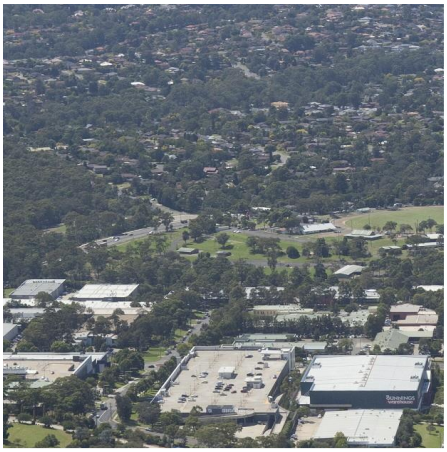
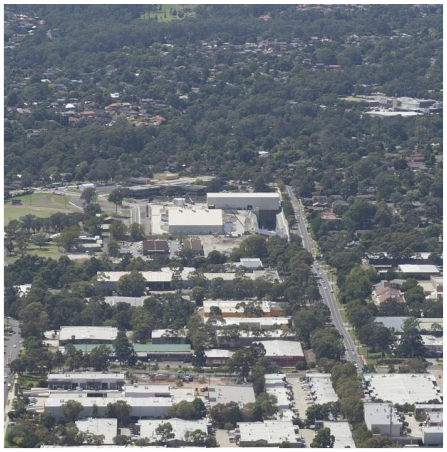
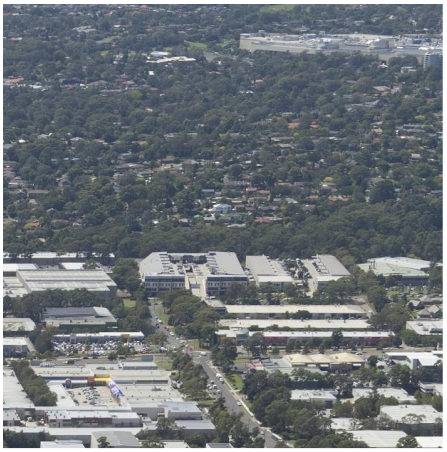

Transport for New South Wales

Norwest Station Subsurface Pedestrian Link and Northern Entry

Submissions Report

1 October 2015

PARSONS BRINCKERHOFF

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Author, Reviewer and Approver details			
Prepared by:	Jessica Sanders	Date: 01/09/2015	Signature:
Reviewed by:	Chris Fay	Date: 01/09/2015	Signature: 
Approved by:	Chris Fay	Date: 01/09/2015	Signature: 

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Contents

Abbreviations

As taken from the REF

ABS	Australian Bureau of Statistics
AHIP	Aboriginal heritage impact permit
AoS	Assessment of significance
AQMP	Air Quality Management Plan
AS	Australian standard
ASS	Acid sulphate soil
Breaking out	The method of clearing the top surface of an area, typically including the removal of hardstand and any other surface materials such as pavements, kerbs etc.
Canopy	The name given to the surface structure that would cover the circulation area and act as an entrance to the northern entry
Canopy tubes	A process where several holes are drilled around the perimeter of the excavation after which steel tubes are inserted into the ground to provide additional stabilisation
CCTV	Closed circuit television
CD	Candela
CEMP	Construction environmental management plan
CHAR	Cultural heritage application report
Circulation area	The name adopted in the proposal to describe where pedestrians would enter the pedestrian link via the lift or escalator
CMP	Contamination Management Plan
CNS	Construction Noise Strategy
CO_2-e	Carbon Dioxide Equivalent
CPTED	Crime prevention through environmental design
CTMP	Construction traffic management plan
DCCEE	Commonwealth Department of Climate Change and Energy Efficiency
DCP	*Development Control Plan*
DDA	Commonwealth *Disability Discrimination Act 1992*
DECCNSW	NSW Department of Environment and Climate Change now the Office of Environment and Heritage
DECNSW	NSW Department of Environment and Conservation now the Office of Environment and Heritage
DEFRA	UK Department of Environment Food and Rural Affairs

DMP	Dewatering Management Plan
DUAPNSW	NSW Department of Urban Affairs and Planning now the Department of Planning and Environment
EIS	Environmental impact statement
ENM	Excavated natural materials
EP&A Act	NSW *Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPA	NSW Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPI	Environmental planning instrument
EPL	Environmental protection licence
ESD	Ecologically sustainable development
Eutrophic	A term given to a body of water rich in nutrients and so supporting a dense plant population, the decomposition of which kills animal life by depriving it of oxygen.
FM Act	*Fisheries Management Act 1994*
Formwork	The term given to either temporary or permanent moulds into which concrete or similar materials are poured
GMP	Groundwater monitoring plan
HCR	Heritage and conservation register
Heading and benching	A method for constructing tunnels where workers dig a smaller tunnel known as a heading. Once the top heading has advanced some distance into the rock, workers begin excavating immediately below the floor of the top heading; this is a bench
HVAC	Heating Ventilation and Air Conditioning
IBM	International Business Machines
ICNG	*Interim Construction Noise Guidelines*
IHO	Interim heritage order
INP	*Industrial Noise Policy*
ISEPP	*State Environmental Planning Policy Infrastructure 2007*
km/h	Kilometre per hour
LEP	*Local Environmental Plan*
LGA	Local government area
Mined tunnelling	The method of horizontally drilling in one direction
NCA	Noise catchment area
NEPM	*National Environmental Protection Measure*
NES	Matter of national environmental significance

NGA	*National Greenhouse Accounts*
NML	Noise management level
Northern entry	The name given to the proposed second entry to Norwest Station to the north of Norwest Boulevard
NPW Act	*National Parks & Wildlife Act 1974*
NRT	Northwest Rapid Transit
NSW	New South Wales
NSW OEH	NSW Office of Environment and Heritage
NWGC	North West Growth Centre
NWRL	North West Rail Link now Sydney Metro Northwest
OEH	Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
Open cut	The drilling method used to construct the circulation area comprising working form the surface downwards
Overburden	The material (typically soil and vegetation) over bedrock
Pdfs	Portable document files
PEMP	Project environmental management plan
POEO Act	NSW *Protection of the Environment Operations Act 1997*
RAP	Remediation Action Plan
RBL	Rating background noise level
REF	Review of environmental factors
RNP	*Road Noise Policy*
ROL	Road occupancy licence
SEPP	State Environmental Planning Policy
Shoring	A process of supporting an excavation to prevent it collapsing in on itself
Shotcrete	A form of concrete applied via a hose and projected at high velocity onto a surface
SHR	State heritage register
SIS	Species impact statement
Sound power level	A measure of sound energy per time unit. It is the power of the sound force on a surface of the medium of propagation of the sound wave. It is used to describe the maximum amount of noise that could theoretically be produced from noise-generating equipment
SSI	State significant infrastructure
Station box	The name given to a station construction belowground
SWMP	Soil and Water Management Plan

TAGG	Transport Authorities Greenhouse Group
TfNSW	Transport for New South Wales
TI	Threshold increment
TMC	Roads and Maritime Traffic Management Centre
TPH	Total petroleum hydrocarbons
TSC Act	*Threatened Species Conservation Act 1995*
Vertical transportation	The collective name for the escalators and lifts in the circulation area
Visual catchment	The theoretical limit over which the construction site or proposal would be visible within the landscape
WRAPP	Waste Reduction and Purchasing Policy

Executive Summary

The Proposal

Transport for New South Wales (TfNSW), in conjunction with the Northwest Rapid Transit (NRT) consortium, is developing eight stations that will form part of the Sydney Metro Northwest, one of which is Norwest Station.

This station will be underground and located at the intersection of Norwest Boulevard and Brookhollow Avenue near the Norwest Business Park. Pedestrians will be required to exit Norwest Station on the southern side of Norwest Boulevard and, if required, cross to the northern side via a new signalised pedestrian crossing at the intersection.

In 2014, the NSW Government published its plan for future job and population growth across the Metropolitan region *A Plan for Growing Sydney* (Department of Planning and Environment, 2014). This followed the release of the NSW Government's *North West Rail Link Corridor Strategy* (Department of Planning and Environment, 2013), which identified structure plans for future urban renewal around the eight Sydney Metro Northwest stations, including Norwest Station.

These plans aim to deliver up to 15,000 new jobs in the Norwest Precinct, along with the potential for over 4,000 new dwellings. Consequently, it was concluded that the approved access arrangements at Norwest Station would substantially benefit from providing an additional underground pedestrian link and second station entry ('the proposal') located on the northern side of Norwest Boulevard. TfNSW believes the proposal would:

- Reduce pedestrian travel times.
- Improve amenity and safety for rail and non-rail customers.
- Improve interchange between rail and bus services.
- Support urban renewal and anticipated future job growth.

The proposal would occupy about 400 m^2 aboveground and about 850 m^2 belowground. Its main features would include:

- A canopy-covered northern entry.
- An 11.5 metre deep vertical entrance shaft fitted with escalators and an elevator.
- A pedestrian tunnel extending from Norwest Station under Norwest Boulevard.

If approved, the proposal would be become operational at the same time Norwest Station opens.

Purpose of the Report

This report documents and considers the 12 submissions that were received in relation to the review of environmental factors (REF) prepared for this proposal. The REF was displayed between Monday 27 July 2015 and Friday 7 August 2015 in four locations in Castle Hill, Baulkham Hills and Sydney City Centre. The REF was also available online to view or download. This report summarises and responds to each comment raised. Of the submissions received:

- Nine were from individuals.
- One was from business and commerce.

- One was from local Government (The Hills Shire Council).
- One was from a community group (the Hillsong Church).

Comments

A range of comments were included in the submissions, including:

- Five comments offering support for the proposal.
- Two comments questioning and clarifying the chosen location and orientation of the proposal as well as its proposed patronage.
- Three comments seeking clarity on the proposal's impact on traffic provisions and flows.
- Four comments supporting the proposal's promotion of pedestrian safety.
- One comment questioning the potential risk of reducing the tunnel's capacity in the future.
- One comment seeking clarity on the security provisions in the tunnel.
- Two comments discussing the final aesthetics and design of the proposal.
- Two comments regarding the considered options, one favouring the preferred option and one questioning why a bridge and tunnel was not constructed
- A more detailed submission from The Hills Shire Council that sought clarity on a few statements in the REF while additionally offering support for the proposal.
- Three comments that were not directly related to the proposal and were considered out of scope.

Proposed design refinements

The design was not revised or refined in light of the submissions comments.

Environmental safeguard and management measure modifications

The REF identified a range of environmental outcomes and management measures that would be required to avoid or reduce the proposal's environmental impact. After considering the submission comments and community and stakeholder feedback, it was concluded that two measures need revision:

- Consult with The Hills Shire Council and Roads and Maritime Services during the detailed design to discuss optimising signal priorities at the Norwest Boulevard, Brookhollow Avenue, and Century Circuit intersection to account for the proposed inclusion of signals on Norwest Boulevard and its intersection with Solent Circuit.
- Secure a road occupancy licence from The Hills Shire Council under section 138 of the NSW *Roads Act 1993*.

1. Introduction

1.1 Purpose

This report relates to the review of environmental factors (REF) prepared on behalf of Transport for NSW (TfNSW) for the proposed Norwest Station Subsurface Pedestrian Link and Northern Entry ('the proposal'). This report should be read in conjunction with that document. The report responds to the submissions made during and following the display of the REF from Monday 27 July 2015 until Friday 7 August 2015.

1.2 Report Structure

The report contains three chapters:

- Chapter 1: Describes the report's purpose and background to the proposal.
- Chapter 2: Summarises the comments raised in the submissions.
- Chapter 3: Provides responses to each comment raised in the received submissions. It also identifies any proposed new or revised environmental safeguards and management measures.

1.3 Proposal background

TfNSW, in conjunction with the Northwest Rapid Transport (NRT) consortium, are developing the eight stations that will form part of the Sydney Metro Northwest; itself an approved 23 kilometre twin-track passenger railway connecting Epping to Rouse Hill.

In November 2006, TfNSW submitted a staged development application to the State Government to approve the project's concept design. This application was determined and approved in May 2008. Subsequent to this, TfNSW prepared two separate state significant infrastructure (SSI) applications for the project, one to service the major civil construction work (environmental impact statement 1) (submitted in March 2012 and determined in September 2012) and the second to service the rail infrastructure and systems (environmental impact statement 2) (submitted in October 2012 and determined in May 2013). This was followed by a third development application for the Sydney Metro Stabling and Maintenance Facility at Tallawong Road in Rouse Hill (submitted in July 2013 and determined in January 2014). Environmental impact statement 2 consented to the construction of eight new stations in support of the project. This included Norwest Station, which is currently under construction.

Norwest Station will be underground and located at the intersection of Norwest Boulevard and Brookhollow Avenue. It will service Norwest Precinct. It will comprise a street-edge pavilion that will be integrated into the scale and built form of the surrounding precinct development. Access to Norwest Station will be via this pavilion. It will require people wishing to access the active part of Norwest Precinct to use a new signalised pedestrian crossing that will be installed at the intersection.

In 2014, the NSW Government published its plan for job and population growth across the Metropolitan region *A Plan for Growing Sydney* (Department of Planning and Environment, 2014). This followed the release of the NSW Government's *North West Rail Link Corridor Strategy* (Department of Planning and Environment, 2013), which identified structure plans for future urban renewal around the eight Sydney Metro Northwest stations, including Norwest station. These plans aim to deliver up to15,000 new jobs in the Norwest Precinct, along with the potential for over 4,000 new dwellings. Consequently, it was concluded that the approved access arrangements at Norwest Station would substantially benefit from providing an

additional underground pedestrian link and second station entry ('the proposal') located on the northern side of Norwest Boulevard. TfNSW believes the proposal would:

- Reduce pedestrian travel times.
- Improve amenity and safety for rail and non-rail customers.
- Improve interchange between rail and bus services.
- Support urban renewal and anticipated future job growth.

1.4 Proposal description

The approved Norwest Station design comprises a single southern entry to service all customers using the Sydney Metro Northwest. People wishing to access the Norwest Business Park and other amenities on the northern side of Norwest Boulevard will need to use the southern entry and then cross the road via a new pedestrian crossing. Under this proposal a second 'northern entry' would be created to specifically service the busy northern part of the Norwest Precinct. The northern entry would be located on the north-east corner of the intersection of Norwest Boulevard and Century Circuit. It would connect to Norwest Station via a sub-surface pedestrian link. The core design concepts are described below:

The northern entry

- An 11.5 metre deep vertical entry to the access Norwest Station via the pedestrian link.
- Serviced by two escalators and one elevator.
- A glazed and/or metal clad entrance canopy/portal about five metres high.
- Improvements to the footpath and planting around the entrance.
- Fixtures and fittings that would be consistent with the design adopted in Norwest Station.
- A 'breakout' panel (false wall) at the northern end of the tunnel to safeguard for potential future connection between the pedestrian link and the Norwest Marketown Shopping Centre as part of future (private) development proposals.

The pedestrian link

- A 40 metres long five-metre wide pedestrian tunnel.
- Fixtures and fittings that would be consistent with the design adopted in Norwest Station.

Supporting infrastructure

The pedestrian link and circulation area would be founded on a concrete base slab laid on top of a waterproof membrane that in turn would be placed on top of a drainage layer. In combination, these would provide groundwater protection.

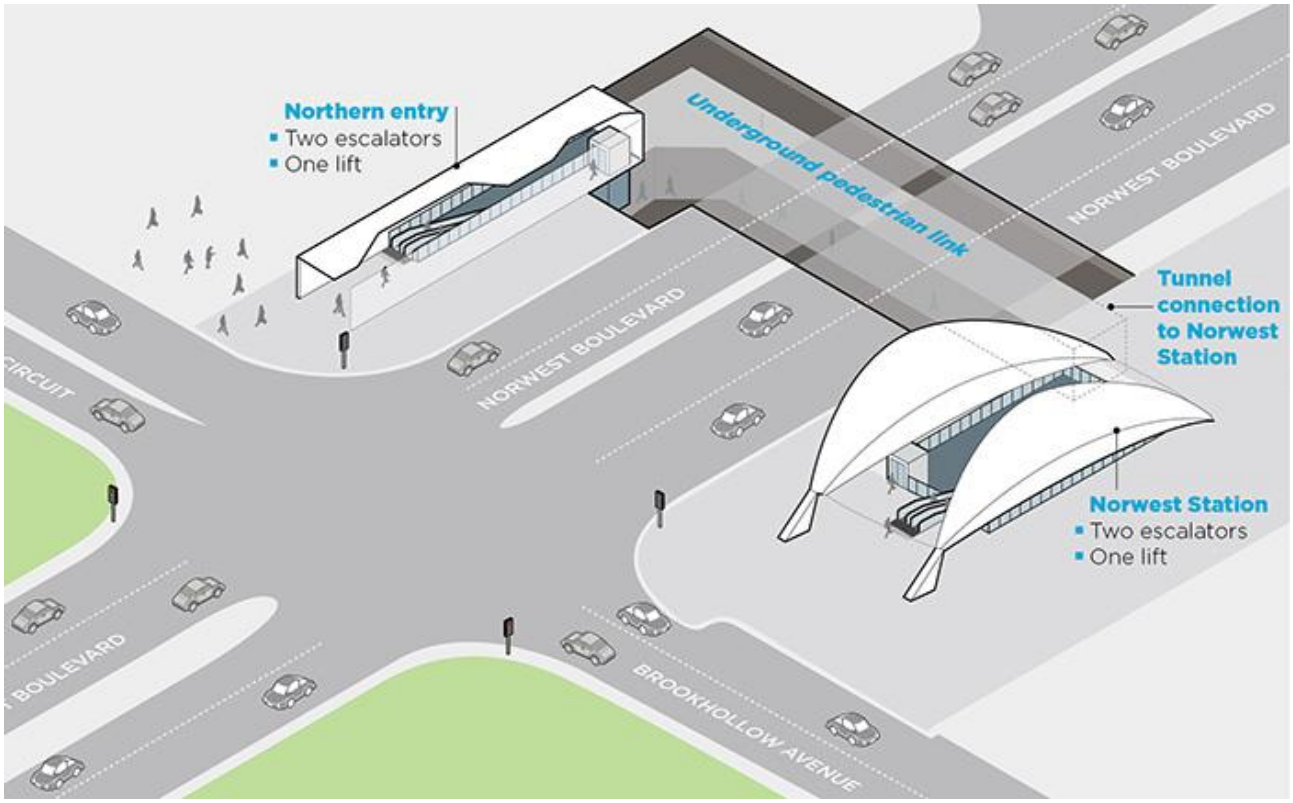
Services would be constructed behind the internal walls and ceiling (i.e. the architectural lining of the pedestrian link and circulation area). Discrete access panels would be provided within the lining to enable inspection, maintenance, replacement or installation of future services.

Connection into Norwest Station

The pedestrian link would connect into the mezzanine level of the Norwest Station box. Given the gradient between Norwest Station and the northern entry, the pedestrian link would be constructed at a 1-in-33 gradient.

Figure 1-1 shows a schematic of the proposal

Figure 3.1 Norwest Station Subsurface Pedestrian Link and Northern Entry



Source: TfNSW, 2015

1.5 REF Display

TfNSW displayed the REF in a number of locations in Castle Hill, Baulkham Hills and Sydney City Centre from Monday 27 July 2015 until Friday 7 August 2015 (refer to Table 1-1). It was also available online at sydneymetro.info/northwest.

The REF display locations and website link were advertised in a media release and community update (Have Your Say) that was letterbox-dropped to about 1,950 residents and businesses around the Norwest Precinct and surrounding neighbourhoods. Appendix A contains the community update. During the engagement period, TfNSW also doorknocked about 200 potentially impacted businesses and key stakeholders, including businesses and residents.

Table 1.1 REF display locations

Location	Address	Hours of display
Sydney Metro Northwest Community Information Centre	Shop 490, Castle Towers Shopping Centre	Monday to Friday 9.00 am – 5.00 pm
The Hills Shire Council offices	3 Columbia Court, Baulkham Hills	Monday to Friday 9.00 am – 5.00 pm
The Hills Library	Baulkham Hills Branch, Railway Street, Baulkham Hills	Monday to Friday 8.30 am – 4.30 pm Saturday 10.00 am – 1.00 pm
TfNSW Information Centre	Ground Floor, 388 George Street, Sydney	Monday to Friday 9.00 am – 5.00 pm

2. Comments raised in the submissions

This chapter analyses the comments received on the displayed REF.

2.1 Overview of key comments raised

Twelve (12) submissions were made on the displayed REF either expressing support for the proposal, raising queries about the proposal's need or justification or making recommendation as to how the proposal could be refined to improve the outcome. Of the 12 submissions:

- Nine were from individuals.
- One was from business and commerce.
- One was from local Government (The Hills Shire Council).
- One was from a community group (the Hillsong Church).

The content of each submission was reviewed to identify:

- Any key comments raised.
- Any specific or unique comments or issues raised.
- Any comments that were not related to the proposal.

Each submission was then given a unique number that is used throughout this report to track both the comments raised and the responses provided. Following that, each submission comment was categorised according to the points raised and given a letter reference. Once reviewed, a response was prepared against each comment (refer to Chapter 3). Table 2-1 summarises the nature of the comments raised in the 12 submissions and where they are addressed in this report. Based on the above referencing convention '1B' refers to the second comment raised in the first logged submission.

Table 2.1 Summary of submission comments

Comment	Submission reference	Section Ref.
Support	4A, 5A, 7A, 11A and 12A	3.1
Location, orientation and patronage	1B and 11A	3.2
Traffic provisions and flows	1C, 4A and 8A	3.3
Pedestrian safety	2A, 4A, 6B and 8A	3.4
Pedestrian flows	8C	3.5
Security	8B	3.6
Aesthetics and design	9A and 10A	3.7
The considered options`	1A and 10A	3.8
The Hills Shire Council	11A, 11B, 11C and 11D	3.9
Out of scope	2A, 3A, and 5B	3.10

2.2 Analysis of the submission comments

The number of submission is too low to undertake any statistical analysis. However by reviewing the content of the submissions it can be concluded that there was general support for the proposal. This was supplemented by some clarifications about the proposal's construction and design, while Council noted a number of inconsistences made in the REF. Finally, a number of comments were raised that did not relate directly to the proposal. It was also clear that the community felt strongly about pedestrian safety and security.

3. Response to comments

The following chapter identifies and addresses the comments raised in the 12 submissions.

3.1 Support for the proposal

Submissions Number(s)

4A, 5A, 7A, 11A and 12A

Comment description

The above submissions offered their support for the proposal citing amenity, safety and travel time benefits. The Hills Shire Council and Hillsong Church also provided their full support to the proposal.

General Response

TfNSW acknowledges the support received for the proposal and its ability to:

- Improve the area's amenity and the journey experience for its customers.
- Provide an alternative to people crossing Norwest Boulevard at the surface.
- Reduce the time taken to travel between the station and the northern side of Norwest Boulevard.

3.2 Location and orientation of the proposal and patronage

Submission number(s)

1B and 11A

Comment description

The first submission questioned the location and orientation of the entry and exit points of the proposed pedestrian tunnel as well as its anticipated use. Council conversely suggested the link may be used by more people than indicated in the REF.

Response

As described in EIS 2 (refer to section 1.3) Norwest Station has been positioned to provide access to the central part of the Norwest Precinct. That said, its position is constrained by being separated from the more active part of the precinct by being located on the southern side of Norwest Boulevard. The proposed pedestrian link improves connectivity between the station and the precinct by avoiding the need for rail customers to cross Norwest Boulevard at the surface. It would therefore service users of the Norwest Marketown Shopping Centre, Norwest Business Park and Hillsong Church, all important and significant land uses in the precinct.

The choice of where to locate the subsurface link and the surface northern entry are constrained by: the lack of land availability locally; the need to be close to the main station; and the need for the link to be aligned between the station and the Norwest Marketown Shopping Centre to provide for a possible future connection. Other key factors affecting the location and orientation of the link include its being accessible to other precinct land uses such as the Hillsong Church and the new higher density residential areas to the north of Solent Circuit as well as being able to support efficient bus to rail interchange. Section 1.1, section 2.1, section 3.2, and section 6.5 of the REF provide more information regarding the rationale for the location and orientation of the northern entry.

The REF noted that around two thirds of station customers would be expected to use the link. Council however noted that the link would also be likely used by people that live within the station's pedestrian catchment (i.e. within 800 metres of the station). Council also suggested that residents and employees of the existing residential and commercially zoned land to the south of the station would use the link to cross to the northern side of the station. This would be an additional benefit of the proposal.

3.3 Traffic provisions and flows

Submission number(s)

1C, 4A and 8A

Comment description

These submissions raised concerns regarding reduced traffic flows as a result of the proposed pedestrian tunnel. Specific points included:

- The likely inability for people to drop-off and pick-up people.
- The reduced traffic delays introduced under the proposal.

Response

The northern entry point would allow people to walk from the adjacent Norwest Marketown Shopping Centre carparks, which provide safe areas to drop people off and pick people up. This would be supplemented by new 'kiss-and-ride' points that are being constructed about 150 metres from the main station on Brookhollow Avenue. These are part of the main station development.

The proposal does not directly aim to improve traffic flow on Norwest Boulevard. The pedestrian crossing would still need to be included at the surface intersection for the one third of people that would not benefit from using the sub-surface link and for people that need to cross Norwest Boulevard at night when the link would be closed.

Despite fewer people using the pedestrian crossing, the lights would have to remain on 'red' for the same amount of time regardless of whether one or multiple people cross at the surface. However one benefit of the proposal, would be the fewer times the pedestrian crossing would be used in a given time period. Therefore, if the number of pedestrian phases per hour is reduced then traffic would need to stop less frequently. This may have some benefit in indirectly improving traffic flow.

Also, as noted in the section 6.1 of the REF, there is the potential to extend the period of time before the lights turn red (termed lighting phasing), which may be possible due to the reduced pedestrian use of the crossing. This would therefore provide a benefit to traffic flows and would be something that would be considered during the detailed design. Should this measure be implemented there would be no reduction in the amount of time provided for people to cross the road. This would be maintained to standards set to ensure pedestrian safety.

3.4 Pedestrian safety

Submission number(s)

2A, 4A, 6B and 8A

Comment description

These submissions made comments about pedestrian safety and specifically:

- The risk for people wanting to walk west or east from the station on the northern side of Norwest Boulevard not bothering to use the link but instead walking across the road but not at the crossing.
- The benefit of people using the pedestrian link instead of crossing at the surface.

Response

The objective of the proposal is to provide the greatest number of rail customers and non-customers with another option to cross Norwest Boulevard. This would be achieved by providing a north-south link that would cater for about two thirds of the people that would be travelling to and from the station. This is not to remove the fact that about one third of people would still want to travel west, east and south from the station. They will be catered for by the pedestrian crossings provided at the intersection. People travelling all directions from the station other than north would likely cross at the surface. The crossing points are located on roads that carry considerably less traffic than Norwest Boulevard. As such, they are considered an effective way for people to travel in these directions.

For people travelling west or east on the northern side of Norwest Boulevard, TfNSW considers that they would use the pedestrian link given that it would be a quicker way of crossing the road than using the surface crossing or illegally walking across the road. While TfNSW cannot be responsible for an individual's behaviour, the pedestrian link does provide a quicker solution than the current proposal for people who want to travel west or east on the northern side of Norwest Boulevard. There is also an existing pedestrian underpass beneath Norwest Boulevard located about 300 metres north-east of the station that will provide an alternative crossing point for pedestrians heading in that direction.

Section 6.2 and section 8.1 of the REF provide for more information on the proposal's safety benefits.

3.5 Pedestrian flows

Submission number(s)

8C

Comment description

This submission made a comment about pedestrian flows inside the proposed tunnel and specifically the loss of capacity in the future through a decision to locate shops in the tunnel.

Response

The pedestrian link would be constructed to be five metres wide internally. There is no intention to locate any shops along the link given the proximity of the Norwest Marketown Shopping Centre and the potential for additional shops to be accommodated at surface level as part of future station precinct development. As such, the full tunnel width would be retained for pedestrian use.

3.6 Security

Submission number(s)

8B

Comment description

This submission made a comment about safety and security in the tunnel.

Response

TfNSW is acutely aware of customer safety. It therefore commits all its infrastructure projects to a process of safety in design and the inclusion of crime prevention through environmental design (CPTED); a recognised multidisciplinary approach to deterring antisocial behaviour. Section 3.3.2 of the REF states what these measures involve. As reported below, the link would include closed circuit television and a number of other controls to make it safe to use at all times it is operational. The main station will also be staffed during operational hours.

Safety in design

Sydney Metro Northwest has been designed to ensure it is safe for customers, workers, rail customers, maintenance crews and anyone that would use the Norwest Station precinct, including the pedestrian link. The following key safe design features would be implemented under the proposal:

- The use of fire-retardant materials in the design.
- A lighting design that ensures all areas are lit.
- Clear directional signage to ensure rail customers move through the pedestrian link quickly and effectively and do not get distracted or lost.
- Outside lighting areas to provide a safe environment for waiting passengers.
- Provision of anti-slip surfaces for rail customers.
- Shelter and weather proofing.
- Closed circuit television (CCTV) to enhance security.
- Other emergency, fire, safety and address equipment.

The above provisions would be largely provided through installing a range of operations systems and building services as described below.

Crime prevention

TfNSW is also committed to reducing crime prevention through environmental design (CPTED). In 2001, the Department of Planning and Environment released the NSW Government's guidelines as to how CPTED should be implemented under the NSW *EP&A Act.* The guidelines include a number of principles that have been adopted in the proposal's design to allay operational safety concerns. They include:

- For the pedestrian link to have end-to-end visibility.
- For natural observation to be maximised by providing lines-of-sight throughout the pedestrian link and its connection into Norwest Station, including the supporting furniture, while also minimising the use of narrow corridors and hidden corners and adopting the use of appropriate lighting.

- The use of natural access control through considered urban design that guides passengers to appropriate entries.
- The adoption of 'territorial reinforcement' through design that clearly delineates public areas from non-public areas.
- As noted above, the use of CCTV and appropriate maintenance, particularly regarding vandalised hardware and quick repair/removal of graffiti.
- The link and entrance being safe and attractive places to wait and travel through, supported by the use of appropriate lighting and be fitted with emergency calling infrastructure.

3.7 Aesthetics and design

Submission number(s)

9A and 10A

Comment description

The first submission commented on the final aesthetics and design of the pedestrian link while the second submission suggested that the inclusion of a bridge would be visually impacting.

Response

Many of the proposal's objectives are focussed on providing an enhanced customer experience through design. They include:

- Creating memorable vibrant new focal points for the community, places where customers feel safe, are protected from the weather, and places that offer enjoyable uplifting experiences.
- Informing the design of the proposal by referring to the local character, including natural systems and the supporting built environment.
- Providing a positive lasting legacy for future generations.

Accordingly, a list of design criteria and principles would be employed to satisfy the objectives listed above. These are set out in Table 3.1 of the REF. They would ensure that the fixtures and finishes adopted in the pedestrian link and entrance would be consistent with the main station and the rest of the Sydney Metro Northwest stations. http://nwrail.transport.nsw.gov.au/The-Project/Stations describes this in more detail.

TfNSW acknowledges that a bridge would have a greater visual impact than the tunnel. However, while a redundant option (refer to section 3.8), any bridge would have been designed to be consistent with the architectural and aesthetic value of the area and the urban design that is being adopted on Sydney Metro Northwest.

3.8 The considered options

Submissions number(s)

1A and 10A

Comment description

One submission suggested that a tunnel and bridge should be constructed (referred to in the REF as Option C) while the second submission comment supported the proposal to install a tunnel (referred to in the

REF as Option B). The first submission suggested that the tunnel would not be orientated on the main pedestrian flow to and from the station, which was suggested as being more towards the east where the bridge is proposed. The first submission also commented that the Hillsong Church congregation typically travels there by private vehicle, which reduces the validity of the statement about the tunnel's orientation. Conversely, the second submission noted that a the bridge may need modifying in the future if and when Norwest Boulevard is widened, while the tunnel would be more economical to construct at the same time as the station.

Response

As section 2.4.3 of the REF describes, three options were considered: a bridge (Option A); a tunnel (Option B); or the combination of both a bridge and tunnel (Option C). Each of the options was assessed against the list of proposal objectives (refer to section 2.3 of the REF) and the results were compared (refer to section 2.5 of the REF).

While Option C would meet each of the proposal objectives and provide the best level of service, it was discounted for cost benefit reasons. It would be too costly at this stage to construct both a bridge and tunnel to cater for the number of people expected to use the link, or links. This resulted in the consideration of whether a tunnel or bridge should be constructed. As described in Table 2-3 of the REF, the bridge would be used by fewer people than the pedestrian link, mainly as it would take longer for people to walk up and down the stairs. This is reinforced by the ability for the tunnel to provide for a future connection into the Norwest Marketown Shopping Centre, something that cannot be achieved by the bridge.

While the submission comments about the Hillsong Church and the location of the surrounding buildings reflect existing travel behaviour, the completion of Sydney Metro Northwest will provide a convenient alternative transport option for visitors in the future. Both options provide a direct connection form the station to the active part of the precinct. The bridge would be closer to certain commercial buildings and the tunnel would be closer to the shopping centre and the new higher density residential development to the north of Solent Circuit. Therefore neither option provides 'better' access into the precinct. The selection of whether to construct a bridge or tunnel was therefore based on other factors, a notable one of which was the need for the link to be aligned between the station and the Norwest Marketown Shopping Centre to provide for a possible future connection, as discussed in section 3.2.

3.9 The Hills Shire Council

Submissions Number(s)

11A, 11B, 11C and 11D

Comment description

The Hills Shire Council raised four discrete points about the REF. Each is described and responded to separately below.

Comment 1: Ownership of the road

While Norwest Boulevard is a classified road, Council is the road authority responsible under the provisions of section 7 of the NSW *Roads Act 1993*. Council would therefore consent to working in or under the road as per section 138 of the above Act. In addition, any work (or development) under a classified road (regardless of Council being the nominated road authority) would not be consented to without Roads and Maritime Services' concurrence.

Response

TfNSW acknowledges the operational status of the road and that, as a classified road managed by Council, the proposal would need to be consented under section 138 of the NSW *Roads Act 1993* before work starts. As such, section 4.5.2 of the REF should read "secure a road occupancy licence under section 138 of the NSW Roads Act 1993 from The Hills Shire Council'. This is consistent with the provisions of section 138(3) of the above Act. TfNSW would also commit to seeking Roads and Maritime Services' concurrence before creating the pedestrian link to address the provisions of section 138(2) of the above Act in relation to working under the road.

Comment 2: Location of the nearest watercourse

The nearest watercourse is unnamed and located about 300 metres to the north-east of the proposal footprint. This is closer than the unnamed tributary of Strangers Creek that is referred to in the REF as being the closest watercourse, 600 metres to the west of the proposal footprint. The management of Strangers Creek also does not fall under Sydney Water's responsibility until about 500 metres downstream from Fairfield Drive. Also, the proposal footprint, Norwest Boulevard and the Norwest Marketown Shopping Centre drain to the unnamed tributary of Strangers Creek to the north-east.

Response

As noted on page 63 of the REF, the stormwater runoff from site was only suggested to be via a trunk main to the local creek and that this was not confirmed at the time of preparing the document. TfNSW welcomes Council's clarification on the drainage arrangement as described above. Importantly, the clarification does not affect the impact assessment or the proposed wording or content of the safeguard commitments in Table 6-2 of the REF. There would still be the need to design for expected runoff volumes and peak flows during the detailed design and implement soil and water management controls during construction. This would extend to protecting the stormwater drains during construction and including stormwater drainage provisions in the design that would treat stormwater through a range of at-source and end-point measures that would be integrated with the urban landscape.

Comment 3: Land ownership

The proposal is located on land that is owned by a number of different parties. Norwest Boulevard is State-owned land managed by Council and not Roads and Maritime Services as per Comment 1 above. Also Century Circuit is privately owned over State-owned and Council maintained.

Response

As per the response to Comment 1, TfNSW acknowledges the Council's role as the road authority in regard to Norwest Boulevard and accordingly the required need to seek consent and approval in matters relating to the NSW *Roads Act 1993* and the need to temporarily close the northern footpath during construction (refer to Table 3-8 of the REF). As such, the text of this table should be updated to state 'Norwest Boulevard (Classified Road) (State owned and managed by The Hills Shire Council)'.

As per section 4.3.5 of the REF, Century Circuit is a private road. The text under the property heading in section 6.6.2 is incorrect in stating that Century Circuit is on State-owned land managed by Council. This sentence should read "The footprint is also on State-owned land managed by The Hills Shire Council (Norwest Boulevard) while Century Circuit is on privately owned land". This clarification does not affect the impact assessment or described safeguards.

Comment 3: Cumulative effects

There are two developer-funded projects in the area that would be constructed on Norwest Boulevard and Solent Circuit between 2016 and 2018. The REF states that there are no large development applications lodged with The Hills Shire Council. As such, these two committed developments could lead to cumulative impact as they are being constructed and would operate at the same time as the proposal.

Response

Developer-funding allows the Council to upgrade certain assets that would be affected by a project's development. Notably this includes road upgrades that are needed to accommodate additional development-generated traffic.

The Hills Shire Council was contacted about the above two projects. It confirmed that its Traffic Master Plan identifies the upgrade of several roads, including a proposal to signalise the intersection of Norwest Boulevard and Solent Circuit to the west and/or east to support the above projects. Signalising either intersection would have no direct construction or operational impact on the proposal or cumulative effect on common resources and receivers.

Operationally, the installation of additional signalised intersections along Norwest Boulevard would affect traffic flows. This would have a cumulative impact in combination with the commitment to signalise the Norwest Boulevard, Brookhollow Avenue and Century Circuit intersection. However, the signalisation of this intersection has been approved via environmental impact statement 2 (refer to section 1.3). While this is the case, and the signalisation of the intersection does not form part of this proposal, there is the ability to potentially extend the period of time before the lights turn red (termed lighting phasing) at the intersection (refer to section 3.3). This may therefore provide a benefit to operational traffic flows and it is something that will be investigated during the detailed design, as was committed to in the REF. Accordingly, TfNSW would consult with Council and Roads and Maritime Services to discuss the signalising priorities, which is something that would be coordinated with all three parties during detailed design.

3.10 Out of Scope

Submissions number(s)

2A, 3A, and 5B

Comment description

Three submissions included comments that did not directly relate to the proposal. They included:

- The alteration of the speed limit in the area.
- The provision of a second underpass along Norwest Boulevard primarily for school children to use.
- The negative effects on traffic flows by creating a signalised intersection at Norwest Boulevard and Brookhollow Avenue/Century Circuit.

Response

The scope or purpose of the REF was to justify and assess the proposal to develop a sub-surface pedestrian link under Norwest Boulevard to complement an approved surface signalised pedestrian crossing that is being installed to service Norwest Station. While the above issues are important, they are not part of the scope of this proposal.

The adjustment of the speed limits and proposal to construct and additional pedestrian underpass are considerations for Roads and Maritime Services and The Hills Shire Council. We have accordingly passed these comments on for their consideration. The inclusion of signalised intersection was something that was proposed and approved as part of the main station development. The rationale and reason for installing a signalised intersection is described and justified in environmental impact statement 2 (refer to section 1.3). Again, it is not part of this proposal.

3.11 Changes to the proposal

TfNSW has not proposed to change or modify the proposal as described in the REF based on the submission comments and community and stakeholder feedback.

3.12 Revised environmental management safeguards

The REF identified a range of environmental outcomes and management measures that would be required to avoid or reduce the proposal's environmental impact. After considering the submission comments and community and stakeholder feedback, it can be concluded that these measures do not need revising, modifying, editing, supplementing or updating other than in two instances.

- Commitment 83 (new commitment): TfNSW would consult with The Hills Shire Council and Roads and Maritime Services during the detailed design to discuss optimising signalising priorities at the Norwest Boulevard, Brookhollow Avenue, and Century Circuit intersection to account for the proposed inclusion of signals on Norwest Boulevard and its intersection with Solent Circuit.
- Licences and approvals (revision): TfNSW would secure a road occupancy licence from The Hills Shire Council under section 138 of the NSW *Roads Act 1993*.

Should the proposal be approved, environmental management will be guided by the safeguards and management measures described in the REF as supplemented/modified above. The construction environmental management plan (CEMP) and operational environmental management plan (OEMP) for Norwest Station would be prepared as the mechanism to execute the project environmental controls. These plans would provide the framework for establishing how these measures would be implemented and who would be responsible for their implementation. The plans would be prepared before work starts and would be reviewed and certified by TfNSW. Both plans would be working documents. They would be subject to ongoing change. They would be updated to respond to specific requirements as necessary.

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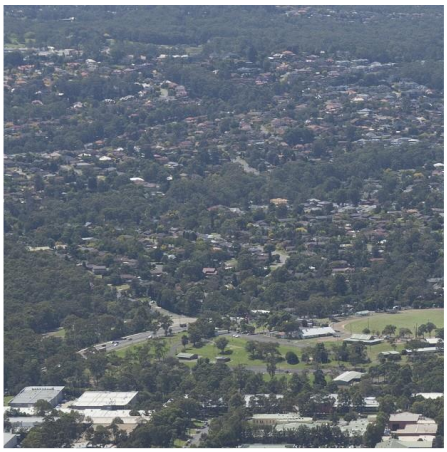
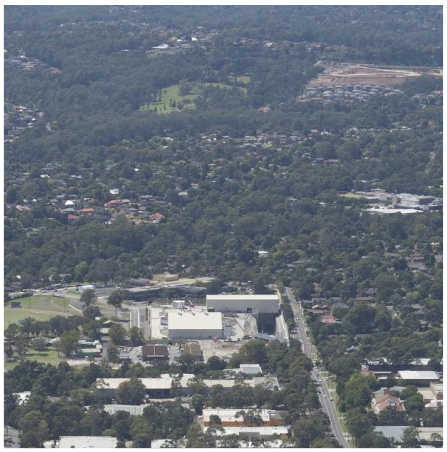
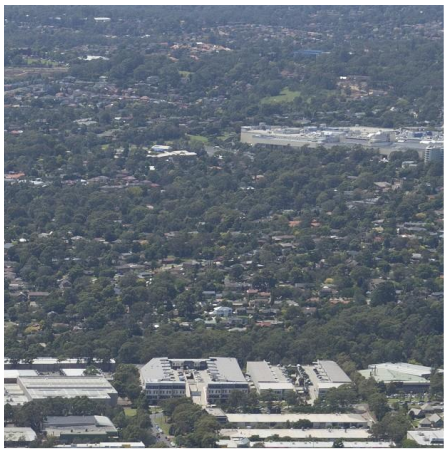




Appendix A

Have Your Say - Community Update

sydney METRO | northwest

JULY/AUGUST 2015

Artist's impression of Norwest Station – aerial view

Proposed underground pedestrian link for Norwest Station

Introduction

The $8.3 billion Sydney Metro Northwest project is currently under construction and on track to open to customers in the first half of 2019.

It will deliver eight new railway stations, 4000 commuter car parks and a train every four minutes in the peak.

Sydney Metro Northwest – formerly known as the North West Rail Link – is the first stage of Sydney Metro and will be the first fully-automated metro rail system in Australia.

The new Norwest Station is currently under construction at the intersection of Norwest Boulevard and Brookhollow Avenue.

As part of the station precinct, Transport for NSW is proposing to build an underground pedestrian walkway linking the station with the nearby Norwest retail and business precinct.

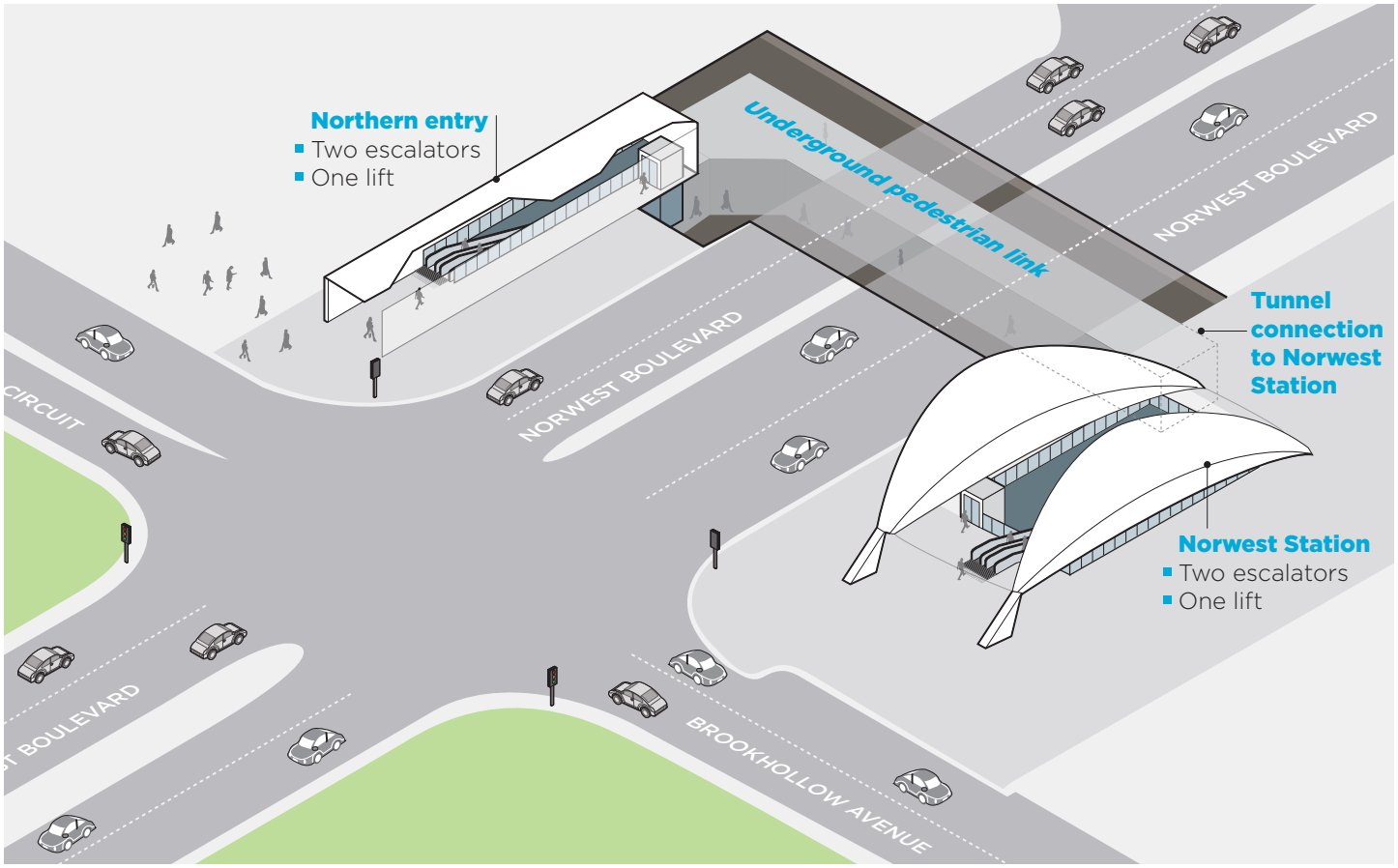
Construction of the link means there will be a new second entrance to Norwest Station in addition to the surface entry at the corner of Norwest Boulevard and Brookhollow Avenue.

The objective is to make access to the station and the surrounding precinct as easy as possible.

The Review of Environmental Factors (REF) for the proposed underground pedestrian link will be on public exhibition from 27 July – 7 August 2015.

Community members are invited to submit feedback on the proposal.

See inside this newsletter for more information.



Artist's impression of proposed underground pedestrian link

Improving access to growing Sydney

Since the approval of the Sydney Metro Northwest project in 2012, the NSW Government has released *A Plan for Growing Sydney* (2014) which contains projections for job and population growth across the metropolitan region.

In the Norwest precinct, it is anticipated that there will be about 15,000 extra jobs created by 2031.

As a result, Transport for NSW believes access to the new station would be significantly improved by delivering an underground pedestrian link and a second station entrance at the end of this link on the northern side of Norwest Boulevard.

These improvements would:

- make it easier and faster for people to get in and out of the station
- improve interchange between rail and bus services
- support urban renewal and anticipated future job growth.

This newsletter outlines the planning approvals process for the proposed underground pedestrian link, including how the community can provide feedback.

Key features

The Norwest Station underground pedestrian link would include:

- a tunnel approximately five metres wide, three metres high and 40 metres long, extending from the Norwest Station, north under Norwest Boulevard to the Norwest retail and business precinct
- a canopy-covered entrance and exit on the northern side of Norwest Boulevard
- access to the station via escalators and a lift on both ends of the link
- closed circuit TV cameras and help points
- a design consistent with the main station design.

Benefits

The Norwest Station underground pedestrian link would:

- deliver a new pedestrian link to the northern side of Norwest Boulevard for commuters, workers and residents
- provide a new railway station entrance and exit directly onto the busiest part of the Norwest precinct.

It is proposed that the underground link would open at the same time as the new station. The link would be cleaned and maintained as part of the wider Norwest Station.

Norwest is one of the fastest growing employment centres in Sydney.

About 15,000 people travel here for work every day to major Australian and international companies – and this is expected to increase to 30,000 by 2031.

Artist's impression of Norwest Station – street level

Building the pedestrian link

If approved, the underground pedestrian link would be built as part of Norwest Station and work is expected to start in mid-2016.

Work is expected to take eight months.

Transport for NSW is working with the owners of the Norwest Marketown shopping centre to secure space in which to build and house the new infrastructure.

A range of potential construction traffic, transport and access impacts are anticipated, including:

- short-term delays for general road traffic
- occasional closure of Century Circuit for short periods
- the closure of two sections of footpath for up to eight months. The affected areas are adjacent to the eastbound lane to the north of Norwest Boulevard between Century Circuit and close to the service station; and adjacent to the southbound lane to the east of Century Circuit between Norwest Boulevard and the intersection with Inglewood Place and Century Circuit
- restricting access to about 60 parking spaces serving the Norwest Marketown shopping centre for up to eight months
- intermittent arrival of large vehicles delivering construction materials.

The majority of the work would take place below ground. The underground work would take place continuously, six days a week, with no work on Sundays or public holidays.

All surface work, with the exception of tunnel-generated spoil removal, would take place only during standard construction hours:

- 7.00am – 6.00pm Monday to Friday
- 8.00am – 1.00pm Saturday
- no work on Sundays or during public holidays.

Every effort will be made during the construction period to minimise inconvenience and Transport for NSW will work together with the community, businesses and other stakeholders before details are finalised.

The planning process: Review of Environmental Factors

A Review of Environmental Factors has been prepared to identify potential issues and proposed mitigation measures that will be put in place to minimise the project's impact during construction and operation.

The REF is based on a range of specialist studies and covers issues such as noise and vibration, minimising potential traffic, transport and access impacts experienced during construction, and as visual factors.

The assessment outlines the project and how construction will be managed.

sydney METRO | northwest

About Sydney Metro

Sydney Metro is Australia's largest public transport infrastructure project.

Sydney Metro will transform Sydney, delivering more trains and faster services for all of the city.

A new stand alone railway network, Sydney Metro is the solution to clearing the city's bottlenecks and will deliver a quality of rail service never seen before in Australia.

Sydney Metro Northwest – formerly known as the North West Rail Link – is the first stage of Sydney Metro. Sydney Metro City & Southwest is the second stage.

The second stage will extend metro rail from the end of Sydney Metro Northwest at Chatswood to include a new crossing beneath Sydney Harbour, through new stations in the Sydney CBD and west to Bankstown.

Sydney Metro will deliver the capacity to increase the number of trains entering the CBD across the entire Sydney railway system from 120 to about 200 in the busiest hour of the day. This means the railway network across greater Sydney will have room for an extra 100,000 train customers an hour in the peak.

Sydney Metro City & Southwest proposes to build at least five metro stations:

- Central
- Pitt Street
- Martin Place
- Victoria Cross (North Sydney)
- St Leonards/Crows Nest area.

Additional stations are being investigated including Barangaroo, Artarmon Industrial Area, and at either Sydney University or Waterloo.

It is also proposed to upgrade the Bankstown line to metro standards.

For more information about Sydney Metro visit:
sydneymetro.info/northwest

Project timeline

If approved, the underground pedestrian link would be built as part of Norwest Station and work is expected to start in mid-2016. Work is expected to take eight months.

Dates	Proposal phase
27 July – 7 August 2015	REF public exhibition
Mid-2016	Construction works commence
First half of 2019	Sydney Metro Northwest services commence and pedestrian link opens

Have your say

The Review of Environmental Factors for the proposed underground pedestrian link will be on public exhibition from 27 July – 7 August 2015.

Community members are invited to submit feedback on the proposal.

Your submission must reach Transport for NSW by close of business on 7 August 2015 and include:

- your name and address
- the name of your application
- a brief statement on whether you support or object to the proposal – and why.

Where can I see the proposal?

- **Visit sydneymetro.info/northwest**
- **Sydney Metro Northwest Community Information Centre**
  Shop 490, Castle Towers Shopping Centre (entry off Old Castle Hill Road)
  (Monday to Friday 9.00am – 5.00pm)
- **The Hills Shire Council offices**
  3 Columbia Court, Baulkham Hills
  (Monday to Friday 9.00am – 5.00pm)
- **The Hills Library**
  Baulkham Hills Branch, Railway Street, Baulkham Hills
  (Monday 10.00am – 8.00pm, Tuesday to Friday 10.00am – 5.20pm,
  Saturday 10.00am – 1.00pm)
- **Transport for NSW Information Centre**
  Ground floor, 388 George Street, Sydney (corner of King and George streets)
  (Monday to Friday 9.00am – 5.00pm).

Community members are invited to submit their feedback on the proposal to Transport for NSW by emailing info@northwestrail.com.au or writing to:

Sydney Metro Northwest
Norwest REF
PO Box 588
North Ryde BC NSW 1670

Contact us

For further information please contact us at:

- Website:
  sydneymetro.info/northwest
- Community Information Line:
  1800 019 989
- Email:
  info@northwestrail.com.au