the present railway bridges is too low for many trucks and the proposed bridge would be no better; and the tightness of the access from Sherwood Road and Muriel Avenue to the southbound lanes of Ipswich Road.

One submission stated that the construction of a third bridge over Muriel Avenue west of the existing bridges should be at a higher level than the existing structures as part of a package of works to improve flood free access and east-west connections for heavy/high vehicles.

One submission suggested that the proposed Brisbane City Council road freight overpass between Ipswich Road and Fairfield Road in the Yeerongpilly industrial area should be combined with Cross River Rail. The submission suggested that this is a strategic network improvement for Brisbane's freight task, enabling a truck ban to be implemented on Venner Road, Fairfield. Both of these proposed initiatives would have long term freight, business, road, community, industry and commercial productivity benefits.

At Moorooka Station, the existing mid-block, at-grade pedestrian crossing of Ipswich Road should be relocated to the T-junction of Ipswich Road and Keats Street.

The O'Connell Terrace/Bowen Bridge Road intersection near Ekka Station was raised as a concern requiring further refinement. It was stated that the intersection would need to be upgraded to three phases (hospital exit a separate phase) with adequate pedestrian protection without LOS degradation. This intersection is noted as being congested during peak conditions at present.

CBD traffic issues raised by Brisbane City Council in submissions include:

- the Roma Street/Herschel Street at-grade pedestrian crossing of Roma Street is relatively long likely to be activated frequently during peaks with the Project in operation. A question was raised about the modelling assumptions (phasing, timing, etc) for pedestrian movements in this location.
- the operations and impacts of an additional traffic phase at Roma Street and Makerston Street intersection to allow a bus only right turn
- around Albert Street Station, traffic queuing impacts of kerb build-outs and lane changes need to be resolved. There should be no loss of capacity in local streets.

### Response to issues raised in submissions

Local traffic changes around Yeerongpilly following commencement of operation of the project were addressed in Section 5.7.2 of the EIS. The changes to the road network at Yeerongpilly, in particular the realignment of Wilkie Street, would not alter the current connectivity to east-west local roads with no changes to overall vehicle permeability or connectivity for residents. The impact of these changes is not considered to have any detrimental impact on traffic flow or efficiency of the local road network.

The proposed permanent traffic changes in Yeerongpilly would include car parking limitations around the new station and some additional kiss 'n' ride facilities. While increases in kiss 'n' ride trips of up to 50% compared to without Cross River Rail were discussed in Section 5.7.2 of the EIS and in further detail in Section 6.6.4 of the EIS Technical Report No.1 – Transport, overall traffic volumes would remain similar to the 'without Project' scenario as a substantial park and ride car park would not be provided, a traffic area to restrict on-street commuter car parking would be implemented and other measures put in place to encourage access trips to be made by other modes such walk, cycling and bus (these measures are further discussed in Section 4.2 of this report). Consequently the performance of adjacent intersections would not deteriorate from the 'without Project' conditions.

Cross River Rail would cause the loss of approximately 190 m of parking lane along the western side of Tramore Street Rocklea, in the vicinity of Brothers St Brendan's Football Club. This is because Tramore Street is currently one-way northbound and two-way operation is required for the Project. Two-way operation is achieved through converting the parking lane to a traffic lane. The 190 m of parking lane represents approximately 30 car spaces. There are approximately 35 car spaces located off-street immediately south of the clubhouse and many more informal car parking spaces immediately to the west and south.

Should compensatory parking be required to meet identified club demands, Cross River Rail would provide new on-street parking on the eastern side of Tramore Street for approximately 12 cars. Further parking could be provided for an additional 20 cars adjacent to the existing off-street car park.

The connection between Tramore Street and the Beaudesert Road service road underneath the viaduct would be retained. All properties in and around Heaton and Tramore streets would continue to have direct property access off the existing road network.

The proposed new rail bridge over Muriel Avenue maintains the existing height clearance of the adjacent rail bridges. Cross River Rail would make the situation no worse than existing and would have no impact on local flooding. The track level on the new rail bridge has been raised by 1.5 m compared to the adjacent tracks to compensate for the grade of Muriel Avenue which rises as it heads west under the bridges. The new rail bridge could not be raised any higher without impacting on the Ipswich Motorway overbridge to the south. The Brisbane City Council has been consulted in relation to the proposed bridge design.

No new road freight overpass between Ipswich Road and Fairfield Road in the Yeerongpilly industrial area is proposed as part of Cross River Rail. However, Cross River Rail does not preclude this independent road improvement being progressed separately in the future.

There are no changes proposed to traffic signals on Ipswich Road north of Keats Street Moorooka as part of Cross River Rail. Any relocation of signals could be considered by Brisbane City Council independent of the Project.

The upgrade of pedestrian facilities at the intersection of O'Connell Terrace/Bowen Bridge Road is acknowledged by the Brisbane City Council as being necessary, even without Cross River Rail. Any upgrade of pedestrian facilities at this intersection would likely result in a degradation of LOS to traffic.

Cross River Rail proposes a minor incremental change to increase the pedestrian footway width at the intersection, along with related traffic signal changes, the impacts of which could be limited to the relatively minor left turn movement from O'Connell Terrace to Bowen Bridge Road. The assessment of Cross River Rail impacts are provided in Section 6.5.1 of Technical Report No.1 – Transport.

There would be a minor increase in overall intersection delay (all vehicles) at the intersection of O'Connell Terrace/Bowen Bridge Road of five seconds with a LOS of C resulting from the proposed footpath widening and signal phase change. The EIS concludes that the pedestrian safety benefits of Cross River Rail outweigh the minor traffic delay arising from the modification. Further analysis in the detailed design phase could isolate this delay to reduce impacts on the major north south traffic flows in Bowen Bridge Road.

Technical Report No.1 – Transport provides additional information about CBD operational traffic changes as a result of Cross River Rail

With respect to Roma St:

- the proposed new at-grade pedestrian crossing of Roma Street on the southern approach to Herschel Street is assumed to operate at the same time as the right turn and ahead movement from Herschel Street. This pedestrian movement also occurs at the same time as the west-bound movement from George Street.
- the pedestrian crossing is assumed to occur every 90 second cycle. The revised linked intersection of Herschel/Roma/George would be simplified from five phases to three phases within this fixed cycle time. With the additional pedestrian crossing included the overall degree of saturation and LOS would improve.
- the addition of a bus only right turn from Roma Street into Makerston Street would result in virtually no change to intersection performance with LOS no worse than B in any year/scenario and degree of saturation virtually unchanged at around 0.7.
- the traffic modelling, including the assumptions supporting the modelling, for the Roma Street/Makerston Street intersection and for traffic and pedestrian changes in Albert Street were provided to the Brisbane City Council in 2010. This material includes the modelling assumptions, phasings and queuing impacts, a summary of which was presented in Section 5.7.2 of the EIS. The Council was consulted extensively in relation to inner city traffic and pedestrian arrangements.

With Respect to Albert Street:

- Desirable pedestrian safety improvements would be achieved with the reference design around the proposed new Albert Street Station. The intersections where kerb build-outs are proposed would continue to operate within capacity and with LOS no worse than C. Without the proposed changes to pedestrian infrastructure the footpaths would be overcrowded with some links experiencing LOS E and F.
- The reference design represents a pragmatic solution involving minimal road traffic impact while still achieving desirable pedestrian safety improvements around the station.
- Modelling, including the assumptions supporting the modelling, for the Roma Street/Makerston Street intersection and for traffic and pedestrian changes in Albert Street were provided to the Brisbane City Council in 2010. This material includes the modelling assumptions, phasings and queuing impacts, a summary of which was presented in Section 5.7.2 of the EIS. The Council was consulted extensively in relation to inner city traffic and pedestrian arrangements.

## 5.9 Air quality

### 5.9.1 Construction air quality

#### Issues raised in submissions

At Yeerongpilly, concerns were raised in submissions to the EIS by residents surrounding the worksite about safeguarding the health of residents during approximately 10 weeks of open trough excavation. Issues were also raised that dust levels would exceed the nuisance guideline at residential areas in the vicinity of the Yeerongpilly worksite. Concerns were raised in relation to the measures to deal with dust deposition rates at nearby properties, measures to remove dust from properties and the proposals to safeguard the health of residents and animals.

Concerns were raised by QH over potential exceedances of the particulate ( $PM_{10}$ ) air quality goal and EPP (Air) at sensitive receptors during peak construction periods as the Project is in proximity to health facilities.

Issues were raised by DPW with air quality impacts on office workers in the Landcentre at Woolloongabba, particularly during open excavation works as well as impacts of dust generated during building demolition, excavation and construction on office workers in 53 Albert Street.

### **Response to issues raised in submissions**

The Project would be required to achieve the environmental objectives and satisfy the performance criteria in the draft Outline EMP included in Chapter 24 of the EIS. The criteria for air quality (refer to Table 24-17 of the EIS) were established in consultation with stakeholders to measure performance in relation to the environmental objectives. The performance criteria are consistent with statutory standards developed to protect community values including health.

Dust emissions at the Yeerongpilly worksite have been addressed in Section 15.4.4 and Table 24-17 of the EIS. Without management,  $PM_{10}$  concentrations have the potential to exceed the air quality objective of  $50 \mu g/m^3$  (EPP (Air)) at residential areas to the east and north-west of the Yeerongpilly worksite. The predicted dust concentrations are the maximum concentrations expected during the construction works, with the greatest potential for air quality impacts (ie excavation in open trough for approximately 10 weeks). Air quality modelling shows that without mitigation and management, the predicted dust deposition rate would exceed the nuisance guideline of  $120mg/m^2/day$  at residential areas to the east and north-west of the Yeerongpilly worksite.

In order to minimise the potential for exceedances of the construction air quality goals, a range of control measures would be implemented at the worksite (refer to Table 24-17 of the EIS). Dust generation would be minimised through regular site management as part of a dust management plan for the duration of construction activities. The Construction EMP would specify measures for managing nuisance dust impacts from earthwork activities, including the use of water sprays, ensuring trucks transporting construction spoil are covered to prevent wind-blown dust during transport and requiring loaded trucks to be cleaned down prior to exit from the worksite.

During windy conditions, dust mitigation measures would include the modification of construction methods, increasing dust suppression measures, or ceasing work where no other reasonable or practical measure is available, until the meteorological conditions improve and the air quality objectives stated in Table 24-17 of the EIS can be achieved. Monitoring of air quality would be conducted in the vicinity of the Yeerongpilly worksite at sensitive receivers (refer to Table 24-17 of the EIS). Should monitoring identify exceedances of the performance criteria, further mitigation measures would be implemented to ensure compliance.

Trucks transporting construction spoil would be covered to prevent wind-blown dust during transport and loaded trucks cleaned down prior to exiting the worksite.

Dust monitoring would also be undertaken at four locations at the Yeerongpilly worksite and any exceedances addressed. As part of the community engagement process, consultation would commence well in advance of construction with directly affected property owners to address specific impacts and mitigation requirements. The air quality monitoring results, including any exceedances, corrective actions taken and monthly reporting would be made publicly available on the Project's website.

With respect to concerns about dust impacts on health facilities near worksites, maximum  $PM_{10}$  concentrations (24 hour average) from the worksites would not exceed the air quality objective at either the PAH (refer to 15.4.4 and Figures 15-18, Figure 15-19, Figure 15-20 of the EIS) or the Royal Brisbane and Women's Hospital under normal meteorological conditions. The Brisbane and Women's Hospital is located approximately 300 m from the RNA Showgrounds worksite. This worksite is considered to have a low potential for air quality impacts. Dust would be minimised by the contractor through the dust management measures detailed in Section 15.4.5 of the EIS.

With respect to construction activities at the Boggo Road Station worksite, PM<sub>10</sub> concentrations at the proposed Leukemia Foundation building are predicted to achieve the air quality objectives in EPP (Air). The Mater Private Hospital is located 350 m from the Woolloongabba worksite. PM<sub>10</sub> concentrations would not exceed the air quality objective of 50 µg/m<sup>3</sup> in the EPP (Air) at this location.

Mitigation to address air emissions on office workers at the Landcentre and 53 Albert Street is addressed in Section 15.4.5 and Chapter 24 (Table 24-17) of the EIS. It is noted that there are currently several construction sites in proximity to this location, with construction on the ‘Vision’ site due to commence soon. This demonstrates that construction of large projects is commonplace and ongoing in Brisbane’s CBD, and is likely to continue during construction of Cross River Rail. Monitoring of dust from the Albert Street Station works for Cross River Rail would need to take into account elevated dust levels from other nearby construction sites.

A detailed dust management plan would be developed and implemented at each major worksite. This would include measures to address high risk weather conditions, and regular monitoring of total suspended particulates (TSP), PM<sub>10</sub> and dust deposition levels at sensitive locations to assess compliance with the construction air quality goals. The monitoring equipment would determine real time emissions and would trigger alarms should the air quality goals, as defined in Table 24-17 of the draft Outline EMP be reached. Where exceedances are identified, additional levels of dust control would be immediately taken to reduce emissions from surface worksites.

Should contaminated land be encountered, works would be conducted in accordance with the Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland, 1998 and NEPM (Assessment of Site Contamination) (including variations to the NEPM approved by DERM), to ensure environmental and public health impacts from contaminated dust are avoided and appropriately managed. This would include the development of approved management plans and procedures prior to the disturbance of contaminated soils (refer to Table 24-13 of the EIS).

## 5.9.2 Operational air quality

### Issues raised in submissions

Issues raised in submissions relating to air quality during the Project operations included:

- increased movement of freight, in particular coal, creating an increase in dust pollution
- potential for heat being released from the ventilation and emergency access shaft, by a resident in the vicinity of the proposed building.

### Response to issues raised in submissions

With respect to the potential for freight to increase dust pollution, the management of coal dust on the Queensland rail network is the responsibility of the network manager and the rail operators, in liaison with DERM. Although the general management of freight trains is outside the scope of the Project, a range of potential dust control methods are outlined in Section 15.5.4 of the EIS to minimise particulate emissions from coal trains.

Various measures can be used to minimise particulate emissions from coal trains. Typically, these measures include profiling the coal load in the wagon to reduce exposure to wind, and spraying the surface of loaded coal wagons with a polymer sealant after loading to prevent dust lift off. In 2010, Queensland Rail Network published their Coal Dust Management Plan on behalf of Queensland Rail Limited and the Central Queensland coal supply chain, in response to community concerns regarding dust from coal trains.

The Coal Dust Management Plan outlines a range of actions and strategies available across the Central Queensland coal supply chain to address coal dust, specifically at load-out facilities, with coal train operators, rail network managers and at coal terminals.

The ventilation and emergency access shaft would not emit vehicle exhaust emissions as only electric-powered rollingstock would use the Cross River Rail tunnels. It is also unlikely to generate nuisance hot air impacts, owing to the ventilation outlet being located well above ground level at approximately 8.5 m in height, an exit velocity of between 10-15 m/second, and the temperatures giving the ventilated air additional buoyancy which will allow air to rise quickly above ground level. The reference design proposes the emergency exhaust and supply fans to be fitted with noise attenuators (refer to Section 9.2 of Technical Report No. 8, Part A of the EIS).

There would be no visible plume from any of the rail tunnel ventilation outlets.

Trains give off heat to the tunnel air from a variety of sources both internally (within the carriages) and externally. Tunnel air temperature will be controlled to maintain levels below the upper operating limit of the train's air conditioning condensers (typically 43°C to 45°C). Control of the tunnel air temperature would be achieved through longitudinal air flow in the direction of train travel. At the detailed design stage, thermal network modelling would be conducted to determine the system flow rates and ventilation strategies for normal operations. The thermal modelling would take account of the internal and external vehicle heat loads, the effects of heat generation within the tunnels, heat conduction through the earth away from the tunnel walls, and vehicle piston effects.

Table 4-4 of the EIS provides an overview of the fire services systems proposed for the Project, which include fire hydrant and hose reel systems, fire sprinkler systems, gas suppression systems and fire detection and alarm systems. The commissioning stages will include testing and training in relation to fire and life safety systems and mock emergency evacuations. In the extremely unlikely event of a train fire in the tunnel, the air quality objectives of EPP(Air) are expected to be temporarily exceeded. An emergency response and management plan will be prepared by the Project operators and the emergency services authorities prior to the commencement of operations (refer to Table 24-27 of the EIS).

## 5.10 Construction – consultation and complaints management

### Issues raised in submissions

A number of issues were raised in submissions about the process for consultation during future phases of the Project's development.

QH and Brisbane City Council identified a need for a comprehensive community consultation and stakeholder engagement plan, which clearly outlines how the community would be kept updated, informed and consulted through the Project. QH suggested that this plan should consider the needs of people from cultural and linguistically diverse groups to ensure that communication is undertaken in a culturally appropriate way and that suitable translation is provided for any written or verbal materials.

The needs of people with intellectual disabilities ought to be considered in developing consultation and communication strategies, and mitigation actions. QH suggested that community liaison officers were required to work closely with organisations, such as Sunshine Welfare and Remedial Association that provide services to these groups.

DERM identified the need for significant community engagement around any proposal to introduce longer operating hours in return for shorter impact-duration times was also identified.

Concerns were also raised in submissions that the EIS does not provide for public access, view or comment on dust, noise and traffic management plans. It was suggested that the details of any management plans submitted by the contractor need to be taken back to the community for approval and that all of the EIS management plans should be published on the internet.

An issue was also raised that any changes to the EIS after it has been approved need to be made public and taken back to community representatives rather than being agreed to "in house".

A number of submissions also raised issues relating to the need for a 24 hour, staffed toll free telephone number to allow community members to notify any breaches to the EIS management plans and so that responses to any breaches can be immediate.

Specific concerns raised in submissions included:

- A message service with a response time up to 48 hours is not acceptable. Where EIS conditions are not being met, particularly in relation to hours of operation and noise levels, the community needs to be able to talk to a person to get an immediate response.
- The 24 hour phone service should be operated by Transport and Main Roads. Transport and Main Roads should have the contractor immediately rectify any breach, especially with regard to hours of work, dust and noise levels.

### **Response to issues raised in submissions**

The need for a comprehensive community engagement plan is addressed in Section 24.5 of the EIS and the draft Outline EMP (refer to Section 24.9, Table 24-22, of the EIS).

A community and stakeholder engagement plan is to be developed as part of the environmental management process to ensure community and stakeholders are kept informed about construction of the Project. This would be developed prior to the commencement of construction works, and is to be managed, updated and implemented for the duration of the construction phase.

It is proposed that the community and stakeholder engagement plan will consider the communication and consultation needs for people from culturally and linguistically diverse backgrounds, as well as people with intellectual disabilities. This would be developed in consultation with relevant stakeholders.

EMPs, including those relating to the management of noise, dust and traffic impacts would be prepared by the Proponent and approved by the relevant authorities. As outlined in Section 24.3 of the EIS. Community liaison groups established for the Project would be responsible for providing comments in an advisory role to the Proponent on matters, including the detailed individual site sub-plans for construction and operation. The community liaison groups would also provide advice to the Proponent during construction in relation to identifying and mitigating the impacts of construction in the locality for each group.

The draft Outline EMP also includes the need for mitigation measures around certain elements (eg noise and vibration) to be developed in consultation with owners and occupants of potentially affected properties.

Any substantial change to the reference design would need to be referred to the Coordinator-General prior to the commencement of works for consideration of whether it constituted a 'project change' under Part 4, Division 3A of the SDPWO Act. Any change to a Project condition proposed by the Proponent would also trigger a requirement for the Proponent to make an application for proposed change under section 35E of that Act.

The Coordinator-General then would determine whether the application would require formal consultation and notification. Where a change involves public notification, the impact assessment and public consultation processes for that change are similar to those parts of the EIS process under Part 4 of the SDPWO Act. This would provide sufficient opportunity for additional public comment on the Project.

On completing an assessment of the application, and having regard to any submissions that might have been received about the potential changes, the Coordinator-General would issue a further evaluation report.

As outlined in Section 24.5 of the EIS, a process will be developed and implemented for receiving and responding to complaints about the Project from community members during the construction phase. This would involve the establishment and maintenance of a 24 hour, seven day toll-free telephone service. This service would be staffed by members of the Project team. Any complaint received would be required to be investigated immediately to determine the appropriate course of action for addressing the complaint. In some instances, this could include suspending activities that are the source of the complaint.

## 5.11 Flood management

### Issues raised in submissions

A number of issues were raised in relation to the flood immunity of the tunnels and stations as well as impacts of the Project on local flooding. This is in addition to those issues raised in relation to impacts for residents at Rocklea during major flood events from the closure of the open level crossing discussed in **Section 4.1** of this Environmental Impact Statement – Supplementary Report.

Some submissions raised concerns with the location of the Albert Street Station and the flooding of this area in both 1974 and 2011. Submissions sought clarification about plans for further flood mitigation before building the Project, together with a suggestion to move the station entry to higher ground, such as in the City Botanic Gardens. It was also requested that the Project not rely on shutters, gates, valves or the like to prevent water entry.

Concerns were also raised about the potential flood risk for buildings near to the Project from sub-surface water entering via services into the station. It was suggested that flood mitigation measures be included in the reference design to mitigate this risk, such as backflow valves at the River, a vented loop of services above ground level for service entry, waterproofing all services entries into the station or alternative drainage options.

Other specific issues raised by residents in relation to flood management included:

- No significant flood improvements are apparent in the decision to move the southern portal from that identified in the November 2010 reference design. Questioned why a final decision did not wait until the outcomes of the Queensland Flood Commission of Inquiry.
- Flood walls should be investigated to address flood immunity issues. The original portal location identified in the November 2010 reference design can be adequately protected with flood walls/bunding, with the 2011 flood level under the level of Fairfield Road at this location.
- The risk assessment is flawed as it does not take into consideration a significant storm. If the effects of increased sea level from a low pressure system, flooding similar to 1974 and 2011, local flooding from rainfall and sea level rise, the total could be 7-9 m above sea level. The Project would be wiped out and the investment lost. It is suggested that the location of the tunnel should be changed and an elevated track built through Salisbury to Moorooka. The tunnel could run parallel to Ipswich Road entering into tunnel south of Lucy Street, at Yeerongpilly. Clarity was sought as to whether the Project would be insured.
- Concerned about the potential flooding impact to residential and industrial properties along Moolabin Creek, with a request made that following construction, that Moolabin Creek and land surrounding the creek be rehabilitated and returned to a cleaner state.
- Flood/flash flood monitoring during operations should not completely rely on monitoring data from the Bureau of Meteorology as these may not be sufficiently reliable to protect to the Project. The suggestion was made that Queensland Rail monitoring equipment be used, which would be cost effective and provide an additional level of protection. It was also suggested that monitoring devices should be electronic measuring and telemetry systems and not video cameras.

Issues relating to flooding and the proposed ventilation and emergency access building in Fairfield were also identified by residents in the vicinity of the proposed structure, specifically:

- Properties closest to the proposed ventilation and emergency access building are prone to flooding from storm water backup if the storm water drains which pass through the proposed construction site are obstructed. Work at the construction site has the potential to obstruct these drains and the flood risk to properties need to be investigated and appropriate mitigation measures developed if required.
- The location of the proposed emergency access point may be subject to flooding and did partly flood in January 2011. This flood level was lower than 1974 and earlier floods.
- There is no benefit in relocating the ventilation and emergency access building to Railway Road as it is clearly documented that flooding would not have occurred in the emergency shaft.

- The ventilation and emergency access building has been moved from the original location to another flooded location.

Issues were also identified that the EIS outlines additional flood impacts of up to 4 cm at Rocklea and Yeerongpilly that will be incurred due to infill works associated with the Project. It is suggested that the Project should not proceed if it will worsen flood impacts for residents and businesses at Rocklea and Yeerongpilly. It was also suggested that urgent investigations be undertaken into the site specific hydrological impacts on each property within the project impact area and compensation, immunity works or buy back should be offered to affected residents and businesses.

### **Response to issues raised in submissions**

With respect to concerns about the location of Albert Street Station and recent flooding of the CBD, a range of measures are incorporated into the reference design to provide flood immunity to the underground system. At Albert Street Station, these include raised station entrances, floodboards and floodgates. Had the Albert Street Station been in place in January 2011, normal operating procedures would have required the floodgates to be activated before the flood peak, protecting the station and tunnel from inundation.

As outlined in Section 3.3.2 of the EIS, a detailed assessment was undertaken of the CBD tunnel route and station locations during the development of the reference design. This considered station options at Albert Street, George Street and Edward Street. The options assessment considered a range of objectives and criteria relating to transport, city-building and community outcomes. While flooding was identified as a potential constraint for the development of a station at Albert Street, the potential transport and city building outcomes provided by a station at Albert Street were considered to outweigh potential costs associated with implementing flood mitigation measures, including for a flood event up to 1 in 10,000 years, as part of the station design.

A range of station entry options were also considered for each station as described in Section 3.3.6 of the EIS. This included potential options within the City Botanic Gardens for Albert Street Station. A station entry in the City Botanic Gardens was not preferred due to potential impacts on the cultural heritage and community values of the gardens.

As outlined in Section 3.3.8, flood protection measures implemented on underground rail systems in Australia and internationally were investigated. The reference design incorporates a range of measures used on projects elsewhere.

With regard to concerns raised about the potential flood risk to buildings, each of the underground stations and the ventilation and emergency access building would be constructed with cut-off walls and sealing structures into rock to achieve a waterproof solution. Measures to prevent the inflow of water via service conduits into the Project infrastructure would be investigated and addressed during the detailed design phase.

With respect to the decision to move the southern portal, the level of flood assessment for the Project exceeds existing planning scheme design levels, such as the defined flood level. The Cross River Rail flood protection measures have been reviewed since the January 2011 flood event. The Project has already considered extreme flood events and is designed to accommodate a 1 in 10,000 year AEP. The construction of flood walls would not meet the 1:10,000 ARI design objective. Flood walls could also reduce local flood storage capacity and may therefore increase flood impacts on surrounding properties.

The draft report of the Queensland Flood Commission of Inquiry has been reviewed. The draft report did not make specific references to any part of the study corridor. In particular, the draft report did not make any comment or directions specifically in relation to Rocklea.

While the EIS has thoroughly investigated the potential impacts of Project structures on surrounding land during flood events, the scope of the Project is not to address general flood issues in the surrounding community and potential remediation of flood risk independent of the Project.

With regard to flooding issues related to a significant storm, the potential for climate change to affect flooding was assessed as part of the flood modelling studies. The methodology used is summarised in Technical Report No.6 – Flood Study. Climate change predictions incorporate climatic change that could influence a range of different parameters used in the hydrologic modelling of the flood design. These changes may include increased rainfall intensity during large to extreme events. Consequently, a range of flood protection measures have been incorporated into the reference design to provide flood immunity to the tunnel in extreme riverine flood events, ie 1 in 10,000 year AEP. The design would also cater for flash flood events.

The potential flooding impact at Moolabin Creek has been examined in Section 14.3.1 of the EIS. Potential flood impacts from the construction of the bund have been modelled for 1 in 5 AEP, 1 in 20 AEP and 1 in 100 AEP flood events (refer to Figure 14-6, Figure 14-7 and Figure 14-8 in the EIS). At the Yeerongpilly worksite, a bund would be constructed adjacent to Moolabin Creek to prevent floodwater from entering the worksite in a 1 in 20 AEP flood event. The bund would be located outside the waterway and on industrial land and would be removed following the completion of construction activities.

The reference design includes 12 additional piers for a new railway bridge in the floodplain of Moolabin Creek. The additional piers are expected to have a negligible impact on peak flood levels, with changes to peak flood levels expected to be less than 0.01 m. Disturbed areas along Moolabin Creek would be rehabilitated with endemic vegetation to promote stability of the riparian zones.

Flood/flash flood monitoring would be implemented in accordance with Queensland Rail's operations guidelines and procedures. During the detailed design phase, Queensland Rail would work closely with the Cross River Rail Project team to develop flood control warning measures for the operations phase.

With respect to potential flooding at the ventilation and emergency access building from stormwater backup during construction, stormwater drain capacity through the worksite would be maintained. A Soil, Erosion and Sediment Control Management Plan would be implemented to address temporary drainage measures during construction works (refer to Table 24-15 in Chapter 24 of the EIS and Section 5.2.1 in Technical Report No.5 – Surface Water Quality).

With regard to concerns about flooding at the ventilation and emergency access building during the January 2011 floods, the location of the proposed building was subject to a detailed options appraisal in the EIS and the location was again considered following the January 2011 flood (refer to Section 3.3.8 in the EIS). This structure will be constructed on land between Sunbeam Street and Bledisloe Street in Fairfield. The building would be constructed to withstand an extreme flood event (ie a 1 in 10,000 AEP) and would remove a small volume from the available flood storage in a Brisbane River flood event. The effect on flood levels would be negligible (refer to Section 14.3.1 in the EIS). The ventilation and emergency access building would not result in any impacts to peak 1 in 100 AEP flood levels greater than 0.01 m.

With respect to moving the ventilation and emergency access shaft from the original position on Fairfield Road, there are a number of advantages in selecting the Railway Road location (refer to Section 3.3.8 in the EIS). These include a location 4 m higher than the previous site for improved flood immunity, more adjacent space for construction and no impacts on Robinson Park, significant vegetation or playground. Finally, by relocating a part of Railway Road, a larger park would be created for the community.

With respect to concerns on additional flooding impacts at Rocklea and Yeerongpilly, the Project has been designed to minimise potential impacts on residential and business communities from potential changes in flooding arising from the Project. The results of the detailed flood modelling studies and mitigation measures are presented in the Chapter 14 of the EIS. Mitigation measures are identified to address potential impacts during construction and operation associated with changes to flooding in the study area. The Project does not seek to resolve flooding issues for properties that are not impacted by the Project or are beyond the Project requirements.

## 5.12 Property impacts

A number of submissions raised issues in relation to property impacts, including the Project's property requirements and potential for damage to property during construction.

### 5.12.1 Property acquisition

#### Issues raised in submissions

Submissions to the EIS raised concerns over high impacts to the community as a result of the excessive property resumptions, particularly at Yeerongpilly. It was suggested that the cross-over between the Project's lines and the Kuraby lines should be constructed to the south of the Yeerongpilly Station and that existing platforms should continue to be used.

An issue was identified in the submissions to the EIS that only the minimum resumption and demolition of properties should be undertaken by the Project. It was suggested in submissions that properties required for the Project that included multiple unit complexes with a strata-title and free standing units/townhouses, should only be partly demolished (ie not all houses on acquired properties should be demolished).

A suggestion was also made in submissions that properties at Rocklea affected by the closure of the open level crossing and that were affected by the January 2011 floods should be bought and turned into a park style reserve.

QH raised concerns about potential impacts on the health and well-being of the community due to stress associated with relocation and an inability to pay higher housing costs. It was suggested that a plan should be developed to ensure that adequate social and affordable housing is available in the study corridor. That plan should cater for the growing population and provide equitable opportunities for residents needing to relocate, with the emphasis being on maintaining social capital and community cohesion. It was also suggested that early consultation and planning should be undertaken, including close and regular communication to support residents facing relocation.

A submission from a property owner with a volumetric requirement on their property raised concerns that it was difficult to make a submission about the impact of the proposed acquisition without detail of the requirement. The submission requested additional information prior to the finalisation of the EIS process.

Concerns were also raised about the potential for limitations upon future development as a result of volumetric resumptions and/or new infrastructure associated with the Project.

The Goprint building identified by Cross River Rail as a required construction site is proposed to be demolished and the land used as a worksite for tunnelling. The Landcentre building has been identified as potentially being affected by the construction impacts, which may require the relocation of government accommodation and staff during the construction periods.

The Royal on the Park site in Albert Street is proposed for air extraction vents and construction associated with Cross River Rail. The use of the site for extraction and construction is not an optimal use of the site and would conflict with the proposed redevelopment.

Concerns were also raised in submission to the EIS about the loss of affordable rental accommodation through property acquisitions in the study corridor.

#### Response to issues raised in submissions

The reference design identified properties that would be required for the construction of the Project, including both wholly and in part. Property requirements may be refined during the detailed design phase. As stated in Section 9.4.2 of the EIS, 411 properties would be acquired for the Project, either wholly or in part. This includes 108 properties acquired for surface works and a further 303 properties requiring a volumetric acquisition, where the Project passes beneath the property. A total of 48 properties affected by surface works are residential uses. Other properties generally are a mix of commercial, industrial, visitor accommodation and community uses.

The design development process for the southern portal and Yeerongpilly Station is described in Section 3.3.5 of the EIS. Property impacts, including the number and type of properties affected by surface works, was a key factor considered in the evaluation of the southern portal options, along with engineering requirements, city-building opportunities, rail operations, cost and risk, environment considerations and community and stakeholder feedback.

The reference design released in November 2010 included a grade separation between the suburban lines and Cross River Rail lines south of Yeerongpilly and a new station at the general location of the existing station.

The reference design was subsequently refined to reduce property impacts in Yeerongpilly, after receiving comments from preliminary consultation in late 2010. A cross-over of the suburban tracks north of Yeerongpilly Station as provided by the reference design avoids the need for a grade separation to access stabling within Clapham Rail Yard. As discussed in Section 3.3.5, this option was considered to provide greater overall benefits in relation to fewer property impacts, fewer impacts to the community and reduced construction risk.

The volumetric acquisition requirements identify the underground land required for construction and for protecting the tunnels and underground stations from encroaching future development. A perimeter of 7 m around the tunnels and 10 m around the station caverns would be acquired volumetrically for the Project.

Property impact plans were provided Volume 2 of the EIS. Those plans included typical cross-sections of the volumetric take to inform potentially affected landowners of the likely requirement. The actual volumetric requirements would be determined on completion of the detailed design phase.

Department of Transport and Main Roads has placed a requirement of land within the study corridor which may be the subject of volumetric property requirements. Development applications made in respect of such land nearby would require a concurrence referral response from Department of Transport and Main Roads. Prior to the commencement of construction, it is intended that the volumetric property surrounding the tunnels, underground stations and associated facilities would be acquired by the government to protect against encroachment by a future development. Further extensive engineering investigations relevant to the particular development application will be required to determine the practicality of the proposed encroachment.

The tunnels and underground stations would be designed and built to support the construction of buildings consistent with the current Brisbane City Council and Urban Land Development Authority Scheme (eg 80 stories for the CBD - Brisbane City Council and 40 stories for Woolloongabba ULDA). Further extensive engineering investigations relevant to development application would be required to determine the practicality of the proposed encroachment.

Engineering solutions for particular developments may vary with the timing or sequencing of that development relative to the Project. For example, building foundations and/or basement parking structures may need specific design measures if the tunnel or underground stations are already in place when the development proceeds. Conversely, detailed designs of Cross River Rail structures may need to be altered to account for new adjoining developments built or approved prior to the commencement of construction for the Project.

Consultation with owners and occupants of directly-affected properties and nearest neighbours to construction activities would be undertaken and would include notification of construction activities, including timing and duration, likely impacts and proposed mitigation or management measures. In some instances, preliminary consultations were undertaken to support development of the reference design. This consultation will be initiated as soon as practicable after a decision to proceed with the Project is taken. In addition, the Project will work with land owners affected by requirements for construction worksites to limit footprint requirements of these sites.

Part of the Albert Street south worksite has been identified as having the potential to accommodate redevelopment opportunities post-construction.

The potential opportunity for construction works for redevelopment to be carried out in conjunction with works for Cross River Rail would be further investigated during detailed design.

In relation to the suggestion that properties at Rocklea affected by the closure of the open level crossing and that were affected by the January 2011 floods should be bought and turned into a park or reserve, it is not the function of the Project to conduct a buy-out of flood affected properties. The Project does not seek to resolve flooding issues for properties beyond the Project requirements. Any process for acquiring flood affected properties for open space would need to be done as part of a separate process by Brisbane City Council or the Queensland Government.

Consultation with the DPW about potential property impacts was undertaken as part of the design development and preparation of the EIS. Consultation with DPW will continue during the detailed design phase and construction phases. It is anticipated that the Landcentre will continue to be used by government workers during the construction phase.

Environmental management measures would also be implemented at the Woolloongabba worksite to mitigate potential construction impacts (ie noise, dust, vibration, traffic, etc) at the Landcentre and other nearby sensitive receptors. Consultation and communication would also be undertaken with DPW, workers and the local community about potential construction activities, including the timing, duration and potential impacts as well as proposed mitigation measures

In relation to the loss of affordable rental accommodation, the Project would impact on a small number of dwellings considered to be 'affordable' and used for assisted accommodation. Such dwellings take a range of forms at both the southern and northern ends of the study corridor. The Project is not due to commence construction until 2015, with property acquisitions likely to precede that by at least six months.

Agencies with an interest in providing or supporting affordable housing have the opportunity now to engage with the Project to identify specific concerns and to develop a mitigation strategy. On-going consultation and communication with property owners about the property acquisition and compensation process and support available to potential affected property owners, may assist in reducing potential impacts in sourcing alternate accommodation. In addition, the Project would consult with relevant service provider through the Department of Communities to determine whether additional support for tenants is required.

## 5.12.2 Property damage

### Issues raised in submissions

A number of submissions to the EIS raised concerns over the potential damage to properties near to, or above, the Project as a result of the Project's construction and operation.

Concerns were raised in submissions about potential for vibration from tunnelling to cause cracks in the foundations and walls of houses and whether residents would be compensated for damage to their homes caused by construction.

Other concerns raised in submissions about potential property damage related to:

- possible damage to water and/or sewage pipes
- groundwater seepage into tunnels resulting in damage to properties and landscaping
- possible land collapse due to tunnelling
- possible settlement impacts to the Church at Cardross Street, Yeerongpilly.

Suggestions were provided in the submissions to the EIS that plans should be prepared for alternative installation of water and/or sewage pipes.

### Response to issues raised in submissions

Potential impacts to property as a result of the Project are addressed throughout the EIS.

The EIS outlines a range of goals relating to vibration during construction. This includes goals which seek to avoid structural or cosmetic damage to buildings, including heritage places. The EIS found that the predicted ground-borne vibration levels caused by the construction or operation of the Project would not exceed the structural damage vibration goal or the stricter cosmetic damage goal to heritage buildings at any location.

The draft Outline EMP in Section 24.9 of the EIS states that pre- and post- construction building condition surveys should be conducted where potential cosmetic building damage could occur as a consequence of the construction works. The EMP also states that where damage to buildings and structures (including buried pipes) occurs as a consequence of the Project, this would need to be repaired by the contractor as soon as practicable and without cost to the property owner.

Repairs would also need to be undertaken in consultation with the property owners and occupants and would be required to return the property at least to the condition existing prior to the commencement of construction works.

The potential for groundwater drawdown, including impacts on groundwater dependent ecosystems is discussed in Section 12.3 of the EIS. The risk of groundwater drawdown to the main tunnels will be minimised by adopting a construction method which uses a reinforced, waterproof lining. The predicted inflow of groundwater with this system of construction is low and less than one litre per second for all the underground components of the Project. This inflow is sufficiently small enough to be considered to represent a ‘dry’ tunnel. Groundwater monitoring would be carried out to monitor changes in groundwater levels during the construction and operation phases of the Project.

In relation to groundwater dependent ecosystems, these are present along the Brisbane River in the vicinity of the City Botanic Gardens and the Kangaroo Point cliffs. The risk of adverse impacts on these ecosystems is considered to be low and would be mitigated by the proposed construction method.

An assessment of potential settlement risk from the Project is provided in Section 7.3.2 of the EIS, with location specific impacts described in Section 7.3.3 to Section 7.3.5 of the EIS. As with all tunnel construction, there is a potential risk of geology and soil impacts due to settlement resulting from the tunnel excavation and construction. In relation to the Project, the risk potential is considered low, having regard to the design and construction methods proposed for the mainline tunnels.

Potential settlement risks for that section of the tunnel between Dutton Park and Yeerongpilly are described in Section 7.3.5 of the EIS. Preliminary assessment of construction induced ground settlement indicates that there is a low risk of significant effects between the Boggo Road Station and the southern portal at Yeerongpilly. In relation to the settlement effects of construction on St Fabian’s church at Cardross Street, a preliminary review of the settlement effects of construction estimate that the maximum settlement in this section of the tunnels would be 10 mm to 25 mm. As stated in Table 24-12 of Chapter 24 of the EIS, prior to the commencement of nearby construction, baseline conditions would be established for properties that are considered susceptible to settlement. Surveys and displacement monitoring would be undertaken to monitor the effects of settlement.

Mitigation measures would be implemented throughout the Project to control and reduce the risk of settlement impacts due to construction and operational activities. Surveys and other displacement monitoring would be used to monitor the effects of settlement, if any, from tunnelling.

## 5.13 Economic impact assessment

### 5.13.1 Methodology for economic assessment

#### Issues raised in submissions

A number of questions were raised in relation to the methodology used for the economic assessment of the Project, such submissions emanating predominantly from Government agencies. These questions or issues are summarised as follows:

- While the EIS identifies approximately how many employees would be required for each construction activity, more information about the specific skill-sets required would facilitate better workforce planning in the future. In addition, the labour force statistics mentioned in Chapter 21 of the EIS would change over time.
- The EIS should comprehensively investigate the Project’s potential impact on property values; the attraction of investment into the region; urban renewal; the creation of local jobs; productivity; reduced car dependency; and the region’s long-term social and economic growth.

- The rationale of the Project to assist productivity by linking population in the region with jobs in inner Brisbane needs to be more strongly emphasised.
- The Project needs to be considered as part of the overall development of an efficient passenger transport network to address the local needs of areas of economic concentration within South East Queensland.
- In the benefit cost analysis, Brisbane City Council noted that the North West Rail project has been included and therefore the benefit cost ratio of 1.42 at a discount rate of 7% actually measures the benefit arising from two projects, not just Cross River Rail. Scenarios need to be developed that exclude North West rail project so that a true evaluation of the significant expenditure of \$8.4 B can be specifically identified.

### **Response to issues raised in submissions**

Responses to the general economic issues raised in these submissions can be found in both Chapter 21 of the EIS and in Technical Report No.10 – Cross River Rail Economic Evaluation.

Section 8 of the Technical Report identifies the wider economic benefits resulting from the Project, including the agglomeration benefits resulting from effective density and better access to employment, including labour supply, public transport and car user benefits. These are also identified in Section 21.4.6 of the EIS.

Detailed workforce planning would be undertaken as part of the detailed design phase. This will be undertaken in consultation with relevant stakeholders, including Employment and Indigenous Services, within DEEDI and with Skills Queensland.

The capital costs for North West Rail Corridor were included in the capital cost estimate for Cross River Rail, as this project is assumed to be in the rail network from 2031 in the demand modelling analysis and therefore contributes to project benefits. A description of the inclusions and assumptions adopted in the benefit cost analysis is contained in Section 4.4 of the Technical Report No.10 – Cross River Rail Economic Evaluation.

Further investigations have determined that, with removal of the North West Transit Corridor, the benefit cost ratio would improve to 1.51, above that of 1.42 reported in the EIS with the NWTC. In this scenario, the net present value would increase to \$2.6 billion, compared with approximately \$2.3 billion, reported in the EIS.

### **5.13.2 Local business impacts**

#### **Issues raised in submissions**

Specific issues were raised in relation to local businesses potentially affected by the Project, included:

- Concerns about the loss of passing trade or visibility to passing traffic for a business premises on Beaudesert Road, particularly if noise barriers or other screening is established on the proposed viaduct.
- Impact of a partial resumption of car parking spaces on the feasibility of a business continuing to operate without the available car parking land (refer to submission made by Brothers St Brendan's Football Club in **Section 5.8.3**).
- DEEDI concerned about impacts on the Boggo Road Ecosciences Precinct café, particularly for outdoor dining, as the result of construction impacts including dust and noise.
- Impacts on potential freight services on the intermodal freight route between Brisbane and North Queensland, resulting in flow-on impacts for both suppliers and end users of this freight line.
- DPW commented that construction is anticipated to have a negative impact on major events through impacts on access to the Roma Street Parkland, noise and vibration, impact on event sites (closures, etc) and car parking. This may lead to the loss of events, which would affect the image and popularity of the Roma Street Parkland. The Parkland may also suffer a loss in revenue due to smaller events seeking alternative venues, which may affect the ability of the Parkland to attract events post-construction.

## Response to issues raised in submissions

In response to these issues, it should be noted that direct communication would be undertaken to inform businesses of key construction milestones in advance, to help minimise adverse impacts on these businesses. In addition, the Project would undertake early and ongoing notification with affected property owners, tenants and local and broader communities, in advance of construction activities, about construction activities, including timing and duration, likely impacts and proposed mitigation or management measures.

In relation to the concerns raised about loss of passing trade, the proposed closure of the open level crossing would require much of the traffic from Rocklea wishing to access Beaudesert Road or Salisbury to pass the submitter's site to access the signalised intersection at Lillian Avenue. There are no proposals to put any screens or noise walls on the Beaudesert Road viaduct itself as the Project does not materially affect traffic volumes at that location.

While the reference design identified properties that would be required for the construction of the Project, these property requirements may be refined during the detailed design phase. Affected property owners would be consulted directly regarding any property requirements.

In relation to the Ecosciences Precinct café at Boggo Road, consultation would be undertaken with owners and occupants of directly-affected properties and nearest neighbours to construction activities prior to construction. The draft Outline EMP included in Chapter 24 of the EIS describes the procedures for minimising potential impacts during construction, including air quality (refer to Table 24-17), noise and vibration (refer to Table 24-18), and visual intrusion (refer to Table 24-21). Mitigation measures may include the provision of noise barriers and hoardings around the Boggo Road worksite. Where appropriate, these would incorporate landscaping and urban design measures to offset the visual impact of temporary structures.

Despite these measures, there would be a need to maintain ongoing consultation with the Ecosciences Precinct café and the occupants of the Ecosciences Precinct to address emerging concerns and issues arising from such significant construction in close proximity.

Access to the Roma Street Parkland would be maintained throughout construction (refer to Table 24-17 of the EIS). On-site workforce parking is proposed at the Roma Street worksites. Given the worksite location in the CBD, a proportion of the workforce would be expected to use the many public transport options available at Roma Street. Alternatively, the workforce could make use of nearby public car parks such as those located within the Roma Street Transit Centre (refer to Section 5.10.5. of the EIS).

The predicted 'worst case' construction noise levels for Roma Street Station works would exceed the noise goals for only a small number of sensitive receptors in the day time and night-time periods during early construction activities. Site establishment and piling works may be required during the night-time period to avoid impacts on existing rail operations. Long-term construction noise would be generated by underground excavations of the station caverns by roadheaders. This would occur well below the ground surface, resulting in minimal noise impacts on the Roma Street Parkland.

Without management, some surface construction work at Roma Street Station has the potential to generate dust at the Roma Street Parkland. As the major construction activities would be generated from underground excavations, dust emissions are not expected to exceed the air quality goals. Dust emissions would be minimised through the dust management measures described in Section 15.4.5 of the EIS. Consultations with DPW on the Parkland would commence well in advance of construction.

With reference to impacts on the operations of the freight rail corridor, any rail impacts will be planned well in advance through Queensland Rail's Scheduled Closure Access System to minimise impact and would avoid peak times as well as taking account of the need to minimise impacts on the provision of the freight rail service access. As indicated in **Section 4.3.4** of this Environmental Impact Statement – Supplementary Report, the Proponent would enter into an interface agreement with Queensland Rail to establish a framework for rail corridor possessions.

This framework would accommodate a process by which potential impacts on rail customers could be addressed and mitigated. Considering the dynamic state of rail freight arrangements and construction planning and staging, this process would need to be both robust and flexible.

## 5.14 Natural environment

### Issues raised in submissions

Concern about the natural environment throughout the construction and operation of the Project was raised in a number of submissions to the EIS. Specific concerns raised in submissions included:

- concern about impacts on Victoria Park (these are addressed in **Section 4.7.2** of the Environmental Impact Statement – Supplementary Report)
- changes to the status of *Eucalyptus Curtisii* (Plunkett mallee) listed under the *Nature Conservation Act 1992* to be corrected to read “near threatened”, rather than “rare”
- loss of a large fig tree near the Roma Street Transit Centre, that would require removal as part of construction works at this location.
- concern about the impact of the Project on the waterways passing through the study corridor including the Brisbane River, Breakfast Creek, Oxley Creek and its tributaries (ie Moolabin Creek, Rocky Waterholes Creek and Stable Swamp Creek)
- potential impact of the new bridges across Moolabin Creek and Rocky Waterholes Creek on the riverine environments
- need for environmental controls for the proposed depot in College Close Park at Roma Street as drains in the area flow into the lake via the Gross Pollutant Trap.

In addition, it was noted by DEEDI, at this stage, that investigations into the aquatic substrate, stream type, tidal influence, fish spawning periods, offsets for fish habitats and alternatives to waterway crossing following have not been undertaken.

Suggestions identified in the submissions to the EIS regarding these issues included:

- soil erosion and sediment plans to be prepared for each worksite
- information on habitat and aquatic fauna potentially affected by the Project will need to be gained to support any applications for Constructing or Raising a Waterway Barrier.

### Response to issues raised in submissions

Potential impacts on nature conservation are described in Section 11.3 of the EIS, while impacts on surface water quality are discussed in Section 13.3 of the EIS.

Concerns relating to Victoria Park, including impacts on vegetation and habitat, are addressed in **Section 4.7.2** of this Environmental Impact Statement – Supplementary Report. The changed status of the *Eucalyptus Curtisii* (Plunkett mallee) to “near threatened” rather than “rare”, under the *Nature Conservation Act 1992* is noted.

As described in Section 11.3.3 of the EIS, a large fig tree located within Emma Miller Place would be removed to allow construction of the Roma Street Station. Although Chapter 10.3.2 identifies that the removal of this tree would impact on landscape amenity, it is not listed on either Brisbane City Council’s Vegetation Protection Order or Significant Landscape Tree registers. Consultation would be undertaken with the relevant property owner prior to the removal of this fig tree.

Potential impacts on surface water are described in Section 13.3, along with proposed mitigation measures.

Soil erosion and sediment controls would be developed and implemented for each worksite to minimise potential impacts of sedimentation and run-off on local waterways. These will be developed in accordance with the Queensland Engineers guideline for sediment control. No adverse impacts are expected to occur to the environmental values of Breakfast/Enoggera Creek, Brisbane River, Oxley Creek, Moolabin Creek, Rocky Waterholes Creek, Stable Swamp Creek or the lake in Roma Street Parkland as a result of soil erosion and sedimentation associated with Project works.

As described in Section 13.3.8 of the EIS, there is a negligible potential for indirect impacts on the Roma Street Parkland lake associated with surface run-off and sediment discharge from shaft excavation and spoil removal. A range of mitigation measures would be implemented at each worksite to manage potential impacts on surface water quality. These include the use of containment bunds, vehicle washdown measures and practices and procedures for the handling, storage and management of chemicals and hydrocarbons.

Potential impacts on the riverine environments of Moolabin Creek and Rocky Waterholes Creek from the construction of new bridges are discussed in Section 11.3.3 (Nature Conservation), Section 13.3 (Water Quality) and Section 14.3.1 (Flood Management) of the EIS.

Additional piers associated with the construction of the new bridges are expected to have a negligible impact on the movement of aquatic fauna in the two waterways. These creeks have been highly modified. The Project provides an opportunity to improve the riparian condition of these creeks through revegetation works and/or landscape features following construction. The implementation of mitigation measures, including for sediment and erosion control, and the handling, storage and management of chemicals and hydrocarbons at the Yeerongpilly worksite and other surface work areas would also help to manage potential impacts on these waterways.

Necessary vegetation clearing permits or works within waterways would be obtained. Clearing would be undertaken in accordance with these permits or approvals.

Temporary and permanent structures for the Project would be placed within Moolabin Creek and Rocky Waterholes Creek. These structures may trigger the requirement for a Development Permit for Constructing or Raising a Waterway Barrier. This would be confirmed during detailed design and through consultation with DEEDI. If works are to be carried out within either waterway, further work may be required at detailed design to assess aquatic substrate, stream type, fish spawning periods, offsets for fish habitats and alternatives to proposed waterway crossings.

## 5.15 Cultural heritage

### Issues raised in submissions

In addition to cultural heritage issues raised in relation to the RNA (addressed in **Section 4.5** of this Environmental Impact Statement – Supplementary Report), a number of additional issues were raised in submissions relating to cultural heritage. These included:

- loss of the existing heritage listed station at Yeerongpilly
- concerns over potential construction impacts on the heritage values of the former Boggo Road Gaol
- potential discrepancies in the number of places listed on the Queensland Rail Heritage Register within the study corridor
- protection of the heritage values of Old Museum Building
- protection of the heritage values of the City Hall, especially during construction, due to the extent of structural/underpinning work having already been carried out as part of the City Hall restoration project.

## Response to issues raised in submissions

The existing Yeerongpilly Station would be decommissioned following construction of the new station. Removal of the existing station is not proposed as part of the reference design. Its future use would be determined by Queensland Rail, having regard for its historic character and values.

As identified in Section 24 of the EIS (Table 24-12, Table 24-18 and Table 24-20), any construction works, including blasting, undertaken in the vicinity of Boggo Road Gaol, would also be limited by the more stringent vibration limits for the nearby TEM in the Ecosciences Precinct. Ground-borne vibration limits would be well below those likely to impact on the Boggo Road Gaol and would not exceed the cultural heritage guidelines of 2 mm/second PPV. Blasting may not be feasible until the shaft has deepened sufficiently to allow for efficient blasting.

The heritage-listed gaol would be subject to a detailed survey of the structure, monitoring during construction and adjustments to the excavation works implemented, if required. Construction works in proximity to the gaol would be guided by a Cultural Heritage Management Plan (CHMP) in addition to the Construction EMP and vibration sub-plan.

Impacts on any properties listed on the Queensland Rail Heritage Register would be confirmed during the detailed design phase, prior to the development of the agreed CHMP.

While a small portion of the boundary of the Old Queensland Museum site is traversed by the proposed rail corridor, there would be no impact on the heritage structure or the heritage values of the place. DPW will be consulted directly should this change.

Potential impacts on the heritage values of City Hall are discussed in Section 19.3.3 of the EIS. As indicated in Section 16.4.11 of the EIS, the minimum slant distance from the crown of the tunnel to City Hall is approximately 28 m, with a maximum distance of approximately 65 m. The vibration levels on the ground surface at the City Hall from tunnel construction using TBM excavation is expected to be less than 2 mm/sec. Maximum indicative vibration levels of 0.3 to 0.8 mm/sec are predicted and at this level, vibration is highly unlikely to disturb the fabric of City Hall. The tunnelling work could be noticeable for some people in City Hall, although this may only occur during a short period (ie less than 1 week for each TBM passby).

Monitoring of vibration at the City Hall would be undertaken prior to and during each of the TBM passbys. Early and ongoing consultation would be undertaken with Brisbane City Council's City Hall restoration project team to support detailed design development and would be required in an ongoing capacity to support and inform the construction phase.

City Hall is also considered as having a low risk of significant effects from settlement, with an estimated maximum ground movement of 10 mm. The low potential impacts of construction induced ground movements at City Hall would be manageable through the application of appropriate engineering solutions to be developed at detailed design stage. Prior to the commencement of nearby construction, baseline conditions would be established for properties that are considered susceptible to settlement (refer to Table 24-12 of the EIS). Surveys and displacement monitoring would be undertaken to monitor the effects of settlement.

It should be noted that the Project would be constructed by TBM, with a reinforced concrete segmented lining installed along this section of the route. This is a very strong form of construction with minimal risk of collapse or pronounced subsidence or settlement.

Potential impacts of groundwater drawdown are described in Section 12.3.4 of the EIS. The risk of groundwater drawdown to the main tunnels would be minimised by adopting a construction method which uses a reinforced, waterproof lining. The predicted groundwater drawdown for that section of the Project between Roma Street Station and the City Botanic Gardens would be one to five metres after the first year post-construction. The areal extent of drawdown would range from 150 m from the centre of the alignment following the first year of operation to 350 m from the centre of the alignment following 10 years of operation. A preliminary review of the settlement effects of construction identified the potential for settlement of less than 10 mm for the running tunnels between Albert Street Station and Roma Street Station (refer to Section 7.3.2 of the EIS). Ongoing monitoring of groundwater drawdown and settlement would be undertaken during construction and operation.

## 6 Conclusions

### 6.1 Introduction

General feedback received during consultation for notification of the EIS indicated broad agency, stakeholder and community acceptance of and support for the Project, particularly with regard to the refinements made to the reference design after the preliminary consultation informing the development of the reference design and the EIS.

The EIS found that while there is the potential for localised construction impacts, such impacts would be finite in their duration and their extent, whereas the benefits stemming from the operation of Cross River Rail, would be wide-spread and enduring. There is a weighting towards the enduring Project benefits in the balance with the construction impacts. There is nothing raised in the submissions which would alter this key finding.

The public notification of the EIS resulted in 111 submissions being made to the Coordinator-General.

Few, if any, issues raised in the submissions received related to matters not covered by the Terms of Reference or not raised during the preliminary consultation activities. In addressing the Terms of Reference and the issues raised in preliminary consultation, the EIS generally covered the matters raised in submissions made during the notification period.

The main issues raised in the submissions related to construction impacts (eg noise and vibration), air quality (dust) and hours of work (particularly surface works and deliveries/spoil to and from worksites). During operations, the main issues related to increases in noise from additional rail freight traffic and potential impacts on future land uses around the new stations.

The key local issues raised in the submissions related to the communities in Salisbury/Rocklea, Yeerongpilly, Boggo Road, Victoria Park and RNA Showgrounds.

The draft Outline EMPs included in Chapter 24 of the EIS include provisions which would address most of the concerns raised in submissions. With several exceptions relating to construction traffic management,(eg haul routes), the draft Outline EMPs provide the community with a clear indication of the measures generally proposed for managing the construction and operational impacts predicted with the reference design.

### 6.2 Summary of key issues

A high-level summary of the key issues raised in submissions is presented below. They include issues raised commonly throughout the study corridor in relation to the design, construction and operation of Cross River Rail, as well as issues specific to particular sections of the study corridor.

#### 6.2.1 General issues relating to Project rationale and design

Some submissions expressed concerns that the rationale and scope for Cross River Rail is limited and should be expanded to accommodate wide rail network benefits, wider city building benefits and wider strategic transport benefits:

- the scope of Cross River Rail was established through the Inner City Rail Capacity Study (ICRCS) and is consistent with Connecting SEQ 2031. The Project would deliver a wide range of strategic benefits in terms of transport, rail network functionality and city building
- Cross River Rail would also relieve rail traffic congestion constraining the movement of freight rail. The need for a strategic response to the movement of freight rail traffic through Brisbane and South East Queensland is beyond the scope of a single project and Cross River Rail
- there is a concern, expressed in several submissions, that Cross River Rail would not address the constraints on the movement of rail freight through Brisbane to the Port
- Cross River Rail would relieve congestion on the inner city rail network, and in doing so, would relieve the impact of commuter services on the availability of freight train paths in the study corridor

- there are other initiatives of the Queensland Government investigating alternatives for the movement of heavy freight through Brisbane to the Port.

General design issues raised in several submissions related to the integration of Cross River Rail with the South East Queensland rail network:

- Cross River Rail would operate with new generation rollingstock to be procured separately. The Project would be managed and operated by Queensland Rail and would integrate signalling, scheduling and service planning, and would coordinate with TransLink to provide a key element to South East Queensland's integrated public transport system.
- During the commissioning phase of the Project, Queensland Rail, as rail manager and network manager, would be responsible for the integration of train signalling and safety systems with the rest of the rail network.

Some aspects of connectivity of the Project with surrounding development (eg Yeerongpilly, Boggo Road, Woolloongabba) have caused concern for some submitters

- DLGP note that the proposed station location and design for Yeerongpilly would result in similar walking distances to the Yeerongpilly TOD and the Queensland Tennis Centre as the existing station location
- Cross River Rail would not require a direct pedestrian and cycle link with the PAH campus, but would benefit from the provision of such a link by others
- access and pedestrians plazas at the Gabba Station would accommodate peak pedestrian demands from major events at Gabba Stadium, while allowing integration with the South East Busway and adjacent commercial and community areas.

Vision Australia notes that the Disability Standards specify the minimum requirements for public transport. Operators and providers may exceed these standards in their services, premises, infrastructure and conveyances:

- the Cross River Rail stations have been designed to comply with the requirements outlined in the Disability Discrimination Act 1992 and the Disability Standards for Accessible Public Transport. During detailed design and operation of Cross River Rail, Vision Australia would be consulted with to ensure that adequate measures are adopted.

### 6.2.2 General issues relation to construction

For some people, the duration of construction (5.5 years) is too long, and the hours of work should also be reduced:

- Cross River Rail extends over 18 km with nearly 10 km to be constructed in tunnels with four new underground stations. It is a very large, complex project. The construction period is a practical reflection of the scale and complexity of the Project
- the length of the construction program is a function of the hours of work. If the latter are constrained or reduced, the program would be extended as a direct consequence
- out of hours works would be required in particular circumstances, including works in the rail corridor and road reserves, to minimise disruption to daily patterns of life in Brisbane.

Some submitters living proximate to the proposed worksites are concerned about the potential environmental impacts, such as noise and vibration, air quality, construction traffic, worker parking, worksite interface with near neighbours

- the Project must be constructed across and beneath the inner suburbs of Brisbane to address the identified transport network constraints
- the EIS proposes an integrated framework of environmental objectives, performance criteria and mitigation measures in combination with a requirement for effective, ongoing consultation with communities likely to be affected by Project works

- the comprehensive framework of environmental controls is intended to enable normal daily life to continue with minimal disruption while this large, city-building project is delivered through the inner suburbs and CBD
- worker parking demands would be supported through a combination of on-site car parking, access to high quality public transport at some worksites (eg Albert Street, Roma Street, Woolloongabba, Boggo Road) and local area parking management to avoid parking out local streets and local parking stations
- the environmental impacts of construction would be finite in their duration, whereas the transport, economic and community benefits delivered by the Project would be enduring.

Some community and agency submissions raised concerns about the potential for construction traffic for both spoil and materials to impact on the local road network:

- construction traffic would be managed according to specific management plans intended to reflect local traffic conditions and constraints. The EIS has found that the network could continue to function at acceptable levels of service during the construction period.
- refinements to some routes for spoil haulage are proposed to address specific concerns (eg Dutton Park – Cornwall Street).

Several submissions raised concerns that public transport, pedestrian and cycle movements would be disrupted during construction of the Project:

- CTMPs for each worksite would address potential impacts on public transport, pedestrian and cycle connectivity with the intention of delivering acceptable levels of service during the works.

The location and scale of some worksites were of concern for some submitters (eg Yeerongpilly):

- the Project would be constructed from a number of worksites, with the largest being on non-residential land in Yeerongpilly and Woolloongabba. Major construction activities would be based on these sites
- the other worksites are relatively small and would support local requirements (eg stations, ventilation and emergency access, stabling, local roadworks)
- most of the works would be conducted within or beneath the rail corridor or road reserves and would present the least impact possible for a project of this scale and complexity.

For some corporate submitters, the need to take possession of the rail corridor for construction purposes is of concern with regard to potential impacts on the movement of freight and other rail services:

- construction would necessarily require possessions of parts of the rail corridor to deliver Cross River Rail within a reasonable period. Construction planning, including staging, would seek to minimise the impact of possessions on rail traffic
- an interface agreement between the Proponent and Queensland Rail, as rail manager and network manager, would provide a framework within which the needs of rail customers could be addressed.

### 6.2.3 General issues raised in relation to operations

By relieving congestion on the inner city rail network for the benefit of freight rail traffic, some submitters were concerned that increased movements of freight rail would impact adversely on communities along the rail corridor by way of increased noise and coal dust:

- Queensland Rail, as rail manager and network manager, implements a range of practices and measures to address such effects as rail noise and coal dust. Such measures reflect the balance struck between economic activity for the benefit of the wider community, with the need for reasonable environmental amenity for people living and working close to rail corridors.

Submissions, mostly from Yeerongpilly, were concerned that increased rail patronage at some stations would result in increased commuter parking demand, with consequential impacts on local roads and neighbourhoods:

- TransLink's policy relies upon a balanced approach to public transport in which commuters from the inner suburbs are encouraged to access stations by bus, kiss 'n' ride or active transport, whereas commuters from the outer suburbs would be supported by park 'n' ride facilities owing to the lack of alternative means.

Some assumptions in the transport patronage modelling and local area traffic modelling require further consideration (eg integration with Connecting SEQ 2031 mode targets, mode shift from bus to rail):

- the modelling on which the reference design and the EIS are based, has been the subject of several rigorous peer reviews and found to be robust and reasonable in terms of the scenarios and outcomes
- the mode shift from bus to rail in some sectors reflects the superior travel time savings available to rail and particularly Cross River Rail, whereas bus and private passenger transport would remain constrained on the congested road network.

Some submissions suggested the capacity of some CBD streets maybe inadequate for pedestrian flows from both Roma Street Station and Albert Street Station:

- detailed modelling of pedestrian flows both within the stations and on the surface streets indicates adequate capacity to accommodate forecast flows in peak periods. Some pedestrian congestion would be experienced in peak periods at a number of intersections, while remaining within acceptable levels of service and safety.

#### 6.2.4 Specific issues relating to Salisbury - Rocklea

Submissions from the local area raised concerns that closure of the open level crossing on the Beaudesert Road (service road) would close off a safe escape route during flooding, as well as diminishing local connectivity and reducing access to passing trade:

- the Queensland Government is implementing a policy decision to close all open level crossings in the metropolitan transport system for reasons of public safety. With increased train movements through this crossing with the introduction of Cross River Rail services, the need for safety and rail network efficiency would increase
- there would be an emergency access management plan developed and implemented by Transport and Main Roads, in consultation with the emergency services and the local community
- local connectivity and access to passing trade would be maintained, although not as directly as the current situation.

The design of the additional bridge over Rocky Water Holes Creek would not improve the existing situation which is affected by flooding and heavy transport height constraints:

- the additional bridge adopts a vertical alignment described by flood immunity requirements, railway operating grades and clearances with the Ipswich Motorway ramps
- while the reference design outcome does not make the existing situation worse, there are few if any practicable alternatives in this location, without engaging in a complete reconfiguration of the railway, Fairfield Road, Muriel Avenue and the Ipswich Motorway. At present, the implications and impacts of that undertaking are considered to exceed the potential benefits.

Consideration should be given to closing Moorooka Station permanently owing to the shorter distance between Yeerongpilly and Rocklea stations:

- there is no intention to close Moorooka Station as part of Cross River Rail.

### 6.2.5 Specific issues relating to Yeerongpilly – Fairfield

The existing concerns about the impacts of commuter car parking in local streets would be exacerbated during construction and then during operation of the new station:

- Cross River Rail would manage worker car parking through the provision of parking within the worksite
- the realignment of Wilkie Street would require commuter car parking in local streets to be managed, as does the existing situation. Cross River Rail would not make this situation worse
- the approach to commuter car parking during operations is discussed above and would see a continuation of the existing TransLink policy of not providing free park ‘n’ ride facilities for rail stations within 10 km of the city.

Notwithstanding the general community support for the reference design, some submissions raised concerns that the proposed location of the station would be too far south to be attractive for use to local residents, the proposed Yeerongpilly TOD and the Queensland Tennis Centre:

- the proposed station would be situated approximately 250 m south of the existing station and would be linked to the local community, the proposed TOD and the Queensland Tennis Centre by new walkways linked with the recently completed pedestrian bridge over Fairfield Road

Some submissions, from the local area, raised concerns about the construction works for Wilkie Street and the tunnel portals and their potential impacts, especially noise and dust:

- the EIS, through the draft Outline EMP (Construction) provides a framework for managing construction activities to achieve a reasonable environmental amenity. The framework is comprised of environmental objectives, performance criteria, mitigation measures, monitoring requirements, complaints procedures and reporting protocols.

A number of submissions raised concerns that construction traffic, particularly spoil haulage traffic, would impact on the operation of the local road network, including the intersection of Lucy Street and Ipswich Road:

- all construction traffic would access the worksite at Yeerongpilly via the arterial road and industrial road network. This would avoid direct conflict with traffic in residential streets
- the Lucy Street – Ipswich Road intersection is signalised and able to accommodate the predicted increase in heavy vehicle traffic.

Submissions from the local area raised concerns that the location of the ventilation and emergency access building in Fairfield would impact on neighbouring properties during its construction and noted that the land is subject to flooding:

- while the proposed site was inundated in the flood of January 2011, the depth of inundation was less than 1m and could be accommodated in the proposed design
- the construction period is short, compared with other worksites. Access to the site is reasonable and permits construction traffic to service the site without adverse implications for the wider road network
- careful site management would be required to address potential noise and dust impacts during construction.

### 6.2.6 Specific issues relating to Boggo Road

Agency submissions were concerned that the Boggo Road Station would impact on planned development of the Boggo Road Urban Village:

- there has been and will continue to be a consultative process involving the Departments of Public Works, the Department of Employment Economic Development and Innovation, and other stakeholders, to address the integration of planned development with the implementation of Cross River Rail.

Several submissions expressed concern that construction of the Boggo Road Station would impact adversely on the adjacent sensitive receptors (Ecosciences Precinct, former Boggo Road Gaol, Rawnsley Street residential area) through various emissions (noise, vibration, dust) and construction traffic:

- there are specific aspects at both the Ecosciences Precinct (TEM) and the Gaol (heritage values) which would require detailed construction planning and environmental management
- the vibration thresholds for the TEM are so restrictive as to become default controls for all construction work in this location
- predictive modelling for the reference design indicates that, with careful management, the Project could proceed without undue impacts on this sensitive equipment
- dust management would be required for the Ecosciences Precinct air filters, and for maintenance of general environmental amenity.

A few submissions raised concerns that train movements through the tunnels would have the potential to impact on operations of the TEM at the Ecosciences Precinct:

- design remedies are available to address potential impacts on the TEM, such as induced electro-magnetic impulses and ground-borne vibration. Predictive modelling indicates that ground-borne vibration could be mitigated effectively with highly-resilient track fastening systems.

Several submissions addressed the proximity of the worksite south of Peter Doherty Street and the potential for construction activities to impact adversely on nearby residential properties:

- this part of the worksite would be relocated to the south-east along Peter Doherty Street, adjacent to the existing rail corridor. This would be proximate to the Leukemia Foundation building now under construction.
- the worksite would provide site offices, and hardstanding for car parking and the storage of plant and equipment. There would be little or no dust nuisance emanating from this site.

DLGP expressed concern that the Queensland Rail maintenance yards at the western border of the PAH campus do not constitute the best use for strategic inner city land and impede the future growth of the PAH campus as a key employment opportunity area, and suggested a parallel assessment of relocating the Dutton Park maintenance yards to Clapham staging yards:

- this maintenance facility and the potential relocation of it is outside of the scope of this study. DLGP would need to make representation to Queensland Rail to negotiate an alternative location to the satisfaction of Queensland Rail.

### 6.2.7 Specific issues relating to Woolloongabba

The use of the Woolloongabba site as a major worksite and the potential impact on traffic conditions on the adjacent road network were raised in several agency and community submissions:

- access to and from the worksite would be controlled to avoid peak traffic conditions on Stanley Street, Vulture Street and Main Street
- all roads servicing the worksite are arterial roads with sufficient capacity to carry the construction traffic flows predicted for the construction program.

There was concern in some submissions that construction of the Gabba Station would impact on workers in the Landcentre building:

- as with all worksites, there would be a comprehensive approach to environmental management of the construction site to achieve stringent environmental objectives
- in addition to the measures proposed in the draft Outline EMP (Construction), much of the construction would be conducted with an acoustic shed screening workers in the Landcentre building from potentially adverse impacts.

### 6.2.8 Specific issues relating to Albert Street – Roma Street

Roma Street Station would require a grade-separated pedestrian connection to avoid conflicts in Roma Street, Herschel Street and George Street.:

- as indicated in the general response above, the modelling for the EIS found there to be sufficient footpath and intersection capacity to accommodate peak pedestrian flows safely
- while there was no functional need for a grade-separated pedestrian link to the Roma Street Station, there would be wider connectivity benefits if the proposed grade-separated pedestrian link between the law courts precinct and Roma and Albert streets was to be delivered concurrently with Cross River Rail

Construction activities for both Roma Street and Albert Street stations would need to maintain traffic capacity and not impact on traffic flows in the CBD:

- comprehensive CTMPs would be developed in consultation with the Brisbane City Council, TransLink and other road user stakeholders prior to the commencement of works
- the EIS findings indicate the reference design presents a reasonable and practical solution to the concerns of the Brisbane City Council
- on-going consultation with Brisbane City Council is required to address and resolve concerns pertaining to CBD street capacity, traffic flows, pedestrian movements and connectivity
- the construction proposed for both stations is similar to the construction of CBD buildings, and would be addressed in similar ways.

Albert Street Station would need to address flooding in major events, including climate change scenarios:

- the reference design adopted a highly conservative approach where all Cross River Rail infrastructure would be immune to inundation in a 1 in 10,000 year AEP
- the entrances to Albert Street Station would be designed to achieve this design principle, and would incorporate a range of measures which would be implemented in advance of a major flood event.

### 6.2.9 Specific issues relating to Victoria Park

The proposed worksite requires modification to avoid or minimise potential impacts on mature vegetation, recreational facilities, visual amenity and utility of Victoria Park.

- refinements to the boundary of the worksite would avoid the mature trees, pedestrian – cycle path and recreational facilities of concern

Construction traffic accessing the worksite in Victoria Park would impact on both the recreational values as well as the functionality of Gregory Terrace:

- construction traffic flows into and out of the worksite would be managed in accordance with a CTMP developed and implemented in consultation with Transport and Main Roads, the Brisbane City Council and the emergency services.

Several submissions were concerned that construction activities would impact on sensitive receptors in Victoria Park and to the south of Gregory Terrace:

- implementation of the Construction EMP would achieve the environmental objectives. The draft Outline EMP (Construction) proposes a range of mitigation measures, including the installation of acoustic screens, safety barriers, landscaping and progressive site rehabilitation to address submitters' concerns.

### 6.2.10 Specific issues relating to RNA Showgrounds

The RNA raised a number of concerns regarding the design and construction of Cross River Rail. The primary concerns relate to construction impacts on the operations and redevelopment of the RNA Showgrounds, and operational impacts of Cross River Rail and future operations of the Exhibition Line on the RNA Showgrounds.

- most of the design-related issues raised by the RNA are very detailed and are addressed more appropriately at detailed design stage of Cross River Rail
- it is important for the RNA to be confident that their concerns are addressed, to the extent reasonable and practicable, in the design, procurement and delivery of Cross River Rail
- an interface agreement between the Cross River Rail Proponent and the RNA would provide a framework for ongoing consultations to support detailed design, procurement, construction and operations of Cross River Rail.

The RNA was concerned that proposed changes to O'Connell Terrace, by way of widening and raising, would impact on the development plans for the RNA Showgrounds, where future development sites would front O'Connell Terrace. Similarly, such changes to O'Connell Terrace would impact on the proposed tollroad control centre for Legacy Way.

- the proposed design details for O'Connell Terrace have been provided to both the RNA and the Brisbane City Council
- regardless of the requirements of Cross River Rail, there would likely be a future requirement to raise O'Connell Terrace to meet rail network operating requirements. Detailed planning for both the RNA and Legacy Way should progress on that basis.

### 6.2.11 Specific issues relating to Bowen Hills – Mayne

Agency submissions raised concerns that construction of Cross River Rail infrastructure would impact on the operation of Mayne Rail Yards:

- the Proponent would enter into an interface agreement with Queensland Rail to establish a framework for consultation regarding the design, construction and implementation of project works within this part of the rail corridor.

A submission proposed that the northern parts of Mayne Rail Yard be set aside for the creation of a greenspace corridor along Enoggera Creek and Breakfast Creek.

- aside from other requirements for this area by Queensland Rail for transport infrastructure purposes, Cross River Rail infrastructure would traverse Mayne Rail Yard in close proximity to rail infrastructure and would tie-in to the rail network just south of Breakfast Creek
- any other use of this land would require a separate planning process and is not addressed by Cross River Rail.

## 6.3 Recommendations

Having regard to the submissions received on the EIS for Cross River Rail, the following recommendations are made to the Coordinator-General.

### 6.3.1 Recommendation 1

In line with the recommendations made in the EIS, that Cross River Rail be approved to proceed subject to:

- Project development adopting and implementing a sustainability framework consistent with the Queensland Government's objectives for sustainable development and with the framework presented in the EIS.
- Detailed design embracing an innovative approach in seeking to resolve, to the extent feasible, the potential or predicted impacts of the reference design, particularly with regards to construction impacts on local residents.

- iii. Developing and implementing detailed environmental management plans for the construction and operational phases of the Project, where such plans adopt the principles, objectives and performance criteria set out in the draft Outline EMP presented in the EIS.
- iv. Developing, implementing and maintaining effective mitigation measures to address and mitigate the impacts of the Project on local communities.

### 6.3.2 Recommendation 2

It is further recommended to the Coordinator-General that:

- i. All necessary approvals and permits be obtained for the Project, including, but not limited to, those required under the *Sustainable Planning Act 2009*, the *Transport Infrastructure Act 1994* and related Acts, the *Aboriginal Cultural Heritage Act 2003* and the *Environmental Protection Act 1994*.
- ii. The Queensland Government investigates measures to coordinate the construction and delivery of Cross River Rail concurrently with a number of other major projects, including Northern Link (Legacy Way), the Boggo Road Urban Village, the Woolloongabba and Bowen Hills UDAs and the Yeerongpilly TOD.
- iii. The Proponent enters into interface agreements with Queensland Rail and with the RNA to provide a framework for ongoing consultation to support detailed design, procurement, construction and project implementation.

The Coordinator-General is requested to assess the EIS, and in preparing an evaluation report:

- i. Recommend that Cross River Rail proceed.
- ii. State the conditions for the Project under Section 39 of the *State Development and Public Works Organisation Act 1971*.
- iii. Recommend under Section 43 of the *State Development and Public Works Organisation Act 1971*, the requirements for inclusion in the designation of the study corridor or land required for parts of the Project as 'community infrastructure' under the *Sustainable Planning Act 2009*.
- iv. Where there is no other relevant approval, impose conditions on the Project where identified as relevant environmental mitigation and management measures identified in this EIS, under Section 54B of the *State Development and Public Works Organisation Act 1971*.
- v. The submitters be advised of the findings of the Coordinator-General's evaluation of the EIS.

# CrossRiver*Rail*

The background features a large, semi-transparent white circle centered on the left side. Overlaid on this are two smaller, semi-transparent light blue circles, one above and one below the main circle. In the bottom right corner, there is a rectangular photograph showing a modern train at a station platform. The platform has a curved roof structure with support columns. The train is white with dark windows. The overall color palette is dominated by shades of blue and white.

## **Appendix A** Summary of Submissions

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
1	Possible damage to water/sewage pipes.	Make ready plans for alternative installation to water and sewage pipes.	Ch 24, Table 24-10 p24-28	The construction EMP identifies the need for damage to buildings and structures that occurs as a consequence of construction works to be repaired by the contractor in consultation with the property owners and occupants.
1	Possible seepage of water into tunnel resulting in property and landscape damage.		Ch 12, Section 12, 3, 4, p12-25. Ch 24, Table 24-10 p24-28 Ch 12, Section 12, 3, 5, p12-28.	<p>The risk of groundwater drawdown from the Project is mitigated by the proposed construction method (ie a reinforced waterproof lining). The predicted inflow of groundwater for all the underground components of the Project is estimated at less than 1 L/second, which is sufficiently small enough to be considered to represent a 'dry' tunnel. At Fairfield, groundwater drawdown in excess of 5 m is predicted to occur within the vicinity of the tunnel alignment. The extent of groundwater drawdown at 5 years post-construction would be approximately 300 m from the main tunnel alignment and would increase up to 1 km at 10 years post-construction.</p> <p>The construction EMP identifies the need for damage to buildings and structures that occurs as a consequence of construction works to be repaired by the contractor in consultation with the property owners and occupants.</p>
1	Possible collapse of land due to tunnelling		Table 7-10 and Sections 7.3.3 to 7.3.5	<p>Land will not collapse but may experience a relatively small differential settlement. Potential settlement risk is addressed in Section 7.3 of the EIS and the settlement effects of construction are listed in Table 7-10. This property may be within the potential settlement area within which there could be an estimated maximum settlement of 75-125 mm. There is likely to be a need to undertake dilapidation surveys prior to construction and to implement a comprehensive instrumentation and monitoring program for settlement impacts.</p>
2	Very few local residents (including future planned residents in the proposed TOD) will use the station when the existing Yeerongpilly Station development is more accessible.	Move the new Yeerongpilly Station back to the original location near the existing Yeerongpilly Station.	Section 3.3.5, Section 5.7.1, Table 5-32	<p>The new location of the station was selected as it has reduced impacts and responds to community feedback to move the station southwards. Section 5.7.1 and Table 5-32 identify the predicted increase in passenger use of the new station in the morning peak. The new station location is within acceptable walking distances of the Yeerongpilly residential area and the proposed TOD. The existing Yeerongpilly Station would be decommissioned following construction of the new station.</p>

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
2	Loss of connectivity between the two Yeerongpilly stations limits passenger movements between CRR and other surface stations. How does this meet Translink objectives? Question what transport planning for the Gold Coast line and local commuters has gone into this decision making.	Move the new Yeerongpilly Station back to the original location near the existing Yeerongpilly Station.	Section 3.3.5, Section 5.7.1, Table 5-32	The existing station will be decommissioned once the new station is operational. Connectivity between the new station and other stations is provided through transfers between trains at the new station. Section 5.7.1 and Table 5-32 identify a significant predicted passenger transfer at the new Yeerongpilly Station. TransLink and TMR has been actively engaged in the station planning and passenger modelling to ensure accurate commuter behaviour is incorporated into the modelling.
2	Lost opportunities for connectivity with the new Southern Region office for Brisbane City Council, the TOD, the Tennis Centre, and the new District Park at Tennyson Reach.	Move the new Yeerongpilly Station back to the original location near the existing Yeerongpilly Station.	Section 3.3.5, Section 5.7.3	The new station location is connected directly with the Brisbane City Council Regional Office via the pathway north of the station and the pedestrian overpass. The TOD design proposes a straight pathway through the TOD, reducing distance to the TOD, Tennis Centre and proposed district park.
2	Wasted \$8 million investment in the new Translink overpass recently constructed.	Move the new Yeerongpilly Station back to the original location near the existing Yeerongpilly Station.	Section 3.3.5, Section 4.2.8	The current overpass will be retained and be extended eastwards to the realigned Willkie Street and will be connected to the new station by the new pathway along Wilkie Street. Passengers using the new station will still be able to access the pedestrian overpass to get to the Yeerongpilly TOD.
2	No significant flood improvements apparent in this decision. Why has this decision not waited for the outcomes of the Queensland Flood Commission of Enquiry?	Investigate 'flood walls' to address flood immunity issues. The original portal location at Yeerongpilly Station can be adequately protected with flood walls/bunding. Await the outcome of the Queensland Flood Commission of Enquiry before making final decision.	Section 4.2.2, p4-18 Section 14.4, p14-26	This is addressed in Section 4.2.2 and Section 14.1.4 of the EIS. The reference design includes a floodgate at the southern portal at Yeerongpilly, which provides flood immunity to the tunnel in a 1 in 10,000 year flood event. The southern portal is situated above the 1 in 100 AEP flood level and therefore, would not impact on flood behaviour of the Brisbane River. The project design including flood protection measures have been reviewed since the January 2011 flood events. The project is unlikely to be addressed in the Flood Commission of Inquiry.
3	Considering the Albert Street Station is earmarked for an area that has been severely flooded in both 1974 and 2011, what are the government's plans for further flood mitigation in this area?		Section 4.2.2, p4-18 Section 14.4, p14-26	This is addressed in Section 4.2.2 and Section 14.1.4 of the EIS. A range of measures are incorporated into the reference design to provide flood immunity to the underground system in either local, intermediate or extreme (ie 1 in 10,000 year) flood events. At Albert Street Station, these include raised station entrances, floodboards and floodgates. Had the Albert Street Station been in place in January 2011, normal operating procedures would have required the floodgates to be activated before the flood peak, protecting the station and tunnel from inundation.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
4	Most residents in Rocklea do not know about the closure of the open level crossing as the flyer was unclear or was not received. There are too many positive benefits for its use, particularly when issues occur on Beaudesert Road and Ipswich Road.	Keep the open level crossing but only allow use during peak hour and build a bridge for the new rail lines. Or alternatively, build a tunnel for traffic to go under the rail lines to keep access. Further public notice should be given on the issue, including door knocking, and a sign at the level crossing to make motorists aware about this important issue.	Section 5.7.2, p5-115	<p>The proposal to close the open level crossing was released as part of the reference design in November 2010. This included distribution of more than 200,000 newsletters to residents and businesses in the study corridor and beyond, community information sessions, advertisements in local papers and public displays. Information was also available on the project website. Information on the closure of the open level crossing was also made available with the release of the EIS in August 2011, which was publicly notified between Tuesday, 30 August 2011 and Friday, 21 October 2011.</p> <p>The closure of the crossing is required due to safety issues. The rail corridor is being widened to accommodate an additional two rail tracks and an almost doubling of the number of trains on this section of track with Cross River Rail. This would result in long wait times at the crossing with increased congestion and safety concerns. In the morning 1hr peak in 2021, it is predicted that the OLC would be closed for over 66% of that hour rising to over 72% of the 1hr peak hour in 2031.</p> <p>The provision of a rail bridge over the crossing would be extremely expensive. A road tunnel would also be difficult to construct and would be prone to flood inundation. Both options are not considered to be cost effective solutions.</p>
4	The issue of the open level crossing and the homes in the area should have been discussed after the flood. All the properties that were affected should have been bought out solving both the flooding and the level crossing issues.	Offer to buy all our property and turn all of Rocklea into a park style reserve.	Section 14.3.1 p14-16.	<p>It is not the function of the Project to conduct a buy-out of properties affected by flooding. The Project does not seek to resolve flooding issues for properties beyond the Project requirements.</p> <p>The conversion of properties from residential land uses to park and recreational uses would be carried out through a separate planning process.</p>
4	The proposed traffic lights at the end of Beaudesert Road floods before any area of Rocklea. With traffic lights, if there is an accident on the bridge, then people won't be able to access their homes. This situation has happened before and traffic has been diverted across the open level crossing. This also banks traffic up to Granard Road and Evans Road.		Technical Report No 1 - Transport Section 6.6.4	<p>In addition to the proposed signalisation of the intersection of Beaudesert Road and Lillian Avenue, the reference design includes a new emergency access point from the Beaudesert Road service road. This would allow direct access to the Beaudesert Road overpass during a major flood event. The emergency access could also provide access during other incidents if required. In the event of an accident on the Beaudesert Road bridge, traffic would need to be diverted via alternative routes (ie Ipswich Road or Orange Grove Road).</p>

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
4	There is no suitable means to ensure that the emergency flood gate is open when needed, let alone the on-coming traffic that people will have to endure to make it across to the other side of the bridge.			The operation of the emergency access during a major flood event would be managed by emergency services. The design of the access would be refined during the detailed design phase of Cross River Rail in consultation with the local community and emergency services. Details relating to the operation of the emergency access would be determined during the detailed design of the Project, in consultation with the local community and emergency services.
4	By removing the open level crossing, a greater amount of traffic is being forced onto Beaudesert Road creating a larger number of problems.		Section 5.7.2 (p5-115), Technical Report No 1 - Transport, section 6.6.4	As Recognised in Section 5.7.2 of the EIS, the closure of the Beaudesert Road service road open level crossing would require traffic to divert along alternative routes. The Beaudesert Road overpass along with the amendments to the road network as part of the reference design would provide appropriate alternative routes.
4	Local businesses rely on the open level crossing for transporting goods. Removing this will make it more dangerous at the lights at the end of the bridge.		Section 5.7.2 (p5-115), Technical Report No 1 - Transport, section 6.6.4	The provision of traffic signals at the intersection of Lillian Avenue, Beaudesert Road and Tramore Street would provide access to the north and south for local businesses and residents. This would also provide improved access and safety for motorists turning right to or from Beaudesert Road.
4	Find it hard that trains will be coming and going every five minutes during peak hour . A vital access and backup access for Beaudesert Road is being removed during non-peak hours.		Sections 5.4.3 and 5.5.4	The number of train services in this section of the track is expected to almost double with Cross River Rail in the peak periods by 2021 compared to the existing number of train services. This would result in long wait times at the crossing with increased congestion and safety concerns. In the morning 1hr peak in 2021 it is predicted that the OLC would be closed for over 66% of that hour rising to over 72% of the 1hr peak hour in 2031.  The Beaudesert Road overpass along with the amendments to the road network as part of the reference design would provide appropriate alternative routes.
4	The crossing was the only access route to all of Rocklea before, during and after the flooding. Many heavy vehicles would not be able to use the proposed "emergency gates".		Section 4.1.6, Table 4-1 Section 4.2.12	The reference design includes a new emergency access point from the Beaudesert Road service road, which would allow direct access to the Beaudesert Road overpass during a major flood event. This would provide vehicle access to properties in Rocklea south of the rail corridor to Beaudesert Road, at a similar flood immunity to the existing open level crossing.  The design of the access would be refined during the detailed design of Cross River Rail. This will ensure that access for large vehicles that are likely to be present can be accommodated.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
4	The closure of the open level crossing will cost time and money and cause frustration, particularly to the areas of Salisbury during peak hours. Doubt that the government will reimburse people for this inconvenience. People will be required to go around to Ipswich Road and through Evans Road to get to Salisbury.			The Beaudesert Road overpass along with the amendments to the road network as part of the reference design would provide appropriate alternative routes.
5	Refer to Submission 4	Refer to Submission 4	Refer to Sub No 4	Refer to Submission 4
6	Refer to Submission 4	Refer to Submission 4	Refer to Sub No 4	Refer to Submission 4
7	Refer to Submission 4	Refer to Submission 4	Refer to Sub No 4	Refer to Submission 4
8	Refer to Submission 4	Refer to Submission 4	Refer to Sub No 4	Refer to Submission 4
9	The railway crossing served as the final access point for residents to vacate from their flooding premises in January 2011.		Section 4.1.6,   Table 4-1 Section 4.2.12	The reference design includes a new emergency access point from the Beaudesert Road service road, which would allow direct access to the Beaudesert Road overpass during a major flood event. This would provide vehicle access for properties at Rocklea, at a similar flood immunity to the existing open level crossing.
10	A large commuter carpark is needed at Yeerongpilly Station, due to the expected popularity of the new underground services.		Section, 4.2.8, Section 5.7.2 (p5.114) Section 24.10, Table 24-27 EMP	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD, which aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities (kiss 'n' ride), disabled parking, maintaining the existing number of car parks (24), cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will continue to monitor park 'n' ride demand across the rail corridor as part of ongoing strategic planning, which seeks to identify and prioritise opportunities for new or upgraded commuter parking at appropriate stations across the network. Prior to operation of Cross River Rail, TransLink will also review opportunities to enhance bus services to Yeerongpilly Station to take advantage of new bus-rail interchange opportunities offered

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
11	Inappropriate to move heritage listed building.	Retain the existing heritage listed station.	Section 19.4.4	by Cross River Rail.
11	The current Yeerongpilly Station services the tennis centre, Yeerongpilly TOD and new Brisbane City Council Southern Region Office and also connects with the recently built overpass.	Provide an integrated station at the existing location.	Section 3.3.5	The existing Yeerongpilly Station would be decommissioned following construction of the new station. Removal of the existing station is not proposed as part of the reference design.
11	Moving the Yeerongpilly Station may impact on residential land and property values.		Ch 21	The new station location is connected directly with the Brisbane City Council Regional Office via the pathway north of the station and the pedestrian overpass. The TOD design proposes a straight pathway through the TOD, reducing distance to the TOD, Tennis Centre and proposed district park.  The new location reduces impacts to the community and responds to community feedback to move the station southwards.
12	The increased movement of freight, in particular coal, will cause an increase in dust pollution.	Either have all coal trains wagons covered or provide some sort of dampening spray at the Fairfield Road bridge. A sprinkler system could switch on and off when a coal train comes through. Double glazing our home will prevent ingress of dust.	Section 15.5.4, p15-53.	As stated in section 21.3.4 of the EIS, properties that would front onto the newly realigned Wilkie Street may appreciate in value post construction as a result of being located in close proximity to a new station.
12	The noise level from engines and the points situated at the Cardross Road bridge will be more acute due to the removal of the sound barrier created by the trees and housing on Wilkie Street. These will be removed on construction of the portal. Double glazing our home will prevent noise.		Section 16.5.3 p16-126.	Refer Section 15.5.4 of the EIS. CRR addresses passenger rail transport and removes conflicts with freight rail movements. The control of freight trains is not part of CRR, but it is noted that coal freight operators use a range of measures including profiling the coal load in the wagon to reduce exposure to wind and spraying the surface of loaded coal wagons to prevent dust lift off.
12	The increased movement of freight, in particular coal, will cause an increase in noise pollution.			This is addressed in Section 16.5.3 of the EIS. Noise levels at sensitive receivers in the vicinity of the Cardross Road bridge are predicted to comply with Queensland Rail's operational noise policy in both 2021 and 2031. As such, mitigation measures are not required in this location. The Project is required to meet the performance criteria stated in the draft Outline Operations EMP of the EIS. Future noise monitoring would be conducted in response to complaints in accordance with Queensland Rail's Code of Practice for Railway Noise Management. If future noise monitoring shows that the relevant noise criteria for surface track noise emissions are not achieved, then further mitigation options would be investigated.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
12	With the increase in patronage there will be a corresponding increase in the need for parking. Wilkie Street is congested as it is, especially when there is a wedding or funeral at the church.	Increase parking availability at the construction site once the Project is completed allowing for more parking spaces. Landscape the block next to the church to allow for off-street parking accessed through the church property. This will allow for parishioners to use a secure parking facility reducing the prospect of major accidents on Wilkie Street due to tight parking. The block could be allocated to build a new Police post. Also the block could have a new mobile phone tower constructed improving mobile reception in the area and therefore enhancing the security.	Section 5.7.2, p114 Section 24,10, Table 24-27 EMP	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD, which aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities (kiss n ride), disabled parking, maintaining the existing number of car parks (24), cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will also continue to monitor park 'n' ride demand across the rail corridor as part of its ongoing strategic planning, which seeks to identify and prioritise opportunities for new or upgraded commuter parking at appropriate stations across the network. Prior to operation of Cross River Rail, TransLink will also review opportunities to enhance bus services to Yeerongpilly Station to take advantage of new bus-rail interchange opportunities offered by Cross River Rail.  The Project does not propose to address existing car parking needs of the Church or mobile phone coverage.
12	During the approximately 10 weeks of open trough excavation, what are the proposals to safeguard the health of residents?	Two weeks before this work is to commence, for the time this work is carried out and for two weeks after this work has finished we would like to be relocated so that we can seal up the house and move to a location which will not be injurious to our health. As we will be pensioners by this time we would be happy to have our fares paid to the UK so that we do not have to put up with this inconvenience.	Section 15.4.5 p15.44. Ch 24, Table 24-17 p24.44.	With regard to the open trough excavation works at Yeerongpilly, the Project would be required to achieve the environmental objectives and satisfy the performance criteria in Chapter 24 draft Outline EMP (Construction) of the EIS. The criteria for air quality (Table 24-17), noise and vibration (Table 24-18), and visual intrusion (Table 24-21) have been established in consultation with stakeholders to measure performance in relation to the environmental objectives. The performance criteria are consistent with statutory standards developed to protect community values, including health. Monitoring of air quality and noise and vibration would be conducted near worksites and sensitive receivers. Should monitoring identify exceedances of the performance criteria, further measures would be implemented to ensure compliance.
12	When the buildings next to the church are removed, this will create an open space which will decrease the overall security in the immediate vicinity.	Convert the vacant space to a secure car park for the Church and erect a brick wall between our property and the car park to provide security.	Section 9.4	The redevelopment of surplus land on Wilkie Street as a car park for the church is beyond the scope of the Project. Post-construction, this land would be rehabilitated to a condition suitable for some future use compatible with the setting. Any redevelopment of these sites would need to consider the requirements of the relevant local and state planning policies.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
				At Yeerongpilly, land use change would continue to be managed by Brisbane City Council through the Stephens Local Plan and other elements of the City Plan. Any redevelopment would be managed by the relevant planning and assessment manager and would be undertaken separately to the Project.
12	Buses stopping and vehicles passing parked cars on a busy road is of concern. With the introduction of a new road (Wilkie Street) there is the potential for increased traffic to use this as a short cut to Moorooka.	Provide and install double glazed windows to property to decrease the noise level. Planting of large trees in the vacant area will provide some buffer to the impact of noise. Convert the space gained by the removal of the units on Wilkie Street to a secure car park opportunity for the Church on Wilkie Street and ensure this space for Church attendees only. Make the access to the car park through Church property to ensure non-Church goers do not use the car park for general use. Providing a car park area for the Church will reduce the street parking and open up the movement of traffic through Wilkie Street which is currently congested on a regular basis. Include a landscaped area, to include large trees and the erection of retaining/brick/stone walls around the edge of the car park to provide a sound barrier between our property and Wilkie Street.	Section 4.2.8, p4-35 and Section 5.7.2 p5-114	No new roads are proposed as part of Cross River Rail in Yeerongpilly, with the realignment of Wilkie Street and Station Road the only roadworks proposed as part of the Project. These minor alignment changes would not have any detrimental impact on traffic flow or efficiency of the local road network and would not encourage additional trips through the area. Note that the detailed design phase will look at detailed road treatments to minimise any potential conflicts between parked buses or cars and through traffic.
12	With the introduction of a new road (Wilkie Street), there is the potential for increased traffic to use this as a short cut to Moorooka, resulting in higher road noise levels.	Providing and install double glazed windows to our property to decrease the noise level.		Road traffic noise associated with the realignment of Wilkie Street has been assessed at nearby residential properties (refer to Section 16.5.4 of the EIS). Road traffic noise levels at all residences adjacent to the realigned Wilkie Street are predicted to comply with TMR's Code of Practice road traffic noise goal in Year 2031. Noise monitoring will be undertaken and the noise modelling updated to ensure the predictions are accurate. If noise level goals are shown not to be achievable, the provision of noise mitigation will also be considered.
13	Buses travelling along Annerley Road should not be inconvenienced with (further) traffic delays because of the surface work.	Decrease the hours of surface works along Annerley Road to exempt morning and afternoon peak traffic periods. Would like to see the hours 7.00am to 9.30am and 4.00pm to 6.00pm excluded.	For hours of work Section 24.9. For traffic impacts Section 5.10.4, p5-154	A short section of Annerley Road (between Boggo Road and Cornwall Street) would be used by construction traffic. However it is expected that the number of spoil truck movements will be low at nine truck movements per hour. The performance of the intersections on Annerley Road and therefore bus movement, would not be unduly impacted by this limited number of heavy vehicle movements.

<b>Sub No</b>	<b>Issues</b>	<b>Submitter Recommendations / Suggested Mitigation</b>	<b>EIS Reference</b>	<b>Proponent Response December 2011</b>
13	Buses travelling along Annerley Road should not be inconvenienced with (further) traffic delays because of the spoil haulage.	Would like to see spoil haulage excluded between the hours 7.00am to 9.30am and 4.00pm to 6.00pm.	For hours of work Section 24.9. For traffic impacts Section 5.10.4, p5-154	A short section of Annerley Road (between Boggo Road and Cornwall Street) would be used by construction traffic. However it is expected that the number of spoil truck movements will be low at nine truck movements per hour. The performance of the intersections on Annerley Road and therefore bus movement, would not be unduly impacted by this limited number of heavy vehicle movements.
14	The ventilation shaft in Railway Road is very close to a house at the corner of Cross and Bledisloe Street. Access will be dangerous with site traffic using Bledisloe Street, not to mention dust (two of us have asthma) and noise.	Relocate the ventilation shaft to land on Fairfield Road opposite RSPCA, near roundabout.	Section 3.3.8, Section 15.5.2, Table 24-17, Table 24-32	<p>The most efficient location for the ventilation and emergency access building is about mid-way between Boggo Road Station and the southern portal. The mid-way point for the southern tunnel section of the reference design is at Bledisloe Street. A ventilation shaft at the RSPCA would be approximately 250-350 m south of the mid-way point and would require the alteration of the horizontal alignment of the tunnels. Similarly, an alternative site at the Yeronga park n ride would be about 60m south of the mid-point. Consequently both of these suggested alternatives are considered to be significantly inferior in terms of cost, safety and tunnel alignment property impacts. The location of the ventilation outlet at Railway Road is near to the mid-way point of the southern tunnel section and did not require the horizontal alignment of the tunnels to be altered. Impacts associated with the construction of the ventilation shaft and building would be managed through the implementation of traffic management and environmental management measures.</p> <p>Construction traffic would access the worksite from Fairfield Road and Bledisloe Street (near the intersection of Fairfield Road). As such, construction vehicles would not be required to use Cross Street. Furthermore, construction traffic volumes generated would be approximately three trucks per hour at peak times. This volume would have a minor impact on safety for residents accessing properties on the corner of Cross Street and Bledisloe Street.</p> <p>EMPs would be developed and implemented during construction and operation, which will include measures for minimising dust and noise. This will include air quality goals (see Tables 24-17 and 24-32) that are based on the EPP (Air) and that consider the impacts on human health (including asthma).</p>

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
15	The Hazardous Industries and Chemicals Branch have no interest in this project, unless it involves significant quantities of dangerous goods. Therefore, we do not need to be involved.			Noted.
16	Lack of provision for parking at the new Yeerongpilly Station – Wilkie Street, Green Street, Stamford Street, Livingston Street are currently "parked out" by 7.30 am weekdays and cars can stay all day.	Provide parking at the new station and during construction.	Section 5.7.2, p5-114, Section 5.10.5, p5-163	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD, which aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities (kiss n ride), disabled parking, maintaining the existing number of car parks (24), cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will also continue to monitor park 'n ride demand across the rail corridor as part of its ongoing strategic planning, which seeks to identify and prioritise opportunities for new or upgraded commuter parking at appropriate stations across the network. Prior to operation of Cross River Rail, TransLink will also review opportunities to enhance bus services to Yeerongpilly Station to take advantage of new bus-rail interchange opportunities offered by Cross River Rail.
17	There is potential for construction traffic to 'rat run' from Ipswich Road to Annerley Road via Carville Street to avoid multiple sets of traffic lights. What controls will be put in place to ensure construction traffic uses the proposed designated routes and does not rat run? Will 'no construction traffic' signs be installed at the entrances to the street?		Section 5.10.3, p5-153. Section 24.9, p24-30	Vehicle volumes to and from the Boggo Road worksite are relatively modest at only 9 truck movements per hour at peak construction times. Spoil haulage trucks would only use pre-approved haulage routes set out in the Construction Traffic Management Plan (to be completed by the chosen contractor prior to commencement of works). No other roads would be authorised for use of haulage vehicles. Proposed measures to enforce this are set out in the draft Outline EMP chapter and include the use of GPS tracker and weekly reporting of vehicle movement to road authorities (Council and TMR).
17	The project will increase the volume of traffic at the Cornwall Street and Annerley Road intersection and increase the risk to pedestrians accessing Dutton Park Station. What controls will be put in place at the intersection to ensure the risk to pedestrians is minimised?			A limited number of haulage trucks is expected with a maximum of 9 per hour at peak construction times (or one vehicle approximately every 7 minutes). Mitigation measures to be considered in detailed design will include potential pedestrian protection measures and crossing facilities for example.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
17	The geometry of the Annerley Road and Cornwall Street intersection may prevent outbound heavy vehicles from safely negotiating the intersection. What changes will be made to intersection's geometry to ensure the safety of other road users and pedestrians?			Trailers are not proposed for haulage trucks using Boggo Road worksite. The inbound haul route is now proposed to be relocated to Fairfield Road and so remove inbound construction trucks through intersections Ipswich Road / Cornwall Street and Cornwall Street / Annelerie Road. The turns for the outbound route have been shown to be satisfactory.
17	What effect will the addition of construction traffic have on the performance of the Ipswich Road and Cornwall Street intersection? What provisions will be made to ensure that the Carville Street to Ipswich Road traffic will not be further impeded?			It is recognised that traffic movement through the intersection of Cornwall Street and Ipswich Road is congested and that even a small number of trucks could create additional congestion. Consequently, it is recommended that the inbound (northbound) spoil haulage route would be via Fairfield Road from Ipswich Road. The outbound (southbound) spoil haulage route would remain on Cornwall Street. This would minimise the traffic impact on the intersection of Cornwall Street and Ipswich Road and vehicle volumes are relatively modest at only 9 truck movements per hour at peak construction times. Spoil haulage trucks would only use pre-approved haulage routes set out in the Construction Traffic Management Plan (to be completed by the chosen contractor prior to commencement of works). No other roads would be authorised for use of haulage vehicles. Proposed measures to enforce this are set out in the draft EMP chapter and include the use of GPS tracker and weekly reporting of vehicle movement to road authorities (Council and TMR).
18	Have significant concerns in relation to the traffic and rail patronage forecasting based on the BSTM-MM public transport network model which was used to derive traffic volumes for the NSBT project. Also, there could be too many pro-project individuals associated with the study which could present similar outcomes as per the NSBT project.		Ch 5, Section 5.4.1, Technical Report No. 1 Section 3.	The patronage modelling is based upon State Government policy and has involved key State Agencies such as TMR and TransLink. An independent review has been carried out by Glen D'Este Consulting and Veitch Lister Consulting has generated patronage forecasts for the project using an alternative patronage forecasting methodology. The peer review concluded that the patronage forecasting methodology and its application was appropriate. The Veitch Lister Consulting forecast showed a strong correlation in terms of patronage forecasts between the two different modelling tools and as such the project forecasts are considered robust.
18	An independent review should be undertaken in relation to the forecasting figures for this project and to determine if the model is "fit for purpose" in establishing viable forecast figures. The figures presented in Chapter 5 appear to be inadequate.			

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19	Upgrade of Moorooka Station.	Moorooka Station should be closed as it is not needed now Yeerongpilly Station has moved.	Section 4.2.9	The permanent closure of Moorooka Station is not proposed as part of the Project.
20	Redevelopment of the Yeerongpilly worksite for higher order uses (ie mixed use residential and commercial) should be considered. What are the long term plans for the land that will be freed up by the resumption of properties along Wilkie Street? Concerned about being overlooked by any new properties and experiencing increased noise levels from residents on balconies that could be built directly adjacent to and overlooking our properties.	Residents whose properties immediately back on to this land would want to be fully consulted on the proposed use of this land before demolition work begins. Would need assurances that the land would not be left vacant or half built upon for months, that the land would not be turned into high density residential properties that are significantly different from existing dwellings and that security would be considered parkland was developed. Expect any building plans to be sympathetic to current conditions of privacy. Planting of bushes and trees would provide a natural but secure deterrent and suitable walls would address security and privacy concerns. The space could be used as a car park for the nearby church and community hall on Wilkie Street.	Section 9.4.4, p9-44 Section 9.4-12, p9-58	This is addressed in Section 9.4.4 of the EIS. Any redevelopment of land would be managed by the relevant planning and assessment manager and would be undertaken separately to the Project. The redevelopment of surplus land at Wilkie Street would need to consider the requirements of City Plan, including those relating to issues such as privacy, building height and density, and local character and amenity to ensure that impacts on surrounding residents are avoided or appropriately managed. Applications to redevelop surplus land would also need to be publicly notified in accordance with the Sustainable Planning Act 2009. This notification gives interested community members an opportunity to review and provide comments on a development application.
20	The removal of properties and trees on Wilkie Street that provide shielding will result in increased noise to properties on Tees Street from existing sources (ie the railway line and Fairfield Road). Spoil removal will have some impact on the immediate area from truck movements on Station Road / Lucy Street. No mention has been made of the impact of building works / re-landscaping work on the land that is released during Phase 1.	Glazing upgrades for affected properties, supported by the installation of a solar power supply to power air conditioning systems to ventilate homes. During the noisiest phases of the project (Phases 1 and 2), residents would seek relocation from the area and adequate compensation for the inconvenience. Request assurances that appropriate mitigation measures are in place for the period of reconstruction / re-landscaping of land at Wilkie Street.	Section 16.4.5 p16-59. Section 24.5.1, p24-10.	A hierarchy of controls are identified in the EIS to mitigate noise from the Yeerongpilly worksite, particularly where higher levels of noise are predicted (refer to Section 16.4.5 of Chapter 16 and Table 24-18 of the draft Outline EMP). As part of the construction EMP, consultations with property owners would be conducted in sufficient detail to address specific construction impacts and mitigation requirements (refer to Section 24.5.1 of the EIS).
20	The predicted dust deposition rate exceeds the nuisance guideline at residential areas to the east and north-west of the Yeerongpilly worksite. What are the mitigation measures to deal with the dust deposition rates being above nuisance levels? In particular, what are the proposals to safeguard the health of residents and animals? What measures will be provided to adequately service properties during this period (eg cleaning, maintenance of air-conditioning equipment, running of air-conditioning for extended periods due to inability to open windows, drying of washed	During periods where dust levels that arise from construction work are in excess of nuisance levels, residents and pets should be relocated to alternative, suitable accommodation and adequately compensated. Upon completion of the works and prior to residents return, the properties should be adequately cleaned and necessary maintenance to plant (eg air conditioning) should be undertaken at the Project's expense.	Tech Report no. 7. Section 4.9 p4-58. Section 15.4.5 p15-44. Ch 24, Section 24.5.1 p24-10.	Dust emissions at the Yeerongpilly worksite has been addressed in Section 15.4.5 and Chapter 24 draft Outline EMP, Section 24.5.1 and Table 24-17. In order to minimise the potential for exceedances of the construction air quality goals, a variety of control measures would be implemented at the worksite. During windy conditions, dust mitigation methods, increasing dust suppression measures, or ceasing work where no other reasonable or practical measure is available, until the meteorological conditions improve and the environmental objective can be achieved. Trucks transporting construction spoil would be covered to prevent wind-blown dust during transport and loaded trucks cleaned down prior to exiting the worksite. Dust monitoring would be undertaken at

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	clothing due to an inability to dry outside, etc)?			four locations at the Yeerongpilly worksite and any exceedances actioned immediately.  The air quality monitoring results, including any exceedances, corrective actions taken and monthly reporting would be made publicly available on the Project's website.
20	Do the numbers presented in Table 16-63 relate to operations per day and both directions? What are the current (2011) figures for freight movement as it seems higher than 28 per day as suggested? Passby events will last longer and will be more disruptive. Does this apply to coal or just IM freight? What are the plans for new generation rolling stock? Will these be used to pull coal trains or just IM freight?	The document <i>Systemwide's Rail Operations Report and Addenda (2010, 2011)</i> needs to be made available to affected residents for them to fully understand the impact of future rail operations that will result from the project. The community needs to be provided with guarantees that the use of the existing railway line for freight will not increase to unreasonable levels. Clear guidelines need to be set as to how many train movements per day will be conducted and between what hours. Longer trains, particularly those carrying coal, should be avoided as increased frequency of operations will lead to almost permanent periods of noise. If freight volumes are to increase significantly, it should be a requirement that locomotives hauling freight (including coal) through residential areas should be electric, to reduce the disturbance that noisy diesel powered locomotives cause.	Section 16.5.3, p16-124.	Existing freight trains between Salisbury to Park Road are currently 620 m long and are proposed to be increased to 1,500 m by 2031. The change in train length has been incorporated in the noise modelling as a 'worst case' for rail freight operations. The maximum noise level during train passbys would not change due to the change in freight train numbers. There would only be a change to the number of train passby events.  The Project is required to meet the performance criteria stated in the draft Outline Operations EMP of the EIS. Future noise monitoring would be conducted in response to complaints in accordance with Queensland Rail's Code of Practice for Railway Noise Management. If future noise monitoring shows that the relevant noise criteria for surface track noise emissions are not achieved, then further mitigation options would be investigated.  With respect to the electrification of freight rail services, the Project has been designed to accommodate new generation rollingstock for passenger trains only. The electrification of freight rail services was beyond the scope for Cross River Rail.
20	Have longer trains been taken into account when modelling the coal dust impact?		Section 15.5.4 p15-53.	With respect to the potential for freight to increase dust pollution, the management of coal dust on the Queensland rail network is the responsibility of the network manager and the rail operators, in liaison with DERM. Although the management of freight trains does not form part of the Project, a range of dust control methods are provided in Chapter 15, Section 15.5.4 to minimise particulate emissions from coal trains.
20	The removal of town houses on Wilkie Street which currently act as a noise shield for properties in Tees Street will result in a more than doubling of noise levels to those properties on Tees Street.	Request the installation of glazing upgrades for properties of Tees Street, combined with improvements to mechanical ventilation and compensation for the cost of operating these systems (ie installation of solar panels). A suitable noise barrier should be investigated for Wilkie Street. The noise barrier proposed for Fairfield Road would have the effect of bouncing rail noise back towards Tees Street. Any barrier or wall built on Wilkie Street should be sympathetic to maintaining local views	Section 16.5.3, p16-126.	Predictive studies conducted for the EIS show that the impacts from operational rail noise at properties on Tees Street are not expected to exceed Queensland Rail's operational noise criteria. Consequently, noise barriers would not be required. Train noise reflecting off the noise barrier on Fairfield Road would be minimal. During a train passby, any reflected noise would be directed onto the passing train itself, which would act as a noise screen. Operational noise at all eleven residences adjacent to the realigned section of Wilkie Street would comply with Queensland Rail's noise goals in the Code of Practice. There would be no specific mitigation

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	across to Mount Coot-tha and be landscaped to limit the visual impact.			required in this location. If monitoring or updated estimates indicate this is not the case, then the need for mitigation would be reexamined. Future noise monitoring would also be undertaken and the modelling updated, if required, to ensure noise predictions are accurate. If noise goals are shown not to be achievable, then the need for mitigation would be reappraised.
21	The intersection of Lucy Street, Durack Street and Ipswich Road, Moorooka, is dangerous and will become more so once Cross River Rail is completed. Over the next 20 years and beyond, this will result in increased traffic flow through this intersection.	Change the traffic lights with the intersection on a timer during peak hour traffic and touch plates during off-peak traffic. For example: 1) Ipswich Road would receive green arrows to turn right. 2) Ipswich Road would receive green lights to move forward 3) Durack Street would receive the green lights to go. 4) Lucy Street would receive the green light to go.		The intersection of Lucy Street, Durack Street and Ipswich Road currently caters for traffic associated with businesses along Station Road as well as through trips from Wilkie Street. Cross River Rail will require these properties to be acquired and these uses to cease. With a park 'n' ride site not proposed for Yeerongpilly along with the recommendation to restrict on-street commuter car parking at Yeerongpilly there would be a minimal additional traffic demand to this station.
22	Residents at the end of Heaton Streets and Tramore Streets and Nyanda State High School will experience a significant increase in noise and vibration during operation. The increase in noise also destroys the amenity of the local Kookaburra parklands. Rocklea appears to have been severely overlooked in relation to noise barriers. The Salisbury houses that receive the new noise barriers are at a comparable distance to those in Heaton Street, yet those in Rocklea are in much closer vicinity to the new dedicated freight track.	Noise barriers should be placed on the Rocklea side of the new rail line, beginning somewhere towards the Salisbury Station and terminating at the industrial building on Heaton Street. The proposed noise barrier on the Salisbury side should be extended to travel past the Nyanda State High School.	Section 16.5.3, p16-125.	With respect to concerns that residents at Heaton Street, Tramore Streets and Nyanda State High School would experience an increase noise and vibration during operation, noise levels from trains using the surface rail tracks have been modelled for future operations. Noise from surface rail tracks at Heaton Street, Tramore Streets and Nyanda State High School are predicted to comply with Queensland Rail's operations noise criteria. As such, mitigation measures are not required for this section of the Project. Future monitoring would be undertaken and the modelling reviewed to ensure the noise predictions are reasonable and representative. If the noise goals in Table 24-33 of the draft Outline EMP are not to be satisfied due to exceedances, the need for mitigation will need to be reconsidered.
23	Several businesses adjacent to the proposed development will be directly affected by construction works. No commitment is made to consult affected business regarding the detailed design and implementation of construction related mitigation strategies.	The proponent should consult affected businesses when developing construction methods. This could be achieved by including a commitment within Section 21.3.4 to design and implement those mitigation strategies relating to construction methods in consultation with affected businesses.	Tables 21-33 and 21-34, Ch 24, Table 24-22	Direct communication will be undertaken to inform businesses of key construction milestones in advance, to help minimise adverse impacts on these businesses. Affected businesses will be able to provide feedback and be consulted on methods to minimise impacts. Construction communication requirements are addressed in Table 24-22 of Ch 24 EMP.

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23	Direct communication is frequently identified in Section 21.3.4 as a mitigation strategy to alleviate business impacts. While timely information regarding key milestones is important, affected businesses should be given the opportunity to respond to the proponent regarding business, impacts and contribute to the development of possible solutions.	It is recommended that the proponent complement existing 'direct communication' strategies with efforts to further engage affected businesses. This could be achieved by including a reference, in Section 21.3.4 to the ongoing community engagement process and proposed complaints management procedure identified in the draft EMP. Provided that the final complaints management procedure is responsive to the needs of businesses and solicits an appropriate response by the proponent, the procedure could also be identified, in addition to 'direct communication', as a mitigation strategy to alleviate business impacts.	Ch 24, Table 24-22	<p>Construction communication requirements are addressed in Table 24-22 of Ch 24 EMP.</p> <p>This requires communities likely to be directed affected by the Project works to be made aware of the Project works in advance of their commencement, and are aware of the procedures for making complaints about the Project works.</p> <p>Measures include early and ongoing notification with affected property owners, tenants and local and broader communities, in advance of construction activities, about construction activities, including timing and duration, likely impacts and proposed mitigation or management measures.</p> <p>Affected businesses will be able to provide feedback and be consulted on methods to minimise impacts.</p>
23	It is important that adequate provision is made for economic and employment opportunities in any future land use planning considerations for industrial land resumed for the Project. This includes a range of economic activities that will ensure economic depth and a wide range of employment opportunities are provided.	Requested that DEEDI be consulted in relation to future land use in the event that future land use planning initiatives are incorporated into the project.	Section 9.4.4, p9-44 Section 9.4-12, p9-58	<p>This is addressed in Section 9.4.4 of the EIS. The Yeerongpilly worksite is currently included in the general industry area identified by the City Plan. The project does not propose to change the zone of this land. Any change to the existing land use designation of this site and subsequent revision of the City Plan would be undertaken as part of a separate planning process to the Project and would require consultation to be undertaken with the local community and key stakeholders including DEEDI.</p>
23	It is likely that there will be instances where businesses displaced by the project will seek Government assistance in identifying new premises. If DEEDI is made aware of these instances in a timely manner it may be able to work with businesses to identify alternative accommodation.	It is recommended that the Coordinator General consider inclusion of a condition that: <i>The proponent is to liaise with DEEDI/ Regional Services to facilitate engagement between DEEDI and businesses and industrial landowners that are seeking alternative accommodation due to their premises being subject to surface resumption or made inaccessible as a result of the project.</i>	Section 21.3.4, Table 24-23.	<p>Noted. This is normal government business and does not require a condition on the project. Table 24-23 EMP identifies the need to engage with DEEDI.</p>
23	Renewable energy and energy management measures are not considered in the project design, including the design of associated infrastructure.	Tender process conditions need to be developed that require the project design to meet and demonstrate energy efficiency, energy conservation and renewable energy objectives as described by the Queensland Renewable Energy Plan and Queensland Energy Management Plan. Infrastructure design should include the source and type of energy management measure that is being considered.	Ch 6, Section 6.8, Section 4.2.2	<p>Sustainability measures which have already been incorporated into the reference design include: i) measures which focus on reducing energy demand and minimise lifecycle energy consumption, ii) measures which minimise the Project's contributions towards climate change by reducing GHG emissions and incorporating latest climate change scenarios into the design of the Project.</p> <p>As described in Section 6.8 of the EIS, the following actions would be undertaken during detailed design:</p> <ul style="list-style-type: none"> <li>- investigate energy efficiency measures (eg motion activated lights and heat activated ventilation and air conditioning)</li> <li>- investigate the feasibility for energy efficiency measures to</li> </ul>

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				be incorporated into construction phase activities - investigate feasible renewable energy alternatives (eg solar panels or photovoltaic cells) - develop a sustainable procurement strategy (note Section 1 of Appendix E2 for details) - stations to be designed and constructed in accordance with Queensland Rail's Rail Station Design Guide (2010), including factoring in requirements for water and energy efficiency.
23	Fisheries confirms that Development Permits for Operational Works for Constructing or Raising a Waterway Barrier will be required for any structures within a waterway. Should works be proposed below the level of Highest Astronomical Tide in Breakfast Creek, which disturbs vegetation or marine plants approvals for Operational Works for the Removal, approval for the Destruction or Damage of a marine plant will be required.		Appendix D, Table D.1	Noted. This is recognised in the EIS. Temporary and/or permanent structures for the Project may be placed within Moolabin Creek and Rocky Waterholes Creek. These structures may trigger the requirement for a Development Permit for Constructing or Raising a Waterway Barrier and will be confirmed during detailed design and through consultation with DEEDI. Further work may be required at detailed design to assess aquatic substrate, stream type, fish spawning periods, offsets for fish habitats and alternatives to proposed waterway crossings.
23	Fisheries notes that investigations into the aquatic substrate, stream type, tidal influence, fish spawning periods, offsets for fish habitats and alternatives to waterway crossing following were not undertaken for the EIS. A level of information will be required on habitat and aquatic fauna to support any applications for Constructing or Raising a Waterway Barriers.		Section 11.1.2, p11-11	Noted. If works are to be carried out within a waterway, further work may be required at detailed design to assess aquatic substrate, stream type, fish spawning periods, offsets for fish habitats and alternatives to proposed waterway crossings.
23	While Section 4.4.6 identifies approximately how many employees will be required for each construction activity, more information about the specific skill-sets required will facilitate better workforce planning in the future. Additionally, the labour force statistics mentioned in Chapter 21 will change over time.		Section 4.4.6, Section 20.3.2	DEEDI recommends that the proponent works with Employment and Indigenous Initiatives (EII) DEEDI, Skills Queensland (SQ) and other relevant State and Federal agencies to develop and finalise workforce strategies that will prioritise workforce participation for local people, especially Indigenous people, young people and people from jobless households.
23	The EcoSciences Precinct (ESP) is home to a new Transmission Electron Microscope (TEM), which will be impacted by vibrations exceeding the TEMs operational vibration tolerances during construction. The EIS predicts vibrations during operation will be compliant with TEM tolerances.		Section 16.4.14 p16-113. p16-87.	Potential impacts on the TEM were discussed at a meeting held in October 2011 with the Department of Employment, Economic Development and Innovation (DEEDI), TEM users and the TEM manufacturer, in addition to briefings conducted during the preparation of the EIS (refer to Consultation Report in Appendix C of the EIS). Consultations with TEM stakeholders would continue during future phases of the Project, including detailed design, construction and operation to address specific mitigation requirements.

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		impacts wherever possible. The preferred option would be for the Project team to work with TEM users to coordinate hours of work to enable continued TEM operation.		A program for monitoring of vibration from construction and operating activities will also be developed and implemented in consultation with relevant stakeholders. Suggested mitigation measures could include coordinating hours of work to enable continued operation of the TEM during construction or relocation of the TEM elsewhere in the building or to an off-site facility should predicted vibrations be in excess of tolerances or impacts on the operation of the TEM from train passbys be found. The costs of any such relocation should be met by the Project.
23	Ground borne vibration during operation of the Project is predicted to be compliant with the TEM criteria. Subject to these calculations proving correct, the TEM should not be impacted by ground borne vibration during operation.	DEEDI requests monitoring of vibrations at, and for a time after, commencement of operations to ensure tolerances are met as predicted. Where the predicted vibrations are in excess of tolerances and would require relocation of TEM to elsewhere in the facility or off-site. Relocation is highly undesirable and would need to be covered by the Project.	Ch 24, Section 24.10 pp24-68, 274-69.	Procedures for vibration monitoring during construction and operation also would be developed and implemented in consultation with TEM users and other relevant stakeholders (refer to Table 24-18 of the draft Outline EMP). This would include conducting pre-condition surveys for the TEM prior to construction of the underground station and tunnelling works. Monitoring results would be made available to TEM team. Liaison would be maintained to address any required mitigations for TEM operations. Should this monitoring identify exceedances in the operating tolerances of the TEM, mitigation measures would be identified in consultation with TEM users, the TEM manufacturer and DEEDI.
23	While it is expected that the ground borne vibrations will not affect the upper levels of the ESP where vibration sensitive laboratory work is conducted, where there is a demonstrated impact on sensitive laboratory work, consideration should be given to the provision of 'vibration pads' or installation of vibration free laboratory benches.		Section 24.10 pp24-68, 69.	Monitoring of noise and vibration would be undertaken during construction and operation of the Project. The monitoring programs would be designed with TEM team input, and the monitoring results made available to the TEM team. Liaison would be maintained to address any required mitigations for TEM operations. Should this monitoring identify potential for impacts on sensitive laboratory work, mitigation measures would be identified in consultation with DEEDI and other relevant stakeholders.
23	The proximity of the Project to the TEM may have a distorting effect of moving metal objects within the magnetic field of the TEM. The current shielding does not protect against the type of effect that will be caused by the Project during operation. If no successful mitigation measures are available, the TEM may need to be relocated elsewhere in the facility or off-site, which would incur significant construction costs.			There is the potential for train movements to cause electromagnetic field interference and possible impacts to the TEM's operation. A moving train can disturb the magnetic field of Earth along its path, such that the field would temporarily warp at the location where the train is passing, for the duration of its passage. This means that the magnetic field of Earth near the proposed railway tunnel would be fluctuating with the passage of trains. Consequently, the proximity of the Project to the TEM may have a distorting effect of moving metal objects within the magnetic field of the TEM. The current shielding for the TEM does not protect against the type of effect that will be caused by the Project during

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				<p>operation. There is a range of possible mitigation measures available to deal with this potential impact, including further shielding of the TEM room, overhead earth wire, inductive loops attached to the wall of the tunnels or installation of shielding metal within the tunnel walls. Further investigation would be undertaken during the detailed design phase to determine potential impacts and necessary mitigation measures.</p>
23	Air quality impacts, primarily dust, will impact on the ESP.	<p>It is requested that air quality monitoring points be located at the ESP to ensure that air used to fill oxygen dive tanks is not contaminated and dust levels do not cause the HEPA filters to become clogged. Fitting pre-filters to air intakes, during the detailed design phase would be required. As 90% of the ESP cafe's business is outside, the Project team will need to consult with this business about potential impacts. A possible solution to dust may be some sort of screening. Plant and weeds research in the pots and ponds facility may be impacted by dust and users may be required to cover their ponds to mitigate dust impacts.</p>	<p>Section 15.4.5 p15.44, Ch 24, Table 24-17, p24-44.</p>	<p>Mitigation measures to manage dust impacts at the EcoSciences Precinct are identified in Section 15.4.5 and the draft Outline EMP included in Section 24.9 of the EIS. A dust management plan would be prepared and implemented as part of the Construction EMP. This will outline strategies to avoid or manage dust nuisance from construction activities on sensitive receptors at the EcoSciences Precinct. Early and ongoing consultations would also be undertaken with DEEDI and other relevant stakeholders to identify specific mitigation measures to manage dust impacts on the operation of specific facilities within the EcoSciences Precinct, such as the dive stores, specialist laboratory spaces, research facilities and outdoor dining areas.</p> <p>Ongoing monitoring of ambient air quality (TSP, PM10 and dust deposition levels) would also be undertaken during construction. Dust monitoring would be extended to include additional locations in agreement with the EcoSciences Precinct which may be required to address the potential for localized impacts from construction activities.</p> <p>As provided in the draft Outline EMP (Construction) (ref EIS Section 24.9, Table 24-17, monitoring results would be reported monthly. The draft Outline EMP (Construction) also provides a mechanism for dealing with complaints and non-compliances quickly and effectively.</p>
23				<p>The project team would continue to work with DPW during the detailed design phase to manage the interaction with the EcoScience precinct and wider Boggo Road Urban Village to minimize construction impacts. As set out in the draft EMP this would also include consultation on the proposed Construction Traffic Management Plan for the site which would set out specific measures for managing construction related issues and minimising impacts.</p>

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24	The project has a large impact on Victoria Park involving the removal of several very old fig trees and eucalyptus trees plus many other trees and parkland	Efforts should be made to ensure that any construction activities or holding yard required for construction activities does not cause the permanent loss and destruction of trees and other vegetation. The project should consider alternative areas for the construction activities or holding yard required for the construction activities to avoid the permanent loss or destruction of trees and other vegetation. In particular the project should take all care not to destroy the fig trees and eucalyptus trees in Victoria Park.	Ch 11, Sections 11.3.3 (Impacts) and 11.3.4 (Mitigations) and Ch 24, Table 24-10 p24-28	An alternative worksite configuration has been identified that would allow the two fig trees to be retained. Further investigations during detailed design would seek to minimise clearance of native vegetation to that necessary for construction, site maintenance and operation, and ensure that all necessary statutory clearing permits are obtained prior to works commencing. In particular, construction impacts on the existing mature trees located within the central section of Victoria Park would be minimised, where possible. Following construction, the worksite would be rehabilitated and landscaped with plantings of appropriate native species, suitable for its ongoing use as open space and park.
25	The current Translink policy that does not provide for parking within 10km of the city needs an exception, or to be revisited. A large car park is essential to the area, especially with the TOD at Tennyson. Streets need to be kept accessible to locals and allow people in the surrounding areas to access the train.	The worksite areas when finished must be converted to car parking as locals who live in the surrounding suburbs will not catch a bus to the train or walk more than 800m, and people will drive to the area. An alternative plan could be to also provide a large amount of parking at Rocklea, and advertise this to the public.	Section 5.7.2, p114, Section 5.10.5 (p5-163) and Section 24-10 table 24-27 EMP	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD, which aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities (kiss n ride), disabled parking, maintaining the existing number of car parks (24), cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will also continue to monitor park 'n' ride demand across the rail corridor as part of its ongoing strategic planning, which seeks to identify and prioritise opportunities for new or upgraded commuter parking at appropriate stations across the network. Prior to operation of Cross River Rail, TransLink will also review opportunities to enhance bus services to Yeerongpilly Station to take advantage of new bus-rail interchange opportunities offered by CRR.
25	Excessive noise during construction at Yeerongpilly.	There should be provision for alternative housing during the six weeks of demolition, where excessive noise may be heard, if directly affected residents require it. Alternative short term housing should also be provided throughout the project if personal conditions arise. Rent assistance may be required if no one will rent a house/unit due to the Project conditions and traffic.	Section 16.4.5, p16-59, Section 24.5.1 p24-10.	This is discussed in Section 16.4.5 of the EIS. The EIS proposes a hierarchy of measures to mitigate impacts of construction noise at Yeerongpilly. Where noise levels are predicted to exceed the noise goals identified in the draft Outline EMP, consultation with affected property owners would be undertaken to identify specific mitigation measures (refer to Table 24-18 of the EIS).

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25	Only undertake the minimum resumption and demolition of property required.	Any townhouse that has a strata-title and has free standing units/townhouses should only be partly demolished if required (ie not all houses on the properties acquired need to be demolished for the realignment of Wilkie Street).	Section 9.4.8 Volume 2, Property Impact Drawings	The reference design identified properties that would be required for the construction of the Project, including both wholly and in part. Property requirements may be refined during the detailed design phase. Detailed planning for demolition of buildings will be undertaken during detailed design.
25	Access to Yeerongpilly Station during realignment of Wilkie Street.	Access be easily provided to Yeerongpilly Station while the more than six weeks of realigning Wilkie Street. A solution would be to allow the public to use the car parks at Tennyson next to Ipswich Road.	Section 5.10.5, p5-162	Construction work on Wilkie Street itself would be during site preparation works and the reconstruction of Wilkie Street itself, which may require some access from both Fairfield Road and Ipswich Road. However details of the sequence and timing of construction vehicle access arrangements for each stage of construction would be addressed in the detailed design phase and captured in a Construction Traffic Management Plan and subject to approval by Council. Pedestrian access to the existing Yeerongpilly Station would generally be maintained during the construction phase from both sides of the rail corridor, apart from short periods, for example when the railway itself may be shut for construction of new tracks, etc or the extension of the overpass (including some evenings, weekends and public holidays). Alternative public transport access would be provided during these periods.
25	Traffic management along Ipswich Road during spoil removal.	Traffic management on Ipswich Road will cause major problems. Can the spoil be removed by rail instead of road.	Section 3.4.3, p3-39	This is discussed in Section 3.4.3 of the EIS. While spoil transport by road has been adopted for the purposes of the EIS assessment, the option of transporting spoil by rail is being maintained. However, the removal of spoil by rail presents a number of difficulties including in relation to double handling, costs, flexibility and scheduling. The draft EMP states that the movement of trucks would be controlled through fleet management techniques such as using GPS.
25	Dust pollution identified in the EIS is a guide only and does not outline what will be done if it is exceeded.	Active measures could be provided to local residents if required to proactively maintain air quality in houses (e.g. air filters). The 'guide' for noise and dust should be disclosed to residents each time they exceed this more than twice a week, or at an excessive level.	Tech Report no. 7. Section 4.9, p4-58. Section 15.4.5 p15-44. Ch 24, Section 24.5.1, p24-10. Ch 24, Table 24-4.	This is addressed in Section 15.4.5 and Chapter 24 EMP of the EIS. A dust management plan would be implemented as part of the Construction EMP (refer to Table 24-17). Ongoing monitoring of ambient air quality would also be conducted near construction worksites. If dust levels exceed the air quality goals, the Contractor would be responsible for investigating exceedances and implementing dust control actions, or amending the work activities to prevent exceedances. Consultation would also be undertaken with near neighbours to identify specific construction impacts and mitigation requirements (refer to Section 24.5.1). The outcomes of the air quality monitoring, including any exceedances and corrective actions taken will be made

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26	Impact on Victoria Park at Spring Hill. Regularly visit this park and am dismayed that the removal of the very precious and beautiful old fig trees and eucalypts and the loss of this magnificent park land is being considered.	Please consider an alternative option. This whole area needs to be kept as an inner city park.	p24-9.  Ch 11, Sections 11.3.3 (Impacts) and 11.3.4 (Mitigations) and Ch 24, Table 24-10 p24-28	An alternative worksite configuration would be developed to retain the two fig trees. Further investigations during detailed design would seek to minimise clearance of native vegetation to that necessary for construction, site maintenance and operation, and ensure all necessary statutory clearing permits have been obtained prior to works commencing. In particular, construction impacts on the existing mature trees located within the central section of Victoria Park would be minimised, where possible.  Following construction, the worksite would be rehabilitated and landscaped with plantings of appropriate native species, suitable for its ongoing use as open space and park.
27	Increase in freight movements, particularly coal, will result in an increase in noise and negates any GHG emissions benefits of the Project, as the Project will facilitate an increase in volumes of coal that can be exported. Table 5-16 of the EIS is incomplete and potentially misleading. What are the current actual freight movements? What are the restrictions to freight movements at present (particularly hours of night time operation)? How will these restrictions change in the future with and without Cross River Rail? By how much will the movements of coal increase from the current levels? Demand is not the same as expected levels of operation in a capacity constrained system. The table implies that almost all future freight access will be restricted to coal and that IM freight will be almost eliminated. Is this a valid assumption given the investment in the Acacia Ridge freight facility?	Residents would want reassurance that there is no intention to massively increase the amount of coal freight that will use the line should Cross River Rail go ahead. The status quo where existing rail capacity places a limit on the amount of coal that can be shipped through the area is of benefit to local residents and the environmental impact of changing this should be properly evaluated. In particular, the burning of additional volumes of exported coal overseas should be factored into any projected GHG emissions benefits that the project is perceived to deliver.	Section 5.6.8	Current freight volumes are described in Section 5.2.2 of the EIS. The project itself does not have any impact on wider freight demands as these are a factor of economic growth and demand for goods and services beyond the study area. That is, freight will continue to be transported between required origins and destinations regardless of the project, including by rail or road through the study corridor. However CRR does allow for additional freight to be carried through the study corridor by removing conflicts with passenger services in peak commute times. Note that Cross River Rail in itself does not propose changes in freight rail operations as these are managed by Queensland Rail. Further clarity of the method and forecasts for rail freight volumes is provided in section 4.3.1 of this report.
27	It is unrealistic to assume that all traffic that currently uses Wilkie Street will divert via Fairfield Road. There will be an increase in vehicles diverting along Crichton Street, Stamford Street, Livingstone Street and Green Street to access Ipswich Road.	The EIS needs to make a more realistic assessment of the traffic impact. If necessary traffic calming measures (one way sections / speed humps) should be installed on Wilkie Street or the neighbouring streets.	Ch 24	Local residential traffic on Wilkie Street during the construction phase could make use of Green Street to access Ipswich Road or continue to use Cardross Street to access Fairfield Road. Both of these would be local access routes and not designated/ signed through routes. During detailed design a range of detailed road treatments will be discussed and agreed with Brisbane City Council. Prior to construction commencing changes to the road network and traffic operations would be addressed in detail via a Construction Traffic Management Plan for the Yeerongpilly worksite as per the draft EMP.

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27	The Project provides for a dedicated dual gauge freight track from Salisbury to Park Road. The project does not make reference to a dedicated dual gauge freight track; the reference diagrams for the area only make reference to the existing 3 tracks post the completion of the project [Drawing No. CRR-GEN-R-1156 Cl]. How will this additional track be accommodated in the current rail corridor that is currently 3 tracks wide? Will this require widening of the rail corridor, in particular beneath the Cardross Street Bridge and north thereof where the corridor narrows down? This would require rebuilding of the Cardross Street bridge (currently only able to support three tracks beneath) and widening of the cutting. Or will one of the existing passenger tracks be sacrificed to freight, resulting in single track operations for the Kuraby ? South Brisbane services? What impact will this have on the proposed passenger services for the existing line north of Yeerongpilly?	If an extra track is required, the EIS plans should be redrawn and resubmitted to take this into account.	Section 5.5.4	A new dedicated dual gauge freight railway track is proposed between Musgrave Road (Coopers Plains) and Moolabin Creek (Yeerongpilly). This is shown on the Volume 2 Reference Design Drawings as a green dashed line. North of Moolabin Creek the existing dual gauge railway track, which is currently shared between passenger and freight services, would become available for freight and interstate passenger trains only. As such, no additional surface railway tracks or bridge works are proposed north of Yeerongpilly with three tracks remaining in operation, being two narrow gauge tracks for all stops passenger rail services to/from Kuraby and one dual gauge bi-directional railway track for freight/interstate trains. This will allow increased frequencies on the all stops Kuraby services with four trains an hour (every 15 minutes) in each direction, as a minimum, once Cross River Rail is operational.
27	Section 9 does not make specific mention of the intentions for the resumed land adjacent to Wilkie Street. What are the intentions for the resumed land adjacent to Wilkie Street? Will this be redeveloped for housing (high density / low density) or parkland? If the land is designated as high density, there would be increased noise levels from new developments. Balconies on new multi-story buildings overlooking existing properties will impact on privacy. If the land were to be made into parkland, it would be easy for trespassers to gain access to the back of properties.	The EIS needs to make specific mention of the intended use for land resumed during the realignment of Wilkie Street. Residents whose properties immediately back on to this land would want to be fully consulted into the proposed usage of this land well before demolition work begins. Residents would want assurances that the land would not be turned into high density residential properties that are significantly different from existing dwellings on these lots. Planting of bushes such as Bougainvillea would provide a natural but secure deterrent if the land were to be made parkland.	Section 9.4.4 p9-44 Section 9.4.12 p9-58	Wilkie Street is required to be realigned to the east to accommodate the southern portal and new rail lines at Yeerongpilly. Any redevelopment of land would be managed by the relevant planning and assessment manager and would be undertaken separately to the Project. The redevelopment of surplus land at Wilkie Street would need to consider the requirements of City Plan, including those relating to issues such as privacy, building height and density, and local character and amenity to ensure that impacts on surrounding residents are avoided or appropriately managed. Applications to redevelop surplus land would also need to be publicly notified in accordance with the Sustainable Planning Act 2009. This notification gives interested community members an opportunity to review and provide comments on a development application.
27	The EIS states that other stations south of the southern portal (Yeerongpilly, Rocklea and Salisbury stations) may also be subject to a shutdown for short periods.	The EIS needs to provide a more specific definition of "short periods". If residents are to be denied the use of existing facilities during the construction of the project, they should be adequately informed of what the impact will be at this stage of the project and not just a short period in advance. This should include estimates of frequency and duration of	Section 5.10.4, p5-134	Rail shutdowns will be required to undertake certain rail construction works safely within the corridor. These will occur at various times throughout the construction phase however the exact timing and sequence cannot be given until a contract is awarded and the construction methodology and programme determined. Shutdowns of railways however are planned well in advance through Queensland Rail's Scheduled Closure Access System to minimise impact and

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27		The EIS states that rail freight could have greater capability from CRR. This implies that there will be a loosening of current restrictions on freight operations that will lead to greater movements and noise (e.g. longer trains and / or flights) will result in noise disruption for longer at each train pass-by event). Any restrictions to passenger train frequencies should also be avoided. Brisbane is a growing city and the needs of its citizens should not be overlooked to satisfy the demands of the coal industry.	The EIS needs to state more clearly the intentions for changes to freight operations should the project go ahead (or in the event that it does not). Guarantees should be sought that freight operations are conducted with the local community in mind, including maintenance of restrictions on freight operating hours (particularly at night) and the compulsory use of electric locomotives (quieter) for hauling all freight through the city.	Section 5.6.8	<p>would avoid peak times. Generally such works occur at night (after the last passenger service) or at weekends. Longer shutdowns may occur over long weekends such as at Christmas or Easter to enable complex work to be undertaken.</p> <p>The Project does allow more of the projected freight demand to be carried by rail by removing conflicts with passenger services. The assumptions surrounding projected future demand and numbers of train paths is outlined in Section 3.4.1 and Section 3.4.2 of the Transport Technical Report. Should the Project not proceed and there is insufficient rail freight capacity, then alternative means of transporting freight would need to be investigated. Note that Cross River Rail in itself does not propose changes in freight rail operations as these are managed by Queensland Rail.</p> <p>Further clarity of the method, forecasts and outcomes for rail freight is provided in section 4.3.1 of this report.</p>
27		Due allowance would need to be made by the contractor to repair any road surface impact due to wear and tear during construction. If roadworks are required to repair the Ipswich Motorway sooner than would be necessary without the project, how have the costs been calculated for this work? Does this include the economic impact of additional traffic delays? Has the liability of the contractor for these repairs been confirmed, or is it optimistic thinking?	The EIS needs to make a clearer statement upon the liability of the contractor to undertake timely repairs to roads damaged by the construction traffic.	Ch 5, Section 5.10.8 p5-174	<p>An assessment has been undertaken to analyse the pavement impacts of the heavy vehicle movements to and from the proposed worksites. The assessment indicates that most of the road links would have an increase of Equivalent Standard Axles (ESA) of less than 5% over the construction period, with only three links having slightly higher increases of up to 8%. Lucy Street would have an increase of around 20%. Therefore, with the exception of Lucy Street that would be within a construction worksite, only minor deterioration in pavement condition could be expected for these road links, and given the relatively short duration of construction in the context of pavement design lifespan.</p> <p>As identified in Table 24-11 of the EIS, truck movements are to be managed to avoid impacts on the local streets approved for use such as damage to road pavements, from heavy vehicle traffic. Damaged road pavements are to be repaired by the Proponent periodically to maintain traffic safety, traffic amenity and pre-existing levels of service.</p> <p>Generally where impacts occur, the relevant traffic and road management agencies are to be consulted to devise and agree appropriate mitigation measures.</p>

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27	The project would increase Queenslanders' carbon footprint by enabling significantly larger volumes of coal from the Darling Downs to be exported via the rail network. This will encourage greater levels of coal mining than currently occurs due to capacity constraints in the transport system.	Any additional GHGs that result from burning this extra coal - even overseas - need to be factored into the calculations to give a true assessment of the project's impact on climate change. It is misleading to only calculate the positive GHG impacts of the project.	Ch 15, Section 15.6.3 p15-60.	The preliminary greenhouse gas inventory was prepared in alignment with the requirements of the National Greenhouse and Energy Reporting System. The extraction, use and impacts of coal is outside the scope of this project.
27	Yeerongpilly Station will become a significant park and ride station as it would provide the main access point to the new express services for residents of the south and east. However, this is not captured in Table 5-32 as it assumes no increase in patronage of the station by customers arriving by car.	The project should give more consideration to the provision of parking facilities and limiting on-street parking through the implementation of a residents parking scheme in the area around Yeerongpilly. A dedicated car park should be considered for the redeveloped work site at Lucy Street / Station Road.	Section 5.7.2 p114, Section 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD, which aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities (kiss n ride), disabled parking, maintaining the existing number of car parks (24), cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will also continue to monitor park 'n' ride demand across the rail corridor as part of its ongoing strategic planning, which seeks to identify and prioritise opportunities for new or upgraded commuter parking at appropriate stations across the network. Prior to operation of Cross River Rail, TransLink will also review opportunities to enhance bus services to Yeerongpilly Station to take advantage of new bus-rail interchange opportunities offered by Cross River Rail.
27	During construction, residential properties near to worksites and construction activities would experience increased noise and dust. Specific mitigation measures to address noise, dust, night lighting, traffic and other impacts of construction activities would be required around the worksite and construction activities.	Specific mitigation measures should be made available to residents in properties that are directly affected, such as improvements to glazing, provision of solar power to offset the additional costs of running ventilation systems, landscaping sympathetic to maintenance of a peaceful environment (noise barriers and relocation planting of trees / shrubbery) and relocation during times of excessive construction noise.	Ch 24,	The draft Environmental Management Plan (EMP) sets out the approach to design and environmental management for the Project and includes performance criteria and a hierarchy of controls to protect the environmental values of the study corridor (see Tables 24-10, 24-11, 24-17, 24-18 and 24-21). The EMP states that specific management plans will be developed and implemented prior to construction that address the management and mitigation of construction impacts including noise and dust. Where general mitigation measures, such as noise walls, are unable to reduce the construction impact to the approved goal, specific property mitigation measures will be investigated. As part of the construction EMP, consultations with property owners would be conducted in sufficient detail to address specific construction impacts and mitigation requirements.

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27	<p>Removing properties along the existing Wilkie Street would result in a number of properties on Livingstone, Green, Stamford or Crichton streets becoming corner blocks with dual street frontage. As such, limited buildings would address the realigned Wilkie Street, reducing the passive surveillance currently provided by buildings fronting Wilkie Street.</p> <p>What does this mean for the properties that would now face Wilkie Street? In terms of views / security (access to properties) / noise (reduced shielding from current properties)?</p>	<p>The changes to the visual amenity of properties that will be exposed through the resumption of properties on Wilkie Street needs to be thoroughly explored and documented prior to the project commencing.</p> <p>Residents in affected properties would want to ensure that they are not exposed to overly bright lights at night that would be used during construction.</p>	<p>Chapter 10, p10-37</p>	<p>Section 10.4.1 of the EIS identifies the need for the Project to i) provide appropriately designed property fencing and streetscape works to improve passive surveillance along Wilkie Street and ii) to ensure urban design treatments respect the character and amenity of the surrounding area.</p> <p>Where feasible, in coordination with noise attenuation measures, opaque or timber construction noise barriers would be provided where light spill from Project elements would be prominent. Directional lighting with a low wattage would be utilised (refer to Table 10-11). Road traffic noise associated with the realignment of Wilkie Street has been assessed at nearby residential properties (refer to Section 16.5.4 of the EIS). Road traffic noise levels at all residences adjacent to the realigned Wilkie Street are predicted to comply with TMR's Code of Practice road traffic noise goal in Year 2031. A noise barrier located immediately north of the new Yeerongpilly Station would reduce noise levels from trains using the station.</p>
27	<p>To mitigate operation noise impacts, noise barriers are proposed at Yeonga - on the eastern side of Fairfield Road, south of the Cardross Street bridge and Yeerongpilly - adjacent to Wilkie Street (p10-37)</p> <p>While the noise barriers would reduce the views of the rail corridor, expansive views to locations beyond the rail corridors would also be diminished. In detailed design, refinements to noise barriers may be undertaken and mitigation measures explored to reduce their overall visibility. (p10-50)</p> <p>Are these noise barriers to be temporary fixtures during the construction period, or are they intended as permanent fixtures? Will there be any efforts made to conceal the noise barriers e.g. through the planting of trees or shrubs? How will the glass panels be protected from vandalism? similar projects along the Pacific Highway in southern QLD / northern NSW have resulted in all glass panels being shot at and damaged.</p>	<p>Residents to be fully consulted on the design and height of noise barriers to arrive at a suitable compromise (noise abatement vs loss of vista). Planting of shrubs and trees in front of the barriers should be undertaken at the earliest opportunity to improve the look and character of the area.</p>	<p>Chapter 10, pp10-37 and 10-50</p>	<p>Table 10-5 provides details of the proposed permanent (operational) noise barriers.</p> <p>Section 10.4.1 of the EIS states that noise barriers should be designed to reduce potential visual impacts from surrounding properties and roadways by:</p> <ul style="list-style-type: none"> <li>- incorporating high quality materials and urban design and landscape treatments, including where appropriate, landscape elements such as low, massed plantings.</li> <li>- allowing, where appropriate, more expansive views, including maintaining existing views beyond the rail corridor, through the use of clear or transparent materials paneling, that support graffiti.</li> <li>- avoiding the use of highly reflective materials and materials that support graffiti.</li> </ul> <p>Transparent panel material (as identified in Figure 10.9 of the EIS) may be glass or plexiglass, with material specifications determined during the detailed design period.</p>

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28	CRR will have a significant impact on our local junior football club, resulting in the removal of at least 60 parking spaces at the front of the club. With the loss of these spaces, we believe we will struggle to attract loyal patrons to continue trading.			<p>Cross River Rail would result in the loss of approximately 190 m of parking along the western side of Tramore Street, equating to around 30 car spaces. It is noted that there are approximately 35 car spaces already provided off street immediately south of the clubhouse and dozens more informal car parking spaces immediately west and south of that.</p> <p>During detailed design a parking survey would be undertaken to determine the extent of any parking undersupply likely to result from the conversion of Tramore Street to two way. Should compensatory parking be required to meet identified demands then Cross River Rail would propose to provide new on-street parking on the eastern side of Tramore Street (approaching the new signalised intersection in the southbound direction) for around 12 cars. Should further parking still be required an expansion of the existing off street car parking area to the south of the clubhouse could accommodate at least an additional 20 cars.</p>
29	While Wilkie Street is demolished and closed to traffic, all commuters coming from Moorooka and Tarragindi will have to drive through Green Street to catch the train at Yeerongpilly Station. This will increase the traffic and car parking pressure in Green Street. Furthermore, car parking will spill over in parallel street such Livingstone, Stamford and Crichton streets. Wild car parking (half across home driveways, close to street corners), traffic and risk to pedestrians around the railway station are likely to increase very significantly.	Remediation should be taken during the 5.5 years of the project. This could involve a week day 2hr car park limit in Green Street, Livingstone Street, Stamford Street and Crichton Street with parking permits for residents, and traffic slowing devices for safety.	Section 5.7.2 p114, Section 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	<p>This is addressed in Section 5.10.5 of the EIS. During operation, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station. The EIS also proposes that this scheme could be introduced prior to construction works commencing, to further mitigate potential workforce parking impacts in this location. This would also provide benefits for local residents in relation to commuter parking. The introduction of the scheme prior to construction would be subject to agreement with Brisbane City Council.</p>
29	I am concerned by the planned work on Saturdays. During the 6 weeks of the demolition phase of Wilkie Street, noise will be in excess of 68dBA during the day time in my area, and above 74dBA in the area closer to Wilkie Street. It is also stipulated that noise in excess of this range (heavy trucks, demolition, bulldozers) is likely and cannot be mitigated. Similarly, there will be an additional 6 weeks period during the installation of piles alongside the railway corridor during which the noise target is likely to be exceeded. This excessive noise starting as early as 6.30am on Saturdays could be very distressing and negatively impact lives of residents living in the	In these circumstances, I request that no heavy noisy work is to be undertaken on Saturday mornings before 10.00am during the demolition phase and the pile installation phase near the South Portal in order to let working families rest on Saturday mornings.	Ch 24, Table 24-18 p24-46 to 24-53.	<p>The Project is required to meet the performance criteria provided in the Draft Outline EMP of the EIS (refer to Table 24-18 in Chapter 24). The Yeerongpilly residential community would be consulted on the programme of works, including the anticipated duration of surface works, as required by the Draft Outline EMP. Where out-of-hours work is required, advance consultation with potentially affected owners and occupants of nearby properties would be undertaken to devise mitigation measures for potential noise and vibration impacts.</p> <p>Noise monitoring will be undertaken and the noise modelling updated to ensure the predictions are accurate.</p>

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29	immediate vicinity of the south portal.	<p>As it is very likely that the amount of night work on the rail tracks will substantially increase during the construction of the south portal, I am requesting lower maximal noise limits for night rail work within the rail corridor (below 65dBA in the category moderate) to enable residents of the south portal area to sleep at night.</p> <p>While occasional loud work at night is tolerable, residents around the construction site of the south portal are unlikely to tolerate loud work in the middle of every night for extended periods of time.</p>	Ch 24, Table 24-18 p24-46.	<p>The Queensland Rail Code of Practice planning noise levels were adopted to assess the impact of relatively short term construction noise levels from CRR surface track worksites. Should a lower maximum construction noise limit (ie 65 dBA) be imposed for night-time works in the rail corridor, this could potentially result in an extension of the Cross River Rail construction program.</p> <p>At the southern portal worksite, piling works within the live rail corridor would be required. Such works would be approximately six weeks in duration and would impact on property owners in Tees Street, Wilkie Street, Livingstone Street, Fairfield Road and Cardross Street (refer to Section 16.4.5 of the EIS). Construction noise levels predicted at properties are 'worst case' scenarios, which assumes all plant and equipment operate simultaneously. Where exceedances of the noise goals are predicted, a hierarchy of practical controls is described in Chapter 24 of the draft Outline EMP (Construction), in order to minimise noise levels predicted at nearby properties.</p>
30	I understand that the 6:30am-6:30pm working period from Monday to Saturday for the CRR project together with the noise limitations imposed on the CRR construction sites do not apply for the rail corridor itself. The maximum noise limit for railway maintenance and work by Queensland Rail is 75dBA, which according to table 16-1 of the EIS is qualified as "loud". While occasional loud work at night is tolerable, residents around the construction site of the south portal are unlikely to tolerate loud work in the middle of every night for extended periods of time.	<p>As it is very likely that the amount of night work on the rail tracks will substantially increase during the construction of the south portal, I am requesting lower maximal noise limits for night rail work within the rail corridor (below 65dBA in the category moderate) to enable residents of the south portal area to sleep at night.</p> <p>While occasional loud work at night is tolerable, residents around the construction site of the south portal are unlikely to tolerate loud work in the middle of every night for extended periods of time.</p>	Section 16.2.2, p16-12, Section 16.4.5, p16-59.	<p>The Queensland Rail Code of Practice planning noise levels have been adopted to assess the impact of relatively short term construction noise levels from CRR surface track worksites. Should a lower maximum construction noise limit (ie 65 dBA) be imposed for night-time works in the rail corridor, this could potentially result in an extension of the Cross River Rail construction program.</p> <p>At the southern portal worksite, piling works within the live rail corridor would be required. Such works would be approximately six weeks in duration and would impact on property owners in Tees Street, Wilkie Street, Livingstone Street, Fairfield Road and Cardross Street (refer to Section 16.4.5 of the EIS). Construction noise levels predicted at properties are 'worst case' scenarios, which assumes all plant and equipment operate simultaneously. Where exceedances of the noise goals are predicted, a hierarchy of practical controls is described in Chapter 24 of the draft Outline EMP (Construction), in order to minimise noise levels predicted at nearby properties.</p>

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30	Concerned that the expected operational noise level at bottom of Stamford Street will be between 59dBA and 62dBA despite the construction of the noise barrier. This noise level is qualified as "moderate" in the EIS. Although such noise is tolerable on an occasional basis - every 15 to 30 minutes currently - it will be much less so when the passenger train frequency will be increased to one train every 5 minutes.		Section 16.5.3, p16-124.	At Stamford Street, the rail tracks entering and exiting the proposed portal and dive structure will be approximately 5.5m below existing ground level. Noise from trains using the tunnel will be partially screened by the retained structure. Noise levels from the existing surface rail tracks between the portals show that the L <sub>Aeq(24hour)</sub> peak noise emission levels will increase by up to 2 dBA for the Year 2031, due to the change in passenger and freight train traffic. The increase in noise from surface rail traffic at sensitive locations would be negligible and not discernible. There is no charge required either to the findings of the EIS, nor the provisions of the draft Outline EMPS.
30	Concerned over the expected increase in noise due to the increased frequency of freight trains between Tennyson and the port of Brisbane. Also concerned over the future plan to increase the length of freight trains and the required additional locomotives this involves. As these freight trains will remain on the surface network, the very substantial increase in frequency during nights / days will negatively impact thousands of residents living in densely populated areas within close proximity of the rail tracks.	Increase the efficiency of noise barriers and build noise barriers all the way through densely populated urban areas between Ipswich and the port of Brisbane. An alternative solution is to impose Queensland Rail to use electric locomotives for all freight trains between Ipswich and the port of Brisbane. A precedent exists in Gladstone where freight lines coming from mine sites are electrified.	Section 16.5.3, p16-124.	The potential impact of changes in freight rail operations immediately beyond the study corridor, including the Tennyson line corridor have not been assessed as they are outside the Project's scope. The Project would not have any impact on wider freight demands as they reflect economic activity and demand for goods and services beyond the study area. That is, freight will continue to be transported between required origins and destinations. With regard to future plans to increase the length of freight trains, the existing freight trains operating between Salisbury to Park Road are currently 620 m in length and are proposed to increase up to 1,500 m in length by 2031. The change in train length has been incorporated in the noise modelling as a 'worst case' for both coal and inter-modal freight movements.
30	Currently most commuters from the suburbs of Moorooka and Tairagindi wishing to catch the train at Yeerongpilly railway station, drive to the station via Station Road and Green Street and are forced to park around the station environment, as there is very little parking provided for commuters. During the demolition and reconstruction of Wilkie Street and the closure of Station Road (for the life of the project) there will be a significant increase in traffic in Green Street and demand for parking in surrounding streets such as Wilkie, Green, Livingston, Crichton, Crichton and Stamford Streets with parking permits for residents.	Requesting that parking be limited in the surrounding suburban streets. This should involve, at a minimum, a week day 2 hour car parking limit in Wilkie, Green, Livingston, Crichton and Stamford Streets with parking permits for residents.	Section 5.7.2 p114, Section 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	A controlled parking zone (called a "Traffic Area") is proposed to permanently restrict all day on-street commuter car parking. It is expected that this be introduced, subject to agreement with Brisbane City Council, in advance of construction works commencing, so that these restrictions benefit residents during the construction phase. The detailed timing and sequencing of road closures would be analysed in further detail in the detailed design phase with mitigation measures required during each stage to manage access, parking and drop off around the station. This would be captured in a Construction Traffic Management Plan which would be subject to approval by Council.

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30	Concerned by the planned work on Saturdays. The EIS shows that during the 6 weeks of the demolition phase of Wilkie Street, noise will be in excess of 6BdBA during the day at my house and above 74dBA in the apartment building immediately below my house. It is also stated that noise in excess of this range is likely and cannot be mitigated. Similarly, there will be an additional 6 weeks period during the installation of piles alongside the railway corridor during which the noise target is likely to be exceeded. This excessive noise starting as early as 6.30am on Saturdays could be very distressing and negatively impact lives of residents living in the immediate vicinity of the south portal.	I request that no heavy noisy work is to be undertaken on Saturday mornings before 10.00am during the demolition phase and the pile installation phase near the South Portal in order to let working families rest on Saturday mornings.	Section 16.4.5, p16-59, Section 24.5.1, p24-10.	The Project is required to meet the performance criteria provided in the Draft Outline EMP of the EIS (refer to Table 24-18 in Chapter 24). The Yeerongpilly residential community would be consulted on the programme of works, including the anticipated duration of surface works, as required by the Draft Outline EMP. Where out-of-hours work is required, advance consultation with potentially affected owners and occupants of nearby properties would be undertaken to devise mitigation measures for potential noise and vibration impacts. Noise monitoring will be undertaken and the noise modelling updated to ensure the predictions are accurate.
31	We are the owners of two blocks of residential land being Lot 7 on RP 37976 situated at 6 Heaton Street, Rocklea and another block of land being lot 70 on RP 37976 situated in Tramore Street, Rocklea. Your proposal to elevate the carriageway of Heaton Street and remove access to Beaudesert Road service road will leave our properties without street access. Our lot in Tramore Street serves to provide access and amenity to the car yard business at present. The current proposal would mean that this would be the only available access to the car yard. The proposal to close Beaudesert Road (at surface level) will sever local connectivity between the two sides of the rail corridor. The proposed pedestrian bridge cannot be asserted as a means of maintaining connectivity.			The connection between Tramore Street and the Beaudesert Road Service Road underneath the viaduct will be retained under this proposal. That is, it is not proposed to be closed off as a result of CRR.
31	Recent floods showed the importance of preserving the Beaudesert Road (service road) open level crossing, as this was the only way by which many flood affected properties to the south of the rail corridor were able to escape. While noted in the EIS, the matter doesn't seem to have been given sufficient prominence.		Ch 14, Section 14.3.1 p14-16.	At Salisbury filling would be undertaken to raise the Beaudesert Road Service Road north of Dollis Street to the level of Beaudesert Road. This is to allow emergency egress from the area during flood events via a gate to Beaudesert Road. Existing ground levels at this location vary between 6.1 m AHD and 10.6 m AHD. The Brisbane River flood level is approximately 7.2 m AHD. The filling of areas below 7.2 m AHD would remove a small volume of flood storage of the Brisbane River floodplain in the 1 in 100 AEP event.

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31	<p>The current proposal will virtually eliminate passing traffic of any kind to our premises. Our business is heavily reliant on exposure to passing traffic. There are three main views of the premises which are relevant:-</p> <ol style="list-style-type: none"> <li>1. The heaviest passing traffic flow is along Beaudesert Road (lower deck service road) over the existing level crossing and then to the south.</li> <li>2. View from the passing rail passengers. No doubt the expanded rail corridor will also incorporate new sound barricading or screening which will eliminate any exposure of our premises to the railway users.</li> <li>3. There is some passing traffic along Heaton Street and on the current proposal, as we understand it, the Heaton Street carriageway will be raised for some unknown reason to the elevation of the railway lines and so motorists will no longer be able to see our premises.</li> </ol> <p>We presume for present purposes that nothing is proposed that would obscure the view of our premises particularly by northbound traffic on the elevated carriageway of Beaudesert Road.</p>			<p>The proposed closure of the Open Level will still require much of the traffic from Rocklea (south and west of the level crossing) wishing to access Beaudesert Road or Salisbury to pass the subject site to access the signalised intersection with Lillian Avenue. There are no proposals to put any screens or noise walls on the Beaudesert Road viaduct itself as the project does not materially affect traffic volumes on the bridge.</p>
31				<p>It is not intended to close off any existing property accesses to the road network in this location, under this proposal. During detailed design the exact alignment of each local road connection will be further examined to ensure access is maintained to all properties.</p>

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31	We think that opening (new) Tramore Street to two lane traffic outside the existing sports field and sports club will represent an unacceptable hazard not only to both patrons leaving after a drinking session but to children and others who use the facilities particularly over the weekend when the road will no doubt be crowded and busy.		Section 5.7.2, p5-115	Detailed road treatments for the section of Tramore Street to be made two-way will be undertaken during detailed design. Treatments may include new pedestrian crossings, traffic calming measures and alternative car parking provision
32	The new Yeerongpilly Station will likely attract many more train users from Moorooka and Tarragindi, Wilkie Street, Green Street, Livingstone Street and Stamford Street are already congested with parked cars as early as 8.00am. TransLink has a policy of no car parking at railway stations within 10km of CBD. If there is no car park, people won't take the train and will drive to the city, or park illegally around the railway station.	A paying car park for train users should be built in place of the industrial zone at Station Street. This area will be a car park for Cross River Rail workers during construction and should be transformed into a paying car park for train users. A school bus line should also be created between Yeerongpilly Station and Yeronga SS, Yeronga SHS and TAFE. In addition, our streets would remain with a 2hr limit parking all week days.	Section 5.7.2 p114, Section 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD, which aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities, cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will also continue to monitor park 'n' ride demand across the rail corridor as part of its ongoing strategic planning, which seeks to identify and prioritise opportunities for new or upgraded commuter parking at appropriate stations across the network. Prior to operation of Cross River Rail, TransLink will also review opportunities to enhance bus services to Yeerongpilly Station to take advantage of new bus-rail interchange opportunities offered by Cross River Rail. This could include services that link the new Yeerongpilly Station to local education facilities such as schools and the TAFE.
32	Concerned that the expected operational noise level at bottom of Green Street will be between 59dBA and 62dBA despite the construction of the noise barrier. This noise level is qualified as "moderate" in the EIS. Although such noise is tolerable on an occasional basis - every 15 minutes currently - it will be much less so when the passenger train frequency will be increased to one train every 5 minutes.		Section 16.5.3, pp16-123 to 16-126.	At Green Street, the rail tracks entering and exiting the proposed portal and dive structure will be approximately 4.0 m below existing ground level. Noise from trains using the tunnel will be partially screened by the retained structure. A noise barrier located immediately north of the new Yeerongpilly Station would also reduce noise levels from trains using the station. Noise levels from the existing surface rail tracks between the portals show that the LAeq(24hour) peak noise emission levels will increase by up to 2 dBA for the Year 2031, due to the change in passenger and freight train traffic (refer to Section 16.5.3 of the EIS). The increase in peak noise from surface rail traffic at sensitive locations would be negligible and not discernible. There is no change required either to the findings of the EIS, nor the provisions of the draft

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32	Concerned over the expected increase in noise due to the increased frequency of freight trains between Tennyson and the port of Brisbane. As these freight trains will remain on the surface network, the very substantial increase in frequency during nights / days will negatively impact thousands of residents living in densely populated areas within 500m of the rail tracks.	To alleviate the impact of much more frequent noisy diesel freight trains, increase the efficiency of noise barriers and build noise barriers all the way through densely populated urban areas between Ipswich and the port of Brisbane. An alternative solution is to impose Queensland Rail to use electric locomotives for all freight trains between Ipswich and the port of Brisbane. A precedent exists in Gladstone where all freight lines coming from mine sites are electrified.	Section 16.5.3, p16-124.	Existing freight trains between Salisbury to Park Road are currently 620 m long and are proposed to be increased to 1,500 m by 2031. The change in train length has been incorporated in the noise modelling as a 'worst case' for rail freight operations, and all freight traffic modelled with double-header locomotives. In Year 2031, a negligible increase in peak noise levels (2 dBA) is predicted from surface rail operations between the portals. The potential impact of changes in freight rail operations immediately beyond the study corridor, including the Tennyson line corridor have not been assessed as they are outside the Project's scope. The Project does not have any impact on wider freight demands as these are a factor of economic growth and demand for goods and services beyond the study area. With respect to the electrification of freight lines, the electrification of freight services was not included in the ToR for the Project.
32	I understand that the 6.30am-6.30pm working period from Monday to Saturday for the CRR project together with the noise limitations imposed on the CRR construction sites do not apply for the rail corridor itself. To my knowledge the maximum noise limit for railway maintenance and work by Queensland Rail is 75dBA, which according to Table 16-1 of the Environment Impact Statement of the CRR is qualified as "loud". While occasional loud work at night as currently is tolerable, residents around the construction site of the south portal are unlikely to tolerate loud work in the middle of every night for extended periods of time.	As I understand the amount of night work on the rail tracks will substantially increase during the construction of the south portal, I am requesting lower maximum noise limits for night rail work within the rail corridor (below 65dBA in the category "moderate") to enable residents of the south portal area to sleep at night.	Section 16.2.2, p16-12.	The Queensland Rail Code of Practice planning noise levels have been adopted to assess the impact of relatively short term construction noise levels from CRR surface track worksites. Should a lower maximum construction noise limit (ie 65 dBA) be imposed for night-time works in the rail corridor, this could potentially result in an extension of the Cross River Rail construction program. At the southern portal worksite, piling works within the live rail corridor would be required. Such works would be approximately six weeks in duration and would impact on property owners in Tees Street, Wilkie Street, Livingstone Street, Fairfield Road and Cardross Street (refer to Section 16.4.5 of the EIS). Construction noise levels predicted at properties are 'worst case' scenarios, which assumes all plant and equipment operate simultaneously. Where exceedances of the noise goals are predicted, a hierarchy of practical controls is described in Chapter 24 of the draft Outline EMP (Construction), in order to minimise noise levels predicted at nearby properties.
32	Concerned by the planned work on Saturdays. The EIS shows that during the 6 weeks of the demolition phase of Wilkie Street, noise will be in excess of 68dBA during the day at my house and above 74dBA in the housing commission units immediately below my house. It is also stated that noise in excess of this range is likely and cannot be mitigated. Similarly, there will be an additional 6 weeks	I request that no heavy noisy work is to be undertaken on Saturday mornings before 10.00am during the demolition phase and the pile installation phase near the South Portal in order to let working families rest on Saturday mornings.	Section 16.4.5, p16-59, Section 24.5.1 p24-10.	The Project is required to meet the performance criteria provided in the Draft Outline EMP of the EIS (refer to Table 24-18 in Chapter 24). The Yeerongpilly residential community would be consulted on the programme of works, including the anticipated duration of surface works, as required by the Draft Outline EMP. Where out-of-hours work is required, advance consultation with potentially affected owners and occupants of nearby properties would be undertaken to devise mitigation measures for potential noise and vibration impacts.

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	period during the installation of piles alongside the railway corridor during which the noise target is likely to be exceeded. This excessive noise starting as early as 6.30am on Saturdays could be very distressing and negatively impact lives of residents living in the immediate vicinity of the south portal.			Noise monitoring will be undertaken and the noise modelling updated to ensure the predictions are accurate.
32	Currently most commuters coming from Moorooka and Tarragindi to catch the train at Yeerongpilly railway station between 6.30 and 8.30am weekdays drive through Station Street and Green Street and park their cars around the station, mainly in Wilkie Street and Green Street. When Wilkie Street is demolished and closed to traffic, there will be a significant increase in traffic in Green Street and demand for parking in parallel street such Livingstone and Stamford Street. Wild car parking (half across home driveways, close to street corners), traffic and risk to pedestrians around the railway station are likely to increase.	I am requesting remediation to be taken during the 5.5 years of the project. This could involve a week day 2hr car park limit in Green Street. Livingstone Street and Stamford Street with parking permits for residents, and traffic slowing devices (for safety in our streets and around the station).	Section 5.7.2, p114, Section 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	A managed on street parking scheme (called a "Traffic Area") is proposed to permanently restrict all day on-street commuter car parking on residential streets. It is expected that this be introduced, subject to agreement with Brisbane City Council, in advance of construction works commencing, so that these restrictions benefit residents during the construction phase. A range of construction traffic mitigation measures will also be considered in the detailed design phase and captured in a Construction Traffic Management Plan which would be subject to approval by Council.
33	The proposed destruction of fig trees in Victoria Park.	Move the "general site area" away from the fig trees and closer to the dog off leash area, as per the proposal by Jason Jacobi.	Ch 11, Sections 11.3.3 (Impacts) and 11.3.4 (Mitigations) and Ch 24, Table 24-10 p24-28	An alternative worksite configuration would be developed to retain the two fig trees. Further investigations during detailed design would seek to minimise clearance of native vegetation to that necessary for construction, site maintenance and operation, and ensure all necessary statutory clearing permits have been obtained prior to works commencing. In particular, construction impacts on the existing mature trees located within the central section of Victoria Park would be minimised, where possible. Following construction, the worksite would be rehabilitated and landscaped with plantings of appropriate native species, suitable for its ongoing use as open space and park.
34	Issue regarding the heritage listed building at Yeerongpilly. The proposed modern brick 'toilet block' design is stark and unimaginative. Where is the shade and rain protection? The building has a flat roof with no protection from the elements. As for the 'V' Shaped entry, wind and rain will have a field day.	The new Yeerongpilly Station could still house the existing heritage listed building or a building in sync with the existing character housing in the area.	Ch 10, Section 10.3.2, p10-39.	The design of the proposed Yeerongpilly Station building would be refined during the detailed design phase. The new station would be designed to enhance the visual environment of the surrounding area, with the station fitting into the scale and character of the existing nearby residential area.
34	Car parks should be available for commuters in the redevelopment of the Yeerongpilly worksite.		Section 5.7.2, p114, Section 5.10.5,	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD.

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			p5-163, and Section 24.10 Table 24-27 EMP	<p>which aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities, cycle parking facilities and new bus stops near the station entry to improve transport interchange. Translink will also continue to monitor park 'n' ride demand across the rail corridor as part of its ongoing strategic planning, which seeks to identify and prioritise opportunities for new or upgraded commuter parking at appropriate stations across the network. Prior to operation of Cross River Rail, Translink will also review opportunities to enhance bus services to Yeerongpilly Station to take advantage of new bus-rail interchange opportunities offered by Cross River Rail. Further, as discussed in Section 9.4.12 of the EIS, consideration could be given in any future redevelopment of the construction worksite at Yeerongpilly to the provision of parking to support the new Yeerongpilly Station. Planning for the future redevelopment of the worksite would be undertaken as part of a separate planning process to the Project and would need to include consultation with the local community. This process would need to include an assessment of impacts associated with various land use options, including the provision of parking.</p>
34	Will the residents be compensated for double glazing and the cost of running airconditioners to try to eliminate the noise and dust? 24/7 noise is really unacceptable. Church services at St Fabian's in Wilkie Street will be inaudible.	Also the residents would like to have an after hours phone number to contact the project team directly and be able to speak to a person rather than a machine when noise is above the allowed decibels. Acoustic barriers along the train line along Wilkie Street may be an option.	Section 16.4.5 p16-59. Section 24.5.1 p24-10. Ch 24, Table 24-22, p24-58.	<p>A hierarchy of controls are identified in the EIS to mitigate noise from the Yeerongpilly worksite, in order to meet the construction noise goals (refer to Table 24-18 in Chapter 24). As part of the construction EMP, consultations with property owners would be conducted in sufficient detail to address specific construction impacts and mitigation requirements (refer to Section 24.5.1 of the draft Outline EMP).</p> <p>A noise barrier is proposed immediately north of the new Yeerongpilly Station which would reduce noise levels from trains using the surface rail tracks.</p> <p>Prior to the commencement of construction activities, a 24 hour, seven day a week, toll-free telephone line would be established for receiving, handling and responding to complaints and community enquiries in a timely and effective manner (refer to Table 24-22 of the draft Outline EMP).</p>
34	Tunnelling for the project will also cause vibrations to the land and movement in houses. This will lead to cracks in the foundation and walls of our homes. Will		Section 16.4.11, p16-105.	The major construction works in the vicinity of Green Street (Yeerongpilly) is the portal and dive structure located immediately south of the tunnel portal. No impacts from ground-borne vibration are predicted from these works. TBM

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	residents be compensated for damage to their homes?			works commence approximately 250 m north of properties on Green Street. All residential receivers on Green Street are predicted to comply with the ground-borne vibration goals from TBM operations. (With respect to construction vibration impacts, ground-borne noise and vibration monitoring, together with pre-condition building surveys would be carried out where predictive modelling conducted prior to the commencement of works indicated the potential for exceedances of the goals refer to Table 24-18 of the Draft Outline EMP). Vibration predictions would be updated based on monitoring during construction and further mitigations developed, if required.
34	Trucks travelling to and from Lucy Street up to Ipswich Road will be a problem and cause a backlog of traffic (through traffic are unable to use Lucy St, will be using Green and Stamford Sts to access Fairfield Road). option.		Section 5.10.5, p5-160	The intersection of Lucy Street, Durack Street and Ipswich Road currently caters for traffic associated with businesses along Station Road as well as through trips from Wilkie Street. Cross River Rail will require these properties to be acquired and these uses to cease. A detailed assessment of the likely traffic generation from the proposed CRR worksite at this location relative to the existing volumes will be undertaken in the detailed design. As a worst case, an assessment was undertaken in the EIS assuming the CRR construction traffic would be in addition to existing traffic and concluded that only minor additional delays may be experienced but that these could be controlled by ensuring signal priority remained with Ipswich Road. Green Street would remain open for local access from Yeerongpilly to Ipswich Road, however it would not be signed or designated as a through route.
35	The QPS has no specific concerns with the content of the draft EIS. However, the Service will continue to monitor this project and would like to be advised when the Construction Traffic Management Plans are released.		Ch 24, Table 24-11	Noted. QPS will be consulted about Construction Traffic Management Plans.
36	We do not believe the nature of the use of the church's property is considered by the EIS. The appropriate noise level applicable to quiet thought and mediation should be considered and the impact specifically assessed against the existing noise and vibration levels. Our client does not believe that an increase in noise or vibration will be acceptable to the functioning of the property for its current use.		Section 16.4.11, pp16-105 to 16-120.	With regard to potential impacts on the Church of Jesus Christ of Latter Day Saints, internal noise goals for Places of Worship have been provided in Table 16-4 of the EIS. The internal noise goals are stringent and can be achieved during construction and operation. Maximum ('worst case') ground-borne noise and vibration levels have been predicted when the TBM is located at the shortest distance to the receiver (ie generating the maximum ground-borne noise and vibration). The tunnel crown is approximately 46m below the existing ground surface at this location. Modelling of ground-borne vibration levels from tunnelling at this location show indicative maximum vibration levels of between 0.1 to 0.3 millimetres per second (mm/s) (refer to Table 16-54 of the EIS).

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36	The Hazard and Risk Register in the EIS identifies a number of risks that even after mitigation remain as high and that pertain to concerns about the church's property. These include noise and vibration during construction, noise and vibration post construction (still listed as a medium risk after mitigation) as well as subsidence (listed under both construction and operation). The EIS does not specifically advise what amount of ground movement or subsidence is expected relevant to the church property or immediately surrounding lands.	We request that ground movements and differential ground movements relevant to the church's property be advised so investigation can be undertaken to determine impacts. This issue is of particular concern given the location of the tunnels passing under one end of the building and the potential created for a differential movement.	Ch 7, Sections 7.3.3 to 7.3.5, Table 7-10, Ch 16	<p>The noise and vibration assessment has been undertaken in accordance with AS2107 which has specific standards for places of worship. Potential impacts to this property from noise and vibration during construction are anticipated to be negligible. This will be reviewed during detailed design and construction. Operational noise and vibration will be addressed through rail track fasteners.</p> <p>A preliminary review of the settlement effects of tunnel construction shows an estimated maximum settlement of between 10 - 25 mm at the church. During detailed design and in advance of construction, predictive modelling of settlement will be refined with actual monitoring data. Mitigation measures would be implemented throughout the Project to control and reduce the risk of settlement impacts due to construction and operational activities. Building conditions surveys will be undertaken where necessary before and after construction.</p>
36	Also concerned regarding the ability to change/modify/extend or further develop the church property to its potential in the future.	We request advice on what design load restrictions will be adopted relevant to the church's land so we can further advise on the impact this will have on the church in the future.		<p>There is a small volumetric acquisition required for this property along the property frontage. Due to the significant depth of the tunnel at this location, it is unlikely to have any impact on future development possibilities. TMR's concurrence agency jurisdiction will be triggered for certain development within proximity to the tunnel infrastructure. Development applications for land nearby to the CRR project will require a concurrence referral response from the Department of Transport and Main Roads. This referral would ensure that the Projects structures are considered in the design of any new developments.</p>
37	The EIS design has high impacts on the community due to excessive resumption requirements. The suburban (Kuraby) lines do not need to be on the eastern side of the CRR lines. The existing Yeerongpilly platforms are completely wasted.	The cross over between the CRR lines and Kuraby lines should be constructed to the south of Yeerongpilly Station, and the existing platforms should continue to be used for the Kuraby train lines. Refer to figure within submission.		<p>The preferred Yeerongpilly Station location was based on a combination of technical design factors, such as geometric design, gradients, alignments, platform requirements and integration with the surface railway, flooding and geotechnical factors. Based on these factors, a cross-over between the Cross River Rail lines and the Kuraby lines south of the existing Yeerongpilly Station would not be feasible. The Reference Design within the industrial area at Station Road allows the suburban tracks to cross over the Cross River Rail tracks north of the new station, avoiding the need for a grade separation to access stabilising within Clapham Rail Yard.</p>

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				The figure provided with submission proposes the portal south of the preferred location (within Clapham Rail Yard), with new below-grade platforms for CRR and use of existing Yeerongpilly Station for Kuraby Rail Line. This design (similar in portal location to the Moorooka option identified in Section 3.3.5 of the EIS) is not practical or feasible as there is insufficient time / length for the proposed portal to gain the depth that is required, without requiring the extensive closure of the rail line (which the CRR reference design avoids). Commencing the dive structure in Clapham Rail Yards would require an allowance for infrastructure and land to access alternative stabling on a 15 ha site south of Clapham Rail Yard, resulting in at least \$250 million in additional costs.
38	Against closure of Nyanda rail crossing in Rocklea. It is the only exit route from Rocklea when there is flooding.	Please leave it open.		The closure of the Rocklea crossing is required due to the rail corridor being widened to accommodate an additional 2 rail tracks with the number of trains expected on this section of track would almost double with Cross River Rail. This would result in long wait times at the crossing with increased congestion and increased safety concerns. The closure of the Beaudesert Road Service Road open level crossing is in line with the Queensland Government's Level Crossing Safety Strategy 2011-2020 which aims to improve safety and transport system efficiency by progressively removing open level crossings. However a new link (emergency gate) has been proposed to allow vehicles to access Beaudesert Road itself (immediately south of the viaduct) from a raised segment of the Beaudesert Road Service Road in the event of a flood and the subsequent closure of the proposed signalised intersection of Beaudesert Road and Lilian Avenue. This emergency gate would allow a vehicular exit point with similar flood immunity to the existing open level crossing. The detailed design phase will further examine design treatments to accommodate large vehicles.
39	A concern is Flooding of the Rail Tunnel. The Alice Street - Albert Street entry / exit is an area which was flooded. Please do not rely on shutters, gates valves or the like to prevent water entry .	Suggest to move the entry to a higher ground level - even up the street in the Gardens. (It need only be a small entry the rest is underground)	Ch 14, Section 14.4 p14-26.	The proposed Albert Street Station would have dedicated automated flood gates at each of the entry points and would be designed to withstand a 1 in 10,000 AEP event. Had the Albert Street Station been in place in January 2011, normal operating procedure would have required the floodgates to be activated before the peak levels were reached and would have protected the station from inundation. While the station entry would have been closed off in that event, the Project would have been protected from inundation and would have remained available for operation.
40	Increase of freight traffic via Tennyson due to CRR. According to the CRR EIS the current	The CRR project should only be considered as a viable solution to train traffic congestion if	n/a	The Project does not specifically provide any new infrastructure on the Tennyson Line nor does it have any

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	<p>freight traffic in/out of Tennyson will decrease without the CRR and more than double with the CRR. The figures in Table 5-24 in the EIS are considered to be an underestimate of the increased rail traffic through Tennyson as the CRR will allow for:</p> <ul style="list-style-type: none"> <li>• longer trains (increased capacity of freight services),</li> <li>• for flighting (one train closely following another) and</li> <li>• fewer restrictions on freight operating hours.</li> </ul> <p>The resulting increase in the extent of rail noise disruption will dramatically decrease the ability of residents to live comfortably, with an acceptable level of amenity, in this area. In the current EIS and Executive Summary there is no specific reference to negative impacts on the residents of Tennyson.</p>	<p>the well-being of the residents of Tennyson is included. Effective sound deflecting and absorbing barriers should be installed along the Tennyson rail corridor. All other or secondary noise amelioration measures should reasonably be considered for effectiveness and utilised if found to be so. To be effective, barriers to cope with the anticipated freight rail traffic need to run along ALL of the border with Tennyson, i.e. from Softstone Street to Oxley Creek. Their design and construction needs to be such that they not only deflect noise as at present, but absorb it as well.</p>		<p>impact on wider freight demands as these are a factor of economic growth and demand for goods and services beyond the study corridor. As such, freight will continue to be transported between required origins and destinations regardless of the Project, including by rail through the study corridor, as existing. The projected number of freight paths to meet demand are outlined in Table 5-24. This section states that less train paths may be required to serve that demand if there were longer trains, flighting of trains, or lower off-peak passenger train frequencies for example. The table is intended to represent a conservative view of the number of train paths required to meet projected rail freight demand. In any case the CRR does not propose nor require any general changes to freight rail operation. These will continue to be managed by Queensland Rail in line with their Code of Practice for Railway Noise Management and Network Noise Management Plan.</p>
41	<p>Victoria Park is in trust to Brisbane City Council for park and no other purpose. Loss of mature trees and vegetation impact on environment and habitat of animals. Risk to public who use paths, dog park from pollution of construction site.</p>	<p>Use of unused railway land</p>	<p>Ch 11, Sections 11.3.3 (Impacts) and 11.3.4 (Mitigations) and Ch 24, Table 24-10 p24-28</p>	<p>The location of the northern portal was driven by a range of factors (identified in Section 3.3.4 of the EIS) and no significantly different portal alternatives, including those identified in submissions, were considered feasible, with the proposed location considered the most pragmatic solution available for the corridor and selected alignment.</p> <p>An alternative worksite configuration would be developed to retain the two fig trees.</p> <p>Further investigations during detailed design would seek to minimise clearance of native vegetation to that necessary for construction, site maintenance and operation, and ensure all necessary statutory clearing permits have been obtained prior to works commencing. In particular, construction impacts on the existing mature trees located within the central section of Victoria Park would be minimised, where possible.</p> <p>Following construction, the worksite would be rehabilitated and landscaped with plantings of appropriate native species, suitable for its ongoing use as open space and park.</p> <p>Air quality studies undertaken for the EIS identified that PM10 concentrations are expected to be usually below the objective in all residential, education and commercial premises near the worksite. The predicted dust deposition rates and dust nuisance goals have the potential to be exceeded in a section of the park immediately south-east of the worksite.</p> <p>As identified in Table 24-17 of the draft Outline EMP, a dust and odour management plan would be developed which would specify measures for avoiding and managing dust</p>

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42	Undesirable encroachment on Victoria Park with subsequent loss to the public of what is after all common or community parkland. In an era of environmental responsibility the proponents audacity is clearly exposed.	Get some fresh, smart thinkers into the project to explore acceptable options. Possibly radical innovation of the existing underutilised Roma St/Bowen Hills rail corridor. Abandon this absurd, expensive and destructive tunnel proposal.	Ch 11, Sections 11.3.3 (Impacts) and 11.3.4 (Mitigations) and Ch 24, Table 24-10 p24-28	<p>The location of the northern portal was driven by a range of factors (identified in Section 3.3.4 of the EIS) and no significantly different portal alternatives, including those identified in submissions, were considered feasible, with the proposed location considered the most pragmatic solution available for the corridor and selected alignment.</p> <p>An alternative worksite configuration would be developed to retain the two fig trees.</p> <p>Further investigation during detailed design will continue to minimise clearance of native vegetation to that necessary for construction and site maintenance and operation, and ensure all the necessary statutory clearing permits have been obtained prior to works commencing. In particular, construction impacts on the existing mature trees located within Victoria Park in the central section would be minimised, where possible.</p> <p>Following construction, the worksite would be rehabilitated and landscaped with plantings of appropriate native species, suitable for its ongoing use as open space and park.</p>
43				<p>Alternative tunnel alignments are identified for further consideration, including:</p> <ul style="list-style-type: none"> <li>Option 1 - following Ipswich and Annerley roads from Moorooka to Dutton Park.</li> <li>Option 2 - following Beaudesert Road from Salisbury to Moorooka - this will provide greater network footprint and potential station locations.</li> <li>Option 3 - following Ipswich Road/ Main Street and then towards new Woolloongabba Station, including interchange station at PA Hospital.</li> </ul> <p>The Project route selection process failed to consider alignments other than those basically following the existing rail alignment between Moorooka and Boggo Road.</p> <p>The Study Corridor included the Ipswich Road area, but no alignments to the eastern side of the corridor were proposed or evaluated.</p> <p>It appears that the proposed alignment is focused on delivery of this primary objective without realising the potential secondary benefits that can be brought about by opening new areas to rail travel and greater public transport penetration.</p> <p>The currently proposed alignment does not provide improved access to any new passengers at their journey's origin, with exception of those in the CBD. The footprint of the rail network is not significantly increased by the proposed alignment.</p>

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43	The significant cost of relocating, rebuilding and expanding Yeerongpilly Station does not appear to be an efficient way to spend the project budget, as it will provide no new facility/amenity or benefit to the community. The existing station already provides essentially the same amenity including a pedestrian link to Tennyson Tennis Centre and TOD.	A new underground station could be constructed at the eastern end of Yeronga Memorial Park near Chardon's Corner. This could be integrated with, or link to the proposed TOD at Yeronga TAFE college and High School. Alternatively, a station could be built under Ipswich Road at Annerley near the intersection with Annerley Road. This would provide an opportunity for a TOD with the station location.	Section 3.3.5	<p>A detailed appraisal of station options at Yeerongpilly are fully evaluated in the EIS.</p> <p>The location of southern portal requires a new surface station at Yeerongpilly with high levels of service. The new station also provides greater opportunities to support possible future redevelopment of the Yeerongpilly construction worksite as a transit oriented development.</p>
43	The current proposal for stations on the CRR line does not include stops at, or interfaces with, Yeronga or Fairfield stations. Passengers at Fairfield wishing to travel to the Gabba, are required to change trains at Boggo Road or to get on at Yeerongpilly.	Propose an underground platform at Yeronga station linked to the existing station. This would encourage greater network coverage and ridership of Cross River Rail. Opportunity is also presented at Yeronga station for a TOD linking into the shopping village and RSL across the road.	Section 3.3.2	<p>For CRR, a range of station location options were developed based on a common preferred alignment. This considered how many stations were required and the preferred location and form of interchange with other services.</p>
44	There is no planning for parking. Residents do not deserve to be affected by the parking of the inevitably huge increase in passengers who will want to use the Project. The neighbourhood should not be seen as a car park to compensate for poor planning and tight budgets.	A substantial bus/train interchange must be planned for as well. The land is available in the industrial park.	Section 5.7.2 p14, Section 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	<p>This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD, which aims to encourage kiss 'n' ride and 'walk up' patronage.</p> <p>To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street interchange. TransLink will also continue to monitor park 'n' ride demand across the rail corridor as part of its ongoing strategic planning, which seeks to identify and prioritise opportunities for new or upgraded commuter parking at appropriate stations across the network. Prior to operation of Cross River Rail, Translink will also review opportunities to enhance bus services to Yeerongpilly Station to take advantage of new bus-rail interchange opportunities offered by Cross River Rail.</p>

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44	Very hazy planning for the removal of spoil from the portal during the proposed five year construction phase. Trucks operating around the clock must be confined to the industrial area. If this activity is confined to Lucy Street, what are the plans for traffic which normally uses Lucy Street? Neighbourhood will become a congested with traffic.		Section 5.10.5 EMP	<p>The Yeerongpilly worksite will cater for the removal of spoil from the southern portal with trucks using Station Road, Lucy Street, and Ipswich Road only with no identified detrimental impact on the safety and efficiency of this route. There will be no physical access for spoil haulage vehicles between the residential area around "new Wilkie street" and the worksite itself. Much of the traffic currently using Station Road and Lucy Street is generated by the industrial and commercial land uses adjacent to it. Cross River Rail will cause these to cease to exist. While some local access trips from Wilkie Street to Ipswich Road currently use Station Road these would need to use Green street instead during the construction phase although these are expected to be minimal. Additional traffic analysis and potential mitigation measures will be further examined in the detailed design phase and detailed construction management issues will be dealt with in the Construction Traffic Management Plan</p>
44	The EIS mentions building barriers in Salisbury and Rocklea to deal with proposed noise levels. Yeerongpilly is already badly affected by noise from freight, specifically coal trains. This has increased significantly over the past few years and the EIS predicts that this traffic will become almost a continuous stream. What will the QR and CRR be doing to lessen the impact of this on the residents of Yeerongpilly and other Brisbane residents along the line to the port? This must be addressed by CRR as part of the reason for having an underground is to relieve pressure on the available above ground lines (for the increased freight projections).		Section 16.5.3, p16-123 to 126.	<p>By Year 2031, a negligible (2 dBA) increase in peak noise levels is predicted from surface rail operations running between the portals and would not be discernible to nearby sensitive receptors. Cross River Rail does not have any impact on wider freight demands as these are a factor of economic growth and demand for goods and services beyond the study corridor.</p> <p>The Project does not propose any general changes to freight rail operation as these will continue to be managed by Queensland Rail in line with their Code of Practice for Railway Noise Management and Network Noise Management Plan which sets out noise guidelines and how it might mitigate unreasonable noise. In accordance with Queensland Rail's Code of Practice, regular reviews and noise monitoring occurs across the network. Surface rail traffic would need to be managed to achieve the criteria set out in Queensland Rail's Code of Practice for Railway Noise Management (ie 87dBA assessed as a Single Event Maximum Sound Pressure Level, or 65dBA assessed as the 24 hour average equivalent continuous A-weighted sound pressure level) (refer to Section 4.2 of the Code of Practice).</p>
44	The CRR and the Yeerongpilly/Tennyson TOD must be in communication with each other. Consideration must be given to future residents of the TOD.		Section 9.4.12	<p>The EIS states that ongoing consultation would be undertaken with key stakeholders, including the Department of Local Government and Planning for the Yeerongpilly TOD, in relation to future development to ensure that the objectives of Cross River Rail and these developments continue to be achieved through increased transport and land use integration.</p>

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44	What plans are in place to compensate residents and to look after their concerns? What assurance if any, can be given to us that our lives will not be affected similar to Lutwyche/Kedron Brook? When the residents of Yeerongpilly begin to show signs of stress what support will be in place to deal with it?		Section 20.4.8 (Impacts) and Section 20.6 Sections 24.5.1 - 24.5.3 (complaints process, draft outline EMP)	<p>Freehold land is acquired under the Acquisition of Land Act 1967. There is no provision for compensation for property impacts under this legislation.</p> <p>The EIS, through the draft Outline EMP (Construction) (Chapter 24) provides a framework for managing construction activities to achieve a reasonable environmental amenity. Any properties identified as being adversely affected will be investigated on an individual basis to ensure the project meets the reasonable needs of the resident. Depending on the situation with the property, monitoring will be undertaken to establish whether the noise, dust and vibration goals, as set by the CoG, are being exceeded, and where identified, implementing and maintaining effective mitigation measures to address and mitigate the impacts of the Project on local communities.</p> <p>As outlined in Section 24.5 of the EIS, a process will be developed and implemented for receiving and responding to complaints about the Project from community members during the construction phase.</p>
45			<p>Transport of spoil via barge on the Brisbane River was considered in the planning for the Project. However, this method of spoil removal would involve a number of environmental risks in relation to impacts on water quality and wetland habitats in Moreton Bay. The decision by the Australian Government Department of the Environment, Water, Heritage and the Arts on the Project referral to the Environment Protection and Biodiversity Conservation Act (EPBC Act) for Swanbank to be used as the spoil placement site, also means that spoil transported to the Port of Brisbane via the Brisbane River would then need to be transported by road to Swanbank. As such, this option was not pursued further. The proposed spoil haulage route for Boggo Road is likely to remain via Cornwall Street as this provides the quickest route to the combined haulage route of Ipswich Road in the outbound direction. It is proposed that the inbound haulage route to the Boggo Road worksite would now be via Ipswich Road and Fairfield Road due to subsequent analysis of road geometry constraints.</p>	

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45	EIS suggests that the use of Amerley Road between Ipswich Road and Rusk Street to the south-east of the worksite would be avoided in order to minimise impacts on residential and other sensitive receivers along that route. Do not think it reasonable that of two available routes, one (Cornwall Street) should carry the entire load whilst the other (Amerley Road) carries none. Nonetheless, excesses of noise on a sustained basis and the distress so caused are not experienced communally but personally. Residents are alarmed at the prospect of its continual nature – i.e. 24 hours a day, 7 days a week, for approaching 3 years.		Section 5.10.5, p5-154 Ch 24	Annerley Rd is primarily residential and not suitable as the primary haulage route. The revised route for spoil haulage vehicles is shown in Figure 3-1 of the Environmental Impact Assessment – Supplementary Report. The refinement to the spoil haulage route would result in a decrease in the number of westbound truck movements on Cornwall Street (east of Amerley Road), by an average of 36 trucks per day and up to 89 trucks per day during peak spoil haulage times. Spoil haulage from Bogg Road would occur between 6.30am and 6.30pm, Monday to Saturday.  Fairfield Road will be utilised during morning peaks for outbound haulage during busier haulage phases.
45	It does not seem unreasonable that the burden associated with spoil haulage be shared between available routes. The Amerley Road option is no less serviceable, and whilst residents would find the disruption no less traumatic than would residents of Cornwall Street, they would at least have the knowledge that they were not being asked to bear the full weight of the disruption to normal life.			Annerley Rd is primarily residential and not suitable as the primary haulage route. The revised route for spoil haulage vehicles is shown in Figure 3-1 of the Environmental Impact Assessment – Supplementary Report. The refinement to the spoil haulage route would result in a decrease in the number of westbound truck movements on Cornwall Street (east of Amerley Road), by an average of 36 trucks per day and up to 89 trucks per day during peak spoil haulage times. Spoil haulage from Bogg Road would occur between 6.30am and 6.30pm, Monday to Saturday.  Fairfield Road will be utilised during morning peaks for outbound haulage during busier haulage phases.
46	While the department supports the provision of this large scale infrastructure, it notes the requirement for compulsory acquisition of a number of its properties and the potential impacts on tenants, including relocation from compulsory acquired sites, noise, dust and disturbance for those properties near or over the proposed corridor.	The EIS should address how the noise and disturbance to the surrounding area will be mitigated during and post construction. Noise, dust and disturbance should be appropriately managed as part of construction and appropriate risk management strategies developed prior to the implementation of tunnelling/ volumetric property actions to avoid any damage to the department's properties. Any damage sustained to departmental properties during construction shall be rectified as part of construction.	Ch 24, Tables 24-17, 24-18 and 24-12.	Potential construction impacts will be managed through the EMP (Ch 24). All construction activities would need to satisfy the requirements of detailed noise and air quality management plans which would be prepared and approved prior to the commencement of construction works. These management plans would be based on the environmental objectives and supporting goals for noise and dust outlined in the EMP (Ch 24). Where predictive modelling indicates settlement may be likely, design and construction measures would be implemented to manage and mitigate the identified impacts. All landowners with volumetric requirements will be consulted about construction activities and where damage from the project is demonstrated, impacts will be rectified.

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46	Notwithstanding the reasonable availability of affordable accommodation in the study area, this project will displace existing rental tenants if DTMR purchases the affected rental properties. The social impact assessment does not concern itself with this group and the draft outline Environmental Impact Plan on community engagement does not specifically address assisting property owners either. In this respect, the EIS fails to appropriately mitigate direct project housing impacts.	The department recommends that the proponent develop a pre-construction EMP/sub-plan on community engagement that provides relocation support for residential property owners and renters that will be displaced by the project. This could address ideas articulated in the social impact assessment, inclusive of available support services for renters such as information on the RentConnect Service provided by the Department of Communities and National Rental Affordability Scheme.	Section 20.3.3	During consultation for the Project, concerns were raised by some directly affected residents about the ability to find alternate housing within the study area. While the study area generally has a good supply of affordable rental housing, some suburbs, such as Fairfield, Yeerongpilly and Yeronga have limited available affordable housing properties for purchase. This may impact on some property owners who may wish to relocate within the study area. On-going consultation and communication with property owners about the property acquisition and compensation process and support available to potential affected property owners, may assist in reducing potential impacts in sourcing alternate accommodation. In addition, the Project would consult with relevant service providers through the Department of Communities to determine whether additional support for tenants is required.
47	Mitigating noise at individually affected receivers through property treatments (e.g. mechanical ventilation, glazing upgrades). Who will bear the additional cost of operating air conditioning units during the period and beyond as a result of the increased noise levels from removal of the buildings that currently act as a sound barrier?		Section 16.4.5, p16-59, Section 24.5.1, p24-10, Ch 24, Table 24-22, p24-58.	As described in Chapter 16 (Section 16.4.5), a hierarchy of controls are identified in the EIS to mitigate noise from the Yeerongpilly worksite, in order to meet the construction noise goals. This may include mechanical ventilation and glazing upgrades to individual properties should this be deemed necessary. As part of the draft Outline EMP (Construction), consultations would be conducted with property owners in sufficient detail to address specific construction impacts and mitigation requirements. This could include possible compensation for directly affected owners.
47	Cumulative construction noise impacts from the Yeerongpilly TOD. Noise from Fairfield Road that is currently shielded by buildings on Wilkie Street has not been taken into account in this assessment and this combined with the TOD and CRR construction noise may raise the noise levels to a higher level than the EIS suggests.	A full assessment of the noise impact that will result from both Fairfield Road and Wilkie Street should be undertaken and included in the EIS.	Section 16.4.13 p 16-111, Section 16.4.5, p16-60, Section 16.5.4, pp16-134 to 16-135.	If required, mitigation of cumulative construction noise from the two projects would be considered during the detailed design stage (construction programs for both projects are yet to be finalised). Future noise monitoring and predictive modelling will be conducted at detailed design to identify the likely acoustic impacts and any requirements for mitigation. Cumulative construction noise impacts from the Yeerongpilly TOD site west of the rail corridor and Southern Portal worksite has not been assessed as the construction programs for both projects are yet to be finalised. Nonetheless, should the construction noise impacts (daytime only) would be mostly limited to receivers located on the western side of the rail corridor north of the TOD site (ie Oritive Street). A large number of noise sensitive receivers located on the eastern side of the rail corridor would be shielded to the TOD worksite by the CRR acoustic enclosure.

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47	The statement in the EIS about leaving the final row of buildings in place directly contradicts statements from the engineers that the first phase of work will be the realignment of Wilkie Street (p16-113). This statement should be removed from the EIS as it is misleading.	Properties that will be directly exposed to increased noise levels should be provided with adequate upgrades to glazing. For the most disruptive phases of the project (P1+P2 = 12 weeks) directly affected residents would seek to be adequately relocated and compensated during this period.	Ch 4, Figure 4-32. Ch 24, Section 24.5.1 p24-10.	All residences adjacent to the realigned section of Wilkie St are expected to comply with the noise goals in the EMP, and therefore no specific mitigation is anticipated.
47	How high will noise barriers be? How much mitigation will barriers provide to upper stories of homes (buildings in Tees Street are at some 2m+ elevation to Wilkie Street). Will the barrier divert sounds upwards and impact on the upstairs sleeping areas of properties. Will compensation be provided to take into account the reduced potential in saleability / rentability of properties during the construction period?		Ch 16, Section 16.4.5 p16-50 to 16-60. Ch 24, Section 24.5.1 p24-10.	At the Yeerongpilly worksite, existing warehousing and other structures surrounding the proposed spoil shed would be retained to provide noise shielding (refer to Chapter 4, Figure 4-32). Acoustic hoarding would also be erected on the northern boundary of the worksite. Prior to construction, consultations with property owners would be conducted in sufficient detail to address specific construction impacts and mitigation requirements (refer to Table 24-22 of the Draft Outline EMP).
47	Table 16-63 refers to an increase in the number of train passby events forecast as a result of (and without) the project. Do the numbers in the table refer to operations per day? Both directions? What are current figures for freight movement (2011)? It seems currently higher than 28 per day as suggested by the table. The Rail Operations Report and Addenda (Systemwide, 2010, 2011) need to be made available to affected residents for them to fully understand the impact of future rail operations from the project. At present the EIS makes vague reference to the document and appears to gloss over some of the		Section 5.6.8	The project does not have any impact on wider freight demands as these are a factor of economic growth and demand for goods and services beyond the study area. That is, freight will continue to be transported between required origins and destinations regardless of the project, including by rail through the study corridor, as existing operations. However CRR does allow for additional freight to be carried through the study corridor during the commuter peak periods where it is currently banned due to conflicts with express Gold Coast line services. That is the project allows more of the projected freight demand to be carried by rail during the day by removing conflicts with passenger services. Should the project not proceed and there is insufficient rail freight capacity, then alternative means of transporting freight

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	potentially more unsavoury facts.			(including coal) would need to be investigated in line with Queensland Rail's Code of Practice for railway noise. Note that Cross River Rail in itself does not propose changes in freight rail operations as these are managed by Queensland Rail.
47	Impact of longer trains needs to be taken into account, pass-by events will last for longer and be more disruptive. Does this apply to coal or just IM freight? Have longer trains been taken into account when modelling the coal dust impact? What are the plans for new generation rolling stock? Will these be used to pull coal trains or just IM freight?	Longer trains - particularly those carrying coal - should be avoided as coupled with increased frequency of operations will lead to almost permanent periods of noise at times of peak operation. If freight volumes are to increase significantly, it should be a requirement that locomotives hauling freight (including coal) through residential areas should be electric.	Section 16.5.3 p16-124. Section 15.5.4 p15-53.	The management of coal dust on the Queensland rail network is the responsibility of the network manager and the rail operators, in liaison with DERM. Although the management of freight trains does not form part of the Project, a range of dust control methods are outlined in Section 15.5.4 of the EIS to minimise particulate emissions from coal trains. Measures currently used by Queensland Rail National to manage particulate emissions from coal trains include profiling the coal load in the wagon to reduce exposure to wind and spraying the surface of loaded coal wagons to prevent dust lift off.
47	The removal of townhouses on Wilkie Street which currently act as a noise shield for properties in Tees Street will result in a more than doubling of noise levels to those properties on Tees Street. Noise from the existing railway line would be funnelled upwards from the cutting before impacting properties directly exposed to the new Wilkie Street. Additionally, the noise barrier proposed for Fairfield Road would have the effect of bouncing rail noise back towards Tees Street.	Upgrades to glazing will be necessary for householders on Tees Street, combined with improvements to mechanical ventilation and compensation for the cost of operating these systems (such as the installation of solar panels to offset residents increased electricity costs). A suitable noise barrier should be investigated for Wilkie Street, being sympathetic to maintaining local views across to Mount Cooth-tha and be landscaped to limit the visual impact.	Ch 16, Section 16.5.3 p16-130.	Noise predictions show that properties on Tees Street do not exceed Queensland Rail's operational noise criteria and noise barriers are not required. Train noise reflecting off the noise barrier on Fairfield Road would be minimal. During a train passby, any reflected noise would be directed onto the passing train itself, which would act as a noise screen. In accordance with Queensland Rail's Code of Practice for Railway Noise Management and Network Noise Management Plan, regular reviews and noise monitoring occurs across the network. Surface rail traffic would need to be managed to achieve the criteria set out in Queensland Rail's Code of Practice for Railway Noise Management (ie 87dBA assessed as a Single Event Maximum Sound Pressure Level, or 65dBA assessed as the 24 hour average equivalent continuous A-weighted sound pressure level) (refer to Section 4.2 of the Code of Practice).
47	The noise barrier between Fairfield Road and the railway line opposite Wilkie Street and near to the Crichton Street bridge would serve to bounce noise back towards Wilkie Street and the properties on Tees Street. At 4.5m high the barrier would be unsightly.	A noise barrier or wall should be investigated for Wilkie Street to limit the noise being bounced back from the new noise barrier on Fairfield Road. Mature trees and shrubbery should be provided along the realigned Wilkie Street to provide an improved vista over an uncovered noise barrier.	Section 10.3.2 p10-38.	Train noise reflecting off the noise barrier on Fairfield Road would be minimal. During a train passby, any reflected noise would be directed onto the passing train itself, which would act as a noise screen.

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47	Wilkie Street has been realigned to the east to allow for the southern portal and station location. The nearest residences are located in the Wilkie Street cross streets, adjacent to the new Wilkie Street alignment. No assessment is made of the impact of noise from Fairfield Road across from Wilkie Street near the Cardross Street Bridge. Whilst the proposed Yeerongpilly noise barrier would limit some of this noise (but in itself bounce back much of the noise from rail operations) it will not provide complete coverage. Removal of the town houses which currently act as a sound barrier would lead to an increase in noise.	Add a noise barrier to the west of Wilkie Street, camouflaged with trees / shrubbery. Plant more trees along the eastern side of Wilkie Street to improve the outlook. Provide properties that will be exposed by the removal of buildings on Wilkie Street with upgrades to glazing to limit noise.	Section 16.5.4, pp 16-134 to 135.	All residences adjacent to the realigned section of Wilkie Street would comply with the TMR CoP road traffic noise goal of 68 dB(A LA10/18hr) for the design Year 2031. No mitigation treatments to residential properties would be necessary (refer to Section 16.5.4 of Chapter 16). A noise barrier approximately 165 m in length and 4.5 m in height is proposed in Yeronga to reduce rail noise for properties on Fairfield Road. The noise barrier lies directly opposite properties on Tees Street and would reduce noise from traffic using Fairfield Road. Train noise reflecting off the noise barrier would be minimal. During a train passby, any reflected noise would be directed onto the passing train itself, which would act as a noise screen.
47	The summary of construction activities omits to mention any noise impact during the period of rebuilding works (realigned Wilkie Street /Yeerongpilly work site), during the realignment of the existing railway and during the laying of an additional freight track along the existing railway.	Amend the EIS to make estimates as to the noise impact for these unmentioned phases of the project. If these elements of the project are unknown at this stage, allowance should be made for the worst case scenario that would arise as a result of the works when deciding upon mitigating measures for directly affected properties.	Ch 16, p16-135 and p16-59.	Numerical noise goals are provided in the EIS to limit or manage the adverse impacts on the community for both the day and night-time periods (refer to Section 16.2.2 of Chapter 16 Noise and Vibration). A rigorous program of noise and vibration monitoring would be undertaken at locations where the goals and criteria are predicted to be exceeded (refer to Table 24-18 in Draft Outline EMP). Monitoring would be conducted throughout construction to verify compliance with the design goals. The construction methodology will evolve and be refined as detailed construction plans are developed for the Project, with consequential implications for the refinement of mitigation strategies. Detailed noise and vibration management sub-plans, provided as a draft outline in Chapter 24 draft Outline EMP, will be refined as detailed construction plans are developed.
48	No monitoring of noise levels was undertaken south of Dutton Park Station yet the EIS lists as a benefit the increased freight capacity following completion of CRR. The EIS fails to deal with the fact that much of the increase in freight traffic will be during night time potentially leading to increased sleep disturbance. The WHO standards used in the EIS has been called into question by more recent research into the causes of sleep disturbance. Frequency of noise events and tonality are significant contributors. The low frequency noise with its attendant reverberation will occur more frequently during sleeping hours leading to shorter periods of	The provision of noise barriers along the southern side of Dutton Park Station and on the overbridge will go a long way towards removing the issue of current sleep disturbance and reduce the potential for future sleep disturbance.	Section 16.5.3 p16-123 to 16-126.	Noise modelling for the Project has identified four sections where noise barriers would be required to achieve compliance with Queensland Rail's rail noise criteria. Queensland Rail also has a Code of Practice for Railway Noise Management Plan that sets out noise guidelines and how it might mitigate unreasonable noise. Under Queensland Rail's guidelines, regular reviews and noise monitoring occurs across the network. Surface rail traffic would need to be managed to achieve the criteria set out in Queensland Rail's Code of Practice for Railway Noise Management (ie 87dBA assessed as a Single Event Maximum Sound Pressure Level, or 65dBA assessed as the 24 hour average equivalent continuous A-weighted sound pressure level) (refer to Section 4.2 of the Code of Practice).

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	undisturbed sleep This is exacerbated by the wheel squeal from the tight curve radius over the bridge. None of these issues are mentioned and the actual current noise levels were not even measured.			
49	Business South Bank (BSB) strongly supports and acknowledges the strategic importance of CRR.			Noted
49	The introduction of CRR and enhanced Woolloongabba Busway should assist in alleviating, but not solving, the safety issues and capacity constraints at the Melbourne Street bus portal, the intersection of Grey and Melbourne Streets and the Cultural Centre busway.			Noted. The Southbank bus infrastructure is outside the scope of the project.
49	BSB would like to express its concern about the deferment of the project. This is a critical piece of infrastructure and we respectfully request that State Government reconsider the project's programme. State Government should consider completing the 'front end' work so that the project is at project readiness stage.			Noted
49	It is imperative that the State Government works closely with Brisbane City Council to ensure the adjoining areas and access routes have comparable supporting facilities (i.e. cycle paths, bus shelters, taxi ranks, signage and widened pedestrian footpaths) and should be planned and funded to coincide with the CRR's implementation.		Sections 4.2, 5.7	The EIS and the reference design propose changes to footpaths, bus stop and/or kiss and ride infrastructure where there is an identified need. During the Detailed Design process the CRR project team will continue to work with other agencies and authorities to plan for the access needs of rail passengers
50	Concern over exceedances of the PM10 air quality goal at sensitive receptors near worksites during "peak" construction periods. Although the exposure time could be described as 'short', it is likely that a significant percentage of the population could be exposed during this time, including people with respiratory concerns as the Project is in proximity to health facilities. Concern that construction activities will cause exceedances in the Environmental Protection (Air) Policy 2008 (EPP(Air)) at sensitive receptors, which would indicate an unacceptable risk to human		Volume 3 Technical Report 7 Section 4.7.2 p4-55	Maximum PM10 concentrations (24 hour average) from the proposed worksites would not exceed the air quality objective at either the Princess Alexandra Hospital or the Royal Brisbane and Women's Hospital under normal meteorological conditions. A dust and odour management plan would be implemented for the duration of construction activities. This would include measures to address high risk weather conditions, and regular monitoring of TSP, PM10 and dust deposition levels at sensitive places, (such as residences, libraries, child-care centres, schools, colleges, university or other educational institution) to assess compliance with the construction air quality goals.

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50	health.	All sensitive receptors affected by rail noise must be appropriately assessed against the relevant noise criteria / goal, particularly sleep disturbance criteria. Adequate mitigation measures must be provided to ensure the health and well-being of occupants is maintained and that attenuation measures will mitigate any adverse effect on human health.	Volume 3 Technical Report 8 Executive Summary. Ch 24, Table 24-18 p24-47.	The noise and vibration goals were developed during extensive consultations and stakeholder workshops with government agencies and stakeholders during design development and preparation of the EIS. Operational railway noise is managed in Queensland in accordance with the QR noise criteria which is an established government policy. Sleep disturbance criteria has been applied for night-time construction works, in accordance with Brisbane City Council's guidelines.
50	For rail infrastructure, it is recommended that the noise criteria specified within the WHO's Guidelines for Community Noise and the Environmental Health Council's The health effects of environmental noise - other than hearing loss, be adopted. This identifies a level of 45 dBA) LAMax as the recommended sleep disturbance criteria.	The proponent's assessment of noise against "goals" (particularly during the construction phase) is unclear. The goals highlighted within the various tables of the Executive Summary appear to be inconsistent with each other as well as the goals specified within the Draft EMP.	Table 24-17 of Ch 24 EMP identifies goals and mitigation measures for dust. Appropriate dust controls will be used for demolition activities, including the use of water sprays and covering loads of material transported from the sites. Other measures may be initiated, particularly in respect of buildings containing hazardous or potentially hazardous materials. Specialised / licensed contractors will be engaged to undertake works relating to the demolition of buildings anticipated or found to contain hazardous materials	The goals provided in Technical Report No.8 and the Draft Outline EMP are not inconsistent. Tables within the Draft Outline EMP present internal noise levels, whilst those provided in the Executive Summary of Technical Report No.8 are external noise levels. The external noise goals also depend on the assumed facade noise reduction of buildings, which varies between receivers in the CBD and receivers in the suburbs.
50	Many hazards to human health exist to both the workers and the general community during demolition works.	Legislative responsibilities including workplace health and safety must be adhered to during the demolition works to ensure no adverse impact by hazardous materials / dust to workers onsite and the general community.	Ch 24, Table 24-17 p24-44 Ch 22, Appendix J Ch 15	Table 24-17 of Ch 24 EMP identifies goals and mitigation measures for dust. Appropriate dust controls will be used for demolition activities, including the use of water sprays and covering loads of material transported from the sites. Other measures may be initiated, particularly in respect of buildings containing hazardous or potentially hazardous materials. Specialised / licensed contractors will be engaged to undertake works relating to the demolition of buildings anticipated or found to contain hazardous materials
50	Toward Q2: Tomorrow's Queensland CRR has significant implications for the "Healthy Queenslanders" target, including:	Consider linking to the Q2 target "Healthy Queenslanders" in this section.	Ch 6 Climate Change and Sustainability	Sustainability outcomes for the Project reflect the need to encourage active transport links for health benefits. Towards Q2 is discussed in Section 6.6.2 of the EIS (policy and legislation). The Project supports achievement of the 'strong' and 'green' targets in Toward Q2. Measures to address health and wellbeing identified in Section 6.8, as well as Appendix E2 (Sustainability Framework) - refer to Section 8 (Health and Wellbeing) and Section 6 (Built Environment) in Appendix E2. The Project's visual and landscape goals and objectives identified the need to provide shade and shelter at entries and key pedestrian collection points (refer to Section 10.3.1 of the EIS).

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50	Concern regarding the inclusion of culturally and linguistically diverse residents from the southern portal area. It is important for the health and wellbeing of this group that they are included in all communications.	The Community and Stakeholder Engagement Plan is developed with appropriate input from CALD groups and communication is undertaken in culturally appropriate ways including meetings and providing suitable translation for any written or verbal materials	Section 20.2.5 EMP Element 13	<p>The population of the study area is diverse, with high proportions of people who speak languages other than English.</p> <p>The Community and Stakeholder Engagement Plan outlined in the draft outline EMP will be developed with appropriate input for CALD and Disability groups and communication will be undertaken in a culturally appropriate way, to provide equity of access to this information</p>
50	Concerns over stress associated with relocation and inability to pay higher prices for housing (either rental or purchase) being a detriment to the health and well-being of the general community.	A plan should be developed to ensure adequate social and affordable housing is available in the study corridor to cater for the growing population and provide equitable opportunities for residents needing to relocate, with the emphasis being on maintaining social capital and community cohesion. Suitable consultation and planning should be undertaken at the first possible opportunity, including close and regular communication to support residents facing relocation.	Section 20.3.3	<p>During consultation for the Project, concerns were raised by some directly affected residents about the ability to find alternate housing within the study area. While the study area generally has a good supply of affordable rental housing, some suburbs, such as Fairfield, Yeerongpilly and Yeronga have limited available affordable housing properties for purchase. This may impact on some property owners who may wish to relocate within the study area. On-going consultation and communication with property owners about the property acquisition and compensation process and support available to potential affected property owners, may assist in reducing potential impacts in sourcing alternate accommodation. In addition, the Project would consult with relevant service providers through the Department of Communities to determine whether additional support for tenants is required.</p>
50	Important to maintain current levels of active transport including walking and cycling in study area, which are reported as being higher than in Brisbane as a whole. Re-routing of cycle and pathways during construction must be safe and convenient without adding excessive extra distances.	Temporary and permanent re-routing must be both safe and convenient and include sufficient way finding signage to provide accurate directions during construction and operative phases to encourage active transport.	EMP Element 2	<p>Safe pedestrian and cycle access is to be maintained near construction works to community facilities, such as schools, child care facilities, churches, aged care accommodation, open space, sport and recreation, health care and shopping facilities. This is to consider the particular needs of children, elderly and people with mobility difficulties, including vision and hearing impairments. In particular, access is to be maintained to:</p> <ul style="list-style-type: none"> <li>· RNA Showgrounds during events at this location</li> <li>· Royal Brisbane and Women's Hospital</li> <li>· Open space areas that are not occupied by Project work sites, such as Victoria Park, Roma Street Parkland and City Botanic Gardens</li> <li>· Brisbane Girls Grammar School, St Joseph's College, Brisbane Grammar School, Dutton Park State School and Nyanda State High School and Grosvenor Hall Child Care centre</li> <li>· St Fabian's Church at Yeerongpilly.</li> </ul> <p>Where pedestrian and cycle access to community facilities is changed, local access strategies are to be developed in consultation with local communities, community facility</p>

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50	<p>Concern over assumption that it is unlikely anxiety will affect the communities when considering the support services in the study corridor. These services are already stretched with many operating at capacity.</p> <p>Anxiety and stress are likely to impact on residents that are already experiencing stress from groups that:</p> <ul style="list-style-type: none"> <li>• have lower incomes</li> <li>• belong to diverse cultural groups</li> <li>• are 2011 flood survivors</li> <li>• are forced to move residence due to resumption</li> <li>• experience the accumulative effects of construction activities (noise, dust, traffic disruption over time)</li> </ul> <p>Mitigation of stress and anxiety is not evident in this proposal.</p>	<p>The Community and Stakeholder Engagement Plan should be developed to meet the challenges faced by the community during construction stages and be specific for the residents in each section of the study corridor. The plan should incorporate strategies that mitigate anxiety and stress caused by the development and provide a greater level of support organisations that assist the people impacted by development in the study corridor.</p>	EMP Element 13	<p>Ensure communities likely to be directly affected by the Project works are aware of the Project works in advance of their commencement, and are aware of the procedures for making complaints about the Project works.</p> <p>Undertake early and on-going notification with affected property owners, tenants and local and broader communities, in advance of construction activities, about construction activities, including timing and duration, likely impacts and proposed mitigation or management measures. A consultation and complaints procedure will also be established as per the draft outline EMP.</p>
50	<p>Residents' ability to enjoy their surroundings and participate in outdoor activities may be compromised by dust, noise and increased traffic.</p>	<p>The Community and Stakeholder Engagement Plan should articulate changes the community can expect including; duration of work, potential nuisances, emergency contacts and complaints procedures and incorporate strategies to mitigate stress and anxiety.</p>	EMP Element 13	<p>Ensure communities likely to be directed affected by the Project works are aware of the Project works in advance of their commencement, and are aware of the procedures for making complaints about the Project works.</p> <p>Undertake early and on-going notification with affected property owners, tenants and local and broader communities, in advance of construction activities, about construction activities, including timing and duration, likely impacts and proposed mitigation or management measures. A consultation and complaints procedure will also be established as per the draft outline EMP.</p>
50	<p>People with intellectual disabilities who may find the changes challenging without appropriate support and communication should also be considered. Sunshine Welfare and Remedial Association provides services for people that are both physically and intellectually disabled.</p>	<p>Those with intellectual disabilities need to be considered in mitigation actions. Suggest community liaison officers to work closely with organisations that provide services to these groups.</p>	EMP Element 13	<p>The Community and Stakeholder Engagement Plan outlined in the draft outline EMP will be developed with appropriate input for CALD and Disability groups and communication will be undertaken in a culturally appropriate way, to provide equity of access to this information</p>

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50	State schools are required as a key curriculum requirement to provide children with 30 minutes of physical activity every day during school hours.	Unpleasant environmental conditions created by dust, noise and increased traffic will compromise the ability of parents, teachers and carers to provide the necessary physical activity options children require for healthy development, and that state schools must provide as part of the curriculum.	Ch 20 Section 20.4.6	Ongoing consultation and communication should be undertaken with the school community about potential impacts of the Project operations and appropriate mitigation measures
50	Cycle parking facilities at all stations or in close vicinity where not currently available.	Consider covered secure locations for cycle parking designed in accordance with Austroads Guide to Traffic Management - Part 11: Parking.	Ch 4, Section 4.2.	Bicycle parking facilities will be provided for all new stations, except for Roma Street and Albert Street as they would be destination stations with walk, bus or rail access as the predominant mode of access. The exact form of bicycle parking and required capacity would be developed further in consultation with stakeholders (e.g. TMR, Brisbane City Council, Bicycles Queensland) during detailed design.
50	Excessive street parking in surrounding streets may impact on residents amenity.	Plan adequate end of trip facilities, kiss and ride and an appropriate level of commuter parking to prevent excessive street parking.	Section 5.7.2	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD, which aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities, cycle parking facilities and new bus stops near the station entry to improve transport interchange. Translink will also continue to monitor park 'n' ride demand across the rail corridor as part of its ongoing strategic planning, which seeks to identify and prioritise opportunities for new or upgraded commuter parking at appropriate stations across the network. Prior to operation of Cross River Rail, Translink will also review opportunities to enhance bus services to Yeerongpilly Station to take advantage of new bus-rail interchange opportunities offered by Cross River Rail.
50	QH has numerous facilities within close proximity to the proposed development which may be adversely affected. CRR must contact / liaise with QH (Health Planning and Infrastructure Division and the relevant Health Service Districts) to ensure appropriate measures are in place to mitigate any adverse impacts on these facilities during the construction and operation of the proposed development. Potential for improved	CRR must liaise with QH to ensure appropriate mitigation measures for any adverse impacts on these facilities during construction and operation. Way finding from the rail stations to the health facilities should be investigated and incorporated into planning for safe pedestrian/cycle routes are provided between the stations and the hospitals. Consideration should also be given to opportunities to	Ch 24	While a high level review of all of these access requirement has been undertaken for the purpose of the Reference Design and EIS, the Project team will work closely with Queensland Health during the detailed design phase to ensure your access needs are adequately addressed. In particular Construction Traffic Management Plans will be developed closely with Queensland Health to ensure emergency access is carefully managed. This process is outlined in the EMP.

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	<p>connectivity from the rail stations to the health facilities particularly for RBWH and PAH with the proposed Exhibition station and the Boggo Road Station. Maintaining high quality vehicular and pedestrian access for emergency and general access. Helicopter access and flight paths should be considered, particularly where cranes and other tall equipment will be used during construction.</p> <p>Continuity of essential services such as electricity, power, water etc during the construction and operation of the proposed development. Access to existing parking facilities must be retained particularly while construction is occurring in close proximity to Hospital facilities. Potential safety issues during construction and post-construction, safe environments in and around the stations (24hrs/7 days a week) and safe pedestrian/cycle routes to and from the stations and Hospital facilities. Impacts on the amenity of Hospitals or health services whilst construction is occurring, particularly in relation to noise and dust, and the potential for associated health impacts. The Herston Health Precinct Smart Community Plan is currently being developed and is managed by the Department of Local Government and Planning (DLGP).</p>	<p>integrating rail and bus stations to maximise transport options for health facility users and staff.</p> <p>Strategies should be established to ensure no obstruction or impacts on accessibility to the Hospital facilities. Strategies should be developed to ensure that essential services are not disrupted during the construction and operation phases. Traffic and Parking Strategies to ensure access to existing parking facilities for patients, visitors and the Hospitals workforce is retained particularly while construction is occurring in close proximity to Hospital facilities. Crime prevention through environmental design principles to be applied. Consultation with DLGP to ensure both project proposals align and are supportive in creating a transit rich precinct with high accessibility to key land uses such as Hospital facilities.</p>		
51	The portal at Yeerongpilly is within a primarily residential area and noise will have a major impact. A message service with a response time up to 48 hours is not acceptable: residents need to have an immediate response to excessive noise/dust concerns.	A 24 hour, manned toll free number for concerns regarding breaches of the EIS should be made available.	Ch 24, Table 24-22, p24-58.	<p>Communication and complaints management are addressed in Table 24-22, Ch 24 EMP. A manned 24 hour, seven day a week, toll-free telephone line would be established for receiving, handling and responding to complaints and community enquiries in a timely and effective manner.</p>
51	Noise levels will be excessive during demolition along Wilkie Street and piling (12 weeks total) and noise limits may be exceeded during other periods of construction. The EIS presents noise goals but no form of redress for residents who may find noise unacceptable.	Operations causing excessive noise levels should not be carried out from 6.30pm to 6.30am on any day.	Section 16.4.5, p16-59. Section 24.5.1, p24-10. Ch 24, Table 24-22 p24-58.	<p>A hierarchy of controls are identified in the EIS to mitigate noise from the Yeerongpilly worksite, particularly where higher levels of noise are predicted (refer to Chapter 24, Table 24-18). As part of the construction EMP, consultations with property owners would be conducted in sufficient detail to address specific construction impacts and mitigation requirements.</p> <p>A 24 hour, seven day a week, toll-free telephone line would be established for receiving, handling and responding to complaints and community enquiries in a timely and effective</p>

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51	EIS does not provide for public to access, view or comment on Dust, Noise, Traffic Management Plans.	All of the EIS Management plans should be published on the internet.	Section 24.5 p24-10. Section 24.9 p24-57.	Environmental management plans, including those relating to the management of noise, dust and traffic impacts would be prepared by the Proponent and approved by the relevant authorities. As outlined in Section 24.3 of the EIS, community liaison groups established for the Project would be responsible for providing comments in an advisory role to the Proponent on matters including the detailed EMPS for construction and operation the community liaison groups would also provide advice to the Proponent during construction in relation to identifying and mitigating the impacts of construction in the locality for each group.
51	EIS states that spoil will be removed by road and taken to Swanbank. The community has previously requested that all spoil from Yeerongpilly be removed by rail, the expense of which would be offset by the reduction of traffic and subsequent increase of delays along Ipswich Road.	Spoil should be removed by rail	Section 3.4.3, p3-39	Removal of spoil by rail has been identified as feasible from Yeerongpilly and will be investigated further in the Detailed Design phase. However, the EIS has assessed the "worst case scenario" involving all spoil removed by road. Under this scenario, once construction vehicles exit the Yeerongpilly worksite onto Lucy Street no additional traffic management is proposed. That is all construction traffic including spoil trucks leaving the site will simply make use of the existing signalised intersection of Lucy Street and Ipswich Road. No additional traffic control is envisaged which would further delay traffic on Ipswich Road.
51	Proposed truck movements from the Boggo Road site via Annerley Road, Cornwall Street to Ipswich Road; from the Fairfield Road emergency centre via Venner Road to Ipswich Road are supported provided truck movements are restricted to the time period 6.30am to 6.30pm Monday to Saturday. The use of Fairfield Road to access the Ipswich Motorway will be rendered impractical by the works at the Fairfield Road/Muriel Avenue intersection. Traffic movements down Fairfield Road will already be severely restricted as a result of the work at the Ventilation and Emergency building in Fairfield Road.	All truck movements to the works depot in Lucy Street/Station Road should be via Ipswich Road. There should be no access for any trucks or work vehicles to or from the worksite via Wilkie, Cardross Street and Fairfield Road.	Section 5.10.5	As per section 5.10.5 of the EIS, the Yeerongpilly worksite will cater for the removal of spoil from the southern portal with trucks using Station Road, Lucy Street, and Ipswich Road only. There will be no physical vehicular access between the residential area around "new Willkie Street" and the worksite itself.

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51	The present proposal would make the existing problems at the Sherwood Road/Fairfield Road/Muriel Avenue Intersection worse. 1. The regular flooding of the Rocky Waterholes Creek cutting access to Muriel Avenue. 2. The height of the present railway bridges which are too low for many trucks to pass under. 3. The tightness of the access from Sherwood Road and Muriel Avenue to the southbound lanes of Ipswich Road. Many trucks coming from the Brisbane Markets cannot proceed directly onto Ipswich road, but instead must travel north along Fairfield Road and into Venner Road to get to Ipswich Road. The realignment of the north and south approaches to Ipswich Road are piecemeal solutions that will make it more difficult and far more expensive in the future to address the problem as the rail line is now about 1.5m higher so overpass construction is much harder.	The construction of a third bridge over Muriel Avenue west of the existing bridges but at a level about 1.5m higher than the existing bridge (still keeping the truck clearance at 3.8M) means that high trucks that try to pass under the train bridge and realize have time to stop. Since a new railway bridge is required at this intersection there needs to be greater cooperation and discussion with the Department of Transport and Main Roads and Brisbane City Council to arrive at a solution.		The proposed new rail bridge over Muriel Avenue maintains the existing height clearance of the adjacent rail bridges - that is CRR makes the situation no worse than existing. The track level on the new rail bridge has been raised by 1.5m compared to the adjacent tracks to compensate for the grade of Muriel Avenue which rises as it heads west under the bridges. The new rail bridge could not be raised any higher without impacting on the Ipswich Motorway overbridge to the south. The proposed bridge design has been consulted on and agreed with Brisbane City Council officers.
51	The EIS specifies that surface work will be carried out in Yeerongpilly during Monday to Saturday 6.30am to 6.30pm, and that work can be carried out outside those times if it is deemed necessary. Procedures for changes to hours of work are not adequately covered by the EIS.	It should be mandatory for Cross River Rail to inform local residents when surface works are to be carried out outside the Monday to Saturday 6.30am to 6.30pm time frame	Ch 24, Table 24-18 p24-46 to 24-53.	As identified in the draft Outline EMP in Section 24.9 of the EIS, some surface works may be required to be undertaken outside of the day-time construction hours in special circumstances, such as to avoid disruption to peak traffic flows and rail services, works involving oversized plant, equipment, components or structures, or emergency works. In particular, construction works in the live rail corridor may be required to be undertaken during extended possession periods of the rail corridor such as on long weekends, Easter and Christmas, to minimise disruption to rail services and to ensure the shortest possible work program. In such circumstances, near neighbours would be notified in advance, as is common practice now when Queensland Rail conducts construction works in the rail corridor.
51	A number of car parks at Yeerongpilly Station will be removed but not replaced. The new Yeerongpilly Station will have a "kiss and ride", but no car parking spaces and no parking for those with disabilities.	The currently stated position of no car parking spaces within 10km of the CBD needs to be repealed. Car parking needs to be made available at the new Yeerongpilly Station. With land resumed for the works depot there is ample room for a car parking facility.	Section 5.7.2 p5-114, 5.10.5 (p5-163) and 24.10 table 24-27 EMP	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD, which aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme

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51	The EIS does not cover the retention of Yeerongpilly Station.	The existing Yeerongpilly Station and platforms should be retained and maintained once the new Yeerongpilly Station is moved 250 metres further south. Future transport plans including reopening the Yeerongpilly-Tennyson-Corinda link would require platforms to be located at the site of the existing Yeerongpilly Station. Rather than demolishing the platforms and rebuilding them anew at a later date it would be more cost effective to retain them.	Section 19.4.4	<p>for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities, cycle parking facilities and new bus stops near the station entry to improve transport interchange. Parking for people with disability would also be provided at the new Yeerongpilly Station to replace the disability parking available at the existing station. TransLink will also continue to monitor park 'n' ride demand across the rail corridor as part of its ongoing strategic planning, which seeks to identify and prioritise opportunities for new or upgraded commuter parking at appropriate stations across the network. Prior to operation of Cross River Rail, TransLink will also review opportunities to enhance bus services to Yeerongpilly Station to take advantage of new bus-rail interchange opportunities offered by Cross River Rail.</p>
51	Public comment on changes to the EIS is not provided for.	Any changes to the EIS after it has been approved should be made public and taken back to community representatives.		<p>The SDPWO Act provides for a formal process for the assessment of project changes, including circumstances where public consultation is required.</p>
52	The new Yeerongpilly Station will likely attract many more train users driving and parking at the station, which will exacerbate parking problems and congestion on local streets. Suggestions that a pay car park be built at the industrial zone on Station Street do not consider the significant increase in negative impacts from noise, pollution, and negative social consequences associated with large scale car parks. These impacts would add to the cumulative impacts affecting those living on Bow and Livingstone streets endured during construction.	Any pay car park should be sited on the other side of Fairfield Road away from residential areas.	Section 5.7.2, p5-114, Section 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	<p>This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD, which aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities, cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will also continue to monitor park 'n' ride demand across the rail corridor as part of its ongoing strategic planning, which seeks to identify and prioritise opportunities for new or upgraded commuter parking at</p>

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				appropriate stations across the network. Prior to operation of Cross River Rail, Translink will also review opportunities to enhance bus services to Yeerongpilly Station to take advantage of new bus-rail interchange opportunities offered by Cross River Rail. This could include services that link the new Yeerongpilly Station to local education facilities such as schools and the TAFE.
53	Raising the Beaudesert Road Service Road and linking it to the Beaudesert Road overpass would provide some merit except for the fact that the access to the overpass would be locked, removing a potential means of getting in and out of the area in a flood. This is not acceptable.			Details relating to the operation of the emergency access would be determined during the detailed design of the Project, in consultation with the local community and emergency services.
53	New rail line between Salisbury and Coindra would run beside - possibly through - my house. This information was not presented at the information afternoon at the Tennis Centre and has not been adequately communicated to residents. Feeling that underhand tactics have been used to push this aspect through as quietly and quickly as possible.		Ch 3, Section 3.2, p3-2 and p3-7.	The alignment of Option CP4 was rejected and has not considered further during the detailed feasibility phase. The study corridor identified for investigation for the detailed feasibility phase was based around the straight line options SL2 and SL3. This corridor is the focus of the CRR, within which the detailed alignment and station options have been explored in the development of the reference design.
54	Concern regarding excessive noise on Saturdays that cannot be mitigated during the 6 week demolition phase at Wilkie Street and the 6 week period for pile installation. Excessive noise starting as early as 6.30am on Saturdays could be very distressing and negatively impact lives of residents living in the immediate vicinity of the south portal.	We request that no heavy noisy work is to be undertaken on Saturday mornings before 10.00am during the demolition phase and the pile installation phase near the South Portal.	Ch 24, Table 24-18 p24-46 to 24-53.	The Yeerongpilly residential community would be consulted on the programme of works, including the anticipated duration of surface works. Where out-of-hours work is required, advance consultation with potentially affected owners and occupiers of nearby properties would be undertaken to devise mitigation measures for potential noise and vibration impacts (refer to Chapter 24, Table 24-18 p24-46 to 24-53).
54	Following the demolition of Wilkie Street and during the few months of its reconstruction further east, all streets ending in Wilkie Street (Livingstone Street, Green Street, Stamford Street, Crichton Street, and Tees Street) will be dead ends. While Wilkie Street is demolished and closed to traffic, all commuters coming from Mooroopa and Tarragindi will have to drive through Green Street to catch the train at Yeerongpilly Station, which will considerably increase traffic and car parking pressure in Green Street and many more cars attempting to park will spill over in parallel street such Livingstone and	Remediation during the 5.5 years of construction, possibly including a week day 2hr car park limit in Green Street, Livingstone Street and Stamford Street, Crichton Street and Tees Street with parking permits for residents, and traffic slowing devices for safety in our streets and around the station.	Section 5.7.2, p5-114, 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	Section 5.10.5 EIS proposes that the parking management scheme identified to manage commuter parking during the Project operations, be introduced in advance of construction works at Yeerongpilly subject to agreement with Brisbane City Council. A Construction Traffic Management Plan would also be developed for the Yeerongpilly worksite, which would include measures to manage impacts in the streets surrounding the worksite during construction. The specific timing and sequencing of road closures during construction will be investigated in the detailed design phase along with any associated remediation measures. These are captured in a Construction Traffic Management Plan which will be subject to approval by Council (refer to Chapter 24 draft Outline EMP).

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54	Stamford Streets, Crichton Street and Tees Street. Car parking (half across home driveways, close to street corners), traffic and risk to pedestrians around the railway station are likely to increase very significantly.	A paying car park for train users should be built in place of the industrial zone at Station Street. This area will be a car park for Cross River Rail workers during construction and should be transformed into a paying car park for train users. A school bus line should also be created between Yeerongpilly Station and Yeronga State School, Yeronga State High School and TAFE. In addition, our streets would remain with a 2hr limit parking all week days.	Section 5.7.2, p5-114, Section 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD, which aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities (kiss n'ride), disabled parking, maintaining the existing number of car parks (24), cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will also continue to monitor park 'n' ride demand across the rail corridor as part of its ongoing strategic planning, which seeks to identify and prioritise opportunities for new or upgraded commuter parking at appropriate stations across the network. Prior to operation of Cross River Rail, TransLink will also review opportunities to enhance bus services to Yeerongpilly Station to take advantage of new bus-rail interchange opportunities offered by Cross River Rail. This could include services that link the new Yeerongpilly Station to local education facilities such as schools and the TAFE.
54	The new Yeerongpilly Station will likely attract many more train users from Moorooka and Tarragindi. Wilkie Street, Green Street, Livingstone Street and Stamford Street are already congested with parked cars as early as 8.00am. TransLink has a policy of no car parking at railway stations within 10km of CBD, which ignores the reality of working families.		Section 16.2.2, p16-12.	The Queensland Rail Code of Practice planning noise levels have been adopted to assess the impact of relatively short term construction noise levels from CRR surface track worksites. Should a lower maximum construction noise limit (ie 65 dBA) be imposed for night-time works in the rail corridor, this could potentially result in an extension of the Cross River Rail construction program. At the southern portal worksite, piling works within the live rail corridor would be required. Such works would be approximately six weeks in duration and would impact on property owners in Tees Street, Wilkie Street, Livingstone Street, Fairfield Road and Cardross Street (refer to Section 16.4.5 of the EIS). Construction noise levels predicted at properties are 'worst case' scenarios, which assumes all plant and equipment operate simultaneously. Where exceedances
54	The 6.30am-6.30pm working period from Monday to Saturday for the CRR project together with the noise limitations imposed on the CRR construction sites do not apply for the rail corridor itself. It is very likely that the amount of night work on the rail tracks will very substantially increase during the construction of the south portal and nearby residents are unlikely to tolerate loud work in the middle of every night for extended periods of time.	Lower maximal noise limits for night rail work within the rail corridor (below 65dBA in the category moderate) to enable residents of the south portal area to sleep at night.		

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54	In Yeerongpilly around the south portal noise mitigation measures include a 4.5 m high noise barrier between the south portal and the new Yeerongpilly Station, however, the bottom of Green Street will still be exposed to noise between 59dBA and 62dBA. When the passenger train frequency is increased to one train every 5 minutes, this level of noise will become less tolerable. The frequency of extremely noisy freight trains is projected to increase to 275 per week as a direct consequence of the construction of the CRR tunnel. As these freight trains will remain at the surface, the substantial increase in their frequency during nights and days will very significantly negatively impact the tens of thousands of residents living in densely populated areas within 500 meters of the rail tracks from Ipswich to the port of Brisbane via Tennyson, Yeerongpilly, Yeronga, Fairfield.	Additional mitigation should be imposed to alleviate the impact of much more frequent noisy diesel freight trains. A possibility is to increase the efficiency of noise barriers and build noise barriers especially in this area close to the portal and through to Fairfield. An alternative solution would be for Queensland Rail to use electric locomotives for all freight trains between Ipswich and the port of Brisbane. A precedent exists in Gladstone where all freight lines coming from mine sites are electrified.	Section 16.5.3, p16-123 to 16-126.	With regard to noise increases from surface rail operations at Green Street, the rail tracks entering and exiting the proposed portal and dive structure will be approximately 4.0 m below existing ground level. Noise from trains using the tunnel would be partially screened by the retaining structure. In 2031, predicted noise levels for rail traffic between the portals are predicted to increase by 2dBA, resulting in no discernible changes in noise at properties on Green Street. The Project would be designed to satisfy the environmental objectives and the performance criteria stated in Chapter 24, Draft Outline EMP (Operations) of the EIS. Future noise monitoring would be conducted in response to complaints in accordance with Queensland Rail's Code of Practice for Railway Noise Management. If future noise monitoring shows that the relevant noise criteria for surface track noise emissions are not achieved, then further mitigation options would be investigated.
55	I am concerned about the arrangements around Salisbury station affecting the southbound trains. It seems that there is to be a merging move between trains emerging from the Cross River rail tunnel (CRR) and trains from the Merivale Bridge. This is completely against sectorisation. Why were the Shorncliffe trains removed from the "main" lines recently if sectorisation isn't important? This will reduce both capacity and reliability especially in the PM peak. Best practice would not see such limitation implemented.	An additional southbound track bypassing Salisbury station, allowing trains from CRR to access platform number 1 at Coopers Plains (or a new platform there) without interacting with trains from the Merivale bridge. Also, there would need to be a path from the Merivale bridge to reach a different Coopers Plains platform without interacting with the trains from CRR. While this may cost tens of millions, having limitations like the proposed Salisbury station undoes a lot of the benefit of a multi billion dollar project in CRR. An alternative possibility is that the southbound Merivale bridge trains will terminate at Rocklea in the PM peak, but that would be inconsistent with what is possible in the AM peak and seems a half baked option by any measure.	Sections 5.5.1, 5.5.4	The Southbound CRR track merges with the southbound "all stops" track south of Rocklea station. South of this the existing 3 track arrangement to Kuraby allows for passing opportunities so that express trains can bypass all stops services using the bi-directional third track. Rail operations modelling suggests that this arrangement will work satisfactorily as the key impediment to increased services and improved reliability is north of Yeerongpilly, rather than south of it in the short to medium term. Longer term, 4 tracks will be extended further south as patronage dictate and track operating capacity is reached. Wherever possible all stops and express will be separated in line with the principles of sectorisation. At Salisbury specifically additional tracks and platform capacity are envisaged as part of the future Salisbury to Beaudesert rail project.

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55	Trains for stations Banoon-Fruitgrove are not to get the benefit of CRR. This means that a 10 minute time saving for CBD trips is an advantage denied to them, and the opportunity of increase train patronage at those stations is to be missed. Also, it necessitates an unsectorisation.	Trains via Yeronga to not proceed beyond Coopers Plains.	Sections 5.5.1, 5.5.4	Passengers on all stops surface rail train services from Kuraby will have the opportunity to Cross River Rail trains at Yeerongpilly to take advantage of the frequent high speed services and new destinations offered (e.g. Woolloongabba and Albert Street).
55	Yeerongpilly Station is to re-build the existing platforms. It is not clear why this is necessary, and particularly in the old design which had the new platforms adjacent to the old ones. Is this necessary?	Keep existing platforms at Yeerongpilly, but raised to full height, and have only 2 new platforms from CRR. Possibly these could not be sufficiently close to the old platforms, but I didn't see an explanation of this in the reference design.	Sections 4.2.2, 4.2.8	Yeerongpilly Station is a new station approximately 200m south of the existing station. The existing station would then be closed and decommissioned. The new station enables better separation between passenger and freight trains, simplifies access for trains into the proposed Clapham Rail Yard, simplifies the portal, portal dive structure and floodgate building and complies with relevant legislations, standards and policies.
55	No access to the Tennyson line is apparent. This is an issue for game days at Woolloongabba stadium as Ipswich trains cannot run direct.	Provide such a connection. I'm unsure of the economic feasibility of this.	Section 5.5.1	There are infrequent passenger trains from Corinda to Tennyson, Yeerongpilly and points north. CRR will provide Gabba Stadium passengers with access to all lines either directly or via interchange with other lines (e.g. Ipswich and Ferny Grove Lines via Roma Street, Cleveland Line via Boggo Road and Kuraby Line via Yeerongpilly). Alternatively it will still be possible post-CRR for trains from the Western Line to be routed through Tennyson to Yeerongpilly and the Beenleigh line on game days with passengers alighting at South Bank for a walk to Gabba Stadium.
56	CRR provides a short term increase in IMEX freight capacity through the urban network, but does not increase capacity for freight from the Western line, which comprises over 90% of IMEX freight to/from the Port. Likely demand for freight paths in 2021 and 2031 exceeds the projected demand outlined in the EIS. CRR will increase the number of freight paths on the metropolitan network, but on its own does not provide a long term solution for IMEX freight. Without any additional freight capacity on the Western line between Corinda and Rosewood, the benefits for the Port from CRR are marginal and short term.	Either a dedicated freight line between Yeerongpilly and Rosewood should be provided, or the SRFC between Rosewood and Kagaru should be built in advance of 'Inland Rail'.		Cross River Rail is not a freight project, however it's benefit includes the ability to unlock freight capacity within the corridor that it serves by removing conflicting passenger rail movements from the dual gauge line between Yeerongpilly and Park Road. CRR also provide a new dedicated dual gauge freight track from Salsbury to Yeerongpilly. This would provide the missing section of a dedicated freight route through the southern Brisbane rail network from Acacia Ridge to the Port of Brisbane. This freight line would provide significant advantages for freight operation, including removing peak period conflicts with passenger rail and allowing all projected 2031 rail freight demand through the corridor to be accommodated. Other capacity constraints outside of the CRR project corridor including the western line between Rosewood and Corinda are the subject of other TMR projects, specifically the Southern Rail Freight Corridor from Rosewood to Kagaru. This line will allow freight trains from the west to bypass the suburban passenger rail network between Rosewood and Corinda and allow freight trains to access the existing and proposed dedicated freight

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56	The EIS does not provide any indication of maximum capacity for freight when CRR is built, therefore it is impossible to determine whether an increase in freight demand beyond that forecast in the EIS can be met. The long term demand for IMEX freight appears to have been underestimated.	The EIS should be revised to indicate the maximum capacity for both IMEX and domestic freight.	Section 5.6.8	The Project would unlock freight capacity within the corridor during peak hours in particular, by removing conflicting rail movements between Yeerongpilly and Park Road. The total freight able to be carried on the network, including through the part of the network that Cross River Rail serves, will be determined by wider factors including infrastructure beyond the corridor and as well as other physical and contractual requirements. The impacts and benefits of the Project on freight operations are also discussed in Section 5.6.8 of the EIS.
56	Concern regarding the implications of 15 minute off peak intervals for passenger trains on the Western line between Rosewood and Yeerongpilly until a dedicated freight line is provided, or SRFIC is built.	This measure should not be implemented on the Western line between Rosewood and Yeerongpilly until a dedicated freight line is provided, or SRFIC is built.	Section 5.5.1	15 minute services are already in operation between Darra and Roma Street for much of the day. Any further changes to timetables on the Western Line are not a result of or a requirement derived from Cross River Rail - they are an assumption of an indicative future service pattern for rail operations modelling only. Any changes to passenger rail services would be carried out in a timetable review by Queensland Rail in consultation with other contracted rail users.
56	It is not sustainable long term for IMEX freight to be travelling on the urban network to and from a capital city port which relies on cost effective rail access. Encouraging higher density residential development along rail corridors, increased frequency of passenger services and extension of services into new locations will exacerbate the difficulties of transiting the urban network. Rail currently carries a paltry share of IMEX container transport, which contributes to the unsustainable outcome of more heavy transport on roads.	Dedicated rail access on a corridor which does not have to interact with the urban network would contribute to more sustainable freight movement by rail.	Section 5.6.8	Cross River Rail benefits include the ability to unlock freight capacity within the corridor that it serves by removing conflicting passenger rail movement from the dual gauge line between Yeerongpilly and Park Road, particularly during the commuter peaks. Other TMR projects are intended to address other freight capacity issues outside of the CRR study corridor including from the west, including the Southern Rail Freight Corridor from Rosewood to Kagaroo. Any new assessable development within 100m of this (or any) rail corridor will be assessed by Council and state agencies (TMR) to ensure that appropriate noise attenuation measures are included in the design of that development.
57	Access between Sideshow Alley and the Gregory Terrace side of the site and under Bowen Bridge Road to Victoria Park. Suitable pedestrian (and vehicular) access, to service the proposed events underneath the rail line and Bowen Bridge Road will need to be maintained year round for Ekka and other major RNA events including Caravan and Camping Show, major concerts, Tinnie and Tackle show etc	This issue should be addressed in a Construction Management Plan (CMP) that must be reviewed and approved by the RNA. The CMP will include provisions for a working group that consists of the RNA, Lend Lease (LL), CRR project team and the Contractor that meets weekly and coordinates construction activities with RNA events and LL's private development on RNA land. The CMP when initially prepared would include		As identified in Section 24.8 of the draft Outline EMP (table 24.9), the Project design is to be developed and implemented in consultation with the RNA, (who may seek advice from Lend Lease) with regard to the design, access, heritage and construction schedules of the Project and RNA Showgrounds redevelopment to assist in managing potential impacts for both projects. It is proposed that the Proponent and the RNA enter into an interface agreement to establish the heads of consideration for consultation during the design development and

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	projections of upcoming RNA events that will need to be coordinated with CRR construction activities. The RNA events and CRR construction activities would need to be reviewed in the weekly meetings mentioned above.			construction of the Project works. The interface agreement would not provide the RNA with an 'approval role' in respect of any design, construction or operational aspect of Cross River Rail. Construction of the Cross River Rail works would proceed according to an overall programme of works and a Construction EMP. Both the programme of works and the Construction EMP would be developed by the Proponent, having regard to consultations developed with the RNA.
57	Dairy Cattle, Dairy Goat, Beef Cattle Pavilions. Proposed construction laydown areas will require demolition of the existing Dairy and Beef Cattle Pavilions and the Dairy Goat Pavilion. To enable the RNA to provide replacement facilities, funding for a new Cattle Pavilion needs to be provided to the RNA prior to these areas being made available. The funding is to be provided sufficiently in advance to allow the RNA to design and construct a new Cattle Pavilion prior to the construction laydown areas being handed over to the CRR project.	Coordinator General to condition the EIS approval with a requirement that funding for a new Cattle Pavilion is to be provided to the RNA by the CRR project prior to access being made available for construction laydown areas that impact existing RNA Cattle facilities. The funding is to be provided sufficiently in advance to allow the RNA to design and construct a new Cattle Pavilion prior to the construction laydown areas being handed over to the CRR project.		The RNA acknowledges that its planned redevelopment of the showgrounds entails the demolition and redevelopment of land on which the Beef Cattle Pavilion presently stands. The RNA acknowledges further that through its redevelopment programme, it may have already provided a new Beef Cattle Pavilion by the time construction commences for Cross River Rail. If not, then Cross River Rail would consult with the RNA about the 'bring forward' cost impact of the RNA constructing the cattle pavilion.
57	Horse Pavilion. Proposed construction laydown areas indicate there may be a requirement to demolish facilities that currently accommodate horses during Eka. If this occurs, then to enable the RNA to provide replacement facilities, funding for a new Horse Pavilion needs to be provided to the RNA prior to these construction laydown areas being made available. The funding is to be provided sufficiently in advance to allow the RNA to design and construct a new Horse Pavilion prior to the construction laydown areas being handed over to the CRR project.	Coordinator General to condition the EIS approval with a requirement that funding for a new Horse Pavilion is to be provided to the RNA by the CRR project prior to access being made available for construction laydown areas that impact existing RNA Horse facilities. The funding is to be provided sufficiently in advance to allow the RNA to design and construct a new Horse Pavilion prior to the construction laydown areas being handed over to the CRR project.		This property is not required by the Project.

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57	The RNA's requirements for use of the Sideshow Alley area have not been adequately catered for. In particular construction activities will need to cease and fence lines pulled back during major RNA events including Ekka, major trade shows, concerts etc.	Refer comments on a CMP mentioned above in item 1		<p>IAs discussed with the RNA during the preliminary consultation process supporting preparation of the reference design and the EIS, construction of the Project works within the RNA Showgrounds would be managed, to the extent relevant, according to a 'specific event construction management sub-plan'. The sub-plan would be developed in consultation with RNA, and would form part of the Construction EMP.</p> <p>The 'specific event construction sub-plan' would include a consultative process aimed at:</p> <ul style="list-style-type: none"> <li>• coordinating construction activities of the RNA and Cross River Rail within the RNA Showgrounds</li> <li>• coordinating RNA and Cross River Rail construction activities during major scheduled RNA events, and</li> <li>• managing impacts on Cross River Rail construction programme, RNA operations and RNA developments (including those undertaken for RNA by Bovis Lend Lease).</li> </ul>
57	Access to O'Connell Terrace. RNA will require access for vehicles entering/exiting from O'Connell Terrace into the Sideshow Alley carpark to be maintained all year round.	Refer comments on a CMP mentioned above in item 1		<p>As discussed with the RNA during the preliminary consultation process supporting preparation of the reference design and the EIS, construction of the Project works within the RNA Showgrounds would be managed, to the extent relevant, according to a 'specific event construction management sub-plan'. The sub-plan would be developed in consultation with RNA, and would form part of the Construction EMP.</p> <p>The 'specific event construction sub-plan' would include a consultative process aimed at:</p> <ul style="list-style-type: none"> <li>• coordinating construction activities of the RNA and Cross River Rail within the RNA Showgrounds</li> <li>• coordinating RNA and Cross River Rail construction activities during major scheduled RNA events, and</li> <li>• managing impacts on Cross River Rail construction programme, RNA operations and RNA developments (including those undertaken for RNA by Bovis Lend Lease).</li> </ul> <p>A heavy vehicle access off O'Connell Terrace to the RNA Showgrounds (Sideshow Alley car park) would need to be maintained where reasonable, safe and practicable. If such access was to be closed, the Proponent would consult with the RNA in advance about the change and about possible mitigation measures.</p>

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57	EIS indicates some worker car parking will be provided on RNA land. This can only be provided if surplus exists after all RNA event and other needs are satisfied and cannot be guaranteed to be made available by the RNA. Any worker carparking if made available would be on the same commercial terms as other carparking provided by the RNA	Coordinator General to condition the EIS approval with a requirement that any use of the RNA's land for worker carparking would only be on the basis that the RNA has surplus available after all its other needs have been satisfied and that it is provided on the same commercial terms as other carparking provided by the RNA		The interface agreement between the Proponent and the RNA would provide the framework for an agreement with respect to car parking during the construction phase of Cross River Rail and development of the RNA Showgrounds. As discussed with the RNA during the preliminary consultation process, car parking for the Cross River Rail construction workforce would be provided within the temporary worksite, or, through another arrangements either within the RNA Showgrounds or elsewhere.
57	EIS makes no allowance for managing noise to the RNA's new Convention/Exhibition Centre, which will be complete by the end of 2012.	Noise from construction activities and freight train noise during construction shall not exceed allowable average or maximum noise limits to the RNA's new Convention/Exhibition Centre or new private development (i.e. commercial, residential or retail) as required to be complied with in the finished state.	Section 16.4.9	<p>The draft Outline EMP (Table 24.10) proposes that construction work at the RNA Showgrounds would be undertaken during day-time hours (6.30 am – 6.30 pm Monday to Saturday). To minimize disruptions to the city's transport system (road, rail) there would likely be a need for night-works both within the rail corridor and on O'Connell Terrace. In the instance of night works or weekend work, the EIS provides for goals to achieve the environmental objectives relating to a range of potential impacts including noise, air quality and traffic management.</p> <p>Where predictive modelling ahead of out of hours work indicates the potential for the goals to be exceeded, the proponent would consult with stakeholders including the RNA in determining effective mitigation measures in accordance with the draft Outline EMP. Prior to the commencement of works, including demolition works and site preparation works, mitigation measures, such as acoustic barriers or screens would be installed around the RNA worksite, to assist in achieving the environmental objectives (ref draft Outline EMP , Table 24.18). The effectiveness of the mitigation measures would be monitored and reported upon during the works, including the night works.</p> <p>The movement of freight along the Exhibition Line occurs at present and would continue to be managed in accordance with Queensland Rail's Code of Practice for Railway Noise Management. This will remain the responsibility of the Railway Manager</p>
57	Construction vehicle access through Sideshow Alley. EIS implies CRR construction vehicles will need access through Sideshow Alley outside of the construction works zones identified. This would severely impede the RNA's ability to use this area for its major events.	Refer comments on a CMP mentioned above in item 1	EMP Sections 5.7.2 and 5.10.5	Hauling of goods and materials through the RNA worksite would be on a temporary haul road which may move depending on the stage of construction, other construction activities or the type of activity or event occurring on site. This haul road would provide access at all times. Special arrangements would be required via the 'specific events construction management sub-plan' for circumstances when public and worker safety would be compromised during a defined event.

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57	Station access during Ekka and other major RNA events. EIS makes reference to the existing Exhibition Station being closed for at least one Ekka. This will have significant impacts to Ekka as approximately 30% of the patrons travel to the Ekka via train. There are other major events throughout the year that also rely heavily on the Exhibition Station and would be severely impacted if it were closed (i.e. Caravan and Camping Show, Soundwaves concert). Currently there are three platforms located within the RNA site that can accommodate the following movements: <ul style="list-style-type: none"> <li>• 6 car trains</li> <li>• Approximately 1000 patrons per train</li> <li>• Trains arriving at 5 minute intervals</li> <li>• Patrons are cleared from the platform before the next train arrives</li> </ul>	Coordinator General to condition the EIS approval with a requirement that Exhibition Station is to remain open during the construction period for Ekka and other major RNA events as required and that the level of service requirements as currently provided are maintained.		The Cross River Rail EIS, through the draft Outline EMP proposes a consultative process involving the RNA (who may seek advice from Bovis Lend Lease). The heads of consideration for the interface agreement would include: <ul style="list-style-type: none"> <li>• informing design development for Cross River Rail about RNA requirements with regards to internal access and movement systems for people, traffic, exhibits and livestock; events schedules, development and construction programmes</li> <li>• The matters set out for inclusion in the 'specific event construction management sub-plan' is coordinating construction programmes for both projects</li> <li>• The consultative process, and the role of the RNA, (who may seek advice from Bovis Lend Lease) and other stakeholders</li> </ul> Generally for Cross River Rail, construction staging would seek to maintain the Exhibition station open to deliver special event services (Ekka). In the event that a stage of construction requires closure and coincides with defined events, then arrangements to provide alternative transport would be agreed in advance of the staged works.
57	Detailed design of many components associated with the new station and track arrangements will have significant impacts on the RNA. The areas that are likely to affect the RNA include station platform design, horizontal and vertical track alignments, horizontal and vertical alignments to O'Connell Terrace, pedestrian/vehicle/animal movements under the railway to/from Sideshow Alley and the Gregory Terrace side of the site. The RNA's requirements should be included in the functional design brief prior to Request for Proposal (RFP) submissions being sought.	Coordinator General to condition the EIS approval with a requirement that the RNA's requirements are included in the functional design brief, and its review and approval is required prior to the finalisation of design for the new station and vertical/horizontal track alignments etc. where these elements will have an impact on the RNA's operations or ability to conduct its events		As identified in Table 24.9 of the draft Outline EMP, the Project design would be developed and implemented in consultation with the RNA (who may seek advice from Bovis Lend Lease) with regard to the design, access, heritage and construction schedules of the Project and RNA Showgrounds redevelopment to assist in managing potential impacts for both projects. Such consultations would be conducted within the framework established in the interface agreement to be reached between the Proponent and the RNA. The RNA would continue to be engaged via an on-going stakeholder consultation process leading up to and during the tender process with regards to Project design and construction activities within the RNA Showgrounds.
57	Access between Sideshow Alley and Gregory Terrace side of in the final configuration. The EIS has only nominated to maintain the existing width of the pedestrian subways underneath the railway viaduct. Once the RNA Masterplan redevelopment is complete, there will be significantly greater volumes of pedestrians moving through these areas to the hospital and the new High Street, together with the RNA events. These pedestrian access ways should be made wider to accommodate the increased pedestrian flows in the future	Coordinator General to condition the EIS approval with a requirement that <ul style="list-style-type: none"> <li>• The RNA's requirements are included in the functional design brief, and its review and approval is required prior to the finalisation of design for the new station and vertical/horizontal track alignments,</li> <li>• As a minimum the dedicated pedestrian access ways should be 25m wide during major events.</li> </ul>		The Cross River Rail EIS, through the draft Outline EMP proposes a consultative process involving the RNA (who may seek advice from Bovis Lend Lease). The heads of consideration for the interface agreement would include <ul style="list-style-type: none"> <li>• informing design development for Cross River Rail about RNA requirements with regards to internal access and movement systems for people, traffic, exhibits and livestock; events schedules, development and construction programmes.</li> </ul> As identified in Table 24.9 of the draft Outline EMP, the Project design would be developed and implemented in consultation with the RNA (who may seek advice from Bovis Lend Lease) with regard to the design, access, heritage and

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	and to alleviate the bottlenecks that occur now in major events. The RNA's requirements should be included in the functional design brief prior to Request for Proposal (RFP) submissions being sought.			<p>construction schedules of the Project and RNA Showgrounds redevelopment to assist in managing potential impacts for both projects. Such consultations would be conducted within the framework established in the interface agreement to be reached between the Proponent and the RNA.</p> <p>The RNA would continue to be engaged via an on-going stakeholder consultation process leading up to and during the tender process with regards to Project design and construction activities within the RNA Showgrounds. The specific design measures referred to in the RNA submission would be considered during detailed design development and resolved to the extent reasonable and practicable for Cross River Rail.</p>
57	Access to the Main Oval from Oval No 2/new Cattle Pavilion for cattle/other animals. In addition to the pedestrian access ways mentioned above, a dedicated access way for moving large animals from the new Cattle Pavilion to the Main Oval needs to be provided. This access way needs to be a minimum of 5m wide and separated from pedestrians. The RNA's requirements should be included in the functional design brief prior to Request for Proposal (RFP) submissions being sought.	<p>Coordinator General to condition the EIS approval with a requirement that</p> <ul style="list-style-type: none"> <li>• The RNA's requirements are included in the functional design brief, and its review and approval is required prior to the finalisation of design for the new station and vertical/horizontal track alignments.</li> <li>• The access way for moving large animals from the new Cattle Pavilion/Show Ring 2, must align with the entry point onto the Main Oval to minimise travel distance for animals, and potential for conflict with pedestrians.</li> <li>• During Ekka, a 5m dedicated access way for large animals underneath the railway is required. The dedicated large animal access way is to be separated from pedestrians.</li> </ul>	<p>The Cross River Rail EIS, through the draft Outline EMP proposes a consultative process involving the RNA (who may seek advice from Bovis Lend Lease). The heads of consideration for the interface agreement would include informing design development for Cross River Rail about RNA requirements with regards to internal access and movement systems for people, traffic, exhibits and livestock; events schedules, development and construction programmes.</p> <p>As identified in Table 24.9 of the draft Outline EMP, the Project design would be developed and implemented in consultation with the RNA (who may seek advice from Bovis Lend Lease) with regard to the design, access, heritage and construction schedules of the Project and RNA Showgrounds redevelopment to assist in managing potential impacts for both projects. Such consultations would be conducted within the framework established in the interface agreement to be reached between the Proponent and the RNA.</p> <p>The RNA would continue to be engaged via an on-going stakeholder consultation process leading up to and during the tender process with regards to Project design and construction activities within the RNA Showgrounds. The specific design measures referred to in the RNA submission would be considered during detailed design development and resolved to the extent reasonable and practicable for Cross River Rail.</p>	

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57	Timing of works (i.e. O'Connell Terrace vertical and horizontal changes). EIS does not specify timing of when the works will be undertaken. Of key concern for the RNA and LL is that new buildings are likely to be designed and constructed on O'Connell Terrace prior to design of the CRR project in this area being complete (i.e. commercial building west of the railway) and final levels and layouts for the realigned O'Connell Terrace will not be available.	Coordinator General to condition the EIS approval with a requirement that if the CRR project commences after the design has been finalised for any LL (or RNA) buildings along O'Connell Terrace, then any vertical or horizontal alignment changes to O'Connell Terrace as a consequence of the CRR project, will need to be designed to suit the finished ground floor levels of buildings constructed by the RNA and LL along O'Connell Terrace.		Detailed access proposals for each development site within the RNA Masterplan area would be addressed as part of individual planning applications to the ULDA. Each application would need to consider the requirements for Cross River Rail requirements, including changes in the level of O'Connell Terrace and access arrangements.
57	Heritage. EIS makes reference to heritage impacts and requires appointment of a Heritage Consultant and the preparation of a Conservation Heritage Management Plan (CHMP).	Coordinator General to condition the EIS approval with a requirement that:- <ul style="list-style-type: none"><li>• the RNA's review and approval is required to any sections of the CHMP that makes reference to an RNA building or area.</li><li>• The RNA are involved with the selection of the heritage consultant and that any CHMP prepared over RNA buildings is co-ordinated with existing CHMP and that the RNA reviews and approves the final CHMP sections that apply to RNA Buildings or land</li></ul>		The draft Outline EMP (Table 24-20) proposes that a Cultural Heritage Management Plan be prepared for Cross River Rail works that would impact on the heritage values of the RNA Showgrounds. This aspect was discussed during preliminary consultation with the RNA. Consistent with the framework to be established in the interface agreement, the Proponent would seek the views of stakeholders, including the RNA, in relation to the CHMP for Cross River Rail works. The Proponent would consult with the RNA about any CHMP for Cross River Rail works, that might be prepared over RNA buildings or other items of cultural heritage significance. The Proponent notes there would be other CHMPs prepared with regards for the redevelopment of the RNA Showgrounds.
57	Enabling Works. The EIS indicates resumption of land for the proposed Exhibition Railway Station and realigned rail lines. Of key concern is the impact on the Approved Masterplan and the RNA's Developer partner's (LL) ability to achieve commercially attractive and feasible design outcomes.	Coordinator General to condition the EIS approval with a requirement that the design and works should be designed to enable future development to be integrated and accommodated within the CRR structure consistent with the Master plan.		The RNA would continue to be engaged via an on-going stakeholder consultation process leading up to and during the tender process with regards to Project design and construction activities within the RNA Showgrounds. The specific design measures referred to in the RNA submission would be considered during detailed design development and resolved to the extent reasonable and practicable for Cross River Rail.
57	Emergency evacuation plans. The EIS makes reference to emergency evacuation plans and that the RNA's land could be required for this.	Coordinator General to condition the EIS approval with a requirement that the RNA's review and approval is required to those sections of the Emergency evacuation plan which require access to the RNA's land.	Ch 22	Consistent with the framework to be established in the interface agreement, the RNA would be consulted in relation to aspects of the Emergency Evacuation Plan involving the RNA's land (eg emergency evacuation routes, marshalling areas). The Emergency Evacuation Plan would include contact details for the nominated person or the nominated delegate about who should be notified in case of an emergency

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57	RNA events. The EIS only makes reference to the Ekka and the Caravan and Camping show as major RNA events. There are many other major RNA events that occur throughout the year which must also be catered for. It should be noted for clarity that the EIS refers to Ekka Events. However the RNA only has one "Ekka event" i.e. the Ekka, but holds numerous "RNA Events" i.e. Concerts, Festivals, Trade Shows, etc These other RNA events should be assessed to ensure they can be catered for with the new station design and subway pedestrian access.	Coordinator General to condition the EIS approval with a requirement that an assessment of the station design and pedestrian access be undertaken to ensure all RNA events are adequately catered for.		<p>As identified in Table 24.9 of the draft Outline EMP, the Project design would be developed and implemented in consultation with the RNA (who may seek advice from Bovis Lend Lease) with regard to the design, access, heritage and construction schedules of the Project and RNA Showgrounds redevelopment to assist in managing potential impacts for both projects. Such consultations would be conducted within the framework established in the interface agreement to be reached between the Proponent and the RNA.</p> <p>The RNA would continue to be engaged via an on-going stakeholder consultation process leading up to and during the tender process with regards to Project design and construction activities within the RNA Showgrounds. The specific design measures referred to in the RNA submission would be considered during detailed design development and resolved to the extent reasonable and practicable for Cross River Rail.</p>
57	Station ticketing and entry/exit arrangements. The EIS does not address high demand situations during Ekka where multiple trains are arriving and leaving at high frequency. EIS only refers to a model that states the platform complies with LOS D modelling. Station design needs to consider the interface between Ekka Station and RNA entrance ticket booths, and make allowance for queuing areas for RNA patrons and Ekka Station passengers and their interaction as part of event management during peak periods.	Coordinator General to condition the EIS approval with a requirement that the RNA review and approval is required to the final station design for ticketing and entry/exit arrangements.		<p>As identified in Table 24.9 of the draft Outline EMP, the Project design would be developed and implemented in consultation with the RNA (who may seek advice from Bovis Lend Lease) with regard to the design, access, heritage and construction schedules of the Project and RNA Showgrounds redevelopment to assist in managing potential impacts for both projects. Such consultations would be conducted within the framework established in the interface agreement to be reached between the Proponent and the RNA.</p> <p>The RNA would continue to be engaged via an on-going stakeholder consultation process leading up to and during the tender process with regards to Project design and construction activities within the RNA Showgrounds. The specific design measures referred to in the RNA submission would be considered during detailed design development and resolved to the extent reasonable and practicable for Cross River Rail.</p>
57	Ekka GFA. The EIS does not take into consideration the amount of land required by the RNA to ensure the Ekka (and other major events) will remain viable during the construction works. The amount of land to be resumed is significant and the RNA has concerns about whether the space remaining will be sufficient to run its events. Constructing the platform and rail lines on an elevated structure through the RNA site will minimise the land lost due to earth embankments, and	Coordinator General to condition the EIS approval with a requirement that the platform and rail lines through the RNA site be placed on elevated structure for the greatest extent possible through the RNA site, and that the RNA confirms that the amount of land remaining after resumptions is sufficient for it to run and maintain a viable Ekka (and other major events).		<p>As identified in Table 24.9 of the draft Outline EMP, the Project design would be developed and implemented in consultation with the RNA (who may seek advice from Bovis Lend Lease) with regard to the design, access, heritage and construction schedules of the Project and RNA Showgrounds redevelopment to assist in managing potential impacts for both projects. Such consultations would be conducted within the framework established in the interface agreement to be reached between the Proponent and the RNA.</p> <p>The RNA would continue to be engaged via an on-going stakeholder consultation process leading up to and during the</p>

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	provide opportunity for RNA uses in the space under the elevated structure.			tender process with regards to Project design and construction activities within the RNA Showgrounds. The specific design measures referred to in the RNA submission would be considered during detailed design development and resolved to the extent reasonable and practicable for Cross River Rail.
57	Many of the detailed design requirements to address noise, light spill, vibration, dangerous goods, stormwater runoff etc, on existing and future surrounding development on RNA land have not been addressed in detail.	Coordinator General to condition the EIS approval with a requirement that RNA review and approval is required for design elements which have direct impact on the RNA site.		The RNA would continue to be engaged via an on-going stakeholder consultation process leading up to and during the tender process with regards to Project design and construction activities within the RNA Showgrounds. The specific design measures referred to in the RNA submission would be considered during detailed design development and resolved to the extent reasonable and practicable for Cross River Rail.
57	Dilapidation Report. EIS only requires that a dilapidation report is prepared on buildings nominated with Heritage value within 10m of the works corridor. Dilapidation report should be performed on all buildings within 50m either side of the works corridor	Coordinator General to condition the EIS approval with a requirement that a full dilapidation report be performed on all buildings within the RNA site where predictive modelling undertaken during the detailed design phase indicates construction vibration and operational vibration would impact on an RNA building.		The draft Outline EMP (Table 24, 18) proposes that pre-construction building surveys and monitoring be undertaken where vibration-intensive construction works occur within 10m of heritage structures in the RNA Showgrounds. A building conditions report would be required where predictive modelling indicates construction vibration, and operational vibration, would exceed the goals for vibration on a heritage building within the RNA Showgrounds. This would be confirmed during the detailed design phase.
58	The issue with haulage by Road is as follows: <ul style="list-style-type: none"> <li>• If a truck stalls at the top of Lucy street it will become a dangerous bottle neck;</li> <li>• Locals will be impacted by Trucks taking short cuts; and</li> <li>• Ipswich Road will be heavily impacted by the transport of heavy spoil. This will result in depressions in the road and endanger motorists who get locked into the Tram-Line like indentations.</li> </ul>	Use rail to transport spoil. The CRR team indicated that this would require double handling, but this is incorrect as why would most of the world's coal terminals use trains to transport such large quantities of material.	Section 3.4.3 p3-39, Section 5.10.5	The haulage of spoil by rail was considered in the development of the reference design and is discussed in Section 3.4.3 of the EIS. While spoil transport by road has been adopted for the purposes of the EIS assessment, the option of transporting spoil by rail is being maintained for consideration by tenders.  Section 5.10.5 of the EIS proposes that the removal of spoil from the southern portal at Yeerongpilly would be only via Station Road and Lucy Street. All spoil trucks accessing the worksite would then make use of the existing signalled intersection of Lucy Street and Ipswich Road. No additional traffic control is envisaged which would delay traffic on Ipswich Road. Monitoring and mitigation impacts including road condition surveys would form part of the Traffic Management Plan.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
58	The issue is that this [CRR Project] will not provide a long term solution - as local commuter trains will be constrained by increase in freight including intermodal freight. Based on the information in this guide, this will increase. Freight should not travel through residential areas, particularly those which the government wish to turn into Transit Oriented Developments (TODs). The impact is beyond scheduling - this is a residential area and the government wishes to increase the density of Yeerongpilly. Combining commercial with residential results in decrease in value of properties. Decrease in value will decrease the pride people will take in maintaining their investment as the return will diminish. This is the beginning of a slum.	Build a dedicated track around the city - (Springwood area) and run parallel with the Gateway motorway to the port of Brisbane.	Section 5.6.8	<p>The identification of an alternate rail freight corridor is beyond the scope of Cross River Rail and the EIS. The need for an alternate rail corridor from the west of Brisbane, has been addressed in a separate investigation by the Department of Transport and Main Roads. The Southern Freight Rail Corridor study has recently identified a new railway route connecting the Western Line near Rosewood to the interstate railway at Kagaroo, north of Beaudesert. There is no confirmed date for the implementation of the Southern Freight Rail Corridor.</p> <p>This rail line would serve as a major freight link connecting a future Melbourne to Brisbane Inland Rail line with the existing South East Queensland rail freight network south of the Acacia Ridge Multi-modal freight terminal. This would avoid the need for freight trains from the west to use the Ipswich Line and the Tennyson line.</p> <p>This would avoid the need for freight trains to use the Ipswich Line and Tennyson line.</p> <p>Furthermore, Cross River Rail benefits include the ability to unlock freight capacity within the existing rail corridor by removing conflicts between passenger rail and freight rail movements on the dual gauge line between Yeerongpilly and Park Road, particularly during peak passenger periods.</p> <p>With regard to perceived conflicts between continued freight rail operations in the study corridor and various state and local plans for additional residential development, it is also noted that all new assessable development within 100m of the Cross River Rail tracks will be required to be assessed by Brisbane City Council and the State Government to ensure that appropriate noise attenuation measures are incorporated into the development design and that impacts on both residential amenity and freight rail operations are minimised.</p>
58	The current movements of heavy trains (particularly coal) create unacceptable shunting and squealing noises all hours of the day.		Section 16.5.3, p16-123 to 16-126.	<p>In Year 2031, a negligible increase in peak noise levels (2 dBA) is predicted from surface rail operations between the portals in Yeerongpilly and Victoria Park.</p> <p>Noise predictions show that no further noise barriers are required where surface rail noise is below Queensland Rail's operational noise criteria in Year 2031.</p> <p>In accordance with Queensland Rail's Code of Practice for Railway Noise Management and Network Noise Management Plan, regular reviews and noise monitoring occurs across the network. Surface rail traffic would need to be managed to achieve the criteria set out in Queensland Rail's Code of Practice for Railway Noise Management (ie 87dBA assessed as a Single Event Maximum Sound Pressure Level, or 65dBA</p>

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58	This table [Table 5-16] is incomplete and does not provide totals of freight past Yeerongpilly - • What are the current actual freight movements? • What are the restrictions to freight movements at present hours of night time operation in particular? • How will these restrictions change in the future with and without CRR? By how much will the movements of coal increase from the current levels? Is this a valid assumption given the investment in the Acacia Ridge facility? The table suggests that increasing the number of coal movements to 197 per week is a foregone conclusion.)	The solution is to require the CRR team to provide clarity as to the future objectives of use of the rail line between Tennyson and Dutton park. Local passenger (commuter) services to Fairfield and Yeronga and Yeerongpilly will suffer as increased freight will reduce available times. Table implies that almost all future freight access will be restricted to coal and that 1M freight will be almost eliminated (27 movements per week). Basic economics dictates this will never occur. Any market economy will quickly absorb availability if economically viable; otherwise it will cease to operate.		"The identification of an alternate rail freight corridor is beyond the scope of Cross River Rail and the EIS. The need for an alternate rail corridor from the west of Brisbane, has been addressed in a separate investigation by the Department of Transport and Main Roads. The Southern Freight Rail Corridor study has recently identified a new railway route connecting the Western Line near Rosewood to the interstate railway at Kagaroo, north of Beaudesert. There is no confirmed date for the implementation of the Southern Freight Rail Corridor.  This rail line would serve as a major freight link connecting a future Melbournne to Brisbane Inland Rail line with the existing South East Queensland rail freight network south of the Acacia Ridge Multi-modal freight terminal. This would avoid the need for freight trains from the west to use the Ipswich Line and the Tennyson line. This would avoid the need for freight trains to use the Ipswich Line and Tennyson line.  Furthermore, Cross River Rail benefits include the ability to unlock freight capacity within the existing rail corridor by removing conflicts between passenger rail and freight rail movements on the dual gauge line between Yeerongpilly and Park Road, particularly during peak passenger periods. With regard to perceived conflicts between continued freight rail operations in the study corridor and various state and local plans for additional residential development, it is also noted that all new assessable development within 100m of the Cross River Rail tracks will be required to be assessed by Brisbane City Council and the State Government to ensure that appropriate noise attenuation measures are incorporated into the development design and that impacts on both residential amenity and freight rail operations are minimised."
58	Automatically assumes that increasing rail freight has a purely positive impact. Increased demand will drive supply and will therefore increase use - thus eliminating any gains. This will increase noise - dust and reduce commuter transport and reduce the value of the TOD.	Suggestion - build a dedicated freight line south and around the city.		The identification of an alternate rail freight corridor is beyond the scope of Cross River Rail and the EIS. The need for an alternate rail corridor from the west of Brisbane, has been addressed in a separate investigation by the Department of Transport and Main Roads. The Southern Freight Rail Corridor study has recently identified a new railway route connecting the Western Line near Rosewood to the interstate railway at Kagaroo, north of Beaudesert. There is no confirmed date for the implementation of the Southern Freight Rail Corridor.

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				<p>This rail line would serve as a major freight link connecting a future Melbourne to Brisbane Inland Rail line with the existing South East Queensland rail freight network south of the Acacia Ridge Multi-modal freight terminal. This would avoid the need for freight trains from the west to use the Ipswich Line and the Tennyson line.</p> <p>This would avoid the need for freight trains to use the Ipswich Line and Tennyson line.</p> <p>Furthermore, Cross River Rail benefits include the ability to unlock freight capacity within the existing rail corridor by removing conflicts between passenger rail and freight rail movements on the dual gauge line between Yeerongpilly and Park Road, particularly during peak passenger periods.</p> <p>With regard to perceived conflicts between continued freight rail operations in the study corridor and various state and local plans for additional residential development, it is also noted that all new assessable development within 100m of the Cross River Rail tracks will be required to be assessed by Brisbane City Council and the State Government to ensure that appropriate noise attenuation measures are incorporated into the development design and that impacts on both residential amenity and freight rail operations are minimised.</p>
58	This table [Table 5.24] indicates demand in 2021 will rise from 201 to 275 trains per week or 74 trains. This is a little over 10 trains per day or 1 train every 2.5hrs. I would expect with better scheduling this could be done without the project going ahead.	By having a dedicated train line outside the residential area and not competing with local commuters, this could be increased significantly. If the line was dual gauge, it would increase competition and allow freight to be transported from Northern NSW. This will increase the NPV of the project and the return on investment.		<p>In 2021 the key limitation on available train paths without Cross River Rail is the assumed increase in off peak passenger rail frequencies on the Beenleigh and Gold Coast lines. However, with the project these conflicts are removed with an additional 74 trains between Tennyson and the Port provided for. In 2031 the differences between the with and without case are far more pronounced with 326 trains per week assumed to be able to operate with the project compared to only 201 without. Note that the "dedicated freight line" referred to through the CRR corridor will be dual gauge to be carried on the network (including through the part of the network that CRR serves) will be determined by wider factors including infrastructure beyond the corridor and will continue to be managed by Queensland Rail. Note that Cross River Rail in itself does not propose changes in freight rail operations as these are managed by Queensland Rail. The identification of an alternate rail freight corridor is beyond the scope of Cross River Rail and the EIS</p>

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58	Table 5-32 assumes that there will be no increase in patronage of the station by customers arriving by car. This presumes that the new station, with its improved services and increased frequencies, would be no more attractive to park and ride customers than the current station. With the Project, Yeerongpilly would become a significant park and ride station as it would provide the main access point to the new express services for residents of the south and east.	A purpose built park and ride facility should be built above the Clapham Yards. This will provide shelter and safe holding yards for trains with a multi-storey car park above. This would service both the flow of traffic from Ipswich Motorway, Beaudesert Road and the Mooroopa catchment area. Do not use Translink requirements "that park 'n' ride facilities can't be built within a certain distance of the CBD" as an excuse. They should not have the ability to veto a park 'n' ride facility being built. Limit on-street parking through the implementation of a residents parking scheme.	Section 5.7.2 p5-114, Section 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD. This policy aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities (kiss n ride), disabled parking, cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will also continue to monitor park 'n' ride demand across the rail network as part of its on-going strategic planning. Prior to operation of Cross River Rail, TransLink will also need to explore opportunities to enhance bus services to Yeerongpilly Station and to take advantage of new bus-rail interchange opportunities offered by Cross River Rail.
58	The comment about current park 'n' ride demands at Yeerongpilly Station is misleading. It does not indicate the "occupancy" of these facilities. The existing parking facilities are full by 7.00am every morning - before peak commuting. The survey was completed by TransLink, who do not want park 'n' ride facilities.	It is wrong to rely on information provided by the organisation it will impact. A park 'n' ride facility should be built over Clapham Junction rail yard to accommodate 500+ cars.	Section 5.7.2 p5-114, Section 5.10.5 (p5-163) and 24.10 Table 24-27 EMP	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD. This policy aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities (kiss n ride), disabled parking, cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will also continue to monitor park 'n' ride demand across the rail network as part of its on-going strategic planning. Prior to operation of Cross River Rail, TransLink will also need to explore opportunities to enhance bus services to Yeerongpilly Station and to take advantage of new bus-rail interchange opportunities offered by Cross River Rail.

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58	The cut in Queenslanders' carbon footprint through reduced motor vehicle use and transport mode shift is a misleading statement. It does not take into consideration the additional GHGs that result from burning this extra coal - even overseas. The project would increase Queenslanders' carbon footprint by enabling significantly larger volumes of coal from the Darling Downs to be exported via the rail network.	Perform honest calculations including all GHG - local and international. This will be more realistic in determining a true assessment of the project's impact on climate change.	Ch 15, Section 15.6.3 p15-60.	<p>The preliminary greenhouse gas inventory was prepared in alignment with the requirements of the National Greenhouse and Energy Reporting System.</p> <p>The Project is predicted to reduce GHG emissions from changes in road network performance by 22.5 kt CO2-e in 2021 and 91.1 kt CO2-e in 2031.</p> <p>The predicted reduction in GHG emissions represents approximately 0.8% of Queensland's transport GHG emissions in 2008.</p> <p>The extraction, use and impacts of coal is outside the scope of this project.</p>
58	The risk assessment is flawed and does not take into consideration of a significant storm. If one combined the effects of: <ul style="list-style-type: none"> <li>• Low pressure system over Brisbane creating sea level rise = 0.5m; and</li> <li>• Flood like 2011 and 1974 Floods 4.0 - 6.0m; and</li> <li>• Local flooding from rain fall will make these redundant+1.5m; and</li> <li>• in 100 years with the sea level rising 1m</li> </ul> The total could be 7 - 9m above sea level. CRR will be wiped out and the investment lost. Can the government insure against this?	Change the location of the Tunnel. Build an elevated track through Salisbury to stop at Moorooka. The CRR then runs parallel with Ipswich Road and then enters a tunnel just south of Lucy Street (Ford Dealership). Confirm that the insurers will insure this project (unlike the rest of Queensland's Roads),	Section 14.1.4 p14-5. Section 14.1.1 p14-3.	<p>Sea level rise scenarios of up to 1.1m were specifically considered (Section 6.4.2), as was increased inundation (incidence and severity of rainfall) to ensure that the Project is protected against possible future climate change scenarios. In addition, the January 2011 flood resulted in a peak flood level at the Port Office gauge of approximately 4.46 m AHD. This is higher than the flood level for the Defined Flood Event (peak flow of 6.8 m3/s), but is comparable with the Defined Flood Event under a climate change scenario. This scenario is accommodated by the reference design (Section 14.4).</p> <p>A range of flood protection measures are incorporated into the reference design to provide flood immunity to the tunnel in extreme, i.e. 1 in 10,000 AEP, riverine flood events. The potential for climate change to affect flooding was also considered. The methodology used is summarised in Technical Report No.6 – Flood Study.</p>
58	Wilkie Street realignment during construction.	If you take from the community, compensate it. This area should be made available to the residents to choose what to do with this land. The project should disclose exactly what is to happen before it begins, this is not acceptable.	Section 9.4.4 p9-44 Section 9.4.12 p9-58	<p>Wilkie Street is required to be realigned to the east to accommodate the southern portal and new rail lines at Yeerongpilly. The redevelopment of potential surplus land on Wilkie Street is beyond the scope of the Project. Any redevelopment of land would be managed by the relevant planning and assessment manager and would be undertaken separately to the Project. The redevelopment of surplus land at Wilkie Street would need to consider the requirements of City Plan, including those relating to issues such as privacy, building height and density, and local character and amenity to ensure that impacts on surrounding residents are avoided or appropriately managed. Applications to redevelop surplus land would also need to be publicly notified in accordance with the Sustainable Planning Act 2009. This notification gives interested community members an opportunity to review and provide comments on a development application.</p>

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58	<p>During construction, residential properties near to worksites and construction activities would experience potentially adverse changes to amenity, particularly due to increased noise and dust.</p> <p>The area surrounding the Yeerongpilly worksite and new station may experience pressure for redevelopment to high density residential or mixed use commercial to take advantage of the transport advantages expected from the project. This is not acceptable - we live here and we have to endure this disruption.</p>	Move the build site well away from residential areas - build it in a commercial area - Moorooka - Magic Mile and use Clapham Rail Yards.	Ch 3 Section 3.3.5 p3-14 to 3-20.	<p>Consultation on the Yeerongpilly Station, southern portal and the construction worksite was conducted in November 2010, as part of the wider consultation undertaken on the reference design. The location selected in the reference design provides greater overall benefits, including fewer property impacts, avoiding the need for a separate floodgate building and providing greater opportunities to support possible future redevelopment of the Yeerongpilly construction worksite as a transit oriented development.</p> <p>The EIS identifies the potential for construction impacts to adjoining communities and has identified environmental objectives and supporting goals to avoid or mitigate these impacts (EMP - Ch 24). Surrounding communities will be consulted about construction activities to further minimise and manage any potential impacts.</p>
58	<p>Spoil haulage from construction worksites to Swan bank would be primarily via Ipswich Road/ Ipswich Motorway or the ICB/ Milton Road/ Centenary Motorway with both routes travelling along the Ipswich Motorway, Cunningham Highway and Redbank Plains Road to Swanbank. This is not acceptable - we live here and we have to endure this disruption.</p>	Suggested solution: Use rail to transport spoil.	Section 3.4.3, p3-39, Section 5.10.5	<p>The haulage of spoil by rail was considered in the development of the reference design and is discussed in Section 3.4.3 of the EIS. While spoil transport by road has been adopted for the purposes of the EIS assessment, the option of transporting spoil by rail is being maintained for consideration by tenderers.</p> <p>Section 5.10.5 of the EIS proposes that the removal of spoil from the southern portal at Yeerongpilly would be only via Station Road and Lucy Street. All spoil trucks accessing the worksite would then make use of the existing signalled intersection of Lucy Street and Ipswich Road. No additional traffic control is envisaged which would delay traffic on Ipswich Road. Monitoring and mitigation impacts including road condition surveys would form part of the Traffic Management Plan.</p>
58	A range of major projects are currently being constructed within or near to the study corridor, including construction of inner city buildings and major transport projects. While surface works are generally undertaken during day light hours, lighting is required for some external night-time construction activities as well as for safety and security of workers and property. Some light trespass and glare occurs from construction work sites on adjoining land use. Concern regarding the inability to sleep. During the construction period, my children will be in high school. This disruption will have a negative impact on their performance and as a consequence, potentially on the ability to	There should be no impact on our lives. Build the CRR in a commercial area, not in Yeerongpilly. In respect of excessive lighting refer to <a href="http://www.Breastcancer.org/riskfactors/light_exposQ">www.Breastcancer.org/riskfactors/light_exposQ</a> and the article "Light Exposure at Night" 18 Jan 2011.	Section 10.4.2 Table 10-11, Ch 24, Table 24-21	<p>The EIS recognises that light spill from CRR work sites may be experienced during construction. However, as the Project is located within an urban environment and that surface works would be located near to rail corridors and major roads, it would be unlikely for mitigation measures to completely avoid the presence of night lighting.</p> <p>Mitigation measures are identified in Table 24-21 of the EMP.</p> <p>The performance criteria includes that project lighting is designed, constructed and operated to comply with AS4282-1997 and that nuisance from lighting on sensitive receptors is avoided.</p> <p>Through the use of directionally-controlled lights that are situated at the correct height and location, light spill onto sensitive receptors is expected to be manageable.</p>

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	achieve their best results. Will the locals be provided with Blackout curtains and Air-conditioners as the project will run 24/7 in Yeerongpilly?			
59	The proposed area is NOT a small area of Victoria Park, but is probably near to 1 Hectare and contains major trees and parkland. There will be a huge loss of visual amenity if mature trees are removed. These currently block out the ICB and the Railway line for park users. Replacement by small trees would take years to restore this greening and visual amenity. Social, recreational areas, play ground, pedestrian/cycle path will be affected. To describe these proposed changes as of low significance and low residual effect ignores the extensive, current use of these areas. Several stone curlews nest in these entire eastern ends of the park and are rapidly having their nesting areas diminished. Much of this CRR proposal further erodes their sites. Loss of mature trees also affects the general bird population.	More area of the unused parts of the railway line and the sites where the buildings are to be demolished could be used. Parking for workers could be here or in the RNA Show Grounds. If possible, all mature trees should be preserved, especially the mature fig trees, eucalypts and those in the current Brisbane City Council Depot. I suggest that the mature trees should be fenced off at the drip-line, root areas protected. Approximately 1800 m <sup>2</sup> could be taken out of the proposed "general site area" to preserve the old figs. If necessary, approximately 3000 m <sup>2</sup> of the parkland adjacent to the dog off-leash area could be used for a temporary "general site area" and restored later. The playground should remain untouched and the pedestrian/cycle path could be realigned to "skirt" the dog fence, run along the bottom of the bush land area (planted in 1959), and out onto the road leading to Gregory Terrace. The bush land area is to remain untouched.	Ch 11, Sections 11.3.3 (Impacts) and 11.3.4 (Mitigations) and Ch 24, Table 24-10 p24-28	An alternative worksite configuration would be developed to retain the two fig trees. Further investigations during detailed design would seek to minimise clearance of native vegetation to that necessary for construction, site maintenance and operation, and ensure all necessary statutory clearing permits have been obtained prior to works commencing. In particular, construction impacts on the existing mature trees located within the central section of Victoria Park would be minimised, where possible.
60	A number of properties on Railway Road, Fairfield are on overland flow paths. Properties closest to the proposed Ventilation and Emergency Access building are prone to flooding from storm water backup if the storm water drains are obstructed. The storm water drains which drain the overland flow pass through proposed construction site. Work at the construction site has the potential to obstruct these drains. The risk of obstruction and consequential flood risk to properties on Railway Road is not documented in the EIS.	The flood risk described here be investigated and appropriate mitigation made if the concerns are found to be valid	Section 14.3.1, p14-16.	Stormwater drain capacity through the worksite will be maintained during construction.
60	Adverse visual amenity from the proposed ventilation and emergency access building. Re-alignment of Railway Road will allow headlights of vehicles to be directed into bedroom.	Railway Road not be re-aligned and the site be made into a park. An easy alternative route exists via Cross Street. A park instead of a road would to some extent mitigate the loss of amenity caused by the structure and provide a better congregation area in the case of evacuation from the tunnel. It is also likely to	Section 9.4.8, Section 10.3.4 Table 10-9, Section 10.4.2,	The ventilation and emergency access building is not expected to significantly impact on amenity during operation, although some short-term impact on amenity may be experienced during construction. The ventilation and emergency access building is proposed to be architecturally designed and treated and would be sufficiently offset to allow for vegetation to be planted between

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		cost less. Perhaps the money saved could be used to buy more of the Energex site to make an even better park, giving something to back to the nearby residents instead of just being a burden to them.	Table 10-11, Ch 24, Table 24-21	the building and the roadway. Mitigation measures for construction lighting including vehicles are identified in Table 24-21 of the EIS. Alternatives to the realignment of Railway Road would be investigated during detailed design.
61	24 hour contact number	A 24 hour toll free number needs to be made available, and must be manned 24 hours a day, so that responses to any breaches of the conditions of the EIS can be immediate. A response time of up to 48 hours is unacceptable. Where EIS conditions are not being met, particularly with regard to hours of operation and noise levels, residents need an immediate response.	Ch 24, Table 24-22 p24-58.	As outlined in Section 24.5 of the EIS, a process will be developed and implemented for receiving and responding to complaints about the Project from community members during the construction phase. This would involve the establishment and maintenance of a 24 hour, seven day toll-free telephone service. This service would be staffed by members of the Project team. Any complaint received would be required to be investigated immediately to determine the appropriate course of action for addressing the complaint. In some instances, this could include suspending activities that are the source of the complaint.
61	The Cross River Rail portal is being constructed in primarily a residential area. There will be a period of at least 12 weeks (6 weeks during the demolition works along Wilkie Street and 6 weeks when piling is taking place) when noise levels will be excessive. There are other periods when noise levels may exceed recommended levels. The EIS in its present form does not specify what is to happen when recommended noise levels are exceeded nor does it give any redress to local residents.	It is imperative for neighbouring residents that operations causing noise level exceedances not be carried out from 6.30pm to 6.30am on any day. Excessive noise which impacts on sleep or health needs to be addressed immediately. Vital that residents have access to a 24 hour number which is manned by someone who can take immediate action.	Ch 24, Table 24-18 p24-53. Ch 24, Table 24-22 p24-58.	Numerical noise goals are provided in the EIS to limit or manage the adverse impacts on the community for both the day and nighttime periods (refer to Section 16.2.2 of Chapter 16 and Table 24-18 of the draft Outline EIS). During construction, noise monitoring would be conducted against the noise goals. If noise levels exceed the goals, the construction Contractor would be responsible for investigating exceedances and implementing noise controls, or amending the work activities to prevent recurrences. A 24 hour, seven day a week, toll-free telephone line would be established for receiving, handling and responding to complaints and community enquiries in a timely and effective manner.
61	Dust management	As part of the dust management plan all trucks carrying spoil from any of the worksites need to have the spoil covered before travelling on any public road.	Ch 15, Section 15.4.5 p15.48.	Dust management measures implemented at worksites would ensure that trucks transporting construction spoil are covered to prevent wind-blown dust during transport.
61	The EIS makes no mention of the community's previous request that all spoil be removed by rail.	Spoil from the works at Yeerongpilly should be removed by rail to Swabank. Any additional expense can be offset in the reduction of traffic and subsequent delays along Ipswich Road.	Section 3.4.3, p3-39, Section 5.10.5	This is discussed in Section 3.4.3 of the EIS. The haulage of spoil by rail was considered in the development of the reference design and is discussed in Section 3.4.3 of the EIS. While spoil transport by road has been adopted for the purposes of the EIS assessment, the option of transporting spoil by rail is being maintained for consideration by tenders.

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61	We are in favour of the proposed truck movements from the Bogg Road site via Annerley Road, Cornwall Street to Ipswich Road; from the Fairfield Road emergency centre via Verner Road to Ipswich Road provided truck movements are restricted to the time period 6.30am to 6.30pm Monday to Saturday. All truck movements to the works depot in Lucy Street/Station Road should be via Ipswich Road. There should be no access for any trucks or work vehicles to or from the worksite via Wilkie, Cardross Street and Fairfield Road. Traffic movements down Fairfield Road will already be severely restricted as a result of the work at the Ventilation and Emergency building in Fairfield Road and the works at the Fairfield Road/Muriel Avenue intersection.		Section 5.10.5	<p>Section 5.10.5 of the EIS proposes that the removal of spoil from the southern portal at Yeerongpilly would be only via Station Road and Lucy Street. All spoil trucks accessing the worksite would then make use of the existing signalised intersection of Lucy Street and Ipswich Road. No additional traffic control is envisaged which would delay traffic on Ipswich Road. Monitoring and mitigation impacts including road condition surveys would form part of the Traffic Management Plan.</p>
61	Sherwood Road/Fairfield Road/Muriel Avenue Intersection. This intersection has a number of existing problems.	<p>Needs to be greater cooperation and discussion with the Department of Transport and Main Roads and the Brisbane City Council to arrive at a solution that unlike the present proposal does not make the existing problems worse.</p> <ol style="list-style-type: none"> <li>1. The regular flooding of the Rocky Waterholes Creek cutting access to Muriel Avenue.</li> <li>2. The height of the present railway bridges which are too low for many trucks to pass under.</li> <li>3. The tightness of the access from Sherwood Road and Muriel Avenue to the southbound lanes of Ipswich Road. Many trucks coming from the Brisbane Markets cannot proceed directly onto Ipswich road, but instead must travel north along Fairfield Road and into Verner Road to get to Ipswich Road.</li> </ol> <p>This intersection needs major work to address these problems and has been tagged for future work. The construction of a third bridge over Muriel Avenue west of the existing bridges and the realignment of the north and south approaches to Ipswich Road are piecemeal solutions that will make it more difficult and far more expensive in the future to address problems 1 and 2 above.</p>		<p>The proposed new rail bridge over Muriel Avenue maintains the existing height clearance of the adjacent rail bridges - that is CRR makes the situation no worse than existing. The track level on the new rail bridge has been raised by 1.5m compared to the adjacent tracks to compensate for the grade of Muriel Avenue which rises as it heads west under the bridges. The new rail bridge could not be raised any higher without impacting on the Ipswich Motorway overbridge to the south. The proposed bridge design and related intersection layout were discussed with Brisbane City Council officer and the proposed approach supported Council. While CRR does not seek to address all issues in regards to the surrounding road network further consultation will be undertaken in detailed design to preserve as far as possible options for further future improvements at this intersection.</p>

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61	Changes to hours of work	Mandatory for Cross River Rail to inform local residents when surface works are to be carried out outside the Monday to Saturday 6.30am to 6.30pm time frame.	Ch 24, Table 24-22 p24.57.	Early and on-going notification with potentially affected property owners, tenants and local and broader communities would be conducted in advance of planned out of hours work, their potential effects, duration and proposed mitigation or management measures.
61	Yeerongpilly Station has a number of car parking spaces. As part of construction these are being removed but not replaced. This is one of the few stations in our area with disability access and is used by people with disabilities who can presently park and use the train. The new Yeerongpilly Station will have a "kiss and ride", but no car parking spaces and no parking for those with disabilities.	The currently stated position of no car parking spaces within 10 km of the CBD needs to be repealed. Rather than imposing traffic restrictions on Yeerongpilly residents, car parking needs to be made available at the new Yeerongpilly Station. With land resumed for the works depot there is ample room for a car parking facility.	5.7.2 p114, 5.10.5 (p5-163) and 24.10 table 24-27 EMP	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD. This policy aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities (kiss n ride), disabled parking, cycle parking facilities and new bus stops near the station entry to improve transport interchange. The reference design would also include parking for people with disability at the new Yeerongpilly Station to replace the one disability parking space currently available at Yeerongpilly Station and maintaining step free access to the station
61	Retention of Yeerongpilly Station	The existing Yeerongpilly Station and platforms should be retained and maintained once the new Yeerongpilly Station is moved 250 metres further south. Future transport plans include reopening the Yeerongpilly-Tennyson-Corinda link. This would require platforms to be located at the site of the existing Yeerongpilly Station. Rather than demolishing the platforms and rebuilding them anew at a later date it would be more cost effective to retain them.		The new station for Cross River Rail would replace the existing station at Yeerongpilly. The existing station would be closed and decommissioned prior to construction of the new Yeerongpilly Station. The new station would cater for Cross River Rail trains from the Gold Coast and Beenleigh as well as accommodating existing surface rail services. This would allow transfer for passengers between Cross River Rail and other surface rail services.
61	No details are given of dust management plans or traffic management plans.	The details of any management plans (dust, traffic etc) submitted by the contractor need to be taken back to the community for approval.	Ch 24, Section 24.6.1 p24-12, Section 24.9 Table 24-11 p24-29 and Section 24.9 Table 24-17 p24-44 Ch 24,	Environmental management plans, including those relating to the management of noise, dust and traffic impacts would be prepared by the Proponent and approved by the relevant authorities. As outlined in Section 24.3 of the EIS, community liaison groups established for the Project would be responsible for providing comments in an advisory role to the Proponent on matters including the detailed EMPS for construction and operation the community liaison groups would also provide advice to the Proponent during construction in relation to identifying and mitigating the impacts of construction in the locality for each group. The draft Outline EMP also includes the need for mitigation

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			Section 24.9 Table 24-22 p24-57	measures around certain elements (ie noise and vibration) to be developed in consultation with owners and occupants of potentially affected properties.
61	Changes to the EIS	Any changes to the EIS after it has been approved to be made public and taken back to community representatives rather than being agreed to "in house."		Where there is a change to the EIS, the Proponent may apply to the Coordinator General to evaluate the environmental effects of the proposed change, its effects on the Project and any other related matters. This may include public consultation depending on the nature of the change.
62	Closure of inadequate and inappropriate Coopers Plains Railway Station / Crossing Precinct outside the study area.	Requesting that the Study Area be expanded to include this particular precinct, with the allocation of appropriate planning and consultation options provided to residents, businesses and users.		Coopers Plains is outside of the study area as defined by the Terms of Reference for the study.
62	Concern regarding access to homes in relation to the Heaton Street access arrangements, and the inadequacy of those arrangements in relation to future flooding of the Rocklea / Archerfield areas.	Greater opportunity be provided for, and consideration of the consultation requirements and arrangements for Rocklea residents.	In part (Technical Report No 1 - Transport, section 6.6.4)	Consultation on the EIS in mid-2011 included discussion of the changes to the reference design to allow the emergency access to be retained. The Cross River Rail August 2011 newsletter specifically identified this issue, together with community information sessions (in locations such as Moorooka Primary School and the Queensland Tennis Centre in Tennyson) as well as the local area update (Salisbury to Rocklea) which identified the emergency access to be provided. A new link (emergency gate) has been proposed to allow vehicles to access Beaudesert Road itself (immediately south of the viaduct), from a raised segment of the Beaudesert Road Service Road in the event of a flood and the subsequent closure of the proposed signalised intersection of Beaudesert Road and Lillian Avenue. This emergency gate would allow a vehicular exit point with similar flood immunity to the existing open level crossing. Detailed road treatments for the section of Tramore Street to be made two-way will be undertaken during detailed design. Treatments may include new pedestrian crossings, traffic calming measures and alternative car parking provision.
62	Representatives from The Construction Training Centre (CTC), 460-492 Beaudesert Road, Salisbury have advised that the Rocklea Spur Line that enters their site across Fairlie Street is a dangerous crossing site which needs to be more effectively addressed in any revamp of access in this vicinity. I understand that this spur line is used for freight movements between 2-5 times per week and will intersect the proposed cross river rail line.	The provision of a level link between the		To the Project's current knowledge the spur is still used and as such the reference design preserves it. No modifications to the Rocklea spur line are required as a result of the Project. No assessment of the Rocklea spur line is therefore required, or the impact of removing it, as it does not form part of the Project.
62	A number of residents have raised the issue of			Such a cycleway does not form part of the Principal Cycle

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62	more effectively addressing and incorporating bikeway / pathway access through the site; especially through the changes to the corridor through Moorooka, Rocklea and Salisbury.	Brisbane River cycle ways and Goburra Street, Tramore Road and Riawena Road cycle way system would be extremely advantageous to workers and residents accessing these local suburbs and should be incorporated in the project.		Network Strategy for South East Queensland and is not considered to be required to mitigate any impact created by the Cross River Rail Project. Furthermore it is considered outside of the project's Terms of Reference.
63	With the proposed upgrade of the Moorooka Railway Station, older and disabled residents and train users have sought the inclusion of safer and more effective crossing arrangements for Ipswich Road at this Station entrance.	The construction of overhead access across Ipswich Road with lift access from Ipswich Road to the Station Platform has been requested in view of the heavy traffic volume currently using Ipswich Road.		Moorooka Station is proposed to be upgraded to meet disability requirements (including new lifts and overbridge). Moorooka will not be served by Cross River Rail trains and will not be substantially altered by the project. The existing at grade pedestrian crossing of Ipswich Road already provides DDA access across this major road and as such additional links across Ipswich Road are beyond the scope of this study but could be progressed by other stakeholders if demand warrants it. It must be noted that a signalled pedestrian crossing exists immediately adjacent to the station entrance providing safe, direct access across Ipswich Road
63	Noise and dust from construction is a major issue of concern for residents of our local community. We wish to protect our right to enjoy our suburb, our home and outside areas in peace and without health concerns due to dust and likely extreme stress and sleep deprivation caused by 5 and 1/2 years of heavy construction noise. We live in a 1910 "Queenslander" home without airconditioning, therefore simply closing the windows to keep excessive dust and noise out is not an option, particularly during the warmer months.	<ul style="list-style-type: none"> <li>Breaches of noise and dust conditions enforced by severe financial penalties to prevent deliberate breaches. Recently seen the effects of poorly planned and loosely overseen projects such as the "Airport Link" project. I therefore request that legally enforceable conditions (enforced with severe financial penalties) be placed upon the project.</li> <li>Mandatory independent monitoring of noise and dust during construction surrounding the Southern Portal along with genuine consultation with residents effected by the massive number of truck movements to remove spoil via the Station and Lucy Streets. Seek assurance that an enforceable condition to the project be that residents in Park Lane, Park, Livingstone and Green Streets be consulted after construction and truck movements commence and that any necessary remediation be carried out, possibly including further sound buffering to the area or specific houses where residents identify issues.</li> <li>I would request that noisy weekend work be ruled out and all noisy works be carried out during normal business hours</li> </ul>	Ch 24, Table 24-17 p24-44. Ch 24, Table 24-18 p24-53. Ch 24, Table 24-22 p24-57.	Noise and dust monitoring would be conducted against the prescribed noise and air quality goals (refer to Table 24-17 and Table 24-18 of the draft Outline EMP). If goals are exceeded, the Contractor would be responsible for implementing controls, or amending the work activities to prevent recurrences. Procedures and mechanisms would be established through which the community can discuss and provide feedback on construction activities and environmental management measures (refer to Chapter 24, Table 24-22). Early work activities involving demolition and piling outside the rail corridor would be conducted during daytime hours.
63	Closure of Station Road / Lucy Street for the life of construction causing both traffic and	Management of local car parking is required during the construction phase to minimise	Section 5.10.5,	Section 5.10.5, of the EIS proposes that the parking management scheme identified to manage commuter parking

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	<p>parking issues on alternate routes such as Livingstone, Green and Stanford Streets and constricting access for residents.</p>	<p>impact on local residents and commuters who park near the Yeerongpilly Station.</p>	Section 5.7.2 p5-114, Section 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	<p>during the Project operations, be introduced in advance of construction works at Yeerongpilly subject to agreement with Brisbane City Council. A Construction Traffic Management Plan would also be developed for the Yeerongpilly worksite, which would include measures to manage impacts in the streets surrounding the worksite during construction. The Yeerongpilly worksite will cater for the removal of spoil from the southern portal with trucks using Station Road, Lucy Street, and Ipswich Road only requiring the closure of Station Road and Lucy Street for inclusion into the worksite and to ensure that spoil haulage trucks can only enter and leave the worksite from Ipswich Road and Lucy Street. While some local access trips from Wilkie Street to Ipswich Road currently use Station Road these would need to use Green street instead during the construction phase although these are expected to be minimal. Additional traffic analysis and potential mitigation measures will be further examined in the detailed design phase.</p>
63	<p>Numbers of parking spaces for Yeerongpilly Station reduced.</p>	<p>A commuter carpark at Yeerongpilly Station needs to be included in the plans. It is not realistic to maintain the policy of no commuter carparks within 10km of the CBD. Working parents are time poor need to be able to use cars to take children to childcare and schools before catching public transport to work.</p>	5.7.2 p114, 5.10.5 (p5-163) Section 24.10	<p>This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD. This policy aims to encourage kiss 'n' ride and walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities (kiss n ride), disabled parking, cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will also continue to monitor park 'n' ride demand across the rail network as part of its on-going strategic planning. Prior to operation of Cross River Rail, TransLink will also need to explore opportunities to enhance bus services to Yeerongpilly Station and to take advantage of new bus-rail interchange opportunities offered by Cross River Rail.</p>

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63	Dust and noise created by construction workers carparking.	Parking for workers during construction as I don't want streets filled with shift workers vehicles which would further the noise issues being faced by local residents. A sealed carpark (to limit dust) should be provided in resumed industrial land surrounding the construction area on Station Street.	Section 24.9, Table 24-11 p24-31	The Proponent would be responsible for the management of car parking as provided within the Construction Traffic Management Plans that would be developed in consultation with the road authorities, Queensland Police Services and other emergency services.
63	Haulage at Yeerongpilly 24 hours a day, seven days a week causing disruption to local residents.	Haulage at Yeerongpilly should be 6.30am to 6.30pm Monday to Saturday. At worst it should be 6.30 am Monday to 6.30pm Saturday. Sunday and Public holidays should be free from haulage noise and dust.	Section 5.10.5,	Spoil haulage at the Yeerongpilly worksite would be 24 hours, seven days per week. The 24 hour spoil haulage operations will shorten the construction timeframe at this location, and therefore reduce the overall duration of impacts on the local community.  As stated in Section 5.10.5 of the EIS, the Yeerongpilly worksite will cater for the removal of spoil from the southern portal with trucks using Station Road, Lucy Street, and Ipswich Road only. Loading of spoil would occur inside acoustically lined sheds to meet the noise goals set out in the EMP. Haulage (once outside of the acoustically lined shed) would occur via Station Road and Lucy St directly out to Ipswich Road, without passing past a residential property. As such 24 hour spoil haulage (once the acoustic shed is complete) meets noise and amenity goals and ensure works can proceed quickly to minimise overall length of disruption.
63	Flood issues on Moolabin Creek. I am concerned about the potential flooding impact to residential and industrial properties along Moolabin Creek.	I request that beyond construction of the project that the creek and land surrounding the creek be rehabilitated to be returned to more cleaner state.	Ch 14, Section 14.3.1 p14-17. Ch 11, Section 11.3.4 p11-60.	At the Yeerongpilly worksite, a bund would be constructed adjacent to Moolabin Creek to prevent floodwater from entering the worksite.  The reference design includes 12 additional piers for a new railway bridge in the floodplain of Moolabin Creek. The additional piers are expected to have a negligible impact on peak flood levels, with changes to peak flood levels expected to be less than 0.01 m. Where appropriate, disturbed areas along Moolabin Creek would be rehabilitated with endemic vegetation to promote stability of the riparian zones.
64	The EIS does not contain noise contours modelling for our property. We sought further information from the CRR Project Team about this apparent omission. We have been advised that noise modelling has been carried out for the surface line between the portals. However the Project Team were unable to explain why the grid maps for the modelling relevant to our		Ch 16, Figure 16-48, p16-130.	With respect to noise from surface rail tracks in Yeronga, properties on Lake Street were included in the modelling illustrated in noise contour mapping in Figure 16-48 of Chapter 16 of the EIS. A mapping error has shown the location of Lake Street incorrectly in Figure 16-48 of the EIS. Properties on Lake Street are partially screened by an existing noise barrier along the eastern side of the rail corridor, as indicated in Figure 16-48.

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64	location have not been included in the report.		Figure 9-10	This discrepancy has been noted. It does not impact on the findings of the EIS.
64	Figure 9-10, Chapter 9 Land Use and Tenure incorrectly identifies our property and some surrounding properties as residential multiple units rather than as residential detached units.		Figure 9-10	This discrepancy has been noted. It does not impact on the findings of the EIS.
64	The EIS clearly indicates that increased freight traffic on the surface line which travels past our home is an expected outcome of the CRR project. In particular it is expected that there will be a significant increase in coal freight traffic. Based on our experience of a doubling in coal freight traffic over the last few years, we expect this proposed further significant increase in freight rail traffic will considerably reduce the amenity and enjoyment of our property.		Section 16.5.3, pp16-123 to 16-126.	In Year 2031, there would be no discernible changes in noise at properties on Lake Street as a consequence of Cross River Rail. Section 16.6.2 of the EIS identifies the sensitive locations in the southern section of the Project where noise barriers are proposed to achieve compliance with Queensland Rail's rail noise criteria. Cross River Rail does not propose, nor require any general changes to freight rail operations.
64	Detailed noise monitoring and modelling has been undertaken as part of the EIS for the CRR Project. However, the noise mapping and other details presented in the EIS do not extend to our property.		Ch 16, Figure 16-48, p16-130.	Lake Street is shown on Figure 16-48 of Chapter 16. A Figure is included in the report which highlights the location of Lake Street.
64	Despite the proposed increase in freight traffic on the surface line, no noise mitigation measures are proposed in the vicinity of our property. As previously noted there are no noise contours available for our property at the time of this submission. Should the noise contours be made available at some future date, we request an opportunity to make further submissions on that information.		Ch 16, Figure 16-48 p16-130.	Section 16.6.2 of the EIS identifies the sensitive locations in the southern section of the Project where noise barriers are proposed to achieve compliance with Queensland Rail's rail noise criteria. Cross River Rail does not propose, nor require any general changes to freight rail operations.
64	The EIS Terms of Reference specify that the EIS should describe the impacts of noise generated during the operational phase of the project. The EIS does not contain proposals to minimise or eliminate the effects of noise at our property (or any of the other properties in Lake Street, Yeronga that will be similarly affected). Similarly, the EIS does not develop noise and management measures relevant to Lake Street, Yeronga.	Noise impact analysis should include: The levels of noise generated by surface rail operations with noise contours, assessed against current typical background levels, using modelling where appropriate. Proposals to minimise or eliminate these effects, including details of any screening, lining, enclosing or bunding of facilities, or timing schedules for operations that would minimise environmental harm and environmental nuisance from noise. Develop likely operational noise management measures for sensitive places and options if unable to achieve a satisfactory internal noise	Section 16.5.3 p16-123 to 16-126.	By Year 2031, a negligible (2 dBA) increase in peak noise levels is predicted from surface rail operations between the portals in Yeerongpilly and Victoria Park and would not be discernible at sensitive locations (refer to Section 16.5.3 of Chapter 16). Noise barriers are not required where surface rail noise is below Queensland Rail's operational noise criteria in Year 2031. Cross River Rail does not propose, nor require any general changes to freight rail operations. In accordance with Queensland Rail's Code of Practice for Railway Noise Management and Network Noise Management Plan, regular reviews and noise monitoring occurs across the network. Surface rail traffic would need to be managed to achieve the criteria set out in Queensland Rail's Code of

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64	Project officers have advised us that it is possible that the reason the grid maps for our area were not included was that there was only a 2 decibel increase in average noise levels in many areas and that apparently an increase of noise of only 2 decibels is virtually undetectable. We submit, based on our experience, that a significant increase in the frequency of intrusive events such as coal freight traffic is extremely detectable and will significantly decrease the enjoyment and amenity of our property. This would suggest that the 2 decibel standard, if indeed that is what has been used, is inappropriate.	An analysis of acoustic noise levels from proposed rail traffic against the criteria stated in the QR Code of Practice for Rail Noise Management.	Section 16.5.3 p16-123 to 16-126.	Practice for Railway Noise Management (ie 87dBA assessed as a Single Event Maximum Sound Pressure Level, or 65dBA assessed as the 24 hour average equivalent continuous A-weighted sound pressure level) (refer to Section 4.2 of the Code of Practice).
64	The EIS requires the CRR Project to develop an analysis of acoustic noise levels from proposed rail traffic against the criteria stated in the QR Code of Practice for Rail Noise Management.	As previously noted that there are no noise contours available for our property and thus no analysis of acoustic noise levels against the criteria at the time of this submission. We submit that:	Section 16.5.3 p16-123 to 16-126.	Lake Street is shown on Figure 16-48 of Chapter 16. A Figure is included in the report which highlights the location of Lake Street. As stated in Section 16.1.1 of Chapter 16, noise goals for railway surface track airborne noise emissions have been examined in accordance with Queensland Rail's Code of Practice – Railway Noise Management, 2007.
64		• The EIS does not contain a proper analysis of acoustic noise levels from proposed rail traffic for our property. • Where conclusions about mitigation have been made, the QR Code of Practice for Rail Noise Management has not been appropriately interpreted and applied by the EIS. • In any event, while the CRR Project is required to develop an analysis of noise levels against the QR Code of Practice for Rail Noise Management, the CRR Project is subject to a range of standards relevant to the assessment of impact of noise and the mitigation of that noise.		

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64	We have been formally advised that our property will be subject to volumetric acquisition. We have had no official notice of the likely volume to be acquired or the depth at which that acquisition will commence. However we understand from information provided during community consultations that the acquisition relates to the 'zone of influence' to be established around the tunnels and that this zone will extend a couple of metres into our property and will commence at a depth of a few metres down.	Difficult to make submissions about the impact of the proposed acquisition in the absence of further detail. We submit that it would appropriate to provide more specific written details of the expected volume of acquisition to affected parties before the EIS process is finalised.	Volume 2 Reference Design Drawings	The property acquisition process is undertaken separately from the EIS process, such as under the Acquisition of Land Act. This process involves consultation with directly affected property owners and provides the opportunity for further specific details for each individual property to be provided.
64	Our property is currently LMR. It is possible that if we choose to sell our property in future it will be sold to someone who is interested in developing the property. Thus the zone of influence may reduce the resale and redevelopment value of our property. Furthermore our property is subject to Brisbane City Council's small lot code. Should volumetric acquisition go ahead, it appears the development application would be subject to Transport and Main Road assessment which will no doubt add to the costs associated with such an application.	Advice has indicated that there is no particular standard requiring a 7m buffer/zone. In the absence of a specific safety requirement for a 7m zone, it is difficult to accept the need to impact on our property rights through volumetric acquisition.  We submit that 'Zone of Influence' be amended at this location to ensure that it does not impact on our property rights. In this case the impact on the Zone would be minimal, but possibly reducing the width of the Zone (but not the height of the Zone) to around 5 metres.	Section 4.4.9 p4-80 and p4-81. Volume 2 Reference Design Drawings	The volumetric acquisition requirements have been applied to ensure that the underground land required for construction and the long term integrity of the tunnels and stations can be guaranteed and protected from future development. To ensure this, a perimeter of 7m around the tunnels and 10m around the station caverns would be volumetrically acquired for the project.  Property owners who are affected by volumetric requirements will be able to object and seek compensation. Certain development applications would require a concurrence referral response from Transport and Main Roads which may include additional assessment costs. The purposes of the additional assessment is to determine whether there any impacts to the project.  It may be possible in some instances for the volumetric property surrounding the tunnel and station caverns to be encroached by future development. This would require engineering investigations relevant to the particular development application to determine the practicality of the proposed encroachment.
65	The EIS does not include the contribution of cycling in the transport mix nor address the impact of the project on cycling. Wilkie Road and Station Road Yeerongpilly are a reasonable link for cyclists getting to Moorooka, Rocklea and Salisbury, without having to take the risk of the high volume of traffic on Fairfield Road. This route will be severely impacted by this project during the construction and after, when operating by increase in traffic and parking.	With the widening of the rail easement there is an excellent opportunity to incorporate a bike lane into the project to provide a flat link between the Brisbane River cycle ways and the Gobura St, Tramore Road, Riawena Road cycle way system. It will also offer safe bicycle access to an area of which employs a large number of low paid workers.		The reference design includes preliminary station designs which in indicative provisions were made for bicycle parking. There is no bicycle parking proposed at Roma Street and Albert Street stations as they would be destination stations with walk, bus or rail access the predominant mode of access. Nevertheless through detailed design, the exact form of bicycle parking and required capacity would be developed further in consultation with stakeholders (eg TMR, Brisbane City Council, Bicycles Queensland).  The EIS has not identified any potential impact arising from Cross River Rail which would give rise to a need for a cycleway through Rocklea, Moorooka and Salisbury. This link is not proposed as part of Cross River Rail. If required, this

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				link could be progressed and developed separate to Cross River Rail At Yeerongpilly, during construction, alternative cycle and general traffic would likely be directed via Green Street. As such, cross corridor cycling opportunities are still maintained during the closure of Station Road to through traffic and cyclists. At Yeerongpilly, the detailed design process would refine the detailed form and layout of the realigned Wilkie Street and Station Road in order to provide appropriate cycling opportunities.
66	I note from the attachments in the EIS paper that a strip of our property adjoining the existing rail line will be required. I am prepared to negotiate with the committee in relation to the resumption of this strip I reject your implied proposal to resume our entire property, as outlined in your plan (Section 5) that is included in your EIS paper. we require the balance of our property to continue our business, which has operated from this location for over 20 years.	I intend to protect our rights to the full extent of the law and I strongly recommend that you negotiate with us on a reasonable basis, taking into consideration our requirement to retain a trading presence from this location.	Section 9.4.8 Volume 2, Property Impact Drawings	The reference design identified properties that would be required for the construction of the Project. During the detailed design process, these properties requirements may be refined. Acquisition of land must follow a separate process such as the process required by the Acquisition of Land Act. This includes the ability for landholders to object and seek compensation.
67	It is stated in the EIS that working hours will be from 6.30am to 6.30pm Monday to Saturday inclusive. Figure 16-17 shows that during the 6 weeks of the demolition phase that in some streets in Yeerongpilly, noise will be in excess of 68dBA during the day time, and above 74dBA in some residential buildings. It is also stipulated in table 16-71 that noise in excess of this range (heavy trucks, demolition, bulldozers...) is likely and cannot be mitigated. Similarly, there will be an additional 6 weeks period during the installation of piles alongside the railway corridor during which the noise target is likely to be exceeded. This excessive noise starting as early as 6.30am on Saturdays could be very distressing and negatively impact lives of residents living in the immediate vicinity of the south portal.	It is requested that no heavy noisy work is to be undertaken on Saturday mornings before 10.00am during the demolition phase and the pile installation phase near the South Portal in order to let working families rest on Saturday mornings.	Ch 24, Table 24-18 p24-46.	As identified in the draft Outline EMP in Section 24.9 of the EIS, some surface works may be required to be undertaken outside of the day-time construction hours in special circumstances, such as to avoid disruption to peak traffic flows and rail services, works involving oversized plant, equipment, components or structures, or emergency works. In such circumstances, near neighbours would be notified in advance, as is common practice now when Queensland Rail conducts construction works in the rail corridor.

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67	I wish to make a submission in respect to car parking at the new Yeerongpilly railway station following the construction of Cross River Rail (CRR) tunnel. The facts that the new Yeerongpilly railway station will be bigger than the previous one and that trains will be express to the city are likely to attract many more train users from Moorooka and Tarragindi. The car park situation will be much worse once the project completed.	I request the industrial zone in Station Street Yeerongpilly to be transformed into a paying car park for train users. Furthermore, I also request the creation of a school bus line between Yeerongpilly train station and Yeronga State School, Yeronga High School and TAFE. This way, working parents coming from Moorooka and Tarragindi could drop their car in the car park, put their children at the school bus stop at the railway station and then catch the train.	Section 5.7.2 p5-114, Section 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A 'park n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD. This policy aims to encourage 'kiss n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. Planning for the future use of the worksite would be undertaken as part of a separate planning process to the Project. Any planning process would need to include consultation with the local community and stakeholders, building on the consultation process implemented for Cross River Rail. This process would need to include an assessment of impacts associated with various land use options, including the provision of parking. Planning for the re-use of the Yeerongpilly worksite would need to reflect current legislation and policy directions.
67	I wish to make a submission in respect to noise produced in the rail corridor of the south portal during the Cross River Rail project. I have been alerted that the 6.30am-6.30pm working period from Monday to Saturday for the CRR project together with the noise limitations imposed on the CRR construction sites do not apply for the rail corridor itself. To my knowledge the maximum noise limit for railway maintenance and work by Queensland Rail is 75dBA, which according to table 16-1 of the Environment Impact Statement of the CRR is qualified as "loud". While occasional loud work at night as currently is tolerable, residents around the construction site of the south portal are unlikely to tolerate loud work in the middle of every night for extended periods of time.	As it is very likely that the amount of night work on the rail tracks will very substantially increase during the construction of the south portal, I am requesting lower maximal noise limits for night rail work within the rail corridor (below 65dBA in the category moderate) to enable residents of the south portal area to sleep at night.	Section 16.2.2 p16-12, Section 16.4.5 p16-59.	The Queensland Rail Code of Practice planning noise levels have been adopted to assess the impact of relatively short term construction noise levels from CRR surface track worksites. Should a lower maximum construction noise limit (ie 65 dBA) be imposed for night-time works in the rail corridor, this could potentially result in an extension of the Cross River Rail construction program. At the southern portal worksite, piling works within the live rail corridor would be required. Such works would be approximately six weeks in duration and would impact on property owners in Tees Street, Wilkie Street, Livingstone Street, Fairfield Road and Cardross Street (refer to Section 16.4.5 of the EIS). Construction noise levels predicted at properties are 'worst case' scenarios, which assumes all plant and equipment operate simultaneously. Where exceedances of the noise goals are predicted, a hierarchy of practical controls is described in Chapter 24 of the draft Outline EMP (Construction), in order to minimise noise levels predicted at nearby properties.

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67	I wish to make a submission in respect to noise produced in the rail corridor of the south portal during the Cross River Rail project. Making rules with inadequate enforcement is not good for the general community. The issue is that the project may deliberately ignore EIS noise/dust limits to meet bonuses or to cut costs. This I believe has been the case with the airport link tunnel and has caused considerable stress to nearby residents.	Apart from adequate monitoring there must be sufficient fines applied to all breaches of EIS guidelines. For example one warning and thereafter a \$10,000 fine for each breach.	Section 24.4.2 p24-8.	A mechanism for reporting on compliance would be established in the construction EMP. This would include independent third party auditing for compliance with the Coordinator-General's conditions. Monthly audits would be posted on the Project website for the duration of construction activities (refer to Section 24.4.2 of the draft Outline EMP).
67	I wish to make a submission in respect to noise produced by the new train line after completion of the Cross River Rail (CRR) project. In Yeerongpilly around the south portal, noise mitigation measures in chapter 16.5.3 of the Environmental Impact Statement include a 4.5 meter high noise barrier between the south portal and the new Yeerongpilly Station. These noise barriers are unsightly and do not complement the character of the Yeerongpilly suburb.	The noise barriers should be landscaped to hide them as much as possible. I would request that: 1) vines or shrubs such as bougainvilleas to be planted on a trellis supported by the noise barriers. (2) trees to be planted in front of the noise barriers (3) the noise barriers to be architecturally designed to be pleasing to the eye and complement the character of Yeerongpilly (4) they be designed to minimise possible graffiti vandals (point 1 may help).	Section 10.3.2, Section 10.3.5 Ch 24, Table 24-34	Section 10.3.2 of the EIS identifies that a mix of concrete and transparent noise barrier panels would be used. This would allow for some more expansive views and allow for some light penetration. Section 10.3.5 and Table 24-34 of the EMP identify the need to provide vegetative screening along noise barriers to reduce visual impacts.
68	The movement of the ventilation and emergency access shaft from the original position on Fairfield Road opposite the service station to Railway Road. This is a less preferable location as it is a much more residential area, that would more greatly be impacted on by the construction and the ongoing pollution that may result. As well as the ugliness of having such a building so close to so many houses. There is no real benefit of having the shaft in this location as it is clearly documented that flooding would not have occurred in the emergency shaft	My proposed solution is to move the ventilation and emergency access shaft back to the original location, where there are less residences that would be impacted on by it.	Ch 3 Section 3.3.8 p3-26 to 3-27.	The most efficient location for the ventilation and emergency access building is about mid-way between Boggo Road Station and the southern portal at Railway Road. The advantages in selecting the Railway Road location include: <ul style="list-style-type: none"><li>• More adjacent space for construction</li><li>• Rock is considerably higher at this location, simplifying construction</li><li>• More space for pedestrians exiting the building in an emergency</li><li>• No impact on traffic visibility</li><li>• Less impact on traffic during construction</li><li>• No impact on Robinson Park, significant vegetation or playground</li><li>• 4 m higher than previous location, whereby flood immunity is simplified</li></ul> <ul style="list-style-type: none"><li>• The tracks in the running tunnels are 2 m higher than in the Reference Design which will reduce the trains' energy usage</li><li>• By relocating a part of Railway Road, a larger park is created for the community.</li></ul> The ventilation and emergency access building is proposed to be architecturally designed and treated and would be sufficiently offset to allow for vegetation to be planted between

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				the building and the roadway. EMPS would be developed and implemented during construction and operation, which will include measures for minimising dust and noise. This will include air quality goals (see Tables 24-17 and 24-32) that are based on the EPP (Air) and that consider the impacts on human health.
69	Loss of on street car parking during the Wilkie Street realignment phase of 18 weeks.	<ul style="list-style-type: none"> <li>Allow access to adjoining site in Wilkie Street (post demolition) for car parking.</li> <li>The primary focus of construction works during the 18 week period should commence at the St Fabian's end of Wilkie Street, so that street car parking loss is minimised.</li> </ul>	Section 5.7.2 p5-114, Section 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	Section 5.10.5 EIS proposes that the parking management scheme identified to manage commuter parking during the Project operations, be introduced in advance of construction works at Yeerongpilly subject to agreement with Brisbane City Council. A Construction Traffic Management Plan would also be developed for the Yeerongpilly worksite, which would include measures to manage impacts in the streets surrounding the worksite during construction. Detailed construction phasing arrangements and related traffic impacts will be assessed and agreed with Council in the detailed design phase.
69	Vibration impacts on St Fabian's Church, Majellan House, Columbarium and other church Infrastructure.	<ul style="list-style-type: none"> <li>Investigation of ground conditions to determine potential transfer of vibration.</li> <li>Reporting of results to Parish.</li> <li>Completion of dilapidation report and indemnity from the Contractor to "make good".</li> </ul>	Section 16.4.11 pp16-105 to 16-120 EMP Element 1	'Worst case' ground-borne vibration levels are predicted to be 'noticeable'. Ground-borne noise levels from TBM tunnel excavations are predicted to be 'very low to high' for 'worst case' scenarios. Low frequency noise from tunnelling operations may be felt by some people. The EIS proposes ground-borne noise and vibration monitoring, together with pre-condition building surveys where deemed necessary (refer to Table 24-18 of the draft Outline EMP). Vibration predictions will be updated based on monitoring during construction and further mitigations developed if required. The request for ongoing consultation during design is noted, and already referred to in the EMP in Table 24-22.
69	Management of the Station Road construction site during work Site change over, to minimise vehicle traffic in the area.	As Station Road will provide car parking and bus shuttle facilities to other work faces - start times at the work faces should be staggered	Section 5.10.5 Ch 24	Where damage to buildings and structures occurs as a consequence of the Project, the Proponent would make such repairs as are necessary to return premises to their pre-construction condition. Repairs would be undertaken in consultation with the property owners and occupants. During operation, no impacts from ground-borne noise or vibration are predicted.
69	Management of the Station Road construction site during work Site change over, to minimise vehicle traffic in the area.			The management of the proposed Yeerongpilly worksite and carparking area off Station Road will be addressed in the Construction Traffic Management Plan for the site. This will include car parking management strategies and controls where required. However the EIS proposes that all worker parking will be accessed off Ipswich Road with traffic modelling undertaken and reported in section 5.10.7. In the case of Yeerongpilly worker vehicle parking trips were considered to be a replacement of existing industrial/

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				commercial employee trips currently associated with local land uses on Station Road which will be resumed for the project. Construction vehicle trips were additional to these background trips and overall traffic performance was not considered detrimental. As such no additional controls were considered necessary in this location.
69	Contact persons for liaison within the Construction Contractor and within Coordinator Generals area. We need to have contact details of a real person should an incident occur which impacts on the operation of the Church.	We cannot deal with a recorded message structure, and need to speak to real people.	Section 24.9 Table 24-22 p24-58.	As outlined in Section 24.5 of the EIS, a process will be developed and implemented for receiving and responding to complaints about the Project from community members during the construction phase. This would involve the establishment and maintenance of a 24 hour, seven day toll-free telephone service. This service would be staffed by members of the Project team. Any complaint received would be required to be investigated immediately to determine the appropriate course of action for addressing the complaint. In some instances, this could include suspending activities that are the source of the complaint.
69	Dust	The interior, exterior and roof of St Fabian's, Majellan House, toilets and driveways should be cleaned on a weekly basis.	Ch 15, Section 15.4.5 p15-44. Ch 24, Section 24.5.1 p24-10.	Numerical air quality goals are provided in Chapter 24 of the EIS to limit or manage any adverse impacts on the local community. A dust management plan would be implemented as part of the Construction EMP (refer to Table 24-17). This will include a range of measures to manage potential dust impacts at sensitive receptors in the vicinity of construction activities at Yeerongpilly. Consultation would be undertaken with near neighbours to identify specific construction impacts and mitigation requirements (refer to Section 24.5.1 of the EMP).
69	Construction noise impacting on church activities and tenants utilising Majellan House (which is rented by external 3rd parties)	Air conditioning of St Fabian's Church and Majellan House. Sound proofing of windows and main access doors at St Fabian's Church and Majellan House.	Ch 16, Section 16.4.5 p16-59. Ch 24, Section 24.5.1 p24-10.	Noise and vibration monitoring would be conducted against the prescribed noise goals (refer to Table 24-18 of the draft Outline EMP). If goals are exceeded, the Contractor would be responsible for implementing controls, or amending the work activities to prevent recurrences. As part of the construction EMP, consultations with property owners would be conducted in sufficient detail to address specific construction impacts and mitigation requirements.
69	Programming of works around special events e.g. funerals etc	We cannot deal with a recorded message structure, and need to speak to real people. In addition the Contractor is to defer noisy works when either St Fabian's Church or Majellan House are in use.	Ch 24, Table 24-18 p24-46.	As identified in the draft Outline EMP in Section 24.9 of the EIS, some surface works may be required to be undertaken outside of the day-time construction hours in special circumstances, such as to avoid disruption to peak traffic flows and rail services, works involving oversized plant, equipment, components or structures, or emergency works. In such circumstances, near neighbours would be notified in advance, as is common practice now when Queensland Rail conducts construction works in the rail corridor.

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69	Increased parking congestion from rail users and introduction of 2 hour parking restrictions.	Free ongoing access to the adjoining site in Wilkie Street (post demolition) to be utilised by the Parish as a car park.	Section 5.7.2 p5-114, Section 5.10.5, p5-163, and Section 24.10 Table 24-27 EMP	Planning for the future use of the worksite would be undertaken as part of a separate planning process to the Project. Any planning process would need to include consultation with the local community and stakeholders, building on the consultation process implemented for Cross River Rail. This process would need to include an assessment of impacts associated with various land use options, including the provision of parking. Planning for the re-use of the Yeerongpilly worksite would need to reflect current legislation and policy directions.
69	Noise impacts from increased rail traffic.	Air conditioning of buildings and sound proofing main doors and all windows.	Section 16.5.3 p16-123 to 16-126.	By Year 2031, a negligible (2 dBA) increase in peak noise levels is predicted from surface rail operations between the portals in Yeerongpilly and Victoria Park. This increase would not be discernible at sensitive locations (refer to Section 16.5.3 of Chapter 16).
69	Visual Impact	Reinstatement and rehabilitation of street scape to an agreed standard.	Section 10.3.2 Table 10-6, Ch 24, Table 24-34	Table 10-6 states that the Project would result in streetscape improvements that would enhance the visual amenity beyond what is currently experienced. Improvements would include new pavement treatments, street trees and street furniture. Table 24-34 of the EMP identifies the landscape and urban design treatment requirements.
70	Construction work at the Southern Ventilation Shaft will cause undesirable noise levels.	Relocate to original position and / or relocate to a more suitable position where communities are not disrupted, i.e. original location.	Section 16.4.7 p16-88 to 16-91.	The most efficient location for the ventilation and emergency access building is about mid-way between Boggo Road Station and the southern portal at Railway Road. The predicted noise levels for some construction activities at Fairfield would exceed the daytime construction noise goals for those sensitive receptors closest to the worksite. The 'worst case' construction noise scenario for this site would be the installation of piles. Noise and vibration monitoring would be conducted against the prescribed noise goals (refer to Table 24-18 of the draft Outline EMP). If required, piling would proceed during daytime hours only. Should the noise goals would be exceeded, consultation with potentially affected people would assist in identifying options for mitigating the noise impacts (refer to Section 24.5.1 of the draft Outline EMP).
70	There is an issue regarding construction worker parking at the construction worksite at the Southern Ventilation Shaft. There will be 50-80 workers at the worksite with only 14 carparking spaces.		Section 5.10.5 (p5-160), Section 5.10.6	The EIS has estimated that around 25 worker vehicles may overspill onto surrounding streets at the peak of construction. Further to the EIS assessment that the impacts of this number would not be significant it has since been calculated that this overspill parking could be accommodated as follows: 20 along the western side of the Fairfield Road Services Road and a further 5 to 10 alongside the Energex substation (on both Sunbeam and Bledisloe Streets). These locations are on the

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				opposite side of the road from residential frontages are currently underutilised and therefore have little impact on resident parking availability. In addition to the worst case assessment above, it is expected that some of this number could make use of a proposed shuttle bus from the main Yeerongpilly worksite and worker carpark. The construction traffic management plan for this worksite would further detail and propose mitigation, monitoring and management measures at this location.
70	Concerned about heat being released from the southern ventilation shaft.		Ch 15, Section 15.5.7 p15-55.	The ventilation of heat from the ventilation and emergency access shaft would not generate air quality impacts as only electric-powered rollingstock would use the Cross River Rail tunnels. It is also unlikely to generate nuisance impacts, owing to: the ventilation outlet being located well above ground level at approximately 8.5m in height; an exit velocity of between 10 to 15 m per second; and the temperatures giving the ventilated air additional buoyancy which will allow air to rise quickly above ground level.
70	Issue about future development of the area.		Section 9.4	Implications for the development of future land uses are discussed in Section 9.4 of the EIS. Following construction of Cross River Rail, surplus land and land occupied by construction worksites not required for the Project would become available for redevelopment, where appropriate, in accordance with the relevant Local and State planning policies. Developments on this land would need to consider the requirements of City Plan, including those relating to issues such as privacy, building height and density, and local character and amenity to ensure that impacts on surrounding residents are avoided or appropriately managed. Applications to redevelop surplus land would also need to be publicly notified in accordance with the Sustainable Planning Act 2009. This notification gives interested community members an opportunity to review and provide comments on a development application.
70	Issue regarding noise coming from vent as has to be constructed before drilling commences.		Section 16.4.7 p16-88 to 16-91.	The predicted noise levels for some early construction activities at the ventilation and emergency access building would exceed the daytime construction noise goals for those sensitive receptors closest to the worksite. The 'worst case' construction noise scenario would be the installation of piles, which would proceed during daytime hours only. Construction noise emission levels would progressively decrease over time as the excavation work progressed deeper into the shaft. Should the noise goals be exceeded, consultation with potentially affected people would assist in identifying options for mitigating the noise impacts (refer to Table 24-22 of the

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				draft Outline EMP). During tunnel construction, the maximum number of days where ground-borne noise could occur would only be up to 7 days for each TBM passby.
70	Issue regarding pathways around area as dangerous section of road for pushbike whether bike path can be installed after.			<p>The extent of local pathways upgrades needed to service new or upgraded railway station will be further analysed in conjunction with Brisbane City Council in the detailed design phase.</p> <p>As identified in Table 24-11 of the draft Outline EMP, safe pedestrian and cycle access would be maintained near construction works for open space areas that are not occupied by Project work sites. Safe, alternative access would be provided for bikeways disturbed by construction works.</p>
70	Why was the Southern Ventilation Shaft moved from the original location to another flooded location? This new location is also in a medium residential location which is unsuitable.		Ch 3 Section 3.3.8 p3-26 to 3-27.	<p>The most efficient location for the ventilation and emergency access building is about mid-way between Boggo Road Station and the southern portal at Railway Road. The advantages in selecting the Railway Road location include:</p> <ul style="list-style-type: none"> <li>• More adjacent space for construction</li> <li>• Rock is considerably higher at this location, simplifying construction</li> <li>• More space for pedestrians exiting the building in an emergency</li> <li>• No impact on traffic visibility</li> <li>• Less impact on traffic during construction</li> <li>• No impact on Robinson Park, significant vegetation or playground</li> <li>• 4 m higher than previous location, whereby flood immunity is simplified</li> <li>• The tracks in the running tunnels are 2 m higher than in the Reference Design which will reduce the trains' energy usage</li> <li>• By relocating a part of Railway Road, a larger park is created for the community.</li> </ul> <p>The ventilation and emergency access building is proposed to be architecturally designed and treated and would be sufficiently offset to allow for vegetation to be planted between the building and the roadway.</p> <p>EMPs would be developed and implemented during construction and operation, which will include measures for minimising dust and noise. This will include air quality goals (see Tables 24-17 and 24-32) that are based on the EPP (Air) and that consider the impacts on human health.</p>

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
71	Queensland Rail has multiple responsibilities within various legislative and regulatory frameworks. These need to be considered and managed during the design, construct and commissioning phases of the project and within the project scope.  A robust governance structure will provide the best outcome for the project by providing access to dedicated rail specialists who are empowered to make key decisions, with a known and agreed resolution process.	Facilitated workshops will inform a governance structure into the detailed design phase. Roles and responsibilities should be identified as part of this structure, based on current and future legislative and regulatory requirements.  Queensland Rail recommends that an additional workshop be conducted with the Department of Communities and the CRR project team to further determine statutory roles from a Fire and Life Safety perspective. It is recommended that TMR, as part of the current review of the Transport Infrastructure Act ensure it involves Queensland Rail in the review process, and seeks to address potential tenure and associated constraints for the project.		Noted - to be undertaken during detailed design in consultation with QR
71	CRR modelling has inconsistencies with the Draft Connecting SEQ 2031 vision for mode share targets (2006-2031): double public transport mode share from 7% to 14% (2007 mode share figures from SEQ Household Travel Survey)	It is recommended that consideration be given to apply one consistent mode share target for SEQ.	Sections 5.4.1, 5.6.3	The 'mode share target' in Connecting South East Queensland 2031 applies across the region. The mode share outcome reported in the EIS is an output of the model used to investigate the contribution that Cross River Rail would make to the regional target.
71	There was a major timetable change introduced on 6 June 2011 that reviewed run times, sectorisation and standardised stopping patterns. These items have a significant influence on the on time reliability, level of service and capacity on the network with existing infrastructure.	It is recommended that the CRR Project note the changes made by the 2011 Timetable.		The base year adopted for the Cross River Rail study including patronage forecasting is 2009. That year provided the most recent dataset available at the start of the study in 2010. This is standard practice for major studies where large volumes of data are required and the most recent is used. More recent data now available would only affect the base case reporting and not materially affect the projections of future patronage
71	The current reference design stipulates single platforms at stations - Queensland Rail's preference is for dual platforms at inner city stations. This is due to the operational opportunities and additional long term capacity that can be derived from this model of station platform layout including benefits for dwell times.	The CRR Project team has committed to investigate the costs and benefits of these options in more detail through modelling and simulations with Queensland Rail input.		Dual platform faces for an underground scheme were considered in the project development phase however they were not considered feasible without additional landtake at the station location and approaches and significantly elevated costs associated with construction of wide openings at depth; and elevated costs associated with transitions from running tunnel to station. Rail operational modelling for Cross River Rail reported in 5.6.6 (reliability) concluded the proposed platform and signal arrangement would operate reliably therefore avoiding the need for dual platform faces and the associated additional cost and construction impact. As such the reference design includes only single platform faces.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
71	Clearance between new freight track (dual gauge) and support structures for major road bridge span (Ipswich road) does not comply with Queensland Rail standards.	It is recommended to conduct a Safety in Design review (SiD) on the proposed alignment as well as a risk review on compliance, considering current relevant standards and compile a safety case.		Noted - to be undertaken during detailed design
71	There are issues with the proposed tunnel diameter that will require: <ul style="list-style-type: none"> <li>• adopting new contact line system with limited reference installations on equivalent railways (25kV)</li> <li>• restricted clearances to rollingstock profile</li> <li>• layout of walkways which do not readily facilitate:               <ul style="list-style-type: none"> <li>- emergency evacuation of disabled or mobility impaired passengers</li> <li>- re-railing works following derailments within the tunnel (i.e. broken axle scenario).</li> </ul> </li> </ul>	It is recommended to conduct a Safety in Design review (SiD) on proposed tunnel layout (including diameter considerations). Adopting a contact rail system in lieu of contact line system as a means of reducing tunnel diameter, subject to a safety case and change management plan. Outcome of the SiD and Safety Case requires Queensland Rail sign off and endorsement.		Noted - to be undertaken during detailed design in consultation with QR
71	Likely future change (due to the federalisation of rail legislation) to extend minimum safe working clearances between construction areas established adjacent to operating tracks. This is likely to have an impact on construction access requirements.	Queensland Rail legal team will review the development of the changes and inform the project team during staging and constructability reviews.	Ch 4	Noted. To be reviewed during detailed design.
71	Station designs	Queensland Rail has an existing Station Design Guide that should be incorporated in the detailed design phase of the project to ensure safety, technical and customer needs are incorporated into the final designs. Consideration needs to be given to fare collection and integrated transport requirements.		Noted - to be undertaken during detailed design
71	Footprint and configuration of Yeerongpilly feeder station. Footprint and configuration of Exhibition feeder station. Footprint and configuration of Mayne replacement feeder station.	It is recommended that an operational review and Safety in Design review (SiD) are conducted on substation locations and layouts. The outcomes of the reviews require Queensland Rail sign off and endorsement. The SiD review will also need to consider an overall electrification design.		Noted - to be undertaken during detailed design in consultation with QR

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71	Mayne railway yard is the primary facility for rail operations in SEQ. This includes citytrain and traveltrain maintenance and stabling as well as crew facilities and training. The CRR project requires multiple interfaces with the existing assets including work spaces during construction and on delivery of the project.	Much further information about the construction and operational needs of the CRR project is required, which will become apparent during the detailed design phase. Queensland Rail will work through this phase with the project team to determine all interfaces and impacts as well as actively seek to identify opportunities to reduce impacts and create project efficiencies.		Noted - to be undertaken during detailed design in consultation with QR
71	CRR has identified a footprint of land in the Mayne North yard as being required to accommodate construction works during the project. Queensland Rail has an existing project to procure additional Traveltrain rollingstock. The current maintenance facilities at Mayne Yard will not be sufficient to accommodate the new rollingstock. A detailed assessment of the entire network has determined the most suitable location to deliver the facility within the required timeframe is in the Mayne North yard.	While there are potential conflicts arising from both parties requiring certain areas of the parcel of land, this is currently being resolved through discussions and refinement of designs and delivery schedules. Queensland Rail would require the facility be delivered by 2014, with CRR timelines indicating construction commencing in 2015. Queensland Rail seeks the best outcomes for both projects as each is integral to our key business.		Noted
71	The existing rail yards at Clapham are significant from an operational perspective and Queensland Rail endorses the scope of works identified in the reference design. There is a requirement to refine the detail provided in the EIS pertaining to freight lines and movements interfaces with existing network and stabling design and operability.	The requirements of Clapham as a rail yard will need to be further investigated and determined during the detailed design phase of the project. It is recommended that the requirements and specifications be advanced as the operational requirements develop		Noted - to be undertaken during detailed design
71	Access for freight customers through the city network requires a fine balance to also meet the growing demand of passenger services. Queensland Rail is contractually obligated to provide freight paths to customers across the network. The economic benefit to the state of the rail freight service is significant with any alterations to schedules required to be planned and communicated to customers well in advance.	It is intended that during the detailed design stage, specifically for construction staging and scheduling, the Queensland Rail Network Business team will work very closely with the CRR Project team to explain commitments and expectations on behalf of the freight customers. This team will also liaise with Queensland Rail's legal team to manage any issues with contractual obligations and provide communication and negotiation with the freight customers. Relationship management will be required for any closures to freight access during construction and post delivery.		The Proponent would enter into an interface agreement with Queensland Rail with such agreement providing the framework for subsequent agreements regarding matters such as scheduling of works in the rail corridor, the duration and extent of corridor possessions, and implications for Queensland Rail customers.

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71	The New Generation Rollingstock project is the procurement of up to 200 three-car sets and will be used to provide services on the CRR tunnel infrastructure. Alignment is required to ensure the design and Fire and Life Safety specifications meet and adhere to the tunnel design requirements and the infrastructure needs to be compatible with the rollingstock. Various standards and specifications are required to be assessed and reviewed as part of this process. Standards range from Fire and Life Safety to engineering and supply.	The NGR project team and the CRR project team are engaged to ensure maximum opportunities to incorporate specifications into the existing procurement contract. Queensland Rail is assessing the draft "Fleet Options" paper produced by DTMR to identify the best operational model for the network. This will determine whether using NGR as dedicated fleet is the best outcome or if existing rollingstock should be upgraded and also utilised for these services.	Ch 4	Noted. Further discussions and resolution of these matters will occur during detailed design.
71	Current CRR project community engagement at Yeerongpilly has created awareness of the project within the community. Queensland Rail would like to ensure continuity of messaging and integration of communication by being included in future communication strategies.	Our staff have excellent relationships with customers and would benefit from being provided with information and advice about the project. This would also provide the project with another opportunity to provide important and timely messaging to the community and future CRR customers. A meeting with CRR Communications and Queensland Rail's Customer team will be arranged for early November.		Noted.
71	Queensland Rail is currently engaged with the CRR project team to further develop the requirements for Fire and Life Safety within the tunnel environment. There are significant variables to consider including legal, regulatory, standards, specifications and existing guidelines to ensure safety and the wellbeing of customers, employees, contractors and the community through the delivery and life of the asset. Queensland Rail has identified, at a very high level the following security risk assessment issues.	These issues need to be further refined and investigated through the Readiness for Market phase as well as the detailed design phase. Queensland Rail will provide information pertaining to existing requirements and work with the CRR project team to ensure the best outcomes are achieved. All decisions need to be considered in the context of the current and future legal and regulatory environment, as well as utilise best practice models from around the world.	Ch 4	Noted. Further discussions and resolution of these matters will occur during detailed design.

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71	The second dot point on Page 6-22 of the EIS states future actions shall include "investigating feasible energy efficiency alternatives to determine their suitability for implementation during construction and operations of the Project." This future action has not been reflected in Chapter 24 (Draft EMP). Cross River Rail would be a great trigger to harness the benefits of any program the Queensland Government has to introduce reliable renewable energy sources to South East Queensland. Such benefits are expected to include commercial benefits of reducing the effect of proposed carbon pricing/tax on electricity consumers (including Queensland Rail) in South East Queensland. This is aligned with both the current State (Q2 Targets) and Federal Government's initiatives such as its Smart Cities, Smart Grid	Cross River Rail could be a key driver for such a Smart City, Smart Grid program for South East Queensland as the capital of the Smart State. The key difference with the current Smart City, Smart Grid application would be it is trains that are the "electric vehicle" rather than cars. Community - wide, this could be a better outcome so benefits of renewable energy can be realised early on. There are more cars in Brisbane than trains, making it easier for passenger rail to convert to renewable sources of electricity and decarbonising our transport task. A recommendation is to add two new dot points to table 24 - 9 (Issue - Climate Change and Sustainability). Point 1: The Project shall liaise with the Queensland Office of Clean Energy and ENERGEX to explore the earliest opportunities to integrate renewable energy sources into most of the Project operations (both its stations and train operations). Point 2: Underground stations and Yeerongpilly Stations are designed to be compatible with the objectives of and the principles behind the Federal Governments Smart City program	Ch 6, Section 6.8.1	Section 6.8.1 identified further actions to be considered where viable in detailed design to enhance the sustainability aspects of the Project. These include the investigation of feasible renewable energy alternatives, as well as energy efficiency measures. These investigations will be undertaken during the detailed design phase.
71	The reference design for the project does not include specific locations for noise and vibration monitoring.	Locations for both noise and vibration monitoring needs to be determined and agreed for the project prior to the detailed design phase.	Ch 24, Table 24-18 p24-46 to 24-53.	Indicative locations for noise and vibration monitoring are provided in the Draft Outline EMP within Chapter 24 of the EIS (refer To Table 24-18). These locations would be refined at detailed design in consultation with stakeholders.
71	Document control is the responsibility of the Proponent.	Suggest this includes 'or appointed contracted entity'.		Noted
71	Noise performance guidelines.	Consider the inclusion of the Nordic rail Prediction Method and the Calculation of Railway Noise (CoRN UK).	Section 1.7.3 p1-15.	With respect to alternative noise guidelines and noise goals, the environmental objectives and related performance criteria, including the specific goals adopted in the EIS were subject to extensive consultations and agreement with relevant agencies, Brisbane City Council and other stakeholder groups during the early stages of EIS preparation. The goals for noise and vibration are substantially similar, if not the same, as those adopted for and approved by the Coordinator-General for implementation on other major transport infrastructure projects in Brisbane. The applicable assessment criteria for noise and vibration are provided in Section 16.2 of Chapter 16 Noise and Vibration and in Chapter 24 Draft Outline EMP

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71	Status of Plunkett mallee incorrectly stated.	All references (Pages 11-19, 11-24, 11-50, 11-62) to "rare" status with respect to the Eucalyptus Curtissii (Plunkett mallee) listing under the NC Act should be corrected to read "near threatened" under Schedule 5 of the Nature Conservation (Wildlife) Regulation 2006.		Agreed  (Table 24-18 and Table 24-33).
71	Discrepancy in the number of places listed on the Queensland Rail Heritage Register. Page 24, second sentence - "Within the study area there are 19 places listed on the Queensland Rail Heritage Register." In other sections of the chapter, it appears to identify a total of 17 places listed on the Queensland Rail Heritage Register, separated into the northern, central and southern sections of the study area, as follows: • Northern section - two (2) entries (Breakfast Creek Bridge and Exhibition Station) • Central section - five (5) entries (Central Station; Roma Street Station; Roma Street Platform Shelter; Countess Street Bridges; and Petrie Terrace Road Bridge) • Southern section - on page 19-22, states there are 11 entries, but it appears to only list ten (10) entries.	Queensland Rail can assist in providing the total number of entries and places listed in the EIS as at July 2011.  Consultation will be undertaken with QR where places listed on the Old Rail Heritage Register may be impacted by the Project. This will be confirmed during the detailed design phase, prior to the development of a Cultural Heritage Management Plan.	Section 6.4.3, Table 6-4, Cultural Heritage Technical Report	18 sites (north -2, central -5, south -11) are identified in Table 6.4 Cultural Heritage Technical Report.  Consultation will be undertaken with QR where places listed on the Old Rail Heritage Register may be impacted by the Project. This will be confirmed during the detailed design phase, prior to the development of a Cultural Heritage Management Plan.
71	Corrections and additions to text.	Page 7, second sentence, suggest removal of the words "other species of fast growing trees and shrubs" and replace with "appropriate native species". After the third (last) sentence, add another sentence as follows, "Removal of vegetation and revegetation works are to be monitored by relevant Aboriginal Parties as per the Cultural Heritage Management Plan (refer to sections 18.3.2, 18.3.3 and 18.3.4)."	Ch 23, section 23.3.6 Ch 24, Table 24-19	Noted. Appropriate native species (Table 24-19 of the EMP) would be used for re-vegetation purposes. The Cultural heritage Management Plan recommendations included the requirement for removal or clearing of vegetation to be monitored by the appropriate Aboriginal Parties
71	Table 24-7 (Performance Guidelines) refers to EPA 1989 Environmental Guideline Noise from construction, maintenance and demolition. This is the sole reference in the EIS and is not a current DERM publication (not publicly available document on their website).	Delete document reference to Environmental Guideline Noise from construction, maintenance and demolition from table 24-7.	Ch 24, Table 24-7 p24-19.	Submission comment noted. The status of the referenced guideline document will be reviewed at detailed design stage.

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71	The table titled "Goals for internal noise - Construction" defines stringent internal noise - (including for daytime period) for what appears to be all construction works. There is no reference to Queensland Rail Noise Code of Practice defining the Planning Levels as the construction noise limits for the surface rail construction. This is contrary to the technical agency briefing given on the 12/9/11 and the fifth dot point (approach to construction noise and vibration) on Page 16-2.	Suggest a new dot point in the "Performance Criteria" on page 24-46 is added, equivalent to the fifth dot point on page 16-2 that the "Goals for Internal Noise - Construction" only applies to underground construction and portal works not surface track works.	Ch 24, Table 24-18 p24-46.	Construction noise from surface track worksites has been assessed in accordance with Queensland Rail's Code of Practice – Railway Noise Management, 2007 (Refer to Section 16.1.1 of the EIS).
71	Further information is required on what constitutes a "campaign" noise and vibration monitoring program during construction? Is this the same as "comprehensive"? Who determines whether the noise and vibration monitoring program is "comprehensive" and/or "campaign"? Is it the person whom during construction believes they are impacted and demand to be added to the list of monitoring sites? Alternatively, will it be the Queensland Government either as the regulator or the proponent?	<p>Suggested recommendations include:</p> <ul style="list-style-type: none"> <li>Add the list of background noise locations in Table 16- 18 (Page 16-22) in the "Monitoring" row on Page 24- 53 to lock in minimum construction noise locations.</li> <li>Add the list of background noise locations in Table 16- 19 (Page 16-25) in the "Monitoring" row on Page 24- 53 to lock in minimum construction vibration locations.</li> <li>This would then be consistent with the approach applied for "Air Quality" on Page 24-15.</li> </ul> <p>With the significant size of area the project passes through, such scope variation (especially if length of noise and/or vibration monitoring is not locked in) would be quite difficult to budget and schedule for construction works.</p>	Ch 24, Table 24-18 p24-46 to 24-53, Section 16.4.14 p16-113 to 16-115.	<p>As stated in Table 24-18 of the draft Outline EMP, noise and vibration monitoring would be conducted at representative sensitive receptors in locations where predictive modelling indicates exceedances of either the noise or vibration goals could occur. Site specific monitoring would be conducted in response to complaints about construction noise or vibration. The appointed Contractor would be required to conduct monitoring for the duration of construction activities.</p> <p>At detailed design stage, specific locations would be identified where comprehensive noise and vibration monitoring would be conducted. Monitoring would be undertaken at locations where the goals and criteria are predicted to be exceeded, i.e. less than 100 m to residences or other noise sensitive receivers (refer to Table 24-18 of the draft Outline EMP).</p> <p>Further monitoring may also be required in response to specific complaints.</p> <p>A detailed monitoring program would be prepared prior to the commencement of construction and would be informed by, and updated as detailed design progresses.</p>
72	The environmental impact of the CRR project should move beyond the normal and narrow EIS focus of the project boundaries.	The Coordinator General should take a strategic view of the project and its potential intergenerational contribution by considering a 100 year approach to assessing the benefits of this important nation building project. The CRR project should look beyond addressing the current inner city narrow gauge capacity constraints and recommend that the scope of the project should be broadened to at least consider other nation building opportunities.		<p>The rationale for Cross River Rail, including its strategic context is provided in the EIS. The Project is an enabler for South East Queensland's regional transport network.</p>

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72	The project should consider the very high speed east coast rail project by making provision for dual gauge high capacity rolling stock.	Include high-speed standard gauge structure clearances and performance criteria including allowance for the Sunshine Coast-Gold Coast "CoastLink" service as proposed in Connecting SEQ 2031.	Ch 4. Section 4.3.1	Cross River Rail has been designed to cater for Queensland Rail passenger trains. Interstate trains from New South Wales stop at the surface Roma Street Station and then return southwards and therefore would not use the tunnels. The rail network would support sectorised operations enabling the introduction of Coastlink services (coast express), as outlined in the draft Connecting SEQ 2031. By 2031, the North West Transport Corridor (NWTC) would be operating, providing a new rail line from Strathpine to the city via Alderley. This would be used by Coastlink services from the Sunshine Coast.
72	The proposed Cross River Rail stations at Woolloongabba, Albert Street and Roma Street only have two tracks.	Stations at Woolloongabba, Albert Street and Roma Street need to have provision for four tracks to allow increased passenger capacity flows and throughput.		Dual platform faces for an underground scheme were considered in the Project development phase. However, they were not considered feasible without additional landtake at the station location and approaches and significantly elevated costs associated with construction of wide openings at depth; and elevated costs associated with transitions from running tunnel to station. Rail operational modelling for Cross River Rail reported in 5.6.6 (reliability) concluded the proposed platform and signal arrangement would operate reliably therefore avoiding the need for dual platform faces and the associated additional cost and construction impact. As such the reference design includes only single platform faces.
72	The opportunity to align the CRR project benefits with the future strategic requirements of the rail network as defined by the Connecting SEQ 2031 map on page 49 in the Executive Summary appear to have been overlooked. The interface between the Salisbury to Flagstone/Beaudesert study and the CRR project at Salisbury Station appear to have been overlooked within the CRR EIS.	Conduct a review of the strategic benefits and costs of maintaining Rocklea station given the catchment and close proximity to the Moorooka station and Salisbury station, particularly in the context of improved pedestrian connectivity from Rocklea to a newly repositioned Salisbury station		Rocklea Station was retained in the surface design as it caters for the residential and commercial land uses along, and to the east of Ipswich Road.
72	The current proposal of a tunnel from Yeerongpilly to Exhibition only provides a short term resolution to constraints at Park Road, Merivale Bridge and the junctions west of Roma Street. The EIS should further investigate the broader effects of the current CRR project on capacity, levels of service, freight operations and patronage.	The EIS should also investigate capacity, freight operation, efficiency and patronage effects of a variation to the CRR project which extends the tunnel further south to avoid the future Salisbury junction conflicts and extends the northern tunnel to avoid the Mayne/Bowen Hills junctions.	Ch 3. Sections 3.3.4, 3.3.5	The rail corridor south of Moorooka provides limited opportunity to locate a portal without significantly increased costs or impacts on existing rail operations or private properties (refer to Section 3.3.5 of the EIS). The location of the northern portal in the EIS is the most pragmatic solution available for the corridor and selected alignment (refer to Section 3.3.4 of the EIS).

<b>Sub No</b>	<b>Issues</b>	<b>Submitter Recommendations / Suggested Mitigation</b>	<b>EIS Reference</b>	<b>Proponent Response December 2011</b>
72	The reference design provides a short, passenger-only tunnel with steep grades.	The potential negative impacts on the operation of trains, including existing rolling stock designed for lesser grades, is a strategic operational issue that should be further investigated in this EIS.		Through consultation with Queensland Rail, the operational capacity of the existing rolling stock has been considered in the Reference Design.
72	The EIS provides an opportunity to re-evaluate the merits of extending the north and south tunnel portals to eliminate additional flat junction crossovers at Salisbury.	An alternative approach would be to construct additional surface tracks north and south of the tunnel portals to optimise CRR capacity.	Ch 3. Section 3.3.5	Connecting SEQ 2031 identifies separate future rail projects to address other constraints within the rail network. Constraints with the Salisbury junction will be addressed through the Salisbury to Beaudesert study and constraints at Mayne Rail Yard will be addressed through the North West Corridor.
72	The EIS must undertake an analysis of how the CRR project will reduce congestion (including its social and economic costs), improve air quality and road traffic noise in the 5, 10 and 15 years following completion of the project – compared to a ‘do nothing’ approach.			The Cross River Rail project has been assessed against the Terms of Reference. The EIS assesses the benefits and impacts of the Project in both 2021 (first full year of opening) and 2031 (10 years after opening) compared to the base case which was 2009 for patronage modelling purposes. As part of this assessment, Section 5.6.10 outlines the reduction in vehicle trips expected in 2021 and 2031 with the Project compared to the ‘without CRR’ scenario, as well as the road crash savings this could deliver. The introduction of Cross River Rail is forecast to deliver an increase in transfers from bus to rail.
72	The EIS appears to significantly underestimate the risks and implications of such closures (track possessions) particularly for freight operators and their customers and the passenger services.	Construction and staging needs to occur in a way that doesn't compromise existing services for both passenger and freight services.	Element 2, EMP	Section 5.10.4 of the EIS notes that staged surface rail works would interface with the existing rail network, in or close to areas where passenger and freight rail services operate. Section 5.10.9 of the EIS outlines mitigation measures relating to the need for early and on-going planning and notification to Queensland Rail and rail freight operators of the timing and duration of rail corridor possessions, likely disruptions to services and alternative arrangements to be implemented. Section 5.10.9 also identifies the need for rail corridor possessions to be agreed with Queensland Rail through the Scheduled Closure Access System, prior to the commencement of works, in order to minimise disruption to the rail network. It is proposed that an interface agreement between the Proponent and Queensland Rail be established to provide the planning, consultation and management arrangements for the necessary rail corridor possessions.

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72	Arrangements at the northern and southern surface "tie in" points will potentially have severe implications for rail operations (passenger and freight). The extent of track possession closures appears to be significant, particularly at the northern end as a result of the major surface works from Exhibition through to Breakfast Creek. A number of assumptions appear to have been made regarding construction timelines. These need to be carefully re-considered and more advanced planning undertaken to ensure the minimisation of disruption to freight and passenger operators.	An alternative approach would be to maintain existing network services with minimal track closures however this would require an additional property "footprint" beyond that indicated in the CRR EIS reference design. To minimise the adverse impacts of construction on existing passenger and freight operations, robust and stringent conditions should be enforced to minimise any track closures.	Element 2, EMP	The construction of surface works in the north is up to a 5 year program, depending on the construction methodology and level of acceptable network disruption. The site works involving new track works and slewing of existing track would need multiple possessions of track/corridor over the entire construction periods. There may be an opportunity to breakdown the works into periods of intense/less intense activity that would allow for rationalisation of site area to match activities. This exercise would be investigated during the detailed design phase.
72	The EIS should provide a clear assessment of any projected reduction in greenhouse gas emissions in the 5, 10 and 15 years following the completion of the CRR project – compared to a 'do nothing' approach.		Ch 15, Section 15.63 p15-60.	The EIS contains an assessment of greenhouse gas emissions in accordance with the ToR - see Section 15.6. The preliminary greenhouse gas inventory was prepared in alignment with the requirements of the National Greenhouse and Energy Reporting System.  The Project is predicted to reduce GHG emissions from changes in road network performance by 22.5 kt CO2-e in 2021 and 91.1 kt CO2-e in 2031.
72	The EIS should comprehensively investigate the CRR project's potential impact on property values; the attraction of investment into the region; urban renewal; the creation of local jobs; productivity; reduced car dependency; and the region's long-term social and economic growth.		Ch 21, Technical Report No 10 Economic Evaluation	These issues are considered and addressed in Ch 21 Economic Assessment and the Economic Evaluation Technical Report. Wider economic benefits were considered in this assessment.
72	The CRR property acquisitions and road network changes need to take into account the proposed Connecting SEQ 2031 service plans which propose that Salisbury Station will be a stop and interchange e.g. proposed UrbanLink Services, ExpressLink Services and dual gauge freight services into and out of Acacia Ridge on this corridor.			Salisbury Station is likely to be upgraded into a major interchange station as part of the Salisbury to Beaudesert rail project which is currently programmed for delivery some time around 2031. As such it does not form part of the Cross River Rail project for delivery by 2020 and the rail operational modelling shows that CRR can work successfully without it. However it is an assumed input for the 2031 network in terms of patronage and rail operations modelling. That is, the proposed rail service plans used for patronage modelling do take account of CSEQ2031.

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72	Freight services utilising the north-south corridor from Normanby through Exhibition to Breakfast Creek rail bridges appear to be adversely affected by extensive closures resulting from surface works. The EIS indicates that surface works at the Southern and Northern interfaces are indicated to take between 30 - 55 months.		Element 2, EMP	Performance criteria for the project identify the need to maintain passenger rail services and schedules during peak travel times, as well as key freight rail services. Any rail network shutdowns are to be agreed with Queensland Rail through the Scheduled Closure Access System, prior to the commencement of works within the corridor, to minimise disruption to the rail network
72	CRR operating paradigm and the proposed services sectorisation for 2021 and 2031 are likely to constraint freight services between Normanby and Northgate. The major constraints are flat junctions and crossovers where inbound and outbound services converge and cross.	A whole-of-network solution must be found to accommodate the anticipated growth in passenger demand and freight traffic.		The railway timetables would be subject to consultation between Queensland Rail and all rail operators (including freight) prior to any change.
73	The EIS has not given due consideration to the impact of the Victoria Park worksite on the eastern part of Victoria Park. The project will unnecessarily remove mature fig trees and impact on the playground and dog park areas.	Move the worksite closer to the dog park boundary so the fig trees can remain. A commitment should be made to plant more trees as part of the necessary rehabilitation process to mitigate the loss of vista from the dog park and playground areas once the car park is built.	Ch 11, Sections 11.3.3 (Impacts) and 11.3.4 (Mitigations) and Ch 24, Table 24-10 p24-28	An alternative worksite configuration would be developed to retain the two fig trees. Further investigations during detailed design would seek to minimise clearance of native vegetation to that necessary for construction, site maintenance and operation, and ensure all necessary statutory clearing permits have been obtained prior to works commencing. In particular, construction impacts on the existing mature trees located within the central section of Victoria Park would be minimised, where possible. Following construction, the worksite would be rehabilitated and landscaped with plantings of appropriate native species, suitable for its ongoing use as open space and park.
74	The EIS has not given due consideration to the impact of the Victoria Park worksite on the eastern part of Victoria Park. The project will unnecessarily remove mature fig trees and impact on the playground and dog park areas.	Move the worksite closer to the dog park boundary so the fig trees can remain. A commitment should be made to plant more trees as part of the necessary rehabilitation process to mitigate the loss of vista from the dog park and playground areas once the car park is built.	Ch 11, Sections 11.3.3 (Impacts) and 11.3.4 (Mitigations) and Ch 24, Table 24-10 p24-28	An alternative worksite configuration would be developed to retain the two fig trees. Further investigations during detailed design would seek to minimise clearance of native vegetation to that necessary for construction, site maintenance and operation, and ensure all necessary statutory clearing permits have been obtained prior to works commencing. In particular, construction impacts on the existing mature trees located within the central section of Victoria Park would be minimised, where possible. Following construction, the worksite would be rehabilitated and landscaped with plantings of appropriate native species, suitable for its ongoing use as open space and park.

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75	The Clem Jones Tunnel (CLEM7) lies directly beneath the proposed new Ekka Station and O'Connell Terrace surface works. It is important to note there are specific additional loading limitations that must be considered in the detailed design stages to ensure that the CLEM7 tunnel's structural integrity is maintained.	RiverCity Motorway should be included as a key stakeholder to the CRR Project to ensure risks associated with the construction activities related to the new Ekka Station and O'Connell Terrace surface works to the CLEM7 tunnel are appropriately considered.		The Reference Design has allowed for loads associated with existing buildings, structures and utilities in the vicinity of the railway.
75	In the event of an emergency, BMS incident Response Crews and Emergency Services access the CLEM7 southbound tunnel via the Lanham Street Emergency Access Point. This access point is the nominated Emergency Services access to the CLEM7. Furthermore, Fire Pump facilities for the CLEM7 located in Lanham Street require 24hr unimpeded Queensland Fire and Rescue Service access. It is therefore imperative to ensure access to Lanham Street is maintained at all times during construction.	Detailed construction traffic management plans should be developed in consultation with the RiverCity Motorway and BMS.		Noted. Construction traffic management plans would be developed in consultation with the RiverCity Motorway and BMS.
75	The proposed construction works in the vicinity of the CLEM7 northern portal may have a negative effect on CLEM7 traffic and therefore revenue.	Detailed construction traffic management plans should be developed in consultation with the RiverCity Motorway and BMS.		The Project does not impact directly on the Clem7 infrastructure. The southern connections of Clem7 to the road network are distant from Project construction worksites. Some construction related traffic would use the road network to which the northern connections of Clem7 connects however truck movements to the northern portal and northern surface works of the Project are small in number with a truck movement every 5 minutes on average at the peak of construction spread over a number of routes. The anticipated impact on the operations of the Clem7 tunnel including Bowen Bridge Road and Inner City Bypass would be negligible.
76	Construction workforce vehicles parking in local streets surrounding worksites.	A worker bus to take workers from a nearby car park to and from worksites would be better than all workers parking close to their worksite. A large park about 1km distance from each work site to be used via a workers shuttle bus; or adjacent to a nearby railway station where workers could travel 1-2 stations to their worksite during train operating times.	Ch 5, Section 5.10	In some places, such as Boggo Road and Woolloongabba, a worker car parking strategy would be required and would rely upon a combination of dedicated car parking at Yeerongpilly and shuttle transport to the worksite. The strategy would be developed in accordance with Table 24-11 in the Draft Outline EMP. A car parking scheme would also be required to prevent construction workers parking in local streets.

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76	Flood / flash flood monitoring during operation of CRR should not completely rely on BOM monitoring devices. BOM may not have close enough monitoring devices, could experience difficulties, or be slow in monitoring and advising.	Use QR monitoring to safeguard for flooding / flash flooding. QR monitoring equipment would be cost effective and be an additional level of protection. Monitoring devices to be electronic measuring and telemetry systems, not video cameras.	Ch 24, Table 24-30 – Element 4 – Surface water quality, p24-66.	Monitoring during operation would be conducted in accordance with Queensland Rail Standard ENV/STD/2015/SYS; Environmental Management System.
76	If there is a power outage which causes two trains travelling in opposite directions to stop powerless (side by side), it would be difficult for passengers to walk past carriages, especially those who are wheelchair bound, or the elderly. If there is an emergency with one train which necessitates passengers detraining, what will stop a train which is travelling in the opposite direction from impacting them when they emerge from a cross passage? Are interlocks provided which only let people into the opposite tunnel, when and only when, all the opposite trains have stopped? Also a major problem, maybe with pantograph, will not cause a full system shutdown in both directions.	Provide a parallel person only tunnel / passageway between the underground stations and between the two opposite tracks. A passenger only tunnel / passageway would provide a better walking surface and lighting than walking along the track ballast.	Ch 4, p4-57.	<p>Twin single track tunnels are proposed with mined cross passages. This would enable passengers to walk past carriages, including those who are wheelchair bound, or the elderly.</p> <p>Queensland Rail would be responsible for the operational and functional requirements of the Project's rail infrastructure and rail systems under the Transport (Rail Safety) Act 2010 (Rail Safety Act).</p> <p>Emergency management plans for the Cross River Rail system will integrate the responses of the owners and operators of the rail infrastructure, rollingstock, rail track and passenger services, with those of the station managers and local emergency response agencies.</p>
77	The freight train demand for paths (Table 3.7 and 4.6 of the Executive Summary) may be overstated if those paths cannot be utilised due to constraints elsewhere on the network, such as the Western Corridor including the Toowoomba Range and points beyond, the mostly single track NCL (particularly on the City/train network between Nambour and Beerburrum ) etc.			<p>The identification of alternate or additional rail freight infrastructure beyond the Cross River Rail corridor is outside of the scope of the EIS. The need for an alternate rail corridor from the west of Brisbane, however has been addressed in a separate investigation by the Department of Transport and Main Roads. The Southern Freight Rail Corridor study has recently identified a new railway route connecting the Western Line near Rosewood to the interstate railway at Kagaroo, north of Beaudesert. There is no confirmed date for the implementation of the Southern Freight Rail Corridor. This rail line would serve as a major freight link connecting a future Melbourne to Brisbane Inland Rail line with the existing South East Queensland rail freight network south of the Acacia Ridge Multi-modal freight terminal. This would avoid the need for freight trains from the west to use the Ipswich Line and the Tennyson line. This would avoid the need for freight trains from the west using the Ipswich Line and Tennyson line.</p> <p>Furthermore, Cross River Rail benefits include the ability to unlock freight capacity within the existing rail corridor by removing conflicts between passenger rail and freight rail movements on the dual gauge line between Yeerongpilly and Park Road, particularly during peak passenger periods.</p>

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77	Figures used in Table 3.7 to depict 'demand' for the base case (2009) would appear to represent actual usage of train paths. Demand for grain haulage, for example, are considerably higher than the number of services actually provided with the balance spilling onto road in unprecedented quantities. New mining ventures, both for coal on the Darling Downs and CSG in the Surat basin will also increase demand for rail services on the Western Corridor with or without construction of the Surat Basin Railway. The rail freight demand may be understated for the western corridor both now and in the future.			Demand for rail freight is outlined in section 3.4.1 of the Transport Technical Report. This reports that medium series growth projections have been used which take into account differences in freight growth by geographic region and by type of freight. The identification of alternate or additional rail freight infrastructure beyond the Cross River Rail corridor is outside of the scope of the EIS. The need for an alternate rail corridor from the west of Brisbane, however has been addressed in a separate investigation by the Department of Transport and Main Roads. The Southern Freight Rail Corridor study has recently identified a new railway route connecting the Western Line near Rosewood to the interstate railway at Kaggard, north of Beaudesert. There is no confirmed date for the implementation of the Southern Freight Rail Corridor. This rail line would serve as a major freight link connecting a future Melbourne to Brisbane Inland Rail line with the existing South East Queensland rail freight network south of the Acacia Ridge Multi-modal freight terminal. This would avoid the need for freight trains from the west to use the Ipswich line and the Tennyson line. This would avoid the need for freight trains from the west using the Ipswich Line and Tennyson line. Furthermore, Cross River Rail benefits include the ability to unlock freight capacity within the existing rail corridor by removing conflicts between passenger rail and freight rail movements on the dual gauge line between Yeerongpilly and Park Road, particularly during peak passenger periods.
77	It would be useful to depict the maximum number of paths available in outlying years in order to get some appreciation of the redundancy CRR could afford in the event demand forecasts prove incorrect.			Total (ie maximum) rail freight capacity on the proposed freight line through the Cross River Rail corridor is a function of several factors including train length, signalling systems, hours of operation (eg lower off-peak frequencies pre-morning peak and post-evening peak), train speed and flighting opportunities among others. As stated in Section 5.6.8 of the EIS, the availability of freight paths would be able to match the rail freight demand for all lines in 2021 and 2031. The total freight able to be carried on the network (including through the part of the network that CRR serves) will also be determined by wider infrastructure constraints beyond the corridor which the CRR project is not scoped to investigate in detail.
77	Another issue which the EIS neglects to mention, but which is fundamental to the consumers of rail freight services, is the time of day goods can be received at their destination.			Cross River Rail is not a freight project and as such detailed assessment of freight rail paths through the network is not part of the project scope. Cross River Rail simply allows more of the project rail freight demand to be carried throughout the study corridor itself compared to doing nothing.

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77	Could the EIS depict the time of day the claimed slots would be available to better gauge the usefulness of this newfound capacity as well as gauge public reaction to these slots actually being utilised in a sustainable manner?			Cross River Rail is not a freight project and as such detailed assessment of freight rail paths through the network is not part of the project scope. Cross River Rail simply allows more of the project rail freight demand to be carried throughout the study corridor itself compared to doing nothing.
77	The EIS makes no mention of the Southern Rail Freight Corridor nor the contribution that corridor would have in terms of exploiting the train paths to the Port and Acacia Ridge that CRR would potentially open up			Freight rail operational modelling for this study assumed that network infrastructure external to the CRR project scope would have been augmented (separate to CRR) if necessary such that freight rail demand could be supplied to the boundaries of the CRR study area without constraint. This implicitly includes other projects such as the Southern Freight Rail Corridor as it is expected to deliver the required rail freight capacity from the west and would enable these trains to take advantage of the dedicated rail freight corridor created by CRR (ie Salisbury to Dutton Park)
77	Is it correct to presume that the planning for the future of freight infrastructure in SEQ is based on a strategy to build capacity from the core (in this case the port and Acacia Ridge) to outlying origins and destinations progressively following the implementation of CRR?			Cross River Rail is not a freight project and as such detailed assessment of freight rail paths and operational strategies is not part of the project scope. Cross River Rail simply allows more of the project rail freight demand to be carried throughout the study corridor itself compared to doing nothing. The Queensland Government's SEQ Freight Strategy should be consulted for further reference.
77	Has any provision been made within the project scope to accommodate: • Longer freight trains? • Any change to rail operations to provide less separation of trains to increase capacity without reducing speed?			Cross River Rail is not a freight project however it does provide a new dual gauge bi directional line between Musgrave Road (Coopers Plains) and Moolabin Creek (Yeerongpilly). For rail operational modelling for this study, no service freighting, or longer consist lengths were assumed, and that the current hours of operation would be maintained.
77	Have any undisclosed presumptions been made about construction of: • The Surat Basin Railway; or • Inland Rail?			Freight rail operational modelling for this study assumed that network infrastructure external to the CRR project scope would have been augmented (separate to CRR) if necessary such that freight rail demand could be supplied to the boundaries of the CRR study area without constraint. For demand analysis, medium growth projections were used which excludes any demand associated with the Inland Railway. This is reported in further detail in section 3.4.1 of the Transport Technical Report.
77	Concern about the potential for narrow gauge passenger services to be introduced to the interstate track from Flagstone via a dual gauging solution. This would be disastrous for interstate freight.			The Salisbury to Beaudesert rail project is outside of the scope of this study.

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77	Would it be possible for a significant amount of spoil removal to be undertaken by rail?	Railing spoil to Swanbank would be a great opportunity for the Government to show its commitment to rail as a viable alternative to road freight and to avert the inevitable public complaints about excessive heavy vehicle traffic created by the project, be it real or perceived.	Ch 3 p-39.	The haulage of spoil by rail was considered in the development of the reference design and is discussed in Section 3.4.3 of the EIS. While spoil transport by road has been adopted for the purposes of the EIS assessment, the option of transporting spoil by rail is being maintained for consideration by tenders.
78	Concern that overlapping CRR and transit-oriented development policy could result in damage to quality of life in urban community. However, there is potential to avert unsustainable urbanisation through modifications to current plans. Focus should be on the creation of a transit-oriented community rather than a transit-oriented development.	<ul style="list-style-type: none"> <li>Rocky Waterholes Creek as a defining feature for a transit-oriented community (TOC)</li> <li>Incorporation of the golf course into the design</li> <li>Underground access to the station should be as close as possible to the TOC's centre of gravity</li> <li>Project should exploit the contrast between the old and new neighbourhoods in the surrounding areas</li> <li>An international competition (like that run for the Sydney Opera House) could inject international expertise into the Project</li> </ul>	Section 94.4., Section 94.12	<p>This is addressed in Section 94.4 of the EIS. The Yeerongpilly worksite is currently included in the general industry area identified by the City Plan. The project does not propose to change the zone of this land.</p> <p>Land occupied by construction worksites but not required for the Project would become available, where appropriate, for redevelopment, in accordance with the relevant local and state planning policies. At Yeerongpilly, land use change would continue to be managed by Brisbane City Council through the Stephens Local Plan and other elements of the City Plan. Consultation would be undertaken in accordance with City Plan and planning processes.</p> <p>Any redevelopment would be managed by the relevant planning and assessment manager and would be undertaken separately to the Project.</p>
79	Submission includes a number of design suggestions.	Design suggestions to be reviewed during detailed design.		Many of these design suggestions have been previously raised in discussions with the Project Team and considered in the reference design development. The submitter attended all CRR public consultation events where discussions took place with members of the design team on this submission. These design suggestions will be further reviewed during detailed design.
80	Need for suitable pedestrian and vehicular access between Sideshow Alley and the Gregory Terrace side of the site and under Bowen Bridge Road to Victoria Park to be maintained year round to service proposed events and approved Masterplan pedestrian permeability.	Access maintained through the Exhibition Rail viaduct and Ekka Station construction site. Issue should be addressed through CMP to be reviewed and approved by RNA. CMP to include working group comprising RNA, Lend Lease, CRR Project team and Contractor, meeting weekly to coordinate construction activities with RNA events and Lend Lease private development on RNA land, based on projections of upcoming RNA events.		<p>Pedestrian and vehicle access is be maintained through the Exhibition Rail viaduct and Ekka Station construction site in consultation with RNA (eg at night time, or outside of event times etc). This may require accesses to be temporarily relocated in conjunction with the RNA, to ensure that no access is provided through a construction site without a dedicated safe pathway. Temporary closures may also be required, in consultation with the RNA.</p> <p>The CMP will include a requirement for a regular coordination meeting between the constructor, RNA and LL to ensure that construction activities on the site are coordinated to manage impacts on RNA operations and LL development</p>

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80	EIS assumes no new private development on O'Connell Terrace prior to commencement of CRR works and therefore does not allow for access arrangements for new tenants, residents or staff.	Conditional requirement of EIS approval that vehicle and pedestrian access to/from any new commercial, residential, retail or RNA buildings along O'Connell Terrace shall be maintained to the same functional extent as pre-CRR construction.		Pedestrian and vehicle access to and from any new commercial, residential or RNA buildings along O'Connell Terrace will need to be maintained, including pedestrian access to Bowen Hills Railway Station.
80	EIS assumes no private development on O'Connell Terrace prior to commencement of CRR works and therefore does not allow for management of construction noise effects on occupants of new private development.	Conditional requirement of EIS approval that noise from construction activities and rescheduling of freight trains shall not exceed allowable average or maximum noise limits - as outlined for finished state - at RNA's new Exhibition/ Convention centre or new private development.	Section 16.4.9	<p>The draft Outline EMP (Table 24.10) proposes that construction work at the RNA Showgrounds would be undertaken during day-time hours (6.30 am – 6.30 pm Monday to Saturday). To minimize disruptions to the city's transport system (road, rail) there would likely be a need for night-works both within the rail corridor and on O'Connell Terrace. In the instance of night works or weekend work, the EIS provides for goals to achieve the environmental objectives relating to a range of potential impacts including noise, air quality and traffic management.</p> <p>Where predictive modelling ahead of out of hours work indicates the potential for the goals to be exceeded, the proponent would consult with stakeholders including the RNA in determining effective mitigation measures in accordance with the draft Outline EMP. Prior to the commencement of works, including demolition works and site preparation works, mitigation measures, such as acoustic barriers or screens would be installed around the RNA worksite, to assist in achieving the environmental objectives (ref draft Outline EMP , Table 24.18). The effectiveness of the mitigation measures would be monitored and reported upon during the works, including the night works.</p> <p>The movement of freight along the Exhibition Line occurs at present and would continue to be managed in accordance with Queensland Rail's Code of Practice for Railway Noise Management. This will remain the responsibility of the Railway Manager</p>
80	EIS assumes that no present or future services located underneath the rail corridor will be affected by construction.	Conditional requirement of EIS approval that continuity of services to surrounding buildings / development sites be maintained during construction. Any modifications to the alignment/ capacity of services are to be undertaken at the cost of CRR.		<p>Issue is highlighting an assumption made in the Cross River Rail EIS. Noted.</p> <p>Usual construction practices would require the relocation and maintenance of key underground services. Planned works would be designed and implemented in consultation with RNA and service providers.</p>

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80	EIS has only maintained the existing width of pedestrian subways, which does not provide for the significant increase in pedestrian volumes once the RNA Masterplan is complete. Potential for existing bottlenecks to be exacerbated.	Conditional requirement of EIS approval that new rail lines and platform be provided on elevated structure for the full length of the RNA site to provide for widening of pedestrian access way.		The RNA would be consulted prior to and during the EOI and tender processes for work within the RNA site, and innovation will be sought from tenderers for detailed design, program and construction methodology that manage impacts on RNA operations.
80	EIS does not specify when the works at O'Connell Terrace are to be undertaken. Concern that new buildings / development will be designed and constructed prior to finalised design of the CRR Project, leading to uncertainty and impacts on new buildings / development and implications for occupants.	Conditional requirement of EIS approval that any vertical or horizontal changes to O'Connell Terrace as a result of the CRR Project will need to suit the finished ground floor levels of any new RNA or Lend Lease buildings that have been finalised before CRR construction commences. Alternatively, design, funding and construction of works are delivered by Authorities prior to the use of any new buildings fronting O'Connell Terrace to reflect proposed solutions.		Detailed access proposals for each development site within the RNA Masterplan area would be addressed as part of individual planning applications to the ULDA. Each application would need to consider the requirements for Cross River Rail requirements, including changes in the level of O'Connell Terrace and access arrangements.
80	Concern regarding the impacts of road resumptions along O'Connell Terrace on the Approved Masterplan and ability of Developers to achieve commercially attractive and feasible design outcomes.	Conditional requirement of EIS approval that CRR works should be designed to not exceed the RNA Master Plan contemplated road depth of 4.4m along O'Connell Terrace west of Tufton Street. CRR works, and that CRR works should be designed to enable future surrounding development to be integrated and accommodated within the CRR structure and consistent with the Master plan to ensure functional performance of CRR facilities and RNA/Lend Lease developments are not compromised.	Section 9.4.12	<p>As identified in Section 24.8 of the draft Outline EMP (table 24.9), the Project design is to be developed and implemented in consultation with the RNA, who may be advised in those consultations by parties working for the RNA (Bovis Lend Lease). The consultation process would have regard to the design, access, heritage aspects and construction schedules of the Project and RNA Showgrounds redevelopment, and would assist in managing potential cumulative impacts for both projects.</p> <p>It is proposed that the Proponent and the RNA enter into an interface agreement to establish the heads of consideration for consultation during the design development and construction of the Project works. The interface agreement would not provide the RNA with an 'approval role' in respect of any design, construction or operational aspect of Cross River Rail.</p> <p>Detailed access proposals for each development site within the RNA Masterplan area would be addressed as part of individual planning applications to the ULDA. Each application would need to consider the requirements for Cross River Rail requirements, including changes in the level of O'Connell Terrace and access arrangements.</p>

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80	Measures to address increased noise generated by station operation through the design of the station are not specified or discussed	Conditional requirement of EIS approval that the station should be designed to attenuate noise generated from station operations.	Ch 24	<p>The draft Outline EMP (Table 24.10) proposes that construction work at the RNA Showgrounds would be undertaken during day-time hours (6.30 am – 6.30 pm Monday to Saturday). To minimize disruptions to the city's transport system (road, rail) there would likely be a need for night-works both within the rail corridor and on O'Connell Terrace. In the instance of night works or weekend work, the EIS provides for goals to achieve the environmental objectives relating to a range of potential impacts including noise, air quality and traffic management.</p> <p>Where predictive modelling ahead of out of hours work indicates the potential for the goals to be exceeded, the proponent would consult with stakeholders including the RNA in determining effective mitigation measures in accordance with the draft Outline EMP. Prior to the commencement of works, including demolition works and site preparation works, mitigation measures, such as acoustic barriers or screens would be installed around the RNA worksite, to assist in achieving the environmental objectives (ref draft Outline EMP , Table 24.18). The effectiveness of the mitigation measures would be monitored and reported upon during the works, including the night works.</p> <p>The movement of freight along the Exhibition Line occurs at present and would continue to be managed in accordance with Queensland Rail's Code of Practice for Railway Noise Management. This will remain the responsibility of the Railway Manager</p>
80	Requirements to address noise and vibration on existing and future surrounding development on RNA land have not been addressed in detail	Conditional requirement of EIS approval that RNA review and approval is required during the detailed design stage for elements which have direct impact on the RNZ site or its effective operations.	Ch 24	<p>As identified in Section 24.8 of the draft Outline EMP (table 24.9), the Project design is to be developed and implemented in consultation with the RNA, who may be advised in those consultations by parties working for the RNA (Bovis Lend Lease). The consultation process would have regard to the design, access, heritage aspects and construction schedules of the Project and RNA Showgrounds redevelopment, and would assist in managing potential cumulative impacts for both projects.</p> <p>It is proposed that the Proponent and the RNA enter into an interface agreement to establish the heads of consideration for consultation during the design development and construction of the Project works. The interface agreement would not provide the RNA with an 'approval role' in respect of any design, construction or operational aspect of Cross River Rail.</p>

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80	Requirements to address light spill on existing RNA and future surrounding development on RNA land have not been addressed in detail	Conditional requirement of EIS approval that RNA review and approval is required during the detailed design stage for elements which have direct impact on the RNZ site or its effective operations.	Section 10.4.2 Table 10-11, Ch 24, Table 24-21, Table 24-34	The EIS recognises that light spill from CRR work sites may be experienced during construction. However, as the Project is located within an urban environment and that surface works would be located near to rail corridors and major roads, it would be unlikely for mitigation measures to completely avoid the presence of night lighting.  Mitigation measures are identified in Table 24-21 (construction) and Table 24-34 (operation) of the EMP. The performance criteria includes that project lighting is designed, constructed and operated to comply with AS4282-1997 and that nuisance from lighting on sensitive receptors is avoided. Through the use of directionally-controlled lights that are situated at the correct height and location, light spill onto sensitive receptors is expected to be manageable.
80	Requirements to address dangerous goods on existing and future surrounding development on RNA land have not been addressed in detail	Conditional requirement of EIS approval that RNA review and approval is required during the detailed design stage for elements which have direct impact on the RNZ site or its effective operations.	Section 24.5.1 p24-10  Section 22.4.1 p22-5 Appendix J.	The draft outline EMP captures approvals, licensing conditions and permits required for hazardous substances and dangerous goods. The contractor would develop and implement an emergency response plan, provide training for staff in the appropriate use, handling, storage and transportation of dangerous goods and hazardous substances and would also monitor compliance of personnel with safety procedures.
80	Requirements to address stormwater runoff on existing and future surrounding development on RNA land have not been addressed in detail	Conditional requirement of EIS approval that RNA review and approval is required during the detailed design stage for elements which have direct impact on the RNA site or its effective operations.	Section 13.3.9, Ch 24, Table 24-15, Table 24-30	The draft Outline EMP proposes appropriate stormwater controls for the design rainfall event (ie 2 hour duration 2 year ARI event) at construction worksites and work areas prior to the commencement of construction. RNA would be consulted in the design of any stormwater controls within the worksite and likely to affect RNA land
81	There has been no agreement to use any part of Lot 1 for a construction worksite. DPW's preference is that Lot 5 not be used as a worksite, particularly if it is for buildings and car parking purposes.	Reduce the number of construction car parking provided on site. Identify alternative locations for buildings and car parking.		A refinement has been made to the location of a section of the Boggio Road worksite located at the intersection of Peter Doherty Street and Annerley Road in response to a submission about the future development of the southern portion of the worksite. The part of the worksite south of Peter Doherty Street was identified in the EIS for worker car parking with space for up to 30 car parks, site offices and workshop/store. These activities would relocate to an alternate worksite to be situated further to the south-east along Peter Doherty Street.

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81	Significant transport and traffic issues for the BRRUV	Ongoing consultation with DPW and the BRRUV stakeholders when developing traffic plans, scheduling of road closures and placement of barriers. Full access into the building by occupants is to be maintained at all times. Consideration also needs to be given to maintaining safe pedestrian access to the BRRUV and rail and bus stations, and safe areas for school pickup and drop off..	Ch 24	Cross River Rail team will continue to work with BRRUV as part of the detailed design and in the development of construction traffic management plans around Boggo Road station.
81	Cut and cover tunnelling will generate air quality impacts, primarily dust in close proximity to the EcoSciences Precinct and the CSIRO Education Centre. Concerned about potential dust and contamination of air intake for dive store and specialist laboratory spaces that require HEPA filters to maintain integrity and certification. These filters would likely become clogged, which would significantly increase replacement frequency.	Air quality monitoring points should be located at the EcoSciences Precinct and ongoing consultation should occur at the detailed design stage to discuss mitigation strategies, including pre-filters on air conditioning plant/air intakes. It is expected that the Project would bear any increase in cost directly attributable to the Project.	Section 15.4.5 p15.44. Ch 24, Table 24-17 p24.44.	This is addressed in Section 15.4.5 and Chapter 24. A dust management plan would be implemented as part of the Construction EMP. This will include a range of measures to manage potential dust impacts during construction on nearby sensitive receptors, including the EcoSciences Precinct. Early and ongoing consultation would also be undertaken with DEEDI and other relevant users of the EcoSciences Precinct to identify specific mitigation measures to manage dust impacts on the precinct's operations, as required. Mitigation measures may include consideration of relocation of certain infrastructure during construction. Ongoing monitoring of ambient air quality would also be conducted near construction worksites. The location of the monitors would be determined in consultation with DEEDI and other relevant users of the EcoSciences Precinct.
81	Construction vibration will affect the Transmission Electron Microscope at the EcoSciences Precinct. Concern over blasting limits for the heritage listed gaol.	Further studies are required to determine the impact on the TEM. CRR should work closely with DPW and DEEDI to mitigate construction impacts where possible. No drilling or blasting near the Boggo Road gaol, if possible, as this may result in exceeding the 2mm/s PPV criteria. A current building condition audit should be undertaken. Lots 6 and 7 should be considered to be sensitive receivers; Figures 16-31 to 35, Tables 16-34 to 36 should be amended to reflect this.	Ch 16, p16-87. Ch 24, Table 24-18 p24.46 to 24.53.	On-going liaison and consultation with users of the TEM would continue during detailed design, as part of a coordinated approach to mitigate impacts on the EcoSciences Precinct. Any blasting would be limited by the requirements of the nearby Transmission Electron Microscope in the EcoSciences Precinct. Ground-borne vibration limits would be well below those likely to impact on the Boggo Road Gaol. The heritage-listed gaol would be subject to a detailed survey of the structure, monitoring during construction and adjustments to the excavation works implemented, if required. Blasting may not be feasible until the shaft has deepened sufficiently to allow for efficient blasting.  With respect to construction noise impacts on the Boggo Road Urban Village development, predicted noise levels have not been assessed as the masterplan for the entire site is yet to be finalised. Should Lots 6 and 7 be occupied prior to Cross River Rail works commencing at the Boggo Road worksite, a detailed construction noise and vibration assessment would be conducted.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
81	ESP Cafe will be affected by construction as approximately 90% of the cafe business is situated outside.	Consultation with the business and DPW regarding impacts and potential mitigation e.g. screening.	Section 24.9 Table 24-21 p24-57 and Ch 24, Section 24.9 Table 24-22 p24-58.	Mitigation measures to manage dust impacts at the Ecosciences Precinct are outlined in Section 15.4.5 and the draft Outline EMP included in Section 24.9 of the EIS. A dust management plan would be implemented as part of the Construction EMP. This will outline strategies to avoid or manage dust nuisance from construction activities on sensitive receptors at the Ecosciences Precinct. Early and ongoing consultations would be undertaken with relevant stakeholders to identify specific mitigation measures, as required, to manage dust impacts on the operation of specific facilities within the Ecosciences Precinct, such as the outdoor dining areas. This consultation would commence during the detailed design phase and continue for the duration of the construction phase. Daily monitoring of ambient air quality would also be undertaken during construction to measure compliance with the air quality goals identified in Table 24-17 of the draft Outline EMP.
81	Significant transport and traffic issues for Woolloongabba. Construction worksite and heavy vehicle access routes (particularly inbound and outbound haulage routes either side of the Landcentre) are significant issues	Ongoing consultation with DPW, particularly regarding any proposed changes to Landcentre access.	Ch 24	Cross River Rail team will continue to work with DPW and LandCentre as part of the detailed design and in the development of construction traffic management plans around Gabba station. Despite the relatively minor impact of construction traffic on peak period traffic conditions, Table 24.7 of the draft Outline EMP states that spoil haulage activities at Woolloongabba would avoid peak traffic periods (specifically to / from Stanley Street in the morning peak, and to / from Vulture Street in the afternoon peak).
81	Current Goprint building and Landcentre sites was formerly a railway and remains on the EMR. Concern regarding disturbance of potentially contaminated soils.	Consultation with DPW and stakeholders regarding the disturbance, excavation, removal, and/or disposal of contaminated soil and/or groundwater must be undertaken prior to the commencement of site activities.	Section 8.3.1 p8-32	To accurately assess the impacts of each potentially contaminated site, detailed investigations would be required, including consultation with the land owners, BCC and / or DERM, to determine the availability of contaminated site information (refer to Section 8.3.1 of Chapter 8 and Table 24-13 of the draft Outline EMP). Where appropriate information is not available, further investigations would be conducted. Construction activities relating to the disturbance, excavation, removal and / or disposal of contaminated soil and / or groundwater would ensure that environmental harm is prevented. To achieve this, specific mitigation measures are to be developed and implemented prior to the commencement of site activities.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
81	The Goprint building identified by CRR as a required construction site is proposed to be demolished and the land used as a launch site for tunnelling. The Land Centre building has been identified as potentially being affected by the construction impacts, which may require the relocation of government accommodation and staff during the construction periods.	Timing and costs associated with the potential relocation of staff and facilities form these buildings will need to be assessed and discussed with CRR.	Ch 24, Table 24-22	Consultation with DPW will continue during the detailed design phase and construction phases. It is assumed that the Land Centre will continue to be used by government workers during the construction phase. Environmental management measures would also be implemented at the Woolloongabba worksite to mitigate potential construction impacts (ie noise, dust, vibration, traffic, etc) at the Land Centre and other nearby sensitive receptors. Consultation and communication will also be undertaken with DPW, workers and the local community about potential construction activities, including the timing, duration and potential impacts as well as proposed mitigation measures.
81	Concern regarding air quality impacts to workers at the Landcentre, particularly with the potential for contaminated soil on the Goprint site. There is also potential for PM10 exceedances at the Gabba worksite, particularly during open excavation.	Consultation must occur with DPW and stakeholders regarding management of dust nuisance and in relation to land contamination and limiting the exposure of workers.	Tech Report no. 7. Section 4.9 p4-57, 58. Ch 24, Table 24-13, p24-36, Table 24-17, p24-44	This is addressed in Section 15.4.5 and Chapter 24 (Tables 24-13 and 24-17). A dust management plan would be implemented as part of the Construction EMP. This will include a range of measures to manage potential dust impacts during construction on nearby sensitive receptors, including at the Woolloongabba worksite. Early and ongoing consultation would also be undertaken with DPW to identify specific mitigation measures to manage dust impacts on the Landcentre's operations. Works involving contaminated land would be conducted in accordance with the relevant Queensland and National guidelines to ensure environmental and public health impacts and risks from contaminated soil are avoided or appropriately managed. This includes the development of approved management plans and procedures prior to the disturbance of contaminated soils. Ongoing monitoring of ambient air quality would also be conducted near the Woolloongabba worksite.
81	Predicted noise levels for the demolition of the Goprint building will exceed the day-time noise goal, which will impact on workers at the Landcentre.	Consultation must occur with the DPW in relation to mitigation strategies.	Ch 24, Table 24-18 p24-46 to 24-53.	With respect to the Landcentre building, predicted noise levels during demolition of the existing Goprint building at Woolloongabba indicate exceedances of up to 15 dBA of the noise goal for daytime operations which is anticipated to occur over a six week period (refer to Section 16.4.4 of the EIS). Measures to minimise demolition noise during the six week period would include undertaking initial site establishment and piling activities during the daytime (ie 6:30 am to 6:30 pm) period only. The goals for noise and vibration emissions during the daytime period would be applied and achieved as if they were upper limits, with no exceedances permitted. Monitoring of construction noise would also be conducted. If noise levels exceed the goals, the construction Contractor would be responsible for immediately investigating exceedances and implementing noise controls, or amending the work activities to prevent recurrences.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
81	Construction of Roma Street station may result in changes to development potential within the Precinct. Potential impacts on the proposed Roma Street Pedestrian and Cycle Bridge. The proposed use of the College Close Carpark as a construction area will have a negative impact on visitation to the Parkland, place increased pressure on limited parking spaces at Parkland Boulevard and Platform 10, and require the relocation of the existing Parkland Cleaners Compound. The paid parking system at the existing Parkland car parking spaces helps to fund the maintenance of the Parkland. Any loss of parking at Platform 10 would impact on the Parkland by reducing its contractor spaces and also on QRail commuters. Increased use of Parkland Crescent during construction will impact the ability of residents to readily access their carparks and lead to increased traffic on Parkland Boulevard. Parkland Restaurant could also be impacted by construction.	CRR team continue to work with DPW through the detailed design process to ensure development potential is retained and that no impact will occur on the proposed Roma Street Pedestrian and Cycle Bridge. Consultation with DPW regarding alternative options for construction area or alternatives to construction parking and potential parking provision for events. Consultation regarding lost parking revenue and potential relocation costs for cleaners compound. Consultation with occupants of residential apartments and Parkland Restaurant.	Section 24.9 Table 24-22 p24-58.	The Roma Street worksites are heavily constrained with respect to available area. However, at the detailed design stage, DPW would be consulted to optimise the worksite footprints and to minimise impacts to the operation of the parkland. No impact to the proposed pedestrian and cycle bridge is anticipated. Consultation with nearby property owners and tenants would be undertaken during detailed design and in advance of construction activities.
81	A large fig tree near the Roma Street Transit Centre that would require removal as part of construction works.	Consultation should be undertaken with DPW prior to the removal of the tree	Ch 11	As described in Section 11.3.3 of the EIS, a large fig tree located within Emma Miller Place would be removed to allow construction of the Roma Street Station. This tree is not listed on either Brisbane City Council's Vegetation Protection Order or Significant Landscape Tree registers. Consultation would be undertaken with the relevant property owner prior to the removal of this fig tree.
81	Need for environmental controls for the proposed depot in College Close Park at Roma Street as drains in the area flow into the lake via the Gross Pollutant Trap	Consultation with DPW regarding environmental controls for the proposed construction area at College Close Carpark and potential for stormwater and underground water capture for supply.	Ch 13	Noted. DPW would be consulted at detailed design stage. There is very minor potential for indirect impacts on the Roma Street Parkland lake associated with surface run-off and sediment discharge from shaft excavation and spoil removal. A range of mitigation measures would be implemented at each worksite to manage potential impacts on surface water quality. These include such things as use of containment bunds, vehicle washdown measures and practices and procedures for the handling, storage and management of chemicals and hydrocarbons.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
81	Residents in close proximity to the Roma Street precinct are sensitive to noise issues and the project will need to be effectively managed.	Consultations are required with occupants of the residential apartments in the vicinity of the Roma Street precinct.	Ch 24, Table 24-18 p24-46 to 24-53.	With regard to the Parkland Crescent residential apartments at Roma Street, the predicted 'worst case' construction noise levels for demolition, piling and shaft excavation works at the station would exceed the noise goals during the night-time period with 3m high hoardings. Surface works would be restricted between 6:30pm-10:00pm Monday to Friday and mitigation measures implemented prior to the commencement of work between these hours. Acoustic barriers or screens would be erected around the worksites to protect local communities in Roma Street Parkland and to the west of Roma Street. This would include an acoustic shed over each shaft, if night-time works are proposed underground. Prior to construction, owners and occupants of nearby properties would be consulted and given advance notice of activities likely to approach or exceed the noise or vibration goals. Monitoring of groundborne vibration and noise at residential premises in the Roma Street Parkland would also be undertaken.
81	Construction is anticipated to have a negative impact on major events through impacts on access to the Roma Street Parkland, noise and vibration, impact on event sites (closures etc) and car parking. This may lead to the loss of events, which would affect the image and popularity of the Roma Street Parkland. The Parkland may also suffer a loss in revenue due to smaller events seeking alternative venues, which may affect the ability of the Parkland to attract events post-construction.	Consultation with DPW regarding potential impact of the Project on events.	Ch 5, p5-176.	Noted. DPW would be consulted at detailed design stage. Access to Roma Street Parkland would be maintained throughout construction.
81	Connections to the Parkland should have enhanced lighting and security systems that align with the Parkland's existing system requirements		Ch 10	Noted. DPW would be consulted at detailed design stage about how the project infrastructure connects to the Parkland.
81	CRR will be required to reinstate all improvements and infrastructure post-construction.			Where damage to property occurs as a consequence of construction works, the damage is to be repaired by the Contractor as soon as practicable and without cost to the property owner. Repairs are to be undertaken in consultation with the property owners and occupants and must return the premises at least to the condition existing prior to the commencement of construction works.  Rehabilitation of construction work areas is to be undertaken progressively and as soon as practicable to minimise potential impacts of dust, soil erosion and sedimentation. This is discussed further in Table 24-10 in the draft Outline EMP.

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81	Demolition of Royal on the Park, located opposite 53 Albert Street may result in closure and/or diversion of footways and streets.	Traffic Management Plan will need to be communicated to DPW to ensure government operations are not adversely affected and access into the building is maintained at all times.	EMP	Cross River Rail team will continue to work with DPW as part of the detailed design process. Construction traffic management in the CBD would be planned and implemented in consultation with the Brisbane City Council. Key considerations would include the maintenance of traffic flows in peak conditions, and the maintenance of safe and convenient pedestrian movements around worksites. Similar measures to those employed for other CBD construction sites would be proposed. This approach is addressed in the draft Outline EMP (ref section 24.9, Table 24.11)
81	Workers at 53 Albert Street may be adversely affected by dust generated during building demolition, excavation and construction at southern worksite.	Consultation with DPW and building owner regarding dust management within the Environmental Management Plan.	Tech Report no. 7. Section 4.9 p4-57, 58. Ch 24, Table 24-17 p24-44.	This is addressed in Section 15.4.5 and Chapter 24. A dust management plan would be implemented as part of the Construction EMP. This will include a range of measures to manage potential dust impacts during construction on nearby sensitive receptors, including near the Albert Street worksites. Early and ongoing consultation would also be undertaken with DPW and other relevant stakeholders to identify specific mitigation measures to manage dust impacts, where required. Ongoing monitoring of ambient air quality would also be conducted near the Albert Street worksites.
81	Workers at 53 Albert Street may be adversely affected by noise and vibration from building demolition, excavation and construction at southern Albert Street worksite.	Consultations with the stakeholders will be required regarding mitigation strategies, including well defined processes for handling complaints.	Ch 24, Table 24-18 p24-46 to 24-53. Ch 24, Table 24-22 p24-58.	With respect to office workers in Albert Street (located at the northern corner of Albert and Margaret Streets), the predicted 'worst case' noise levels for worksite establishment, including demolition of the existing buildings at the two Albert Street Station worksites indicate exceedances of up to 5 dBA of the noise goal for daytime operations with 3m high hoardings. Demolition works for the north shaft would take approximately 10 weeks and approximately 20 weeks for the south shaft. Initial site establishment works would be conducted during the daytime (6:30 am to 6:30 pm) period only. Prior to construction, owners and occupants of properties adjacent to the station works would be consulted in advance on the program of works, including advance notice of activities likely to approach or exceed the noise or vibration goals. Monitoring of ground-borne vibration and noise would also be undertaken at several places representative of the sensitive receptors in the vicinity of Albert Street.
81	DPW owns the iconic heritage listed Old Museum Building. A small portion of the boundary of this site is traversed by the proposed rail corridor boundary.	Previous consultation has indicated that there will be no impact to the property, however, DPW should be contacted immediately should this change.	Volume 2 Reference Design Drawings	While a small portion of the boundary of the Old Queensland Museum site is traversed by the proposed rail corridor, there would be no impact on the heritage structure or the heritage values of the place. DPW will be consulted directly should this change.

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82	<p>Southbound tunnel passes directly below my residential property (157 Fairfield Rd, Fairfield) at a depth of 21 metres which is about as close as it gets at any point. Table 2-1, in the CRR Noise and vibration tech report shows that predicted ground-borne noise level will be up to 36 dBA.</p> <p>The noise will be significantly worse due to the track being curved directly under my house (see 'Property Impact Plans - Sheet 10 of 24') which increases the noise and vibration; and will have a long term effect in increasing wear on the track which also increases noise further. The study shows an increase in noise of 5 db.</p> <p>The train will be also be travelling at its highest speed which increases the noise and vibration levels typically by 6 db for each doubling of train speed. At that section of track, the train is travelling at 130km/h which is 1.6 times the normal peak speed attained between stations.</p> <p>I have a 'Queenslander' house in a character residential area. Data shows that timber houses on stumps or columns less attenuation and the timber floor can amplify and background vibration. The average coupling loss values that have been calculated and used in the EIS are not favourable for my type of house. The noise and vibration transmission through the type of ground in this area is quite high.</p>	<p>I note that the current proposed track fastening method is by Resilient Rail Fasteners. From the information provided in the EIS, this doesn't seem satisfactory in this case of where the train passes directly below my house and close to the surface along Fairfield Rd.</p> <p>I would suggest a more suitable method such as the Highly Resilient Rail Fasteners or Resiliently supported sleeper blocks etc as a better solution. They are being used in other areas that are susceptible to noise so I am not sure why you think that my house is not as important (see Table 15 Extent of Reference Project Trackforms, Cross River Rail 39 Report Number 20-2524-R3 Environmental Impact Statement 61062011 Operational Noise and Vibration Rev 0). I am sure that this would be a cheaper option than installing vibration isolating pads on my house columns and under slab downstairs!</p>	<p>Tech report (Noise &amp; vibe) Part A</p>	<p>With respect to the effects of ground-borne noise and vibration during operation and impacts on older Queensland housing, the predictive modelling includes for propagation of noise and vibration into, and within residential buildings (refer to Section 6.2 and Section of 7.2 of Technical Report no. 8). During operation, the regenerated noise and vibration levels for timber houses on stumps or columns would be within the goals with the proposed track-fastening and other design features. Consequently, the modelling indicates the environmental objectives would be achieved (refer to Chapter 16, Noise and Vibration, Section 16.5.1 and 16.5.2).</p>
			<p>Tech report (Noise &amp; vibe) Part A</p>	<p>With respect to the effects of ground-borne noise and vibration during operation and impacts on older Queensland housing, the predictive modelling includes for propagation of noise and vibration into, and within residential buildings (refer to Section 6.2 and Section of 7.2 of Technical Report no. 8). During operation, the regenerated noise and vibration levels for timber houses on stumps or columns would be within the goals with the proposed track-fastening and other design features. Consequently, the modelling indicates the environmental objectives would be achieved (refer to Chapter 16, Noise and Vibration, Section 16.5.1 and 16.5.2).</p>
			<p>Tech report (Noise &amp; vibe) Part A</p>	<p>With respect to the effects of ground-borne noise and vibration during operation and impacts on older Queensland housing, the predictive modelling includes for propagation of noise and vibration into, and within residential buildings (refer to Section 6.2 and Section of 7.2 of Technical Report no. 8). During operation, the regenerated noise and vibration levels for timber houses on stumps or columns would be within the goals with the proposed track-fastening and other design features. Consequently, the modelling indicates the environmental objectives would be achieved (refer to Chapter 16, Noise and Vibration, Section 16.5.1 and 16.5.2).</p>

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83	The proposed relocation of the southern tunnel portal 110m south of the current station does not go far enough to minimise the impacts on the residential community of Yeerongpilly.	The southern portal should be relocated to an industrial area south of Yeerongpilly Station around the Clapham Rail Yards to stop the unnecessary resumption of homes.	Ch 3 Section 3.3.5 p3-14 to 3-20.	The location of the southern portal and Yeerongpilly Station has fewer property impacts than the other options considered and also supports the Yeerongpilly TOD by providing an acceptable degree of land use and transport integration. Property impacts, including the number and type of properties affected by surface works, was a key factor considered in the evaluation of the southern portal options, along with engineering requirements, city-building opportunities, rail operations, cost and risk, environment considerations and community and stakeholder feedback.
83	It is unclear in any of the published material on the project why the Yeerongpilly Station is being relocated 250m to the south of its current location. If this is to service a yet unpublished TOD or major redevelopment of the industrial site (to be used as the project site) the State Government should come clean about its intentions now to ensure the community is properly consulted.	The new Yeerongpilly Station should be retained in a location that maximises connectivity and public transport options for local residents and provides connectivity for commuter services from the Tennyson spur line. Commuter rail services between the Ipswich and Beerleigh lines, along the Tennyson Spur line, should be re-established. More creative architectural features should be incorporated into the new Station.	Ch 3 Section 3.3.5 p3-14 to 3-20. Ch 10 p10-36, 37.	The location of the southern portal and Yeerongpilly Station has fewer property impacts than the other options considered and also supports the Yeerongpilly TOD by providing an acceptable degree of land use and transport integration. Property impacts, including the number and type of properties affected by surface works, was a key factor considered in the evaluation of the southern portal options, along with engineering requirements, city-building opportunities, rail operations, cost and risk, environment considerations and community and stakeholder feedback.  The proposed new station would be designed with a contemporary architectural approach, in keeping with the other Cross River Rail stations, but which also reflects the character and scale of the surrounding residential area in Yeerongpilly.
83	The failure to include any park and ride facilities in the project scope is a major shortcoming in the proposal.	Park and ride facilities should be designed and included in the project on the eastern side of the Yeerongpilly Station in the nearby industrial area on the proposed project site.	Section 5.7.2 p5-114, Section 5.10.5 (p5-163).	This is addressed in Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD. This policy aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking.  Planning for the future use of the worksite would be undertaken as part of a separate planning process to the Project. Any planning process would need to include consultation with the local community and stakeholders, building on the consultation process implemented for Cross River Rail. This process would need to include an assessment of impacts associated with various land use options, including the provision of parking. Planning for the re-use of the Yeerongpilly worksite would need to reflect current legislation and policy directions.

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83	The adverse impacts caused by 24 hour a day truck haulage over the five year life of the project is the most significant and detrimental aspect of the proposed EIS. Local roads including Fairfield Road, Ipswich Road and Cornwall Street are already under enormous capacity pressure and the addition of several hundred truck movements per day, every day for five years is unconscionable and ill-conceived.	All spoil from the project should be hauled by rail to the Swanbank landfill site. This method of removal should be conditioned as a key component of the project. Incentives should be offered to tenderers to design and deliver an innovative, world class spoil removal system via the existing rail network.	Ch 5,	<p>24 hour truck haulage will only occur from where spoil loading activities can meet the noise goals set out in the EMP, such as within an acoustic shed and where the transport route for trucks accessing the arterial road network does not pass any residential properties. At Yeerongpilly trucks will use Station Road and Lucy Street to access Ipswich Road passing by industrial land uses only. There will be no physical access for spoil haulage trucks to or from New Wilke Street or Fairfield Road from the Yeerongpilly worksite. Traffic impacts of road spoil haulage has been assessed in 5.10.7 with overall trip general minimal and traffic operations virtually unchanged. The detailed management of spoil haulage by road is addressed in the draft Outline EMP (ref section 24.9, Table 24.11). Furthermore, rail spoil haulage was investigated and found to be feasible from Yeerongpilly and would be further considered in the detailed design phase.</p>
83	Local residents advise that the proposed location of the proposed emergency access point may be subject to flooding and did flood in January 2011. This flood level was lower than 1974 and earlier floods. The location of this site in a quiet residential area (supporting a Vet and a Church) is also invasive during construction and ongoing operations. Closure of the footpath on Fairfield Road, local road diversions, a u-turn by trucks at Brougham Street and relocation of a bus stop will disadvantage local residents and directly impact on their amenity and safety.	Consideration should be given to relocating the building to the existing Queensland Rail car park which is rarely used at the corner of Fairfield Road and Kadumba Street Verona. This would significantly reduce the impacts on the residents, business and church in Fairfield adjacent to the proposed location.	Ch.3. p3-26, Ch 14, p14-16.	<p>The location of the proposed building was subject to a detailed options appraisal in the EIS and would be designed to be protected from an extreme flood event (i.e. a 1 in 10,000 AEP flood event). This would remove a small volume from the available flood storage in a Brisbane River flood event. The effect on flood levels would be negligible.</p> <p>It is not intended to close off the footpath or divert local traffic in this location. During the future detailed design phase, the exact arrangement of this temporary right turn would be refined such that pedestrian and local traffic impacts would be minimised.</p>
83	the proposed realignment of Muriel Ave at the intersection of Fairfield Road and Sherwood Road Yeerongpilly fails to address the long standing problems with the lack of capacity and regular flooding of the rail underpass. Building the new rail line higher than the existing rail line clearly demonstrates that the State Government is aware of the deficiency of this intersection but is not prepared to incorporate measures to improve flood immunity and road capacity.	The project should include a design and construction component to either raise the rail line and re-engineer the road underpass or conversely build an overpass to improve flood free access and east-west connections for heavy / high vehicles. The proposed Brisbane City Council road freight over pass between Ipswich Road and Fairfield Road in the Yeerongpilly industrial area should be combined with the CRR project. This is a strategic network improvement for Brisbane's freight task. This would enable a truck ban to be implemented on Venner Road. Both of these proposed initiatives would have long term freight, business, road, community, industry and commercial productivity benefits.		<p>The proposed new rail bridge over Muriel Avenue maintains the existing height clearance of the adjacent rail bridges. Cross River Rail would makes the situation no worse than existing and would have no impact on local flooding. The track level on the new rail bridge has been raised by 1.5 m compared to the adjacent tracks to compensate for the grade of Muriel Avenue which rises as it heads west under the bridges. The new rail bridge could not be raised any higher without impacting on the Ipswich Motorway overbridge to the south. The Brisbane City Council has been consulted in relation to the proposed bridge design.</p>

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83	The EIS outlines the additional flooding impacts that will be incurred due to the significant infill works associated with the project. This includes possible future flood level increases of up to 4cm around Rocklea and Yeerongpilly. The project should not proceed if it will worsen the flooding impacts on the nearby Rocklea and Yeerongpilly residential and business communities.	Urgent investigation should be undertaken into the site specific hydrological impacts on each property within the project impact area and compensation, immunity works (e.g. raising homes) or buy back should be offered to affected residents and businesses.	Ch 14, Section 14.3.1 p14-16 and 17.	<p>The Project has been designed to minimise potential impacts to Rocklea and Yeerongpilly residential and business communities from potential changes to flooding from the Project. The results of the detailed flood modelling studies and mitigation measures are presented in the EIS.</p> <p>The draft report of the Queensland Flood Commission of Inquiry has been reviewed by the EIS team. The draft report did not make specific references to any part of the study corridor. In particular, the draft report did not make any comment or directions specifically in relation to Rocklea.</p>
83	Many residential households are located directly along the proposed key traffic routes, and those properties together with neighbouring properties will be adversely affected by the noise of 24 hours of truck spoil removal and project works.	No surface works should be allowed at all on Sunday or public holidays, with rail spoil removal allowable for tunnelling works only. Any associated or incidental truck movements should be limited to approved operating hours of 6:30am to 6:30pm. Strict penalties should be included in the project conditions for any breach of operating hours by people or truck movements. Operating hours should be mandated to include the arrival of the workforce after 6:30am and departure of the workforce by 6:30pm. Some reasonable exceptions could be made for project management staff.	Ch 16, Section 16.4.13 p16-111. Ch 24.	<p>Section 4.4 of the EIS outlines proposed spoil haulage times. 24 hour a day spoil haulage is only proposed from Yeerongpilly, Clapham Rail Yard, Woolloongabba and Mayne Rail Yard as the construction worksites and haulage routes are sufficiently isolated from residences. Regarding spoil haulage from Yeerongpilly, an increase of up to 0.5 dBA was predicted for the night-time peak on Ipswich Road. Changes in noise levels of 2 dBA or less would have a negligible impact. Apart from the above spoil haulage activities from selected sites, works that are classified as special circumstances may need to be undertaken outside of the designated working hours. These including works within designated arterial road corridors, live railway corridors and other works defined in section 4.4.</p>
83	Numerous aspects of the project and site locations are forecast to provide decibel readings in excess of statutory health and safety guidelines.	A mandatory scheme should be conditioned to provide affected households with actual decibel/vibration readings prior to project works commencing and forecast decibel readings during construction. Following complaints from residents, verification readings should be taken and any breach of the noise level conditions should result in strict financial penalties to project and compensation for affected residents and businesses.	Section 16.4.14 p16-113 to 16-115. Ch 24, Table 24-18 p24-46 to 24-53. Section 24.5.1 p24-10.	<p>Numerical noise goals are provided in the EIS to limit or manage any adverse impacts on the community (refer to Section 16.2.2 of Chapter 16 and Table 24-18 of the draft Outline EMP). A rigorous programme of noise and vibration monitoring would be undertaken at locations where the goals and criteria are predicted to be exceeded, i.e. less than 100 m to residences or other noise sensitive receivers. Further monitoring may also be required in response to specific complaints. Monitoring would be conducted throughout construction to verify compliance with the design goals.</p> <p>Consultations would be conducted with property owners in sufficient detail to address specific construction impacts and mitigation requirements (refer to Section 24.5.1 of the draft Outline EMP).</p>

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83	Site parking arrangements appear inadequate for the workforce and visitors. Construction workforce parking exceeds the proposed number of on-site car parks at number of sites including Clapham Rail Yards and the Fairfield Emergency and Ventilation Site. This has the potential to impact on already congested commercial areas, such as around Fairfield Road and Pulte St, Yeerongpilly and quiet residential areas such as Bledisloe, Sunbeam, Cross Streets and Railway Road, Fairfield.	All construction and project workforce cars should be simply and permanently tagged and if found parking in residential streets, the number of the vehicle could be reported to the 24 hour hotline and project financial penalties should be imposed. Project management must be held responsible for providing adequate off street parking and the location and behaviour of the workforce while in the community. Any proposed traffic area must include automatic additional permits for resident's visitors and tradespeople. Current Brisbane City Council permit systems lack flexibility for temporary visitor parking and a tailored scheme should be developed through community engagement. Where possible (e.g. day shifts) access to the sites by workers should be via public transport as there are both rail and bus services to all key sites.		<p>Section 5.10.6 of the EIS outlines the construction workforce parking arrangements and notes that the project provides over 80% of the estimated peak workforce employee numbers. At Yeerongpilly excess worker carparking and a proposed shuttle bus arrangement to other southern worksite including Fairfield, Boggo Road and Gabba would mitigate parking impacts at those other locations. Furthermore the draft Outline EMP (EIS section 24.9) addresses the need to avoid using local streets for construction traffic access. The relevant performance criteria provide for haulage vehicles to travel only on designated construction routes and for local roads not to be used by construction vehicles, unless approved by the relevant traffic authority. The draft Outline EMP also identifies mitigation measures relating to the real-time monitoring of truck position, speed, route and performance. A Construction Traffic Management Plan would be prepared for each worksite, outlining measures to avoid where practicable, or minimise and mitigate, impacts on local traffic and access during construction. This would include consultation with relevant stakeholders in the development of mitigation measures. Early and on-going consultation and communication with local communities about proposed changes to local traffic access arising from Project works would also be undertaken during construction.</p>
83	The local community is extremely concerned that the problems associated with the delivery of the Airport Link project are not relocated on the CRR project.	The State Government must take responsibility for the actions of their contractors onsite and impose clear guidelines and penalties for any non-compliance with project conditions. Flexibility should be retained in the project contract for the Coordinator General to impose new conditions should unexpected project impacts occur. The project should be conditioned to provide a dedicated manned 24 hour telephone and email service to provide the community with a complaint and information reporting hotline. Compulsory reporting and response measures should be put in place to record, track and action all complaints and provide public reporting on the project website of all issue outcomes and compliance levels for the project.	Ch 24, Section 24.5.3. p24-11 and 12.	<p>The Queensland Government would carry out its responsibilities as regulators in specified fields and legislative roles, including administration of relevant statutes, regulations and codes in relation to the Project.</p> <p>Prior to construction, a 24 hour, seven day a week, toll-free telephone line and email service would be established for receiving, handling and responding to complaints and community enquiries in a timely and effective manner.</p> <p>Monthly reporting on construction compliance would be made available on a public website. This would include reporting of recorded complaints, responses and corrective actions.</p>

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83	Concerned over community notification of construction works.	Commencement of all key project components should be communicated with the community in advance of all works and clear details about the duration, scope and nature of the works, together with details on how to make a complaint must be included. This should be done via reliable direct household and business letterbox drops, email and posted letters as well as via media and multi-media channels.	Ch 24, Section 24.5, p24-10 to 24-12.	A community and stakeholder engagement plan is to be developed as part of the environmental management process to ensure community and stakeholders are kept informed about construction of the Project. This is to be developed during the construction phase, but prior to the commencement of construction works, and is to be managed, updated and implemented for the duration of the construction phase.
83	A clear, mandatory identification system should be introduced for all construction and project management workers vehicles (including sub contractors) via a numbering system that can be readily understood and identified by the community.		Ch 24, Table 24-11. p24-31.	The Proponent would be responsible for the management of car parking as provided within the Construction Traffic Management Plans that would be developed in consultation with the road authorities, Queensland Police Services and other emergency services.
83	Strict financial penalties for the Contractor should be included in the project conditions for any breach of operating hours by workers or truck movements, noise and vibration non-compliance or failure to communicate with residents in advance of new project works. Equally, the project terms should include incentives to meet or exceed all community, environmental, noise and other conditions to encourage the highest level of best practice.		Ch 24, Section 24.7.3, p24-17.	The Environmental Protection Act 1994 provides the powers to impose penalties, or prosecute persons for non-compliance within the requirements of the Act. The Construction EMP would be subject to inspection, testing, reporting and auditing to monitor and demonstrate conformance throughout the construction phase.
84	compliance with SPP 1/03	It is recommended that the following be addressed in the EIS to ensure compliance with SPP 1/03: <ul style="list-style-type: none"> <li>• Identify the areas in the project corridor that are located on land subject to high or medium bushfire hazard. If the project is not located on land subject to high or medium bushfire hazard, state this as a justification for the project being compatible with Outcome 1 of the SPP 1/03. (Suggestion: include in Chapter 9, Land Use and Tenure, Section 9.2.1 State planning framework, p 9-2).</li> </ul>	Section 9.2.1	The Project complies with Outcome 1 of SPP 1/03 as "there is an overriding need for the development in the public interest and no other site is suitable and reasonably available for the proposal". The Coordinator General of Queensland (CG) declared Cross River Rail to be a Significant Project for which an EIS is required under Section 26(1)(a) of the State Development and Public Works Organisation Act 1971 (SDPWO Act).

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84	It is stated in the EIS that areas of high erosion risk and steep areas are located in the northern, central and southern sections of the study corridor. However, in Chapter 9 of the EIS it is stated that landslides are not likely to be a risk in the study corridor. The EIS does not adequately explain the compatibility of the project with the nature of the natural hazard, as required in Outcome 1 of the SPP 1/03.	<p>It is recommended that the following be addressed in the EIS to ensure compliance with SPP 1/03:</p> <ul style="list-style-type: none"> <li>• Within Chapter 9 Land Use and Tenure, Section 9.2.1 State planning framework and Technical Report 3 Land Use and Tenure greater explanation is required as to why landslides are not likely to be risks in the study corridor.</li> </ul> <p>Explain what mitigation measures will be implemented to ensure compatibility with the risk of landslide.</p> <p>An overlay of the required vegetation clearance and topography would be useful in identifying 'at risk' areas (Suggested inclusion in Chapter 7 Soils, Topography and Geomorphology).</p>	Sections 7.2.1 to 7.2.4, Section 9.2.1	The Project complies with Outcome 1 of SPP 1/03 as "there is an overriding need for the development in the public interest and no other site is suitable and reasonably available for the proposal". The Coordinator General of Queensland (CG) declared Cross River Rail to be a Significant Project for which an EIS is required under Section 26(1)(a) of the State Development and Public Works Organisation Act 1971 (SDPWO Act). Erosion risks are addressed in Sections 7.2.1 to 7.2.4. The risk of landslides are minimal as much of the construction work will take place in the existing rail corridor and underground. The possibility of landslides will be investigated further during detailed design.
84	With regard the reference design, the QFRS has engaged in consultation with the proponent to discuss specific aspects relating to fire and life safety. We have expressed some concerns. These are in summary: a) the codes, standards and guidelines referenced in fire life safety design; b) the design facilitating emergency service intervention, our access strategies and other relevant detail are still to be determined and agreed.	Otherwise having reviewed the document QFRS is satisfied with the content and provisions contained within.	Ch 4	Noted. Further discussions and resolution of fire and life safety matters will occur during detailed design.
84	The Queensland Ambulance Service (QAS) Brisbane Region advises that the establishment of the Cross River Rail should not have any direct impact on ambulance services in the area.	The QAS Brisbane Region suggests that should any road closures occur due to the development of the Cross River Rail, QAS should be notified in advance to enable review of alternative routes as required. Brisbane Region, QAS, currently receives traffic management reports which outline changes to some road conditions and road closures. This report is forwarded out to all QAS officers in the Brisbane Region. • The QAS actively assess the areas where construction is underway to keep abreast of any changes that may affect response or	Section 24.9 Table 24-11,p24-31.	A community and stakeholder engagement plan is to be developed as part of the environmental management process to ensure community and stakeholders are kept informed about construction of the Project. This is to be developed during the construction phase, but prior to the commencement of construction works, and is to be managed, updated and implemented for the duration of the construction phase.

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		<p>operations.</p> <ul style="list-style-type: none"> <li>The officers of QAS are cognisant of the duty of care that they have to other road users at all times and drive to the conditions of the road.</li> <li>The officers of QAS will take appropriate steps to ensure service delivery is maintained during these works.</li> </ul>		
85	Spoil removal from Southern main tunnels at Yeerongpilly.	<p>All spoil from the southern main tunnels should be hauled by rail to Swanbank spoil site. There are empty coal trains which haul approx. 5 Mil tonne of coal per year that could be utilised for this purpose on their backhaul from Fisherman Island that are going straight past the Yeerongpilly portal location. The enormous adverse impacts of heavy vehicles on the local road network and the Ipswich Motorway could be almost entirely eliminated by using "back loading" of existing rolling stock to transport the spoil by rail. The conveyor system could utilise "off the shelf" belt over roller conveyors which would minimise design and commissioning costs. Another advantage is the elimination of the delays in the CRR contractors operations when the Ipswich Motorway is congested (which occurs daily during peak hours).</p>	Ch 3, Section 3.4.3 p3-39	<p>The haulage of spoil by rail was considered in the development of the reference design and is discussed in Section 3.4.3 of the EIS. While spoil transport by road has been adopted for the purposes of the EIS assessment, the option of transporting spoil by rail presents a number of difficulties including in relation to double handling, costs, flexibility and scheduling. The relatively low quantities of spoil to be removed from the ventilation and emergency access shaft at Fairfield and the distance from this site to Clapham Rail Yard would make the removal of spoil from this site via conveyor and rail impractical. Furthermore, spoil could not be transported via a conveyor through the tunnel itself as the shaft needs to be excavated in advance of the running tunnels.</p>
85	Spoil removal from the ventilation and emergency access shaft at Railway Road, Fairfield.	<p>The removal of spoil via conveyor and onto trains should be investigated. If this cannot be done, then the haulage of spoil should be between 7:00am to 7:00pm Monday to Saturday. Conventional conveyor transfer systems could be utilised to transfer the spoil from the vent site to the rail wagons to eliminate the enormous adverse impacts of heavy vehicles on the very limited local road network. Again this equipment has a relatively high residual value and could be sold on completion of the works to recoup a substantial proportion of the cost.</p>	Ch 3, Section 3.4.3 p3-39	<p>This is discussed in Section 3.4.3 of the EIS. While spoil transport by road has been adopted for the purposes of the EIS assessment, the option of transporting spoil by rail is being maintained. However, the removal of spoil by rail presents a number of difficulties including in relation to double handling, costs, flexibility and scheduling. The relatively low quantities of spoil to be removed from the ventilation and emergency access shaft at Fairfield and the distance from this site to Clapham Rail Yard would make the removal of spoil from this site via conveyor and rail impractical. Furthermore, spoil could not be transported via a conveyor through the tunnel itself as the shaft needs to be excavated in advance of the running tunnels.</p>

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85	Hours of work for: <ul style="list-style-type: none"><li>• surface work</li><li>• spoil haulage</li><li>• underground works</li></ul>	At the Yeerongpilly and Ventilation and emergency access shaft (Fairfield) worksites, no work should be allowed to occur under any circumstances on the following days: New Year's Day, Good Friday, Easter Saturday, Easter Monday, Christmas Day and Boxing Day. If spoil has to be moved by road (and not by rail) work times should be limited to 7:00 am – 7:00 pm Monday to Sunday with no work on the above public holidays.	Ch 4, Section 4.4.4. p4-75.	At the Yeerongpilly and Fairfield worksites, no surface works haulage on arterial roads is proposed to occur 24 hours, seven days per week. This is discussed further in Table 24-10 in the draft Outline EMP. Spoil movements would be conducted in accordance with a Construction Traffic Management Plan to be prepared and implemented prior to the commencement of construction works. This is discussed further in Table 24-11 in the draft Outline EMP.
85	Reconfigure Muriel Avenue/Fairfield Road intersection at Rocky Water Holes Creek, Rocklea. Configuration of this intersection and the existing rail bridge heights are a problem that has plagued this area for decades with successive governments (both State and Brisbane City Council) identifying that there is an issue but doing nothing about it.	As part of the works for the CRR bridge and associated roadworks, there should also be upgrade works undertaken by State government and Brisbane City Council to have a vehicle flyover constructed so as to allow heavy vehicle travelling east bound along Sherwood Road to connect directly to Ipswich Road (North bound) – thus removing heavy vehicles from Fairfield Road-Venner Road route which they currently have to take.		The proposed new rail bridge over Muriel Avenue maintains the existing height clearance of the adjacent rail bridges. Cross River Rail would not make the existing situation at the Sherwood Road / Fairfield Road / Muriel Avenue intersection any worse.
85	EIS Management Plans	EIS Management Plans (like, Dust, Noise, Vibration, Traffic) should be published on the internet and before a CRR contractor starts work, there should be a letter box drop to advise residents that contractor XYZ is commencing work. Such advise should state what the work is to entail, what the duration of the work is and what hours of work are to be. Also as part of this notice the CRR contractor would advise the relevant website address as to where residents can access their EIS Management Plans for the works they are undertaking and the 24hr TMR-CRR phone number.	Section 24.9 Table 24-22, p24-58.	A community and stakeholder engagement plan is to be developed as part of the environmental management process to ensure community and stakeholders are kept informed about construction of the Project. This is to be developed during the construction phase, but prior to the commencement of construction works, and is to be managed, updated and implemented for the duration of the construction phase.
85	24 Hour TMR-CRR phone contact service	The Department of Transport and Main Roads (TMR) should have a 24hr manned phone service for CRR, which any affected residents can call advising TMR that a CRR contractor is in breach of any EIS Management Plans. TMR should have the contractor immediately rectify any breach, especially with regard to hours of work, dust and noise levels. Not good enough for the individual CRR contractor to have a contract number where an affected resident	Ch 24, Table 24-22, p24-58.	As outlined in Section 24.5 of the EIS, a process will be developed and implemented for receiving and responding to complaints about the Project from community members during the construction phase. This would involve the establishment and maintenance of a 24 hour, seven day toll-free telephone service. This service would be staffed by members of the Project team. Any complaint received would be required to be investigated immediately to determine the appropriate course of action for addressing the complaint. In some instances, this could include suspending activities that are the source of the

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85	It appears according to Drawing No CRR-YEE-A-3000 Rev C that disable facilities for Yeronga/Yeerongpilly residents maybe "optional". At present Yeerongpilly Station is the only station to have proper disable facilities. To have disable facilities as "optional" is offensive, discriminatory and illegal. The existing Yeerongpilly Station "future overpass extension" and "optional lift" cannot be left out of any final as constructed "Yeerongpilly Station Complex" unless the State Government wants an anti-discrimination case to deal with.	has to leave a message, with the CRR contractor returning calls days later	Ch 24, Section 24.8 Table 24-9 p24-25.	An Equitable Access Statement (EAS) would be submitted to the Department of Communities at least two months prior to commencement of permanent construction, and the EAS is finalised and implemented within six months of the commencement of construction. The EAS aims to ensure that the access needs of people with a disability are taken into account during the Project design. All Project station would be Disability Discrimination Act compliant.
85	Construction workforce car parking. . For some sites, such as the Yeerongpilly worksite, implementation of a car parking management scheme would address community concerns about parking overflow in local streets.	At least an additional 100 (in total) car parks at Clapham Rail Yard, Yeerongpilly and Boggo Road need to be added to the above proposed number of car spaces, otherwise residents will have a restrictive parking management plan imposed on them which is not an equitable outcome.		A controlled parking zone (called a "Traffic Area") is proposed to permanently restrict all day on-street commuter car parking on residential streets. It is expected that this be introduced, subject to agreement with Brisbane City Council, in advance of construction works commencing, so that these restrictions benefit residents during the construction phase. Note that the Dutton Park Traffic Area already covers on street parking around Boggo Road and will mitigate against workforce parking on street in this area. Overall parking provision for Cross River Rail covers over 80% of peak workforce demands and it considered a high level of parking for a project of this scale. Furthermore the draft Outline EMP (EIS section 24.9) addresses the need to avoid using local streets for construction traffic access.
85	No parking at the new Yeerongpilly Station. Lights at Ipswich Road to have up to 214 Truck and dog spoil removal over 24 hrs and 57 delivery trucks leaving the site in 12 hrs.			This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD. Yeerongpilly Station currently has 24 car parks. These would be maintained in the future with Cross River Rail. The reference design would also include parking for people with disability at the new Yeerongpilly Station to replace the one disability parking space currently available at Yeerongpilly Station and maintaining step free access to the station. Planning for the future use of the worksite would be undertaken as part of a separate planning process to the Project. Any planning process would need to include consultation with the local community and stakeholders, building on the consultation process implemented for Cross River Rail. This process would need to include an assessment

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	disable carparks. The land adjacent to Moolabin Creek would be ideal for this, given that this area of land is flood prone and buildings should therefore not be built on this area of land. The only future fix to this current poor planning would be to have a restrictive parking management plan imposed on them to stop commuters parking in front of their residences and where do the commuters then park?			of impacts associated with various land use options, including the provision of parking. Planning for the re-use of the Yeerongpilly worksite would need to reflect current legislation and policy directions. The use of Lucy Street / Ipswich Road intersection for spoil haulage by trucks during construction phase has been assessed in the EIS section 5.10.7 with impacts considered minimal and manageable.
85	Traffic Management for lights at Ipswich Road – Lucy Street intersection	This is yet another reason why all spoil from the southern section of the tunnel should be removed by trains and not by trucks. Spoil from southern section of tunnel should be transported by trains to Swanbank spoil disposal site.		The haulage of spoil by rail was considered in the development of the reference design and is discussed in Section 3.4.3 of the EIS. While spoil transport by road has been adopted for the purposes of the EIS assessment, the option of transporting spoil by rail is being maintained for consideration by tenderers. Section 5.10.5 of the EIS proposes that the removal of spoil from the southern portal at Yeerongpilly would be only via Station Road and Lucy Street. All spoil trucks accessing the worksite would then make use of the existing signalled intersection of Lucy Street and Ipswich Road. No additional traffic control is envisaged which would delay traffic on Ipswich Road. Monitoring and mitigation impacts including road condition surveys would form part of the Traffic Management Plan.
85	Existing Yeerongpilly Station Building and platforms	The current Yeerongpilly Station has historical preservation value and as such should be kept and maintained. These buildings and platforms could form the backbone of a rejuvenated rail service from Yeerongpilly-Tennyson-Corinda service.	Ch 19, Section 19.4. p19-39.	The existing Yeerongpilly Station would be decommissioned once the new station is constructed. The station building would be retained. Where possible, the design of the new Yeerongpilly Station would consider the heritage values of existing station.
86	I would like to record my concern about the impacts of the CRR Project on the trees in Victoria Park. I have met on site with officers involved in the project. I wish to strongly record my very real concern about the future of the trees we identified as being at risk through the EIS.		Ch 11, Sections 11.3.3 (Impacts) and 11.3.4 (Mitigations) and Ch 24, Table 24-10 p24-28	An alternative worksite configuration would be developed to retain the two fig trees. Further investigations during detailed design would seek to minimise clearance of native vegetation to that necessary for construction, site maintenance and operation, and ensure all necessary statutory clearing permits have been obtained prior to works commencing. In particular, construction impacts on the existing mature trees located within the central section of Victoria Park would be minimised, where possible.

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87	Concerned over the closure of the surface level crossing on Beaudesert Road (service road). The removal of the at-grade level crossing in this vicinity would potentially increase danger for both pedestrian and motor vehicles, as it would remove the awareness of pedestrian and motor vehicle interaction with trains. There is a separate private siding for freight trains which crosses at two locations, Railway Parade and Beaudesert Road service road, which will still remain under the current proposal. At present these crossings do not contain any control measures such as signs, flashing lights or boom gates. Trains using the siding pose an extreme safety risk to road users. Recent near misses are evident to this and our concern is the situation will be exacerbated by the closure of the open level crossing outlined in the EIS; both by removing the awareness of train interaction and increasing traffic volumes at the conflict points.	Local traffic management required at Beaudesert Road. Management at CTC are willing to work with the CRR team to mitigate the impact on the local traffic network. CTC are supportive of extinguishing the easement that currently burdens its precinct. Should this not be possible then consideration will need to be given to level crossings for both motor vehicles and pedestrians off Fairlie Terrace where it turns into the Beaudesert Road slip-road, and also on Railway Parade.		Consideration of the future use of this spur line will be undertaken during detailed design. For the purposes of the EIS, it was assumed that this private access spur line could not be removed. Given the spur line's infrequent use and the low speeds with which trains pass over this line, the impacts of this spur line are expected to be minimal.
87	The concept of keeping a separation between freight and passenger services will be compromised as freight trains will, necessarily, need to cut across passenger dedicated lines in order to access the Construction Training Centre.			This is a private rail spur that is used occasionally. As such, CRR cannot proposed closing this link. As such the reference design retains this spur.
88	Permanent and temporary loss of green space and vegetation, Victoria Park Spring Hill for the construction of the northern portal, and the storage of plant and spoil. - loss of a small area of land due to the widening of the corridor for new tracks - temporary loss of an area of the park, due to the construction worksite and works associated with the cut and cover construction of the tunnels - diversion of the bicycle path east of the railway corridor, extending from the ICB land bridge to Gregory Terrace, near the intersection with Bowen Bridge Road - impact on the amenity for park users, due to increased noise and dust from construction activities - widening of the existing access road from	Use the existing council operated site identified for car park spaces for the storage of plant, material, and site office and use the Legacy Way (northern portal) spoil site for placement of spoil from the northern portal. Alternatively use the sport grounds (alternative car parking site during the Brisbane Etkka) on the northern side of the Inner City Bypass. Another solution (least preferred solution) would be to use the island of land situated between Gregory Terrace and the car park for the Centenary Swimming Pool (and tennis courts) for temporary storage of plant and material (or spoil) during the construction of the northern portal – to be rehabilitated and revegetated on completion of works. All sites within Victoria Park that are resumed for construction work should be restored to public	Ch 11, Sections 11.3.3 (Impacts) and 11.3.4 (Mitigations) and Ch 24, Table 24-10 p24-28	Further investigations during detailed design would seek to minimise clearance of native vegetation to that necessary for construction, site maintenance and operation, and ensure all necessary statutory clearing permits have been obtained prior to works commencing. In particular, construction impacts on the existing mature trees located within the central section of Victoria Park would be minimised, where possible. Following construction, the worksite in Victoria Park would be rehabilitated and landscaped with plantings of appropriate native species, suitable for its ongoing use as open space and park. Only a small area of Victoria Park will be lost as part of the Project's operation and the use of the park would not be affected. The pedestrian and cycle path within the park has been further realigned to address concerns raised in submissions about potential conflicts between the cycle path and the access path to the children's playground.

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	Gregory Terrace, to provide access to the worksite. - disagree that amenity impacts will be minimal at Victoria Park. Relative to the size of the site, the impacts will be significant, with many users of that space likely to be negatively impacted through temporary loss of space, long term loss of existing fauna, and permanent loss of parkland area.	green space post construction to compensate for the permanent loss of land due to the widening of the rail corridor.		
89	The EIS in its present form has spoil being removed by road and taken to Swanbank.	Spoil from the works at Yeerongpilly should be removed by rail to Swanbank. Any additional expense can be offset in the reduction of traffic and subsequent delays along Ipswich Road.	3.4.3 (pp3-39)	The haulage of spoil by rail was considered in the development of the reference design and is discussed in Section 3.4.3 of the EIS. While spoil transport by road has been adopted for the purposes of the EIS assessment, the option of transporting spoil by rail is being maintained for consideration by tenders.
89	Truck movements to the works depot in Lucy Street/Station Road.	All truck movements to the works depot in Lucy Street/Station Road should be via Ipswich Road. There should be no access for any trucks or work vehicles to or from the worksite via Wilkie, Cardross Street and Fairfield Road. Traffic movements down Fairfield Road will already be severely restricted as a result of the work at the Ventilation and Emergency building in Fairfield Road and the works at the Fairfield Road/Muriel Avenue intersection.	3.4.3 (pp3-39)	The haulage of spoil by rail was considered in the development of the reference design and is discussed in Section 3.4.3 of the EIS. While spoil transport by road has been adopted for the purposes of the EIS assessment, the option of transporting spoil by rail is being maintained for consideration by tenders.  Section 5.10.5 of the EIS proposes that the removal of spoil from the southern portal at Yeerongpilly would be only via Station Road and Lucy Street. All spoil trucks accessing the worksite would then make use of the existing signalled intersection of Lucy Street and Ipswich Road. No additional traffic control is envisaged which would delay traffic on Ipswich Road. Monitoring and mitigation impacts including road condition surveys would form part of the Traffic Management Plan.
89	The Sherwood Road/Fairfield Road/Muriel Avenue intersection has a number of existing problems. 1. The regular flooding of the Rocky Waterholes Creek cutting access to Muriel Avenue. 2. The height of the present railway bridges which are too low for many trucks to pass under. 3. The tightness of the access from Sherwood Road and Muriel Avenue to the southbound lanes of Ipswich Road. Many trucks coming from the Brisbane Markets cannot proceed directly onto Ipswich road, but instead must travel north along Fairfield Road and into	This intersection needs major work to address these problems and has been tagged for future work. The construction of a third bridge over Muriel Avenue west of the existing bridges and the realignment of the north and south approaches to Ipswich Road are piecemeal solutions that will make it more difficult and far more expensive in the future to address problems 1 and 2 above.		The proposed new rail bridge over Muriel Avenue maintains the existing height clearance of the adjacent rail bridges. Cross River Rail would makes the situation no worse than existing and would have no impact on local flooding. The track level on the new rail bridge has been raised by 1.5 m compared to the adjacent tracks to compensate for the grade of Muriel Avenue which rises, as it heads west under the bridges. The new rail bridge could not be raised any higher without impacting on the Ipswich Motorway overbridge to the south. The Brisbane City Council has been consulted in relation to the proposed bridge design.

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89	Venner Road to get to Ipswich Road.  No details are given of dust management plans or traffic	The community should be given the opportunity to review and comment on the details of any dust or traffic management plans.	Section 24.6.1 p24-12, Section 24.9 Table 24-11 p24-29 and Section 24.9 Table 24-17 p24-44  Section 24.9 Table 24-22, p24-57	Environmental management plans, including those relating to the management of noise, dust and traffic impacts would be prepared by the Proponent and approved by the relevant authorities. As outlined in Section 24.3 of the EIS, community liaison groups established for the Project would be responsible for providing comments in an advisory role to the Proponent on matters including the detailed EMPS for construction and operation the community liaison groups would also provide advice to the Proponent during construction in relation to identifying and mitigating the impacts of construction in the locality for each group.
89	At present Yeerongpilly Station has a number of car parking spaces. As part of construction these are being removed but not replaced.	The currently stated position of no car parking spaces within 10km of the CBD needs to be repealed. Car parking needs to be made available at the new Yeerongpilly Station. With land resumed for the works depot there is ample room for a car parking facility. This would remove the need for Yeerongpilly residents to be subjected to an unnecessary and restrictive car parking management plan.	5.7.2 p114, 5.10.5 (p5-163) and 24.10 table 24-27 EMP	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD. This policy aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking.  Planning for the future use of the worksite would be undertaken as part of a separate planning process to the Project. Any planning process would need to include consultation with the local community and stakeholders, building on the consultation process implemented for Cross River Rail. This process would need to include an assessment of impacts associated with various land use options, including the provision of parking. Planning for the re-use of the Yeerongpilly worksite would need to reflect current legislation and policy directions.
90	Noise generated by trains passing over rail switching points at Yeerongpilly. The EIS does not mention how this cause of noise pollution is going to be minimised. This is of particular concern given the increase number of trains, especially freight train, that the EIS predicts.	I understand that there are a number of measures that can be used to minimise noise and vibration from rail switching points, including a product called "Vangards" that has been used successfully on the London Underground. Finally, ensuring that any remaining switching points are maintained to a high standard. Existing points at Yeerongpilly are still on wooden sleepers and don't appear to be very well aligned. This certainly causes significantly increased noise from these points.	Ch 16, Section 16.5.2 p16-116 to 117.	For CRR, railway points have been modelled assuming a 5 dBA increase in noise emissions, in accordance with Queensland Rail's Network Noise Management Plan (NNMP) Development Standard Gauge Line (refer to Section 16.5.2 of Chapter 16).  The ground-borne noise and vibration modelling considers all the parameters critical to determining the absolute levels of ground-borne noise and vibration. Such parameters include route alignment, passenger rolling stock design, rail type, trackform design, tunnel design, construction tolerances, operations and maintenance. In 2031, a negligible increase in

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91	I find the necessity of a 24 hour hotline distressing. Construction work 24/7 will have major impacts on my ability to function particularly in regards to work performance. I may well be able to ring a 24 hour hotline to complain about noise levels however if I am making this call at 3am in the morning then we can safely state the damage is already done at this stage. Over a prolonged period such as is suggested for this project I fear deeply I will not be able to continue in my present position.	My proposal is NO construction work to be undertaken beyond normal working hours / day's. This will allow us adequate rest and re-cooperation to assist in normal functioning (including weekends) Alternately we (homeowners) are adequately compensated / relocated at project expense.	Section 24.9 Table 24-22, p24-58. Ch 16, Table 16-72 p16-141	As identified in the draft Outline EMP in Section 24.9 of the EIS, some surface works may be required to be undertaken outside of the day-time construction hours in special circumstances, such as to avoid disruption to peak traffic flows and rail services, works involving oversized plant, equipment, components or structures, or emergency works. In particular, construction works in the live rail corridor may be required to be undertaken during extended possession periods of the rail corridor such as on long weekends, Easter and Christmas, to minimise disruption to rail services and to ensure the shortest possible work program.  In such circumstances, near neighbours would be notified in advance, as is common practice now when Queensland Rail conducts construction works in the rail corridor.
92	My concern is regarding the impact on the road surface from wagons carrying tunnel spoil away. There regularly appear potholes on Fairfield Road, both outward and inward bound, with the result that the double wagon trucks, especially the empty ones, hit these potholes creating a heavy "shot gun-like" noise that makes my house in 40 Princess Street shake and reverberate.	I would like to see a weight restriction imposed on industrial tunnel spoil carriers.		As reported in the Outline EMP a range of processes would be required prior to construction works commencing including the development of a Construction Traffic Management Plan to manage and monitor construction activities. Prior to construction commencing a detailed assessment of the existing condition of pavement and road assets would be undertaken and conditions imposed on haulage operators to ensure that damage caused to roads as a result of construction activities is repaired. Vehicle weights are determined by road authorities and based on the type of road. Construction haulage vehicle operational measures including restrictions will be outlined in the Construction Traffic Management plans which will be subject to approval by Council and TMR.
93	Flooding via subsurface water via services into station. An engineer assessed the cause of flooding in 2 of the Festival Towers basements in January 2011 and determined that water ingressed into the services cavity below the footpath into the building. Water gushed into the building for 24 hours through this entry point.	It is advised that flood mitigation measures be included into the CRR design to mitigate for this significant risk. Backflow valves at the river would prevent this type of flooding. A vented loop of services above ground level for service entry would also mitigate the risk significantly. Waterproofing all services entries into the station or alternative drainage options to mitigate the risk.	Section 14.5 p14-26. Section 12.3.5 p12-28 and 12-29.	A range of flood protection measures have been incorporated into the reference design. These measures include flood immunity for the tunnel and underground stations for a range of flooding events. Other protection measures include dedicated automated flood gates at each of the major entry points to Albert Street Station and at the southern portal to protect against extreme flood events.  To protect against groundwater inflow, the cross-passages of the tunnel would be lined with waterproof membrane and supported by cast-in-situ concrete lining. Groundwater inflow to the tunnel and station voids would be captured by a drainage system.  Mitigation measures to reduce the risk of flooding via service cavities will be included in the project during detailed design.

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94	I disapprove of any more of Victoria Park being taken for such a project. Since I have come to live here at the park has been whittled away and lovely trees cut down for e.g. the recent tunnel project. It is such a shame that this beautiful park so close to the city and so essential for it, has been treated thus. We must preserve this park.		Ch 11, Sections 11.3.3 (Impacts) and 11.3.4 (Mitigations)	An alternative worksite configuration would be developed to retain the two fig trees. Further investigations during detailed design would seek to minimise clearance of native vegetation to that necessary for construction, site maintenance and operation, and ensure all necessary statutory clearing permits have been obtained prior to works commencing. In particular, construction impacts on the existing mature trees located within the central section of Victoria Park would be minimised, where possible. Following construction, the worksite in Victoria Park would be rehabilitated and landscaped with plantings of appropriate native species, suitable for its ongoing use as open space and park. Only a small area of Victoria Park will be lost as part of the Project's operation and the use of the park would not be affected.
95			Ch 24, Table 24-10 p24-28	The Boggo Road spoil haulage strategy will be revised in light of submission feedback and subsequent analysis. While the outbound haul route will continue to be eastbound along Cornwall Street, the inbound (northbound) spoil haulage route would be via Fairfield Road as this route has already been identified as a construction materials delivery route for other worksites.

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96	Accessible public transport and safe pedestrian access is vital to the participation of people with disabilities, and their families and carers, in all aspects of community life. we would expect that all new rail infrastructure developments planned for South East Queensland would showcase world's best practice in the area of accessibility for people with disabilities using the best available technologies to support the independence of commuters who are blind or have low vision.	<p>Recommendations</p> <ul style="list-style-type: none"> <li>That the Cross River Rail Project incorporate onsite consoles and mobile technology into the infrastructure of station design to ensure that people with vision loss have audio access to timetables and wayfinding maps of stations and concourses.</li> <li>that audio announcements continue to be consistently made on all trains</li> </ul> <p>This information should also be available through mobile phone technology applications so that commuters can plan their trip in advance.</p>	Section 4.2.2	<p>The Cross River Rail stations have been designed to comply with the requirements outlined in:</p> <ul style="list-style-type: none"> <li>- Disability Discrimination Act 1992;</li> <li>- Disability Standards for Accessible Public Transport.</li> </ul> <p>During detailed design and operation of Cross River Rail, Vision Australia would be consulted with to ensure that adequate measures are adopted.</p>
96	Blindness and low vision are primarily information disabilities. Significant consideration needs to be given to the provision of information in accessible formats about train timetabling and station layout-including location of amenities including ticketing offices, bathroom facilities and eateries, to enable people with blindness or low vision to travel independently through the network. These measures are in accordance with Item 27 of the Disability Standards for Accessible Public Transport 2002.	<p>Recommendations</p> <ul style="list-style-type: none"> <li>That the design of train stations is based on universal design principles that support access for all commuters irrespective of ability.</li> <li>That the world best practice in technology is used in and around stations to enable commuters who are blind or have low vision to travel safely and independently in accordance with the Disability Standards for Accessible Public Transport 2002.</li> <li>That specialist access consultants and orientation and mobility specialists are consulted to ensure that wayfinding and pedestrian access in and adjacent to stations is logical, predictable and consistent</li> <li>That Vision Australia Orientation and Mobility staff works with the Queensland Department of Transport to educate relevant consultants and contractors about the wayfinding and pedestrian needs of persons with blindness or low vision.</li> </ul>	Section 4.2.2	<p>The Cross River Rail stations have been designed to comply with the requirements outlined in:</p> <ul style="list-style-type: none"> <li>- Disability Discrimination Act 1992;</li> <li>- Disability Standards for Accessible Public Transport.</li> </ul> <p>During detailed design and operation of Cross River Rail, Vision Australia would be consulted with to ensure that adequate measures are adopted.</p>

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96	Tactile Ground Surface Indicators or TGSIs, as they are commonly known, are one of the methods that support people with vision loss to move independently within the community safely, efficiently and with dignity. However, it is essential that TGSIs are laid in accordance with the Australian Standards, in a way which is logical, consistent and predictable. Orientation and Mobility Specialists from Vision Australia have identified numerous instances where Tactile Surface Indicators (TGSIs) have not been laid correctly. Too often, installations are deemed to meet the guidelines of the Australian Standards, yet they are not always laid in a manner that is functional for the end user. While all TGSI installations are important, it must be noted that in environments where there is a great deal of noise, it is even more important that TGSIs are correctly installed. Noise or other distractions can impair a person's ability to orient themselves in such an environment, making the correct laying of wayfinding installations all the more critical.	<p>Recommendations</p> <ul style="list-style-type: none"> <li>That Access consultants review the tactile surface indicators and disability access provisions at all Queensland Railways stations.</li> <li>That Vision Australia staff conduct in-service training workshops with Council staff and contractors to ensure that all staff involved in disability access infrastructure understand how TGSIs and directional tiles are used by the blind and low vision community</li> </ul>	Section 4.2.2	<p>The Cross River Rail stations have been designed to comply with the requirements outlined in:</p> <ul style="list-style-type: none"> <li>- <i>Disability Discrimination Act 1992</i>;</li> <li>- Disability Standards for Accessible Public Transport.</li> </ul> <p>During detailed design and operation of Cross River Rail, Vision Australia would be consulted with to ensure that adequate measures are adopted.</p>
96	Vision Australia specialists are concerned with the alarming trend which is occurring within many councils throughout Australia of 'Shared Zones'. Vision Australia strongly recommends that Queensland Government actively considers the implications of shared zones to residents who are blind or have low vision. The shared spaces within the Cross River Rail Project, both inside stations and in the surrounding areas leading to the stations, pose significant difficulties for the vision impaired commuter. These areas must be navigable in a way that enables the blind commuter to maintain efficacy of movement at all times in a safe and independent manner. Hence, wayfinding solutions need to be targeted, contemporary and functional for the end user.	<p>Recommendations:</p> <ul style="list-style-type: none"> <li>The cross river Rail project team engage in early consultations with community stakeholder organisations about the accessibility needs of people with mobility issues -including people who are blind or have low vision.</li> </ul>		<p>Shared Zones may be provided at the RNA Showgrounds and around the Gabba Station during major events. These 'Shared Zones' would be managed in accordance with the traffic and pedestrian management plans for major events to ensure that the potential for conflict is minimised.</p> <p>No other 'Shared Zones' are proposed by the Project.</p> <p>Vision Australia would be consulted during detailed design.</p>

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97	Wish to reiterate support for the strategic direction of the CRR project. As outlined in the submission, there are a number of benefits associated with the CRR project for the Greater Flagstone development. The CRR project and proposed Salisbury Beaudesert Rail Corridor present opportunities to dramatically increase the accessibility of the south western corridor for existing and future residents, as well as additional means for encouraging people to move to Greater Flagstone	The State Government should take steps now to resume land for the future requirements of the Salisbury to Beaudesert rail line		Noted. The requirements for the Salisbury to Beaudesert rail project, including land resumption, would be assessed through a separate process.
98	The rail network is vital supply chain element. We seek to have an involvement in relevant discussions going forward with a view to ensuring minimum disruption to the supply of food and other essentials into North Queensland.			The Proponent would enter into an interface agreement with Queensland Rail, with such agreement providing the framework for subsequent agreements regarding construction activities in live rail corridors.
99	Track too close to surface as it passes under my house.	Make it deeper.	Section 16.4.11 p16-105 to 16-120.	The depth of the stations and tunnels is largely driven by the ground conditions and tunnel gradients and cannot be easily relocated. TBM tunnelling work at Quarry Street, north of Boggo Road Station runs approximately 18 m below existing ground level. Ground-borne vibration levels are predicted to be 'easily noticeable'. 'Worst case' ground-borne noise levels from TBM tunnel excavations are predicted to be 'very low to high'. The maximum number of days exceeding the ground-borne noise goal would be seven days for each TBM passby. Mitigation strategies include early and ongoing consultations with residents, pre-condition building surveys and monitoring prior to, and during the tunnelling works.
100	Concerned over statement in EIS that says regular, frequent rail service shutdowns at night and on weekends will occur. The areas in question form part of the intermodal freight route from Brisbane to North Queensland and disruption of this nature for the construction of the CRR would not only have significant impact on the commerciality of our business but would also call into account the viability of some of our key customers which in turn has the potential to significantly impact on the delivery of key food supplies into and out of North Queensland.	As a potentially affected stakeholder PNQ seeks more detailed information on the plans for construction closures and the resulting potential impacts on the PNQ Intermodal freight business. Additionally, PNQ wishes to be actively involved in early discussions and negotiations relating to potential proposals for changes to intermodal freight operations and any proposed mitigation measures.	Section 5.10.4, p5-134	Rail shutdowns will be required to undertake certain rail construction works safely within the corridor. These will occur at various times throughout the construction phase however the exact timing and sequence cannot be given until a contract is awarded and the construction methodology and programme determined. Shutdowns of railways however are planned well in advance through Queensland Rail's Scheduled Closure Access System to minimise impact and would avoid peak times. Generally such works occur at night (after the last passenger service) or at weekends. Longer shutdowns may occur over long weekends such as at Christmas or Easter to enable complex work to be undertaken.

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101	Parking in Victoria Park and the destruction of old trees - misuse of Public Space. Provision of up to date information in EIS, not enough solutions have been offered by Government.	Possible solutions include use of unused rail lines, QR car parks, Ekka site. Alternatively workers could be bussed in.	Ch 11, Sections 11.3.3 (Impacts) and 11.3.4 (Mitigations) and Ch 24, Table 24-10 p24-28	<p>It is proposed that an interface agreement between the Proponent and Queensland Rail be established to provide the planning, consultation and management arrangements for the necessary rail corridor possessions.</p> <p>The location of the northern portal was driven by a range of factors identified in Section 3.3.4 of the EIS and as such, no significantly different portal alternatives, including those identified in submissions, were considered feasible, with the proposed location considered the most pragmatic solution available for the corridor and selected alignment.</p> <p>An alternative worksite configuration would be developed to retain the two fig trees.</p> <p>Further investigations during detailed design would seek to minimise clearance of native vegetation to that necessary for construction, site maintenance and operation, and ensure all necessary statutory clearing permits have been obtained prior to works commencing. In particular, construction impacts on the existing mature trees located within the central section of Victoria Park would be minimised, where possible.</p> <p>Following construction, the worksite in Victoria Park would be rehabilitated and landscaped with plantings of appropriate native species, suitable for its ongoing use as open space and park. Only a small area of Victoria Park will be lost as part of the Project's operation and the use of the park would not be affected.</p>
102	Bicycle Queensland looks forward to consultation regarding provision for cycling in the design of the Project.			Noted. To be progressed during detailed design.
103	TMR strongly supports the project. The Integrated Transport Planning Division have consulted widely across TMR to ensure the project is safe and feasible and adequately mitigates potential adverse impacts, and will liaise with CRR regarding the outcomes of this consultation.			Noted.

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104	Noise and vibration impacts on my property as excavation is too close to the surface.	Make the Boggo Road station deeper underground or move it to a location where the ground is at the same level as properties nearby.	Section 16.4.11 p16-105 to 16-120.	With respect to the excavation works near Boggo Road station, increasing the depth of the tunnels would significantly increase the cost of building Boggo Road Station and could require a cavern station instead of a box station in poor geological conditions. The distance from the tunnel crown is approximately 14m below the existing ground surface at this location. Maximum (ie 'worst case') vibration levels from tunnelling at this location show indicative maximum vibration levels of between 0.1 to 1.4 mm/s. Ground-borne vibration levels are predicted to be 'easily noticeable'. Modelling of noise levels from TBM tunnel excavations show indicative maximum ground-borne noise levels of between 27 to 57 dB(A). 'Worst case' ground-borne noise levels from TBM tunnel excavations are predicted to be 'very low to high'. For each TBM passby, ground-borne noise and vibration would gradually build-up to the predicted level over 0-3 to 5 days and then rapidly diminish as the TBM passes ahead of sensitive receivers. Mitigation measures are detailed in Table 24-18 of the draft Outline EMP.
104	Noise and vibration impacts on my property due to operation as trains are too close to the surface.	Make the Boggo Road station deeper underground or move it to a location where the ground is at the same level as properties nearby.	Section 16.6.2 p16-153 to 16-154.	During operations, with proposed track-fastening and other design features, regenerated noise and vibration levels at sensitive receptors in the rail corridor would be within the goals, and the environmental objectives would be achieved (refer to Section 16.5.1 of Chapter 16).
105	DERM is satisfied that the EIS adequately addresses requirements and that no further information regarding environmental or natural resource management is necessary at this stage. DERM supports the proposed approach to managing potential environmental impacts, however any proposal to introduce longer operating hours in return for shorter impact-duration times would require significant community engagement. The proposed Swanbank disposal site raises several concerns, including the distance from the extraction points and environmental effects of transporting this material.	Suggestion that significant community engagement would be required for any proposal to introduce longer operating hours in return for shorter impact-duration times.		Noted. Construction hours are discussed in Table 24-10 of the draft Outline EMP. Section 3.4.3 of the EIS identifies the advantages of Swanbank for spoil placement and Table 24-11 in the draft Outline EMP outlines the controls that will be implemented during spoil haulage.
106	Translink recognises the need to augment rail capacity in SEQ in order to address the constrained capacity of the inner city rail and bus network. TransLink is building a trunk and feeder public transport network, and as such has identified key stations where it is more competitive for bus services to hub to rail,		Ch 4, Ch 5	Noted.

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	subject to available capacity on the rail network. The Cross River Rail project is a revolutionary transformational project for SEQ and is critical to delivering this strategy. A key challenge for TransLink is to manage the public transport network until such a time that the additional capacity is delivered by Cross River Rail. To this end, TransLink is working with our delivery partners to optimise the current public transport network. It should be noted that TransLink is in the process of undertaking a detailed review of the project transport modelling.			
107	Incorporate rail corridor into planning of the proposed site redevelopment and integrate into any final development. The site is proposed for air extraction vents and construction associated with CRR.	Investigate the potential for undertaking works associated with the Albert Street station in conjunction with construction works for the proposed redevelopment. The use of the site for extraction and construction is not an optimal use of the site and would conflict with the proposed redevelopment.	Sections 9.4.4, 9.4.5	Part of the Albert Street south worksite has been identified as having the potential to accommodate redevelopment opportunities post-construction. The tunnels and station under Albert Street have been designed to allow for the development of a 80 storey building adjacent to Project infrastructure.  The potential opportunity for construction works for redevelopment to be carried out in conjunction with works for Cross River Rail would be further investigated during detailed design. Any redevelopment would be subject to the planning approval process.
108	Post-construction land and use of construction sites is not addressed.	Post-construction use of construction sites should be addressed either in a subsequent EIS or through a parallel process.	Section 9.4.4	Following construction, land occupied by construction worksites that is not required for the Project would become available, where appropriate, for redevelopment, in accordance with the relevant local and state planning policies, including the City Plan or UDA Development Scheme. Any redevelopment would be managed by the relevant planning and assessment manager and would be undertaken in a separate planning process.
108	Growth Management Summit action, Key Initiative 20, is to 'test the feasibility of relocating part of the Mayne Railyards at Bowen Hills to develop major new inner city greenspace'.	Greenspace should be considered at Mayne North, as part of the CRR project and rehabilitate the land to a level specified in a future parks master plan.		The future use of Mayne Rail Yard has not been considered as part of the Cross River Rail EIS process. The potential future use of Mayne North would be considered through a separate planning process.

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108	In-depth consideration of the Project on commuter parking and the local community at the Yeerongpilly worksite.	Investigate innovative approaches to parking provision, such as shared car parking for residents of the new development, retail consumers and commuters as part of site redevelopment.	Section 4.2.8	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. To mitigate potential impacts on local streets of increased demand for commuter parking from the Project, the reference design incorporates a range of measures to encourage walking, cycling, passenger drop-off and bus interchange. This includes improvements to the pedestrian environment on Wilkie Street, cycle parking at the new Yeerongpilly Station, passenger drop-off (kiss 'n' ride) facilities and new bus stops near the station entry to improve transport interchange. Further, as discussed in Section 9.4.12 of the EIS, consideration could be given in any future redevelopment of the construction worksite at Yeerongpilly to the provision of parking to support the new Yeerongpilly Station. Planning for the future redevelopment of the worksite would be undertaken as part of a separate planning process to the Project and would need to include consultation with the local community. This process would need to include an assessment of impacts associated with various land use options, including the provision of parking.
108	The initial Reference Design Overview (October 2010) identified a pedestrian/cycle connection from the southern portal of the Bogg Road station to the PAH campus.	Consider a direct pedestrian/cycle connection from the southern portal of the Bogg Road station to the PAH campus.		At Bogg Road, Cross River Rail identified the strategic 'connectivity' value of a pedestrian and cycle link over the rail corridor, for rail and bus passengers, cyclists and pedestrians moving between the Bogg Road Urban Village and the PA Hospital precinct. However there is no direct impact or requirement for this link arising from the implementation of Cross River Rail. It is expected that Cross River Rail and other unrelated development around the Bogg Road Station would benefit from this link.
108	The initial Reference Design Overview (October 2010) identified a pedestrian/cycle connection from Bogg Road Station to the PAH. Without this link, the ability of the Bogg Road Station to draw on the existing 6,000 plus working population of the PAH precinct, or maximise the benefits to be yielded from the State's \$10 million investment in the Translational Research Institute will be significantly reduced.	Consider an alternative connection between the Yeerongpilly TOD, the Queensland Tennis Centre and the CRR station, such as direct access to the platform from the overpass.		The complexities of the CRR southern portal, the land and construction constraints as well as flooding considerations all necessitated the relocation of Yeerongpilly Station to the location now identified in the Reference Design. While this will include an additional 200m walk from the west, the detailed design of the proposed new pedestrian bridge extension to meet the New Wilkie Street would be further refined in future design development. Through this process options to create more direct links to the new station would be examined to maximise connectivity between the station and the Yeerongpilly TOD.
108	New station design at Yeerongpilly does not promote the best connectivity to the current Yeerongpilly TOD development and the Queensland Tennis Centre. The additional walk from the current overpass south to the new CRR station effectively negates any benefit provided by the proposed direct pedestrian spine on the Yeerongpilly TOD site from the base of the western side of the Fairfield Road overpass to the Queensland Tennis Centre.	It is noted that a lift is 'optional' on the eastern side of the overpass at Yeerongpilly Station onto Wilkie Street. This option should be considered carefully in light of the most effective management of pedestrian traffic		CrossRiverRail

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108	during tennis and other future events and provision of equitable access.	Consider a parallel assessment of all proposed surplus sites by DLGP, in consultation with TMR, for the ability to undertake a planning and divestment strategy. Consider undertaking a parallel planning and divestment strategy processes to be undertaken by DLGP in consultation with TMR of appropriately assessed surplus sites.	Section 9.4.4	This issue is addressed in Section 9.4.4 of the EIS. The Yeerongpilly worksite at Station Road is currently included in the general industry area identified by the City Plan. Given the site's proximity to the new Yeerongpilly Station and improved transport access, the area surrounding the Yeerongpilly worksite and new station may experience pressure for redevelopment to high density residential or mixed use commercial. This would require a change to the existing land use designation of this site and subsequent revision of the City Plan. This would be undertaken as part of a separate planning process to the Project and would require consultation to be undertaken with the local community and key stakeholders and relevant government agencies.  For other sites, land occupied by construction worksites not required for the Project would become available, where appropriate, for redevelopment, in accordance with the relevant local and state planning policies. Any redevelopment would be managed by the relevant planning and assessment manager and would be undertaken separately.
108	Key sites (e.g. Yeerongpilly and Albert Street) will be subject to separate planning processes. DLGP is able to undertake a parallel planning process to recognise the highest and best use for surplus land. This process should be undertaken in parallel to the finalisation of planning and delivery of the Project. Land not required post-construction should be assessed for the ability of the State, through DLGP, to provide value uplift through a planning and divestment strategy to support the State's investment in the Cross River Rail infrastructure.	Consider a parallel assessment of relocating the Dutton Park Queensland Rail maintenance yards to the Clapham staging yards as part of accommodating the proposed CRR stabling facility.		This maintenance facility and the potential relocation of it is outside of the scope of this study. DLGP would need to make representation to Queensland Rail to negotiate an alternative location to the satisfaction of Queensland Rail.
108	Consideration of the proposed stabling facility should incorporate a strategic review of the Queensland Rail maintenance yards at the western border of the PAH campus. These facilities do not constitute the highest and best use for strategic inner city land and impede the future growth of the PAH campus as a key employment opportunity area. Relocation of these facilities to Clapham Staging Yards should be considered.			
109	Concerned about increased commuter traffic at Yeerongpilly and safety for young children who may access the street to chase a ball which goes out of the yard of my property on Stamford Street. Given the steep hill, a child could chase a ball on the new Wilkie Street and be killed by the increased volume of traffic on this road. Given this road will be realigned with the new Station Road, this will be an improved access to Ipswich Road from Fairfield Road, possibly causing high traffic volumes with fast moving vehicles, trucks and buses which will pass the new station.	Create a new underpass crossing the rail network south of the new Yeerongpilly Station joining Tennyson Memorial Avenue and the newly realigned Station Road. This would provide direct access to both northbound and southbound traffic on Fairfield Road and Tennyson Memorial Avenue to Ipswich Road, avoiding the rat run using existing rail bridges at Sherwood Road, Venner Road and Cardross Street. These are often used by trucks, detracting from the surrounding area due to noise, dust and airborne pollutants. This would also improve the direct bus routes from Indooroopilly through to Fairfield and		As reported section 5.7.2 of the EIS, the provision of New Wilkie Street is intended to maintain current access within the precinct. The addition of new road accesses within and across the corridor is not part of the scope of this study and has not been identified as a desirable or essential measure in order to ensure the station can be accessed safely and effectively. New Wilkie Street will effectively replace the old Wilkie Street and would not be expected to generate additional traffic. The Detailed Design stage will address detailed road layout refinements including intersection treatment or speed reduction measures for example.

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	Yeerongpilly, with easier access to Moorooka. The underpass would also allow commuter traffic to drop-off and pick-up with easy access to the new Yeerongpilly Station without having to traverse the realigned Wilkie Street, providing a low traffic shared pedestrian and car thoroughfare between Cardross Street and Station Road. This proposal will limit the additional and existing traffic using both Wilkie Street and the Cardross Street bridge to Fairfield Road, whilst providing additional benefit in reducing traffic using the School Street route to Ipswich Road as a thoroughfare from Fairfield Road.			The applicable noise criteria used for the railway surface track airborne noise emissions are provided in Queensland Rail's Code of Practice – Railway Noise Management 2007. Surface rail traffic would need to be managed to achieve the criteria set out in Queensland Rail's Code of Practice for Railway Noise Management (ie 87dBA assessed as a Single Event Maximum Sound Pressure Level, or 65dBA assessed as the 24 hour average equivalent continuous A-weighted sound pressure level) (refer to Section 4.2 of the Code of Practice). The EIS provides the specific locations of noise barriers in the southern section to achieve compliance with Queensland Rail's criteria (refer to Figures 16-45 to 16-50 and Section 16.5.3 of Chapter 16).
109	The EIS Executive Summary states that for the airborne noise assessment, 28 sensitive locations are predicted to exceed the Queensland Rail's operations rail noise criteria in the southern section, however the document does not define these locations in any detail or the noise targets, and therefore the preventative measures are also not clearly defined.	Please consider improved noise barriers and possibly limiting spoil removal trucks to daytime activities	Section 16.2.2 p16-13. Section 16.5.3 p16-125 to 16-126.	Numerical noise goals are provided in the EIS to limit or manage the adverse impacts on the community for both the day and nighttime periods (refer to Section 16.2.2 of Chapter 16 and Table 24-18 of the draft Outline EMP). During construction, noise monitoring would be conducted against the noise goals. If noise levels exceed the goals, the construction Contractor would be responsible for investigating exceedances and implementing noise controls, or amending the work activities to prevent recurrences.
109	As a surrounding property holder, I am concerned that noise levels during construction for the 5 year period (even within the enclosure) will be evident as Yeerongpilly is a particularly quiet suburb.	Please consider improved noise barriers and possibly limiting spoil removal trucks to daytime activities.	Section 16.4.5 p16-59. Section 24.5.1 p24-10.	As per section 5.10.5 of the EIS, the Yeerongpilly worksite will cater for the removal of spoil from the southern portal with trucks using Station Road, Lucy Street, and Ipswich Road only. There will be no physical vehicular access between the residential area around "new Wilkie street" and the worksite itself. Furthermore, the Outline Draft EMP refers to a range of proposed measures to be incorporated into each worksite Construction Traffic Management Plan to monitor and manage construction vehicle access and movement including
109	I also do not know where the queue for spoil trucks will be occurring and hope that the new Wilkie street will not have trucks lining up to collect spoil from the Yeerongpilly location.		Section 5.10.5	

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110	The rationale of the project to assist productivity by linking population in the region with jobs in inner Brisbane needs to be more strongly emphasised. Reference needs to be made that CRR is only part of an overall transport solution for the city.	Section 2.2 could highlight the fact that cities are the drivers of Australian economic growth. The rationale of the project therefore is to assist and enhance productivity of the city and the region.  The project needs to be considered as part of the overall development of an efficient passenger transport network to address the local needs of areas of economic concentration within SEQ.	Ch 21, section 21.4.4	The Project Rationale (Chapter 2) and Economic Assessment (Chapter 21) have considered and recognised the importance of linking people in outer suburbs with jobs in inner city Brisbane. This is a key principle underlying the need for this project.  The Land Use and Tenure (Chapter 9) provides further information to the Project rationale by stating that the Project supports the DEOs of the SEQ Regional Plan by addressing capacity constraints in Brisbane's inner city rail network, improving public transport movement and accessibility to identified high growth areas. In particular, the Project: <ul style="list-style-type: none"><li>- provides improved public transport access for communities in South East Queensland to regionally significant employment areas; and</li><li>- supports economic development in South East Queensland by facilitating improved rail freight movements to the Port of Brisbane and providing improved access to regionally significant employment areas.</li></ul> Section 9.2.1 identifies the draft Connecting SEQ document as a long term planning document that will assist in the delivery of a sustainable, multi-modal transport network. The Project is identified in the draft Connecting SEQ 2031 as a key action to completing an integrated transport network.
110	The use of rail for spoil haulage should be considered the primary mechanism.	Rail haulage of spoil is the preferred option, and should be pursued as far as practical.	Section 3.4.3, p3-39	The haulage of spoil by rail was considered in the development of the reference design and is discussed in Section 3.4.3 of the EIS. While spoil transport by road has been adopted for the purposes of the EIS assessment, the option of transporting spoil by rail is being maintained for consideration by tenders.
110	City stations are constructed in a manner that allows for significant buildings to be constructed above.	A small scale station building would represent under-development of these important sites. It is recommended that these stations are constructed in a manner that allows for significant buildings to be constructed above. The EIS provides only general information about the proposed CBD stations. Further detail about the CBD station locations, design, function and how they integrate with the surroundings would help planning for future developments and public spaces around the station sites.		Part of the Albert Street south worksite has been identified as having the potential to accommodate redevelopment opportunities post-construction. The tunnels and station under Albert Street have been designed to allow for the development of a 80 storey building adjacent to Project infrastructure.  The potential opportunity for construction works for redevelopment to be carried out in conjunction with works for Cross River Rail would be further investigated during detailed design. Any redevelopment would be subject to the planning approval process.

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110	Alternative entry/exit points at stations (particularly Albert Street and Woolloongabba) need to be fully investigated.	For Roma Street Station, it would be preferable that the entrance marked D in Figure 3-11 is the primary access point as this offers the most direct access to the central city and is grade-separated. At Albert Street Station, no information has been provided on these entry/exit points or how alternatives were assessed. At Woolloongabba Station, entry/exit points that allow grade-separated areas across Stanley Street, in particular still need to be considered.		As per the TMR's Traffic and Road Use Manual - Grade Separation (Pedestrian Underpass and Overpass) Guidelines, underground subway links are to be avoided due to their safety and visibility disbenefits. Grade separation pedestrian overpasses or underpasses should only be used on high traffic volume roads, such as arterial roads, freeways or motorways. In Brisbane, both Albert Street and Mary street are among the least trafficked vehicular routes in the CBD and are not busy enough to warrant grade separated crossing.
110	Build only the stations with the highest demand and need.			The EIS has on the Cross River Rail as a whole, Station demand was considered as a component of the development of the Project.
110	All infrastructure built by the project will need to ensure the requirements of the Disability Discrimination Act (DAD) are met.			The Cross River Rail stations have been designed to comply with the requirements outlined in: - Disability Discrimination Act 1992; - Disability Standards for Accessible Public Transport.
110	The EIS document acknowledges the ability to connect to the Princess Alexandra Hospital via a future pedestrian bridge over the railway but this is not included in the Reference Design and is strongly recommended.			The EIS has focused on Cross River Rail and the Terms of Reference for the EIS from the Coordinator General. The delivery of the pedestrian bridge would not be delivered as a component of the Cross River Rail.
110	Consideration of the Yeerongpilly Station would need to include the provision of park and ride facilities.		Section 5.7.2, p5-114, Section 5.10.5 (p5-163) and Section 24.10 Table 24-27	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD, which aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities, cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will also continue to monitor park 'n' ride demand across the rail corridor as part of its ongoing strategic planning, which seeks to identify and prioritise opportunities for new or upgraded commuter parking at appropriate stations across the network. Prior to operation of Cross River Rail, Translink will also review opportunities to enhance bus services to Yeerongpilly Station to take advantage of new bus-rail interchange opportunities offered

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110	Concern regarding the amount of land and trees proposed to be taken within Victoria Park for construction activities.	The alignment of the CRR at the northern portal should be located closer to the alignment of the redundant rail tracks to minimise impacts on Victoria Park. All significant trees are to be preserved within the parkland. The parkland is to be restored and enhanced following the completion of construction and vacating of the worksite.	Ch 11, Sections 11.3.3 (Impacts) and 11.3.4 (Mitigations) and Ch 24, Table 24-10 p24-28	<p>Refinements made to the Victoria Park worksite layout would avoid the need to remove the large fig trees for construction activities. Further investigations during detailed design would also seek to minimise clearance of other vegetation to that necessary for construction. The removal of vegetation in this area would require clearing permits prior to works commencing. In particular, construction impacts on the existing mature trees located within the central section of Victoria Park would be minimised.</p> <p>Following construction, the worksite in Victoria Park would be rehabilitated and landscaped with plantings of appropriate native species, suitable for its ongoing use as open space and park. Only a small area of Victoria Park will be lost as part of the Project's operation and the use of the park would not be affected.</p>
110	The impact on the children's play-group facility needs to be managed, particularly with respect to access and noise and dust issues. The relocation of the bikeway to the Gregory Terrace side of the facility is not acceptable due to the higher speed bikeway conflicting with the main access footpath to the play area. An appropriate access site needs to be identified and agreed.	Temporary construction sites to provide for safe walking and cycling activity and ensure continuing use of existing facilities such as playgrounds.		<p>Mitigation proposals relating to the potential impacts on local recreational facilities, including the children's play-group facility, would be determined at the detailed design stage, once the final form of construction has been determined. While the refined layout for the reference design avoids the play-group facility, its proximity would impact on the recreational amenity of the setting.</p>
110	Potential to develop Mayne North for higher order park uses, including sports use, following completion of CRR.			<p>The future use of the northern parts of Mayne Rail Yard has not been considered as part of the Cross River Rail EIS process. The potential future use of Mayne North would be considered through a separate planning process.</p>
110	The bus rail interchange assumptions in the project model need to be reviewed.	Citywide bus patronage will increase by approximately 80% whether or not CRR is built with a high degree of interchanging from bus to rail in the inner sections of the network. However, the CRR project has not produced data to show where these interchanging points are and whether projected development and configurations support the degree of interchanging inferred by the data.		<p>The future bus networks (2021 and 2031), with and without the Project, were based on the latest available network assumptions provided by TransLink. These assumptions anticipate relatively low growth in bus capacity. The modelling included a sensitivity test using an alternative bus network, equating to an increase in seat capacity of 34% in 2021 (compared to 2009) and 48% in 2031 (compared to 2009).</p> <p>The theoretical increase in bus capacity, when compared the original modelled network (EIS), would result in a reduction of rail alightings in the CBD of only 1-2% (compared to that reported in the EIS). Variations of this scale are within expected daily fluctuations in patronage. The core modelling results including rail patronage estimates reported in the EIS are considered robust. The introduction of Cross River Rail is forecast to deliver an increase in transfers from bus to rail.</p>

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				Across all stations, bus to rail transfers are projected to increase in 2021 from 10,700 trips in the 'without Project' case to 16,200 trips in the 'with Project' case in the morning two hour peak period. The largest numbers of bus to rail transfers (ie 1,000+ passengers) would occur at Altandi, Woolloongabba, Darra, Park Road and Roma Street. In the 'without Project' case, reduced bus to rail transfer activity is forecast with only Darra station expected to cater for over 1000 passenger transfers in the morning peak of the same year.
110	As the majority of freight moving through the rail network is bulk freight, the impacts to the coal and grain industries without CRR may be understated.			While this is possible, Cross River Rail economic assessment is based on conservative assumptions. See section 5.6.8 of the EIS for further information.
110	Although there is substantial growth in cross river private vehicle movements as shown in Figure 5-32, the report recognises this as including links that are non-CBD based (e.g. CLEM7 and the Go Between Bridge). However in these links, CRR only reduces road transport demand slightly whilst there is significant diversion from bus transport. The EIS does not adequately explain why there would be a significant diversion away from bus transport as suggested by the modelling. The assumptions behind the design of the bus network may have a significant bearing on the results.			The reduction in bus trips is only felt in the CBD as passengers are forecast to take advantage of faster journey times offered by rail into the CBD. Bus trips still grow compared to 2009 across the wider Brisbane area, that is in areas outside of the CBD. Car trips likewise grow in number across the Brisbane Metropolitan area, however effectively plateau for trips entering or leaving the CBD (as a destination). The modelling approach is considered conservative as a range of 'transfer penalties' were built into the mode choice decisions in the model including a 'boarding penalty', a time to walk from service to service, and additional wait time. With these penalties as well as a 'crowding penalty' on the trains themselves (with Cross River Rail), bus to rail transfers in 2021 are still forecast due to the substantial overall journey time savings afforded by the Project.
110	Catchment assessment needs to be undertaken for all stations.	Micro-simulation analysis needs to be undertaken for major stations (Roma Street, Albert Street, Woolloongabba, and Yeerongpilly) to provide confidence on the predicted pedestrian movements.		This level of detailed analysis would be considered in the detailed design phase. However the analysis undertaken in the EIS section 5.7.3 has shown that the existing facilities (crossings, footpaths etc) can accommodate projected pedestrian demands with minor modifications. The project team note that there are a wide range of small scale operational and management strategies that council could adopt in conjunction with CRR to further assist in delivering improved footway conditions including limiting on street dining in certain locations, and amending traffic light sequencing to favour pedestrian movements in some cases.
110	The O'Connell Terrace/Bowen Bridge Road intersection requires further refinement.	The widening of the O'Connell Terrace bridge in conjunction with its raising needs to be done so to ensure the footpath widening is maintained and provision is made for 4 lanes		The impacts of the proposed minor change to the layout and operations of the intersection of O'Connell Terrace and Bowen Bridge Road were assessed band reported in 6.5.1 of the Transport Technical Report. This shows a minor increase

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		plus bike lanes on O'Connell Terrace.		in delay of around 5 seconds however further analysis in the detailed design phase could isolate this delay further to minimise impacts on the major north south movements. As such the EIS concludes that the pedestrian safety benefits afforded by this proposal outweigh the minor traffic delay that could be caused. Furthermore, provision is made within the proposed new O'Connell Terrace Bridge for 4 traffic lanes, 2 bicycle lanes and footways on both sides as agreed with Council officers.
110	The property at the corner of O'Connell Terrace and Sneyd Street, Bowen Hills. This land is required for construction of the Legacy Way Toll Road Control Centre. As such, this land will not be available to CRR. The impact of the future raising of O'Connell Terrace at this location will need to be discussed with the Legacy Way project.	The CRR EIS proposes a construction site for land at the corner of O'Connell Terrace and Sneyd Street, Bowen Hills. This land is required for construction of the Legacy Way Toll Road Control Centre. As such, this land will not be available to CRR. The impact of the future raising of O'Connell Terrace at this location will need to be discussed with the Legacy Way project.		CRR are aware that this site is no longer available as a worksite and will seek to make do with other worksites already identified in the EIS. This will be further assessed in the detailed design phase.
110	Incorporate a pedestrian overbridge linking Roma Street station with the Magistrates Court precinct to include stairs and lift facilities to bring pedestrians down onto the southern side of Roma Street.			Investigations in relation to the reference design indicated there was no requirement arising from Cross River Rail for a grade-separated pedestrian crossing from the Roma Street Station to either Roma Street or George Street. However, the proposed separate pedestrian bridge over Roma Street, proposed separately to link the law courts precinct with Roma Street and upper Albert Street, would enhance connectivity in the North Quarter of the CBD if it were to be provided concurrently with Cross River Rail.
110	Building and street design to reinforce the desire line between the transit centre and the Roma Street/Herschel Street intersection.			The reference design delivers major improvements to pedestrian accessibility within the Roma Street precinct, including 2 new at-grade pedestrian crossings and a connection to the proposed future overbridge to the Magistrates Court building. The George St/ Roma Street intersection is improved under the CRR Reference Design with less delay for all vehicles including George Street traffic in the PM peak.
110	Associated bus infrastructure in Makersston Street (stops and shelters) with an emphasis on legibility (signposting and tactile) to link it with the transit centre.			It is the intention that CRR would provide new bus stops in Makerston Street, as the current inbound bus stop alongside the transit centre carpark would no longer be served by inbound buses. The "link" to the Transit centre would be via the existing at grade pedestrian crossing of Roma Street with appropriate new direction signage to be defined during detailed design.

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110	Pedestrian flows on Mary Street have not been addressed. Serious concerns on pedestrian capacity in Mary Street between Albert and Edward Street remain.			The Cross River Rail team provided the additional information below to Council 5th October 2011 outlining the proposed impact of CRR on the footway level of service in Mary Street. This acknowledged that with no change to existing footway width then this footway would be operating at LOS D in 2016 (peak 15 minutes) and LOS F in 2031 (peak 15 minutes) with CRR. Interpolating between the 2 years, then in 2020 (new CRR opening year), ped LOS would be around LOS E (peak 15 minutes). The reference design however already includes provision for the refurbishment of this footway (including street furniture rationalisation). As such there is already a general solution proposed to address the concern (in principal) and which can be built upon and refined in the detailed design process. CRR would therefore continue to work with Council during the detailed design stage to develop a preferred footway improvement solution for the northern side of Mary Street which could include additional footway widening into the current parking lane, with provision for parking or loading off peak. An additional mid block crossing may also be further considered to manage and disperse pedestrian movement in the vicinity of the station.
110	Planned phasing of intersections still needs to be reviewed and corrected.			The modelling undertaken in the EIS, section 5.7.2 provides a sound basis for the assessment of this concept design. The conclusion of the analysis is that intersections along Albert Street will be operating within capacity and at an acceptable level of service (no worse than LOS C).
110	The Albert Street station access needs to maintain capacity in Alice Street and not impact on the Botanic Gardens in any way.			The Reference Design as assessed in the EIS proposes a solution which provides a grade separate pedestrian connection under Alice Street with no identified operational traffic impact, minimal impact on bus layover (to be relocated) and with no intrusion into the Botanic Gardens or impact on its heritage features.
110	Grade separated linkages across major roads will be required at Gabba Stadium.			Existing conflicts in the vicinity of the Gabba are not to be addressed by CRR. Given the extensive level of assessment currently underway around Woolloongabba, being led by TMR in conjunction with the ULDA, the scope of the CRR EIS reporting was simply to show that the station could operate without any further changes to road, pedestrian and busway networks and is reported in section 5.7.3. of the EIS. This shows that no new or widened pedestrian crossing facilities would be required and that new widened pathways through the QLD Govt owned property adjacent to the station would be sufficient to accommodate projected patronage demand.

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110	The nature of the bus/ail interchanging is still unclear.			CRR proposes no changes to busway access or busway station location at Woolloongabba. In the short term (until other studies/investigations propose otherwise) the assumption is that bus-rail interchange will occur at street level with an at grade walkway linking the two - a distance of around 150m. The CRR team support investigations into amendments to the busway to take full advantage of improved bus-rail interchange opportunities.
110	Pedestrian linkage to Princess Alexandra Hospital is essential.	A connection must be incorporated into the design, as this is the second largest attractor for the station.		At Boggo Road, Cross River Rail identified the strategic 'connectivity' value of a pedestrian and cycle link over the rail corridor, for rail and bus passengers, cyclists and pedestrians moving between the Boggo Road Urban Village and the PA Hospital. However, there is no direct impact or requirement for this link arising from the implementation of Cross River Rail. It is expected that Cross River Rail and other unrelated development around the Boggo Road Station would benefit from this link.
110	Station design needs to incorporate:	<ul style="list-style-type: none"> <li>- Parking controls,</li> <li>- Potential for bus interchange.</li> <li>- Park and Ride facilities.</li> </ul>	Section 5.7.2, p114, Section 5.10.5 (p5-163) and Section 24.10 table 24-27 EMP	This is addressed in Section 4.2.8 and Section 5.7.2 of the EIS. A park 'n ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n ride policy for areas within 10 km of the Brisbane CBD. This policy aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities (kiss n ride), disabled parking, cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will also continue to monitor park 'n' ride demand across the rail network as part of its on-going strategic planning. Prior to operation of Cross River Rail, TransLink will also need to explore opportunities to enhance bus services to Yeerongpilly Station and to take advantage of new bus-rail interchange opportunities offered by Cross River Rail.
110	The performance of intersections in the vicinity of Yeerongpilly Station is still a concern and has not been addressed in the EIS.	Council still has concerns with the performance of the Wilke Street/Cardross Street and the Ipswich Road/Lucy Street intersections. Both are substandard accesses and cannot accommodate increased traffic demand.		Regarding local traffic changes around Yeerongpilly, as stated in Section 5.7.2 of the EIS, the changes to the road network at Yeerongpilly, in particularly the realignment of Wilkie Street, would not alter the current connectivity to east-west local roads with no changes to overall vehicle permeability or connectivity for residents. The impact of these changes is not considered to have any detrimental impact on traffic flow or efficiency of the local road network. The proposed permanent traffic changes in Yeerongpilly

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				would include a car parking limitations around the new station and some limited additional kiss and ride facilities. With these changes, overall traffic volumes would remain similar to the 'without Project' scenario as Cross River Rail would not be a vehicle trip generator. Consequently the performance of adjacent intersections including Wilkie Street/ Cardross Street and Ipswich Road/ Lucy Street would not deteriorate compared to the 'without Project' conditions.
110	24 hour secure cycle end of trip facilities for cyclists must be provided at all new stations, especially Yeerongpilly, Moorooka, Salisbury and Exhibition.			Cycle parking facilities are included in the Reference Design. The detailed number and arrangement of these facilities would be addressed in line with this request, in the detailed design phase
110	Impacts of pedestrian and cyclist access through the project needs to be addressed.			Additional consideration of detailed cyclist and pedestrian infrastructure will be incorporated in the detailed design phase. This could include consideration of an arterial bikeway along Logan Road, linking directly to Stanley Street and the V1 Bikeway.
110	Existing capacity of the road network must be maintained.			As with any major project, construction traffic from Cross River Rail worksites inevitably would have some impact on road capacity. However, the comparative traffic assessment for Cross River Rail, based on TMR's Guide to Road Impacts of Development, analysed the pre-construction and during construction performance of intersections and road links on key construction traffic routes. This assessment was provided in Section 7.13.2 of the Transport Technical Report to the EIS and summarised in Section 5.10.7 of the EIS. Due to the relatively small volumes of vehicles compared to background flows, the impact at intersections even in peak periods would be less than five seconds in increased overall intersection delay. This impact would have a minimal, if any noticeable, impact on traffic conditions.
110	Haulage during peak hours will not be permitted if there is an adverse impact on the functioning of the road network. Council will not permit 24 hour haulage on Council arterial roads.			Despite the relatively minor impact of construction traffic on peak period traffic conditions reported above and in Section of 5.10.7 of the EIS, Table 24.7 of the draft Outline EMP proposes that spoil haulage activities at some locations would avoid peak traffic periods, being 7.00 am to 9.00 am and 4.00 pm to 6.00 pm, Monday to Friday, for traffic and pedestrian safety reasons. Such locations include: <ul style="list-style-type: none"><li>• the Brisbane CBD</li><li>• at Woolloongabba (specifically to/ from Stanley Street in the morning peak, and to/ from Vulture Street in the afternoon peak).</li></ul>
110		This approach is likely to create significant traffic congestion during construction, particularly at times when rail services are reduced		

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110	Any road closures resulting in traffic diversion will require traffic modelling and impact assessment before approval is granted.			Planning for the timing, sequencing and detailed management of likely impacts of road construction activities including any required closures, would be undertaken in the detailed design phase and addressed in the Construction Traffic Management Plan for each worksite (CTMP) as required in the Outline Draft EMP. The CTMP would identify specific measures to avoid, or mitigate and manage impacts of construction traffic on local communities, transport networks and the environment. Table 24.7 of the draft Outline EMP proposes that a CTMP would be prepared and implemented in consultation with the Department of Transport and Main Roads and Brisbane City Council
110	The EIS adequately identifies and assesses likely air quality impacts during the construction and operational phase of the GRR project. However, it understates the significance of dust impacts during the construction stage of development.	A more detailed dust management plan is required with a greater focus on mitigation and cleaning up rather than measurement. The dust management plan also needs to detail how asbestos fibres will be prevented from impacting on surrounding residents and businesses during the demolition of buildings and how this will be enforced.	Ch. 15. Section 15.4.5. p15-44. Table 24-13 p24-36.	All construction activities would need to be planned and implemented so as to satisfy the requirements of noise and air quality management plans. These plans would be prepared and approved prior to the commencement of construction works. Demolition is considered to be a construction activity and is treated as such in the EIS. Appropriate dust controls presented in the draft Outline EMP (Refer to Section 24.9 (Table 24-17) of the EIS) would apply for demolition activities, including the use of water sprays and covering loads of material transported from the sites. Other measures may be initiated, particularly in respect to buildings containing hazardous or potentially hazardous materials. Specialised/licensed contractors will be engaged to undertake works relating to the demolition of buildings anticipated or found to contain hazardous materials.
110	The EIS states that the dust levels will be monitored but does not say what will be done if the dust levels are higher than the DERM dust criterion.		Ch 24, Section 24.5.1 p24-10.	If dust levels exceed the construction air quality goals, the construction Contractor would be responsible for investigating the exceedance, and implementing control actions, or amending the work activities to prevent recurrences. As part of the construction EMP, consultations with property owners would be conducted to address specific construction impacts and mitigation requirements.
110	There is no mention in the EIS of the contractor's 'General Environmental Duty' under the Environmental Protection Act 1994 to take all practical and reasonable measures to prevent or minimise environmental harm (and nuisance).		Ch. 24. Section 24.3.2. p24-7.	There are a number of general Project responsibilities for all entities involved in the Project, with respect to the Environmental Protection Act 1994. Each member of the Project staff has a general environmental duty under Section 319 of the Act, and must not carry out any activities that cause, or are likely to cause, environmental harm, unless all reasonable and practical measures are taken to prevent or minimise harm.

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110	The proposed CRR route passes under the north-west corner of the City Hall. Given the extent of structural / underpinning work having already been carried out as part of the City Hall restoration project, it is recommended the Queensland Government liaise with the structural engineers from the City Hall project team to ensure that feedback can be passed on and detailed analysis undertaken.		Ch 24, Table 24-18	<p>Noted.</p> <p>Vibration levels on the ground surface from tunnel construction using TBM excavation is expected to be less than 2 mm/sec and is therefore highly unlikely to disturb/Do you have to do it before you go the fabric of City Hall. Impacts from settlement is identified as having a low risk of significant effects, with an estimated maximum ground movement of 10 mm. As indicated in Section 16.4.11 of the EIS, the minimum slant distance from the crown of the tunnel to the City Hall is approximately 28 m to 65 m.</p> <p>Monitoring of vibration and the City Hall structure would be undertaken prior to and during each of the TBM passbys.</p> <p>Early and ongoing consultation would be undertaken with BCC's City Hall restoration project team to support detailed design development and would be required in an on-going capacity to support and inform the construction phase.</p>
110	The extent of impact on the heritage structures contained within the RNA Showground site is significant and is likely to impact on the transport operations of the annual Ekka show for at least two years during the construction phase.			<p>Construction staging will need to make all reasonable efforts to keep the station open to deliver special event services (ie Ekka). In the event that a stage of construction unavoidably requires closure and coincides with the defined events then alternative transport will need to be provided. Pedestrian and vehicle access is to be maintained throughout the Exhibition Rail viaduct and Ekka Station construction site except when agreed with RNA (eg at night time, or outside of event times etc). Temporary closures may also be required, in consultation with the RNA.</p> <p>The CMP will include a requirement for a liaison committee meeting between the CRR Proponent and the RNA to coordinate construction activities and to manage impacts on RNA heritage values. The RNA would be consulted prior to and during the EOI and tender processes for work within the RNA site, and innovation will be sought from tenders for detailed design, programme and construction methodology that manage impacts on RNA operations.</p>
110	Council requires a comprehensive Community Consultation Plan be developed to outline how the community will be kept updated, informed and consulted throughout the project.		Ch 24, Table 24-22 p24-58	<p>A community and stakeholder engagement plan is to be developed as part of the environmental management process to ensure community and stakeholders are kept informed about construction of the Project. This is to be developed during the construction phase, but prior to the commencement of construction works, and is to be managed, updated and implemented for the duration of the construction phase.</p>

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110	The Social Impact Assessment Management Plan needs to clearly outline measures to be undertaken to mitigate impacts beyond those currently identified, which relate mostly to construction impacts.		Ch 20	A specific social impact management plan is not proposed for the Project. During operation, communities near stations would benefit from greatly enhanced transport service and accessibility to metropolitan and regional facilities and services and employment. However, potential impacts on local amenity, community cohesion and community safety may be experienced, particularly for those communities closest to the Project. Section 20.3.4 and Section 20.4 of the EIS provides an examination of the key social impacts and mitigation measures to be implemented during the construction and operation phases of the Project.
110	Investigation into social infrastructure outcomes could be better explored.	The loss of community infrastructure such as affordable housing, open space and service facilities should be offset by a net benefit to the community by provision of supporting social infrastructure as part of this significant development.	Ch 20	There are minimal affordable housing and service facility impacts. Open space quality is intended to be improved. In Table 24-11 of the Draft Outline EMP, there is a commitment to provide a reasonable and practicable offset for any loss of public open space, significant and mature trees or landscape values taken for the Project, through the replanting of worksites and other public spaces in proximity to worksites and Project infrastructure, pressures. Mitigation measures which would maximise the benefits to the communities living and working in the study corridor would include initiatives such as public art programs at the new stations and the involvement of bushland and park regeneration management groups in revegetation projects.
110	Other possible social initiatives should be considered, in addition to those already identified in the EIS	Consider temp use of appropriate resumed properties for economic/social benefit while development is being planned, e.g. low cost rental for community services, social housing, social enterprises; • Explore opps to replace the lost stock of affordable housing by considering leveraging development opportunities for affordable housing from any surplus land. For example, the Brisbane Housing Company may be interested in land and redevelopment options to achieve this within the scope of the development; • Explore opps to provide social infrastructure through any surplus bldgs/properties that remain following construction to demonstrate that the community will be left in a better position than prior to the project (e.g. community facilities, meeting rooms, offices for community organisations; • Involving wider community including local	Ch 20	While the study area generally has a good supply of affordable rental housing, some suburbs, such as Fairfield, Yeerongpilly and Yeronga have limited available affordable housing properties for purchase. This may impact on some property owners who may wish to relocate within the study area. On-going consultation and communication with property owners about the property acquisition and compensation process and support available to potential affected property owners, may assist in reducing potential impacts in sourcing alternate accommodation. In addition, the Project would consult with relevant service providers through the Department of Communities to determine whether additional support for tenants is required. Other issues, including the use of surplus vacant land / buildings, will be explored further at the detailed design stage.

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		multicultural groups, young people and Indigenous groups within the study area in community regeneration projects • delivering a range of community development activities across neighbourhoods affected by project.		
110	The Queensland Government strategies relating to procurement employment and training for major construction projects are outlined here but there is no indication how these will be applied to the project.	The EIS should articulate how these policies will be applied to the work force actually in the study area. A specific commitment to linking locals into employment and training opportunities would provide a significant community benefit. Consideration to maximise training opportunities through the project for disadvantaged groups, young people, recently arrived refugees or indigenous people to gain skills in construction industry is strongly supported.	Ch. 23, Section 23.5. p23-19.	Noted - this will be addressed during Detailed Design
110	Projects such as the North West Transport Corridor and the Brisbane Subway are speculative projects and that CRR itself needs to be analysed separate to these projects. Also, the draft "RiverCity Blueprint" has not been endorsed either by Council or by the State Government and this needs to be clearly articulated within this document.			The Qld Infrastructure Plan and Connecting SEQ both identify the North West Transport Corridor as a future transport project. The CRR assessment is consistent with these government policy documents. The Project has been assessed separately from the Brisbane Subway in the EIS. The Brisbane Subway has only been identified as one of a number of future projects that may interact with CRR. It is acknowledged that RiverCity Blueprint has not been endorsed. However consultation with State and Brisbane City Council stakeholders has raised the need for the project to aim to be generally consistent with the work completed to date on the RiverCity Blueprint.
110	Council endorses the elements of the proposed broad framework of the Project Construction Operation Environmental Management Plan (EMP) and looks forward to being involved in its development.	It is important to consider what opportunities exist for CRR to make hydrology improvements to areas being impacted by the CRR project.	Ch 13, Section 13.3.9. p13-20, 21.	Opportunities to improve hydrologic conditions would need to be explored at the detailed design stage, as this would involve the design of specific mitigation measures (eg stormwater drainage). As described in Section 13.3.9 of the EIS, a number of measures would be used to effectively manage and treat run-off from surface tracks, maintenance facilities and stations. These measures would seek to reduce the volume of run-off and pollutant load.

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110	In the benefit cost analysis it is noted that the North West Rail project has been included and therefore the benefit cost ratio of 1.42 at a discount rate of 7% actually measures the benefit arising from 2 projects, not just the Cross River Rail project.	Scenarios need to be developed that exclude North West rail project so that a true evaluation of the significant expenditure of \$8.4 billion can be specifically identified.	Cross River Rail Economic Evaluation Final Report (April 2011), Section 5.2	Further investigations have determined that, with removal of the North West Transit Corridor, the benefit cost ratio would improve to 1.51, above that of 1.42 reported in the EIS with the NWTC. In this scenario, the net present value would increase to \$2.6 billion, compared with approximately \$2.3 billion, reported in the EIS.
110	The EIS should seek to outline in the reference design any mitigation measures strategies to ensure that landscape asset values of comfort (cooling, shade, and urban heat island reduction) and enjoyment (sense of place, subtropical character and scenic amenity) within the project area are improved.	A target of 50% shade to pedestrian walkways within 500m of each station should be included as an operational mitigation measure.	Section 10.3.1	The Project's visual and landscape goals and objectives identified the need to provide shade and shelter at entries and key pedestrian collection points. The target suggested will be considered in the detailed design phase.
110	45 O'Connell Terrace, Bowen Hills is owned by Brisbane City Council and is required for construction of the Legacy Way toll road Control Centre. As such, this land will not be available to CRR.		Ch4, Volume 2 Reference Design Drawings	It is no longer intended to use this site for the construction of the Project. The project will seek to use the remaining identified land for construction activities. Construction worksite requirements will be refined during the detailed design process.
110	Comments provided on Brisbane City Council properties impacted by the Project.		Volume 2 Reference Design Drawings	Discrepancies are noted. All owners, including Brisbane City Council, of directly affected properties would be consulted through the property acquisition process, such as the process under the Acquisition of Land Act, prior to construction.
110	Schedule of additional Brisbane City Council properties impacted by the Project.		Volume 2 Reference Design Drawings	Discrepancies are noted. All owners, including Brisbane City Council, of directly affected properties would be consulted through the property acquisition process, such as the process under the Acquisition of Land Act, prior to construction.
110	No 24hr haulage on Brisbane City Council arterial roads, especially during peak hours where impact on road users is foreseen. Haulage during peak hours on Brisbane City Council roads not accepted, further assessment required.		Ch 5 section 5.10.5. p5-132.	Despite the relatively minor impact of construction traffic on peak period traffic conditions reported above and in Section of 5.10.7 of the EIS, Table 24.7 of the draft Outline EMP proposed that spoil haulage activities at some locations would avoid peak traffic periods, being 7.00 am to 9.00 am and 4.00 pm to 6.00 pm, Monday to Friday, for traffic and pedestrian safety reasons. Such locations include: <ul style="list-style-type: none"><li>• the Brisbane CBD</li><li>• at Woolloongabba (specifically to/ from Stanley Street in the morning peak, and to/ from Vulture Street in the afternoon peak).</li></ul>
110	Any construction work impacting on CLEM7, Airport Link or Legacy Way will require agreement from River City Motorway, Brisbane Connection or Brisbane City Council respectively.		Ch 5 - section 5.10.5. p5-138.	Consultation with impacted Stakeholders will be undertaken during detailed design and prior to construction as part of the CTMP process proposed in the Draft Outline EMP (chapter 24).

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110	Existing capacity must be maintained on Brisbane City Council roads. Council will not agree to the right turn pocket on Gregory Terrace into work site by reducing the carriageway to one lane.		Ch 5 section 5.10.5. p5-141.	With regard to worksite access at Victoria Park, (refer Section 7.6.3 of the Transport Technical Report to the EIS), it is proposed to occupy four car parking spaces on the southern side of Gregory Terrace to allow the right-turn lane to be created. While Gregory Terrace westbound is marked as two lanes, these four kerbside parking bays are legally used during peak times. Only one westbound lane is currently available for traffic. By suspending these bays, the creation of the right turn pocket would have no impact on through traffic capacity on Gregory Terrace.
110	Existing capacity of 4 lanes shall be maintained on Alice Street and Margaret Street during peak hours.		Ch 5 - section 5.10.5. p5-149.	<p>Construction traffic management in the CBD would be planned and implemented in consultation with Brisbane City Council. Key considerations would include the maintenance of traffic flows in peak conditions, and the maintenance of safe and convenient pedestrian movements around worksites. Similar measures to those employed for other CBD construction sites would be proposed. This approach is addressed in the draft Outline EMP (refer Section 24.9, Table 24-11).</p> <p>The draft Outline EMP also proposes to manage construction traffic to avoid the morning and afternoon peak traffic conditions (refer Table 24-11). Alice Street currently carries three through-lanes of traffic in peak times, with the fourth lane (southern-most kerbside lane) used for parking or bus layover at all times. During the detailed design phase a range of options would be investigated with the aim of maintaining the status quo (ie three traffic lanes on Alice Street during peak hours). The introduction of a CityCycle station on the southern side of Margaret Street, east of Albert Street, restricts Margaret Street to only three through lanes on Margaret Street. Three traffic lanes, rather than four, would be expected to be kept open during peak times. During different phases of construction including during traffic switches, lane and road closures may be required in the CBD. The timing and sequencing of these would be assessed in the detailed design phase and captured in the Construction Traffic Management Plan which would be developed in consultation with Brisbane City Council.</p>

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110	Proposed right turn bay from Annerley Road to Peter Doherty Street will reduce capacity of Annerley Road and extend cycle time at the intersection, when an existing right turn bay is available at Boggo Road intersection.		Ch 5 - section 5.10.5. p5-154.	<p>Vehicle volumes to and from the Boggo Road worksite are relatively modest at only nine truck movements per hour during peak construction times (as reported in section 5.10.7). Spoil haulage trucks would only use the haulage routes set out in the Construction Traffic Management Plan and described in Section 4.4.2 of the Environmental Impact Assessment – Supplementary Report. No other roads would be permitted for use by haulage vehicles. Proposed measures to achieve this objective are set out in the draft Outline EMP in Section 24.9 of the EIS and include the use of construction vehicle management measures such as GPS tracker and weekly reporting of vehicle movement to road authorities (Council and TMR). The introduction of the temporary right-turn from Annerley Road into Peter Doherty Street would avoid trucks travelling past Dutton Park State School. Section 5.10.5 of the EIS states that there would be a small number of construction vehicles turning into Peter Doherty Street. This right turn would occur in the shadow of the right turn into Boggo Road with no additional delay occurring to southbound traffic. However should this temporary right turn pocket and phase not be supported by Council, construction traffic would use the alternative route identified, ie via Boggo Road.</p>
110	Moorooka Station Street Level. The design should in no way conflict with Brisbane City Council's planned future widening of Ipswich Road.		Drawing: CRR-MOOA-3000-C	<p>CRR have not been advised of the required Council property setback requirements in this area. CRR would work with Council during detailed design, to understand the potential impact on the design of the station entry plaza including the levels, orientation and extent, to limit or avoid any conflict with these future road requirements.</p>
110	Albert Street Station Street Plan. Underpass access on Alice Street east side should not adversely affect bus operations.		Drawing: CRR-ALBA-3002-C	<p>While the proposed Alice Street underpass would require the removal of approx 30m of bus loading zone on the southern side of Alice Street, it is proposed that some or all of this could be replaced on the eastern side of Albert Street south of Margaret Street - as an extension to the existing peak period bus loading zone.</p>
110	Insufficient details provided. Brisbane City Council requires more details in order to assess the proposal.		Technical Report 1 – Transport Part B, Section 6.6.3. p6-378.	<p>Regarding road network changes at Roma Street these are as described in 4.2.3 of the EIS and were assessed as being minima (in some cases beneficial) to the traffic operations in the vicinity of the station. These issues are further addressed in the responses below.</p>

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110	Bowen Bridge Road / O'Connell Terrace intersection will need to be upgraded to 3 phases (hospital exit a separate phase) with adequate pedestrian protection. No LOS degradation is acceptable as this intersection is already congested during peak.	Technical Report 1 – Transport Part B, Section 6.5.1. p6-344.	The upgrade of pedestrian facilities at the intersection of O'Connell Terrace/Bowen Bridge Road is acknowledged by the Brisbane City Council as being necessary, even without Cross River Rail. Any upgrade of pedestrian facilities at this intersection would likely result in a degradation of LOS to traffic. Cross River Rail proposes a minor incremental change to increase the pedestrian footway width at the intersection along with related traffic signal changes, the impacts of which could be limited to the relatively minor left turn movement from O'Connell Terrace to Bowen Bridge Road. The assessment of the Cross River Rail impacts are provided in Section 6.5.1 of Technical Report No. 1 - Transport. There would be a minor increase in overall intersection delay (all to vehicles) at the intersection of O'Connell Terrace/Bowen Bridge Road of around five seconds resulting from the proposed change. The EIS concludes that the pedestrian safety benefits of Cross River Rail outweigh the minor traffic delay arising from the modification. Further analysis in the detailed design phase could isolate this delay to reduce impacts on the major north south traffic flows in Bowen Bridge Road.	
110	Roma Herschel Streets- new at grade crossing across Roma Street - what are the modelling assumptions (phasing, timing etc) - this is a relatively long ped crossing and it is likely to be activated frequently during peaks.	Technical Report 1 – Transport Part B Section 6.5.2. p6-350.	The proposed at-grade crossing of Roma Street on its the southern approach to Herschel Street is assumed to operate at the same time as the right turn and ahead movement from Herschel Street (there is no left turn from Herschel to Roma Street as existing). This pedestrian movement also occurs at the same time as the westbound movement out of George Street which is a major movement. The pedestrian crossing is assumed to occur every 90 second cycle. Note that within this fixed cycle time the revised intersection of Herschel/ Roma/ George would be simplified from 5 phases to 3. As a result even with the additional pedestrian crossing the overall degree of saturation and LOS improves.	
110	Roma and Makersston Streets - extra phase impact. Demonstrate how these closely spaced intersections will operate together.	Technical Report 1 – Transport Part B Section 6.5.2. p6-350.	TRANSYT modelling results for intersections along Roma Street are reported in the EIS section 5.7.2. This gives all of the modelling assumptions, phasings and queuing impacts. CRR have through the course of the project development phase discussed a range of proposed road network changes with Council and the Reference Design represents a pragmatic solution involving minimal road traffic impact while still achieving desirable pedestrian safety improvements around the station. The right turn from Roma Street would result in virtually no change to intersection performance with LOS no worse than B in any year/ scenario and DOS virtually unchanged at around 0.7.	

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110	At Albert Street Station, queuing impacts of kerb build outs needs to be defined. Brisbane City Council does not accept the loss of capacity.		Technical Report 1 – Transport Part B Section 6.5.2. p6-357.	<p>SIDRA modelling results for intersections along Albert Street are reported in the EIS section 5.7.2. Further details of modelling assumptions, phasings and queuing impacts are also reported in the Transport Technical Report Section 6.5.2. CRR have through the course of the project development phase discussed a range of proposed road network changes with Council and the Reference Design represents a pragmatic solution involving minimal road traffic impact while still achieving desirable pedestrian safety improvements around the proposed new Albert Street station. CRR will continue to work with Brisbane City Council during the detailed design stage, on the detailed design of the proposed pedestrian safety measures proposed. Changes in queue lengths reported at in the EIS are preliminary only (given the limitations of sidra modelling). It is recognised that a range of measures would be investigated at the detailed design stage including traffic signal operational changes to mitigate any impacts. The notable issue reported in support of the Reference Design is that the intersections where kerb buildouts are proposed are still able to operate within capacity and with Level of Service no worse than C.</p>
110	Council is concerned with the volume of people conflicting with traffic making left turns out of O'Connell Tce on to Bowen Bridge Road, as it poses a safety risk. Provision needs to be made to accommodate these movements along with the movements of cyclists to and from the cycle station at RBWH	Council's position on pedestrian movements between Ekka Station and the RBWH has been recognised in the EIS and suggests a kerb build-out on the SE corner of the intersection to create a waiting zone for up to 75 people.	Technical Report 1 – Transport Part B, Section 6.5.1. p6-344.	<p>The upgrade of pedestrian facilities at the intersection of O'Connell Terrace/Bowen Bridge Road is acknowledged by the Brisbane City Council as being necessary, even without Cross River Rail. Any upgrade of pedestrian facilities at this intersection would likely result in a degradation of LOS to traffic. Cross River Rail proposes a minor incremental change to increase the pedestrian footway width at the intersection along with related traffic signal changes, the impacts of which could be limited to the relatively minor left turn movement from O'Connell Terrace to Bowen Bridge Road. The assessment of the Cross River Rail impacts are provided in Section 6.5.1 of Technical Report No. 1 - Transport. There would be a minor increase in overall intersection delay (all to vehicles) at the intersection of O'Connell Terrace/Bowen Bridge Road of around five seconds resulting from the proposed change. The EIS concludes that the pedestrian safety benefits of Cross River Rail outweigh the minor traffic delay arising from the modification. Further analysis in the detailed design phase could isolate this delay to reduce impacts on the major north south traffic flows in Bowen Bridge Road.</p>

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110	Although the EIS has outlined pedestrian desire lines and volumes at crossing points, a full evaluation cannot be made until a number of traffic issues are modelled, resolved and an agreed master plan is determined. The pedestrian movements outlined in Figure 6-33 of Technical Report 1 - Transport appear to be based on the current busway configuration.		Technical Report 1 - Transport Part B, Section 6.5.2. p6-359	Figure 6-33 of Technical Report 1 - Transport correctly shows pedestrian movements for the current busway layout as Cross River Rail does not alter this busway layout. The EIS has addressed all items required in the Terms of Reference relating to Traffic and Transport. Further modelling of traffic issues that BCC may have is outside the scope of the EIS. A master plan may be developed in consultation with BCC as part of detailed design.
110	The conversion of Unwin Street and Evesham Street to cul-de-sacs would only be acceptable under the scenario of this area being developed by Cross River Rail into residential or non-industrial uses.	If the Cross River Rail project proceeds prior to any changes to land use, or it is decided to maintain this area for industrial uses, these roads would need to be reconfigured to allow for freight vehicles.		Unwin Street and Evesham Street are already cul-de-sacs. Cross River Rail does not involve the conversion of these roads to cul-de-sacs.
110	The EIS has assumed a compound growth rate for existing background traffic of 2.4% p.a. through to 2016. The 2.4% p.a. compound intuitively appears too high.	This requires verification however a general growth rate would typically be approximately 1.5% p.a. compound and not exceed 2.0% p.a. compound growth. The use of a higher growth rate would act to reduce the percentage increase in construction-generated traffic.	Technical Report 1 - Transport Part B, Section 7.8. p7-471	While the percent of construction traffic may be slightly exaggerated, these percentages are not reported in the EIS. What is reported in the EIS is the level of service and delay with and without construction traffic. The reason for the growth rate was to develop a conservative 'worst case' scenario for general background traffic. The compound growth rate of 2.4% was an output from the Strategic Model identified in Section 7.8 of Technical Report 1 - Transport.
110	Concerns regarding Wilkie and Cardross streets intersection performance and also Ipswich/Lucy. Both are substandard accesses and cannot accommodate increased traffic demand. Ipswich/Lucy intersection will need to be looked at closely during detailed design if it is expected to carry large spoil haulage volumes (geometry and topography). Potentially will need split phasing of side roads (Durack Street and Lucy St) due to sightline issues because of grade.		Technical Report 1 – Transport Part B, Section 6.5.2. p6-364.	Section 5.10.5 of the EIS proposes that the removal of spoil from the southern portal at Yeerongpilly would be only via Station Road and Lucy Street. All spoil trucks accessing the worksite would then make use of the existing signalled intersection of Lucy Street and Ipswich Road. No additional traffic control is envisaged which would delay traffic on Ipswich Road. Monitoring and mitigation impacts including road condition surveys would form part of the Traffic Management Plan. Wilkie and Cardross Street will not form part of the Yeerongpilly worksite spoil haulage or delivery route. The worksite will be constructed and orientated such that vehicle access can only be gained from Lucy Street (via Ipswich Road). The only construction work on Wilkie Street will be during site preparation works and the reconstruction of Wilkie Street itself, which may require some access from both Fairfield Road and Ipswich Road. However details of the sequence and timing of construction vehicle access arrangements for each stage of construction would be addressed in the detailed design phase and captured in a Construction Traffic Management Plan and subject to approval by Council. The intersection of Lucy Street and Ipswich Road was tested in SIDRA with CRR construction traffic (peak volumes) overlaid onto existing traffic volumes. The modelled increase in average delay was just over 5

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				seconds in the AM peak and around 7 seconds in the PM peak. With careful analysis of signal timings and potential re-phasing CRR construction traffic volumes can be satisfactorily accommodated.
110	At Moorooka Station, it is desirable to relocate this mid-block crossing to the T-junction at Keats Street. (Depends on pedestrian generator and desire lines).		Technical Report 1 – Transport Part B Section 6.5.2. p6-366.	CRR proposes no changes to Ipswich Road or any intersections in the vicinity of the station. Any relocation of signals could therefore be progressed by Council.
110	ULDA Woolloongabba Station - Insufficient details provided. Brisbane City Council requires more detail in order to assess the proposal.		Technical Report 1 – Transport Part B, Section 6.5.2. p6-358.	The are no road network changes proposed at Woolloongabba as a result of Cross River Rail construction or operations. Impacts on the road network due to construction traffic are outlined in section 5.7.2 with changes in operations considered minimal and acceptable.
110	Analysis shall incorporate road closures that are proposed during construction, and as a result, the re-distribution of traffic on connecting roads.		Technical Report 1 – Transport Part B, Section 7.8.4. p7-474.	Planning for the timing, sequencing and detailed management of likely impacts of road construction activities including any required closures, would be undertaken in the detailed design phase and addressed in the Construction Traffic Management Plan for each worksite (CTMP) as required in the Outline Draft EMP. The CTMP would identify specific measures to avoid, or mitigate and manage impacts of construction traffic on local communities, transport networks and the environment. Table 24.7 of the draft Outline EMP proposes that a CTMP would be prepared and implemented in consultation with the Department of Transport and Main Roads and Brisbane City Council
110	Active transport - Albert St station			Additional consideration of cycling infrastructure will be investigated during the detailed design phase.
		With the configuration of Albert Street and parts of its cross-streets, facilities for cyclists should be provided at intersections including stand up boxes, bicycle lanterns and dedicated bicycle crossings to maintain a high level of service for cyclists and separation from pedestrians in proximity to the Albert Street station.		

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110	Parkland Boulevard is a major north-south arterial bikeway connection into the City.	As part of any changes and improvements to the intersection of Parkland Boulevard and Roma St, enhanced on-road cycle facilities need to be provided to encourage cyclists to stay on the road and use intersection facilities rather than footpaths to navigate through the area.		Additional consideration of cycling infrastructure will be investigated during the detailed design phase.
110	On-road haulage of spoil and materials requires careful consideration as poor management will reduce the life of structures and pavements given likely high truck volumes.	Preconstruction structural assessments, pavement condition assessments and dilapidation surveys are required with Council compensated for any damage or reduction in asset life. Council will require a bond or guarantee from the external contractor which Council can access to repair damage during construction and restore road pavement to conditions prior to major work at the end of construction.		Table 24-11 of the Draft Outline EMP (Construction) states that truck movements are to be managed to avoid impacts on the local streets approved for use, such as damage to road pavements from heavy vehicle traffic. Damaged road pavements are to be repaired by the Proponent (or its agent or contracted entity) periodically to maintain traffic safety, traffic amenity and pre-existing levels of service. Generally where impacts occur, the relevant traffic and road management agencies are to be consulted to devise and agree appropriate mitigation measures.
110	The EIS should seek to outline in the Reference Design any mitigation measures strategies to ensure that landscape asset values of comfort (cooling, shade, and urban heat island reduction) and enjoyment (sense of place, subtropical character and scenic amenity) within the project area are improved.	Mapping of these values can be provided to the Queensland Government to assist with this project.		Mitigation measures are discussed in both the visual amenity chapter (Section 10.1.2) and in the sustainability framework (Appendix E2) as well as Table 24-21 of the Draft Outline EMP. A range of key design principles were identified to guide the design of project infrastructure (refer to Section 10.3.1 Design Guidelines, of the EIS). Those relevant to the visual and landscape environment include providing shade and shelter at entries and key pedestrian collection points (eg the Gabba Station entrance provides a landmark shade structure design). Mitigation includes i) incorporating high quality materials and urban design and landscape treatments, ii) allowing, more expansive views including maintaining existing views beyond the rail corridor, through the use of clear or transparent materials, iii) maintaining existing breezes and providing enhanced landscape and streetscape amenity on those streets connecting to stations (refer to Section 10.4.1 Design Guidelines, of the EIS).
110	Positive improvements to the streetscapes along Alice and Albert Streets in terms of increased pedestrian space and high quality street furniture, shade and landscaping are strongly supported as they form part of the "green spine" through the CBD extending from City Botanic Gardens & Roma Street Parklands.			As described in Chapter 10, Table 10-3 of the EIS, the Project is expected to result in a positive change to the streetscape environment of Albert and Alice streets by providing high quality architectural stations, plazas, widened footpaths, street trees and street furniture.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
110	Section 1.4.4 of the Technical Report Number 1 – Transport estimates that ferry patronage would nearly double from 2009 volumes by 2031. This is inconsistent with BCC growth forecasts and is highly dependent on the proposed operating plan for ferries, the growth in competing public transport services, the fare and ticketing policy and the future development of public and active transport infrastructure such as green bridges.			As stated in Section 1.4.4 of Technical Report Number 1 of the EIS, there are no major changes to ferry operations expected within the study corridor. Ferries would cater for only a small percentage of overall trips across the city, i.e. less than 1% of all motorised daily trips. BCC would be consulted on growth forecasts for ferry operations during the detailed design stage.
110	The 2021 traffic background volumes were derived from the post-Clem7 traffic studies and extrapolated to 2021. It is expected that Airport Link will significantly impact on the travel movements in this area.	Council needs to review the SIDRA analysis that has been undertaken for the EIS and work with the CRR project team to arrive at an acceptable solution prior to approving modifications at the O'Connell Terrace/Bowen Bridge Road intersection.		This issue has been discussed with Council and the SIDRA analysis provided. A high growth rate of traffic was used to arrive at the base figures used in the traffic assessment to account for Airportlink and precinct growth. BCC would be consulted on the O'Connell Terrace/Bowen Bridge Road intersection during the detailed design stage.
110	Construction workforce parking	Council requires that CRR implement a car parking management scheme which includes specific management and enforcement measures. The scheme should address community concerns about parking overflow in local streets.		Table 24.7 of the draft Outline EMP requires a construction workforce car parking plan to be prepared and implemented for each construction worksite, in consultation with local communities, the Department of Transport and Main Roads and Brisbane City Council, to provide sufficient parking and travel arrangements for the construction workforce, and to avoid the impacts on car parking and access in streets near to construction worksites. This car parking plan is to be prepared and implemented prior to the commencement of construction works.
110	The EIS has assumed a compound growth rate for existing background traffic of 2.4% p.a. through to 2016. The 2.4% p.a. compound intuitively appears too high.	This requires verification however a general growth rate would typically be approx. 1.5% p.a. compound and not exceed 2.0% p.a. compound growth. The use of a higher growth rate would act to reduce the percentage increase in construction-generated traffic.		The compound growth rate of 2.4% was an output from the Strategic Model (refer to Section 7.8.4 of the Transport Technical Report, Part B). The growth rate was used to develop a conservative 'worst case' for general background traffic.
110	Analysis shall incorporate not only haulage volumes, but also volumes generated by project workers.		Technical Report 1 – Transport Part B, Section 7.8.4, p7-474.	The analysis of construction traffic provided in the EIS was of an AM and PM peak period. That is 7:30 am to 8:30 am and 4:30 pm to 5:30 pm. Workers trips were considered in the above assessment due to assumed reductions in background traffic (for example the removal of a significant area of trip generating land uses at Yeerongpilly would be balanced with the addition of construction workforce parking trips). Likewise at other worksites albeit on a much smaller scale. Further detailed analysis of worker trips would be undertaken in the detailed design phase based on the Contractor's intended workforce numbers and distribution as well as changes in background flows.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
110	Modelling has used land use forecasts based on Connecting SEQ 2031 (i.e. 2004 household travel survey data).	Forecasts are being further developed through the BCC Brisbane Urban Growth Model and future development of the strategic model needs to incorporate these new forecasts. Future versions of the project model should be further calibrated with the latest available household travel survey data.	Ch 5 section 5.9 p5-130.	The EIS team agrees that future modelling should use the latest available household travel survey data. At the time of writing the EIS, the BCC Brisbane Urban Growth Model was not available. However, a sensitivity test was undertaken to examine the effect of the proposed River City Blueprint land use scenario and the outcomes are identified in Section 5.9 of the EIS. It was found that the scale of patronage change due to increased concentration of CBD and inner city employment would be able to be accommodated by Cross River Rail.
110	The design relies entirely on access from the Yeerongpilly TOD to the station being provided exclusively via the extension of the existing footbridge when Cardross Street will be an alternative pedestrian route but which has practically no pedestrian provision. Pedestrian access across the existing road bridge needs to be addressed as part of any upgrade of Fairfield Street/Cardross Street intersection.			Cardross Street will continue to function as an access to the station from the existing catchment to the north-west, in which limited growth is expected. However, it is not envisaged that any passengers from the future major growth area at the Yeerongpilly TOD would use Cardross Street (rather than the footbridge), when it would involve an additional 580m walk at a minimum.
111	The experience of local residents is that Ipswich Road begins to experience heavy congestion during school pick up times. Congestion begins around the junction of Annerley Road and Ipswich Road and continues beyond the schooling precinct where Ipswich Rod is reduced from three lanes to two.			The EIS examined the impact of construction traffic on the intersection of Lucy Street and Ipswich Road assuming peak construction traffic volumes were overlaid onto existing volumes as reported in section 5.7.2. Given that the existing traffic volumes include traffic associated with several industrial uses which will be vacated to make way for construction this but would be balanced with workforce parking trips, this is considered reasonable. The reported increase in average delay is just over 5 seconds in the AM peak and around 7 seconds in the PM peak. Impacts on queues on Ipswich Road were also minor at less than 7 car lengths in the worst case. With careful analysis of signal timings and potential signal re-phasing during the detailed design phase of the project, CRR construction traffic volumes can be satisfactorily accommodated.
111	The safety of local school children, moving to and from school, should be considered in light of spoil haulage routes. Heavy trucks, moving spoil at significant speeds as well as the cumulative effect of trucks removing spoil from both the Woolloongabba and Boggo sites are a concern.			Spoil haulage routes are proposed on the shortest and most appropriate routes from the construction worksite to the arterial road network. In the case of Yeerongpilly this is via Station Road and Lucy Street to Ipswich Road where there will be no residential or school uses conflicting with haulage and delivery trucks
111	It is imperative that at the Keats Street and Hamilton Road intersections, trucks do not close up and impede the normal flow of traffic.			There is no proposed spoil haulage or materials delivery activities proposed on these streets.

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
111	The Keats Street and Hamilton Road intersections, have pedestrian crossings that provide access to Moorooka train station and bus stops. Pedestrian safety at these locations is of concern.			<p>There is no proposed change to these existing intersections and no spoil haulage of materials delivery activities are proposed along these streets.</p>
111	Concerned that Cornwall Street is not an appropriate road to be used for spoil removal by heavy vehicles. It is worth noting that Cornwall Street is the access point for ambulances entering or exiting the PAH and it becomes a narrow roadway that can become congested with parked cars, cyclists and pedestrians.			<p>It is recognised that traffic movement through the intersection of Cornwall Street and Ipswich Road is a concern for some. Consequently, it is proposed to modify the spoil haulage arrangements for the Boggo Road worksite as follows:</p> <ul style="list-style-type: none"> <li>• The inbound (northbound) spoil haulage route would be via Fairfield Road from Ipswich Road. The outbound (southbound) spoil haulage route would remain on Cornwall Street.</li> <li>• The peak increase in trucks on Fairfield Road northbound equates to around 0.8% more vehicles over a typical weekday (over 12 hours), or an 11% increase in heavy vehicles.</li> </ul> <p>Existing (2009) AM peak period traffic performance on these road links is reported as being within capacity with Volume over Capacity of less than 0.75. Given the low numbers of truck movements compared to background traffic volumes, and existing capacity, the change to the spoil haulage route is not expected to result in any discernible negative traffic or access impacts for Fairfield Road.</p>
111	The EIS considers parking for the construction workforce. Parking for commuters during construction also needs to be considered.			<p>A managed on street parking scheme (called a "Traffic Area") is proposed to permanently restrict all day on-street commuter car parking on residential streets. It is expected that this be introduced, subject to agreement with Brisbane City Council, in advance of construction works commencing, so that these restrictions benefit residents during the construction phase.</p>
111	Community concern regarding commuter parking during the operational stage of the Project remains high. I note that traffic management planning is an issue for local government and that it is outside of the scope of the Project. A traffic management plan for the streets adjacent to Yeerongpilly Station that will maintain the liveability for local residents is supported.			<p>This is addressed in Section 5.7.2 of the EIS. A park 'n' ride facility is not proposed at Yeerongpilly as part of the reference design in keeping with TransLink's park 'n' ride policy for areas within 10 km of the Brisbane CBD. This policy aims to encourage kiss 'n' ride and 'walk up' patronage. To mitigate potential impacts on local streets of increased demand for commuter parking, the EIS proposes implementation of an on-street parking management scheme for streets surrounding the station to restrict on-street commuter parking. The reference design also includes passenger drop-off facilities (kiss n ride), disabled parking, cycle parking facilities and new bus stops near the station entry to improve transport interchange. TransLink will also continue to monitor park 'n' ride demand across the rail network as part of its on-going strategic planning. Prior to operation of Cross River Rail, TransLink will also need to</p>

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
111	Construction activities with predicted exceedances of noise goals will occur at the Southern Ventilation Shaft Construction Site for a period of seventeen weeks out of a planned construction phase of twenty eight weeks. Construction activities at the southern portal construction site will also exceed noise goals during weeks eight to twelve of construction and weeks twenty four to thirty of construction.	Weeks twenty four to thirty need further consideration as these exceedances are scheduled to occur during weekends and night time.	Ch 24, Section 24.9. Table 24-10.	<p>Construction noise levels are 'worst case' scenarios, i.e. assuming all plant items operate simultaneously. Noise exceedances in the EIS are provided for particular works where higher levels of construction noise are anticipated. Noisy activities such as piling, demolition and rock breaking would be undertaken during daytime hours. However, special circumstances would arise for particular surface works, including works within the rail corridor, which would need to occur outside daytime hours. Where surface works occur outside normal daytime hours, a range of management measures, including regular monitoring would be undertaken to ensure the environmental amenity and reasonable living conditions for near neighbours are maintained.</p> <p>Consultations with property owners would be conducted in sufficient detail to address specific construction impacts and mitigation requirements.</p>
111	Concerned over the social impact that closure of the level crossing would have on the Rocklea Community. The level crossing is the only flood proof access point to Rocklea, as was evidenced in the January 2011. The closure of the level crossing is not supported.	Proposal is for removable bollards / barriers to be placed at the level crossing which will enable residents to access the high point in their community as an escape route and that will allow heavy vehicles to enter Rocklea as soon as the water begins to recede. Other suggestions include the construction of vehicular access bridges or tunnels that could be used on a permanent basis for vehicular traffic to safely cross the rail lines at Rocklea.		<p>The reference design includes a new emergency access point from the Beaudesert Road service road to the Beaudesert Road overpass during a major flood event. This would provide access to Beaudesert Road from Rocklea south of the rail corridor, at a similar flood immunity to the existing open level crossing.</p> <p>The provision of an emergency access point to the Beaudesert Road overpass would provide safer access to alternative temporary solutions identified in submissions (ie provision of removal bollards/barriers) by avoiding potential conflicts with the live rail corridor.</p>
111	Concerned that the closure of the level crossing will negatively impact on the community because this crossing provides access for resident of Rocklea to Salisbury, Moorooka and other neighbouring suburbs. It is a route that connects the community with schools, retail outlets and workplaces.			<p>The closure of the Rocklea crossing is required due to the rail corridor being widened to accommodate an additional 2 rail tracks with the number of trains expected on this section of track would almost double with Cross River Rail. This would result in long wait times at the crossing with increased congestion and increased safety concerns. The closure of the Beaudesert Road Service Road open level crossing is in line with the Queensland Government's Level Crossing Safety Strategy 2011-2020 which aims to improve safety and transport system efficiency by progressively removing open level crossings.</p>

Sub No	Issues	Submitter Recommendations / Suggested Mitigation	EIS Reference	Proponent Response December 2011
111	Support for the project remains strong in the local community with recognition of the need to manage the extraordinary population growth of South East Queensland, the need to tackle road congestion and the importance of developing 'climate smart' transport infrastructure.	Cross River Rail will increase the capacity of our rail network and will deliver increased services to South East Queensland, meet projects of increased transport need from a growing population all whilst supporting the climate smart travel initiatives.		Noted

# CrossRiver*Rail*

The background features a large, semi-transparent white circle centered on the left side. Overlaid on this are two smaller, semi-transparent light blue circles, one above and one below the main circle. In the bottom right corner, there is a rectangular photograph showing a modern train at a station platform, with blurred lights suggesting motion or a nighttime setting.

## Appendix B Consultation Report



# **Cross River Rail**

## **Appendix B**

### **Consultation Report**

March 2012



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## 1 Introduction

This appendix describes the process, activities and outcomes of consultation conducted during the fourth round of consultation undertaken for the Project as part of the Cross River Rail detailed feasibility phase.

The previous three rounds of consultation are described in Appendix C of the EIS. These were:

- Round 1 (April-May 2010): project introduction, including study corridor and draft Terms of Reference (ToR) for the EIS
- Round 2 (July-August 2010): preliminary reference design
- Round 2b (September – October 2010): southern portal location
- Round 3 (November – December 2010): reference design and impact assessment.

Approximately 4,300 people registered an interest or participated in consultation activities during the first three rounds of consultation. In addition, more than 625,000 households and businesses received direct communication from the Project team. More than 3,500 individual comments were received to inform the development of the reference design and preparation of the EIS.

The fourth round of consultation was undertaken between August and October 2011. The purpose of this round of consultation was to:

- provide an update on the reference design, including refinements made in response to community and stakeholder feedback, and the proposed construction methodology
- notify the community that the EIS has been lodged for assessment and invite community members, stakeholders and agencies to comment on the EIS in accordance with the *State Development and Public Works Organisation Act (1971)*
- present the key findings of the EIS including potential benefits and impacts of Cross River Rail and proposed mitigation measures
- inform stakeholders and the community about the project including potential timing of government decisions.

## 2 Communication and consultation activities

A range of communication and consultation activities were undertaken to inform the community and stakeholders about the Project, including the reference design and EIS.

This section provides an overview of the communication and consultation activities undertaken between August and October 2011, to coincide with the exhibition of the EIS for public review and comment.

### 2.1 EIS notification

The Cross River Rail EIS was available for public review and comment for a period of eight weeks between Tuesday, 30 August 2011 and Friday, 21 October 2011.

A public notice advising the EIS was available for public review and comment was placed in The Courier-Mail and The Australian newspapers on Tuesday 30 August 2011, providing details of where the document could be viewed and how written submissions could be made to the Coordinator-General. A public notice was also placed in local Quest Newspapers on Wednesday, 31 August 2011. Copies of the advertisements are included in **Attachment A**.

Copies of the full EIS, including the EIS Executive Summary, EIS report (Volume 1 Part A-D) and Appendices, Reference Design drawings (Volume 2), and Technical Reports (Volume 3), were available for review at the following locations:

- Hamilton Library
- Grange Library
- Brisbane Square Library
- State Library of Queensland
- Annerley Library
- Fairfield Library
- Coopers Plains Library.

In addition to the statutory display venues, EIS documents and display posters were also available for public review at the following electorate offices:

- Yeerongpilly Electorate Office
- South Brisbane Electorate Office
- Tennyson Ward Office
- Moorooka Ward Office.

The full EIS was also displayed on the Cross River Rail website ([www.crossriveryrail.qld.gov.au](http://www.crossriveryrail.qld.gov.au)), with links provided from the Coordinator-General's website ([www.deedi.qld.gov.au/cg/cross-river-rail.html](http://www.deedi.qld.gov.au/cg/cross-river-rail.html)) and the Queensland Government's Get Involved website ([www.getinvolved.qld.gov.au](http://www.getinvolved.qld.gov.au)).

The complete EIS was also displayed at community information sessions.

A CD containing the full EIS and the EIS Executive Summary were provided to key stakeholders and members of the local advisory groups.

Copies of the EIS CD and EIS Executive Summary were also available to community members, at no cost, at community information sessions, public displays, and on request through the 1800 project information line and email.

Hard copies of the EIS documents were provided to Queensland Government agencies responsible for reviewing and providing feedback on the EIS as well as to Brisbane City Council and other stakeholders on request.

### 2.1.1 Submissions to the EIS

A total of 111 written submissions were accepted by the Coordinator-General on the Cross River Rail EIS. This included 97 submissions that were made within the notification period and an additional 14 submissions that either were made after the submission period or did not include an address.

A total of 98 community submissions were received, including submissions from local residents, businesses, property owners, organisations, elected representatives and individuals. In addition, 13 submissions were received from State or Local government agencies, including:

- Department of Justice and Attorney-General
- Department of Employment, Economic Development and Innovation
- Queensland Police Services
- Department of Communities
- Queensland Health
- Department of Public Works
- Department of Community Safety
- Princess Alexandra Hospital
- Department of Transport and Main Roads
- Department of Environment and Resource Management
- TransLink Transit Authority (Translink)
- Department of Local Government and Planning
- Brisbane City Council.

A summary of the issues raised in submissions, including responses to these issues, is provided in the Response to EIS Submissions report.

## 2.2 Public advertisements

In addition to the public notices advising the EIS was available for public review and comment, a series of public advertisements were placed in various newspapers to raise awareness about the release of the EIS for review and comment and consultation activities.

The advertising program included more than 73 advertisements in a range of newspapers, including:

- The Courier-Mail
- Quest Newspapers, including Logan West Leader, Northside Chronicle, North West News, Pine Rivers Press/North Lakes Times, Redcliffe and Bayside Herald, South East Advertiser, Southern Star, South West News/Springfield News, Wynnum Herald, Westside News, Albert and Logan News, Ipswich News, Caboolture Shire Herald
- The Weekend Australian.

A schedule and examples of advertisements from the fourth round of consultation is included in **Attachment B**.

## 2.3 Project newsletters and local area updates

### 2.3.1 Project newsletter

Newsletter four was distributed through Australia Post in August 2011 to coincide with the release of the public notification of the EIS. The newsletter was distributed to approximately 230,000 households and businesses across more than 50 suburbs in or near to the study corridor.

Newsletters were also mailed to property owners who are potentially directly affected by either surface or volumetric acquisition, property owners who own a property in the study corridor but whose principle mailing address was outside of the newsletter distribution area and people on the stakeholder database who had registered an interest in the Project through consultation activities.

The newsletter included:

- information about changes made to the reference design since November 2010, including a map showing the full alignment
- an overview of key findings of the EIS including managing construction impacts
- details on how to make a submission to the Coordinator-General on the EIS, including where the EIS could be viewed and date by which submissions are to be received
- information on consultation activities, including community information sessions and 1800 project information line and project email.

In addition to the distribution, the newsletter was also available online, at community information sessions, at public displays, via elected representatives and some local schools. The newsletter was also narrated for the vision-impaired community. A copy of the newsletter is included in **Attachment C**.

### 2.3.2 Local area updates

Six local area updates were produced for each specific geographic areas in the study corridor. Each local area update provided details of the reference design and key findings of the EIS relevant to each area.

Local area updates were produced for the following areas:

- Salisbury to Rocklea
- Moorooka to Yeerongpilly
- Yeronga to Fairfield
- Dutton Park to Woolloongabba
- CBD
- Spring Hill to Bowen Hills.

Local area updates were distributed with letters to property owners, at community information sessions and through elected representatives' offices. Local area updates were also available on the Project website.

A copy of each local area update is included in **Attachment D**.

## 2.4 Project website

The Cross River Rail website ([www.crossriveryrail.qld.gov.au](http://www.crossriveryrail.qld.gov.au)) was updated on the 30 August 2011 with information on:

- the EIS, including the full EIS document and details on how to make a submission to the Coordinator-General
- the reference design, including details maps of the reference design, the Reference Design Overview Report and a conceptual 3D animation of the reference design
- consultation activities planned between August and October 2011, including timing of consultation events
- consultation materials, including project newsletters and local area updates.

During the eight-week EIS consultation period, there were approximately 8,920 visits to the Project website, of which approximately 5,145 visits were unique visits (ie visits by individuals).

## 2.5 Media announcements

A media announcement was made on Tuesday, 30 August 2011, to announce that changes had been made to the reference design since November 2010 and that the EIS was now available for public review and comment. The media announcement generated approximately 59 mentions in the media, including television (one mention), radio (33 mentions), internet (12 mentions) and newspaper (13 mentions).

## 2.6 Community information sessions

Eight community information sessions were held during the eight week public exhibition period for the EIS at various locations within or near to the study corridor. The community information sessions were attended by approximately 280 people.

Information presented at the community information sessions related to:

- the EIS, including a summary of findings from key EIS investigations (ie noise and vibration, air quality, social impact assessment, land use and planning) and details on how to make a submission on the EIS to the Coordinator-General
- the reference design, including changes made since November 2010, details about the project infrastructure, construction methodology (ie worksites, work hours, spoil haulage) and operations
- the planning process, including investigations undertaken to date and proposed timeframes.

The full EIS and detail plans of the reference design, including long sections that indicate the tunnel depth, were also available for review.

Members of the project team were also available to speak with community members and provide information or respond to questions about the Project.

**Table 2-1** provides a summary of the community information sessions, including timing, location and attendance.

**Table 2-1 Community information sessions**

Date and time	Location	Attendance
Tuesday, 30 August 2011 11.00am – 2.00pm	Queen Street Mall Brisbane City	55
Saturday, 3 September 2011 9.00am – 12.00pm	Moorooka Primary School Cnr Sherley Street and Beaudesert Road, Moorooka	55
Thursday, 8 September 2011 4.00pm – 7.00pm	Queensland Tennis Centre Main Function Room, 190 King Arthur Terrace, Tennyson	32
Saturday, 10 September 2011 10.00am – 12.00pm	Brisbane Girls Grammar School Barbara Fielding Room, 70 Gregory Terrace, Spring Hill	15
Saturday, 10 September 2011 2.00pm – 4.00pm	Dutton Park State School School Hall, 112 Annerley Road, Dutton Park	23
Monday, 12 September 2011 1.00pm – 3.00pm	Brisbane Square Library The Community Room, 233 George Street, Brisbane City	34
Wednesday, 5 October 2011 4.00pm – 7.00pm	Queensland Tennis Centre Main Function Room, 190 King Arthur Terrace, Tennyson	43
Tuesday, 11 October 2011 3:30pm – 5:30pm	Brisbane Square Library The Community Room, 233 George Street, Brisbane City	25

## 2.7 Stakeholder briefings

Briefings were conducted with a range of stakeholders during the fourth round of consultation. The purpose of the briefings was to provide information on the EIS and reference design, identify specific issues or concerns and encourage submissions on the EIS.

### 2.7.1 Community briefings

Project briefings were held with a number of community stakeholders including community and business groups and community facilities. These included:

- Queensland University of Technology
- RNA
- Rail Back on Track
- Woolloongabba Traders Association
- St Fabians Church, Yeerongpilly
- Brothers St Brendans Rugby League Club, Rocklea
- Friends of South Brisbane Cemetery
- Local residents in relation to Victoria Park.

## 2.7.2 Elected representative briefings

Following the release of the EIS on Tuesday, 30 August 2011, information on the EIS and the reference design was provided to all local, state and federal elected representatives whose electorate comprises an area covered by the study corridor.

Briefings were also held with a number of elected representatives in the lead up to and during the fourth round of consultation. These included:

- Graham Perrett, Federal Member for Moreton
- Simon Finn, State Member for Yeerongpilly
- Cr Nicole Johnston, Councilor for Tennyson
- Cr Helen Abrahams, Councilor for Gabba
- Cr Steve Griffiths, Councilor for Moorooka.

## 2.7.3 Government agency briefings

A whole of government briefing was held on Tuesday, 6 September 2011 involving representatives of Queensland Government agencies with an interest in the EIS. The purpose of the briefing was to provide agencies with information on the reference design and the EIS, including key findings and the process for making written submissions.

Separate briefings were also held with staff from the Department of Transport and Main Roads on Monday, 19 September 2011 and Queensland Rail on Monday, 19 September 2011. The purpose of these briefings was to provide information on the reference design and the EIS specific to these agencies areas of interest.

Workshops were also held during the EIS exhibition period with various Queensland Government agencies about specific disciplines or issues. **Table 2-2** provides an overview of the workshops conducted along with the participating agencies.

**Table 2-2 Government agency workshops**

Issue	Agencies
Noise and vibration	<ul style="list-style-type: none"> <li>• Department of Environment and Resource Management</li> <li>• Department of Transport and Main Roads</li> <li>• Queensland Health</li> <li>• Department of Employment, Economic Development and Innovation</li> <li>• Department of Transport and Main Roads</li> </ul>
Environmental management and air quality	<ul style="list-style-type: none"> <li>• Department of Environment and Resource Management</li> <li>• Department of Transport and Main Roads</li> <li>• Brisbane City Council</li> <li>• Queensland Rail</li> <li>• Queensland Health</li> </ul>
Heritage	<ul style="list-style-type: none"> <li>• Department of Public Works</li> <li>• Department of Environment and Resource Management</li> <li>• Brisbane City Council</li> <li>• Queensland Rail</li> <li>• Department of Transport and Main Roads</li> </ul>
Land use and planning	<ul style="list-style-type: none"> <li>• Department of Local Government and Planning</li> <li>• Department of Employment, Economic Development and Innovation</li> <li>• Department of Transport and Main Roads</li> </ul>
Fire and life safety	<ul style="list-style-type: none"> <li>• Department of Transport and Main Roads</li> <li>• Queensland Fire and Rescue Service</li> <li>• Queensland Police Service</li> </ul>

Issue	Agencies
Boggo Road Urban Village	<ul style="list-style-type: none"> <li>• Department of Public Works</li> <li>• Queensland Police Service</li> <li>• Department of Employment, Economic Development and Innovation</li> <li>• Queensland Health</li> <li>• Department of Environment and Resource Management</li> <li>• Department of Local Government and Planning</li> </ul>
Transport and local traffic	<ul style="list-style-type: none"> <li>• Urban Land Development Authority</li> <li>• Brisbane City Council</li> <li>• Department of Transport and Main Roads</li> </ul>

### 2.7.4 Brisbane City Council briefing

A whole of staff briefing was held on Wednesday, 7 September 2011 involving staff from across Brisbane City Council with an interest in the EIS. The purpose of the briefing was to provide information on the reference design and the EIS, including key findings and process for making written submissions. The briefing was attended by approximately 25 Council staff.

## 2.8 Local Advisory Group meetings

Meetings of the local advisory groups were held during the public exhibition period. These included three separate meetings of the southern local advisory group and two separate meetings of the northern local advisory group.

Details of the local advisory group meetings, including date and topics addressed are outlined in **Table 2-3**.

**Table 2-3 Round 4 Local Advisory Group meetings**

Meeting date	Topics addressed
Southern local advisory group	
7 September 2011	<ul style="list-style-type: none"> <li>• Project update</li> <li>• Reference design, including changes made since November 2010</li> <li>• Construction methodology</li> <li>• Key EIS findings</li> </ul>
14 September 2011	<ul style="list-style-type: none"> <li>• Construction worksites</li> <li>• Construction management</li> <li>• Air quality</li> <li>• Noise and vibration.</li> </ul>
12 October 2011	<ul style="list-style-type: none"> <li>• Noise and vibration</li> <li>• Transport and local traffic</li> <li>• EIS submission process.</li> </ul>
Northern local advisory group	
12 September 2011	<ul style="list-style-type: none"> <li>• Project update</li> <li>• Reference design, including changes made since November 2010</li> <li>• Construction methodology</li> <li>• Key EIS findings</li> <li>• Noise and vibration.</li> </ul>
17 October 2011	<ul style="list-style-type: none"> <li>• Transport and local traffic</li> <li>• EIS submission process.</li> </ul>

A combined meeting of the local advisory groups was also held on Wednesday, 23 November 2011. The purpose of this meeting was to provide members with an update on the Project and next steps as well as an overview of the EIS submissions.

## 2.9 Property owner consultation

Letters were sent to property owners directly affected by the Project, either by surface works or tunneling. Seven separate letters were distributed depending on the property impact. Approximately 1,944 letters were sent to property owners as outlined in **Table 2-4**.

Property owners who received either letter 1a, 1b or 2 were invited to meet one-on-one with members of the Project team, while other property owners were encouraged to attend a consultation event. Copies of the property owner letters are attached in **Attachment E**.

**Table 2-4** Property owner letters

Letter	Distribution	Details
Letter 1a	17	To advise property owners that there would no longer be a surface requirement on their property and their property would not be acquired by government if the project was to proceed.
Letter 1b	26	To advise property owners that the reference design had changed since late 2010 and that there is no longer a surface requirement on their property, but a volumetric requirement instead.
Letter 2	2	To advise property owners that the reference design had changed since late 2010 and that there is no longer a volumetric requirement on their property, but a surface requirement instead.
Letter 3	146	To advise property owners that the reference design had changed since late 2010 and that there is still a volumetric requirement on their property, however the tunnel depth has changed.
Letter 4	137	To advise property owners that the reference design has changed since late 2010 and that there is still a surface requirement on their property.
Letter 5	1,573	To advise property owners that the reference design has changed since late 2010 and that there is still a volumetric requirement on their property.
Letter 6	43	To advise property owners near the new ventilation building at Fairfield that the reference design has changed since late 2010 and that they would be in close proximity to the new infrastructure.
Total	1,944	

## 2.10 Project feedback mechanisms

The freecall community information line (1800 462 730), project email ([info@crossriverrail.qld.gov.au](mailto:info@crossriverrail.qld.gov.au)) and reply paid mailing address were maintained for the EIS display period.

A total of 209 calls were made to the community information line from members of the public seeking further information on the Project and the EIS. A further 91 emails or letters were also received about the Project as well as three pieces of correspondence through the Minister for Transport's office.

Details of the feedback mechanisms were advertised through the project newsletter, advertisements and in media releases.

## 2.11 Future communications and consultation activities

Communication and consultation will continue to the conclusion of the detailed feasibility phase. In addition, as outlined in the EIS consultation report (Appendix C), if approved to proceed, ongoing consultation would need to be undertaken during the procurement, construction and operation phase of the Project.

## 3 Summary of issues

This section provides a summary of the key issues raised during community and stakeholder consultation activities undertaken for Round 4, including at community information sessions, community information line and project email, letters and other correspondence and at local advisory group meetings.

The Project responses to the issues raised in submissions on the EIS are discussed in the Response to EIS Submissions report.

Feedback received from consultation activities suggested overall support for the project and some of the changes made to the reference design since November 2010, in particular moving the southern tunnel portal and Yeerongpilly Station further south. Other changes made to the reference design since November 2010, such as relocating the Fairfield ventilation building and closing the Beaudesert Road service road level crossing were identified as concerns for local residents.

**Table 3-1** provides a summary of the issues and concerns for each area of the study corridor raised by community members and key stakeholders during Round 4 consultation activities.

**Table 3-1 Overview of key area-specific issues raised during Round 4 consultation**

Location	Issue	Detail
Salisbury/ Rocklea	Closing of the Beaudesert Road service road open level crossing and local road changes	<ul style="list-style-type: none"> <li>Concerns about the permanent closure of the Beaudesert Road service road open level crossing, including:           <ul style="list-style-type: none"> <li>impacts on local access and connectivity for residents in Rocklea and Salisbury, including to community facilities and services (ie schools, shopping, etc) and employment</li> <li>level crossing currently provides an important local access point during flood events</li> <li>operation of the proposed emergency access.</li> </ul> </li> <li>Need to address existing issues with the Muriel Avenue bridge (ie height of the bridge) as part of the Project.</li> </ul>
Yeerongpilly	Commuter parking	<ul style="list-style-type: none"> <li>Commuter parking is currently an issue for residents in streets near Yeerongpilly Station.</li> <li>Increased demand with the new Yeerongpilly Station would exacerbate impacts of local amenity and safety.</li> <li>Loss of existing car parks, including disabled parking, with the new station.</li> <li>Need for park n' ride facilities to be provided as part of the Project, on land to be used for the construction worksite.</li> <li>Impact on commuter parking during construction, particularly the realignment of Wilkie Street, and potential impacts on safety and amenity in surrounding streets.</li> </ul>
	Construction worksite and construction activities	<ul style="list-style-type: none"> <li>Support for proposed mitigation measures (ie acoustic lined shed, retaining industrial buildings to provide a buffer between the worksite and residents, and restricting haulage vehicles on Wilkie Street).</li> <li>Noise and dust impacts from early works (ie demolition, site establishment and piling) and impact on amenity for local residents and community facilities (ie St Fabian's Church).</li> <li>Impacts on commuter parking during construction, including concerns about safety and impacts on the church (particularly during weddings and funerals).</li> <li>Need for access to the existing Yeerongpilly Station to be maintained during construction.</li> </ul>

Location	Issue	Detail
		<ul style="list-style-type: none"> <li>Concerns about work hours, including 24 hour haulage, night works within the rail corridor, noisy works undertaken on Saturday morning.</li> <li>Future use of the Yeerongpilly construction worksite post-construction.</li> </ul>
	Southern tunnel portal and Yeerongpilly Station	<ul style="list-style-type: none"> <li>Location of the southern tunnel portal with suggestions that the portal be located in Clapham Rail Yard or further south in Moorooka.</li> <li>Location of the new Yeerongpilly Station, and loss of connectivity to surrounding land uses (ie Queensland Tennis Centre, proposed Yeerongpilly TOD, Brisbane City Council office, etc).</li> </ul>
Yeronga	Floodgates	<ul style="list-style-type: none"> <li>Support for the design changes incorporating the floodgate building into the southern tunnel portal, reducing impacts for communities and community facilities around School Road, Yeronga.</li> </ul>
Fairfield	Ventilation and emergency access building	<ul style="list-style-type: none"> <li>Why the building was moved to their area, the purpose and use of the building and longer term operational impacts such as visual amenity and air quality.</li> <li>Potential construction impacts, particularly noise and dust from early works and construction traffic</li> <li>Process to notify residents of the reference design changes and what opportunities they had to oppose the move.</li> </ul>
Boggo Road	Construction	<ul style="list-style-type: none"> <li>Construction worker parking and traffic impacts.</li> <li>Potential impacts on the operation of the Transmission Electron Microscope (TEM) at the Ecosciences Precinct.</li> <li>Impact of use of Cornwall Street for spoil haulage, including on Princess Alexandra Hospital, local residents, traffic flows on Cornwall Street and Ipswich Road.</li> <li>Need for additional spoil haulage route to be considered (ie Annerley Road or Fairfield Road) to distribute increased haulage vehicles across a number of routes.</li> <li>Need for coordination with future development at the Boggo Road Urban Village.</li> </ul>
Woolloongabba	Construction	<ul style="list-style-type: none"> <li>Spoil haulage access and impact on local traffic movements.</li> <li>Impacts of construction activities (ie noise and dust) on the Landcentre and nearby businesses.</li> <li>Pedestrian access to the new station.</li> </ul>
Albert Street	Construction	<ul style="list-style-type: none"> <li>Impacts of construction activities (ie noise, dust), including from night-time works.</li> </ul>
Roma Street	Construction	<ul style="list-style-type: none"> <li>Impacts of construction on residents at the residential apartments (ie noise, vibration, dust, traffic).</li> <li>Impacts on the use of Roma Street Parkland during construction (ie loss of parking, noise, dust, etc).</li> </ul>
Victoria Park	Impact on open space	<ul style="list-style-type: none"> <li>Impacts of the construction worksite on Victoria Park, including loss of parkland and loss of mature figs and other vegetation.</li> <li>Need to amend the construction worksite layout to minimise impacts on mature figs and other vegetation.</li> <li>Impacts on the use and amenity of Victoria Park during construction.</li> <li>Permanent loss of parkland due to widening of the rail corridor.</li> </ul>

Location	Issue	Detail
Bowen Hills	RNA	<ul style="list-style-type: none"> <li>Impact on RNA events during construction, including the Ekka and other major events.</li> <li>Need for coordination with the future development at the RNA Showgrounds (ie design, timing of construction, etc).</li> <li>Impact on RNA facilities and buildings.</li> </ul>
	O'Connell Terrace	<ul style="list-style-type: none"> <li>Impact of the raising of O'Connell Terrace on future development on adjacent properties.</li> </ul>

**Table 3-2** provides a summary of the wider corridor issues raised during Round 4 consultation activities.

**Table 3-2 Summary of some wider corridor issues raised during Round 4 consultation**

Issue	Detail
Property impacts	<ul style="list-style-type: none"> <li>Impact on property values, including potential for property values to decrease due to the proximity of project infrastructure (ie ventilation and emergency access building, tunnels, etc).</li> <li>Property acquisition process, including timing and compensation.</li> <li>Uncertainty about property decisions, including buying or selling a property and finding alternative housing locally.</li> <li>Impacts of noise and vibration from tunnelling construction, including potential for sleep disturbance and damage to houses and other buildings due to vibration.</li> <li>Need for building condition surveys for properties above the tunnel and process for rectifying damage to properties caused by construction.</li> <li>Potential for noise and vibration during operations.</li> </ul>
Construction impacts	<ul style="list-style-type: none"> <li>Noise and vibration from worksites, surface rail works and rail tunnelling activities.</li> <li>Hours of work for construction, in particular surface works (eg works in the 'live' rail corridor) and at worksites.</li> <li>Impacts arising from construction traffic and spoil haulage by road, in particular: <ul style="list-style-type: none"> <li>road noise impacts</li> <li>hours of work (deliveries, spoil) to/from worksites</li> <li>preference for spoil to be removed by rail.</li> </ul> </li> <li>Increased traffic hazards and safety concerns adjacent to worksites in residential areas and community facilities</li> <li>Duration of construction program, particularly in terms of impacts on residential communities and nearby community facilities.</li> </ul>
Project operations	<ul style="list-style-type: none"> <li>Concern about operations impacts, such as: <ul style="list-style-type: none"> <li>increases in rail noise, including from freight and passenger trains</li> <li>impact on future land uses and redevelopment potential around the new stations.</li> </ul> </li> </ul>
Increased rail freight	<ul style="list-style-type: none"> <li>Increased rail freight, particularly coal, due to the Project.</li> <li>Impacts of increased rail freight, particularly coal freight, including increased noise and dust impacts on nearby properties.</li> </ul>
Complaints management and consultation	<ul style="list-style-type: none"> <li>Need for 24 hour staffed complaints phone line for community members to call.</li> <li>Management of construction contractor to ensure EMP goals (ie noise, vibration, dust) and Coordinator-General's conditions are met.</li> </ul>

Issue	Detail
Flooding	<ul style="list-style-type: none"> <li>Impact of flooding on Project infrastructure, particularly Albert Street Station and the ventilation and emergency access building.</li> </ul>
Project cost and funding	<ul style="list-style-type: none"> <li>Cost of the project and how it could be funded.</li> </ul>
Rail network capacity issues	<ul style="list-style-type: none"> <li>Inner rail capacity reaching its limit before Cross River Rail becomes operational.</li> </ul>
Integration of public transport	<ul style="list-style-type: none"> <li>Need for better integration and connectivity between public transport modes, for example more local bus services to feed train stations.</li> </ul>

## 4 Conclusion

The Cross River Rail EIS was available for public review and comment over approximately eight weeks, from Tuesday, 30 August 2011 to Friday, 21 October 2011. This was undertaken as part of the fourth round of consultation conducted for the Project as part of the Cross River Rail detailed feasibility phase.

The purpose of the fourth round of consultation was to:

- provide an update on the reference design, including refinements made in response to community and stakeholder feedback, and the proposed construction methodology
- notify the community that the EIS has been lodged for assessment and invite community members, stakeholders and agencies to comment on the EIS in accordance with the SDPWO Act
- present the key findings of the EIS including potential benefits and impacts of Cross River Rail and proposed mitigation measures
- inform stakeholders and the community about the project including potential timing of government decisions.

A range of communication and consultation activities were undertaken with community members and stakeholders to assist their review of the EIS. These included:

- publication of a notice in The Courier-Mail, The Australian and local Quest newspapers, informing the public of the availability of the EIS for public review, including invitation for community members and agencies to make written submissions to the Coordinator-General
- formal public display of the EIS and reference design at seven locations, within or near to the study corridor and publication of the EIS, including on CD, in hard copy and on the Cross River Rail website ([www.crossriveryrail.qld.gov.au](http://www.crossriveryrail.qld.gov.au))
- distribution of Newsletter 4 (dated August 2011) to approximately 230,000 households, businesses, property owners and other registered stakeholders
- eight community information sessions at various locations within or near to the study corridor, attended by approximately 280 people
- three meetings of the southern local advisory group, two meetings of the northern local advisory group. A further meeting was held with both local advisory groups following the EIS exhibition period to provide an update on the Project and overview of submissions received on the EIS
- whole of agency briefing to Queensland Government agencies responsible for reviewing the EIS, on Tuesday, 6 September 2011 and follow up briefings with relevant state government agencies around specific environmental issues and technical disciplines
- whole of Council briefing to Brisbane City Council, on Wednesday, 7 September 2011
- briefings to, and meetings with community representatives and key stakeholders, including the RNA, Woolloongabba Traders Association, St Fabian's Church, Queensland University of Technology, Rail Back on Track, Brothers St Brendans Rugby League Club and Friends of South Brisbane Cemetery as well as local, state and commonwealth elected representatives
- communication and consultation with directly affected property owners, including distribution of approximately 1,901 letters to property owners with a surface or volumetric requirement for the Project, or who would no longer be affected by a requirement for their property, and face-to-face meetings at the request of property owners
- communication with property owners near the ventilation and emergency access building, including distribution of approximately 43 letters notifying them of the change to the location of the ventilation and emergency access building to that proposed in November 2010

- ongoing staffing of the 1800 project information line, email and reply paid mailing address.

A total of 111 written submissions were accepted by the Coordinator-General on the Cross River Rail EIS. This included 97 submissions that were made within the notification period and an additional 14 submissions that either were made after the submission period or did not include an address.

A total of 98 community submissions were received, including submissions from local residents, businesses, property owners, organisations, elected representatives and individuals. In addition, 13 submissions were received from State or Local government agencies.

Key issues identified during the consultation period for the EIS included:

- impacts on local access at Salisbury and Rocklea as a result of local traffic changes to the Beaudesert Road Service Road open level crossing and other proposed local traffic changes
- concern about the location of the ventilation and emergency access building at Fairfield, and potential impacts of the facility's construction and operation
- construction impacts, including duration of construction, hours of work, workforce parking, noise, dust, vibration, construction traffic, and spoil haulage routes
- operational impacts, including noise and vibration for properties above the tunnel, freight noise, frequency of services and commuter parking at Yeerongpilly
- property resumption impacts, including resumption process and compensation, impact on tenants and business operations, timing, and difficulties purchasing replacement commercial properties in the Rocklea and Salisbury areas.

## Attachment A      EIS Public notices

# Have your say

## Cross River Rail project, Brisbane Environmental impact statement

The Coordinator-General invites you to have your say on the environmental impact statement (EIS) for the above project.

The project proponent, the Department of Transport and Main Roads (TMR), proposes to build a new 18-kilometre north-south rail line in Brisbane's inner city, extending from Bowen Hills in the north to Salisbury in the south, via the Brisbane central business district.

The project would include two parallel tunnels, approximately 10 kilometres long, extending from Victoria Park at Spring Hill to Yeerongpilly, with new underground stations at Roma Street, Albert Street, Woolloongabba and Bogg Road. New surface stations would also be provided at the RNA Showgrounds and Yeerongpilly, and existing stations at Moorooka and Rocklea would be upgraded.

The EIS was prepared by TMR. You are invited to comment on:

- the project's potential environmental effects
- whether the EIS adequately addresses the terms of reference
- whether the strategies proposed by the project proponent will effectively manage the project's impacts.

The Coordinator-General will consider your submission as part of his evaluation of the project's environmental impacts.

### EIS process

The Coordinator-General has declared the project a 'significant project for which an EIS is required' under section 26 of the *State Development and Public Works Organisation Act 1971* (SDPWO Act). The EIS is now being released for public comment.

### How to have your say

#### 1. Read the EIS

- Download the EIS from [www.crossrivrail.qld.gov.au](http://www.crossrivrail.qld.gov.au), or
- view a printed copy between 29 August 2011 and 21 October 2011 at:
  - Brisbane City Council Library, Corner Racecourse Road and Rossiter Parade, Hamilton
  - Brisbane City Council Library, Brisbane Square, 266 George Street, Brisbane CBD
  - Brisbane City Council Library, Fairfield Gardens Shopping Centre, Fairfield Road, Fairfield
  - Brisbane City Council Library, 107 Orange Grove Road, Coopers Plains
  - Brisbane City Council Library, 450 Ipswich Road, Annerley
  - Brisbane City Council Library, 79 Evelyn Street, Grange
  - State Library of Queensland, Cultural Centre, Stanley Place, South Bank, Brisbane, or
- order a free copy on CD by telephoning TMR on 1800 462 730 or emailing [info@crossrivrail.qld.gov.au](mailto:info@crossrivrail.qld.gov.au)

#### 2. Make a submission

- Make an online submission at [www.getinvolved.qld.gov.au](http://www.getinvolved.qld.gov.au) (group submissions cannot be made online), or
- download the submission form from [www.getinvolved.qld.gov.au](http://www.getinvolved.qld.gov.au) and print, complete and sign the form. You can also photocopy the form at one of the above locations.

For more information on making a submission, read the fact sheet at [www.getinvolved.qld.gov.au](http://www.getinvolved.qld.gov.au) or at one of the above locations.

#### 3. Send your submission to the Coordinator-General

- Submit your online submission directly from [www.getinvolved.qld.gov.au](http://www.getinvolved.qld.gov.au), or
- if using the submission form, send your completed form to one of the following:

Email: [crr@cg.qld.gov.au](mailto:crr@cg.qld.gov.au)

Post:

The Coordinator-General  
C/- EIS project manager—Cross River Rail project  
Significant Projects Coordination  
Department of Employment, Economic Development and Innovation  
PO Box 15517  
City East Qld 4002 Australia  
Fax: +61 7 3225 8282

Submissions close at 5 pm on Friday 21 October 2011.

#### Notes

The Coordinator-General will forward a copy of all submissions to TMR. For more information on privacy, refer to the submission form or the fact sheet on making a submission.

Your submission must be made in writing and be received by the closing date.

Submissions must include the name, address and signature of each person making the submission; and state the grounds of the submission and the facts and circumstances relied on to support those grounds.

If you have special communication needs and wish to comment on the EIS, telephone the EIS project manager on +61 7 3898 0664 to make alternative arrangements.

Under section 157O of the SDPWO Act, it is an offence to give the Coordinator-General a document that contains information known to be false or misleading.

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# Have your say

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#### 2. Make a submission

- Make an online submission at [www.getinvolved.qld.gov.au](http://www.getinvolved.qld.gov.au) (group submissions cannot be made online), or
- download the submission form from [www.getinvolved.qld.gov.au](http://www.getinvolved.qld.gov.au) and print, complete and sign the form. You can also photocopy the form at one of the above locations.

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Email: [crr@cg.qld.gov.au](mailto:crr@cg.qld.gov.au)

Post:

The Coordinator-General  
C/- EIS project manager—Cross River Rail project  
Significant Projects Coordination  
Department of Employment, Economic Development and Innovation  
PO Box 15517  
City East Qld 4002 Australia  
Fax: +61 7 3225 8282

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The Coordinator-General will forward a copy of all submissions to TMR. For more information on privacy, refer to the submission form or the fact sheet on making a submission.

Your submission must be made in writing and be received by the closing date. Submissions must include the name, address and signature of each person making the submission; and state the grounds of the submission and the facts and circumstances relied on to support those grounds.

If you have special communication needs and wish to comment on the EIS, telephone the EIS project manager on +61 7 3898 0664 to make alternative arrangements.

Under section 157O of the SDPWO Act, it is an offence to give the Coordinator-General a document that contains information known to be false or misleading.



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## Attachment B      Advertisements

Date	Type and size of advert	Publication
30/08/2011	Statutory advert, 28 x 7, Mono	The Courier-Mail
30/08/2011	Statutory advert, 29 x 7, Mono	Quest – Caboolture Shire Herald
31/08/2011	Statutory advert, 29 x 7, Mono	Quest – Logan West Leader, Northside Chronicle, North West News, Pine Rivers Press/North Lakes Times, Redcliffe and Bayside Herald, South East Advertiser, Southern Star, South West News/Springfield News, Wynnum Herald, Westside News, Albert and Logan News, Ipswich News,
31/08/2011	Consultation advert, 19 x 7, Mono	The Courier-Mail
31/08/2011	Consultation advert, ¼ page, Mono	Quest – South East Advertiser, Westside News, Northside Chronicle, Southern Star
01/09/2011	Consultation advert, ¼ page, Mono	Quest – City News QLD, City North News, City South News
03/09/2011	Statutory advert, ¼ page, Mono	The Weekend Australian
03/09/2011	Statutory advert, 28 x 7, Mono	The Courier-Mail
07/09/2011	Consultation advert, ¼ page, Mono	Quest – South East Advertiser, Westside News, Northside Chronicle, Southern Star
08/09/2011	Consultation advert, ¼ page, Mono	Quest – City News QLD, City North News, City South News
14/09/2011	Consultation advert, ¼ page, Mono	Quest – South East Advertiser, Westside News, Northside Chronicle, Southern Star
15/09/2011	Consultation advert, ¼ page, Mono	Quest – City News QLD, City North News, City South News
21/09/2011	Consultation advert, ¼ page, Mono	Quest – South East Advertiser, Westside News, Northside Chronicle, Southern Star
22/09/2011	Consultation advert, ¼ page, Mono	Quest – City News QLD, City North News, City South News
28/09/2011	Consultation advert, ¼ page, Mono	Quest – South East Advertiser, Westside News, Northside Chronicle, Southern Star
29/09/2011	Consultation advert, ¼ page, Mono	Quest – City News QLD, City North News, City South News
10/10/2011	Consultation advert, 19 x 7, Mono	The Courier-Mail
05/10/2011	Consultation advert, ¼ page, Mono	Quest – South East Advertiser, Westside News, Northside Chronicle, Southern Star
06/10/2011	Consultation advert, ¼ page, Mono	Quest – City News QLD, City North News, City South News
12/10/2011	Consultation advert, ¼ page, Mono	Quest – South East Advertiser, Westside News, Northside Chronicle, Southern Star
13/10/2011	Consultation advert, ¼ page, Mono	Quest – City News QLD, City North News, City South News
19/10/2011	Consultation advert, ¼ page, Mono	Quest – South East Advertiser, Westside News, Northside Chronicle, Southern Star

Come  
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event

# CrossRiverRail



## Environmental impact statement now available

The environmental impact statement is now available for public review and comment.

The environmental impact statement outlines the project's substantial benefits, the potential impacts of construction and operation, and measures to avoid, mitigate or manage these impacts.

You can make a submission to the Coordinator-General on the environmental impact statement until **Friday 21 October 2011**.

Key changes have also been made to the reference design, including moving the locations of the southern tunnel portal, new Yeerongpilly Station and the ventilation and emergency access building.

**The environmental impact statement, information about how to make a submission and details of reference design changes are available online at [www.crossriverrail.qld.gov.au](http://www.crossriverrail.qld.gov.au) or at a consultation event.**

Date	Time	Location
Saturday 3 September 2011	9am – 12noon	Moorooka Primary School – Corner of Sherley Street and Beaudesert Road, Moorooka
Thursday 8 September 2011	4pm – 7pm	Queensland Tennis Centre – Main Function Room, 190 King Arthur Terrace, Tennyson
Saturday 10 September 2011	10am – 12noon	Brisbane Girls Grammar School – Barbara Fielding Room, 70 Gregory Terrace, Spring Hill
Saturday 10 September 2011	2pm – 4pm	Dutton Park State School – School Hall, 112 Annerley Road, Dutton Park
Monday 12 September 2011	1pm – 3pm	Brisbane Square Library – The Community Room, 233 George Street, Brisbane City
Wednesday 5 October 2011	4pm – 7pm	Queensland Tennis Centre – Main Function Room, 190 King Arthur Terrace, Tennyson
Tuesday 11 October 2011	3:30pm – 5:30pm	Brisbane Square Library – The Community Room, 233 George Street, Brisbane City

For more information visit [www.crossriverrail.qld.gov.au](http://www.crossriverrail.qld.gov.au) or call 1800 462 730\*

\*Free call from fixed lines in Australia. Call charges may apply for calls from mobile phones and pay phones.



Australian Government

Nation Building Program



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# CrossRiverRail



## Environmental impact statement now available

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- 10 kilometre underground tunnels from Yeerongpilly to Victoria Park
- 4 new underground train stations – Boggo Road, Gabba, Albert Street and Roma Street
- 2 new surface stations – Yeerongpilly and Ekka
- 2 upgraded stations – Rocklea and Moorooka

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# Cross River Rail



## Environmental impact statement comment period closing soon

The comment period on the environmental impact statement for Cross River Rail, the project that would almost double the capacity of the rail network, is closing soon.

You can make a submission to the Coordinator-General on the environmental impact statement until **close of business Friday 21 October 2011**.

The environmental impact statement outlines the project's benefits, the potential impacts of construction and operation, and measures to avoid, mitigate or manage these impacts.

The environmental impact statement and information about how to make a submission are available on the Cross River Rail website [www.crossriverrail.qld.gov.au](http://www.crossriverrail.qld.gov.au).

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## Attachment C      Newsletter

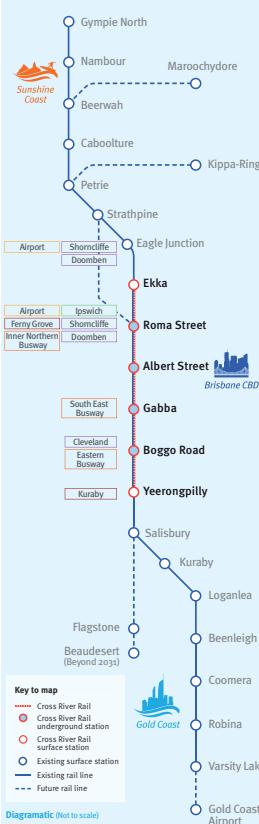
## Fast, frequent, reliable underground travel

Cross River Rail is a proposed new 18 kilometre north-south rail line in Brisbane's inner city, including:

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- four new underground train stations – Boggo Road, Gabba, Albert Street and Roma Street
- two new surface stations – Yeerongpilly and Ekka
- two upgraded stations – Rocklea and Moorooka.

Cross River Rail would enable:

- more trains, more often to service the Gold Coast, Sunshine Coast and outer suburbs into the inner city
- fast, frequent, 'turn-up and go' services in the inner city
- the rail network to expand to new areas
- better connections to the busways and surface rail lines.



Conceptual image of Gabba Station

*Planning for Cross River Rail, the project that would create more than \$9 billion in significant transport, city-building and economic benefits for South East Queensland, is almost complete.*

The environmental impact statement, which is now available for public review and comment, confirms Cross River Rail is essential for the region.

Cross River Rail would effectively double the capacity at the heart of the rail network, enabling up to 96 more trains in the two-hour morning peak period from the Gold Coast, Sunshine Coast, Logan, Redlands, Moreton Bay Region and northern and southern suburbs to come into the CBD.

This would improve service reliability and frequency across the rail network and reduce train passenger crowding.

Cross River Rail would also have the capacity to move 120 000 people in the two-hour morning peak from the north and south – the equivalent of a 30-lane motorway – helping to manage

South East Queensland's rapidly growing population.

In addition, Cross River Rail would provide a 'turn-up and go' level of service in the inner city, with a train stopping about every five minutes in the two-hour morning peak period and every 10 minutes in the off-peak period at a Cross River Rail station.

Cross River Rail would:

- create a transport corridor that connects planned high growth areas to the CBD by rail, including Yeerongpilly, Boggo Road, Woolloongabba, and Bowen Hills
- encourage new neighbourhoods and urban renewal, including redevelopment opportunities, in and around the new inner city stations

- improve accessibility between key employment centres, education facilities, health facilities, and sporting and event areas in Brisbane's inner city
- connect new cities and regional centres to the CBD by rail such as Flagstone and Coomera.

Cross River Rail would also benefit Brisbane and South East Queensland's economy. It would:

- create about 5900 direct and indirect jobs during the construction phase
- create a dedicated freight line from the Acacia Ridge freight terminal to the Port of Brisbane, ensuring the movement of freight by rail does not constrain the growing demand for passenger services.

**With benefits like these, it is clear Cross River Rail is needed for both the future of Brisbane and South East Queensland.**

### Key points

- Environmental impact statement now available for public review and comment.
- Changes made to the reference design.
- Environmental impact statement demonstrates the project could create more than \$9 billion in transport, city-building and economic benefits.
- Get involved – come along to a consultation event.

### Next steps

- Planning completed (late 2011).
- Procurement and detailed design (about 18 months).
- Construction could start in 2015.

### What's inside

Key reference design changes	2-3
About the environmental impact statement	2-3
Come along to a consultation event	4



## Reference design changes

In November 2010, the Cross River Rail reference design was released bringing together the full details of the project, including tunnel alignment, station locations, construction sites and details of associated infrastructure for community and stakeholder feedback.

The response to the reference design in late 2010 was generally positive with many people eager for faster, more frequent and reliable train travel to the inner city.

Changes have since been made to the reference design following an initial impact assessment, further engineering and feedback received from the public. After Brisbane experienced its worst floods since 1974 in January this year, the design team also made several significant changes as detailed in this newsletter. All reference design changes to the Cross River Rail project are to maximise the benefits and minimise the impacts of the project on the local community.

## Southern tunnel portal moves south

Key design changes include moving the southern tunnel portal in Yeerongpilly about 110 metres further south of the previously proposed location, and moving the new Yeerongpilly Station about 250 metres further south of the previously proposed location to industrial land at Station Road.

These changes reduce construction impacts on the local community and mean fewer properties are required.

In addition, floodgates would now be incorporated into the tunnel portal meaning a separate building at Yeronga is no longer required.

Another key change is moving the ventilation and emergency access building further south in Fairfield.

The building, originally located in the traffic median between Fairfield Road and Brougham Street, Fairfield opposite Fairfield Gardens Shopping Centre has been relocated 500 metres further south to higher land at Railway Road, Fairfield.

Higher land at the proposed new location means the building height can be reduced (previously 12.5 metres, now 8.5 metres), reducing the visual impact.

Other key changes include:

- maintaining the existing alignment and through-access of Norbury Street, Rocklea
- realigning Dillis Street, Rocklea while maintaining the existing through-access
- providing an emergency flood access point for vehicles from the Beaudesert Road service road to the Beaudesert Road overpass at Rocklea
- reconfiguring tracks at Yeerongpilly, eliminating the need for a two-track flyover for Cross River Rail trains to access Clapham Rail Yard
- providing a one-track flyover for southbound

Cross River Rail trains between Moorooka Station and Muriel Avenue

- reconfiguring the internal design of Albert Street Station, including moving the floodgates to surface level to simplify flood protection systems
- reducing the size of the construction site in Victoria Park to minimise impacts on the parkland and nearby land owners.

The key design changes are shown on the map below. Other minor changes have been made – information about these changes is available on the Cross River Rail website.



## The environmental impact statement process

Preparing an environmental impact statement is part of a statutory process under the *State Development and Public Works Organisation Act 1971* required for declared significant projects.

The Coordinator-General declared Cross River Rail a significant project in March 2010, meaning an environmental impact statement was required to assess the project's likely environmental, social and economic impacts.

Following public consultation, the Coordinator-General finalised the terms of reference for the environmental impact statement in August 2010.

Preparing the environmental impact statement for Cross River Rail has involved:

- **investigating the existing environment** – describing existing infrastructure and environmental, community and economic values within the study corridor and other areas potentially affected by the project
- **assessing the benefits and impacts of the reference design** – assessing the potential benefits and impacts of the project during construction and operation, including transport benefits, noise and vibration, flora and fauna, cultural heritage, air quality, water quality and visual amenity
- **identifying mitigation measures** – identifying strategies to manage and mitigate potential impacts during construction and operation, including preparing a draft *Outline Environmental Management Plan*.



Albert Street Station would improve access to key CBD employment hubs.



Four tunnel boring machines would be used to construct the majority of the Cross River Rail tunnels.

## Key environmental impact statement findings

The environmental impact statement found Cross River Rail would provide a range of benefits including:

- almost doubling the passenger rail capacity for the Brisbane inner city and CBD to meet increasing demand for public transport arising from population growth
- supporting key urban development areas and major employment centres within Brisbane's inner suburbs through improved public transport access, including efficient interchanges with other public transport
- improving service frequency and reliability and therefore reducing passenger crowding
- reducing the demand on buses and private motor vehicles, helping to manage traffic flow
- separating passenger and freight lines in key locations, ensuring the increase in passenger services does not constrain the movement of freight by rail.

The environmental impact statement also found:

- while significant construction works would be required, the impacts would be temporary compared with the long-term operational benefits the project would create
- temporary construction impacts would require mitigation, management and monitoring near worksites including Yeerongpilly, Woolloongabba, Boggo Road, Albert Street, Roma Street and Victoria Park
- temporary construction impacts could generally be effectively mitigated by implementing rigorous environmental management measures (see page 3 for details)
- during operation, mitigation measures would be required to ensure communities near new stations and the surface rail corridor south of Yeerongpilly do not experience increased localised noise impacts
- during operation train noise would comply with current Queensland Rail operational rail noise criteria.



## Flood protection

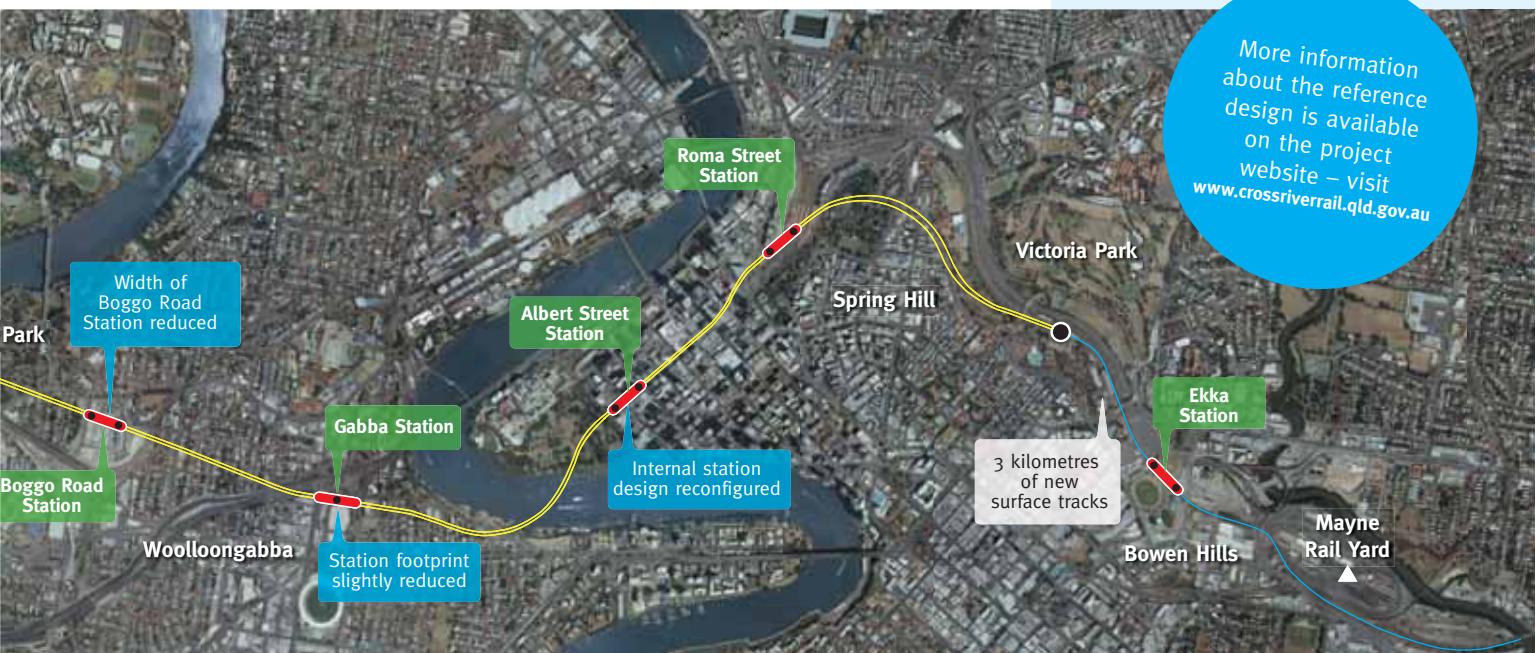
The Cross River Rail reference design incorporates flood protection measures that would have withstood the flooding that occurred in January 2011.

Albert Street Station's flood protection systems (raised entry points, floodboards and floodgates) could withstand a flood level 7 metres higher than what was experienced in January 2011.

Design changes will further ensure the project's immunity from an extreme flooding event, including:

- incorporating the tunnel floodgates into the southern tunnel portal structure at Yeerongpilly
- moving the ventilation and emergency access building to higher land in Fairfield
- simplifying the flood protection measures for Albert Street Station by moving the floodgates to street-level.

More information about the reference design is available on the project website – visit [www.crossriveryrail.qld.gov.au](http://www.crossriveryrail.qld.gov.au)



## Managing construction impacts

Constructing Cross River Rail across the corridor would take about five and a half years to complete, with varying levels of temporary activity required at each worksite during this time.

Major construction sites would be required at Yeerongpilly, Woolloongabba and Victoria Park, mainly to support tunnel, portal and station construction.

Smaller construction sites would be required at key locations for essential infrastructure, such as new underground and surface stations and the ventilation and emergency access building.

Construction hours would vary depending on the location and nature of the works and whether the works occur above ground, underground, within an acoustic enclosure, within the rail corridor or within a major road reserve.

Surface works generally would occur between 6.30am to 6.30pm Monday to Saturday, excluding public holidays.

Works within the 'live' rail corridor or on major roads would occur outside of these hours, including at night and on public holidays to minimise the impacts on rail services and traffic during peak travel times.

Works undertaken in an acoustic enclosure and tunnelling would also occur outside of these hours.

Some residents above or near tunnel construction could experience perceptible levels of groundborne noise and vibration for two short periods (for example, 5-10 days for each period) as the tunnel boring machines pass beneath their property.

Spoil from tunnel construction would be taken from the major worksites at Woolloongabba and Yeerongpilly via major arterial roads to the spoil placement site at Swanbank. The impact assessment found peak hour spoil haulage would have an insignificant impact on general traffic operations.

It is expected construction noise generally would be loudest during early site establishment and initial works such as demolition and piling. Once these works are completed, acoustic enclosures or other effective measures would help mitigate the effects of on-going construction noise.

### Mitigation measures

A draft *Outline Environmental Management Plan* has been prepared as part of the environmental impact statement.

The plan sets out the environmental objectives and performance criteria for Cross River Rail as well as intended mitigation, management and monitoring measures for predicted construction and operation impacts.

It also proposes a community liaison process to keep the community informed about construction activities and to respond to construction related complaints.

Some of the proposed mitigation measures for Cross River Rail include:

- rigorous environmental monitoring to ensure compliance of environmental objectives and performance criteria
- developing specific worksite management plans including managing the hours of particularly noisy work



- erecting acoustic enclosures or noise barriers at key worksites to help manage potential noise, dust, lighting and other impacts
- loading spoil within acoustic enclosures at some worksites
- designating truck and heavy vehicle routes to ensure main and arterial roads are used
- ensuring spoil trucks leaving worksites are covered
- using dust suppression techniques (for example, wheel washing)
- providing worker parking at major construction sites
- confining deliveries to off-peak daytime hours where feasible
- early and ongoing consultation with people living and working near construction sites.

# A catalyst for the rail revolution

The draft *Connecting SEQ 2031: An Integrated Regional Transport Plan for South East Queensland* was released in August 2010 and is the Queensland Government's blueprint to ensure the future transport system has the capacity to meet growing demand as a result of a booming population.

It outlines the plan for a 'rail revolution' – a complete overhaul of the rail system to provide a modern, high capacity network that will mean, for most passengers, rail transport will be quicker than driving a car.

Delivery of Cross River Rail, combined with existing rail infrastructure, new service initiatives and higher capacity trains will make it possible to move up to 240 000 people by rail into the inner city during the two-hour peak.

A key component of the 'rail revolution' is to optimise existing capacity prior to Cross River Rail,

and to support the future transformation of the rail network and services once Cross River Rail is operational.

Key initiatives to optimise existing capacity and maintain reliable services include:

- providing track capacity upgrades and stabilising
- providing more trains for additional peak and shoulder peak services
- improving network sectorisation
- removing operational crossing conflicts
- improving timetabling and service planning
- providing targeted inner city signalling upgrades.

The final *Connecting SEQ 2031* is expected to be released later in 2011 and further information is available at [www.connectingseq.qld.gov.au](http://www.connectingseq.qld.gov.au).

## Comment on the environmental impact statement

The Coordinator-General has approved the release of the environmental impact statement for public review and comment in accordance with the *State Development and Public Works Organisation Act 1971*.

During the display period, you can make a submission on the environmental impact statement to the Coordinator-General. Submissions can be made online or in writing until close of business on **Friday 21 October 2011**.

To make an online submission or to find out more about how to make a written submission please go to [www.getinvolved.qld.gov.au](http://www.getinvolved.qld.gov.au).

The Coordinator-General will consider the submissions when evaluating the environmental impact statement.

The environmental impact statement can be viewed at [www.crossrivrail.qld.gov.au](http://www.crossrivrail.qld.gov.au).

It is also available for review during opening hours at the following libraries:

- Hamilton Library, Corner Racecourse Road and Rossiter Parade, Hamilton
- Brisbane Square Library, 266 George Street, Brisbane City
- Fairfield Library, Fairfield Gardens Shopping Centre, Fairfield Road, Fairfield

- Coopers Plains Library, 107 Orange Grove Road, Coopers Plains
- Annerley Library, 450 Ipswich Road, Annerley
- Grange Library, 79 Evelyn Street, Grange
- State Library of Queensland Cultural Centre, Stanley Place, South Bank, Brisbane.

The environmental impact statement is also available on CD. Please contact the project team on 1800 462 730\* (during business hours) to arrange a copy.

## Come along to a consultation event

Come along to a consultation event to find out more about the environmental impact statement.

**Get involved**

Date	When	Location
Tuesday 30 August 2011	11am – 2pm	<b>Queen Street Mall Stage</b> Brisbane City
Saturday 3 September 2011	9am – 12noon	<b>Moorooka Primary School</b> Corner of Sherley Street and Beaudesert Road, Moorooka
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## The journey so far and looking ahead

2007–2008	<b>Prefeasibility phase</b> <i>Inner City Rail Capacity Study</i>	► Determined South East Queensland's inner city rail network would be at capacity by about 2016.
2009–2011	<b>Detailed feasibility phase</b> <i>Cross River Rail</i>	► Identified three potential corridor options for a new rail line through the inner city by 2016 (Cross River Rail).
March 2010	► Late 2009 ► Determined new north-south rail line through the inner city would meet project objectives.	► Coordinator-General declared Cross River Rail a 'significant project', triggering the start of the environmental impact statement process.
July 2010	► Draft terms of reference for the environmental impact statement released for public comment.	► Study corridor released so the public could provide advice about what's most valued in the corridor.
August 2010	► Seismic surveys of the Brisbane River undertaken to determine the composition of the river bed and rock levels.	► Preferred tunnel route and locations of new underground stations released, including location of the first new CBD station in 100 years – Albert Street.
September 2010	► Geotechnical drilling undertaken throughout the study corridor.	► Cross River Rail named centrepiece of the draft <i>Connecting SEQ 2031</i> .
November 2010	► Reference design released including details of the alignment, station entry points, construction site locations and construction methods.	► Yeerongpilly announced as the preferred location of the southern tunnel portal and new surface station.
December 2010	► Cross River Rail topped the Queensland Government's 2011 funding submission to Infrastructure Australia.	► Project planning continues, with the start of construction now due in 2015 given flood reconstruction priorities.
Early 2011	► Infrastructure Australia's National Priority List identifies Cross River Rail as a priority project.	► July 2011 ► Environmental impact statement released for public review and comment.
August 2011	► Detailed feasibility phase complete.	► Late 2011

## Contact us

### Phone:

1800 462 730\*  
(during business hours)

### Web:

[www.crossrivrail.qld.gov.au](http://www.crossrivrail.qld.gov.au)

### Email:

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\*Free call from fixed lines in Australia. Call charges may apply for calls from mobile phones and payphones.

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## Attachment D Local area updates

August 2011

## Welcome to the Cross River Rail local area update for Moorooka to Yeerongpilly.

Cross River Rail is a proposed new 18 kilometre north-south rail line in Brisbane's inner city, including:

- 10 kilometre underground tunnels from Yeerongpilly to Victoria Park, under the Brisbane River
- four new underground train stations – Boggo Road, Gabba, Albert Street and Roma Street
- two new surface train stations – Yeerongpilly and Ekka
- two upgraded stations – Rocklea and Moorooka.

This update outlines how planning for Cross River Rail is progressing in your area, including:

- changes that have been made to the reference design since late 2010
- key findings of the environmental impact statement including proposed mitigation measures
- construction methods and worksite locations.

## Key points

- New Yeerongpilly Station and southern tunnel portal moved further south – meaning fewer properties are required.
- Floodgates incorporated into the southern tunnel portal – no need for a separate building at Yeronga.
- Environmental impact statement now available for public review and comment.
- Get involved in consultation events – see the project website for details.



## Local area update Moorooka to Yeerongpilly

# Yeerongpilly Station and tunnel portal move south

Changes have been made to the Cross River Rail reference design to maximise the benefits and minimise the impacts of the project on the local community.

The key design changes between Moorooka and Yeerongpilly are:

- moving the new Yeerongpilly Station about 250 metres further south to industrial land
- moving the southern tunnel portal and dive structure slightly west and about 110 metres further south
- incorporating the floodgates into the southern tunnel portal, meaning a separate floodgate building at Yeronga is no longer required.

These changes reduce construction impacts by avoiding open construction in front of important community uses on Wilkie Street, including St Fabians Catholic Church. These changes also mean 10 fewer properties are required.

Further information about the changes, including a map, is available overleaf.

### Key features of Yeerongpilly Station

A new Yeerongpilly Station servicing both the existing rail network and Cross River Rail, would improve public transport services to the Yeerongpilly community, with faster, more frequent and more reliable train services.

Key features include:

- a new plaza outside the station, including new public seating
- new retail opportunities (for example, shops and cafes)
- new public bus stops and kiss 'n' ride parking along Wilkie Street/Station Road
- better facilities including lighting and security, improved disability access and station canopies to provide shade and shelter
- a new covered link along Wilkie Street between the existing overpass from Fairfield Road and the new station
- two, six metre wide side platforms and one 12 metre wide island platform, with the western platforms 220 metres long to accommodate longer Cross River Rail trains in the future.

### Protecting against floods

The reference design released in November 2010 included flood protection measures that would protect the tunnel and stations from a one in 10 000 year flood event (bigger than the flood experienced in January 2011).

If Cross River Rail had been operational according to the reference design in the January floods, both the southern tunnel portal and new Yeerongpilly Station would have been well above the flood levels.

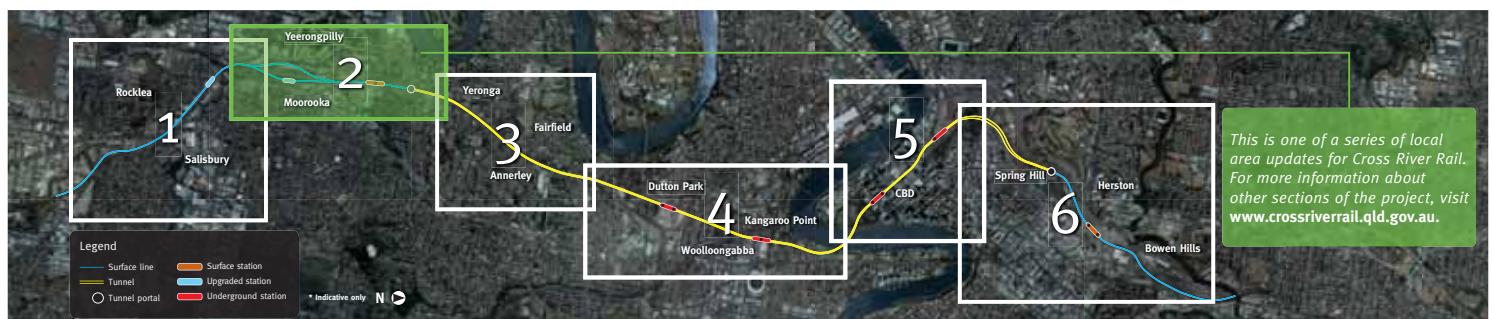
Design changes in the south now incorporate floodgates into the southern tunnel portal structure, meaning a separate building at Yeronga is no longer required.

The floodgates, which could be activated remotely or on-site, are sealed to ensure water cannot penetrate through to the tunnels.

### More services, more often

With Cross River Rail, there would be a train stopping at Yeerongpilly Station about every five minutes in the two-hour morning peak period, and about every 10 minutes in the off-peak period.

On a Cross River Rail train, travel time to the CBD from Yeerongpilly would be slashed by about half – taking just 10 minutes to get to the heart of the city.



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# Reference design changes

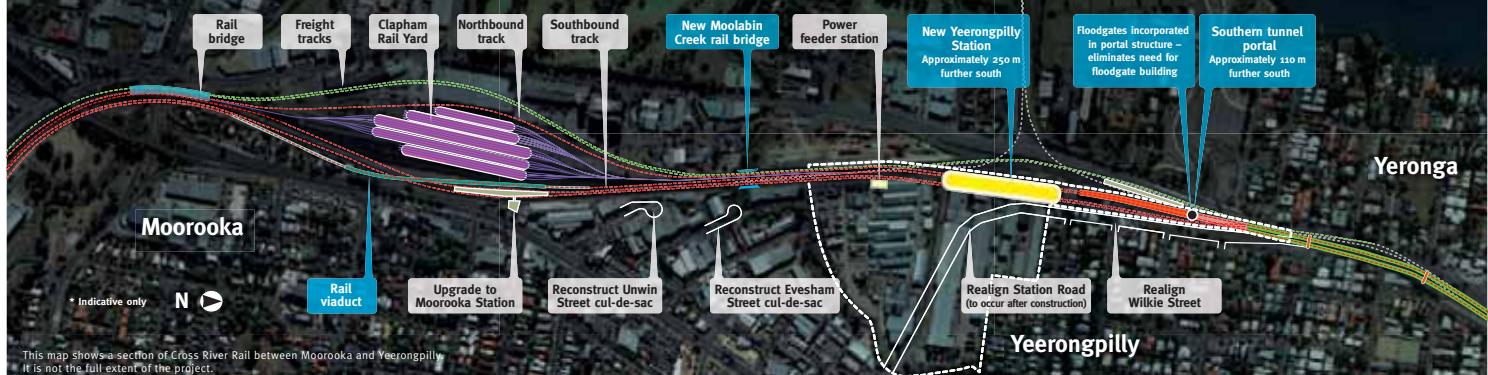
In November 2010, the Cross River Rail reference design was released bringing together the full details of the project, including tunnel alignment, station locations, construction sites and details of associated infrastructure for public feedback.

Changes have since been made to the reference design following an initial impact assessment, further engineering, the January 2011 floods and feedback received from the public. This is to maximise the benefits and minimise the impacts of the project on the local community.

There have been some changes between Moorooka and Yeerongpilly, mainly around the location of the southern tunnel portal and new Yeerongpilly Station.

## Legend

- Existing rail centrelines
- - - Narrow gauge track
- - - Dual gauge track
- - - Yard tracks
- Train storage
- New station platform
- Existing station
- Construction worksite
- Embankment
- Bridge
- Tunnel boring machine tunnel
- Dive/transition structure
- Cut and cover structure
- Rail viaduct
- Southern tunnel portal
- Key reference design change



This map shows a section of Cross River Rail between Moorooka and Yeerongpilly. It is not the full extent of the project.

## Construction in your area

Construction of Cross River Rail would take about five and a half years, with varying levels of activity at key worksites during this time.

Key construction works between Moorooka and Yeerongpilly include construction of the southern tunnel portal and the new Yeerongpilly Station, stabling facilities and new track work at Clapham Rail Yard, and an upgrade to Moorooka Station.

### Yeerongpilly worksite

A major construction worksite would be established at Yeerongpilly, alongside Wilkie Street extending to the industrial land further south at Station Road.

There would be varying levels of construction activity occurring at Yeerongpilly for the entire construction period.

The worksite would allow construction of the southern tunnel portal and new Yeerongpilly Station, assembly and launch of two tunnel boring machines, removal of spoil, and the realignment of Wilkie Street.

The construction site would include site offices, worker car parking, screens and measures to reduce noise and dust impacts on the local community.

Realigning Wilkie Street would be the first activity of work in this area to ensure local access for residents is maintained during construction.

Once Wilkie Street is realigned, a high-performance acoustic enclosure would be installed, from just south of Crichton Street to the industrial land at Station Road, to protect the local community from construction activities.

Constructing the southern tunnel portal would include a section of cut and cover construction just north of Stamford Street to just north of Crichton Street (approximately 100 metres).

Surface construction at Yeerongpilly would be generally carried out during the day, 6.30am to 6.30pm, Monday to Saturday (excluding public holidays).

Some surface works would also be needed outside of these hours, for example where there is construction near 'live' operating rail or busy roads.

Works undertaken underground or in an acoustic enclosure would be carried out 24 hours a day, seven days a week, provided environmental objectives are met. This would allow construction of the tunnels to advance at a rate of about 90 metres to 140 metres per week, from the southern tunnel portal north to Woolloongabba.

The Yeerongpilly worksite would also be a key location where spoil is removed from the tunnels and materials delivered to the tunnels. Spoil would be removed by an average of 86 trucks per day.

Spoil haulage from the Yeerongpilly worksite is proposed to occur 24 hours a day on designated arterial roads. Access to Ipswich Road would be from Lucy Street via the Moorooka industrial area.

Due to the location of the construction worksite, Lucy Street and Station Road would be closed to through traffic for the duration of construction.

The existing Yeerongpilly Station would remain operational throughout the construction period with some modifications to station access.

Following the construction of the project, land required for the worksite would be rehabilitated and would be available for redevelopment.

Any change to the existing land use designation would require a revision of the City Plan. This would be undertaken as part of a separate planning process to the project.

### Other construction works

The extent of surface works would be significant within the rail corridor south of the tunnel portal at Yeerongpilly. Work within the rail corridor is anticipated outside standard construction hours to avoid disruption to passenger and freight train services.

A worksite to support construction of Clapham Rail Yard would be located between Ipswich and Fairfield roads, within the existing yards.

A worksite to support the upgrade to Moorooka Station would be located between Ipswich Road and the railway line south of Moorooka Station.

This worksite would also support the construction of bridges, embankments and viaducts south of Clapham Rail Yard.

### Consultation

Ongoing consultation and communication would be undertaken during construction to ensure that local communities and other stakeholders are kept informed. This would include a process for handling and responding to community complaints about construction impacts.

More detail about construction activities including work hours and mitigation measures is outlined in the environmental impact statement.

## Key environmental impact statement findings

The environmental impact statement provides detailed information about the environmental, social and economic benefits and impacts of the project. It also includes a draft *Outline Environmental Management Plan* that proposes measures to avoid, mitigate and manage potential impacts. Some of the key findings for the Moorooka to Yeerongpilly section of the project are listed below.

Construction	Mitigation measures to reduce impacts
<b>Key findings</b>	
<b>Noise and vibration</b>	<ul style="list-style-type: none"> <li>Establish high-performance acoustic barriers and enclosures along Wilkie Street and around the Yeerongpilly worksite as soon as possible to manage noise.</li> <li>Retain industrial buildings, where possible, within the Yeerongpilly worksite, as screens for residential areas.</li> <li>Monitor construction noise at sensitive receptors near the construction works.</li> <li>Notify and consult residents about construction activities and potential impacts.</li> <li>Conduct vibration monitoring, where required.</li> </ul>
<b>Air quality</b>	<ul style="list-style-type: none"> <li>Undertake loading and handling of spoil within an enclosure and ensure spoil trucks leaving the worksite are covered.</li> <li>Use dust suppression methods at worksites (for example, watering, wheel washes and street sweeping).</li> <li>Conduct air quality monitoring near worksites.</li> </ul>
<b>Traffic and access</b>	<ul style="list-style-type: none"> <li>Ensure construction vehicles use arterial roads and avoid local streets, where possible.</li> <li>Ensure access to properties near worksites is maintained.</li> <li>Ensure safe pedestrian and cycle access is maintained near worksites and to nearby public transport, especially for children, elderly and people with mobility difficulties.</li> <li>Provide worker parking for 400 vehicles at the Yeerongpilly worksite.</li> <li>Provide alternative bus services where train services at Moorooka Station are disrupted.</li> </ul>
<b>Operation</b>	
<b>Key findings</b>	
<b>Noise and vibration</b>	<ul style="list-style-type: none"> <li>Careful mitigation at Clapham Rail Yard would ensure noise levels are not exceeded.</li> <li>Stable trains on the outer (western) tracks, where possible, to provide a buffer for stabling on inner tracks at Clapham Rail Yard.</li> <li>Install an acoustic barrier on the western side of the realigned Wilkie Street near the station.</li> <li>Monitor noise and vibration levels during the first and tenth year of operation.</li> </ul>
<b>Traffic</b>	<ul style="list-style-type: none"> <li>Work with Brisbane City Council to implement a local parking scheme for local streets.</li> <li>Consult with local community about parking scheme operation.</li> </ul>

### Where to find out more

More detailed information about Cross River Rail is available in the environmental impact statement, which is now available for public review and comment.

You can find the environmental impact statement:

- online: [www.crossrivrail.qld.gov.au](http://www.crossrivrail.qld.gov.au)
- at the following libraries – Coopers Plains, Fairfield, Annerley, State Library, Brisbane Square, Grange and Hamilton

### at community consultation events

– event details are available on the project website and advertised in local *Quest* newspapers

- on CD – to request a copy please contact the project team on 1800 462 730\* or email [info@crossrivrail.qld.gov.au](mailto:info@crossrivrail.qld.gov.au).

For more information on how to access the environmental impact statement, please contact the project team.

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August 2011

Local area update **CBD**

## Welcome to the Cross River Rail local area update for the CBD.

Cross River Rail is proposed new 18 kilometre north-south rail line in Brisbane's inner city, including:

- 10 kilometre underground tunnels from Yeerongpilly to Victoria Park, under the Brisbane River
- four new underground train stations – Boggo Road, Gabba, Albert Street and Roma Street
- two new surface train stations – Yeerongpilly and Ekka
- two upgraded train stations – Rocklea and Moorooka.

This update outlines how planning for Cross River Rail is progressing in your area, including:

- changes that have been made to the reference design since late 2010
- key findings of the environmental impact statement including proposed mitigation measures
- construction methods and worksite locations.

## Key points

- New underground stations in the CBD at Albert Street and at Brisbane's transport hub Roma Street Station to deliver high frequency connections to the inner city.
- 220 metre long platforms to accommodate longer trains – up to 24 trains per hour in each direction.
- Flood protection measures included at Albert Street Station.
- Environmental impact statement now available for public review and comment.
- Get involved in consultation events – check the project website for details.



## More services, more often for the CBD

*Brisbane's CBD will be transformed with new underground stations at Albert Street and Roma Street.*

Once Cross River Rail is operational, the majority of the CBD would be within 400 metres of a train station (whether it be Albert Street Station, Central Station or Roma Street Station).

With a train stopping at Albert Street and Roma Street about every five minutes, in both directions, during the two-hour morning peak period, there would be no need to check a timetable – just turn up and go to catch a fast, frequent and reliable train.

Travel time between:

- Gabba Station and Albert Street Station would be about two minutes
- Albert Street Station and Roma Street Station would be about one and a half minutes
- Roma Street Station and Ekka Station would be about two and a half minutes.

### Albert Street Station

As the CBD's first truly underground station, Albert Street Station would rejuvenate the CBD by creating an exciting new public space and boosting public transport services for the city's government, financial, retail and education precincts.

Located beneath Albert Street, between Alice Street and Mary Street, Albert Street Station would provide direct rail access to a range of destinations not currently accessible by rail, such as the Queensland University of Technology and the City Botanic Gardens.

Key features of the station include:

- two primary entries:
  - corner of Albert and Mary streets
  - corner of Albert and Alice streets
- 220 metre long platform approximately 31 metres beneath the surface of Albert Street

- better access to the southern end of the CBD
- station entry forecourts
- footpaths widened on all Albert Street crossings near the station to offer more space for pedestrians
- new taxi ranks and drop-off area
- flood protection to withstand a one in 10 000 year flood
- possible future redevelopment and retail opportunities at the station to support urban renewal and growth.

### Roma Street Station

A new underground station located beneath the existing Roma Street Station would create South East Queensland's primary public transport interchange hub – where it would be easy to interchange between Cross River Rail, surface rail, the Inner Northern Busway and long distance buses and trains.

Key features of the station include:

- 220 metre long platform approximately 25 metres beneath street level
- better access to the growing northern quarter of the CBD
- integration with existing bus and rail networks
- improved rail station facilities
- a public plaza entrance
- enhanced footpath and pedestrian crossings at Roma Street for increased capacity and safety
- possible future commercial and residential redevelopment opportunities.

## Flood protection for Albert Street Station

The Cross River Rail reference design incorporates flood protection measures that would have withstood the January 2011 floods.

Flood mitigation measures for Cross River Rail are designed to withstand a one in 10 000 year event – much bigger than the floods in January.

Albert Street's flood protection systems (raised entry points, floodboards and floodgates) could withstand a flood level seven metres higher than January 2011 levels.

To simplify the design of Albert Street Station, the automatic floodgates have been moved to street-level.

Other design changes that have been made since November 2011 include:

- removing the concourse level, resulting in a smaller surface construction site and meaning there is no need to excavate in Mary Street for the northern station entrance
- moving ticket gates from the concourse level to the mezzanine level, reducing the number of escalators from three flights to two flights
- redesigning the station entry forecourt to offer more open space.

Further information about the changes, including a map, is available overleaf.



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## Reference design changes

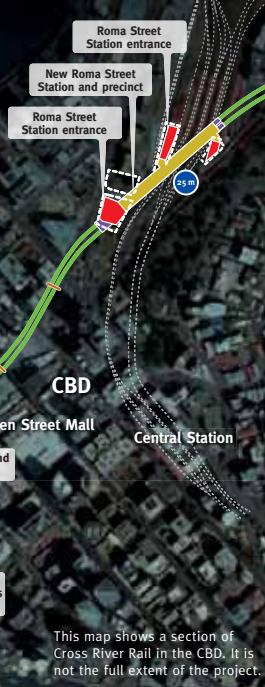
In November 2010, the Cross River Rail reference design was released bringing together the full details of the project, including tunnel alignment, station locations, construction sites and details of associated infrastructure for community and stakeholder feedback.

Changes have since been made to the reference design following an initial impact assessment, further engineering, the January 2011 floods and feedback received from the public.

This is to maximise the benefits and minimise the impacts of the project on the local community.

Some design changes have been made in and around the underground rail station at Albert Street.

There are no changes to the reference design at Roma Street Station.



This map shows a section of Cross River Rail in the CBD. It is not the full extent of the project.

## Key environmental impact statement findings

The environmental impact statement provides detailed information about the environmental, social and economic benefits and impacts of the project. It also includes a draft *Outline Environmental Management Plan* that proposes measures to avoid, mitigate and manage potential impacts. Some of the key findings for the CBD section of the project are listed below. More detailed information is provided in the environmental impact statement.

Construction Key findings	Mitigation measures to reduce impacts
<b>Noise</b> In most circumstances, with mitigation measures in place, environmental objectives relating to noise would generally be achieved. Exceptions would be managed on a case-by-case basis. Some initial construction works such as demolition and piling would be noisy, however these works would occur for short periods (see the environmental impact statement for details).	<ul style="list-style-type: none"> <li>Establish acoustic screens at worksites at Albert Street and Roma Street.</li> <li>Control work hours to minimise night-time construction noise.</li> <li>Provide advance notice to owners and residents about activities likely to approach or exceed noise goals.</li> <li>Conduct noise monitoring at sensitive receptors, where required.</li> </ul>
<b>Vibration</b> Potential for some residents above the tunnels to experience perceptible levels of vibration for short periods (up to 10 days) for each tunnel boring machine pass-by.	<ul style="list-style-type: none"> <li>Notify residents above the tunnel alignment about timing of tunnel boring machine construction.</li> <li>Conduct vibration monitoring, as required.</li> <li>Conduct building condition surveys, where required.</li> </ul>
<b>Air quality</b> With mitigation measures, potential dust impacts for areas nearest to construction worksites would generally satisfy air quality goals.	<ul style="list-style-type: none"> <li>Undertake loading and handling of spoil within an enclosure and ensure spoil trucks leaving the worksite are covered.</li> <li>Use dust suppression techniques (i.e. watering, wheel washes, street sweeping).</li> <li>Conduct air quality monitoring near worksites at Albert Street and Roma Street.</li> </ul>
<b>Traffic</b> Potential impacts on local access at Albert Street due to partially closing Albert and Mary street footpaths, removing some on-street car parking on Margaret and Mary streets, relocating Albert and Margaret street bus stops and closing taxi rank and temporary lane closures on Alice Street. Potential impacts on local access at Roma Street due to changes to pedestrian access at Parkland Boulevard, removing some car parks on College Crescent and changes to bus access at George Street/Herschel Street intersection. Approximately eight trucks per hour would require access to the Albert Street worksite and ten trucks per hour would require access to the Roma Street worksites during peak construction times.	<ul style="list-style-type: none"> <li>Ensure access to properties, including for delivery vehicles, near worksites is maintained.</li> <li>Ensure safe access is maintained near worksites and to nearby public transport, especially for children, elderly and people with mobility difficulties.</li> <li>Relocate impacted taxi ranks as required.</li> <li>Maintain at least two traffic lanes on Alice Street during construction of the pedestrian underpass.</li> <li>Provide alternative bus stops and routes where bus services are impacted.</li> <li>Provide worker parking for 12 vehicles at Albert Street worksite and 45 vehicles at Roma Street worksite, with the majority of the workforce to use off-street public car parks and public transport.</li> <li>Provide vehicle detours at Parkland Boulevard/Parkland Crescent.</li> <li>Avoid disruption to passenger rail services during major events at Suncorp Stadium and Roma Street Parkland.</li> <li>Maintain cycle route on Parkland Boulevard.</li> </ul>
<b>Operation Key findings</b> <b>Noise and vibration</b> Noise from underground train operations is expected to be negligible and vibration levels are unlikely to be perceptible within nearby buildings.	<ul style="list-style-type: none"> <li>Monitor noise and vibration levels during the first and tenth year of operation.</li> </ul>

## Contact us

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## Construction in your area

Construction of Cross River Rail would take about five and a half years, with varying levels of activity at key worksites during this time.

The key construction works in the CBD include construction of the Albert Street and Roma Street stations and underground tunnelling.

### Albert Street Station

Two separate worksites would be required to construct Albert Street Station – a northern site located on the north-east corner of Albert and Mary streets and a southern site located on the northern side of Albert Street, between Alice and Margaret streets.

The worksites would be required to construct the underground station and surface entries and would involve demolition of existing buildings, excavation, spoil handling and removal, along with the delivery of materials.

Heavy vehicles would access the northern worksite from Albert Street and the southern worksite from Margaret Street, with an exit provided to Alice Street.

### Roma Street Station

Four separate worksites would be required to construct the new Roma Street Station – a northern site adjacent to the existing station platform 10, a central site in the car park adjacent to platform 3, a southern site on Roma Street located between Roma Street and the Inner Northern Busway corridor, and a satellite site in the College Close car park at Roma Street Parkland.

The worksites would be required to construct the underground station and surface entries and support underground work including excavation, spoil handling and removal, along with the delivery of materials.

Heavy vehicles would access the worksites from Roma Street and use Parkland Boulevard to access Parkland Crescent and College Close.

### Consultation

Ongoing consultation and communication would be undertaken during construction to ensure that the CBD community and other stakeholders are informed. This would include a process for receiving and responding to construction related complaints.

More details about construction activities including work hours and mitigation measures is outlined in the environmental impact statement.



### Where to find out more

More detailed information about Cross River Rail is available in the environmental impact statement, which is now available for public review and comment.

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For more information on how to access the environmental impact statement, please contact the project team.

August 2011

## Welcome to the Cross River Rail local area update for Dutton Park to Kangaroo Point

Cross River Rail is a proposed new 18 kilometre north-south rail line in Brisbane's inner city, including:

- 10 kilometre underground tunnels from Yeerongpilly to Victoria Park, under the Brisbane River
- four new underground train stations – Bogg Road, Gabba, Albert Street and Roma Street
- two new surface train stations – Yeerongpilly and Ekka
- two upgraded stations – Rocklea and Moorooka.

This update outlines how planning for Cross River Rail is progressing in your area, including:

- changes that have been made to the reference design since late 2010
- key findings of the environmental impact statement including proposed mitigation measures
- construction methods and worksite locations.

## Key points

- New station at Woolloongabba to rejuvenate the local area and make travel easier and quicker to and from events at The Gabba.
- New station at Bogg Road to improve access to the Princess Alexandra Hospital, the Bogg Road Urban Village, and the University of Queensland.
- Environmental impact statement now available for public review and comment.
- Get involved in consultation events – check the project website for details.



## New stations for Woolloongabba and Bogg Road

*The new Cross River Rail stations at Woolloongabba and Bogg Road would mean more travel options for locals, and more frequent and faster ways of getting to the city.*

*The stations would be high-quality underground stations with air-conditioned platforms, automatic platform screen doors, passenger information systems and would provide better access to important facilities.*

### Key features of Gabba Station

Gabba Station would support a new inner city community and provide a vibrant public space that enhances The Gabba 'game day' experience and deliver better public infrastructure to the Mater health service precinct.

Located immediately east of Leopard Street, between Stanley Street and Vulture Street, the station would support the Woolloongabba Urban Development Area, providing major transit oriented development opportunities in the immediate vicinity of the station.

Key features include:

- a highly visible station entry located several hundred metres from The Gabba to enable effective crowd control and station access during events
- a 220 metre long island platform located about 28 metres underground
- a forecourt plaza entry – over the existing busway
- two groups of four escalators, splitting at a mid-landing level and again at a mezzanine level to evenly distribute passengers down onto the platform
- new pedestrian connections to the existing busway station
- opportunities for intermodal transit interchange between Cross River Rail and Woolloongabba Busway Station
- cycle parking facilities.

### Key features of Bogg Road Station

Bogg Road Station would enhance public transport to the Bogg Road Urban Village, the Ecosciences Precinct, and the University of Queensland. It would also deliver a key public transport interchange in the inner south by improving interchange options between underground rail, surface rail and the busway network.

Key features include:

- a 220 metre long island platform about 25 metres underground
- two station entry points:
  - a northern entry immediately adjacent to the existing Park Road Station and Bogg Road Busway Station – facilitating bus and rail interchanges
  - a southern entry within the Bogg Road Urban Village, south east of Bogg Road Gaol
- pedestrian links to the Bogg Road Busway Station and Park Road Station.

Precinct and streetscape works include:

- improving and widening footpaths on the western side of Annerley Road
- improving street crossings from the Bogg Road Urban Village west towards the University of Queensland
- relocating kerb space to provide drop-off facilities and a turning facility at Quarry Street
- creating kiss 'n' ride facilities and local surface bus stops to integrate with northern and southern station entries
- providing cycle parking facilities.

## More services, more often

When Cross River Rail is operational, there would be a train stopping at the new stations at Bogg Road and Woolloongabba about every five minutes, in both directions, during the two-hour morning peak period.

With frequency like this there would be no need to check a timetable – just turn up and go to catch a fast, frequent and reliable train.

Travel time between:

- Bogg Road Station and Gabba Station would be about one and a half minutes
- Gabba Station and Albert Street Station would be about two minutes.

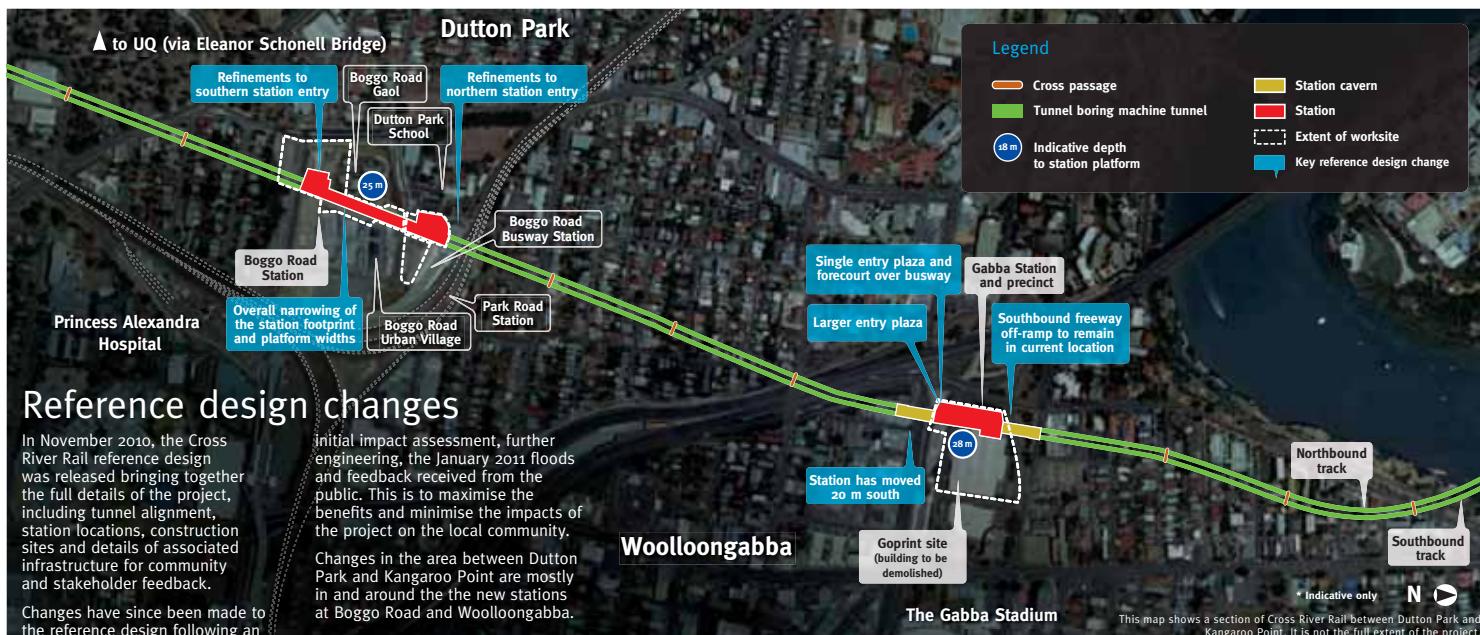


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## Reference design changes

In November 2010, the Cross River Rail reference design was released bringing together the full details of the project, including tunnel alignment, station locations, construction sites and details of associated infrastructure for community and stakeholder feedback.

Changes have since been made to the reference design following an

initial impact assessment, further engineering, the January 2011 floods and feedback received from the public. This is to maximise the benefits and minimise the impacts of the project on the local community.

Changes in the area between Dutton Park and Kangaroo Point are mostly in and around the new stations at Boggo Road and Woolloongabba.

## Construction in your area

Construction of Cross River Rail would take about five and a half years, with varying levels of activity at key worksites during this time.

The key construction works between Dutton Park and Kangaroo Point include construction of the Gabba and Boggo Road stations and underground tunnelling.

### Woolloongabba

A major construction site at Woolloongabba would support construction of the new Gabba Station and major tunnelling activities.

The worksite would be located on the existing Goprint site within the Woolloongabba Urban Development Area, bounded by the South East Busway, Leopard Street and the South East Freeway off-ramp to Vulture Street.

Construction activities would include demolition of existing buildings, excavation of the station cavern, construction of Gabba Station and major tunnelling works.

Two tunnel boring machines would be launched at this site and tunnel underground to the northern portal in Victoria Park. In addition, two tunnel boring machines arriving from Yeerongpilly would be extracted at this site.

About 437 000 cubic metres of spoil from tunnelling activities would be removed from the site by an average of 86 trucks per day.

Spoil haulage would occur via Vulture Street to Main Street, onto Ipswich Road. From there, spoil would be taken to a spoil placement site at Swanbank.

### Boggo Road Station

A worksite to construct the new Boggo Road Station would be located adjacent to Annerley Road at Boggo Road Urban Village, either side of Peter Doherty Street, with an additional support site located between Boggo Road and the Boggo Road Busway Station.

Construction works would include excavation of the station box, spoil

handling and removal, materials delivery and station fit out. Heavy vehicles would access the worksite at Peter Doherty Street with trucks using Cornwall Street, Ipswich Road and Fairfield Road.

About 155 000 cubic metres of spoil from station construction would be removed by an average of 36 trucks per day.

### Tunnels

The twin tunnels between Dutton Park and Kangaroo Point would range in depth from about 10 metres to 52 metres to the top of the tunnels.

The tunnels would have a boreal diameter of about seven metres and a finished internal diameter of about six metres.

The two tunnels would be connected at regular intervals with cross-passages for use in the event of an incident.

### Work hours

Surface construction at the Woolloongabba and Boggo Road worksites would be generally carried out during day-time hours, 6.30am to 6.30pm, Monday to Saturday (excluding public holidays). However night works would also be required in some circumstances to minimise impacts on major roads and to meet construction programme requirements.

Works undertaken underground or in an acoustic enclosure would be carried out 24 hours a day, seven days a week, provided environmental objectives are met. This would allow construction of the tunnels to advance at a rate of about 90 metres to 140 metres per week.

### Consultation

Ongoing consultation and communication would be undertaken during construction to ensure that local communities and other stakeholders are kept informed. This would include a process for receiving and responding to construction related complaints.

More detail about construction activities including work hours and mitigation measures is outlined in the environmental impact statement.

### Where to find out more

More detailed information about Cross River Rail is available in the environmental impact statement, which is now available for public review and comment.

You can find the environmental impact statement:

- online: [www.crossrivelrail.qld.gov.au](http://www.crossrivelrail.qld.gov.au)
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For more information on how to access the environmental impact statement, please contact the project team.

## Key environmental impact statement findings

The environmental impact statement provides detailed information about the environmental, social and economic benefits and impacts of the project. It also includes a draft *Outline Environmental Management Plan* that proposes measures to avoid, mitigate and manage potential impacts. Some of the key findings for the Dutton Park to Kangaroo Point section of the project are listed below. More detailed information is provided in the environmental impact statement.

Construction Key findings	Mitigation measures to reduce impacts
<b>Noise</b>	<ul style="list-style-type: none"> <li>Establish high performance acoustic enclosures and noise screens at Boggo Road and Woolloongabba worksites.</li> <li>Monitor construction noise at residential premises on Rawnsley Street and at Dutton Park State School.</li> <li>Develop and implement additional mitigation measures during initial works at both worksites, if exceedances are predicted.</li> </ul>
<b>Vibration</b>	<ul style="list-style-type: none"> <li>Notify residents above the tunnel alignment about timing of tunnel boring machine construction.</li> <li>Conduct building condition surveys, where required.</li> <li>Conduct vibration monitoring, if required.</li> </ul>
<b>Air quality</b>	<ul style="list-style-type: none"> <li>Undertake loading and handling of spoil from tunnel boring machine construction works within an enclosure and ensure spoil trucks leaving the worksite are covered.</li> <li>Use dust suppression techniques (i.e. watering, wheel washes, street sweeping).</li> <li>Monitor meteorological conditions such as wind speed and direction and adjust construction techniques as required.</li> <li>Conduct air quality monitoring near worksites.</li> </ul>
<b>Traffic and access</b>	<ul style="list-style-type: none"> <li>Ensure access to properties near worksites is maintained.</li> <li>Provide detours at Peter Doherty Street and Annerley Road.</li> <li>Ensure safe access is maintained near worksites and to nearby public transport, especially for children, elderly and people with mobility difficulties and vision impairments.</li> <li>Provide worker parking for 30 vehicles at Boggo Road worksite and 72 vehicles at Woolloongabba worksite and use shuttles from other worker parking sites.</li> <li>Restrict heavy vehicle movements during school drop-off and pick-up times and also during peak periods for Stanley Street in the morning peak and Vulture Street in the afternoon peak.</li> <li>Ensure roadworks occur during off-peak traffic conditions.</li> </ul>
<b>Heritage</b>	<ul style="list-style-type: none"> <li>Conduct pre-and post-construction building condition surveys at Boggo Road Gaol.</li> <li>Progressively rehabilitate the Boggo Road worksite.</li> <li>Conduct ongoing monitoring of vibration and settlement.</li> <li>Prepare a cultural heritage management plan.</li> </ul>
Operation Key findings	Mitigation measures to reduce impacts
<b>Noise and vibration</b>	<ul style="list-style-type: none"> <li>Monitor noise and vibration levels during the first and tenth year of operation.</li> </ul>

### Contact us

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\*Free call from anywhere in Australia, call charges apply for calls from mobile phones and payphones.

August 2011

## Welcome to the Cross River Rail local area update for Salisbury to Rocklea.

Cross River Rail is a proposed new 18 kilometre north-south rail line in Brisbane's inner city, including:

- 10 kilometre underground tunnels from Yeerongpilly to Victoria Park, under the Brisbane River
- four new underground train stations – Boggo Road, Gabba, Albert Street and Roma Street
- two new surface train stations – Yeerongpilly and Ekka
- two upgraded train stations – Rocklea and Moorooka.

This update outlines how planning for Cross River Rail is progressing in your area, including:

- changes that have been made to the reference design since late 2010
- key findings of the environmental impact statement including proposed mitigation measures
- construction methods and worksite locations.

## Key points

- Five kilometres of new and realigned surface tracks.
- Rocklea Station to be upgraded.
- Beaudesert Road service road level crossing to be closed.
- Emergency access point to be installed on Beaudesert Road service road for access in the event of a major flood.
- Environmental impact statement now available for public review and comment.
- Get involved in consultation events – check the project website for details.



## Local area update Salisbury to Rocklea

# Changes to the local road and rail network

*Cross River Rail includes five kilometres of new and realigned surface train tracks between Salisbury junction and the southern tunnel portal at Yeerongpilly. This would allow passenger and freight services to be separated and provide the necessary track capacity for the future growth of the rail network.*

The widening of the rail corridor to accommodate two additional rail lines, as well as the increased frequency of trains, would require some changes to the local road network. This includes the closure of the Beaudesert Road service road level crossing.

With Cross River Rail almost doubling train movements, longer delays and safety concerns for local motorists would affect the operation of the level crossing, meaning alternate access would be needed.

During consultation on the Cross River Rail reference design in November 2010, community members provided input about the proposed local road changes and the impact of the level

crossing's closure on local traffic movements and access in the area.

Taking into consideration feedback received from the public, an initial impact assessment, further engineering and the January 2011 floods, changes have been made to maximise the benefits and minimise the impacts of the project on the local community.

As a result, improved access in and out of Rocklea via the Beaudesert Road overpass has been added.

Detailed information about the local road changes and other features of Cross River Rail in this area, including a map, is available overleaf.

## More services, more often

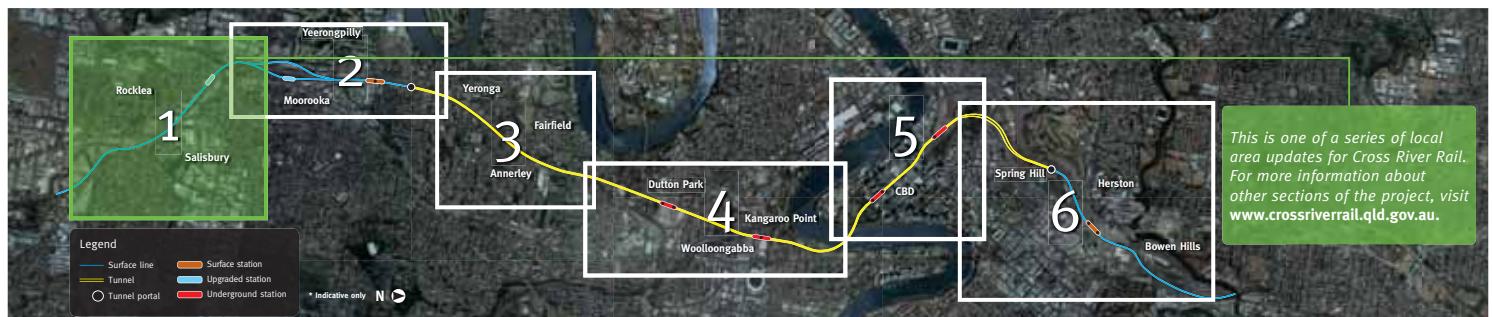
With Cross River Rail, there would be faster, more frequent and more reliable train services from the suburbs, including Salisbury and Rocklea – to the city.

When Cross River Rail is operational, it is proposed Gold Coast, Beenleigh, Caboolture, Petrie and Sunshine Coast trains would use the new rail tunnels. This would give more capacity for other services on the surface rail network. Kuraby trains (which would service Salisbury and Rocklea stations) and Cleveland trains would use the Merivale Bridge to cross the river between South Brisbane and Roma Street stations.

The extra capacity at the core of the rail network would enable more services to be added to all lines on the Citytrain network. At Salisbury and Rocklea stations this means more services, more often – at least every 10 minutes in the two-hour morning peak period (with the ability to increase frequency in the future), and every 15 minutes in the off-peak period.

From Salisbury and Rocklea stations, people could access Cross River Rail by interchanging at Yeerongpilly Station.

Interchanging would connect people to key destinations currently not easily accessible by rail, including the southern end of the CBD, Woolloongabba and the RNA Showgrounds.



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## Reference design features

In November 2010, the Cross River Rail reference design was released bringing together the full details of the project, including tunnel alignment, station locations, construction sites and details of associated infrastructure for community and stakeholder feedback.

Key changes to the road network, in Salisbury and Rocklea, and proposed traffic routes, are highlighted on the map above.

Key features of the reference design between Salisbury and Rocklea include:

- a new passenger track from south of Rocklea Station through to the new Yeerongpilly Station and into the Cross River Rail tunnels
- a new dual gauge freight track, approximately four kilometres long, provided on the western side of the surface rail corridor from Musgrave Road, Acacia Ridge through Salisbury junction to just south of Tennyson Loop junction
- modifying the existing tracks to provide for track realignments
- upgrading Rocklea Station
- a new pedestrian overpass at Salisbury Station
- signalling the intersection at Gladstone Street and Muriel Avenue
- a new two-track rail bridge over Muriel Avenue
- realigning Dollis Street to accommodate the adjacent rail line
- maintaining the existing access of Norbury Street and Dollis Street.

## Rocklea access

With train movements almost doubling, waiting times for local motorists and safety concerns would make the Beaudesert Road service road level crossing unviable.

To ensure daily and emergency access for Rocklea residents is maintained, changes to the existing road network would include:

- converting Tramore Street to a two-way connection, past Brothers St Brendan's (currently one-way) for northbound access over the Beaudesert Road overpass
- raising and realigning Beaudesert Road service road above the one in 100 year flood event
- installing an emergency flood access point on Beaudesert Road service road for vehicles to access the Beaudesert Road overpass at Rocklea
- signalling the intersection at Beaudesert Road, Lillian Avenue and Tramore Street to ensure safe access
- reconstructing the southbound on-ramp to the Ipswich Motorway at Rocklea.

## Flood management

During consultation in late 2010 the community raised concerns that the closure of the Beaudesert Road service road level crossing would impact on access to local roads during flooding (this was reinforced in the January 2011 floods).

As a result, the reference design changes have incorporated the realignment and raising of the Beaudesert Road service road that connects to Lillian Avenue, above the one in 100 year flood level.

This raising allows an emergency access point to be added to the service road to provide a safe and direct link to Beaudesert Road in a major flood event when the Beaudesert Road and Lillian Avenue intersection is under flood water.

## Where to find out more

More detailed information about Cross River Rail is available in the environmental impact statement, which is now available for public review and comment.

You can find the environmental impact statement:

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For more information on how to access the environmental impact statement, please contact the project team.

## Construction in your area

Construction of Cross River Rail would take about five and a half years, with varying levels of activity at key worksites during this time.

The key construction works between Salisbury and Rocklea would involve the construction of two additional rail tracks, for both passenger and freight services, relocation of existing tracks, an upgrade to Rocklea Station and changes to the local road network.

Local street realignments would be undertaken prior to the closure of the Beaudesert Road service road open level crossing and before track work commences.

Construction worksites in Salisbury would be located within the rail corridor, south of Riwena Road, and at the corner of Dollis Street/Lillian Avenue and Beaudesert Road. These worksites would support construction of new tracks, modifications to the existing tracks and local roadworks.

Construction sites would also be located between Fairfield Road and the Ipswich Motorway, south of Medway Street at Rocklea, and on industrial land at Annie Street, east of Rocklea Station. These would support construction of new tracks, including the Muriel Avenue Bridge, the upgrade of Rocklea Station and works associated with the Ipswich Road on-ramp.

Construction worksites would include site offices, worker car parking, materials storage, screens and measures to reduce noise and dust impacts.

Surface construction outside of the rail corridor at Salisbury and Rocklea would be generally carried out during the day, 6:30am to 6:30pm, Monday to Saturday (excluding public holidays).

However, works within the 'live' rail corridor or on major roads (for example, reconstructing the southbound on-ramp of the Ipswich Motorway) would need to be undertaken outside of these hours, including at night and on public holidays, to minimise impacts on rail and road operations.

### Consultation

Ongoing consultation and communication would be undertaken during construction to ensure that local communities and other stakeholders are kept informed. This would include a process for handling and responding to community complaints about construction impacts.

More detail about construction activities including work hours and mitigation measures is outlined in the environmental impact statement.

## Key environmental impact statement findings

The environmental impact statement provides detailed information about the environmental, social and economic benefits and impacts of the project. It also includes a draft *Outline Environmental Management Plan* that proposes measures to avoid, mitigate and manage potential impacts. Some of the key findings for the Salisbury to Rocklea section of the project are listed below.

Construction Key findings	Mitigation measures to reduce impacts
<b>Noise</b>  Some high noise levels may be experienced from surface track work as it occurs over short distances. With mitigation, construction activities associated with the upgrade of Rocklea Station would satisfy the Queensland Rail noise goals. Temporary disruption to local amenity is likely for residents nearest to the Ipswich Motorway roadworks.  <b>Traffic and access</b>  Potential for some impacts to local traffic due to the closure of the Beaudesert Road service road level crossing and changes to the local road network, and construction traffic.	<ul style="list-style-type: none"> <li>• Manage, where possible, the duration of track construction near sensitive receivers and apply mitigation measures to satisfy the Queensland Rail noise goals.</li> <li>• Notify and consult nearby properties where out-of-hours work is required on the Ipswich Motorway and in the rail corridor, to develop mitigation measures for potential impacts.</li> </ul> <ul style="list-style-type: none"> <li>• Notify local communities of changes to the local traffic network and new emergency access provisions.</li> <li>• Minimise the use of local streets for access by heavy construction vehicles.</li> <li>• Ensure access to properties near worksites is maintained.</li> <li>• Provide car parks at Salisbury and use shuttles from other worker parking sites.</li> <li>• Ensure safe pedestrian and cycle access is maintained near worksites and to Rocklea and Salisbury stations, especially for children, elderly and people with mobility difficulties.</li> <li>• Provide alternative bus services if train services are temporarily disrupted.</li> </ul>
<b>Operation Key findings</b>	<b>Mitigation measures to reduce impacts</b>
<b>Noise</b>  Noise barriers would be required at Salisbury and Rocklea to ensure rail operations comply with the Queensland Rail noise goals. Urban design measures would be required to off-set the visual and amenity concerns some people may have about the noise barriers. The introduction of new generation trains over time would help to reduce noise levels.  <b>Traffic</b>  Permanent changes to the road network around Rocklea and Salisbury.	<ul style="list-style-type: none"> <li>• Upgrade the height of the existing noise barrier at Salisbury and provide a noise barrier north of Salisbury Station (up to seven metres high).</li> <li>• Provide noise barriers (up to four and a half metres high) north and south of Rocklea Station.</li> <li>• Incorporate landscaping, urban design and public art treatments to new noise barriers.</li> <li>• Monitor noise levels during the first and tenth year of operation.</li> </ul> <ul style="list-style-type: none"> <li>• Signalise intersections at Beaudesert Road and Lillian Avenue, and at Gladstone Street and Muriel Avenue to assist with traffic flow.</li> </ul>

## Contact us

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August 2011

## Welcome to the Cross River Rail local area update for Spring Hill to Bowen Hills.

Cross River Rail is a proposed new 18 kilometre north-south rail line in Brisbane's inner city, including:

- 10 kilometre underground tunnels from Yeerongpilly to Victoria Park, under the Brisbane River
- four new underground train stations – Boggo Road, Gabba, Albert Street and Roma Street
- two new surface train stations – Yeerongpilly and Ekka
- two upgraded train stations – Rocklea and Moorooka.

This update outlines how planning for Cross River Rail is progressing in your area, including:

- changes that have been made to the reference design since late 2010
- key findings of the environmental impact statement including proposed mitigation measures
- construction methods and worksite locations.

## Key points

- Rejuvenated year-round Ekka Station to support the Bowen Hills Urban Development Area including the \$2.3 billion RNA Showgrounds redevelopment.
- Feedback from community prompts changes to reference design near northern tunnel portal – resulting in reduced impacts on Victoria Park.
- Environmental impact statement now available for public review and comment.
- Get involved in consultation events – check the project website for details.



Artist's impression of the new Ekka Station

## Next stop – Ekka Station

*Cross River Rail includes the redevelopment and relocation of the existing Exhibition Station into a new fully operational, all-year-round station – Ekka Station.*

Ekka Station would provide vital transport infrastructure underpinning the redevelopment of the 108 hectare, high density commercial and residential Bowen Hills Urban Development Area including the \$2.3 billion RNA Showgrounds redevelopment.

The station would also make accessing the Royal Brisbane and Women's Hospital by train much easier – providing benefits for outpatients and visitors, and the hospital's 7200 employees.

The station would link the growing inner city hub with the CBD by providing direct rail access to Roma Street and Albert Street stations – with fast, frequent and reliable train services.

When Cross River Rail is built, there would be a train stopping at the new Ekka, Roma Street and Albert Street stations about every five minutes, in both directions, during the two-hour morning peak period.

Travel time between:

- Ekka Station and Roma Street Station would be about two and a half minutes
- Roma Street Station and Albert Street Station would be about one and a half minutes.

### Key features of Ekka Station include:

- a new surface station to replace the existing Exhibition Station
- new station access from O'Connell Terrace and RNA Showgrounds
- 220 metre long, 12 metre wide platforms – with a new raised island platform between O'Connell Terrace and the proposed Ekka Plaza
- better connectivity between the Royal Brisbane and Women's Hospital and the new Ekka Station, located about 350 metres from the hospital
- improved facilities – new ticketing gates and better safety
- 100 per cent covered platforms to protect passengers
- a plaza forecourt on O'Connell Terrace
- a new signalised pedestrian crossing on O'Connell Terrace
- new cycle parking facilities.

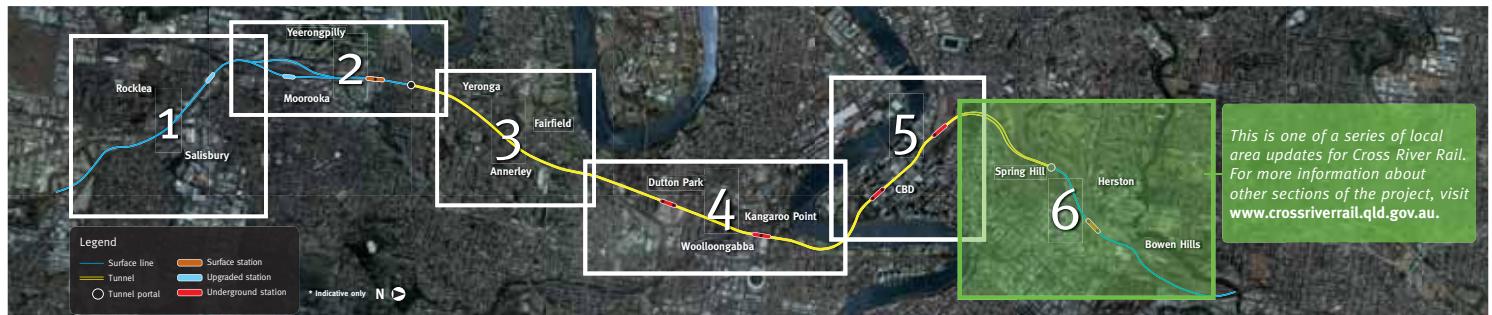
## Reference design changes

In November 2010, the Cross River Rail reference design was released bringing together the full details of the project, including the tunnel alignment, station locations, construction sites and details of associated infrastructure for public feedback.

Changes have since been made to the reference design following an initial impact assessment, further engineering, the January 2011 floods and feedback received from the public. This is to maximise the benefits and minimise the impacts of the project on the local community.

The key design changes between Spring Hill and Bowen Hills are:

- northern tunnel portal construction site reduced
- construction traffic access and worker parking relocated to minimise impacts on Victoria Park
- construction site areas changed to better fit with RNA redevelopment at Ekka Station.



*This is one of a series of local area updates for Cross River Rail. For more information about other sections of the project, visit [www.crossrivelrail.qld.gov.au](http://www.crossrivelrail.qld.gov.au).*

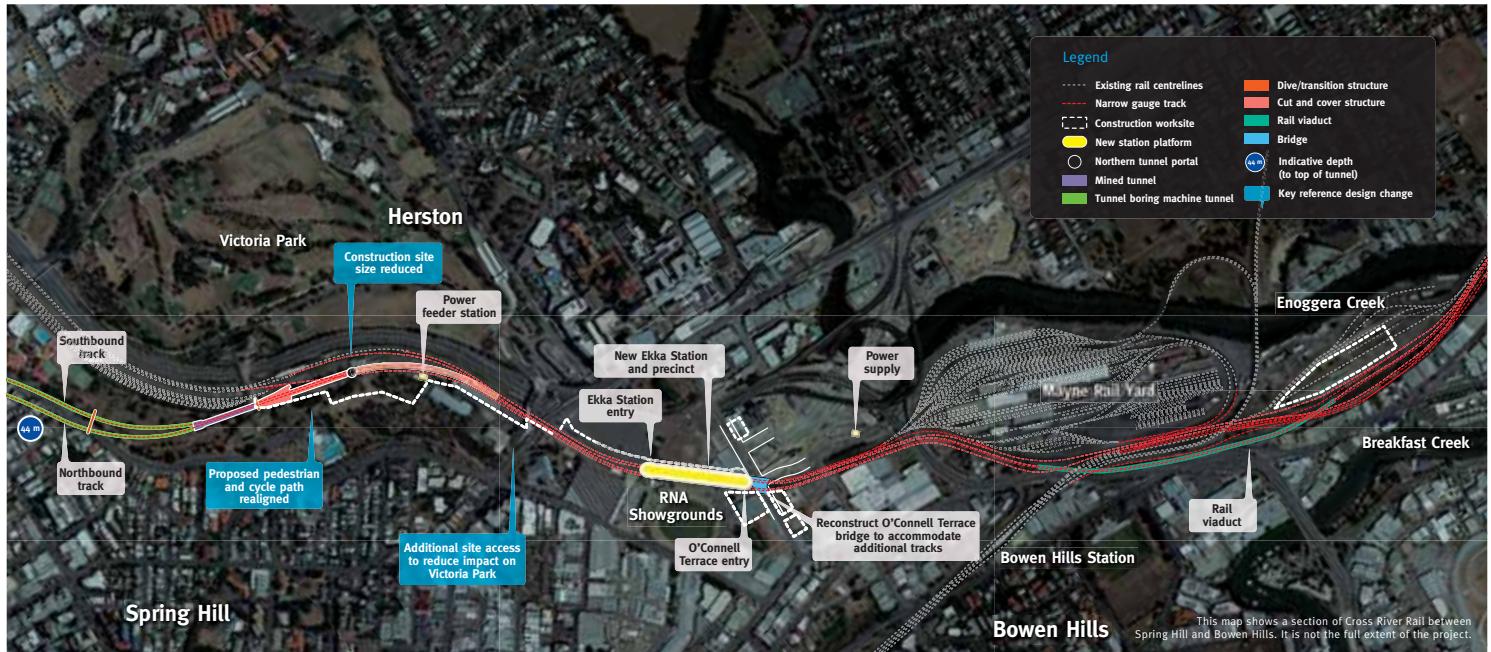


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## Construction in your area

Construction of Cross River Rail would take about five and a half years, with varying levels of activity at key worksites during this time.

The key construction works in Bowen Hills and Spring Hill include construction of the northern tunnel portal at Victoria Park and Ekka Station (within the RNA Showgrounds), regrading O'Connell Terrace and surface works.

### Northern tunnel portal

A worksite at Victoria Park would be located adjacent to the Exhibition rail line, north of Centenary Pool, partly within Victoria Park and the existing rail corridor.

This site would support construction of the northern tunnel portal including a dive structure and cut and cover tunnel, tunnel fit out, laying of new track and connections with the existing surface rail network.

The two tunnel boring machines used to construct the tunnels from Woolloongabba would also be removed at this site.

About 96 000 cubic metres of spoil would be removed from the worksite by an average of 30 trucks per day. Spoil haulage vehicles would use Bowen Bridge Road, the Inner City Bypass, Hale Street, Milton Road and the Centenary Motorway, before joining the Ipswich Motorway. From there, spoil would be taken to a spoil placement site at Swanbank.

### Ekka Station

A range of worksites would be required at the RNA Showgrounds and on O'Connell Terrace to construct Ekka Station, surface tracks and to regrade O'Connell Terrace.

Construction works would include decommissioning and demolishing the existing Exhibition Station, constructing a new elevated station and additional surface tracks and widening and raising O'Connell Terrace.

## Where to find out more

More detailed information about Cross River Rail is available in the environmental impact statement, which is now available for public review and comment.

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Heavy vehicles would access the worksites from O'Connell Terrace, Sneyd Street and Tufton Street.

It is estimated that construction works at the RNA Showgrounds and on O'Connell Terrace would take about 30 months, with varying levels of activity staggered over the construction period.

### Northern surface works

The northern surface works would extend from the existing Exhibition Loop, through the RNA Showgrounds to Mayne Rail Yard along the existing rail corridor.

### Work hours

Surface construction at Victoria Park, RNA Showgrounds and Mayne Rail Yard worksites would be generally carried out during day-time hours, 6:30am to 6:30pm, Monday to Saturday (excluding public holidays).

However, works within the 'live' rail corridor or on major roads would need to be conducted outside of these hours, including nights and public holidays, to minimise impacts on rail and road operations.

Haulage vehicles would travel on main or arterial roads 24 hours a day, seven days a week to minimise impacts on day-time traffic flows.

Underground construction of the tunnels would be carried out 24 hours a day, seven days a week.

### Consultation

Ongoing consultation and communication would be undertaken during construction to ensure that local communities and other stakeholders are kept informed. This would include a process for receiving and responding to construction related complaints.

More details about construction activities including work hours and mitigation measures is outlined in the environmental statement.

## Key environmental impact statement findings

The environmental impact statement provides detailed information about the environmental, social and economic benefits and impacts of the project. It also includes a draft *Outline Environmental Management Plan* that proposes measures to avoid, mitigate and manage potential impacts. Some of the key findings for the Spring Hill to Bowen Hills section of the project are listed below. More detailed information is provided in the environmental impact statement.

Construction Key findings	Mitigation measures to reduce impacts
<b>Noise and vibration</b>	<ul style="list-style-type: none"> <li>Establish acoustic barriers around the worksites to manage noise impacts.</li> <li>Manage the hours of excessively noisy work.</li> <li>Provide advance notice to owners and residents about activities likely to approach or exceed noise goals including nearby schools, Centenary Pool and the RNA Showgrounds.</li> <li>Conduct building condition surveys, where required.</li> </ul>
<b>Northern surface works</b>	<ul style="list-style-type: none"> <li>In most circumstances, with mitigation measures in place, environmental objectives relating to noise would generally be achieved. Exceptions would be managed on a case-by-case basis.</li> <li>Some initial construction works such as demolition and piling would be noisy, however these works would occur for short periods (see the environmental impact statement for details).</li> <li>Predicted vibration levels at the nearest heritage listed building in RNA Showgrounds would satisfy vibration goals.</li> </ul>
<b>Air quality</b>	<ul style="list-style-type: none"> <li>Potential for some dust impacts at sensitive receptors nearest to the construction worksite at Victoria Park from site establishment, excavation and the loading and removal of spoil.</li> <li>Undertake loading and handling of spoil within an enclosure and ensure spoil trucks leaving the worksite are covered.</li> <li>Use dust suppression techniques (i.e. watering, wheel washes, street sweeping).</li> <li>Conduct on-going air quality monitoring at Victoria Park, Brisbane Girls Grammar School and Centenary Pool.</li> </ul>
<b>Traffic and access</b>	<ul style="list-style-type: none"> <li>Changes to local pedestrian and cycle movements at Victoria Park due to the realignment of the shared cycle path around the worksite.</li> <li>Potential disruption to local access at RNA Showgrounds due to the realignment of O'Connell Terrace.</li> <li>Ensure access to properties near worksites is maintained.</li> <li>Ensure access is maintained to nearby public transport, especially for children, elderly and people with mobility difficulties.</li> <li>Ensure emergency vehicle access to the Royal Brisbane and Women's Hospital is maintained.</li> <li>Provide lane for southbound vehicles on Gregory Terrace to pass stationary right-turning construction vehicles.</li> <li>Limit truck movements on Gregory Terrace west of Roger Street during school drop-off and pick-up.</li> <li>Reconfigure existing RNA Showgrounds parking.</li> <li>Avoid major haulage activities during events such as the Ekka.</li> <li>Provide alternative bus services where train services are temporarily disrupted.</li> <li>Work with Urban Land Development Authority and RNA to manage concurrent works on other projects.</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>Temporary impact on Victoria Park due to a small part of the park being used for the worksite.</li> <li>Permanent loss of a small area of parkland adjacent to the rail corridor would not affect the long term recreational, aesthetic or cultural heritage values of the park.</li> <li>Maintain safe access for park users.</li> <li>Monitor site for Indigenous artefacts, archaeological and heritage values.</li> <li>Progressively rehabilitate Victoria Park following construction, including reinstatement of vegetation.</li> </ul>
Operation Key findings	Mitigation measures to reduce impacts
<b>Noise and vibration</b>	<ul style="list-style-type: none"> <li>Noise and vibration from underground train operations is expected to be negligible.</li> <li>Monitor noise and vibration levels during the first and tenth year of operation.</li> </ul>

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August 2011

## Welcome to the Cross River Rail local area update for Yeronga to Fairfield.

Cross River Rail is a proposed new 18 kilometre north-south rail line in Brisbane's inner city, including:

- 10 kilometre underground tunnels from Yeerongpilly to Victoria Park, under the Brisbane River
- four new underground train stations – Boggo Road, Gabba, Albert Street and Roma Street
- two new surface train stations – Yeerongpilly and Ekka
- two upgraded train stations – Rocklea and Moorooka.

This update outlines how planning for Cross River Rail is progressing in your area, including:

- changes that have been made to the reference design since late 2010
- key findings of the environmental impact statement including proposed mitigation measures
- construction methods and worksite locations.

## Key points

- Southern tunnel portal moved further south – meaning fewer properties are required
- Ventilation and emergency access building moved further south in Fairfield.
- Environmental impact statement now available for public review and comment.
- Get involved in consultation events – check the project website for details.



## Local area update Yeronga to Fairfield

Artist's impression of the ventilation and emergency access building – viewed from Railway Road, Fairfield.

## Southern tunnel portal and ventilation and emergency access building move south

*Changes have been made to the Cross River Rail reference design to maximise the benefits and minimise the impacts of the project on the local community.*

A key change to the reference design is moving the southern tunnel portal further south, in Yeerongpilly.

Due to the length of the tunnels between the southern tunnel portal at Yeerongpilly and Boggo Road Station (3.4 kilometres), a ventilation and emergency access building is required midway to ensure the safety of passengers in the event of an emergency.

The building was originally proposed to be located in the traffic median between Fairfield Road and Brougham Street, Fairfield (opposite Fairfield Gardens Shopping Centre). It is now proposed to be located 500 metres further south, at Railway Road, Fairfield (near the Energex Substation).

By locating the ventilation and emergency access building on land at Railway Road, Fairfield, there would be:

- better flood immunity as the ground level is four metres higher than the previous reference design location
- a reduction in the building height (previously 12.5 metres, now eight and a half metres)

- safer access for emergency services and evacuated passengers in the event of a major incident, away from a busy arterial road
- no need for a construction worksite in Robinson Park
- no new residential property requirements (for the ventilation and emergency access building)

The building, which is likely to be about 24 metres long, seven metres wide and five metres tall with an eight and a half metre high raised structure, would include ventilation equipment for the tunnels, pumps to remove water and stairs to the surface for emergency exit, maintenance and emergency services access.

As the tunnels would be used by electric trains there would be no exhaust emissions, unlike a road tunnel.

The ventilation equipment is designed for emergency use and may occasionally be used to remove excess heat from the tunnels.

Railway Road would be realigned to accommodate the new building.

## More services, more often

With Cross River Rail, there would be faster, more frequent and more reliable train services from the suburbs – including Yeronga and Fairfield – to the city.

When Cross River Rail is operational, it is proposed Gold Coast, Beenleigh, Caboolture, Petrie and Sunshine Coast trains would use the new rail tunnels. This would give more capacity for other services on the surface rail network. Kuraby trains (which would service Yeronga and Fairfield stations) and Cleveland trains would use the Merivale Bridge to cross the river between South Brisbane and Roma Street stations.

The extra capacity at the core of the rail network would enable more services to be added to all lines on the Citytrain network. At Yeronga and Fairfield stations this means more services, more often – at least every 10 minutes in the two-hour morning peak period (with the ability to increase frequency in the future) and every 15 minutes in the off-peak period.

From Yeronga and Fairfield stations, people could access Cross River Rail by interchanging at Park Road Station and connecting to Boggo Road Station.

Interchanging would connect people to key destinations currently not easily accessible by rail, including the southern end of the CBD and Woolloongabba.



Australian Government

Nation Building Program



Queensland  
Government



## Reference design changes

In November 2010, the Cross River Rail reference design was released bringing together the full details of the project, including tunnel alignment, station locations, construction sites and details of associated infrastructure for public feedback.

Changes have since been made to the reference design following an initial impact assessment, further engineering, the January 2011 floods and feedback received from the public. This is to maximise the benefits and minimise the impact of the project on the local community.

There have been some design changes between Yeronga and Fairfield, mainly around the location of the ventilation and emergency access building.

## Construction in your area

Construction of Cross River Rail would take about five and a half years, with varying levels of activity at key worksites during this time.

The key construction works between Yeronga and Fairfield include construction of the ventilation and emergency access building in Fairfield and underground tunnelling.

### Ventilation and emergency access building

A minor worksite, required to construct the ventilation and emergency access building, would be established on the eastern side of Fairfield Road, in the landscaped area between Fairfield Road and Railway Road, south of Bledisloe Street.

A permanent realignment of Railway Road, approximately 10 metres to the east between Bledisloe and Sunbeam streets, would be required after construction is complete.

Construction works would include site establishment and excavation and construction of the shaft and building. The worksite would include site offices, worker car parking and acoustic screens to reduce noise and dust impacts.

Surface construction at Railway Road would be generally carried out during the day, 6.30am to 6.30pm, Monday to Saturday (excluding public holidays).

Access to the worksite would be from Bledisloe Street from a left in/left out arrangement onto Fairfield Road. Heavy vehicle access would be from Fairfield Road, with northbound vehicles making a u-turn at a modified Brougham Street intersection, in order to access Bledisloe Street from the southbound lane of Fairfield Road.

About 11 500 cubic metres of spoil, during the excavation of the shaft, would be removed by an average of 12 trucks per day.

Spoil would be transported to a spoil placement site at Swanbank via Fairfield Road and the Ipswich

Motorway. Spoil haulage would not occur on Venner Road.

It is estimated that construction works at Railway Road would take about 15 months, with varying levels of activity staggered over the construction period.

### Tunnels

The twin tunnels between Yeronga and Fairfield would range in depth from about 13 metres to 29 metres to the top of the tunnel.

The tunnels would have a bored diameter of about seven metres and a finished internal diameter of about six metres. The two tunnels would be connected at regular intervals with cross-passages for use in the event of an incident.

Two tunnel boring machines would commence tunnel construction at Yeerongpilly and head north to Woolloongabba. A further two tunnel boring machines would commence tunnelling at Woolloongabba and head to Victoria Park in the north.

Underground construction of the tunnels would be carried out 24 hours a day, seven days a week, provided environmental objectives are met. This would allow construction of the tunnels to advance at a rate of about 90 metres to 140 metres per week.

Spoil from the construction of the tunnels would be removed at the main construction worksite at Yeerongpilly.

### Consultation

Ongoing consultation and communication would be undertaken during construction to ensure that local communities and other stakeholders are kept informed. This would include a process for handling and responding to community complaints about construction impacts.

More detail about construction activities including work hours and mitigation measures is outlined in the environmental impact statement.

## Key environmental impact statement findings

The environmental impact statement provides detailed information about the environmental, social and economic benefits and impacts of the project. It also includes a draft *Outline Environmental Management Plan* that includes proposed measures to avoid, mitigate and manage potential impacts. Some of the key findings for the Yeronga to Fairfield section of the project are listed below.

Construction Key findings	Mitigation measures to reduce impacts
<b>Noise</b>	<ul style="list-style-type: none"> <li>Install acoustic screens around the worksite prior to the commencement of piling work.</li> <li>Limit works associated with the site establishment, piling and realignment of Railway Road to day-time hours, where possible.</li> <li>Monitor construction noise at residential premises on Railway Road, Fairfield.</li> <li>Notify and consult with nearby residents to develop mitigation measures should noise goals be exceeded.</li> </ul>
<b>Vibration</b>	<ul style="list-style-type: none"> <li>Notify residents above the tunnel alignment about timing of tunnel boring machine construction.</li> <li>Conduct building condition surveys, where required.</li> <li>Conduct vibration monitoring, if required.</li> </ul>
<b>Traffic and access</b>	<ul style="list-style-type: none"> <li>Ensure access to properties near the worksite is maintained.</li> <li>Limit worker parking in local streets – provide 14 car parks on site and use shuttles from other worker parking sites.</li> <li>Ensure safe pedestrian and cycle access is maintained near the worksite and to nearby public transport, especially for children, elderly and people with mobility difficulties.</li> <li>Provide construction vehicle access to the worksite via Fairfield Road and Bledisloe Street to avoid local streets.</li> </ul>
<b>Operation Key findings</b>	<b>Mitigation measures to reduce impacts</b>
<b>Noise and vibration</b>	<ul style="list-style-type: none"> <li>Monitor noise and vibration levels during the first and tenth year of operation.</li> <li>Incorporate noise mitigation measures into the design of the ventilation outlet.</li> </ul>



### Where to find out more

More detailed information about Cross River Rail is available in the environmental impact statement, which is now available for public review and comment.

You can find the environmental impact statement:

- online: [www.crossriveryrail.qld.gov.au](http://www.crossriveryrail.qld.gov.au)

- at the following libraries – Coopers Plains, Fairfield, Annerley, State Library, Brisbane Square, Grange and Hamilton

- at community consultation events – event details are available on the project website and advertised in local Quest newspapers
- on CD – to request a copy please contact the project team on 1800 462 730\* or email [info@crossriveryrail.qld.gov.au](mailto:info@crossriveryrail.qld.gov.au).

For more information on how to access the environmental impact statement, please contact the project team.

## Contact us

**Phone:** 1800 462 730\* (during business hours)  
**Web:** [www.crossriveryrail.qld.gov.au](http://www.crossriveryrail.qld.gov.au)  
**Email:** [info@crossriveryrail.qld.gov.au](mailto:info@crossriveryrail.qld.gov.au)

**Non-English speakers** – if you require the assistance of an interpreter, please contact 13 14 50 (from within Australia) and quote 1800 462 730\*. If you have a hearing or speech impairment, you can call through the TTY service on 13 36 77 and quote 1800 462 730\*.

If you have a vision impairment, contact the Cross River Rail team on 1800 462 730\* to receive information in an alternative format.

\*Free call from anywhere in Australia, call charges apply for calls from mobile phones and payphones.

## Attachment E Property owner letters



25 August 2011

**Re: Your property at [REDACTED]**

I wrote to you in November 2010 to advise the Queensland Government was planning Cross River Rail, a new 18 kilometre north-south rail line that includes a 10 kilometre tunnel, four new underground stations at Boggo Road, Gabba, Albert Street and Roma Street, and two new surface stations at Yeerongpilly and Ekka. It also includes new track and upgrades to stations at Rocklea and Moorooka.

At that time I also advised you that based on the reference design of Cross River Rail, your property would be directly affected if the project was approved to proceed.

You may be aware the Queensland Government announced in January 2011 that the flood reconstruction effort would see a delay to the start of construction on Cross River Rail, originally planned to commence in 2013, by at least two years.

Since I last wrote to you, the project team has progressed the detailed feasibility planning for Cross River Rail. Following feedback received from the public on the reference design in late 2010, an initial impact assessment, value engineering and the January 2011 floods, some changes have been made to the reference design to maximise the benefits and minimise the impacts on the local community.

The changes to the reference design mean that if the project proceeds on the basis of the changed design, your property would **no longer be required for Cross River Rail**.

Please find enclosed further information about changes to the Cross River Rail reference design in the latest project newsletter.

The environmental impact statement, which assesses the project's likely environmental, social and economic impacts and proposes ways to avoid, manage or mitigate construction impacts will be available from Tuesday 30 August 2011.

I invite you to talk with a member of our project team about changes to your property requirement and key findings of the environmental impact statement, including construction impacts and mitigation measures.

**Department of Transport and Main Roads**

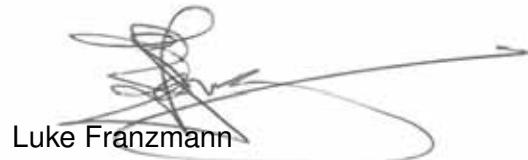
Cross River Rail  
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Ref # CRR001a  
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Facsimile +61 7 3253 4639  
Website [www.crossriveryrail.qld.gov.au](http://www.crossriveryrail.qld.gov.au)  
Email info@crossriveryrail.qld.gov.au

The detailed feasibility phase for Cross River Rail is planned to be completed late this year. I can assure you the local community will be kept informed of developments such as state and federal government project approvals, and the timing of construction.

Please contact the project team on 1800 462 730 to arrange a convenient meeting time to discuss your property or if you would like further information about Cross River Rail.

Yours sincerely

A handwritten signature in black ink, appearing to read "Luke Franzmann".

Luke Franzmann

**Project Director, Cross River Rail**

Enc ()



30 August 2011

Dear

**Re: Your property at [REDACTED]**

I wrote to you in November 2010 to advise the Queensland Government was planning Cross River Rail, a new 18 kilometre north-south rail line that includes a 10 kilometre tunnel, four new underground stations at Boggo Road, Gabba, Albert Street and Roma Street, and two new surface stations at Yeerongpilly and Ekka. It also includes new track and upgrades to stations at Rocklea and Moorooka.

At that time I also advised you that based on the reference design of Cross River Rail, your property would be directly affected if the project was approved to proceed.

You may be aware the Queensland Government announced in January 2011 that the flood reconstruction effort would see a delay to the start of construction on Cross River Rail, originally planned to commence in 2013, by at least two years.

Since I last wrote to you, the project team has progressed the detailed feasibility planning for Cross River Rail. Following feedback received from the public on the reference design in late 2010, an initial impact assessment, value engineering and the January 2011 floods, changes have been made to the reference design to maximise the benefits and minimise the impacts on the local community.

These changes to the reference design mean that if the project proceeds on the basis of the changed design, there would **no longer be a surface requirement from your property, instead the Cross River Rail tunnels would pass underneath your property and there would be a volumetric requirement**.

Please find enclosed further information about changes to the Cross River Rail reference design in the latest project newsletter and a fact sheet about volumetric acquisition.

The environmental impact statement, which assesses the project's likely environmental, social and economic impacts and proposes ways to avoid, manage or mitigate construction impacts will be available from Tuesday 30 August 2011.

**Department of Transport and Main Roads**

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Email info@crossriveryrail.qld.gov.au

It is important to note that this is not a resumption notice. The detailed feasibility phase for Cross River Rail is planned to be completed late this year. I can assure you the local community will be kept informed of developments such as state and federal government project approvals, and the timing of property resumptions and construction.

I invite you to talk with a member of our project team about changes to your property requirement and key findings of the environmental impact statement, including construction impacts and mitigation measures.

Please contact the project team on 1800 462 730 if you would like to arrange a convenient meeting time to discuss your property or if you would like further information about Cross River Rail.

Yours sincerely

A handwritten signature in black ink, appearing to read "Luke Franzmann". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Luke Franzmann  
**Project Director, Cross River Rail**



30 August 2011

Dear

**Re: Your property [REDACTED]**

I wrote to you in November 2010 to advise the Queensland Government was planning Cross River Rail, a new 18 kilometre north-south rail line that includes a 10 kilometre tunnel, four new underground stations at Boggo Road, Gabba, Albert Street and Roma Street, and two new surface stations at Yeerongpilly and Ekka. It also includes new track and upgrades to stations at Rocklea and Moorooka.

At that time I also advised you that based on the reference design of Cross River Rail there would be a volumetric requirement underneath your property, if the project was approved to proceed.

You may be aware the Queensland Government announced in January 2011 that the flood reconstruction effort would see a delay to the start of construction on Cross River Rail, originally planned to commence in 2013, by at least two years.

Since I last wrote to you, the project team has progressed the detailed feasibility planning for Cross River Rail. Following feedback received from the public on the reference design in late 2010, an initial impact assessment, value engineering and the January 2011 floods, changes have been made to the reference design to maximise the benefits and minimise the impacts on the local community.

These changes to the reference design mean that if the project proceeds, there would be some changes to the depth of the tunnel and underground stations between Yeerongpilly and Woolloongabba. I am writing to advise that if the project proceeds, **the project would still pass underneath your property**.

Please find enclosed further information about changes to the Cross River Rail reference design in the latest project newsletter.

The environmental impact statement, which assesses the project's likely environmental, social and economic impacts and proposes ways to avoid, manage or mitigate construction impacts will be available from Tuesday 30 August 2011.

I invite you to talk with a member of our project team about your property requirement and the environmental impact statement findings at one of the upcoming consultation events. Event details are listed on page 4 of the project newsletter.

**Department of Transport and Main Roads**

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Please contact the project team on 1800 462 730 if you would like further information about Cross River Rail and your property.

Yours sincerely

A handwritten signature in black ink, appearing to read "Luke Franzmann". The signature is fluid and cursive, with a large, sweeping flourish extending from the left side.

Luke Franzmann

**Project Director, Cross River Rail**



30 August 2011

Dear

**Re: Your property at [REDACTED]**

I wrote to you in November 2010 to advise the Queensland Government was planning Cross River Rail, a new 18 kilometre north-south rail line that includes a 10 kilometre tunnel, four new underground stations at Boggo Road, Gabba, Albert Street and Roma Street, and two new surface stations at Yeerongpilly and Ekka. It also includes new track and upgrades to stations at Rocklea and Moorooka.

At that time I also advised you that based on the reference design of Cross River Rail your property would be directly affected if the project was approved to proceed.

You may be aware the Queensland Government announced in January 2011 that the flood reconstruction effort would see a delay to the start of construction on Cross River Rail, originally planned to commence in 2013, by at least two years.

Since I last wrote to you, the project team has progressed the detailed feasibility planning for Cross River Rail. Following feedback received from the public on the reference design in late 2010, an initial impact assessment, value engineering and the January 2011 floods, changes have been made to the reference design to maximise the benefits and minimise the impacts on the local community.

I am writing to advise that while there have been some changes to the reference design for Cross River Rail, **if the project proceeds the surface requirement from your property remains unchanged.**

Please find enclosed further information about changes to the Cross River Rail reference design in the latest project newsletter.

The environmental impact statement, which assesses the project's likely environmental, social and economic impacts and proposes ways to avoid, manage or mitigate construction impacts will be available from Tuesday 30 August 2011.

I invite you to talk with a member of our project team about your property requirement and the environmental impact statement findings at one of the upcoming consultation events. Event details are outlined on page 4 of the project newsletter.

**Department of Transport and Main Roads**

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Please contact the project team on 1800 462 730 if you would like further information about Cross River Rail and your property.

Yours sincerely

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Luke Franzmann

**Project Director, Cross River Rail**



30 August 2011

Dear

**Re: Your property at [REDACTED]**

I wrote to you in November 2010 to advise the Queensland Government was planning Cross River Rail, a new 18 kilometre north-south rail line that includes a 10 kilometre tunnel, four new underground stations at Boggo Road, Gabba, Albert Street and Roma Street, and two new surface stations at Yeerongpilly and Ekka. It also includes new track and upgrades to stations at Rocklea and Moorooka.

At that time I also advised you that based on the reference design of Cross River Rail there would be a volumetric requirement underneath your property, if the project was approved to proceed.

You may be aware, the Queensland Government announced in January 2011 that the flood reconstruction effort would see a delay to the start of construction on Cross River Rail, originally planned to commence in 2013, by at least two years.

Since I last wrote to you, the project team has progressed the detailed feasibility planning for Cross River Rail. Following feedback received from the public on the reference design in late 2010, an initial impact assessment, value engineering and the January 2011 floods, changes have been made to the reference design to maximise the benefits and minimise the impacts on the local community.

I am writing to advise that while there have been some changes to the reference design for Cross River Rail, **if the project proceeds the volumetric requirement from your property remains unchanged.**

Please find enclosed further information about changes to the Cross River Rail reference design in the latest project newsletter.

The environmental impact statement, which assesses the project's likely environmental, social and economic impacts and proposes ways to avoid, manage or mitigate construction impacts will be available from Tuesday 30 August 2011.

I invite you to talk with a member of our project team about your property requirement and the environmental impact statement findings at one of the upcoming consultation events planned. Event details are outlined on page 4 of the project newsletter.

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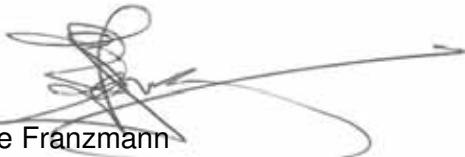
Website [www.crossrivrail.qld.gov.au](http://www.crossrivrail.qld.gov.au)

Email info@crossrivrail.qld.gov.au

It is important to note that this is not a resumption notice. The detailed feasibility phase for Cross River Rail is planned to be completed late this year. I can assure you the local community will be kept informed of developments such as state and federal government project approvals, and the timing of property resumptions and construction.

Please contact the project team on 1800 462 730 if you would like further information about Cross River Rail and your property.

Yours sincerely

A handwritten signature in black ink, appearing to read "Luke Franzmann".

Luke Franzmann

**Project Director, Cross River Rail**



30 August 2011

Dear

**Re: Cross River Rail – reference design changes at Fairfield**

As you may be aware, the Queensland Government is planning Cross River Rail, a new 18 kilometre north-south rail line that includes a 10 kilometre tunnel, four new underground stations at Boggo Road, Gabba, Albert Street and Roma Street, and two new surface stations at Yeerongpilly and Ekka. It also includes new track and upgrades to stations at Rocklea and Moorooka.

You may also be aware the Queensland Government announced in January 2011 that the flood reconstruction effort would see a delay to the start of construction on Cross River Rail, originally planned to commence in 2013, by at least two years.

Following feedback received from the public on the Cross River Rail reference design in late 2010, an initial impact assessment, value engineering and the January 2011 floods, changes have been made to the reference design to maximise the benefits and minimise the impacts on the local community.

In Fairfield, a key change to the reference design is the relocation of the ventilation and emergency access building. Originally proposed to be located in the traffic median between Fairfield Road and Brougham Street at Fairfield (opposite Fairfield Gardens), the building is now proposed to be about 500 metres south to Railway Road, Fairfield on Brisbane City Council land.

A ventilation and emergency access building is needed for the safety of passengers in the event of an emergency. It would include ventilation equipment for the tunnels, pumps to remove water and stairs to the surface for emergency exit, maintenance and emergency service access.

The relocation of the ventilation and emergency access building is a result of community feedback on the reference design late last year and the shift in location of the southern tunnel portal further south. The ventilation and emergency access building needs to be about midway between the tunnel portal and Boggo Road station.

The benefits in relocating the building to Railway Road include:

- better flood immunity as the ground level is four metres higher than the previous reference design location
- reduced building height of 8.5 metres (from 12.5 metres)
- safer location for emergency services and evacuated passengers
- the opportunity to create a larger park area at Railway Road
- no need for a construction site in Robinson Park
- no new residential property requirements.

It is important to note that as the Cross River Rail tunnels would be used by electric trains there would be no exhaust emissions, unlike a road tunnel.

Please find enclosed further information about changes to the Cross River Rail reference design in the latest project newsletter.

The environmental impact statement, which assesses the project's likely environmental, social and economic impacts and proposes ways to avoid, manage or mitigate construction impacts will be available from Tuesday 30 August 2011.

I invite you to talk with a member of our project team about Cross River Rail and the environmental impact statement findings at one of the upcoming consultation events planned. Event details are outlined on page 4 of the project newsletter.

The detailed feasibility phase for Cross River Rail is planned to be completed late this year. I can assure you the local community will be kept informed of developments such as state and federal government project approvals and the timing of construction.

Please contact the project team on 1800 462 730 if you would like further information about Cross River Rail and your property.

Yours sincerely

A handwritten signature in black ink, appearing to read "Luke Franzmann".

Luke Franzmann

**Project Director, Cross River Rail**

# CrossRiver*Rail*

A large, semi-transparent blue circle is positioned on the left side of the page, overlapping the title area. It has a soft, glowing effect and a slight shadow, giving it a three-dimensional appearance.

## **Appendix C** Construction Worksite Drawings

## Boggo Road Station

Boggo Road Station underground works construction site  
(July 2011)

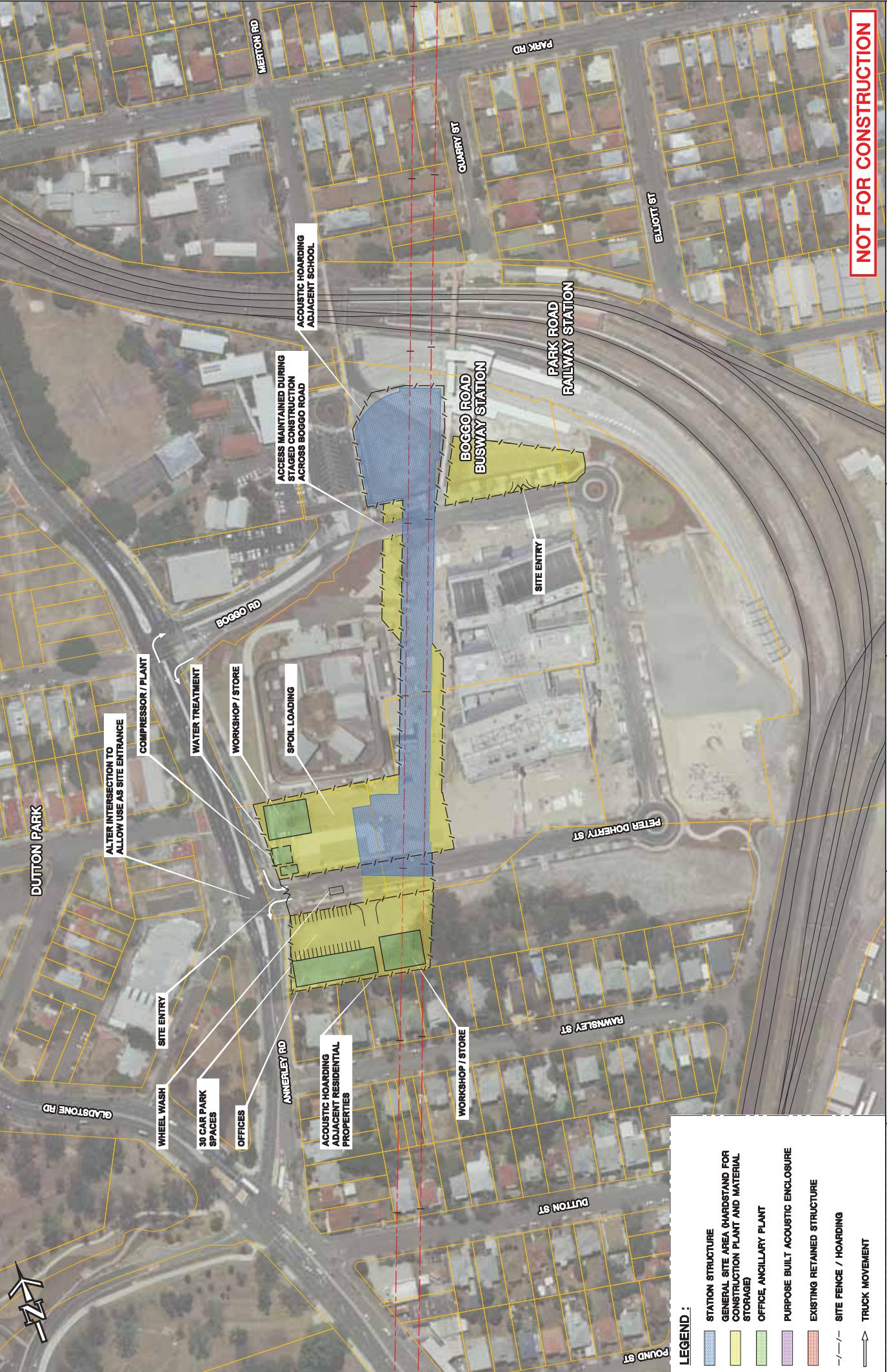
CRR-BGO-W-5000 (Rev C)

Boggo Road Station underground works construction site  
(Revised December 2011)

CRR-BGO-W-5000 (Rev D)

**NOT FOR CONSTRUCTION**

CROSS RIVER RAIL - DETAILED FEASIBILITY PHASE	
BOGGO ROAD STATION UNDERGROUND WORKS CONSTRUCTION SITE	
AECOM Australia Pty Ltd A.B.N. 20 093 846 925 504-CON0001	Queensland Government
Ref No. CRR-BG0-W-5000	Ref No. CRR-BG0-W-5000
REFERENCE DESIGN	REFERENCE DESIGN
REVISIONS	REVISIONS
C 13/05/11 UPDATED REFERENCE DESIGN No. BY DATE DESCRIPTION APPROVED	C 13/05/11 UPDATED REFERENCE DESIGN No. BY DATE DESCRIPTION APPROVED



**NOT FOR CONSTRUCTION**

CROSS RIVER RAIL – DETAILED FEASIBILITY PHASE  
 BOGGO ROAD STATION  
 UNDERGROUND WORKS CONSTRUCTION SITE  
 (REVISED DECEMBER 2011)



**CrossRiverRail**

**AECOM**

LEO BURN CONSULTANT

AECOM Australia Pty Ltd A.B.N. 20 093 846 925

398 CORTON

Qld 4000

07 3211 1422

Facsimile: 07 3211 1423

E-mail: [crr-qld@aecom.com.au](mailto:crr-qld@aecom.com.au)

Web: [www.aecom.com.au/crossrivel](http://www.aecom.com.au/crossrivel)

Ref. No.: CRR-BGG-W-5000

Date: Dec 11 - 14:52

Last modified: 15 Dec 2011

Cost ref: N/A

DRWNSN:

checked

REVISIONS:

N/A

DATE:

15/12/11

DESCRIPTION:

N/A

APP:

N/A

Scale:

1:1000 (A1)

0 10 20 30 40 50 m

SCALE A

1:2000 (A3)

0 10 20 30 40 50 m

SCALE B

1:2000 (A3)

0 10 20 30 40 50 m

SCALE C

1:2000 (A3)

0 10 20 30 40 50 m

SCALE D

1:2000 (A3)

0 10 20 30 40 50 m

SCALE E

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SCALE F

1:2000 (A3)

0 10 20 30 40 50 m

SCALE G

1:2000 (A3)

0 10 20 30 40 50 m

SCALE H

1:2000 (A3)

0 10 20 30 40 50 m

SCALE I

1:2000 (A3)

0 10 20 30 40 50 m

SCALE J

1:2000 (A3)

0 10 20 30 40 50 m

SCALE K

1:2000 (A3)

0 10 20 30 40 50 m

SCALE L

1:2000 (A3)

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SCALE M

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SCALE N

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SCALE O

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SCALE Q

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## Northern portal

Northern portal underground works construction site  
(July 2011)

CRR-NPL-W-5000 (Rev C)

Northern portal underground works construction site  
(Revised December 2011)

CRR-NPL-W-5000 (Rev D)

**NOT FOR CONSTRUCTION**

CROSS RIVER RAIL - DETAILED FEASIBILITY PHASE  
NORTHERN PORTAL  
UNDERGROUND WORKS CONSTRUCTION SITE



**AECOM**

SAFEGUARD

REF ID: CRR-NPL-W-5000

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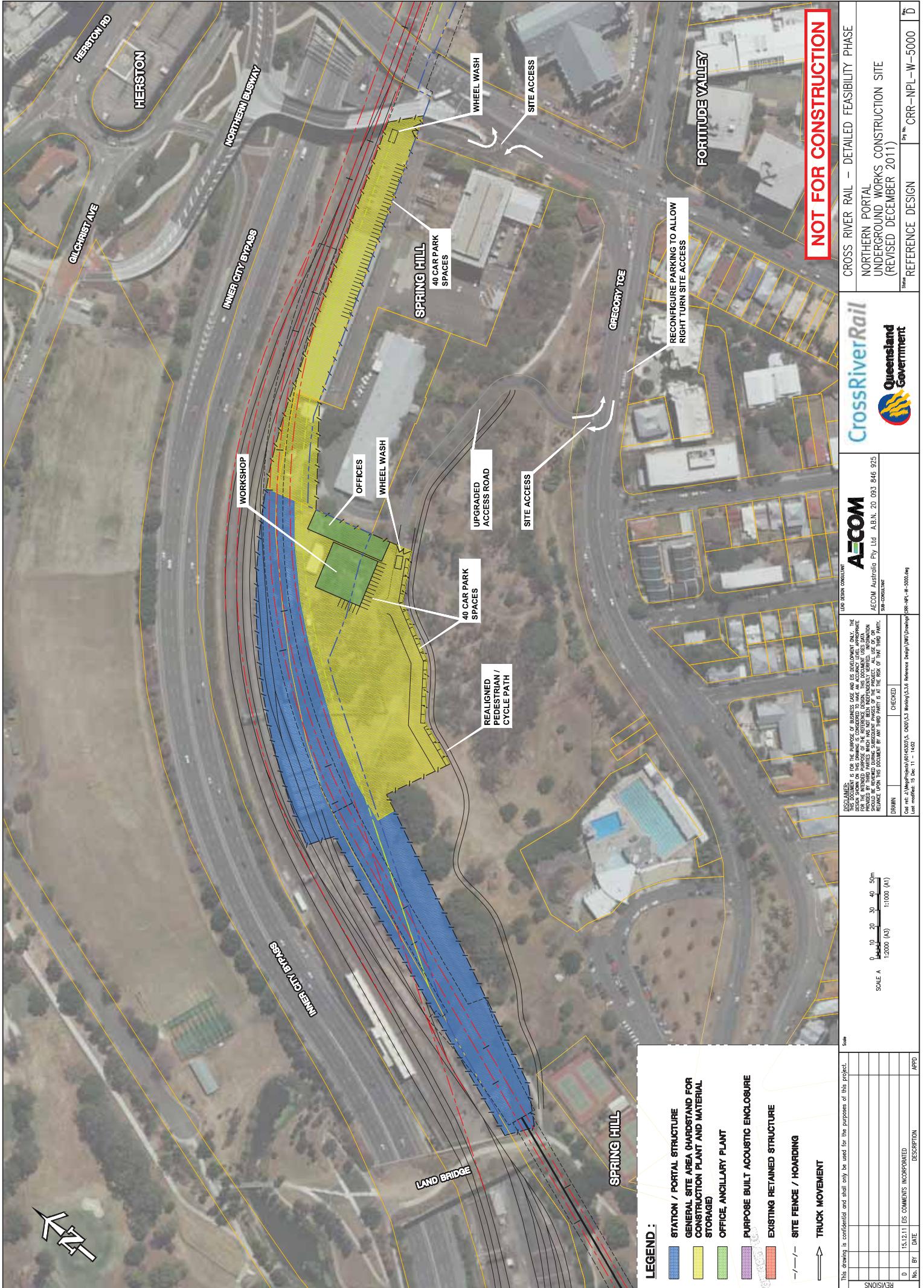
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# CrossRiver*Rail*



## Appendix D

### Indicative Construction Spoil and Material Movements at Major Worksites

## Cross River Rail - Indicative Spoil Haulage and Material Deliveries at Major Worksites for Key Construction Activities

Southern Portal worksite		2018				2017				2016				2015			
Construction Activity	Indicative peak rate trucks per day ***	Indicative duration (weeks)															
<b>Major Spoil Haulage Movements *</b>																	
A Estimated rock excavation durations for shafts, cut & cover boxes	105	2															
B Excavate open trough to south of piling works	80	10															
C Excavate in piled trough	60	16															
D Spoil removal from tunnel construction	214	82															
<b>Major Plant and Equipment Deliveries **</b>																	
A Structural works - Southern Portal and Floodgate Building	57	24 / 16															

### Notes:

\* Source: *Construction Program, Methodology and Issues for the Updated Reference Design*, AECOM, April 2011

\*\* Source: *Reference Design Construction Issues*, AECOM, October 2010

\*\*\* 24 hours, 7 days a week

Ventilation and Emergency Access Shaft worksite		2018				2017				2016				2015			
Construction Activity	Indicative peak rate trucks per day ***	Indicative duration (weeks)															
<b>Major Spoil Haulage Movements *</b>																	
A Estimated rock excavation durations for shafts, cut & cover boxes	37	6															
<b>Major Plant and Equipment Deliveries **</b>																	
A Structural works	5	17 / 21															

### Notes:

\* Source: *Construction Program, Methodology and Issues for the Updated Reference Design*, AECOM, April 2011

\*\* Source: *Reference Design Construction Issues*, AECOM, October 2010

\*\*\* 6:30 am to 6:30 pm Monday to Saturday (no haulage on Sundays or public holidays)

Boggo Road Station worksite			2015			2016			2017			2018		
Construction Activity			Indicative peak rate trucks per day ***	Indicative duration (weeks)										
<b>Major Spoil Haulage Movements *</b>														
A	Estimated rock excavation durations for shafts, cut & cover boxes	107	8											
B	Open excavation through centre section of site	162	13											
C	Excavate 1m below capping beam	60	3											
D	Excavate to formation level beneath top slab	162	20											
<b>Major Plant and Equipment Deliveries **</b>														
A	Structural works	25	74 / 22											

**Notes:**

\* Source: *Construction Program, Methodology and Issues for the Updated Reference Design*, AECOM, April 2011

\*\* Source: *Reference Design Construction Issues*, AECOM, October 2010

\*\*\* 6:30 am Monday to 6:30 pm Saturday (no haulage on Sundays or public holidays)

Woolloongabba Station worksite			2015			2016			2017			2018		
Construction Activity			Indicative peak rate trucks per day ***	Indicative duration (weeks)										
<b>Major Spoil Haulage Movements *</b>														
A	Estimated rock excavation durations for shafts, cut & cover boxes	177	7											
B	Excavate down to busway level	199	8											
C	Excavate box - soil	199	5											
D	Excavate box - rock	162	7											
E	Spoil removal from tunnel construction	214	77											
<b>Major Plant and Equipment Deliveries **</b>														
A	Structural works	57	34											
B	Concrete lining works	57	29											
C	Concrete work at platform and mezzanine level	57	17											

**Notes:**

\* Source: *Construction Program, Methodology and Issues for the Updated Reference Design*, AECOM, April 2011

\*\* Source: *Reference Design Construction Issues*, AECOM, October 2010

\*\*\* 24 hours, 7 days a week

Albert Street Station worksite - South/Alice Street shaft			2015				2016				2017				2018			
Construction Activity			Indicative peak rate trucks per day ***	Indicative duration (weeks)														
<b>Major Spoil Haulage Movements *</b>																		
A	Estimated rock excavation durations for shafts, cut & cover boxes		204	9														
<b>Major Plant and Equipment Deliveries **</b>																		
A	Structural works		30	4 / 42														
B	Concrete lining works		30	17														

**Notes:**

\* Source: Construction Program, Methodology and Issues for the Updated Reference Design , AECOM, April 2011

\*\* Source: Reference Design Construction Issues , AECOM, October 2010

\*\*\* 6:30 am to 10:00 pm Monday to Friday; 6:30 am to 6:30 pm Saturday (no haulage on Sundays or public holidays)

Albert Street Station worksite - North/Mary Street shaft			2015				2016				2017				2018			
Construction Activity			Indicative peak rate trucks per day ***	Indicative duration (weeks)														
<b>Major Spoil Haulage Movements *</b>																		
A	Estimated rock excavation durations for shafts, cut & cover boxes		100	17														
<b>Major Plant and Equipment Deliveries **</b>																		
A	Structural works		8	40														
B	Concrete work at platform and mezzanine level		8	15														

**Notes:**

\* Source: Construction Program, Methodology and Issues for the Updated Reference Design , AECOM, April 2011

\*\* Source: Reference Design Construction Issues , AECOM, October 2010

\*\*\* 6:30 am to 10:00 pm Monday to Friday; 6:30 am to 6:30 pm Saturday (no haulage on Sundays or public holidays)

Roma Street Station worksite - south shaft		2015		2016		2017		2018	
Construction Activity	Indicative peak rate trucks per day ***	Indicative duration (weeks)	Indicative peak rate trucks per day ***	Indicative duration (weeks)	Indicative peak rate trucks per day ***	Indicative duration (weeks)	Indicative peak rate trucks per day ***	Indicative duration (weeks)	Indicative peak rate trucks per day ***
<b>Major Spoil Haulage Movements *</b>									
A  Estimated rock excavation durations for shafts, cut & cover boxes	184	9							
<b>Major Plant and Equipment Deliveries **</b>									
A  Structural works	30	44							
B  Concrete lining works	30	60							

**Notes:**

\* Source: Construction Program, Methodology and Issues for the Updated Reference Design , AECOM, April 2011

\*\* Source: Reference Design Construction Issues , AECOM, October 2010

\*\*\* 6:30 am to 10:00 pm Monday to Friday; 6:30 am to 6:30 pm Saturday (no haulage on Sundays or public holidays)

Roma Street Station worksite - central shaft		2015		2016		2017		2018	
Construction Activity	Indicative peak rate trucks per day ***	Indicative duration (weeks)	Indicative peak rate trucks per day ***	Indicative duration (weeks)	Indicative peak rate trucks per day ***	Indicative duration (weeks)	Indicative peak rate trucks per day ***	Indicative duration (weeks)	Indicative peak rate trucks per day ***
<b>Major Spoil Haulage Movements *</b>									
A  Estimated rock excavation durations for shafts, cut & cover boxes	25	17							
<b>Major Plant and Equipment Deliveries **</b>									
A  Structural works	8	9							

**Notes:**

\* Source: Construction Program, Methodology and Issues for the Updated Reference Design , AECOM, April 2011

\*\* Source: Reference Design Construction Issues , AECOM, October 2010

\*\*\* 6:30 am to 10:00 pm Monday to Friday; 6:30 am to 6:30 pm Saturday (no haulage on Sundays or public holidays)

Roma Street Station worksite - north shaft			2015				2016				2017				2018			
Construction Activity			Indicative peak rate trucks per day ***	Indicative duration (weeks)														
<b>Major Spoil Haulage Movements *</b>																		
A	Estimated rock excavation durations for shafts, cut & cover boxes		57		11													
<b>Major Plant and Equipment Deliveries **</b>																		
A	Structural works			8		6												
B	Concrete work at platform and mezzanine level		8		15													

**Notes:**

\* Source: Construction Program, Methodology and Issues for the Updated Reference Design, AECOM, April 2011

\*\* Source: Reference Design Construction Issues, AECOM, October 2010

\*\*\* 6:30 am to 10:00 pm Monday to Friday, 6:30 am to 6:30 pm Saturday (no haulage on Sundays or public holidays)

Northern Portal worksite			2015				2016				2017				2018			
Construction Activity			Indicative peak rate trucks per day ***	Indicative duration (weeks)														
<b>Major Spoil Haulage Movements *</b>																		
A	Estimated rock excavation durations for shafts, cut & cover boxes		95		20													
<b>Major Plant and Equipment Deliveries **</b>																		
A	Structural works		20		7													

**Notes:**

\* Source: Construction Program, Methodology and Issues for the Updated Reference Design, AECOM, April 2011

\*\* Source: Reference Design Construction Issues, AECOM, October 2010

\*\*\* 6:30 am Monday to 6:30 pm Saturday (no work Sundays or public holidays)