# Albion Park Rail bypass

Community consultation report for the Urban Design and Landscape Character Strategy

Roads and Maritime Services | June 2019









Albion Park Rail bypass - artists impression of Bridge 10

## **Executive summary**

Roads and Maritime Services is building an extension of the M1 Princes Motorway between Yallah and Oak Flats to bypass Albion Park Rail. The NSW Government is funding the \$630 million project. The bypass would complete the 'missing link' for a high standard road between Sydney and Bomaderry.

The Albion Park Rail bypass (the Project) consists of a 9.8 kilometre, four lane divided motorway between Albion Park and Albion Park Rail.

Major features of the Project include two new interchanges at the Illawarra Highway and Tongarra Road, 13 new bridges and associated structures such as safety screens and retaining walls, earthworks including two cuttings and embankments in the floodplain, provisions for pedestrian and cycle connections, upgrades to the local road network and landscaping and drainage works.

The Urban Design and Landscape Character Strategy (UDLCS) is based on the Project's detailed design and the commitments made in Technical Paper 10 – Landscape character and visual amenity of the Environmental Impact Statement (EIS) and Submissions and Preferred Infrastructure Report (SPIR).

The UDLCS describes how the new design elements of the Project will look and provides important information about design refinements carried out since the exhibition of the Environmental Impact Statement (EIS) and preliminary designs.

The UDLCS defines key design features such as bridges and associated retaining walls, active transport links, earthworks and landform, and the landscape design. It is an important consultation document, outlining key information that guides the detailed design phase of the Project.

The UDLCS provides information to describe:

The Project context

- The Project's approach to urban design and landscaping
- The Project's key design features including bridges and associated structures such as safety screens and retaining walls

The Department of Planning and Environment (DPE) granted approval to construct the Albion Park Rail bypass subject to a number of Conditions of Approval (CoA) being met, as issued by the Minister for Planning on 30 January 2018. A key requirement of the CoA is the preparation of the UDLCS which has taken into consideration important factors relating to environmental mitigation, landscape management and the heritage and cultural values of the local setting.

As part of the finalisation of the UDLCS, the project team asked for feedback from local Councils and the community in relation to the urban design and landscape design components of the Project.

The initial consultation period for the UDLCS was between Monday 19 November and Friday 7 December 2018. This period was extended until Friday 21 December in order to accept late submissions from residents, businesses and community groups.

#### Purpose of this report

This community consultation report relates to the *Albion Park Rail bypass Urban Design and Landscape Character Strategy* (UDLCS) and should be read in conjunction with that document.

This report provides a summary of the community and stakeholder consultation carried out during the display of the UDLCS. The report provides information about the consultation process, feedback received and how this feedback will be addressed in the further design development of the Project.

#### **Public exhibition**

The UDLCS was exhibited on the Project website during November and December 2018, along with staffed pop-up displays at Albion Park Shopping Village, Illawarra Convoy, Stockland Shellharbour, and an unstaffed display at the Roads and Maritime Services Regional Office in Wollongong.

Attendees at these pop-up displays were able to view hard copies of the UDLCS and were provided with information about how to access the online version and provide feedback.

Details about the UDLCS and community feedback period were included in the November 2018 Project Update which was distributed in hard copy to around 3,000 properties and emailed to around 250 stakeholders. The Project Update was uploaded to the project website on 20 November.

A media release advising the exhibition of the UDLCS was issued by Member for Kiama, Gareth Ward on 19 November 2018 and was featured in the following online news outlets:

Publication	Date	Link
Illawarra Mercury	19 November 2018	https://www.illawarramercury.com

		.au/story/5764122/albion-park- rail-bypass-to-make-light-work-of- oak-flats-interchange/
Roads and Infrastructure Australia	20 November 2018	http://www.roadsonline.com.au/albion-park- rail-bypass-detailed-designs-released/
Roads and Maritime Services	19 November 2018	https://www.rms.nsw.gov.au/about/news- events/news/members-of- parliament/2018/181119-detailed-design- albion-park-rail-bypasss-on-display.html

#### **Direct consultation**

Targeted emails were sent to the project database on 19 November 2018. The project database contains 250 email addresses for people who have previously expressed an interest in receiving email updates about the Project. .

The project team distributed 3,000 postcards to businesses and residents located close to the Project. The postcards contained an invitation to view the UDLSC online and submit feedback. These cards also contained details about upcoming staffed displays to view the UDLSC in hard copy. A copy of these cards is included below.



Directly impacted stakeholders including residents, businesses and community groups were contacted directly by phone, email or doorknock.

Stakeholders who were doorknocked or telephoned were provided with information on the improved design and how to access the UDLCS.

Targeted information sessions were held with key stakeholder groups to provide information on the UDLCS, including:

Stakeholder group	Date of meeting	Number of attendees
Yallah residents and businesses	12 December 2018	33
Albion Park Chamber of Commerce	13 December 2018	5

Illawarra Bicycle User Group (iBUG)	13 December 2018	1
		Information distributed to 200 members

#### Submissions received

A total of 66 submissions were received during the exhibition period. Submissions were received by email, online survey or in person during staffed displays or information sessions.

Method received	Number of submissions
Email	19
Survey response	41
In person (including key issues raised by multiple people at information sessions)	6

Submissions were received from a range of sources including community members, businesses, authorities and special interest groups.

#### Common issues raised in submissions

There were a number of issues raised in the submissions. These are broadly categorised as:

- 1. Cyclist and pedestrian connectivity
- 2. Air quality
- 3. Construction hours
- 4. Illawarra Regional Airport requirements
- 5. Consultation
- 6. Fencing
- 7. Noise
- 8. Lighting
- 9. Bridge design
- 10. Flooding
- 11. Landscaping
- 12. Yallah (Northern) interchange

#### Next steps

The final design of the Albion Park Rail bypass including the refinements made to the twin bridges over Yallah Road and Cut 1 has been approved.

The feedback received during display of the Urban Design and Landscape Character Strategy will continue to inform our approach to landscaping, consultation and management of impacts during construction of the Albion Park Rail bypass.

In some cases, ongoing consultation has been initiated with private property owners in response to feedback received where impacts to individual properties were raised. Ongoing engagement and consultation with these community members will continue separate to this report.

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#### 1 Introduction

#### 1.1 Project background

The Albion Park Rail bypass (the Project)consists of 9.8 kilometres of four-lane divided motorway extending through pasture land open space and road reserve between the suburbs of Albion Park and Albion Park Rail.

Major components of the Project include two new interchanges at the Illawarra Highway and Tongarra Road, 13 new bridges and associated structures such as safety screens and retaining walls, earthworks including two cuttings and embankments in the floodplain, provisions for pedestrian and cycle connections, upgrades to the local road network and landscaping and drainage works.

The NSW Government is funding the \$630 million upgrade, which follows the alignment of the preferred option determined by Roads and Maritime Services in October 2014 and an Environmental Impact Statement (EIS) placed on public display in October 2015. During the display period 108 submissions were received and a number of changes were made with a Submission and Preferred Infrastructure Report (SPIR) being placed on display in September 2017.

Following the release of the SPIR, in January 2018 the NSW Department of Planning and Environment granted approval to construct the proposed bypass between Yallah and Oak Flats subject to a number of Conditions of Approval (CoA). Following integration of the CoA requirements into the final detailed design, construction of the Project started in February 2019.

#### 1.2 Urban Design and Landscape Character Strategy

The UDLCS describes how the new design elements of the Project will look and provides important information about design refinements carried out since the exhibition of the Environmental Impact Statement (EIS) and preliminary designs.

The UDLCS defines key design features such as bridges and associated retaining walls, active transport links, earthworks and landform, and the landscape design. It is an important consultation document, outlining key information that guides the detailed design phase of the Project.

The urban and landscape design objectives are to:

- 1. Achieve a Project that fits sensitively with the existing landscape characteristics and scenic qualities of the Albion Park Rail and Albion Park setting
- 2. Achieve an integrated road design form and character that minimises the visual impacts on adjoining areas
- 3. Achieve a design that efficiently utilises road related elements that minimise visual impacts and require minimal maintenance
- 4. Protect the integrity of the heritage and cultural values of the Albion Park Rail and Albion Park areas
- 5. Contribute to the accessibility and connectivity into and through Albion Park Rail, Albion Park and surrounding areas
- 6. Create a Project that facilitates future urban development and revitalisation along and surrounding the Project

#### 2 Consultation approach

#### 2.1 Consultation objectives

The UDLCS was placed on display for community comment from Monday 19 November to Friday 21 December 2018.

The purpose of the community consultation was to:

- Inform community members and stakeholders about the design refinements made since exhibition of the SPIR
- Seek comment, feedback, ideas and suggestions from the community to be considered to further refine the Project's urban and landscape design
- Provide an opportunity for the community to meet with the project team to ask questions about the Project and provide feedback on the UDLCS
- Expand the Project's existing database of community members and stakeholders for Roads and Maritime to engage with through the development of the Albion Park Rail bypass
- Provide information about next steps in the Project.

#### 2.2 How consultation was carried out

A number of events and consultation activities were delivered so members of the community could learn more about the Project, meet the project team, and have their say. A list of the key activities is provided in Table 2-1.

Community members were encouraged to provide feedback, leave comments, and make submissions at information sessions or via mail, email or phone contact with the project team. The community was able to contact the project team and leave comments and submissions by:

Email: APRbypass@fultonhogan.com.au

**Phone**: 1800 708 727 (toll free)

Website: www.rms.nsw.gov.au/aprb

Mail: Albion Park Rail bypass, PO Box 1014, Albion Park Rail NSW 2527

Table 2-1: Consultation activities

Activity type	Details of activity
Media release	A media release was distributed to all major Sydney, Illawarra and Shoalhaven publications on 19 November 2018 encouraging local community members and stakeholders to get involved in the consultation process.
Community update flyer	A community update flyer (A4 double sided) was distributed via a letterbox drop to 3,000 local properties and businesses to the Albion Park Rail and Albion Park areas.
Static displays	Posters were displayed at The Woolshed, Shellharbour City Libraries and Museum, Oak Flats Library, Wollongong City Council, Dapto Library, Dapto Ribbonwood Centre, Albion Park Newsagent and at Roads and Maritime Services Wollongong.
Webpage	The project webpage was updated on 19 November 2018 with the latest project information including the community update, online survey, Urban Design and Landscape Character Strategy, display locations and project drop-in sessions, and how to submit feedback.
Online survey	An online 'have your say' survey was sent to the project database and uploaded onto the project website on 20 November 2018 seeking feedback on the UDLCS and included questions relating to design, cyclist connectivity, heritage and cultural values and urban development. Roads and Maritime received 30 responses to the survey from the community during the display period between Monday 19 November and Friday 21 December 2018.
Media coverage	Two stories were published in online news outlets during the UDLCS display period as follows:  • Illawarra Mercury (20 November 2018)  • Roads and Infrastructure Australia (20 November)
Community information sessions	<ul> <li>Three public community information sessions were held at:</li> <li>Albion Park Shopping Village, 136-158 Terry Street, Albion Park Thursday 29 November 2018, 3pm to 8pm</li> <li>Stockland Shellharbour, 211 Lake Entrance Road, Shellharbour, Thursday 6 December 6pm to 9pm</li> <li>Illawarra Convoy, Illawarra Regional Airport, Airport Road, Illawarra Sunday 18 November, 8am to 3pm</li> <li>Approximately 1,400 people attended these public community information sessions.</li> <li>An additional targeted community information session was held with residents living in Larkins Lane and Yallah Road to discuss design changes between concept and detailed design between Yallah Road and Macquarie Rivulet:</li> <li>'The Woolshed', 601 Princes Highway, Yallah, Wednesday 12 December 6pm-8pm</li> </ul>

# 3 Submissions and responses

The following table details the issues raised in submissions received during the consultation period and the project team's responses to each issue.

# 3.1 Pedestrian and cyclist connectivity

Ref	Issue/s	Response
1.1.1	Comments were made in support of the new shared user path included in the UDLCS along the eastern side of the bypass, as it provides better connectivity with the existing shared path network and eliminates cyclist conflict with livestock and farming implements.	Support for the new shared path design is noted.
1.2.2	A request was made to confirm that double edge lines on freeway shoulders would be included in the final design.	The final design does include an additional line within the shoulder of the motorway to prompt cyclists to keep to the left of the motorway shoulder and away from motorists.
1.4.3	A suggestion was received to include a shared path along the northern edge East West Link due to the loss of access to Woollybutt Drive and Durgadin Drive	There will be no shared path in this location. However, the design does not prohibit the construction of a path in this location in the future. Following additional consultation with the respondent, the project team have reviewed the landscaping plan in the area and confirmed t the proposed planting schedule would not prevent the future construction of a shared path in this location.
1.2.4	A request was received to include wayfinding signage for cyclists.	Cyclist wayfinding signage will not be provided as part of the Project. To ensure consistent and functional cyclist directional signage, Shellharbour City Council and Wollongong City Council have developed guidelines for consistent and functional cyclist directional signage in the Illawarra.
1.2.5	Comments were made that barriers on exposed bridges should be provided to prevent cyclists from being blown onto the road during windy weather. A further comment was made that bollards (shown in Figure 54 of the UDLCS) would not be suitable protection.	Safety barriers are included as part of the design on bridges. Where a shared path is next to the motorway, concrete safety barriers will be installed to separate motorway traffic and shared path users.  Bollards are not proposed to be used as path protection. The image shown in Figure 54 of the UDLCS was for illustrative purposes only and depicts an example of the steel posts used on the Kangaroo Valley Road bridge at Berry. On local roads shared paths will be placed behind a concrete curb similar to other shared paths in the Illawarra.

1.2.6	A suggestion was received to provide a similar path as the one on Minnamurra River Freeway Bridge that would connect to shared paths to accommodate recreational and commuter cyclists and allow access from the motorway to Yallah Road and Dapto.	Cyclists will have access along the motorway in both directions at Yallah Road and Dapto via motorway shoulders or separated cycle lanes, accessible by motorway ramps.
1.2.7	A question was received about whether cyclists would have access to the motorway via the shared path over Frasers Creek bridge	The shared path on the bridge over Frasers Creek will not have direct access to the motorway shoulder. This is to restrict motorway access to pedestrians and protect both road users and pedestrians.
1.2.8	A question was received about whether cyclists will be able to ride under the Oak Flats Interchange in the final design	Cyclist will have access under the Oak Flats interchange within on road cycle lanes delivered by the Project. As illustrated in Figure 62 of the UDLCS, which will connect to existing and proposed off road shared paths as detailed in the Shellharbour Shared Path Strategy 2010.
		Pedestrian and cycle facilities provided by the Project have taken into account existing and proposed cycle and shared paths as outlined in Shellharbour City Council and Wollongong City Council plans and strategies.
1.2.9	A comment was received regarding the design including a crossing at Tongarra Road east of the new Motorway, requiring path users to cross both the Motorway southbound on ramp and	The design of the shared path was completed in consultation with Shellharbour City Council taking into consideration, among other things, connectivity with Council's existing and future pedestrian/ cycleway network strategy.
	northbound off ramps. A suggestion was made to run the shared path west on the northern side of Tongarra Road to the end of the Project corridor to allow path users to safely cross Tongarra Road at	As part of this consultation with Council, options were considered on the position of the shared path during the detailed design process. This included an option with the shared path on the northern side of Tongarra Road.
	the Albion Park Showground.	As noted in the submission, this option avoids the crossing of the on and off ramps. However, this option also has disadvantages when considering the wider shared path network, as it would require pedestrians and cyclists to cross two-way traffic at uncontrolled locations on Tongarra Road on either side of the motorway alignment to connect to Council's existing and proposed pedestrian/cycleway network.
		We consider that the option to provide the shared path on the southern side of Tongarra Road provides a better outcome in terms of safety and connectivity as it allows users to cross at controlled locations at the on and off ramps and at one location on Tongarra Road. These ramp crossings will have traffic flowing in only one direction, will be controlled by traffic lights, and will provide pedestrian/cyclist refuges. The crossing of Tongarra Road will also be controlled by traffic lights.

1.2.10	A request was received for more
	information on cyclist connectivity
	within the Croom Regional Sporting
	Complex as the information in
	Figure 62 of the UDLSC doesn't
	show the paths connecting.

The shared paths illustrated provide access to Croom Regional Sporting Complex and will connect with the internal shared path that has now been built as part of reconfiguration works of the complex.

Figure 90 (on page 67) of the Urban Design and Landscape Character Strategy contains the Masterplan for the Croom Regional Sporting Complex, which illustrates the paths that have been constructed these joining the paths shown on Figure 62.

# 3.2 Air quality

Ref	Issue/s	Response
2.14.1	A comment was received regarding impacts to air quality due to the bypass, specifically in the Larkins Lane area.	An air quality assessment for the Albion Park Rail bypass was completed during the Environmental Impact Assessment stage of the project development and can be found on the NSW Planning and Environment website.
		The Office of Environment and Heritage (OEH) currently operate an air quality monitoring station at Albion Park close to the Project, measuring concentrations of PM <sub>10</sub> , NO <sub>x</sub> , NO <sub>2</sub> and Ozone. This data was used in the air quality assessment to describe the existing environment as well as inform the cumulative air quality assessment.
		Predicted pollutant concentrations as a result of both existing roads and the Project have been determined and applied in the assessment process following the practices used for similar projects in NSW. The assessment criteria are based on considerations of possible health effects and provide benchmarks which are intended to protect the community against the adverse effects of air pollutants.
		Predictions were made for all private residential, community, commercial and school receivers within the modelling domain. There were no predicted exceedances of the air quality assessment criteria for any of the pollutants and scenarios modelled.
		Air quality is expected to improve along the Princes highway, east of the airport, due to the reduced traffic volumes expected on this section of road. However, there will be some local increases in concentrations along the area of newly constructed sections of the bypass. Contributions of vehicle emissions to ambient air quality are historically low, and although these may increase, they are predicted to remain well below the relevant air quality criteria.

## 3.3 Construction hours

Ref	Issue/s	Response
Ref 3.14.1	A submission was received regarding the extended construction hours approved as part of the Environmental Impact Assessment in 2015. The submission requested that extended work hours are not performed close to noise sensitive receivers, specifically in Yallah.	An extension of construction working hours was proposed by the project team as part of the Environmental Impact Assessment in 2015.  The project team carried out a survey of approximately 1,000 residences who were identified as potentially affected by increased noise levels as a result of the extended work hours to determine if there was community support for the extended work hours. About 44 per cent of these surveys were returned. The survey found that 84 per cent of respondents were in favour of the extended work hours. Several comments were made on the surveys indicating support for the extended work hours and a need to 'hurry up and build the Project'. Fifteen per cent of respondents were opposed to the extended work hours and one per cent did not indicate their preference.  Extended construction hours at the start and finish of each working day are considered to be in the public
		<ul> <li>Extended construction hours at the start and finish of each working day are considered to be in the public interest as they would:</li> <li>Shorten the overall construction period by three to four months or approximately 10 per cent. This would minimise the disruption to the princes Highway / Princes Motorway and improve access to the Illawarra region. It would also minimise any adverse impacts on local businesses that may be experienced during the construction period.</li> <li>Reduce the public's exposure to challenging traffic conditions during construction.</li> <li>Construction noise impact during the extended hours' period was assessed and residences that were likely to be noise affected were identified.</li> <li>Consequently, extended work hours across the Project have been included as part construction hours for the</li> </ul>
		Project. Construction hours for the Project will be as follows:  7am to 7pm Monday to Friday 8am to 5pm Saturday

# 3.4 Illawarra Regional Airport requirements

Ref	Issue/s	Response
4.7.1	A submission was received from Civil Aviation Safety Authority (CASA) regarding the obstacle limitation surface (OLS) for Wollongong Aerodrome in Albion Park Rail, specifically relating to communication of OLS intrusions and the need for detailed aeronautical studies to be provided for construction activities.	An aeronautical OLS impact study was carried out during the planning and design stages of the Project in consultation with Shellharbour City Council. During construction, the project team will continue to communicate with Shellharbour City Council on matters relating to the airport, OLS impacts and will notify and consult with CASA as required.

# 3.5 Community consultation

Ref	Issue/s	Response
5.9.1	A submission was received regarding consultation with the community during the planning and design stages, specifically in the Larkins Lane community prior to November 2018.	Changes made between concept design and detailed design stages are a normal part of the process when designing road infrastructure. The design process involves a number of stages were the design is refined based on new or evolving information. These stages include:
5.62.2	Further comments raised in person during display of the UDLCS highlighted concerns about the way changes to the design between concept and final design were communicated to the community, specifically relating to the twin bridges over Yallah Road and the reduced depth of the cutting near Yallah.	<ul> <li>Feasibility studies, research, alternatives and options development</li> <li>Concept design and environmental assessments</li> <li>Detailed design</li> <li>Urban design and landscape character studies</li> <li>Community and stakeholder feedback has formed an integral part of selecting a road corridor, identifying a preferred road design and preparing the Environmental Impact Statement (EIS) and Submissions and Preferred Infrastructure Report (SPIR). Comments received during the display of the EIS, SPIR and urban design and landscape character strategy have helped shape the detailed design of the Project. As a result of feedback from the community and stakeholders during the planning and design, the project team has made the following key design improvements:         <ul> <li>Refined road footprint to minimise impacts on existing properties and agricultural land</li> <li>Improved traffic flow at the Oak Flats interchange by removing a left slip lane, providing a full two</li> </ul> </li> </ul>

lanes around the roundabout and installing traffic lights.

- Reduced environmental impacts and smaller
   Project footprint by amending bridge structures
- Improved pedestrian and cyclist safety by enhancing shared path designs
- Increased native plant species added to the landscape design.

An additional targeted community information session was held with residents living in Larkins Lane and Yallah Road to discuss design changes between concept and detailed design between Yallah Road and Macquarie Rivulet.

A Community Communication Strategy (CCS) has been prepared for the construction stage of the Project which sets out the way in which the project team will consult with the community during construction. The strategy details our communication objectives, tools and processes to allow the community to seek information or provide feedback to the project team, how to make a complaint or resolve an issue, and how we will keep you informed as construction progresses.

A toll free hotline is also available for the community to contact the project team which operates 24 hours a day, 7 days a week.

Ways to contact the project team:

Phone: 1800 708 727

Email: APRbypass@fultonhogan.com.au

In person: 1914 Illawarra Highway, Albion Park Rail (at the site of the old nursery on the corner of Illawarra

Highway and Princes Highway)

Mail: PO Box 1014, Albion Park Rail NSW

Website: www.rms.nsw.gov.au/aprb

# 3.6 Fencing

Ref	Issue/s	Response
6.14.1 6.13.1 6.9.1	Submissions were received highlighting safety concerns where fencing has not been included as part of the design, in particular for	Fencing has been included in the design to control pedestrian access onto the motorway for security purposes and to ensure public and motorist safety.
to the location of the cut in Yallah	Boundary fencing will be provided in certain areas along the bypass to separate private properties from the motorway and local roads, to prevent unauthorised access to the motorway, and to prevent stock (farm animals) accessing the motorway.	
		Boundary fencing is generally a combination of five strand stock proof fencing and wire cattle proof fencing. In areas where pedestrian activity is expected, or where there is a potential risk of people accessing the motorway, plain wire 'person proof' fencing has been included.
		The location of the cut at Yallah is along the back of private properties where pedestrian traffic is unlikely and existing boundary fencing is already in place. 'Person-proof' fencing has been included in the design in areas where the slope could result in the potential for someone to sustain serious injury.
		In response to safety concerns raised by private property owners backing on to the cutting at Yallah, the project team has begun and will continue to consult with directly impacted property owners to determine if additional fencing is required.
6.14.2 6.9.2	Submissions were received highlighting concerns about the visual impacts of fencing along the motorway	An important objective of the UDLCS is to minimise the intrusion and 'visual clutter' of project related elements, including fencing. Operational water quality basins have been designed to avoid the use of fencing where possible along the motorway. Fencing in these areas will be risk-assessed and, if required, fencing for the basins would consist of a galvanised chain mesh fence, set as far from the road as possible with vegetation used to strategically reduce visual impact.
6.6.3	A submission was received relating to flooding impacts caused by fencing at cattle crossings	The project team will continue to consult directly with farm owners to assist with the movement of cattle into the underpass where appropriate. This may involve temporary fencing during construction that would be removed in the permanent design.

## 3.7 Noise

Ref	Issue/s	Response
7.9.1 7.11.1 7.13.1 7.14.1 7.64.1	A number of submissions made via email and in person contained general comments and concerns about anticipated noise from traffic once the bypass is operational	A detailed noise assessment was carried out during the planning stages of the project to evaluate and predict the potential impact of the bypass during construction and operation. Noise monitoring and traffic counts were carried out in February and July 2015 to measure traffic noise from the existing local road network. A computer-based noise model was then used to simulate the existing noise environment, predict future road traffic noise levels and assess the need for noise mitigation measures.
		Mitigation measures include providing low noise pavement for sections of the bypass, constructing noise barriers where appropriate and providing noise reducing architectural property treatments for properties where appropriate, for example where a noise barrier is not feasible. Around 183 properties have been identified as eligible for property treatments as part of the noise modelling.
7.11.2	A submission was received relating to concerns about the close proximity of the Project to private properties, in particular residents living in Yallah. A request was also received to move the bypass away from private properties to provide a bigger distance to assist with traffic noise.  A further submission was received highlighting concerns that the final design showed the bypass alignment had been moved to the west compared with the concept design, closer to properties in the Yallah area.	Chapter four of the environmental impact statement (EIS) describes the process that was carried out during the early planning stages to select a preferred route for the Project. This process included an intensive process of reviews, investigations, planning, community and stakeholder consultation and design work.  In the mid-1990s the then Roads and Traffic Authority carried out a study and carried out extensive consultation that identified a preferred route for the Project. The route selection study investigated a number of options for possible locations where the road corridor could be placed. These options included the upgrade of the existing Princes Highway, the provision of a grade separated interchange at the intersection of the Princes Highway and Illawarra Highway. Six options, detailed in the EIS, were shortlisted for detailed evaluation against a number of engineering, environmental, economic and social constraints. The preferred option passed to the west of the Illawarra Regional Airport along the existing Illawarra Highway, through the Croom Regional Sporting Complex and along the East West Link. Based on the preferred route, in the 1990s a road corridor was included in both the Wollongong and Shellharbour City Council Local Environmental Plans to reserve the road corridor for the Project.

road corridor to assess if it was still suitable location for the Project. The report from this review is publicly available on the project website and confirmed that the reserved corridor was still suitable.

The detailed design for the Project, heading south from Princes Motorway at Yallah, largely follows the gazetted road corridor. In finalising the detailed design a number of environmental constraints were considered, including the airport's obstacle limitation surface (OLS), flooding and hydrology, and land use impacts. Based on more detailed consideration of the traffic flow, safety and functionality of the available options, as well as site constraints (including the Eastern Gas Pipeline), refinements to the Project footprint have been made that differ slightly in some areas from the original road corridor.

In the Yallah area, compared to the concept design displayed in the EIS, the footprint of the final design has been refined so that the motorway is further away from properties.

7.14.3 7.13.3 7.64.3 7.9.3 Two submissions were received requesting a noise barrier along the bypass in Yallah. A number of comments were also made in person at the staffed displays and information sessions about the desire for a noise barrier in this area.

A further submission was received requesting that the atproperty treatments for operational noise include outdoor treatments, not just indoor. The Roads and Maritime Noise Mitigation Guideline, 2015, (NMG) provides to the method for how acoustic treatments are determined for road projects.

The Project includes one noise mound, located along the northern side of the East West Link in Croom. The noise mound will be about five meters high. Details of the noise mound are included on page 39 of the UDLCS.

During the environmental impact statement, noise barriers were considered for inclusion at four locations along the Project alignment. Where they were found to be feasible, a noise barrier effectiveness assessment was performed. The outcomes of the barrier assessment determined whether the barrier were reasonable to implement, and if so, the optimum barrier height.

A summary of this assessment is provided below:

Location	Barrier assessment outcome
Yallah northbound:  West side of new bypass from Macquarie Rivulet to Yallah Business Park where the bypass goes into cutting	The reduction of noise level does not meet criteria of Roads and Maritime Noise Mitigation Guideline.
,, <u> </u>	At property treatments will be more effective.

Yallah southbound: East side of new bypass between bypass and Illawarra Hwy, near Croome Lane	Barrier would impact on the Illawarra Regional Airport obstacle limitation surface (OLS), the 3- dimensional space that
	is kept clear of obstacles to allow the take-off and landing of aircraft. There is also flooding in this location, between Larkins Lane and Macquarie Rivulet and a noise wall may result in adverse flood impacts.
Albion Park northbound: West side of the bridge over Tongarra Road	The reduction of noise level does not meet criteria of Roads and Maritime Noise Mitigation Guideline due to existing traffic noise from Tongarra Road.
	A 0.82 metre concrete traffic barrier has been included in the design, which will provide some noise reduction.  At property treatments
Albion Park southbound: North side of bypass from Croome Road in the west to Colden Drive in the east	will be more effective.  Is included in Project
As detailed above, a noise barr	rier aimed at providing

As detailed above, a noise barrier aimed at providing noise mitigation for properties in Larkins Lane, Yallah was considered in the noise and vibrartion assessment for the Project (Yallah NB).

This was assessed in accordance with the NMG and was not adopted by the Project because the proposed barrier did not achieve an acceptable noise insertion loss (i.e. noise was not reduced enough).

A second noise assessment was carried out following the design changes between EIS and final design stages of the Project. The results of this assessment are consistent with the origional.

Properties who still exceeded the NMG criteria after feasible and reasonable noise reduction methods for the Project were finalised, have been assessed to see if additional noise mitigation is required.

		Property treatments are proposed for 21 properties in the Yallah area. Consultation has begun to implement these treatments in consultation with affected landowners. The recommended architectural treatments focus on the main dwelling itself, rather than outdoor structures as the purpose of these treatments is to reduce noise impacts in areas where residents sleep.
		Within 12 months of the Project being open to traffic a review of the actual noise generated by the road will be carried out and compared to the noise predicted in the assessment. If post-construction noise assessment indicates that operation road traffic noise is higher than predicted, operational noise mitigation measures will be re-evaluated in accordance with the NMG and upgraded where feasible and reasonable.
		The Operational Noise Mitigation Report is available on the project website www.rms.nsw.gov.au/apr.
7.13.4	A suggestion was received to include jersey concrete barriers (instead of wire rope safety barriers) to contain some of the noise expected to emanate from vehicle wheels.	The Project provides additional noise reduction in the form of an extended concrete barrier between Tongarra Road and Frazers Creek at Croom. This barrier will be 0.82 meter high and will include landscaping to soften the visual impact.
		To assist with noise from vehicle wheels, Stone Mastic Asphalt (SMA) will also be used for the construction of the Project. SMA is a lower noise pavement type which can typically provide a 2dB(A) reduction in overall noise levels from traffic. The final design includes the use of SMA along the full alignment of the bypass compared to the concept design which included some sections only.
7.9.5	A submission was received expressing concerns about the change to the depth of the cut at Yallah compared to the concept design. Specific concerns were	Design refinements made during detailed design for the Project included reconfiguring the bridge at Yallah Road from the proposed 97 meter long bridge over the motorway to a pair of 28 meter long single span bridges that cross over Yallah Road.
	raised regarding the impact this will have on noise mitigation.	Yallah Road will become an underpass connecting communities in Yallah on either side of the motorway. With the planned future development of the area west of the bypass, the population of Yallah and Haywards Bay is expected to expand greatly, This underpass will provide important connectivity in the future.
		This design change led to a change in the depth of the cut at Yallah from twelve meters to eight meters at its deepest to allow the bypass to pass over Yallah Road. The Albion Park Rail bypass Operational Noise Management Report (ONMR), which was completed during the final design of the Project to assess the predicted noise levels once the bypass is built, demonstrated that the design change resulted in minimal additional noise at residential properties. No

7.66.6	A comment was received relating to the recent announcement that additional funding has been allocated as part of the Berry bypass to build noise walls because the actual noise levels during operation were not consistent with the predicted noise levels.  A further suggestion was made that it would be more cost	additional properties were found to exceed the guidelines for acceptable operational noise levels.  The detailed project description and noise modelling methodology are presented in the ONMR located on the project website at www.rms.nsw.gov.au/apr.  The noise mitigation for the Project has beed carrie out in accordance with the requirements of the Noise Mitigation Guidelines (Roads and Maritime, 2015).  Within 12 months of the Project being open to traffic a review of the actual noise generated by the road will be carried out and compared to the noise predicted in the assessment. If post-construction noise assessment indicates that operation road traffic noise is higher than predicted, operational noise mitigation measures will be re-evaluated in accordance with the NMG and upgraded where feasible and reasonable.
	effective to put in additional noise mitigation now on the Project.	

# 3.8 Lighting

Ref	Issue/s	Response
8.66.1	A question was received regarding lighting along the bypass. Specifically, whether the proposed light fittings will project light down onto the road instead of sideways (and potentially into private residences).	The design of permanent lighting has been carried out in accordance with AS 1158-1986 and avoids unnecessary light spill on adjacent residents or other sensitive receivers.  Street lighting has also been designed to meet the operational airspace requirements of the Illawarra Regional Airport in accordance with restrictions detailed in the Civil Aviation Safety Authority Manual of Standards Part 139.

# 3.9 Bridge design

Ref	Issue/s	Response
9.6.1	A question was received regarding the height of the twin bridges over Macquarie Rivulet (BR06), specifically in relation to the height of the existing highway and bridge in this area.	The twin bridges over Macquarie Rivulet will be close to the same height as the existing bridge. The height of BR06 over Macquarie Rivulet will be about 8 meters above the surface of the river.

# 3.10 Flooding

Ref	Issue/s	Response
10.20.1	A submission was received regarding how future flooding will be mitigated, in particular at Tongarra Road.	The Project crosses three flood plains; Duck Creek, Macquarie Rivulet and Horsley Creek. To assess and minimise the impact of the Project on flooding, Wollongong and Shellharbour City Council's existing flood models for each catchment were used. A detailed process of design refinement and modelling was also carried out, including modelling for the 20, 50 and 100year design storm events.
		The location of the Illawarra Regional Airport in relation to the Project restricts how high the new motorway can be built. The Project design balances raising the new motorway out of the floodplain and keeping it low to avoid the airport's operational airspace.
		The refined Project design includes a range of long bridges, large drains and other structures that will help manage flooding impacts and provide better access for motorists during flooding. Flood immunity at Tongarra Road will be improved to being flood free in the 10 year design storm event.
		The Project has been designed so access is maintained during a one in 100 year flood. The Project also provides an alternative route to the Princes Highway and replaces the section of the Illawarra Highway most affected by flooding.
10.6.2	A submission was received highlighting concerns about the potential that the bypass would increase flooding, particularly relating to changes made to the length of the twin bridges over Frazers Creek (BR07) compared to concept design.	The twin bridges over Frazers Creek (BR07) north of Albion Park were refined during final design to 84 meter long four-span bridge, compared to a pair of 160 meter long nine-span bridges in the concept design.  The bridge over Macquarie Rivulet (BR06) was identified as the critical structure for managing flooding impacts throughout the Project alignment. The changes made to the Macquarie Rivulet bridge has significantly improved hydraulic efficiency compared to the concept design. As a result of this improved flooding immunity, the bridges over Frazers Creek (BR07 and BR09) were also able to be refined to provide results consistent with the SPIR Flooding and Hydrology Report.  The Flooding and Scour Assessment is provided on the
		project website at www.rms.nsw.gov.au/apr

# 3.11 Landscaping and visual amenity

Ref	Issue/s	Response
11.9.1	A submission was received	A key objective of the UDLCS was to achieve an
11.65.1	expressing opposition to any noise	integrated road design that minimises visual impact on
11.14.1	barriers or trees, shrubs or hedges	the adjoining areas and does not visually dominate the
	planted immediately behind their	landscape. In addition to considering the views

property due to the potential to obstruct views.

Comments were also made in person regarding the visual impacts of noise barriers and trees, specifically in the Yallah area where it may block views.

A submission was received expressing objection to any trees planted on neighbouring properties in the Yallah area that would grow over three meters in height where there they may block views.

A further request was received to ensure that a maximum tree height of ten meters is adopted along the road corridor in the Yallah area in order to retain existing views of the lake. experienced travelling along the motorway, a key consideration in the design of the Project is maintaining views from residences in Albion Park and Croom looking east, and residences in Yallah looking south, aiming to minimise the visual presence of the highway within the rural setting.

Strategies that have been adopted as part of our approach to design and landscaping for the Project include:

- Reinforcement of the pastoral landscape through appropriate landscape and vegetation treatments
- Emphasis of creek lines through the restoration of the riparian vegetation community enhancing habitat connectivity and improving water quality
- Blending cuts and fills into the surrounding landscape
- Removal or reduction of retaining walls where possible with preference given to exposed rock surfaces in cuttings

Submissions received regarding visual amenity are generally representative of the views toward the motorway from residential properties within the Larkins Lane rural residential area.

Following consultation with property owners in this area we have reviewed our landscape strategy to consider the preference for grasses over trees in some areas and selection of suitable tree species that would not grow to obscure existing views. Consultation with directly impacted property owners will continue.

As detailed previously in this report, a noise barrier was assessed for possible inclusion between the motorway and Larkins Lane, however a noise barrier was not considered a suitable noise mitigation solution in this area and has not been included in the Project.

#### 11.13.2 11.67.2

A request was made to plant trees early in an effort to establish some growth prior to completion of the bypass. The request also included a comment that the trees should be high enough and thick enough to assist in absorbing traffic noise.

A further request was made to undertake planting of trees and shrubs inside private properties to assist with noise and visual impacts, specifically in the Yallah area. The project team will identify opportunities to promote early establishment of trees and shrubs where it is safe to do so and where the planting would not be impacted by surrounding construction activities prior to completion of the bypass.

Consideration will be given to sensitivities from potentially impacted neighbouring properties where planting may obscure views and we will continue to consult with directly impacted properties as the Project progresses.

#### 11.10.3

A comment was received regarding the shrubs proposed in Figure 71 of the UDLCS,

At strategic points along the alignment median planting will be used to screen headlights. Planted beds will be planted with shrubs and groundcovers which will

expressing a preference for plants facilitate both the legibility of the road and provide that are able to provide visual benefits in terms of headlight control. screening from headlights at night. Planting rates for these garden beds will be at a rate of: A request was also received to provide additional information Grasses: four per m2 (tubestock) about the density of landscaping Shrubs: three per m2 (tubestock) contained on page 49 of the UDLCS, specifically how high it The area illustrated on page 49 of the UDLCS (near Larkins Lane in Yallah) will be revegetated with a would be and whether it would provide screening from headlights. lowland grassy woodland seed mix at an application rate of eight kilograms of seed per hectare. A list of tree species is provided in Appendix A of the UDLCS. Tree planting in this area will respond to obstacle limitation surface (OLS) requirements with a maximum height of 10 to 15 meters. 11.9.4 A request was received to ensure Where possible, preference has been given to native that only native plants are selected grasses, trees, shrubs and groundcovers in our as part of landscaping to fit with landscape strategy. Our primary approach is to encourage the establishment of local native plant the local natural vegetation of the species with a focus on the more dominant and area. important species within the Project. Hydromulching will be used as the dominant means of revegetation on the Project. This will provide safe access to steep slopes and provides a level of protection to the topsoil prior to establishment of permanent vegetation. The detailed make-up of the native tree, shrub and groundcover seed mixes by location can be provided on request. 11.1.5 A submission was received The area between Woollybutt Drive where it becomes a regarding turning Woollybutt Drive cul-de-sac (south of Spotted Gum Drive) and the East into a cul-de-sac. Specifically, what West Link will be revegetated at completion of the will be done to the area after the project and will become public open space. Drainage will also be installed in this area as part of the Project. Project is complete to prevent it from becoming a dumping ground

#### 3.12 Yallah interchange

Ref	Issue/s	Response
12.1	The majority of comments received	The Yallah (northern) interchange will not be
	as part of the online survey were	constructed as part of the Project and will be subject to
	regarding the Yallah (northern)	future funding and traffic demand.
	interchange not being included as	
	part of the Project.	Roads and Maritime has carried out traffic modelling
		which included growth around planned residential
	Key issues highlighted in the	developments at Yallah and West Dapto. This indicated
		the interchange is not required until there is a
	- Questions about why the	substantial increase in traffic.
	interchange was not included	
	interenange was not included	65 per cent of traffic is expected to transfer off the

	Accessibility and added travel time for local residents between Dapto and Albion	existing Princes Highway through Albion Park. This will improve travel times for Dapto residents traveling south.
	Park     Concerns about consultation with the residents of Dapto and Haywards bay regarding the Yallah interchange not being included.	Roads and Maritime is also in the process of assessing the current and anticipated future performance of the M1 Princes Motorway between Wollongong and Dapto. The Project would tie in with future projects on the M1 Princes Motorway and Princes Highway.
12.2	A submission was received regarding loss of property value as a result of the Yallah interchange not being included as part of the Project.	Roads and Maritime provides compensation in accordance with the requirements of the Land Acquisition (Just Terms Compensation) Act 1991 where properties or parts of properties are required to construct infrastructure projects.
		All other impacts of the project have been assessed in the EIS as amended by the SPIR and can be viewed on the project web site at www.rms.nsw.gov.au/apr.

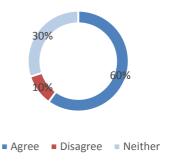
## 4 Online survey

Roads and Maritime received 31 online surveys from the community during the display period between Monday 19 November and Friday 21 December 2018.

The survey included questions about the Project's landscape and scenic quality, overall design, heritage and cultural value, cyclist connectivity and urban development. The survey also provided an opportunity to make comments and provide feedback. Specific comments and feedback have been included in the submissions and responses table in section 3 of this report.

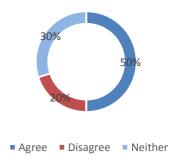
## 4.1 Survey results

Respondents were asked about landscape and scenic quality of the Project. Eighteen people agreed with the statement that the Project provided "a project that fits sensitively with the existing landscape and scenic qualities and characteristics of the Albion Park Rail and Albion Park settings". Three people disagreed with this statement and nine people neither agreed nor disagreed.

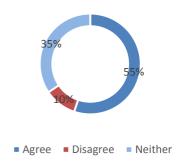


Respondents were asked about the design of the motorway, interchanges and bridges.

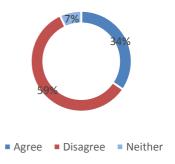
Fifteen people agreed with the statement that the Project provided "a road design that minimises the visual impacts of the adjoining areas". Six people disagreed with this statement and nine neither agreed nor disagreed.



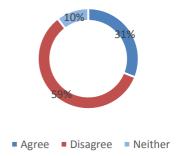
Respondents were asked about heritage and cultural values associated with the proposed design. Sixteen people agreed with the statement that the Project provided "a design that protects the integrity of the heritage and cultural values of the Albion Park Rail and Albion Park area". Three people disagreed with this statement and 10 people neither agreed nor disagreed.



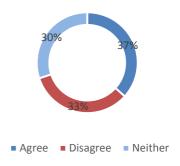
Respondents were asked about user connectivity in the Project, with specific reference to pedestrian and cycle paths and intersection crossings. Ten people agreed with the statement about the Project "contributing to the accessibility and connectivity into and through Albion Park Rail, Albion Park and other surrounding areas. Seventeen people disagreed with this statement and two people neither agreed nor disagreed.



Respondents were asked about urban development in relation to the Project. Nine people agreed with the statement that the Project provided "a project that helps future urban development and revitalisation along and surrounding the Project". Seventeen people disagreed with this statement and three people neither agreed nor disagreed.



Respondents were asked about public domain in relation to the Project. Eleven people agreed with the statement that the Project provided "a project that enhances the quality and value of the public areas along the Project route". Ten people disagreed with this statement and nine people neither agreed nor disagreed.



Respondents were also asked to provide feedback on the Project, including areas of interest they would like more information about. Of the 41 people who provided additional feedback, 34 comments were in relation to the Yallah Interchange. One comment was in relation to flooding issues, one comment was in relation to pedestrian and cyclist access, two comments were in relation to timing of the Project and three comments were in relation to local traffic impacts.

Specific feedback received as part of the online survey has been included as part of the submissions and responses section of this report (Section 3).

#### 5 Next steps

The final design of the Albion Park Rail bypass including the refinements made to the twin bridges over Yallah Road and Cut 1 has been approved.

The feedback received during display of the Urban Design and Landscape Character Strategy will continue to inform our approach to landscaping, consultation and management of impacts during construction of the Albion Park Rail bypass.

In some cases, ongoing consultation has been initiated with private property owners in response to feedback received where impacts to individual properties were raised. Ongoing engagement and consultation with these community members will continue separate to this report.

Roads and Maritime will continue to keep the community informed of progress during the construction of the Project.

If you have any questions relating to the UDLSC or this report, please contact the project team on 1800 708 727.

Construction of the Project is expected to be complete in 2022.

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