

1 Introduction

This chapter presents a brief overview of the proposed CBD Metro project and metro rail system for Sydney, and outlines the structure of this Environmental Assessment.

1.1 Overview

1.1.1 Why Sydney needs a metro system

Sydney is one of the world's top 50 cities in terms of gross domestic product (GDP) and yet it is one of only three of these cities without a metro system, the other two being Seattle and Tampa. To maintain and improve Sydney's global position and contribution to national productivity, Sydney requires efficient transport networks to enhance the free-flow of people between their homes and jobs, and to allow the planned agglomeration of high-value employment in the CBD and outer-Sydney centres.

Responding to this need, the NSW Government has committed to delivering Australia's first world-class metro rail system, as part of a major investment in Sydney's sustainable growth and prosperity, with the Sydney Metro Network Stage 1 (CBD Metro) being the first step.

As such, the CBD Metro is a critical part of the NSW Government's targeted investment plan to make Sydney's transport network more efficient in its delivery of services to the community. The NSW Government will provide the \$4.8 billion required to construct the CBD Metro project for operation in 2015 (additional Commonwealth funding is not required).

1.1.2 Key benefits of the CBD Metro

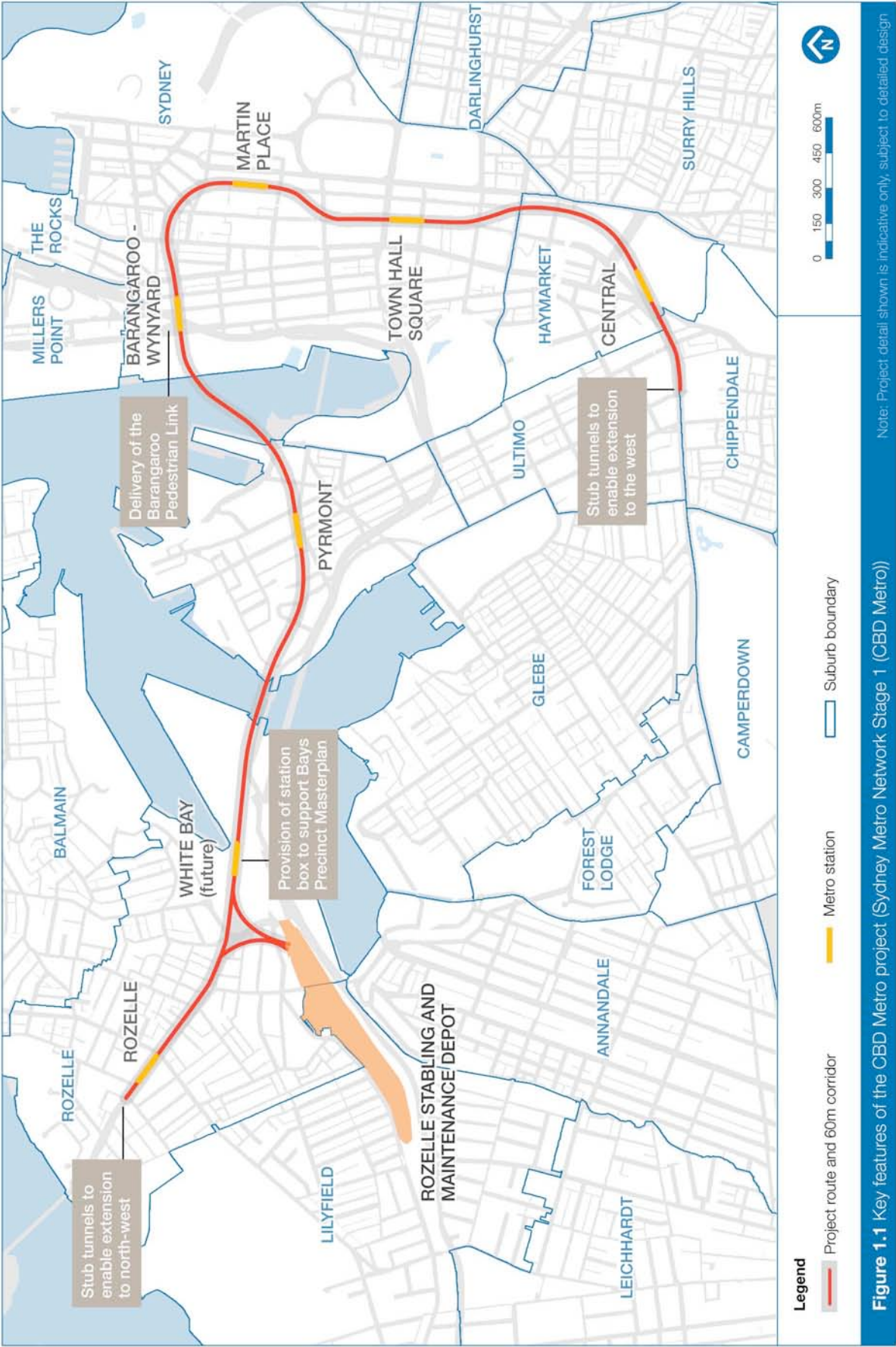
The CBD Metro would be a seven-kilometre long underground metro railway from RailCorp's Central Station to Rozelle, with new stations at Central, Town Hall Square, Martin Place, Barangaroo-Wynyard, Pyrmont and Rozelle, and the provision of infrastructure at White Bay for a future metro station (see Figure 1.1).

The CBD Metro would deliver a fast, frequent and reliable public transport service for Sydney's inner west, running every two to three minutes during peak. There would be a service of up to 30 trains in peak hour in each direction along the route.

The metro would represent a significant 'generational' change in the quality of Sydney's public transport. A key difference would be the running of frequent and reliable operations throughout the day, evenings and on weekends with a 'turn up and go' service without the need for timetables.

The CBD Metro project – and the future metro network that would connect to it – would take advantage of the latest proven technology and build on the success of other world class metros around the world, in major cities such as Copenhagen, Singapore and Hong Kong. The metro service would be a key initiative to relieve congestion on Sydney's bus and rail network.

The project is located within the Sydney Greater Metropolitan Area. The traditional owners of the project area are the Aboriginal Wangal and Cadigal people of the Dharug (Eora) language group.



1.1.3 Extending the CBD Metro across Sydney

The CBD Metro would be the first component of a proposed Sydney-wide metro network for Sydney. As a stand-alone project, the CBD Metro would achieve major benefits from a transport and land use planning perspective.

However, its value would be fully realised once the wider network is operational, allowing the benefits of metro rail transport to be extended to other areas of Sydney.

With this future extension of the metro network in mind, the CBD Metro and infrastructure (such as train and station platforms) are designed to allow for an extendable system. The system would allow the addition of train carriages and the lengthening of platforms.

In addition, the high-capacity metro rail network would integrate with Sydney's broader transport network. Though developed to be separate from the wider rail network, it would integrate with it through the provision of interchanges. Transfers to and from bus services would also be facilitated at key locations such as Rozelle and Wynyard.

The metro network would link land use and transport planning, delivering on the state's strategic objectives for improved urban environments with reliable transport access. The result would be to focus Sydney's population and employment growth on centres and corridors and accommodate the pressure on transport infrastructure.

A potential Sydney metro network is shown in Figure 1.2.

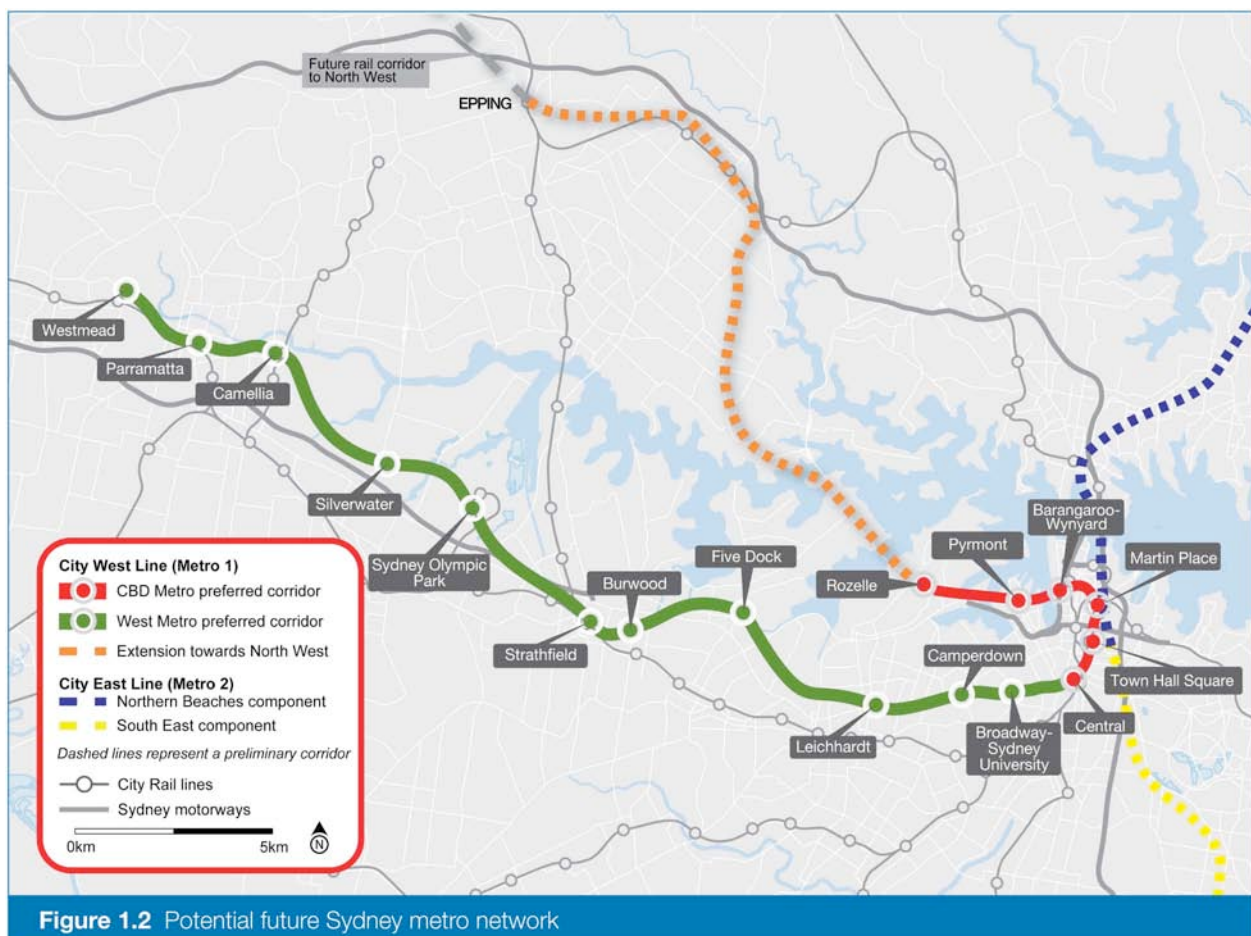


Figure 1.2 Potential future Sydney metro network

1.1.4 Project delivery and funding

Sydney Metro is the NSW Government agency responsible for planning, delivering and commissioning the CBD Metro and any potential future extensions. In the long term, it would oversee the ongoing metro operations and manage the service delivery standards of the private operator.

Sydney Metro intends to separately procure the two main components of the CBD Metro as follows:

- The Permanent Route Infrastructure (PRI), including the design and construction of tunnels, station excavations, cross passages and associated civil works.
- The Integrated Metro Operations (IMO), including the design, construction, delivery and commissioning of all (and funding of certain aspects of) the track, rolling stock, equipment, systems, utilities, services, facilities (including an Operations Control Centre and a stabling and maintenance depot), station structures and fitout necessary for the long-term safe, reliable, effective and efficient operation and maintenance of the CBD Metro.

The government has committed to fully fund both the PRI and IMO components of the CBD Metro. However, its preference is to adopt a Privately Financed Project (PFP) model for IMO. The PFP model involves the creation of an asset through private sector financing and ownership control for a concession period. The government typically contributes through land, capital works, risk sharing, revenue diversion or purchase of the agreed services.

It is considered that a PFP model for IMO would deliver better customer outcomes, including improved service delivery, reduced whole-of-life costs, innovation and improved risk management.

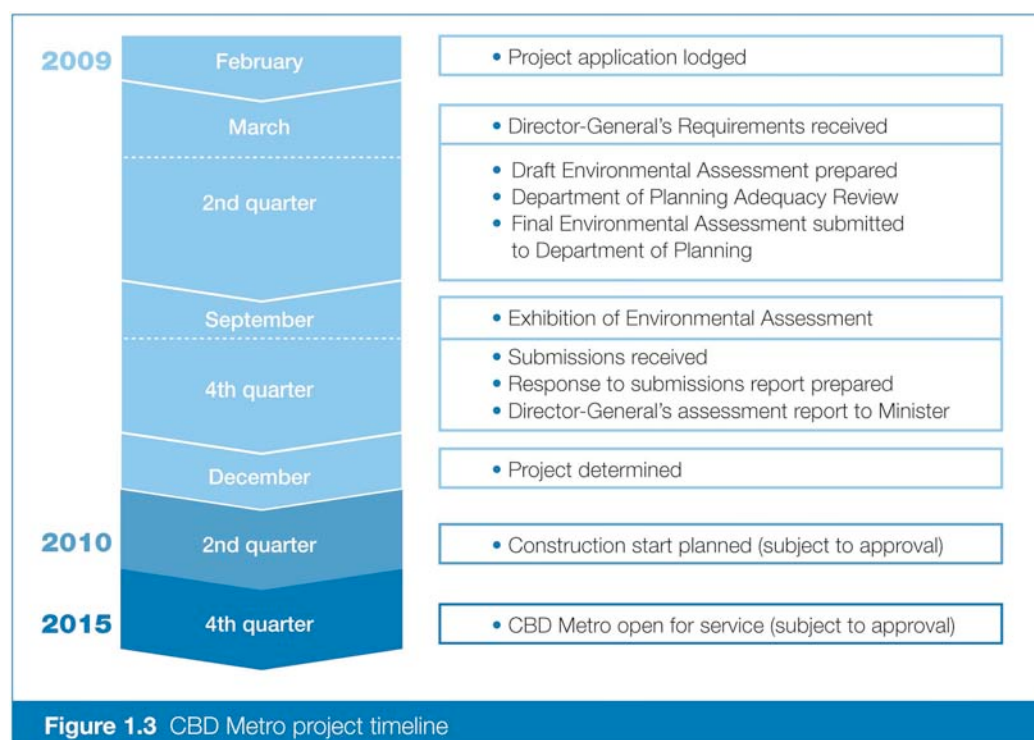
1.2 Assessment process

This Environmental Assessment has been prepared in accordance with Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Part 3A environmental assessment process seeks to ensure that the community is consulted and that all relevant environmental matters, including issues raised by the community, are considered during the development and assessment of the project.

In accordance with Part 3A, this Environmental Assessment addresses the 'Director-General's requirements' (refer Appendix A), which are issued by the Director-General of the NSW Department of Planning following consultation with other key government stakeholders to scope the environmental assessment. This Environmental Assessment quantifies and assesses potentially adverse impacts and identifies the benefits of the project and details required management strategies to avoid and minimise potential impacts and enhance the benefits of the project.

This Environmental Assessment report will be placed on public exhibition for a minimum of 30 days, during which time the community and all other stakeholders may lodge submissions about the Environmental Assessment or the project. Following the public exhibition, all submissions will be forwarded to Sydney Metro by the NSW Department of Planning. Sydney Metro may be required by the Director-General of the NSW Department of Planning to prepare a Submissions Report including a revised Statement of Commitments to respond to the submissions. Any modifications to the project resulting from the submissions and/or further design development will be outlined in a Preferred Project Report. The Director-General will then prepare an assessment report to assist the Minister for Planning in determining whether to grant approval to the project.

The anticipated project timeline for the assessment process, through to commencement of operations, is outlined in Figure 1.3.



1.3 Structure of the Environmental Assessment

This Environmental Assessment is presented in three volumes. Volume One contains the main Environmental Assessment report. Volume Two and Volume Three comprise technical papers that form the technical basis of the information in Volume One. The structure and content of Volume One is summarised in Table 1.1.

Table 1.1 Structure and content of the Environmental Assessment

Part	Chapter	Description
Part A Introduction	Chapter 1 – <i>Introduction</i>	Provides an overview of the CBD Metro project and the proposed metro rail system for Sydney. Outlines the purpose of the Environmental Assessment document.
	Chapter 2 – <i>Assessment and approval process</i>	Provides information on the relevant legislation and environmental planning instruments that apply to the project.
	Chapter 3 – <i>Community and stakeholder engagement</i>	Provides an overview of the community consultation and stakeholder engagement processes that have been undertaken for the project to date.
Part B Context and need	Chapter 4 – <i>Strategic need</i>	Provides the strategic context and relationship of the project to strategic infrastructure planning. Outlines the objectives and need for the project.
	Chapter 5 – <i>Project development and alternatives</i>	Describes how the project was developed and the alternative options that were considered.

Part	Chapter	Description
Part C The CBD Metro project	Chapter 6 – <i>Description of the project</i>	Describes in detail the metro operations and the built form and physical infrastructure that make up the project.
	Chapter 7 – <i>Construction of the project</i>	Describes the main construction sites and how the project is likely to be constructed.
	Chapter 8 – <i>Sustainable development</i>	Outlines the sustainability framework of the project, including sustainability initiatives considered during design development and the measures to be incorporated into the project.
Part D1 Environmental assessment Key issues	Chapter 9 – <i>Spoil management</i>	Assesses the management of spoil generated at a number of sites, the process of dealing with contaminated spoil and the reuse/disposal options.
	Chapter 10 – <i>Construction traffic</i>	Assesses impacts on the road and pedestrian network from construction traffic, including that generated by spoil removal.
	Chapter 11 – <i>Construction noise and vibration</i>	Assesses the impacts of construction noise and vibration, including tunnel excavation and the Rozelle stabling and maintenance depot.
	Chapter 12 – <i>Water management</i>	Assesses the impacts on ground and surface water during construction and operation.
	Chapter 13 – <i>Non-indigenous heritage</i>	Assesses the impacts on non-indigenous archaeological and non-archaeological heritage during construction and operation.
	Chapter 14 – <i>Operational transport</i>	Identifies relevant station access, interchange, cyclist and pedestrian needs and the integration of the project with the wider transport network during operation.
	Chapter 15 – <i>Operational noise and vibration</i>	Assesses the impacts of noise and vibration during operation.
	Chapter 16 – <i>Economic and social</i>	Assesses the broader socio-economic implications of the project and the impacts on the social environment during construction and operation.
	Chapter 17 – <i>Land use implications</i>	Identifies relevant urban planning, land use and development matters and how these have been considered. Details how the project would integrate with surrounding current and future land uses, including the public domain enhancements.
Part D2 Non-Key issues	Chapter 18 – <i>Cumulative impacts and interactions</i>	Identifies the likely impacts to arise from the construction of the CBD Metro at the same time as other construction projects within the area.
	Chapter 19 – <i>Environmental assessment of non-key issues</i>	Assesses non-key environmental issues and how these issues would be managed.
	Chapter 20 – <i>Environmental risk analysis</i>	Details the risk analysis process by which the key environmental issues for assessment were determined and potentially significant residual environmental impacts were identified.
	Chapter 21 – <i>Draft Statement of Commitments</i>	Provides a draft Statement of Commitments made by the proponent.

Part	Chapter	Description
Part E Project justification and conclusions	Chapter 22 – <i>Justification</i>	Confirms the justification for the project, considering the project objectives, the magnitude and duration of expected environmental impacts and consistency with the principles of ecologically sustainable development.
	Chapter 23 – <i>Conclusions</i>	Concludes the assessment and outlines the next steps in the consideration of the project.
Appendices	Appendix A – <i>Director-General's requirements</i>	Details the Director-General's Environmental Assessment requirements, which outlines key issues requiring consideration in the Environmental Assessment.
	Appendix B – <i>Consultation activities</i>	Details the consultation activities undertaken to date for the CBD Metro project.
	Appendix C – <i>Pymont Station: review of station options</i>	Details the alternative station options that were considered for Pymont Station.
	Appendix D – <i>Construction noise and vibration strategy</i>	Documents the strategy proposed to manage noise and vibration during construction of the project.
	Appendix E – <i>Reference Design</i>	Provides the Reference Design drawings for the station and depot sites.

Volume Two and Three of this document include the following technical papers that support the Environmental Assessment:

- Technical Paper 1 – Transport and traffic.
- Technical Paper 2 – Spoil management.
- Technical Paper 3 – Noise and vibration.
- Technical Paper 4 – Archaeological heritage.
- Technical Paper 5 – Non-archaeological heritage.
- Technical Paper 6 – Economic and social.
- Technical Paper 7 – Ecology.

These specialist technical assessments and background reports provide detailed information on the project and existing environment, assessment methods used, and the results of the investigations.

The specialist reports have been used to provide input to the environmental assessment contained in Part D of this document. In particular, the mitigation and management measures suggested in the specialist reports have been taken into account in developing the recommended mitigation measures and draft Statement of Commitments (Chapter 21).



1.4 Project team

Sinclair Knight Merz and Manidis Roberts prepared this Environmental Assessment on behalf of Sydney Metro. A number of organisations also contributed specialist studies as part of the Environmental Assessment process, including:

- Archaeological heritage studies – Casey & Lowe Pty Ltd.
- Non-archaeological heritage studies – Orwell and Peter Phillips.
- Economic and social studies – Hill PDA.
- Noise and vibration studies – Heggies Pty Ltd.
- Transport and traffic studies – AECOM Australia Pty Ltd / Sinclair Knight Merz Pty Ltd / MVA Asia.