North west transport network

Key findings for the North West Transport Corridor

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Contents

List of tables

List of figures

Acknowledgement of Country

Council acknowledges the Traditional Custodians of the land and their unique relationship with their ancestral country. We pay respect to all Aboriginal and Torres Strait Islander Elders of Brisbane, and recognise their strength and wisdom.

1. Introduction and background

This paper presents the north west transport network (NWTN) program business case key findings as they relate to North West Transport Corridor (NWTC). Findings demonstrate environmental and social value of the NWTC and the reason it should be further investigated and assessed for protection as a biodiversity and community asset for future generations.

1.1 The NWTN program business case and NWTC

In 2019, the Australian Government committed up to $10 million for Brisbane City Council (Council) to prepare a program business case for the NWTN. As part of this process, Council considered north-west Brisbane's transport network problems and identified potential solutions to support other significant government investment in road and public and active transport within the greater Brisbane metropolitan area.

The NWTN program business case study area includes many of Brisbane's northern suburbs and extends from the Toowong/Indooroopilly area to Bald Hills and Carseldine. The program business case also considered the strong urban growth influence of the Moreton Bay region.

The NWTN study area includes the NWTC. The NWTC extends from Gympie Road, Carseldine, to Shand Street, Alderley. The NWTC was identified by the Queensland Government for strategic transport purposes in the 1980s and the NWTN program business case investigated the potential development of the NWTC to support transport infrastructure.

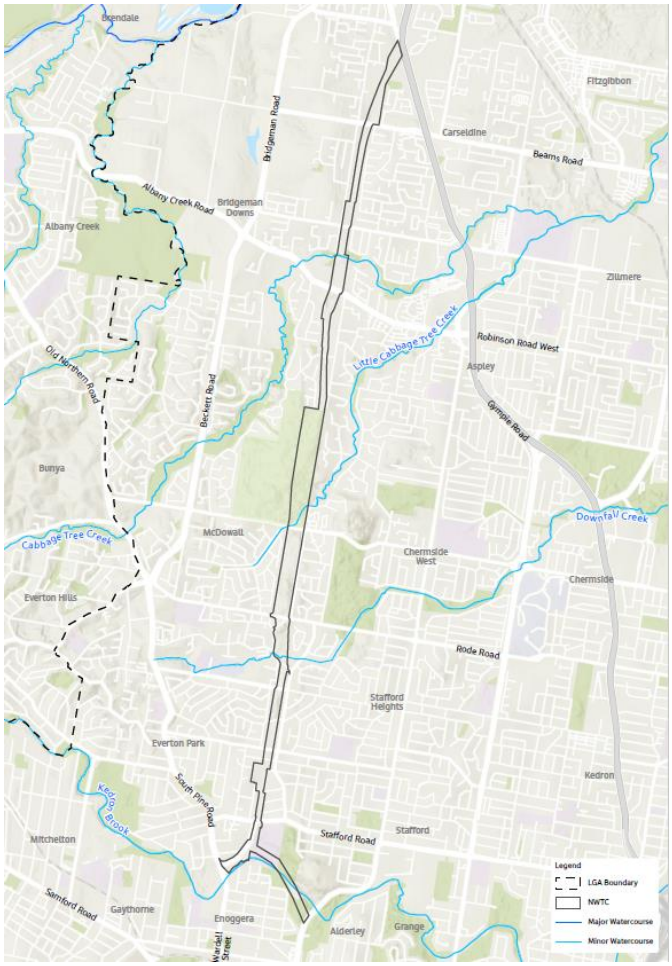

Figure 1-1: Map of the NWTC (Source: Department of Transport and Main Roads)

The NWTC has been the subject of numerous transport studies since its identification. The corridor is considered 'planning in progress' under the Queensland Government's Department of Transport and Main Roads (TMR) approved planning policy and is currently not gazetted (protected) as a future transport corridor.

In the 40 years since the NWTC was originally identified as a transport corridor, north-west Brisbane has grown and developed, with the NWTC remaining as a combination of cleared open space and remnant bushland. Properties within the NWTC are largely owned by the Queensland Government or Council, with some areas under private ownership.

1.2 Option development and assessment

The NWTN program business case identified and assessed a range of rail, road, bus and active transport options to address the NWTN problems. To inform this process, the community was consulted on a range of transport infrastructure ideas which included developing the NWTC as a busway, rail, motorway/arterial road or multi-modal corridor. The community was also presented with concepts that included the use of road tunnels and the widening of existing NTWN routes to provide greater capacity for road, bus or rail capacity.

During stakeholder engagement in late 2020, the transport ideas presented to the community were mostly at-surface within the NWTC, with tunnelling under the Chermside Hills Reserve.

Technical environmental and social impact investigations, together with community feedback, firmly established the negative impacts of an at-surface solution and highlighted the high value of the NWTC as an environmental asset (see Section 2).

These findings guided design refinement of potential options, with the NWTN program business case recommending a motorway and rail line that largely follows the NWTC alignment but largely 'underground in tunnel' to minimise disruption. The NWTN program business case recommended a program of projects, as shown in

Figure 1-2 for construction by 2041.

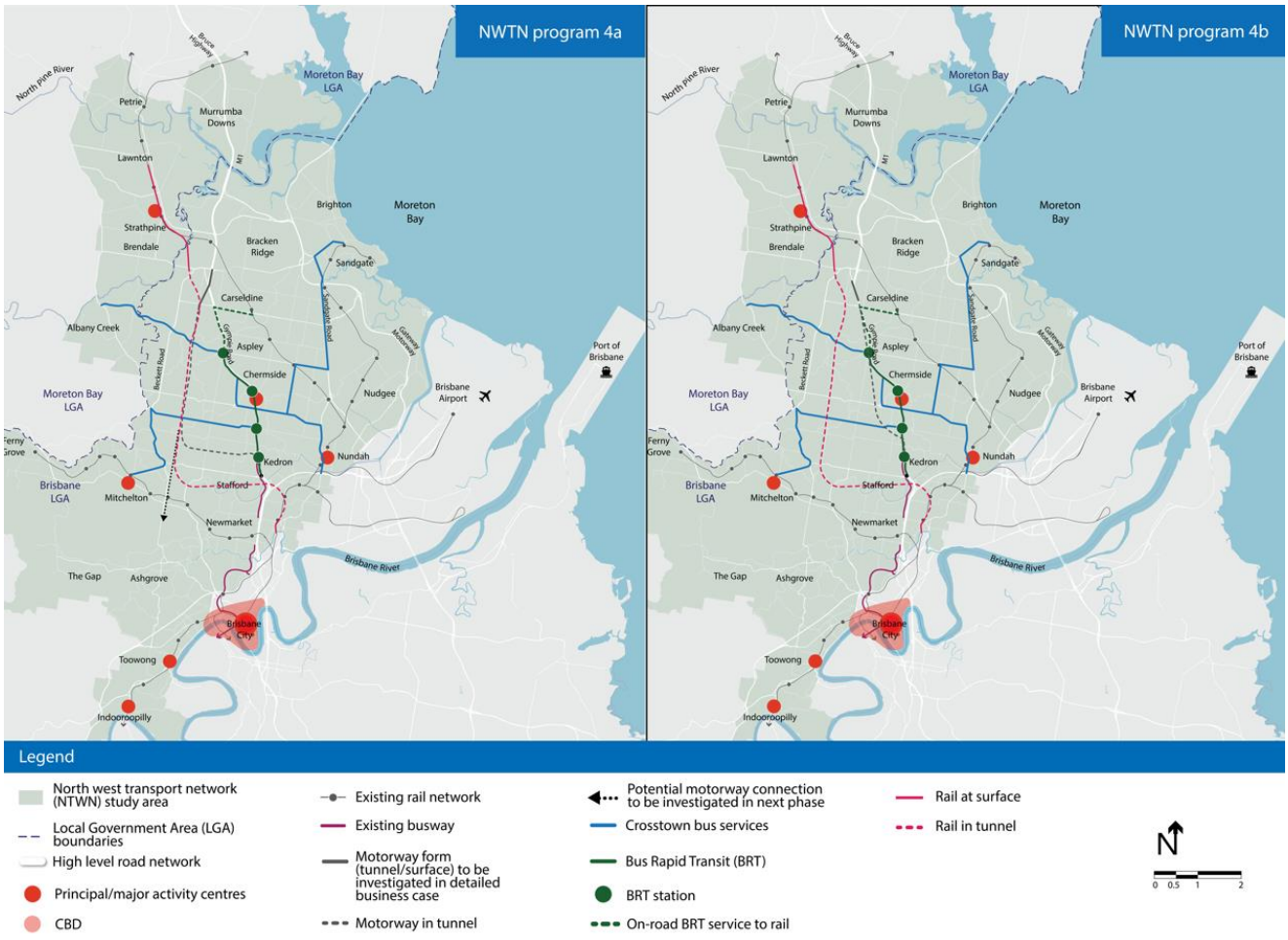

Figure 1-2: Recommended program of projects, labelled as 4a (left image) and 4b (right image)

The NWTN program business case identified that the next step to be taken should be the development of a detailed business case (DBC), including the development of a more detailed geometric design.

Although adding significantly to the construction cost, a motorway, largely in-tunnel, provides the best opportunity to protect and enhance the NWTC for its value as an ecological asset for future generations.

It should be noted, however, some sections of the NWTC would be required for the construction of access road and motorway interchanges. In addition, some of the proposed active transport network improvements (e.g. bikeways, shared paths) identified in developing the business case could utilise parts of the NWTC, in an environmentally sympathetic manner, should it be funded.

2. NWTC environmental and community value

The NWTN program business case identified a range of factors that led to project designs that minimise impacts of potential transport infrastructure solutions on the NWTC.

2.1 Environmental factors and cultural heritage

Desktop and field investigations informed the assessment and design of NWTN program projects by identifying potential environmental constraints and impacts of project options.

2.1.1 Flora in the NWTC

Areas of remnant regional ecosystems identified as endangered, of concern, and of least concern are found within or immediately adjacent to the NWTC (refer Figure 2-2**)**. These areas are mostly associated with the Chermside Hills Reserve and where the NWTC crosses creek corridors.

The NWTC is considered a high-risk trigger area as there are approximately 21 threatened plant species recorded within the vicinity of the corridor. Field studies undertaken by ecologists during the NWTN program business case development confirmed the presence of the endangered eucalypt woodland and open forest community (RE 12.11.28) within the extent of the NWTC as it crosses Chermside Hills Reserve (refer Figure 2-1). This vegetation community has significant conservation value and is only found in the Chermside Hills Reserve area. The ecosystem cannot be offset in another location.

Field studies also confirmed a small section of an 'of concern' regional ecosystem (RE 12.11.25) within the NWTC in the vicinity of the Chermside Hills Reserve.

Figure 2-1: Photo of area of RE 12.11.28 within NWTC

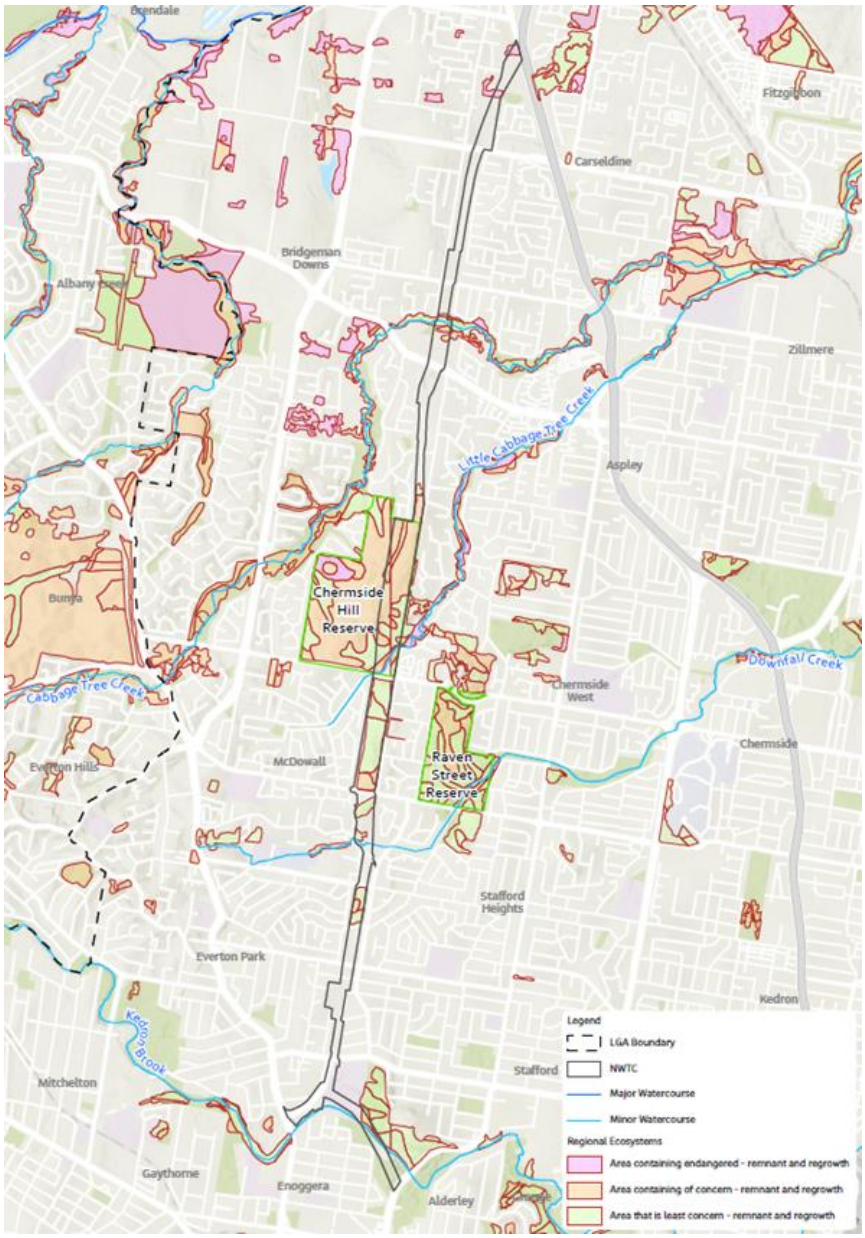

Figure 2-2: Remnant regional ecosystems[1]

2.1.2 Fauna in the NWTC

The NWTC has an important role in the network of natural areas in Brisbane's northern suburbs as one of the few north-south biodiversity assets between east-west corridors associated with Kedron Brook, Downfall Creek and Cabbage Tree Creek, and reserve areas such as Chermside Hills Reserve and Raven Street Reserve. It also contributes to the wider ecological connectivity in the surrounding area as part of the Mountains to Mangroves ecological corridor.

The NWTC area contains important habitat for native fauna, including threatened and vulnerable species such as powerful owls, grey headed flying foxes and tusked frogs, in addition to sugar and squirrel gliders. The NWTC area contains mapped Essential Habitat for koalas under the *Nature Conservation Act*. Waterways intersecting the NWTC area also provide important movement corridors for both aquatic and terrestrial fauna. The NWTC specifically intersects Mapped Essential Habitat for koalas which is continually being updated to ensure habitat and changes in habitat are tracked over time.

[1] Queensland Regional Ecosystem Mapping

Koalas are regularly spotted in the Chermside Hills Reserve and evidence of their presence was detected during environmental investigations undertaken as part of the development of the NWTN program business case. Koalas are currently identified as endangered under both the *Queensland Nature Conservation Act* and the *Environment Protection and Biodiversity Conservation Act* and as such are considered a 'Matter of National Environmental Significance'.

Delivering transport infrastructure largely within tunnel presents a unique opportunity to reduce impacts and protect and enhance the NWTC's function as a key biodiversity asset, creating a legacy for future generations.

The increased use of tunnelling for rail and motorway projects reduces environmental and social impacts associated with developing the NWTC and aligns with the community's sentiment to keep the NWTC as a recreational and environmental asset, however, there will be some impacts on fauna and their habitat. These impacts will require careful management as proposed projects are further developed and assessed in line with legislation and consultation with the community.

2.1.1 Cultural heritage in the NWTC

The NWTN study area has a rich Aboriginal peoples' history and has a moderate to high potential of landscape features, sites and places of tangible and intangible value for Aboriginal peoples associated with the occupation of the wider area. Examples include artefact scatters, marked trees, earthen features, pathways, stone arrangements, story places and campsites. Further investigations, including consultation with Aboriginal peoples' representatives during a future DBC, will be important to confirm the presence of Aboriginal cultural heritage values in the study area and strategies to manage potential impacts.

2.2 Community and stakeholder feedback

Public consultation sought feedback on transport problems and the best way to address these problems to transform the NWTN. Stage 1 community consultation (December 2019 to February 2020) focused on gathering feedback on the community's current travel behaviours and issues they experience when travelling in north-west Brisbane. Community members were also asked how transport in Brisbane's north-west can be improved.

Stage 2 community consultation (November and December 2020) presented a range of potential infrastructure ideas that could address NWTN problems. These ideas were across five transport mode and infrastructure options (see Figure 2-3 below).

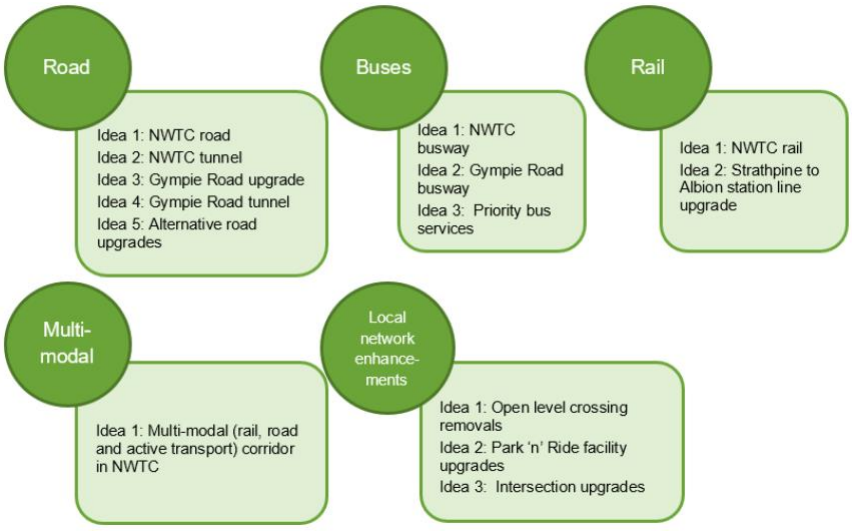

Figure 2-3: Potential transport infrastructure ideas presented to the community

Community members expressed a strong connection with green space within the NWTC and its environmental, recreational and visual amenity value across both rounds of consultation. Feedback included concerns around the impacts of at-surface infrastructure on fauna and flora and the loss of greenspace. Community feedback referred to the NWTC as a 'green corridor' or 'environmentally sensitive' with comments identifying the corridor being a safe place for the movement of fauna, particularly koalas, birdlife and wallabies.

From an amenity perspective, many community members identified how at-surface transport infrastructure would divide communities and impact the area's liveability, including reducing the corridor's use as a walking/recreational space. Due to its proximity to the Chermside Hills Reserve, concerns also related to impacts on the reserve if the NWTC was developed.

Community members, particularly those closest to the corridor, were supportive of tunnelling options for environmental, visual amenity and recreation reasons.

Respondents living outside the area were more likely to support ideas that used the NWTC, making use of it for transport purposes as intended since its identification in the 1980s, and providing a less expensive solution than tunnelling. However, an unintended result of the preservation of NWTC has been the escalating social and environmental value of the corridor as the surrounding areas have developed alongside the community's strong connection with it as a recreational and environmental asset.

'Both environment and wildlife need to be considered and protected in decisions regarding transport within this area. This is an opportunity to really plan for the future and look after the habitat that is a large portion of the planned network area… once bushland is destroyed it won't come back, neither will the wildlife.' Resident, McDowall

2.3 Social factors

During NWTN program business case development, potential social and community benefits and impacts of infrastructure options were assessed. Since the NWTC was first identified, residential communities have established along much of the corridor. These communities could be expected to experience significant negative impacts if an at-surface transport corridor was delivered in the NWTC, including:

- impacts on community values relating to local character, environment, amenity and quality of life (e.g. from vegetation loss, changes to visual amenity and increased noise and traffic)
- community severance, potentially affecting opportunities for community interaction, walking routes and access to local shops, green space or bus stops
- loss of recreational and open space values that have developed within the NWTC over time
- property impacts, despite the extent of land in the NWTC already under the ownership of Council or TMR.

It is also worth noting that there are a number of residences within the NWTC, for example in the Page Street, Pikeson Street and McAdam Street area at Everton Park.

2.4 Strategy alignment

With a global shift towards sustainability, the liveability of our cities and the protection of environmental assets for future generations, retaining the NWTC as an environmental and community asset aligns to the strategic intent across all levels of government, as listed in Table 2-1.

Table 2-1: Federal, state and local government strategy documents

Document	Strategies
Australian Government	
Infrastructure Australia Sustainability Principles	Social: Infrastructure and policies should improve quality of life, access and wellbeing, to create an inclusive and fair society. Environmental: Infrastructure and policies should protect environmental outcomes by reducing pollution, balancing resource consumption, conserving natural ecosystems and resources, and supporting climate mitigation and adaptation.
Smart Cities Plan	Green, sustainable cities –with tree coverage and green spaces – provide significant benefits to their residents. They improve the quality of air and water, reduce the heat island effect, protect biological diversity and threatened species and enhance general amenity. They also give people greater connection with nature and provide important places for recreation and healthy lifestyles.
Queensland Government	
South East Queensland Regional Plan	Sustain: SEQ's biodiversity, natural assets and regional landscapes are protected and nurtured to sustain our region's strong and diverse communities. Together, our environment and communities will ensure future generations enjoy a high quality of life and affordable living options
South East Queensland Regional Transport Plan	Sustain: A transport system that contributes to the environmental sustainability and resilience of the region. Live: A transport system that supports safe, healthy and liveable communities for everyone.
Brisbane City Council	
Brisbane Vision 2031	Our clean, green city: Subtropical open spaces and natural areas provide breathing spaces for the city. Our river, creeks and bay are enhanced, protected and enjoyed by all.
Brisbane. Clean, Green, Sustainable 2017-2031	Protection of natural habitat throughout the city is a priority. Council has a target of 40% natural habitat cover by 2031 (private and public) which is inclusive of wetlands through to the terrestrial ecosystem.
The Transport Plan for Brisbane – Strategic Directions	The design and operation of transport networks minimise impacts on the environment and help mitigate the impacts of climate change. Manage the impact of transport movements generated from outside Brisbane on community lifestyle values and the urban environment.

3. Making the best use of the NWTC

While the NWTN program provides an opportunity to protect and enhance the NWTC for its value as an ecological asset for future generations, this opportunity was not in-scope or assessed in the NWTN program business case.

Further investigations and assessment are needed to understand how the NWTC can be protected and enhanced to deliver both biodiversity and liveability benefits for the existing and future residents of north-west Brisbane.

The advancement of any concepts for the NWTC would need to include the community, Council and Queensland Government working together. Next steps could include:

- environmental assessments confirming geology and soils, waterways and wetlands, flora and fauna, sensitive receptors, air quality, noise and vibration, and cultural heritage elements relevant to the NWTC
- land use assessment to identify opportunities to make better use of the NWTC
- identifying measures to protect and preserve the biodiversity and ecosystems within the NWTC, involving targeted flora and fauna surveys (e.g. remnant vegetation and protected plants, koalas, etc.)
- consultation with the Turrbal and Jagera People
- developing a strategy and undertaking community and stakeholder consultation
- preparing recommendations and an implementation plan for the NWTC.