The Northern Road Upgrade
The Old Northern Road to Mersey Road
Review of environmental factors
Volume 1 - main report and appendix A
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Roads and Maritime Services

The Northern Road upgrade, Narellan to Bringelly

Review of Environmental Factors
Final
October 2012
Executive summary

The proposal

The NSW Roads and Maritime Services (RMS) propose to upgrade about 15 kilometres of The Northern Road between The Old Northern Road, Narellan and Mersey Road, Bringelly (the proposal). The proposal would be undertaken within the Camden and Liverpool local government areas (LGAs) in the RMS Sydney region. The proposal does not include the upgrade of the Oran Park Link Road 1 (Peter Brock Drive) intersection, which is about 450 metres in length. A separate review of environmental factors (DPS 2012) was determined for this intersection by RMS in May 2012.

The main features of the proposal include:

- An upgrade of the existing two-lane road to a four-lane road (two lanes each way) divided by a wide central median.
- Posted speed limit of 80 km/h.
- Provision of a three metre wide off-road shared pedestrian/cyclist path on the eastern side of the proposal, with space provided on the western side of the proposal for the future construction of a path if required.
- A typical lane width of 3.5 metres (3.3 metre lanes for turning lanes) with two metre outside shoulders and 0.5 metre inside shoulders.
- Bicycle and pedestrian crossing provisions at traffic lights.
- A bus priority lane on the approach and indented bus bay on the departure side of the signalised intersections on The Northern Road.
- Upgrade and/or tie in with 20 local roads including realignment of six local roads.
- Upgrade of eight existing intersections to include seven four-way signalised intersections and a signalised T-intersection.
- Upgrade of nine unsignalised T-intersections.
- A new unsignalised T-intersection at Oran Park Link Road 3.
- Five new signalised intersections with link roads to provide for future connectivity.
- Designated turning lanes at all signalised intersections.
- U-turn facilities at Lowes Creek Link Road, Belmore Road, Greendale Road and Derwent Road.
- Tie in with The Northern Road at the start and end of the proposal and the Oran Park Link Road 1 (Peter Brock Drive).
- Retention of the existing bridge over Narellan Creek for the southbound carriageway and provision of a new three span bridge over Narellan Creek for the northbound carriageway.
- Retention of the existing bridge over Thompsons Creek for the southbound carriageway and provision of a new single span bridge over Thompsons Creek for the northbound carriageway.
- Realignment and upgrade of the culverts within Lowes Creek.
- Scour protection works at Narellan Creek and Thompson Creek bridges and the Lowes Creek culvert.
- Upgrade of cross drainage to meet flood immunity for a 1 in 100 year average recurrence interval (ARI) flood event.
- Provision of street lighting.
- Seven permanent spill basins.
• Batters required for cut and fill areas.
• One major fill location and seven major cut locations.

Construction of the proposal would be undertaken by or on behalf of RMS in staged sections as developments along The Northern Road are approved and precincts within the South West Growth Centre are developed.

The proposal has been designed to allow for future upgrade within the median to a six-lane road (three lanes each way). This would be achieved by widening into the central median.

Need for the proposal

The proposal is needed to provide road capacity for the substantial traffic growth predicted in the South West Growth Centre due to increased residential and commercial development. The Northern Road Corridor Strategy (RTA 2009) was developed using the predicted increase in traffic growth in the South West Growth Centre to set out a vision for the upgrade of The Northern Road as a principal transport corridor.

Options considered

Based on The Northern Road Corridor Strategy (RTA 2009) three options were considered within the existing road corridor. These options were broadly assessed and compared against their economic, environmental and social performance. Alternative road corridor alignments for this principal transport corridor to the South West Growth Centre were not considered. The three options considered were:

• Option 1 – The ‘do nothing’ (base case) option – This option would result in The Northern Road remaining as a two-lane single carriageway road between The Old Northern Road, Narellan and Mersey Road, Bringelly. This option would not provide adequate road capacity to cater for the substantial traffic growth predicted in the South West Growth Centre.

• Option 2 – Four lane upgrade with wide median – Upgrade The Northern Road to a four-lane divided road with a wide central median from The Old Northern Road to Mersey Road. This option would provide the required road capacity until 2026 and would generally be located within the existing road corridor. The wide central median also allows for the future upgrade of the road to a six-lane divided road, should this be required. Option 2 is the preferred option.

• Option 3 – Six lane upgrade – Upgrade The Northern Road to a six-lane divided road with a central median from The Old Northern Road to Mersey Road. The option would exceed the required road capacity until 2026 and would generally be located within the existing road corridor. However, this option would require additional upfront costs. Analysis of predicted traffic growth in the South West Growth Centre also found it is unnecessary to upgrade The Northern Road to six lanes until 2036.

Design refinements considered for Option 2 included modification to alignments between Marylands Link Road 1 to Lowes Creek Line Road, Badgerys Creek Road and Mersey Road, Hillside Drive, Fairwater Drive and Porrende Street, Lowes Creek Road and consideration of bridge width and span options for Narellan Creek and Thompsons Creek.
Statutory and planning framework

Clause 94 of *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) permits development on any land for the purpose of a road or road infrastructure facilities to be carried out by or on behalf of a public authority without consent. As the proposal is for the development and upgrade of a road and is to be carried out by or on behalf of RMS, it can be assessed under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). Development consent from council is not required.

Community and stakeholder consultation

RMS has and will continue to undertake community and stakeholder consultation for the proposal. Consultation has been undertaken with the local community and other stakeholders including Camden and Liverpool City councils, the Aboriginal community and government agencies. This review of environmental factors (REF) has been placed on public display for community input. All submissions received will be considered in determining whether the proposal should proceed as proposed or whether any alterations are required.

Environmental impacts

A summary of the main environmental impacts are summarised below.

Traffic and access

The proposal would have long-term benefits including catering for the predicted traffic growth from development of the South West Growth Centre. It would also improve road safety through the provision of a shared path for pedestrians and cyclists. The wide central median would allow for future upgrade to six-lanes, should it be required.

The proposal incorporates capacity for B-double vehicles along the length of The Northern Road. Capacity for B-doubles has also been provided at all intersections. The proposal would result in a loss of right turn access to The Northern Road in order to provide a safe driving environment. U-turn facilities designed to cater for all vehicles are proposed at selected intersections to allow vehicles to turn around and access the opposite carriageway.

Flora and fauna

The proposal would largely be located within the South West Growth Centre, which is subject to biodiversity certification. It would result in the loss of about 59 hectares of vegetation, including around 58.4 hectares from certified areas and around 0.1 hectares from non-certified areas. About 0.7 hectares of vegetation would be removed from outside the South West Growth Centre boundary. The assessment found that the proposal would not have a significant impact on any threatened species, population or ecological community within the non-certified areas or outside the South West Growth Centre Boundary. In accordance with the biodiversity certification, an offset plan would be developed for the 0.1 hectares of mapped existing native vegetation that would be removed from non-certified areas. This plan would be developed in consultation with the Department of Planning and Infrastructure and the Office of Environment and Heritage and would be in accordance with relevant biodiversity measure 11 of the biodiversity certification.
Aboriginal cultural heritage

The proposal would impact 14 Aboriginal cultural heritage sites comprising artefact scatters and isolated finds of low to moderate significance. A number of sites would be avoided, including a scarred tree. An Aboriginal heritage impact permit would be obtained prior to construction. An Aboriginal cultural heritage management plan would be developed and would include management and mitigation measures including to measures to avoid impacts on the scarred tree.

Non-Aboriginal heritage

The proposal would impact four listed heritage sites, as well as two unlisted historic sites, a number of archaeological sites and several potential archaeological sites. One of the listed sites is Orielton which is listed on the State Heritage Register. Most of the impacts to heritage items would result from the proposed future link roads. Modifications were made to the concept design to minimise these impacts. Overall the concept design has sought to balance the impacts on heritage items, with the constraints of the broader proposal. An exemption under section 57(2) of the Heritage Act 1977 would be obtained for works associated with Orielton. An exception under section 139 of the Heritage Act 1977 would also be obtained for works associated with Narellan Army Camp. Two permits under section 60 and section 140 of the Heritage Act would be required to undertake archaeological monitoring at Hillside Drive, and excavation at Mersey Road intersection in relation to Lot 1, DP 234403 respectively.

Noise and vibration

Construction noise management levels would be exceeded at up to 40 noise sensitive receivers. A feasible and reasonable approach towards noise management measures would be required to reduce noise levels as much as possible during construction.

While earthworks may produce adverse vibration impacts within 20 metres of construction works, structural damage is considered unlikely.

The operational noise assessment was based on two build scenarios being 2016 (potential year of opening) and 2026 (to cater for future growth). These scenarios indicated that traffic noise levels at the majority of existing residential receiver locations would generally rise by about 1.7 dB(A). At several locations where the change to the existing road alignment brings the road closer to some receivers the increase was predicted to be about six dB(A).

For the 2016 scenario, 43 receivers exceeded the day time criteria and 39 receivers exceeded the night time criteria, with 14 potentially experiencing an acute noise impact during the day and 13 experiencing an acute noise impact during the night. For the 2026 scenario, 90 receivers exceeded the day time criteria and 78 receivers exceeded the night time criteria, with 24 potentially experiencing an acute noise impact during the day and 26 during the night.

Noise mitigation would be required for 33 receivers. A feasible and reasonable investigation would be undertaken to identify appropriate noise mitigation measures and would consider road treatments such as low noise pavements, noise barriers and individual building treatments. As a part of this investigation, affected property owners would be consulted regarding their individual needs.

Soils, landscape and water quality

The proposal would require several work elements such as excavation, removal of vegetation, disturbance of soils and the construction of pavements, bridges and
culverts which have the potential to expose soils. This has the potential to lead to the transportation of sediments into waterways resulting in the degradation of water quality. Management and mitigation measures have been included for implemented during construction.

During operation the concept design includes permanent spill basins for the capture of accidental spills such as hydrocarbons. Grass swales and channels have also been included as a water quality treatment to promote uptake of nutrients and pollutants from low-flow, first-flush run-off events.

**Hydrology**

The proposal is located within the Nepean River Catchment. Drainage structures have been designed to provide flood immunity to a 100 year average recurrence interval (ARI) flood level. The bridges and culverts have been designed to minimise potential scouring of the banks of the waterways. Scour protection at bridge abutments would be required at Narellan Creek and Thompsons Creek. No adverse flooding impacts to adjacent properties are anticipated.

**Landscape character and visual impacts**

The existing landscape character is generally semi rural with large expanses of farmland in the mid section and five acre blocks to the north around the Bringelly village. The landscape character would change as a result of the proposal by the removal of vegetation during construction and an increase in the area of road pavement. This change in landscape character would, however, be lessened as precincts are released and developed for residential and commercial use.

**Socio-economic impacts**

During construction, the community would be likely to experience traffic delays, property access restrictions, noise, air quality and visual amenity impacts. The proposal would require three full and 148 partial property acquisitions. During operation, the proposal would improve access and connectivity for local and regional communities by reducing future predicted traffic congestion for motorists. There would be a loss of right turn access to and from properties fronting The Northern Road. This would increase travel distance to access U-turn facilities provided in the proposal.

**Justification and conclusion**

The REF has examined and taken into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed activity. A number of potential environmental impacts have been avoided or reduced during the development of the concept design such as reducing impacts to Aboriginal cultural heritage items, non-Aboriginal cultural heritage items and biodiversity.

The proposal as described in the REF best meets the proposal objectives. However, the proposal would result in adverse impacts including, temporary disruptions to traffic flow and access, removal of vegetation (including communities listed under the Threatened Species Conservation Act 1994 and Environmental Protection and Biodiversity Conservation Act 1999), impacts to Aboriginal and non-Aboriginal cultural heritage items, noise and vibration impacts and property acquisition. A range of measures were developed for avoiding, minimising and mitigating potential adverse impacts. These measures are included in chapter 6.

The proposal would result in an increased capacity to cater for the predicted future growth within the South West Growth Centre. The proposal would also provide an
off-road shared path on the eastern side of the proposal, with space on the western side of the proposal for the future construction of an off-road shared path if required. A bus priority lane on the approach and indented bus bay on the departure side of the signalised intersections would provide priority for buses.

The REF has found that the adverse impacts would be outweighed by the longer term positive impacts of providing improved capacity and travel times for all road users in an area of considerable anticipated growth. Furthermore this review of environmental factors has concluded that the proposal would not have a significant impact on the environment and referral would not be required.

**Display of the review of environmental factors**

This review of environmental factors is on display for comment between 31 October 2012 and 30 November 2012. You can access the documents in the following ways:

**Internet**

The documents will be available as pdf files on the RMS website at www.rms.nsw.gov.au/roadprojects.

**Display**

The review documents can be viewed at the following locations until **Friday 30 November 2012**:

- Narellan Library  
  Civic Place, Cnr Queen and Elyard streets, Narellan  
  Monday to Wednesday 9.30am to 8pm  
  Tuesday, Thursday and Friday from 9.30am to 5pm  
  Saturday from 9am to 3pm

- Narellan Motor Registry  
  Shop G1, Narellan Town Centre  
  326 Camden Valley Way, Narellan  
  Monday to Friday from 8.30am to 5pm  
  Saturday from 8.30am to 12pm

**Document**

The document can be downloaded at no cost from the RMS website at: www.rms.nsw.gov.au/roadprojects.

You can request a copy by contacting the project team on 1800 257 484.

**How can I make a submission?**

To make a submission on the proposal, please send your written comments to:

The Northern Road Project Team  
Roads and Maritime Services  
PO Box 164  
ST LEONARDS NSW 1590

Or email comments to:  
The.Northern.RoadNSW@globalskm.com

Submissions must be received by **Friday 30 November 2012**.
Privacy information

All information included in submissions is collected for the sole purpose of assisting in the assessment of this proposal. The information may be used during the environmental impact assessment process by relevant RMS staff and its contractors.

Where the respondent indicates at the time of supply of information that their submission should be kept confidential, RMS will attempt to keep it confidential. However there may be legislative or legal justification for the release of the information, for example under the Government Information (Public Access) Act 2009 or under subpoena or statutory instrument.

The supply of this information is voluntary. Each respondent has free access at all times to the information provided by that respondent but not to any identifying information provided by other respondents if a respondent has indicated that the representation should be kept confidential.

Any respondent may make a correction to the information that they have provided by writing to the same address the submission was sent.

The information will be held by the RMS, at 27-31 Argyle Street Parramatta 2150.

What happens next?

Following the submissions period, RMS will collate submissions. Acknowledgement letters will be sent to each respondent. The details of submission authors will be retained and authors will be subsequently advised when proposal information is released.

After consideration of community comments RMS will determine whether the proposal should proceed as proposed, or whether any alterations to the proposal are necessary. The community will be kept informed regarding this RMS determination.

If the proposal is approved, RMS proceeds with final design and tenders are called for construction of the proposal when required in the future.

If you have any queries, please contact the project team on 1800 257 484.
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