PART A
Introduction
Contents
1. Introduction .................................................................................................................................................. 1
1.1 Project background ...................................................................................................................................... 1
1.1.1 Community and stakeholder consultation .......................................................................................... 1
1.1.2 Past studies and investigations ........................................................................................................... 2
1.1.3 Brisbane Metro Business Case ............................................................................................................. 3
1.2 Project overview ......................................................................................................................................... 3
1.2.1 Project governance ............................................................................................................................... 6
1.2.2 Project timing ......................................................................................................................................... 6
1.3 Draft Design Report ................................................................................................................................... 6
1.3.1 Study area .............................................................................................................................................. 7
1.3.2 Scope and structure ............................................................................................................................... 7
1.4 Draft Design Report consultation ............................................................................................................. 9
1. Introduction

This chapter provides an overview of Brisbane Metro including background and key elements, and an outline of the draft Design Report and its release for public consultation.

1.1 Project background

Brisbane City Council (Council) proposes to upgrade Brisbane’s public transport system with the introduction of Brisbane Metro. Brisbane Metro is a proposed high-frequency public transport system that will cut travel times, reduce Brisbane central business district (CBD) bus congestion and improve services to the suburbs. By utilising mostly existing infrastructure, fixing critical bottlenecks in the inner city, and introducing new, high-capacity metro vehicles, it provides a cost-effective solution to Brisbane’s bus congestion issues.

In January 2016, the Lord Mayor announced the initial Brisbane Metro concept (Brisbane Metro Subway System) to address Brisbane’s inner city bus network congestion and capacity constraints, which impact on customer travel time and reliability, and detract from CBD amenity. A preliminary alignment was released proposing sections of the South East Busway and Inner Northern Busway be converted to a rubber-tyred, tracked metro service linking stations between Woolloongabba and Herston.

A comprehensive options identification and assessment process was undertaken, which aligned with Queensland’s State Infrastructure Plan and the Australian Infrastructure Plan. This considered potential options for Brisbane Metro, and identified the preferred project solution. A key driver for revising the initial Brisbane Metro concept announced in January 2016 was the feedback provided by the community and stakeholders.

Council announced the revised Brisbane Metro in March 2017 based on the outcomes of the options assessment. The revised Brisbane Metro, which forms the basis of this draft Design Report, comprises a high-frequency rubber-tyred metro network using existing busway infrastructure. It extends from Eight Mile Plains station in the south to Royal Brisbane and Women’s Hospital (RBWH) station in the north and to the University of Queensland (UQ) Lakes station.

The Business Case was finalised and released in May 2017, which confirmed the technical feasibility and economic and financial viability of Brisbane Metro.

Brisbane Metro presents a unique opportunity to enhance Brisbane’s busway network, which will provide significant benefits to the city’s public transport customers and its economy. It will also complement the Queensland Government’s proposed Cross River Rail (CRR) project, which is proposed to address capacity constraints in Brisbane’s rail network.

The importance of Brisbane Metro in providing accessibility to, and circulation within inner Brisbane is highlighted in the South East Queensland Regional Plan 2017 (ShapingSEQ) along with the important role Brisbane Metro and the proposed CRR project have in improving public transport access. ShapingSEQ is supported by the Connecting Brisbane strategy, jointly released by Council and the Queensland Government in June 2017. The strategy outlines how Brisbane Metro and the proposed CRR project will work together to unlock existing capacity and overcome current constraints at the core of the transport network and deliver more frequent, integrated services on a ‘turn-up-and-go’ high-frequency network. This will provide the transport capacity needed to support the growth of the economy and population, and connect people to where they want to go at the times they want to travel.

1.1.1 Community and stakeholder consultation

Engagement with the community and stakeholders has played an important role in helping to shape Brisbane Metro. Council developed a phased program of activities targeted at informing and engaging key stakeholders and the wider Brisbane community. Three rounds of communication and engagement activities were held between March 2016 and May 2017, with each round of engagement based on specific project milestones, allowing for the outcomes of engagement to help inform the project development.
Feedback from engagement activities indicated strong support for more frequent, reliable public transport in Brisbane and a high level of awareness and recognition of existing bus congestion issues in Brisbane’s inner city, particularly around the Cultural Centre precinct and the CBD. However, community members and stakeholders identified a number of issues with the initial Brisbane Metro concept (refer to Chapter 3). Consideration of these issues played a critical role in the options assessment process and selection of the revised Brisbane Metro.

Communication and engagement activities in early-2017 focused on informing the community about the revised Brisbane Metro, including how Council had considered community and stakeholder concerns in refining and developing Brisbane Metro. The findings of the community and stakeholder engagement identified strong support for the revised Brisbane Metro, particularly the expansion of services to more areas and the ability for bus and metro services to share the busway.

Since May 2017, Council has continued to work closely with key stakeholder groups to further clarify potential issues, impacts and opportunities to inform the design development and investigations for this assessment. This has involved meetings and workshops with Queensland Government stakeholders, Council stakeholders, and technical stakeholders including infrastructure and utility service providers and impacted property owners.

Community and stakeholder consultation for Brisbane Metro is ongoing with the fourth round of engagement planned to support the release and public notification of this draft Design Report. This includes a process for public submissions on this draft Design Report.

Further details on the community and stakeholder consultation undertaken for Brisbane Metro, including a summary of outcomes, is provided in Chapter 3.

1.1.2 Past studies and investigations

A range of studies and investigations have been undertaken in the past decade to address the identified problems and challenges for Brisbane’s transit system. These studies and investigations have helped inform the planning and development of Brisbane Metro.

The *Bus Access Capacity – Inner City Study* was undertaken between 2007 and 2008 to assess future bus access and capacity needs in the inner city and to develop policy options and investment strategies to adequately provide for demands to 2056.

Technical investigations for the *Inner City Metro and Busway Conversion Options* study (undertaken in 2009) considered the potential to convert the existing busway network to co-locate with Light Rapid Transit or to convert to metro rail operations.

The proposed CRR project was developed in response to identified rail system constraints. The current proposal includes a second rail line accessing Roma Street railway station and a new underground station at Albert Street in the CBD via a tunnel from Dutton Park to Spring Hill. A Request for Project Change was approved by the Coordinator-General in June based on the revised design 2017. The Queensland Government is proceeding to construct this project.

The *Suburbs 2 City (S2C) Prefeasibility Study* (2013) investigated options to improve the performance of Brisbane’s bus services through the busiest parts of the inner city at the Cultural Centre precinct and CBD. Stage 1 of the S2C project proposed to improve connections between Brisbane’s northern and southern busways across the Brisbane River and through the CBD via a segregated busway connecting the South East Busway to the Inner Northern Busway at King George Square comprising tunnels and a new busway bridge shared with pedestrians and cyclists.

The *Bus and Train (BaT) project* (2013-15) combined previous planning for the proposed CRR project with Council’s S2C project. It proposed a joint bus and rail solution to address the capacity constraints at key inner city locations, including Merivale Bridge, Central station, Cultural Centre precinct and Captain Cook Bridge. Following the Queensland Government election in 2015, the Queensland Government decided to discontinue consideration of the BaT project and re-investigate the proposed CRR project.
1.1.3 Brisbane Metro Business Case

Council critically examined the technical feasibility and economic and financial viability of Brisbane Metro through the development of a Business Case. The Business Case was developed generally in accordance with the accepted and recognised procedures within the Building Queensland Business Case Development Framework¹ and Infrastructure Australia Assessment Framework².

The Brisbane Metro Business Case was publicly released by Council in May 2017. It presents information on the benefits, costs and risk analysis, confirms the revised project option, and demonstrates the merit and justification for Brisbane Metro as a whole. The Business Case was used to inform Council’s decision-making processes by:

- identifying the problems, issues and challenges and visions for the Brisbane transport network
- identifying the preferred option for Brisbane Metro
- confirming the strong economic merit of Brisbane Metro
- confirming Brisbane Metro’s scope and benefits through technical investigations
- confirming Brisbane Metro’s capital and operating costs
- analysing the economic and delivery considerations of Brisbane Metro.

1.2 Project overview

Brisbane Metro will be delivered through five key elements. These are shown in Figure 1.1 and include new and modified infrastructure, high-frequency, ‘turn-up-and-go’ metro services, a new fleet of high-capacity metro vehicles, policy and operational improvements and new customer and vehicle management systems.

Figure 1.1: Key elements of Brisbane Metro

Brisbane Metro comprises a high-frequency transport system extending across the existing busway network from Eight Mile Plains station in the south to the RBWH station in the north and to the UQ Lakes station. It features two new high-capacity metro lines as shown in Figure 1.2. They include:

- Metro 1 – Eight Mile Plains station to Roma Street station via the South East Busway and Inner Northern Busway
- Metro 2 – RBWH station to UQ Lakes station via the Inner Northern Busway, South East Busway and Eastern Busway.

Brisbane Metro will operate 20 hours a day, Monday to Friday, with services from 5am to midnight, and all day Saturday and Sunday, with services from midnight Friday to midnight Sunday. Services will operate every three minutes on weekday peak periods, and up to 90 seconds between Roma Street station and Mater Hill station.

Brisbane Metro will operate across 18 stations, providing interchange opportunities with bus and rail services at 11 locations. This includes an interchange with the proposed CRR project at two locations, being Boggo Road station and Roma Street station. Key infrastructure elements include:

- a new underground station at the Cultural Centre precinct, connecting from the existing South East Busway next to the Brisbane Convention and Exhibition Centre (BCEC) and a transition structure connecting the underground station to the surface before Victoria Bridge
- new surface bus stops at Melbourne Street to cater for bus services to and from West End, the CBD and Fortitude Valley
- removing general traffic from Victoria Bridge, and converting the bridge to a ‘green bridge’ for use by Brisbane Metro services, buses, pedestrians and cyclists
- closing the intersection of North Quay and Adelaide Street to through traffic to allow for a dedicated corridor for Brisbane Metro and bus services between Adelaide Street and Victoria Bridge, and restricting the intersection of North Quay, William Street and Queens Wharf Road to local traffic only
- a new portal, transition structure and tunnel at Adelaide Street to connect from North Quay to the existing Albert Street bus tunnel near King George Square station
- modifying existing busway stations at Eight Mile Plains, Upper Mt Gravatt, Griffith University, Buranda, Mater Hill, King George Square and Roma Street, including extending platforms to accommodate the proposed mix of metro vehicles and buses
- upgrading existing busway stations to provide new customer information displays and off-board ticketing facilities
- modifying turnaround facilities for metro vehicles at Eight Mile Plains, Countess Street, Ernie’s Roundabout (at Herston) and UQ Lakes station, and constructing new bus turnaround facilities at Griffith University and Woolloongabba stations
- new bus layover facilities at Griffith University and Boggo Road stations, and layover facilities for metro vehicles at Countess Street, Ernie’s Roundabout, and UQ Lakes station
- a new depot for maintenance and stabling of metro vehicles at School Road, Rochedale.

A new fleet of 60 high-capacity metro vehicles will be introduced for Brisbane Metro, each able to carry up to 150 customers. These will use existing sections of the busways along with other high-frequency services such as the bus upgrade zone (BUZ) and Glider services through a hybrid trunk and feeder network.
Figure 1.2: Brisbane Metro network

Metro 1 – Eight Mile Plains to Roma Street
Metro 1 will provide a new trunk route from the southern suburbs to the inner city, servicing key destinations like Griffith University and Garden City, and providing opportunities to transfer to other metro, bus or rail services in the CBD to access areas like Fortitude Valley, Bowen Hills and QUT Kelvin Grove.

Metro 2 – RBWH to UQ Lakes
Metro 2 will provide a strong inner city distribution function along the education, knowledge and health corridor, anchored by major trip generators at RBWH and UQ. It will also provide cross-city connectivity between the Bogg Road and PA Hospital precincts, with important destinations at South Brisbane, the CBD and inner north.
1.2.1 Project governance

Council is the proponent of Brisbane Metro and will be responsible for its delivery and the majority of its funding. The existing busway and associated infrastructure are owned and managed by the Queensland Government, which has provided in-principle support for Brisbane Metro and outlined its priority via Connecting Brisbane and ShapingSEQ.

Council and the Queensland Government have established a Government Reference Group comprising representatives of various State agencies including Department of Premier and Cabinet, Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) (formerly Department of Infrastructure, Local Government and Planning (DILGP)), Department of Transport and Main Roads (TMR), CRR Delivery Authority. The Government Reference Group enables a close working relationship and coordination between the two levels of government and allows Queensland Government involvement in the development of Brisbane Metro, the sharing of information and provision of advice to Council.

1.2.2 Project timing

Construction of Brisbane Metro is proposed to be completed in 2023, subject to funding and government approvals. Key phases in the development of Brisbane Metro are outlined in Table 1.1.

Table 1.1: Project timing

<table>
<thead>
<tr>
<th>Phase</th>
<th>Timing</th>
<th>Key activities</th>
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<tbody>
<tr>
<td>Options assessment</td>
<td>Mid-2016 to early-2017</td>
<td>• Technical investigations and planning studies</td>
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<td></td>
<td></td>
<td>• Community and stakeholder consultation</td>
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<td>• Identification and assessment of project options</td>
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<td>• Selection of preferred project option</td>
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<tr>
<td>Business Case</td>
<td>Early-2017 to May 2017</td>
<td>• Preliminary environmental, technical and financial assessments</td>
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<td>• Assessment of project impacts and benefits</td>
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<td>• Engagement with Queensland Government and key stakeholders</td>
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<td></td>
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<td>• Community and stakeholder consultation</td>
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<td></td>
<td></td>
<td>• Provision of Business Case to Queensland Government and Infrastructure Australia</td>
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<tr>
<td>Draft Design Report</td>
<td>June 2017 to mid-2018</td>
<td>• Refinement of the Concept Design</td>
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<td>• Further environmental and social assessments</td>
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<td>• Targeted stakeholder engagement</td>
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<td></td>
<td></td>
<td>• Release for consultation with stakeholders and the community</td>
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<tr>
<td>Approvals and procurement planning*</td>
<td>Late-2017 to mid-2018</td>
<td>• Secure project funding</td>
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<td></td>
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<td>• Finalisation of key government approvals</td>
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<td></td>
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<td>• Preparation of contract documentation, tender development and evaluation</td>
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<tr>
<td>Pre-construction works*</td>
<td>Mid-2018 to mid-2020</td>
<td>• Relocation of some services and utilities</td>
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<td>• Upgrades of some intersections</td>
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<tr>
<td>Procurement*</td>
<td>Mid-2018 to late-2019</td>
<td>• Expressions of interests and request for tenders</td>
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<td>• Selection of preferred tenderers</td>
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<tr>
<td>Detailed design and construction*</td>
<td>2019-2022</td>
<td>• Complete detailed design and construction methodology</td>
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<td>• Staged construction</td>
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<td></td>
<td></td>
<td>• Ongoing community and stakeholder engagement</td>
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<tr>
<td>Project completion*</td>
<td>2023</td>
<td>• Operational testing and commissioning</td>
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<td>• Commencement of Brisbane metro services</td>
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</tbody>
</table>

* Subject to government approvals and funding
1.3 Draft Design Report

The draft Design Report provides a voluntary, non-statutory assessment of the concept design, the feasibility of the project, understanding of potential construction and operational impacts, approach to managing potential impacts, and required regulatory approvals. Council has previously prepared voluntary environmental assessments for major transport projects such as Go Between Bridge.

This draft Design Report has been prepared with consideration of Council's Environmental Policy and Community Engagement Policy and relevant State legislation requirements. It is also consistent with voluntary environmental assessments prepared previously for public transport projects in South East Queensland and provides an established approach and process to engage with stakeholders and the community and support approvals for Brisbane Metro.

This draft Design Report aims to provide sufficient information to allow the community and stakeholders to understand Brisbane Metro and its potential impacts. The report will be finalised following public notification, consultation and feedback on this draft Design Report.

1.3.1 Study area

The study area for this draft Design Report is shown in Figure 1.3. It includes the Brisbane Metro alignment with a 250-metre buffer either side. The study area commences at the metro depot at Rochedale, south of Eight Mile Plains station, and follows the existing South East Busway alignment to the Cultural Centre precinct at South Brisbane. It then extends across Victoria Bridge to North Quay and along Adelaide Street to King George Square station, before following the Inner Northern Busway to the RBWH station and Ernie’s Roundabout at Herston. The study area also extends from the UQ Lakes station via the Eastern Busway to the South East Busway north of Buranda station.

1.3.2 Scope and structure

The scope of this draft Design Report has been informed by previous environmental assessments prepared for public transport projects in South East Queensland, a preliminary scoping of likely environmental and social issues and inputs from community and stakeholder engagement. It provides information on Brisbane Metro’s design, operation and construction, and presents the key findings of the environmental, social and traffic assessments. Each assessment generally provides:

- methodology for the assessments, including identification and review of relevant legislation and policies
- description of existing values and features within the study area
- identification and assessment of potential benefits and impacts of Brisbane Metro’s construction and operation
- mitigation and management strategies for identified impacts.

The structure of this draft Design Report is as follows.

- Key findings, a stand-alone document that provides a summary of the main outcomes of the draft Design Report.
- Part A: Introduction, including Chapter 1 to Chapter 3, which provides information on Brisbane Metro’s background, and scope of the draft Design Report, project need, and community and stakeholder engagement activities and outcomes.
- Part B: Concept Design, including Chapter 4 and Chapter 5, which describes project options assessment and development and an overview of Brisbane Metro’s infrastructure, operation and construction.
Figure 1.3: Study area

Key
- Study area
- Metro depot

Stations
- New station
- Station modifications
- Station upgrades
Part C: Environmental assessment and management, including:

- Chapter 6, which presents the traffic and transport assessment including a description of the existing transport networks and assessment of potential impacts on transport networks from Brisbane Metro’s construction and operation
- Chapter 7 to Chapter 12, which provide an assessment of Brisbane Metro’s impacts on biophysical and natural values including soils, topography and land contamination, surface water resources, groundwater, noise and vibration, air quality and flora and fauna
- Chapter 13 to Chapter 17, which describe the findings of assessments on planning and land use and socio-economic values such as communities and business, Aboriginal and historical cultural heritage, and urban and visual amenity
- Chapter 18 to Chapter 20, which present the findings of the sustainability, hazard and risk, and cumulative impact assessments
- Chapter 21 to Chapter 23, which provide information on waste management, environmental approvals for construction and operation, and environmental management and mitigation measures
- Chapter 24, which outlines the summary and conclusions from the draft Design Report assessments.

Part D: Concept design drawings that show the Brisbane Metro alignment, key infrastructure (e.g. stations and the metro depot), construction laydown areas and property impacts.

1.4 Draft Design Report consultation

Development of Brisbane Metro has been informed by a program of community and stakeholder consultation. The draft Design Report has been released for public notification to provide detailed information on Brisbane Metro and its potential impacts and allow community and stakeholders a further opportunity to provide feedback.

A range of opportunities will be available during the public notification period for the community and stakeholders to find out more about Brisbane Metro and provide feedback. This includes:

- attending public information sessions held at locations along the Brisbane Metro corridor
- contacting the Brisbane Metro project team on 1800 692 333 during business hours or by email (metro@brisbane.qld.gov.au).

Feedback can also be provided by sending a submission:

In writing to:

Brisbane Metro
Brisbane City Council
GPO Box 1434
Brisbane QLD 4001

By email to the Brisbane Metro project team at metro@brisbane.qld.gov.au

Through the Council’s website (www.brisbane.qld.gov.au).

Submissions on the draft Design Report should be received by 25 May 2018.