Tintenbar to Ewingsdale

Upgrading the Pacific Highway

Route Options Submissions Report

May 2006

RTA/Pub.06.112

Roads and Traffic Authority

Tintenbar to Ewingsdale Pacific Highway Upgrade

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Contents

Tables

Figures

Appendices

1 Introduction

1.1 Background

The NSW Roads and Traffic Authority (RTA) has been investigating options to upgrade the Pacific Highway between Tintenbar and Ewingsdale on the far north coast of New South Wales. This proposed upgrade is part of the overall Pacific Highway Upgrading Program and would link the northern end of the approved Ballina Bypass to the existing dual carriageway at Ewingsdale. This section of the existing highway is approximately 20 km in length.

Planning for the proposed Tintenbar to Ewingsdale Upgrade is funded by the NSW State Government as part of the 10 year Pacific Highway Upgrading program in NSW. There is currently no preferred route for the project.

The RTA has engaged Arup to undertake route options investigations, concept development and environmental assessment for the proposed upgrading.

This report achieves the following:

- Describes the stakeholder consultation process undertaken during the public display of the route options - involving the community within and beyond the study area, property owners, government agencies and businesses and other community organisations.
- Presents a summary of issues raised in submissions made by community members, organisations and agencies in response to the route options display and Route Options Development Report (Arup October 2005).
- Presents responses to issues raised in submissions.

1.2 Existing Highway and Study Area

1.2.1 Existing Pacific Highway

The Pacific Highway is the main road transport corridor serving the north coast of New South Wales and a major highway link between Sydney and Brisbane. The highway carries significant traffic volumes, especially during the holiday periods.

The Tintenbar to Ewingsdale section of the highway is largely a two-lane, two-way single carriageway with sections of overtaking lanes. In some sections, the highway alignment (both horizontal and vertical) does not meet current RTA standards.

1.2.2 Original Study Area

The Tintenbar to Ewingsdale project commenced in October 2004 with the announcement of the original study area as shown in **Figure 1.1**. Following publication of the original study area and the November 2004 Community Information Sessions, individuals, communities, community groups and agencies raised concerns regarding the extent of the study area. In response to these concerns, the RTA initiated a desktop study to identify the feasibility of potential highway corridors outside of the original study area. Based on the outcomes of this study, the RTA decided to expand the study area. The process that led to the decision to expand the study area is shown in **Figure 1.2**.

1.2.3 Revised Study Area

The expanded study area shown in **Figure 1.1** was publicly announced in April 2005. The boundaries of the expanded study area are:

- South to North: Sandy Flat Creek Road, just south of Tintenbar, north to the Ewingsdale residential area, a distance of approximately 23 km following the existing Pacific Highway.
- West: generally 0.5 km west of the existing Pacific Highway.
- East: Newrybar Swamp Road in the coastal flats, then up the coastal escarpment.

Figure 1.1 Original and Expanded Study Area

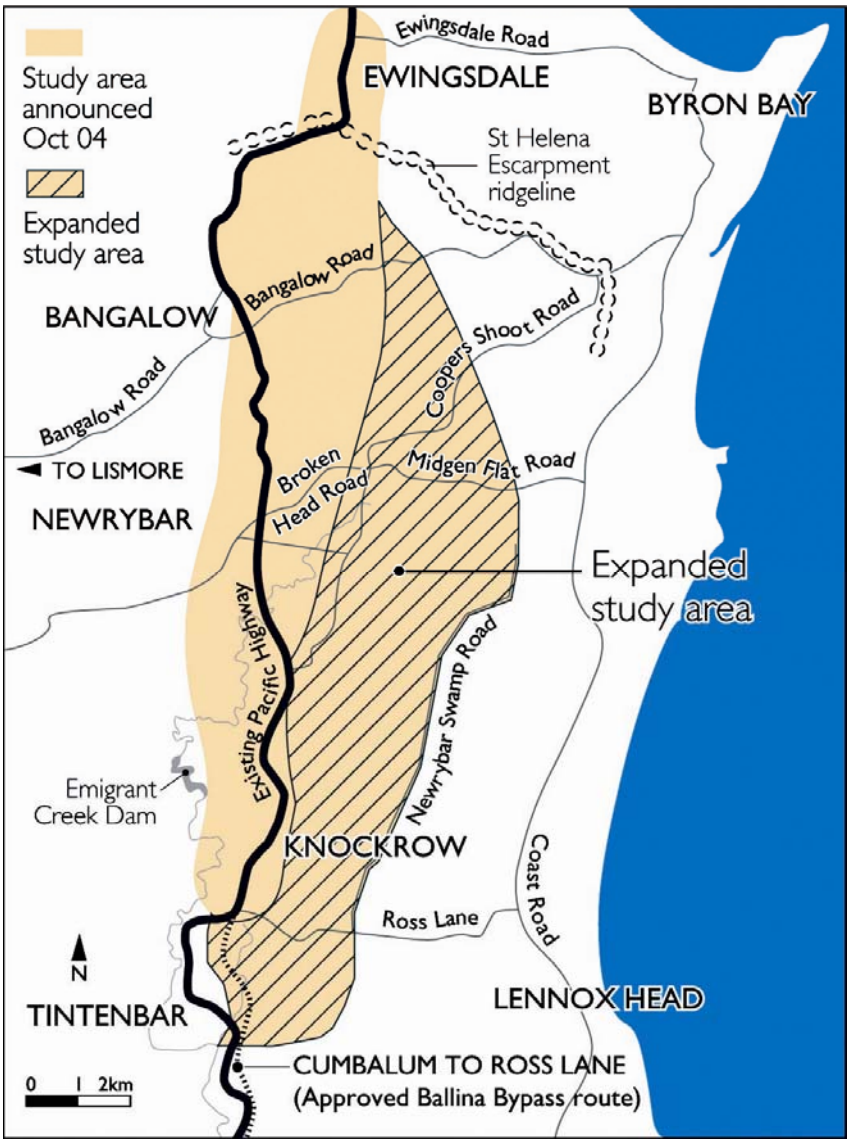


Figure 1.2 Decision Process to Expand Study Area

1.3 Project Objectives

The Tintenbar to Ewingsdale Upgrade investigations are being conducted as part of the Pacific Highway Upgrading Program. The objectives of this Program are as follows:

- To significantly reduce road accidents and injuries.
- To reduce travel times.
- To reduce freight transport costs.
- To develop a route that involves the community and considers their interests.
- To provide a route that supports economic development.
- To manage the upgrading of the route in accordance with the principles of ecologically sustainable development (ESD).
- To provide the best value for money.

Following early consultation with the community (three Community Information Sessions held in the study area between 12 and 16 November 2004) and the Community Liaison Group (CLG), it was considered necessary to amend the generic RTA project objectives to better reflect the unique needs of this particular study and community concerns.

Project-specific objectives (grouped by program objectives) are listed in **Table 1.1**. These objectives have been reviewed by the CLG established for the study (see Section 2.2.2).

Table 1.1 Project Objectives

RTA Program Objectives	Project Objective
Significantly reduce road accidents and injuries	• Develop a project that meets the following design criteria: - Four-lane divided carriage between Ross Lane and Ewingsdale joining the northern end of the proposed Ballina Bypass and the existing dual carriageway roadway at Ewingsdale with potential to expand to six lanes if required with minimal disruption. - Grade separation of local roads and the proposed highway. - Limited access conditions, i.e. no private access points along the proposed highway upgrade. - Concept design for a 110 km/h design speed for the vertical alignment and 110 km/h design speed for the horizontal alignment. - Concept design that incorporates pedal cyclists' requirements. • Develop a project with a target crash rate of a maximum of 15 crashes per 100 MVK over the project length. • Develop a project that retains or replaces existing rest areas within the study area and is consistent with RTA policies on rest areas. • Where possible, improve safety of travel on the existing Pacific Highway (through the study area) until the proposed upgrade is operational.
Reduce travel times	• Develop a project that reduces travel time for Pacific Highway traffic. • Develop intersections and interchanges designed to at least a Level of Service (LOS) C, 20 years after opening for the 100th Highest Hourly Volume. • Develop a project that provides adequate flood immunity on at least one carriageway, target 1:100 year flood event. • Develop a project that minimises disruption and delay during construction.
Reduce freight transport costs	• Develop a project that reduces overall freight transport costs. • Develop a project that meets freight transport vehicle requirements.

RTA Program Objectives	Project Objective
Develop a route that involves the community and considers their interests	• Meet the objectives of the Community Involvement Plan and the CLG. • Seek the experience, expertise, and input of the community to better inform each stage of the upgrade process. • Adopt a policy of transparency in the development and assessment of route options. • Investigate feasible routes in the initial stages of the study. • Minimise uncertainty in affected communities by undertaking the route selection process as efficiently as possible. • Mitigate the impact of noise levels associated with the project (including engine braking noise), and meet the EPA Target Noise Levels where it is reasonable and feasible to do so and implement the adopted recommendations from the Northern Pacific Highway Noise Taskforce. • Develop a project that takes account of air quality concerns at locations of sensitive receptors. • Develop a project that minimises impacts on the scenic value of the area. • Develop a project that is enjoyable for users, but minimises impacts on nearby residents. • Develop a project that minimises the physical impacts of the route, including community severance and access patterns. • Develop a project that minimises the impact on property. • Develop a project that minimises the impacts on heritage (Aboriginal and non-Aboriginal) places.
Provide a route that supports economic development	• Develop a project that minimises the impacts on prime agricultural lands. • Develop a project that improves accessibility for local industries, utilities and emergency services. • Develop a project that minimises the impacts on businesses dependent on Pacific Highway traffic.
Manage the upgrading of the route in accordance with Ecologically Sustainable Development (ESD) principles	• Develop a project that minimises the impacts on sensitive ecological constraints. • Assess route options with consideration of environmental, social and economic evaluation criteria. • Apply RTA and DEC Guidelines for managing environmental issues (biodiversity, water quality, Acid Sulfate Soils). • Assess and address cumulative environmental impacts. • Develop a project that addresses environmental safeguards and measures necessary to mitigate environmental impacts.
Provide the best value for money	• Minimise the Whole of Life Costs of the project. • Maximise the use of the existing road reserve and other road assets for duplicated sections of the project where possible.

1.4 Consultation Objectives

The key objectives of community and stakeholder involvement are:

- Ensure an open accountable and transparent community involvement process.
- Ensure all potentially affected property owners and interested stakeholders are provided with sufficient information about the project and the likely impacts so that they can provide informed input.
- Ensure appropriate and direct communication with property owners and/or managers in relation to access to, and investigations, on landholdings within the study area by Project Team members and/or RTA representatives.
- Encourage community support and involvement in the project to facilitate better and more generally accepted outcomes.
- Provide a range of accessible opportunities for stakeholders, interested groups and the wider public to contribute to the project through issues identification, information provision and options evaluation.
- Build an ongoing relationship between the RTA, its contractors, and stakeholders in order to gain long term support for the project, and in particular the Preferred Route.

2 Route Options Consultation

The Route Options Display is an important phase in the development of the project and in the consultation process.

2.1 Short List of Route Options

A short list of route options have been identified (and detailed in the Route Options Development Report) that satisfies the project objectives discussed in Section 1. These options have been the subject of community consultation. The planning corridors shown in **Figure 2.1** have a nominal width of 250m.

2.2 Consultation Mechanisms Used

To facilitate and encourage community and stakeholder feedback on route options, a range of consultation mechanisms was used.

2.2.1 Community information Centre

The Tintenbar to Ewingsdale Community Information Centre was based at the Bangalow Showgrounds, Station Street, Bangalow. The Centre was open to the public from 26 October 2005 to 11 November 2005 on Wednesdays and Fridays (10am to 4pm) and Thursdays (10am to 6pm).

The Community Information Centre was staffed by project team members available to consult individually with community members. The centre was resourced with broad aerial photography of the study area as well as targeted property maps for impacted landholders. Fact sheets were available and covered the overall project, noise, acquisition, and the Environmental Assessment process. Community members were able to schedule an appointment with senior project team members to discuss individual concerns.

In addition, the FreeCall line continued to be available as a mechanism to provide community members with details about the location of the displays and to arrange landowner meetings as requested. Callers were encouraged to develop written responses regarding the route options display.

2.2.2 Route Options Display

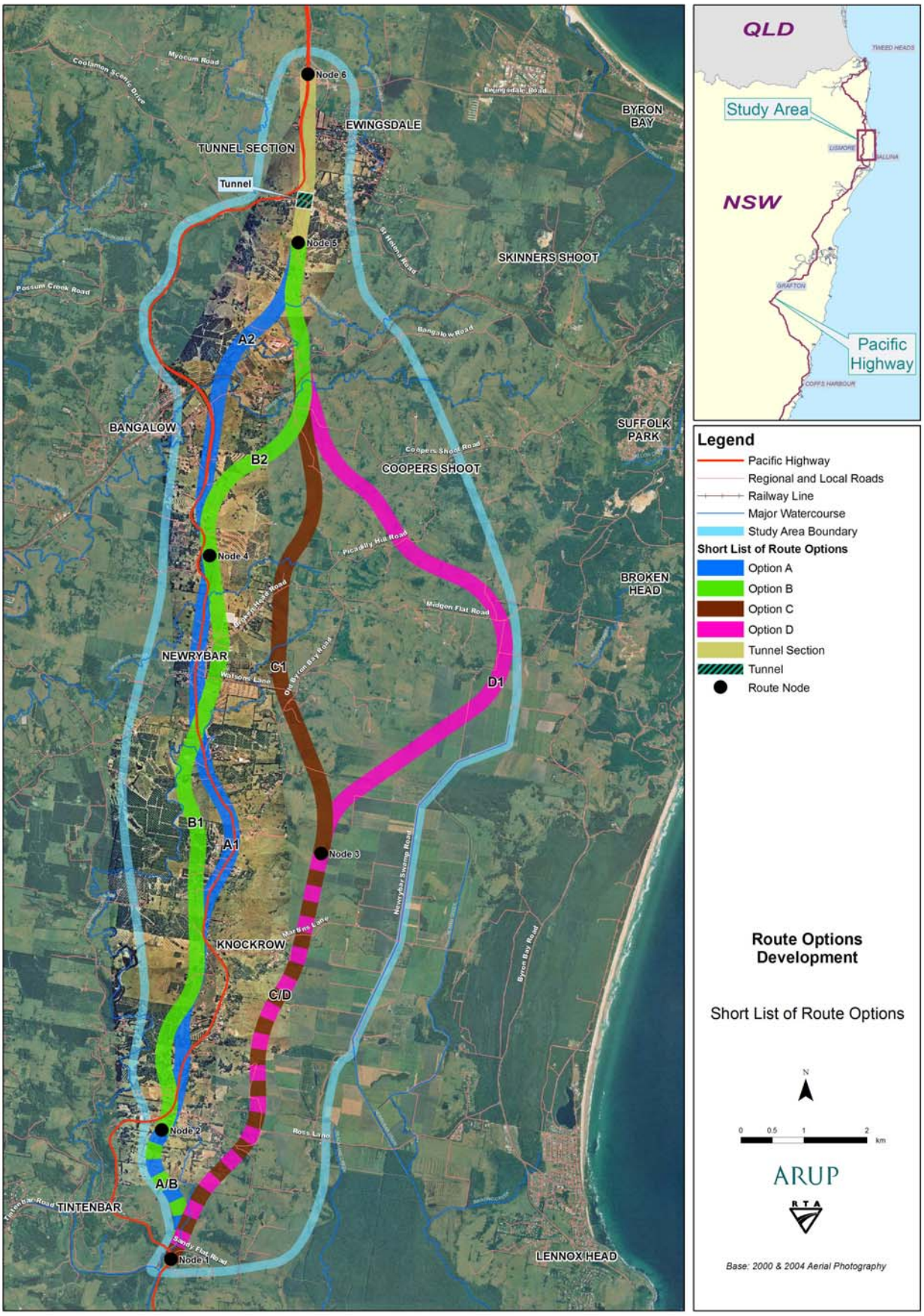
The display of route options commenced on 21 October 2005 and concluded on 2 December 2005. The initial four week display period was extended to six weeks.

An advertisement (see Appendix A) advising the display period was placed in the following newspapers:

- Northern Star
- Byron Shire News
- North Coast Advocate
- Byron Echo
- Northern Rivers Echo.

Route options were displayed at the Bangalow Community Information Centre (Wednesday and Friday 10am to 4pm; Thursday 10am to 6pm) for the entire display period. Staff were in attendance at these times to provide advice and assistance to the community.

Figure 2.1 Short List of Route Options



Other staffed displays were located at:

- Bangalow A&I Hall, Station Street, Bangalow; Saturday 29 October 2005, 9am to 2pm
- Broken Head Hall, Broken Head Road, Broken Head; Friday 4 November 2005, 10am to 6pm
- Lennox CWA Hall, Park Lane, Lennox Head; Saturday 5 November 2005, 9am to 2pm
- Newrybar Hall, Old Pacific Highway, Newrybar; Wednesday 9 November 2005, 10am to 6pm
- Ewingsdale Hall, Old Pacific Highway, Ewingsdale, Saturday 12 November 2005, 9am to 2pm.

Static unstaffed displays were provided at the following locations during opening hours:

- RTA Pacific Highway Office, 21 Prince Street Grafton
- Ballina Motor Registry, Ballina West Shopping Centre, Ballina
- Lismore Motor Registry, Carrington Street, Lismore
- Ballina Shire Council, corner of Cherry and Tamar Streets, Ballina
- Byron Shire Council, 70-90 Station Street, Mullumbimby
- Newrybar Hall, Old Pacific Highway, Newrybar.

2.2.3 Brochure

A route options display brochure (see Appendix B) provided details of all the shortlisted options under consideration within the original and extended study areas. The brochure describes the route options that had been short listed and the key options associated with each of the options.

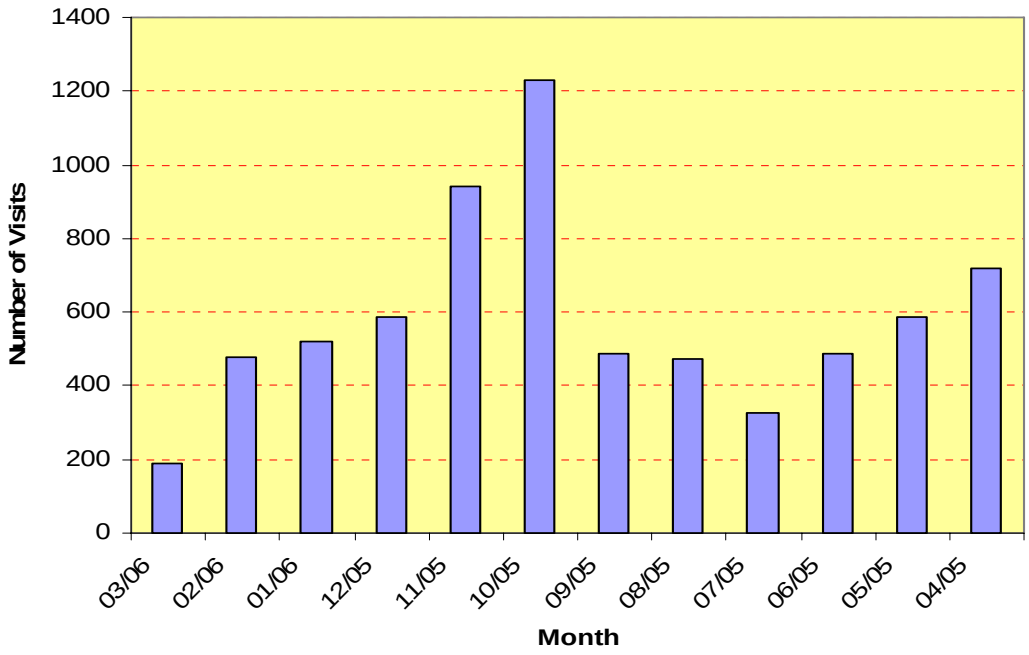
The brochure provided details of Route Options Display locations and times, and availability of additional information (Freecall Line, RTA website and RTA Project Manager). Input was invited from the community through written submissions or a reply paid Feedback Form.

2.2.4 Website

A website, specific to the Tintenbar to Ewingsdale Pacific Highway Upgrade, was established in the early stages of the project. The objectives of the website are to provide community updates, public information and details of community involvement such as CLG and AFG notes. Technical information including project reports, program objectives, details of the development process and field investigations are also displayed on the website and have been a useful source of information for many community members. **Figure 2.2** identifies the number of times the website has been visited from April 2005 to March 2006. Within this timeframe peak visitation periods were experienced in October and November when the Route Options Display occurred. During the display period the Route Option Development Report, in its entirety, was the highest file downloaded followed by Chapters 8 and 5, of individual downloads.

The website is also used as a communication tool where by community members can communicate with the project team via email. During the route options display submission period community members were able to supply feedback via the website.

Figure 2.2 Website Visits by the Public



2.3 People Consulted

2.3.1 Property owners

At the commencement of the Route Options Display, letters were sent to all property owners potentially affected by one or more of the short listed options. Address details of property owners were obtained from existing Council data sets provided by Ballina and Byron Councils. A number of community members advised that property ownership details were incorrect or out of date. In these cases, letters were sent to updated addresses. Some letters were returned as undelivered mail. Where this occurred, further investigations were made to locate the property owner and advise them of the Route Options Display.

Potentially affected property owners were given the opportunity to arrange an appointment with study team members (RTA and Arup) to discuss the implications of the route options for individual properties. The appointments were scheduled at the convenience of the landowner and took place either at the Community Information Centres/Staffed Display locations or on individual properties.

Aerial photographs (A4 size) were provided to potentially affected property owners on request. The maps were overlaid with the route options and the individual property boundaries.

2.3.2 Community Liaison Group

A Community Liaison Group (CLG) was established in December 2004 at the commencement of the project. CLG meetings have been held regularly in the study process. The notes of the meetings are available on the project web site (www.rta.nsw.gov.au/pacific).

Members of the CLG provided feedback on the group charter and project objectives. As a result of particular concern raised by CLG members, a meeting regarding noise was held in March 2005.

Following the announcement of the expanded study area in April 2005, the CLG was re-formed to reflect the expanded geographical representation of the community. The re-formed CLG provided input into the identification of constraints and the development of the evaluation criteria. An additional meeting on the issue of noise was organised in June 2005.

The CLG provided input into the development of the long list of corridor options. Four representatives of the CLG were nominated by the CLG to participate in the Corridor Assessment Workshop which was held in August 2005. The representatives presented a summary of the Corridor Assessment Workshop to the CLG later in August 2005.

The September 2005 meeting covered presentations on geotechnical, noise and route options assessment draft working papers. In early November 2005, the CLG discussed the route options display and shortlisting process.

In November 2005, the concept of the Value Management Session was outlined to the CLG members. The CLG members who had attended the August 2005 Corridor Assessment Workshop were re-elected to attend the Value Management Session in December 2005. Comments from the CLG members regarding route options were generated at the CLG meeting held on 14 November 2004 during a workshop session.

2.3.3 Meetings with Council and Other Stakeholders

The RTA and Arup met with Council officers from Byron and Ballina on 3 November 2005 and 27 October 2005 respectively to discuss aspects of the short list of route options. Issues raised by both Councils would be formally submitted in response to the route options display.

Similarly, meetings were held with some stakeholders, namely Rous Water, Department of Primary Industries (DPI) and Northern Rivers Regional Development Board (NRRDB) on 12 December 2005, to discuss the short list of options.

2.3.4 Focus Groups

The Agricultural Focus Group (AFG) was established at the onset of the project after the recommendation of the CLG members. The AFG met regularly to discuss issues particular to agricultural land use. The interests of the AFG were represented at the December 2005 Value Management Session by an AFG member who was elected by the AFG members.

An Aboriginal Focus Group was established in August 2005 as a means to consult with Aboriginal stakeholders collectively. Additionally Aboriginal cultural heritage was represented at the December 2005 Value Management Session by both Aboriginal representative attendees as well as the project's heritage consultant.

3 Overview of Submissions Received

3.1 Route Option Display Submissions

A total of 19,182 submissions were received during and after the route options display. The official submission period was extended from the 18 November to the 2 December 2005, however submissions were received up until the 23 February 2006. Appendix C provides a list of people from whom a submission was received, with the exception of the four point form submission where the submission is listed once under 'United Voices' (refer Section 3.3).

Submissions were received from all over Australia. Table 3.1 provides a breakdown of the origins of the submissions received. Given the volume of United Voices submissions they have been separated from other submissions.

Table 3.1 Origins of Submissions

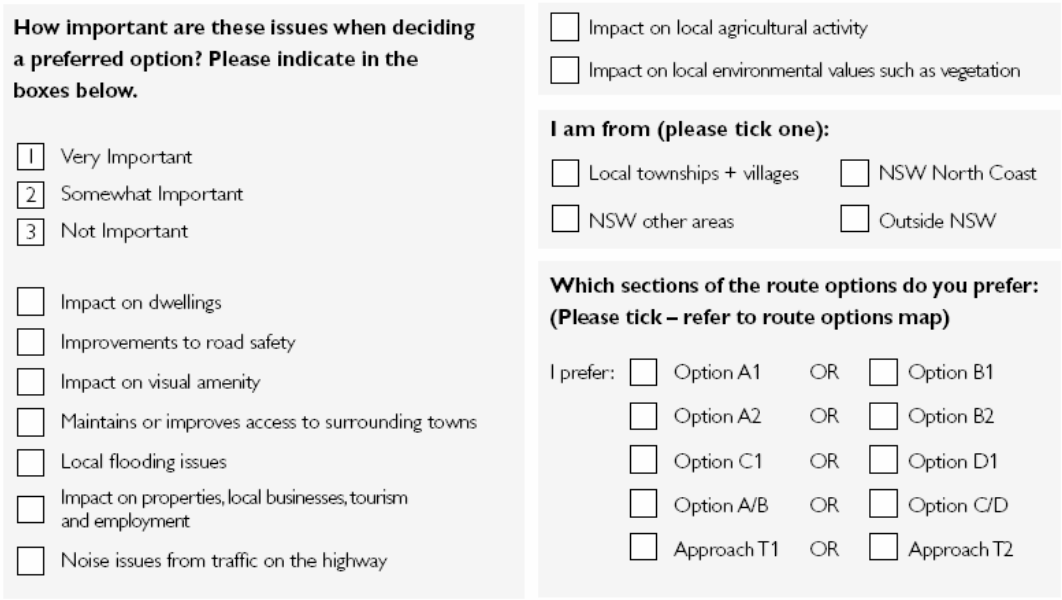
	United Voices		**Feedback Forms and Other Submissions**	
Total received	**18,012**		**1,180**	
Address not counted*	1,776		358	
Total counted	**16,236**		**822**	
	Total	%	Total	%
Postcode 2478 (Ballina/Lennox)	4,922	30	114	14
Postcode 2479 (Bangalow/Coopers Shoot/Knockrow/Newrybar)	1,176	7	430	52
Postcode 2481 (Byron Bay/Broken Head)	3,731	23	121	15
Other NSW	4,733	29	121	15
Australia not NSW	1,255	7.5	36	4
Overseas	419	2.5	0	0

* Origin of submission was not counted if an address was not provided, submission acknowledgement letter produced a 'Returned to Sender', duplicates, email only provided, illegible address and feedback forms being blank. The issues raised in these submissions were still incorporated into the report.

3.2 Summary of Feedback Forms

The community feedback forms gave the opportunity for the community to identify a preferred option from those provided as well as what issues were most important to them in deciding on a preferred route. **Figure 3.1** shows the section of the form that was used to identify preferences.

Figure 3.1 Tickbox section of Community Feedback Form



How important are these issues when deciding a preferred option? Please indicate in the boxes below.

1 Very Important
2 Somewhat Important
3 Not Important

Impact on dwellings
Improvements to road safety
Impact on visual amenity
Maintains or improves access to surrounding towns
Local flooding issues
Impact on properties, local businesses, tourism and employment
Noise issues from traffic on the highway
Impact on local agricultural activity
Impact on local environmental values such as vegetation

I am from (please tick one):

Local townships + villages
NSW North Coast
NSW other areas
Outside NSW

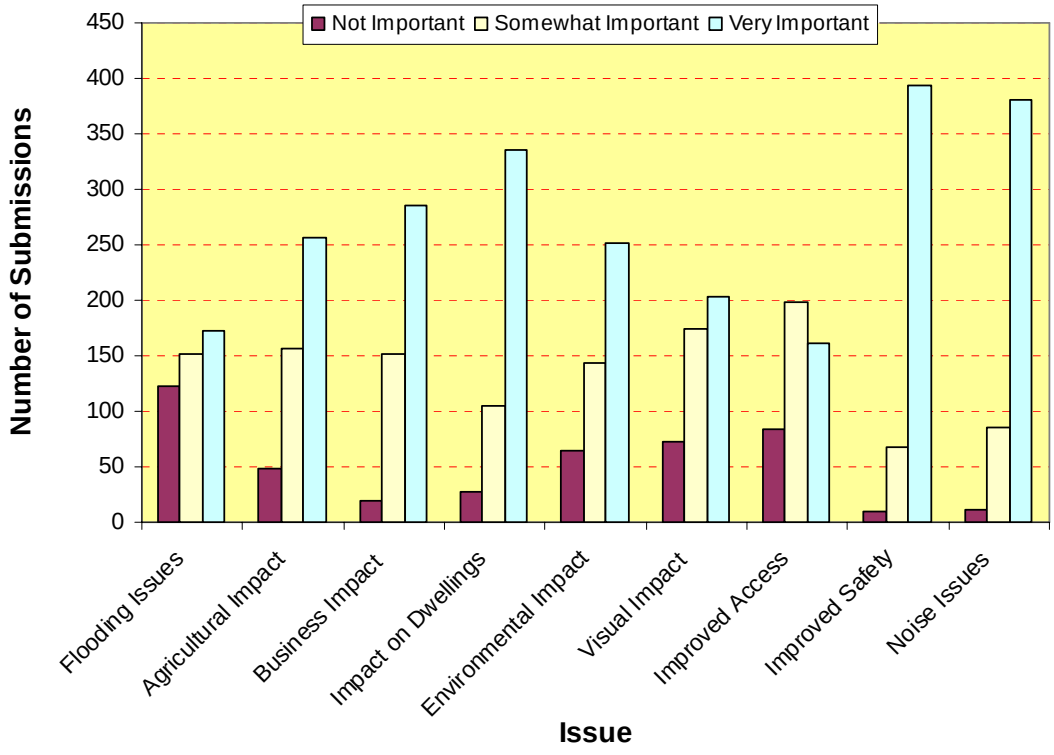
Which sections of the route options do you prefer: (Please tick – refer to route options map)

I prefer:
Option A1 OR Option B1
Option A2 OR Option B2
Option C1 OR Option D1
Option A/B OR Option C/D
Approach T1 OR Approach T2

The feedback form was widely distributed in the local area and in some instances beyond. A total of 742 feedback forms were completed and returned in response.

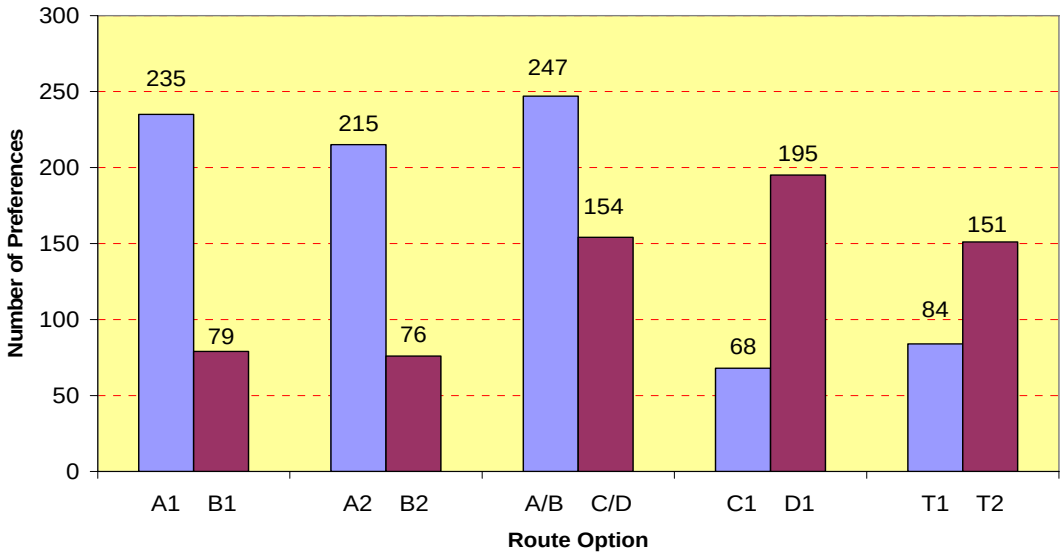
A summary of how the community viewed the issues presented in the community feedback form is provided in **Figure 3.2**. In several cases it was either not clearly stated or was not stated at all that there was a preference between the issues, this has been recorded as 'No Preference' and is presented below.

Figure 3.2 Community Responses to Significance of Issues



A summary of which options were preferred by the community is presented in **Figure 3.3**. Not all feedback forms returned had a clearly stated preference between the options, as such the sum of those who favoured one option over another does not equal the total number of feedback forms received.

Figure 3.3 Options Preference



3.3 Form Submissions and Petitions

3.3.1 Form Submissions

Four form submissions were received during the submission period. A form submission was defined as one which had been duplicated but submitted by more than 10 different people. In Appendix C those people can track the issues raised and the given response next to their name, with the exception of the United Voices submissions where it is listed once under 'United Voices'.

Given that there were 18,012 of the United Voices submissions it will be addressed and responded to once in this report. This submission outlined four key issues:

- Move the interstate freight back to the New England Highway.
- Government to start investigation of alternative inland freight routes and rail options.
- Upgrade the highway to Class A within the existing corridor.
- Immediate start to a Class A Ballina Bypass.

3.3.2 Petitions

Throughout the submission period one petition was received. Over 320 signatures were collected in support of the following issues:

- Highway upgrade should occur within the existing highway corridor.
- No consultation of residences to the east of the highway before the study area was expanded.
- Highway upgrade on the coastal flats will cause environmental damage particularly the Newrybar Valley and Coopers Shoot Escarpment.
- Elimination of important agricultural land in the expanded study area.

- The highway upgrade was zoned and planned along the current alignment.

The petition was submitted by Margaret Gannon and the issues response can be traced under that name in Appendix C.

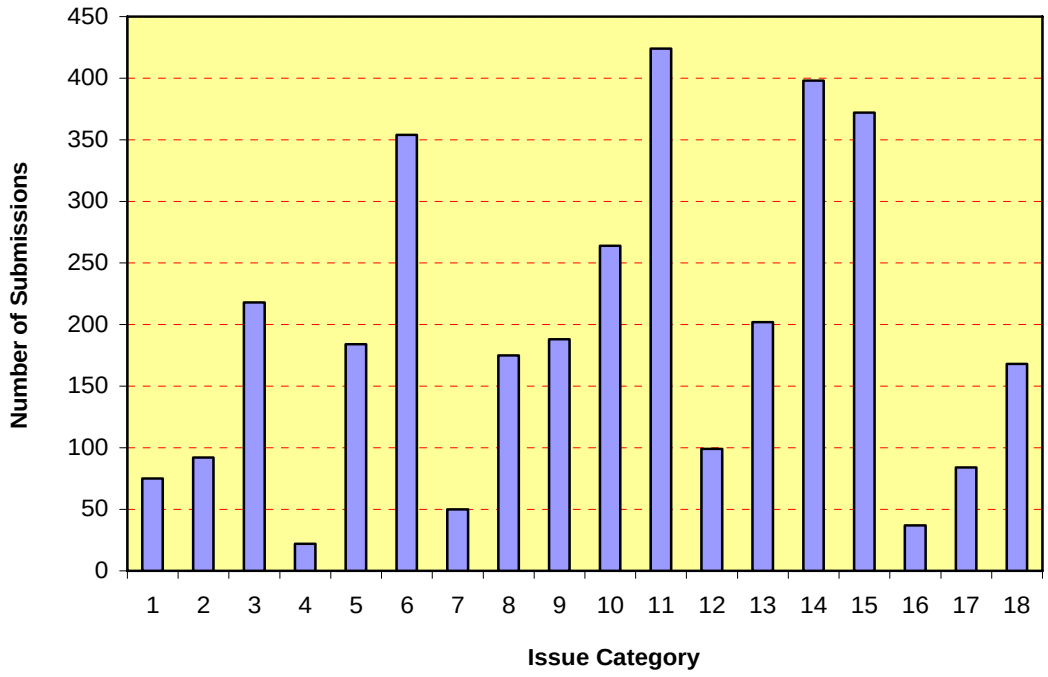
3.4 Summary of Issues

The issues in the various submissions have been categorised as follows:

1. Access
2. Air Quality
3. Community Consultation
4. Cultural Heritage
5. Ecology
6. Engineering Design
7. Geology, Geotechnics and Soils
8. Hydrology, Flooding and Water Quality
9. Land Acquisition and Compensation
10. Noise and Vibration
11. Planning and Landuse
12. Process
13. Safety
14. Social and Business
15. Strategic Planning
16. Traffic and Transport
17. Tunnel
18. Visual Impact and Urban Design

The number of submissions listed in Appendix C that referred to these issue categories is illustrated in **Figure 3.4**. Planning and Landuse, Social and Business and Strategic Planning issues were raised the most number of times, whilst fewer people discussed issues relating to Cultural Heritage and Traffic and Transport.

Figure 3.4 Number of Submissions Raising an Issue Within Each Category



Submissions that were anonymous, or where details were withheld have not been listed in Appendix C, but have been included in the counts above (and in Section 4). All of the issues raised by these submissions have been addressed and included in Appendix D, although they can not be traced due to anonymity. United Voices submissions are counted once.

Section 4 provides a summary of issues raised within the above categories. Appendix D provides a detailed description of the issues raised and RTA responses.

4 Consideration of Submissions on the Route Options

A summary of issues raised is provided in Appendix D. Given the volume of submissions received, for ease of management issues were categorised under the headings given in Section 3.4.

Once placed under a category (for example ‘Air Quality’) the issue was then assigned to a sub-category (for example ‘Air Pollution Impacts to Agriculture’) which was then in turn responded to. Each response has a unique response number, as listed in Appendix D. This approach meant that where different people raised the same issue it could be responded to once.

Also, in categorising and summarising of the issues, 'like' issues can be combined. In some cases this has the appearance (in the following sections and Appendices C and D) of reducing the number of issues raised by individuals.

The following sections provide a summary of the predominant issues raised in the submissions. In total more than 6,300 issues were raised.

In responding to the issues some key points of clarification were noted, that although relevant to one particular issue or submission, had application across all submissions. These points of clarification are also provided in the following sections.

In many submissions an option preference or dislike was stated on a variety of grounds for example “Oppose D due to engineering grounds”. In the interests of people’s privacy we have omitted such explicit references from Appendices C and D instead stating that a “Route Preference Based on Engineering Design and Feasibility” was given.

4.1 Access

Predominant issues raised in the submissions for access (with number of time raised in parenthesis) include:

- Local road network impacts (19).
- Use of existing highway for local access and tourist drive (29).
- Interchanges (27).
- Access to individual properties (35).

Main points of clarification with regard to access include:

- The local road system would be fully maintained.
- The only access onto the upgraded Highway would be via the proposed interchanges at Ewingsdale and Ross Lane or Sandy Flat.
- The project team and the affected landowners would meet to discuss access arrangement once the preferred route is announced.

4.2 Air Quality

Predominant issues raised in the submissions for air quality include:

- General impacts on the community (47).
- Health impacts (14).
- Greenhouse gases (14).

Main points of clarification with regard to air quality include:

- The air quality criteria of the NSW Department of Environment and Conservation must be met by the design of all of the route options.
- The air quality criteria are based on health effects.
- Greenhouse gas emissions will be considered in identifying a preferred route.

4.3 Community Consultation

Predominant issues raised in the submissions for community consultation include:

- Criticism of the consultation programme (including expansion of study area) (122).
- Concern as to how submissions (including United Voices submission) are treated (35).
- Influence of lobby groups (32).
- Uncertainty and anxiety caused by route selection process (28).
- Community being divided by process (20).
- Community representation on the CLG (18).

Main points of clarification with regard to community consultation include:

- The consultation programme was developed in accordance with the RTA's Community Involvement Practice Notes and Resource Manual (July 1998).
- Input into the consultation programme was received from the community, stakeholder groups and government agencies. They also influenced RTA's decision to expand the study area.
- The RTA considers submissions from a variety of individuals and groups. Any assessment made of those submissions is done so on the merits of the issues contained in the submissions.
- After the Study Area expansion the applications for membership of the re-formed CLG were evaluated by an Independent Facilitator after considering applicants from a variety of backgrounds and locations in accordance with documented criteria with a recommendation then being given to the RTA. The RTA then approved the membership of the re-formed CLG.

4.4 Ecology

Predominant issues raised in the submissions for ecology include:

- Impacts to the coastal plain and escarpment (156).
- Data supplied by individuals not represented in the RODR (36).
- General extent of ecological impacts (33).
- Impacts to rehabilitation and revegetation projects (24).
- Impacts on the plateau (22).

Main points of clarification with regard to ecology include:

- Impacts documented in the RODR are likely to decrease as they were based on a 250m wide planning corridor, while the actual footprint for the majority of the preferred route would be less than this in most areas.
- Since the RODR additional fieldwork has been undertaken in response to submissions and requests from individuals. This along with reclassification of some habitat areas has lead to an increase in high ecology constraint areas. Areas associated with rainforest rehabilitation and revegetation have also been identified as high constraints, regardless of age.
- It is generally more conservative to base an assessment on the presence of habitat for threatened species as opposed to just counting threatened species, as it is likely that many threatened species would be missed as they are, by definition, rare.
- All options impact on areas of high ecological value to varying degrees.

4.5 Engineering Design

Predominant issues raised in the submissions for engineering design include:

- Various route preferences offered based on engineering design and feasibility (334).
- Concern over design guidelines including confusion regarding Class A versus Class M, number of lanes required and speed limits (159).
- Preference for an upgrade on or near existing highway (242 + United Voices 18,012).
- Concern about disturbance and use of existing highway during construction (25).

Main points of clarification with regard to engineering design include:

- All of the short listed route options are feasible and designed to be safe. All of the routes have issues that are being addressed in design (for example flooding) and all are above the minimum design standards for the Pacific Highway
- The Tintenbar to Ewingsdale section will be upgraded to Class M given the operational and geographical constraints of this section. Under RTA's present design and acquisition policies adoption of a Class A upgrade would not reduce the land acquisition requirements.
- A long listed option which exactly followed the alignment of the existing highway did not meet the minimum design requirements and did therefore not make the short list. One of the short listed options (Option A) does follow the general corridor of the existing and is being further assessed.
- Stringent traffic and environmental management procedures will be adopted during the construction phase.

4.6 Geology, Geotechnics and Soils

Predominant issues raised in the submissions for geology, geotechnics and soils include:

- Difficulty of constructing in areas of instability (38).
- Difficulty of constructing on soft soils (21).

Main points of clarification with regard to geology, geotechnics and soils include:

- The RTA has experience in designing and constructing on soft soils and they have identified appropriate measures for the type of soils in the Tintenbar to Ewingsdale section.
- Investigations have been undertaken into areas of instability and appropriate designs adopted.
- Ongoing investigations would occur once a preferred route is identified.

4.7 Heritage

Predominant issues raised in the submissions for heritage include:

- Impact on non-Aboriginal heritage (25).
- Impact on Aboriginal heritage (10).

Main points of clarification with regard to heritage include:

- All known heritage sites were considered in the route selection process.
- Since the publication of the RODR additional assessments have been undertaken in response to submissions and gaining further access to properties. Some additional heritage items have been recorded as a result and these will assist in determining a preferred route.

4.8 Hydrology, Flooding and Water Quality

Predominant issues raised in the submissions for hydrology, flooding and water quality include:

- Impact on waterways, in particular drinking water quality and aquatic ecology in Emigrant Creek Water Catchment area (267).
- Identification of flood prone land (65).
- Impacts on drainage hydrology (35).
- Impacts to springs and groundwater (32).

Main points of clarification with regard to hydrology, flooding and water quality include:

- The number of waterways crossed is an important criterion in route selection. However, where waterway crossings are unavoidable best practice would be adopted to minimise the risk of run-off impacting on water quality.
- The existing highway which passes through drinking water catchments and crosses numerous waterways has fewer controls than the proposed upgrade.
- Additional assessments will be undertaken to assist in the design of the short listed options where they traverse flood prone land.

- There would be an impact on springs and it is a project objective to minimise these. However, where there are deep double sided cuts some springs may be affected. Additional hydrogeological studies on the preferred route will seek to mitigate impacts.

4.9 Land Acquisition and Compensation

Predominant issues raised in the submissions for land acquisition and compensation include:

- The RTA has inadequate compensation arrangements for directly affected landowners as well as those landowners that would remain adjacent to the upgrade (131).
- Greater consideration should be given to the varying value of land throughout the study area (51).
- Land values will depreciate for lots away from the existing highway if coastal plains options chosen (33).

Main points of clarification with regard land acquisition and compensation include:

- For property owners living close to but whose land is not directly affected by the upgrade (that is no part of their property is required to be purchased) mitigation of impacts such as noise, visual and air quality will be discussed with the property owners through the preferred route phase.
- RTA will acquire land in accordance with the Land Acquisition (Just Terms Compensation) Act 1991 and RTA policy. All acquisitions are negotiated individually with landowners.
- Under the above Act only land required for the highway can be purchased and there is no provision for compensation for perceived property devaluation due to its proximity to the highway.
- Land worth (in particular agricultural and rural residential) will continue to be an input into the identification of a preferred route. Additional analyses are being undertaken in response to issues raised by the Agricultural Focus Group.
- One design objective is to seek to minimise the impacts on dwellings.

4.10 Noise and Vibration

Predominant issues raised in the submissions for noise and vibration include:

- Route preferences based on impacts of upgrade on or near the existing highway (178).
- Route preferences based on impacts of upgrade away from existing highway (113).

Main points of clarification with regard to noise and vibration include:

- The method used to assess the acoustic performance of the route options is technically rigorous and is designed to identify options that over the entire length of a route option have least impact.
- All route options have impacts on noise communities / residences near to the respective upgrade alignments.
- Noise from trucks is acknowledged as an issue and assessments of ‘peak’ noise events (caused by engine braking) are being undertaken by the project team to inform the route selection process.

- The Department of Environmental Conservation Environmental Criteria for Road Traffic Noise (DEC ECRTN) are not limits that 'must be achieved', but rather noise level targets that are to be aimed for during the design process and achieved where it is reasonable and feasible to do so.

4.11 Planning and Landuse

Predominant issues raised in the submissions for planning and landuse include:

- Route preferences provided based on agricultural impacts (287).
- Options along the existing highway would make best use of earlier decisions regarding the Ballina by-pass and the Bangalow by-pass as well as existing 9(a) zoning (228).
- Prime agricultural land should be avoided (150).
- Inconsistency with other environmental planning instruments (41).
- Consideration of future residential developments (29).

Main points of clarification with regard planning and landuse include:

- One objective of the route options development is to minimise impacts on agriculture where practicable. Further assessments are being undertaken, in consultation with the Agricultural Focus Group on agricultural impacts.
- Where possible existing infrastructure has been utilised by the respective options (including the Bangalow by-pass). All options would connect to a Ballina by-pass.
- The impact on known (zoned) future residential areas have been considered in the route options development.
- None of the route options pass through planning zones which prohibit the construction of a road by the RTA.

4.12 Route Selection Process

Predominant issues raised in the submissions for the route selection process include:

- The RODR contained inaccurate or misleading information and impacts should just be considered for the road footprint not a 250m wide corridor (36).
- Concern regarding the expansion of the study area (32).
- Concern regarding the criteria weighting (29).
- The selection process was flawed (for example a 'do-nothing' option was not considered) (22).
- The RODR lacked quality, detailed information (19).

Main points of clarification with regard the route selection process include:

- The level of detail required to determine the short list of route options was appropriate for that stage of the route development process. This is different to the level required to complete a full assessment, which would be undertaken on the preferred route only.
- Since the RODR some information has been updated in response to submissions received and additional fieldwork.
- A feasibility study into expanding the study area was undertaken in response to community and agency concerns regarding the extent of the study area. The study area was expanded when feasible options were identified to the east.

- A 250m planning corridor is used so that all routes can be assessed in a like way. At the early stages of route development this is the most prudent approach.
- The process assessed each route option based on a wide range of social, environmental, engineering and economic criteria which included input from the project team and the community.
- A 'do nothing' option was not considered as it did not meet the project objectives of improving safety and providing a suitable standard highway.
- The criteria were weighted by the project team, CLG and government stakeholders. A sensitivity analysis showed that the weightings adopted were robust.

4.13 Safety

Predominant issues raised in the submissions for safety include:

- Road safety should be a priority (91).
- Existing safety concerns (for example black-spots) should be eliminated urgently to reduce accidents (64).
- The existing highway is unsafe and demonstrates that heavy vehicles and cars don't mix (70).
- Fog is a significant issue (69).

Main points of clarification with regard land acquisition and compensation include:

- Road safety is a key consideration in the route development process.
- Interim treatment of the existing highway and driver education strategies are outside the scope of this project.
- The best treatment is to separate through traffic (including heavy vehicles) from local traffic which is an objective of this project.
- While safety risks associated with fog can be mitigated through appropriate design and signage, fog remains a safety issue and is part of the safety audit undertaken for all short listed route options.

4.14 Social and Business

Predominant issues raised in the submissions for social and business issues include:

- Options preference based on concern regarding impact on communities and livelihoods (310).
- Options preference based on concern regarding impact on (acquisition of) residences (225).
- Impacts on tourism (43).
- Non-agricultural impacts to the local economy should be considered (40).
- Social and educational impacts on Newrybar School (32).

Main points of clarification with regard social and business issues include:

- Social impacts have been, and will continue to be, taken into consideration in the route development process. The RTA recognises that there are varying degrees of social impact and that all route options affect people with a deep connection to their properties.

- The ongoing route development process will consider impacts of changes in agricultural land use on the local and regional economies.
- The RTA recognises the value that tourists and residents place on the local beauty and serenity of the area. The scenic value has been considered in the route development process and accordingly, the detailed design of the preferred route will aim to integrate the route into the landscape where practicable.
- The preferred route design will aim to minimise impacts to the Newrybar School as much as practicable. In the meantime the RTA is in consultation with Newrybar School and the Department of Education with regards impacts on the school so as to identify any possible positive outcomes for both the project and the school and to mitigate impacts.

4.15 Strategic Planning

Predominant issues raised in the submissions for strategic planning include:

- An inland route particularly for freight is a better option (525 + United Voices 18,012).
- Poor planning at the State and Federal level (93).
- Alternative routes (and modes) should be considered (71 + United Voices 18,012)
- The highway upgrade should not be fast tracked under public pressure (67).

Main points of clarification with regard strategic planning include:

- The upgrade of the Tintenbar to Ewingsdale section of the Pacific Highway would be required regardless of freight being re-routed inland.
- The RTA has undertaken to implement the State Government's strategy to upgrade the Pacific Highway between Newcastle and the Queensland border. A common set of standards has been deployed so that the Highway can be looked upon as a single project with compatible sub-projects.
- The upgrade of the Tintenbar to Ewingsdale section of the Pacific Highway is consistent with current Federal Government policy in regard to all freight integration as outlined in the AusLink White Paper.

4.16 Traffic and Transport

Predominant issues raised in the submissions for traffic and transport include:

- Concern that road improvements have proven to increase traffic volumes (particularly of heavy vehicles) dramatically. Greater consideration should be given to the local road network (19).

Main points of clarification with regard traffic and transport include:

- Historical data, for the local area, indicates that the proportion of heavy vehicles in the overall traffic stream has not significantly changed with recent Pacific Highway improvements.
- The local road networks and access have been and will continue to be considered throughout the project.

4.17 Tunnel

Predominant issues raised in the submissions for the tunnel options include:

- Support a tunnel option (23).
- Oppose tunnel option (46).
- T1 versus T2 preferences (51).

Main points of clarification with regard the tunnel option include:

- Both tunnel and non-tunnel alignments were considered in developing potential route options. There were two non-tunnel routes on the long list that was evaluated to determine a short list of options (Option B modified from the Bangalow to St Helena Study and one similar to Option F from the same study).
- The number of trucks using the existing highway down St Helena Hill would be substantially reduced following the opening of the upgraded highway through the tunnel.
- Option T2 may reduce the incidence of 'peak' noise events due to truck engine brakes because of the lower gradient; however the alignment is slightly closer to Ewingsdale than the T1 alignment.
- Both T1 and T2 would reduce peak noise events compared with the current situation.

4.18 Visual Impact and Urban Design

Predominant issues raised in the submissions for visual impact and urban design include:

- General visual amenity and route options preferences (127).
- Impacts to the scenic escarpment and coastal plain (96)

Main points of clarification with regard visual impact and urban design include:

- It is recognised that the highway upgrade would have a visual impact on the study area and the selection criteria used in the assessment of the preferred route reflect this scenic quality of the area.
- The landscape and visual assessment considers the scenic quality of the different landscape types within the study area, the number and type of potential viewers and their likely sensitivity to visual changes in the landscape, the distance from existing highway, the degree of exposure of the route and the likely scale of the infrastructure associated with the short-listed options.

4.19 No Issues Stated

A number (38) of feedback forms were received that did not identify any issues.

5 Agency Submissions

In addition to community submissions which Sections 3 and 4 describe, submissions have been received from a number of agencies, namely:

- Ballina Shire Council
- Byron Shire Council
- Department of Environment and Conservation
- NSW Department of Planning
- NSW Department of Primary Industries
- Jali Local Aboriginal Land Council
- Northern Rivers Regional Development Board
- Rous Water

Separate letter responses have been provided to these agencies. Appendix E summarises the issues raised by the agencies and RTA's response.

Appendix A

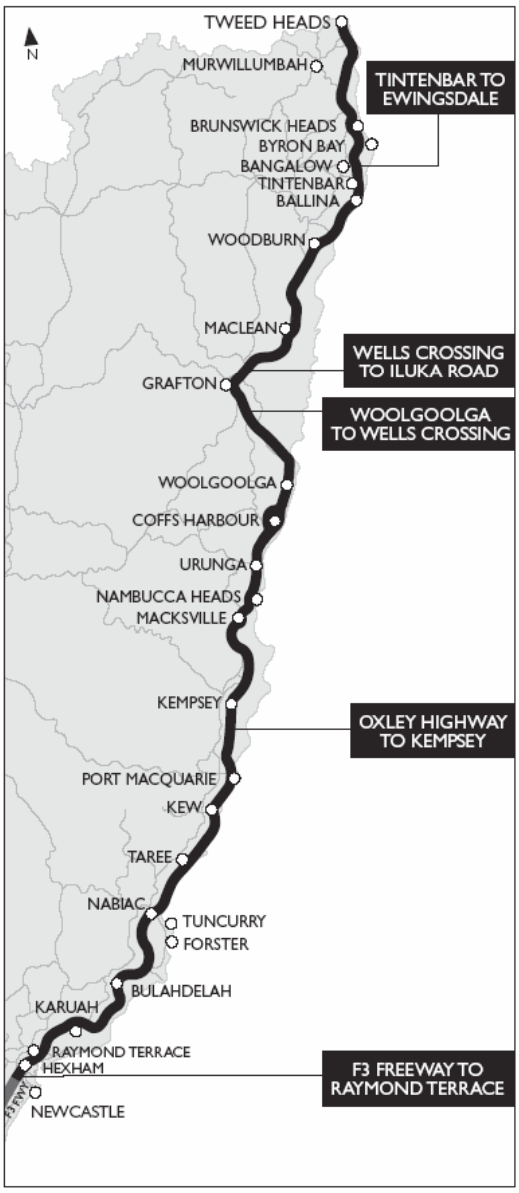
Advertisement

Pacific Highway upgrade

Route options display

The NSW Roads and Traffic Authority (RTA) is investigating options to upgrade the Pacific Highway between the F3 Freeway and the Queensland border.

A number of route options have now been identified for the projects outlined in this advertisement. The options have been developed in response to a range of geotechnical, engineering, environment and community issues.



The proposed upgrades would significantly improve safety along the Pacific Highway. Planning is being funded by the NSW State Government as part of the $2.2 billion Pacific Highway Upgrading Program.

F3 Freeway to Raymond Terrace

Route options for the 15 km of highway between the F3 Freeway, south of John Renshaw Drive and the Raymond Terrace Bypass.

For information on the route options contact the project information line: 1800 094 895 (free call)

Oxley Highway to Kempsey

Route options for the 38 km of highway between the Oxley Highway and the southern end of the dual carriageway at Maria River (near Kempsey).

For information on the route options contact the project information line: 1800 154 724 (free call)

Woolgoolga to Wells Crossing

Route options for the 28 km of highway between Woolgoolga and Wells Crossing.

For information on the route options contact the project information line: 1800 154 724 (free call)

Wells Crossing to Iluka Road

Route options for the 78 km of highway between Wells Crossing and the Iluka Road turnoff.

For information on the route options contact the project information line: 1800 557 673 (free call)

Tintenbar to Ewingsdale

Route options for the 17 km of highway between Tintenbar and Ewingsdale.

For information on the route options contact the project information line: 1800 882 787 (free call)

Have Your Say

The route options are on display for comment until **Friday 18 November 2005**. Community members are invited to comment on the proposed options during the display period. For display locations and further information please visit the website (details below) or phone the free call information line (details below).

For further information on the Pacific Highway upgrade contact the RTA on:

1800 653 092 (toll free)

www.rta.nsw.gov.au/pacific
(click on name of project)

Appendix B

Brochure

Tintenbar to Ewingsdale

Upgrading the Pacific Highway

ROUTE OPTIONS DISPLAY
OCTOBER 2005








Completing the upgrade of the Pacific Highway

Identification of route options to upgrade the Pacific Highway between Tintenbar and Ewingsdale is a key step in moves to complete the upgrade of the highway.

With the $2.2 billion Pacific Highway Upgrade Program in place since 1996, almost 230 kilometres of the highway are now double-lane divided road. A further 225 kilometres of new highway are under construction, have been approved for construction or have had a preferred upgrade route identified.

The Tintenbar to Ewingsdale upgrade is one of only seven projects for which a preferred upgrade route has not been identified. It is part of a final group of five projects which are proceeding to the route selection phase in October 2005. These five projects along with the Macksville to Urunga and Woodburn to Ballina projects, will provide preferred routes for the final 230 kilometres of the highway. This will provide planning certainty for local communities and pave the way for a construction program to complete the upgrade of the Pacific Highway.

The Pacific Highway is a road of national importance. Its upgrading is funded by State and Federal governments.

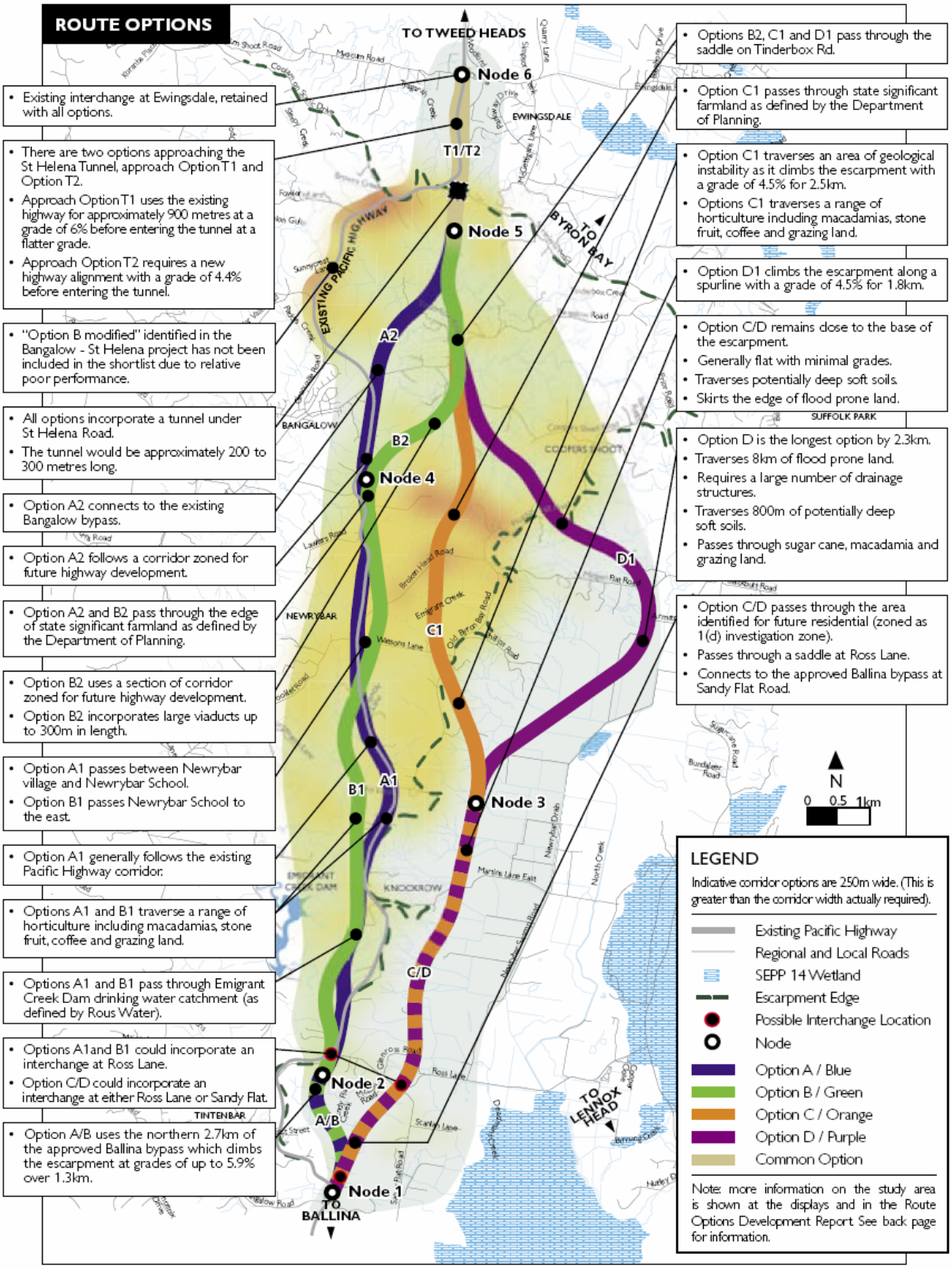
For the 10 years to June 2006 the NSW Government will have contributed $1.66 billion and the Federal Government will have contributed $660 million. For the next three years the Federal Government will match the State Government's contribution of $160 million/year.

As the Pacific Highway forms part of a national network the Federal Government should increase its contribution to be in line with its funding of other roads. Under Auslink, other highways on the national network are receiving 80% funding from the Federal Government.

To complete a high standard highway upgrade by 2016 at least $8 billion is required. The Federal Government needs to increase its annual contribution by $480 million to meet the goal of 2016 and ensure that the Pacific Highway is funded on the same basis as other highways.

This community update

This community update describes the route options that have been short listed for community consideration and the key issues associated with each of the options. The route options are on display for comment until **Friday 18 November 2005.**



- Existing interchange at Ewingsdale, retained with all options.
- There are two options approaching the St Helena Tunnel, approach Option T1 and Option T2.
- Approach Option T1 uses the existing highway for approximately 900 metres at a grade of 6% before entering the tunnel at a flatter grade.
- Approach Option T2 requires a new highway alignment with a grade of 4.4% before entering the tunnel.
- "Option B modified" identified in the Bangalow - St Helena project has not been included in the shortlist due to relative poor performance.
- All options incorporate a tunnel under St Helena Road.
- The tunnel would be approximately 200 to 300 metres long.
- Option A2 connects to the existing Bangalow bypass.
- Option A2 follows a corridor zoned for future highway development.
- Option A2 and B2 pass through the edge of state significant farmland as defined by the Department of Planning.
- Option B2 uses a section of corridor zoned for future highway development.
- Option B2 incorporates large viaducts up to 300m in length.
- Option A1 passes between Newrybar village and Newrybar School.
- Option B1 passes Newrybar School to the east.
- Option A1 generally follows the existing Pacific Highway corridor.
- Options A1 and B1 traverse a range of horticulture including macadamias, stone fruit, coffee and grazing land.
- Options A1 and B1 pass through Emigrant Creek Dam drinking water catchment (as defined by Rous Water).
- Options A1and B1 could incorporate an interchange at Ross Lane.
- Option C/D could incorporate an interchange at either Ross Lane or Sandy Flat.
- Option A/B uses the northern 2.7km of the approved Ballina bypass which climbs the escarpment at grades of up to 5.9% over 1.3km.

- Options B2, C1 and D1 pass through the saddle on Tinderbox Rd.
- Option C1 passes through state significant farmland as defined by the Department of Planning.
- Option C1 traverses an area of geological instability as it climbs the escarpment with a grade of 4.5% for 2.5km.
- Options C1 traverses a range of horticulture including macadamias, stone fruit, coffee and grazing land.
- Option D1 climbs the escarpment along a spurline with a grade of 4.5% for 1.8km.
- Option C/D remains close to the base of the escarpment.
- Generally flat with minimal grades.
- Traverses potentially deep soft soils.
- Skirts the edge of flood prone land.
- Option D is the longest option by 2.3km.
- Traverses 8km of flood prone land.
- Requires a large number of drainage structures.
- Traverses 800m of potentially deep soft soils.
- Passes through sugar cane, macadamia and grazing land.
- Option C/D passes through the area identified for future residential (zoned as 1(d) investigation zone).
- Passes through a saddle at Ross Lane.
- Connects to the approved Ballina bypass at Sandy Flat Road.

Route options information

	Option A[3]	Option B[3]	Option C[3]	Option D[3]	T1	T2
Engineering Characteristics						
Length (m)	19,800	20,150	19,720	22,050	2,520	2,510
Length of major bridges - highway (m)	660	880	560	0	0	0
Length of tunnel (m)	200 - 300	200 - 300	200 - 300	200 - 300	200 - 300	200 - 300
Length of grades exceeding 4.5% (m)	3,440	2,150	890	890	890	0
Length (m) of route that uses existing road reserve	9,860	4,890	2,240	2,240	1,750	460
Socio-Economic Characteristics						
Agricultural land directly affected (ha)[1]	380	430	400	480	40	30
Number of dwellings to be acquired[1]	73	34	25	20	-	-
Absolute community noise burden[2]	2,216	1,514	1,168	922	340	380
Environmental Characteristics						
Area of high constraint vegetation impacted (ha)[1]	16	18	23	17	5	5
Number of times a wildlife corridor is crossed[1]	2	2	4	4	1	1
Area of potential archaeological deposits directly affected (ha)[1]	0.4	3.7	3.6	2.8	0	0

Note 1: *The corridor width is the area in which the highway may be located. These details will be established during the route option development phase. It is a generic width used for measuring impacts during the evaluation of route options. The corridor width used for the assessment is 250m wide.*

Note 2: *The absolute community noise burden is the quantitative evaluation of potential annoyance caused by absolute traffic noise levels on residential receivers up to 300-500m of a route option. A lower number indicates less potential for noise annoyance.*

Note 3: *Includes Option T1 Tunnel Approach.*

About the route options

Option A / Blue

Common section A/B extends from the intersection of the current Pacific Highway and Sandy Flat Road to just south of the current intersection of the Pacific Highway with Ross Lane. Section A1 extends from this point to north of Lawlers Road (between Newrybar and Bangalow) and mostly follows the existing highway. Section A2 extends from north of Lawlers Road to south of the St Helena Ridge with about one third of the section using the existing highway before proceeding north-east into the Tinderbox Valley.

Option B / Green

Option B uses the common section A/B as described above. Approximately two thirds of Section B1 is located west of the existing highway, crossing over the highway north of Emigrant Creek. Section B2 runs from north of Lawlers Road through the undulating and sometimes steep and exposed landscape of the elevated plateau, crossing the Byron Creek Valley and following the Tinderbox Creek Valley to south of the St Helena Ridge.

Option C / Orange

Common section C/D extends from the intersection of the current Pacific Highway and Sandy Flat Road to a point west of Newrybar Swamp Road. It is largely characterised by the low-lying landscape at the foot of the escarpment and of the coastal flats, crossing a number of spurs from the escarpment. Section C1 starts at Node 3 and then climbs along the face of the escarpment until it reaches the top just south of Watsons Lane. It crosses both Old Byron Bay Road and Watsons Lane continuing through the undulating landscape of the elevated plateau. After Coopers Shoot Road, the alignment crosses the Byron Creek Valley following the Tinderbox Creek Valley to Node 5.

Option D / Purple

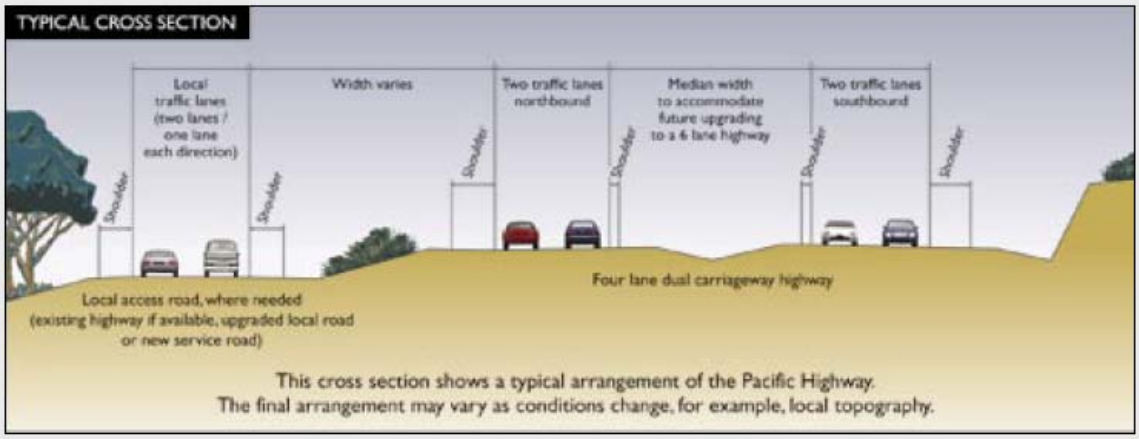
Option D uses common section C/D as described above. Section D1 extends from Node 3 to south of the St Helena Ridge, crossing the coastal flats and turning north-east around the Midgen Flat Road spur before climbing the face of the escarpment behind Hogans Bluff. After crossing Picadilly Hill Road it continues through the undulating open grazing landscape around Coopers Shoot. After Coopers Shoot Road, the alignment crosses the Byron Creek Valley and follows the Tinderbox Creek Valley to Node 5.

Common Option – Tunnel section

This section is common to all four route options and incorporates a tunnel under St Helena Road which is approximately 200-300m long. There are two northern approaches to the tunnel, named T1 and T2. Approach Option T1 uses the existing highway for approximately 900m before entering the tunnel and has a grade of 6%. Approach Option T2 requires a new highway alignment with a grade of 4.4% before entering the tunnel.

Option B Modified

This route identfied in the Bangalow-St Helena project has not been included in the shortlist due to relatively poor performance compared to other routes investigated.



The road reserve is the actual land required by the State Government for the containment of infrastructure for transport purposes. The proposed new road reserve may range in width from approximately 50 to 150m. Where required, the road reserve may include approximately 20 to 30m for a service road on one or both sides.

How will a preferred route be selected?

The proposed upgrade of the Pacific Highway between Tintenbar to Ewingsdale is being developed in a way that is both ecologically sustainable and achieves the best overall outcome for the whole community.

The RTA recognises the importance of addressing social, ecological, engineering and cost factors while continuing to provide for future transport needs. Most importantly, dual carriageway roads and fewer highway connections will result in a safer road environment.

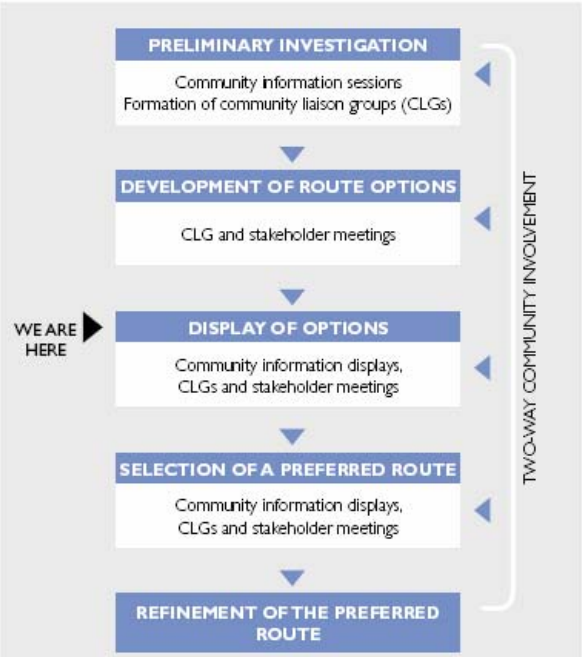
A preferred route has not been selected at this stage.

The decision will be made by considering:

1. Information on the physical impact of each of these routes - in relation to economic, ecological, engineering and community issues.
2. The community's issues and comments on these options.
3. A value management workshop. This workshop will be held with participants from the community, government and technical areas. The workshop will assess the performance of each of the route options against a range of agreed criteria.

A recommendation will be made to the Minister for Roads, Joe Tripodi MP, who will then decide the preferred route and arrange for the display of this route for further community involvement and refinement.

The process for the current study is shown here.



Future study

An environmental assessment for the preferred route will be required. This will be exhibited for community comment. Project approval would then be considered.

Display locations

These options are on display until **Friday 18 November 2005** at the locations shown below. These displays include maps that show more detail about the issues in this area, and how they relate to the route options.

- RTA Pacific Highway Office, 21 Prince Street, Grafton (Mon-Fri 8.30am-4.30pm)
- Ballina Motor Registry, Ballina West Shopping Centre, Ballina (Mon-Fri 9am-4pm)
- Lismore Motor Registry, Carrington Street, Lismore (Mon-Fri 9am-4pm)
- Ballina Shire Council, corner of Cherry and Tamar Streets, Ballina (Mon-Fri 9am-4pm)
- Byron Shire Council, 70-90 Station Street, Mullumbimby (Mon-Fri 8.30am-4.30pm)
- Newrybar Hall, Old Pacific Highway, Newrybar, (Mon-Fri 9am-4pm)

Detailed report available

The Tintenbar to Ewingsdale Route Options Development Report outlines how the options were identified, the major planning constraints and the potential impacts of each option. The report is available on the project website or by phoning the project information line (see details below). Copies of the report can be viewed at staffed display locations and the community information centre.

Community information centre

A Community Information Centre will be staffed from 26 October to 11 November 2005, on Wednesdays and Fridays from 10am to 4pm, and Thursdays from 10am to 6pm at the Bangalow Showgrounds, Station Street, Bangalow.

Staffed displays

Project staff will be available to discuss the route options in more detail at:

- Bangalow A&I Hall, Station Street, Bangalow, Saturday 29 October 2005, 9am-2pm
- Broken Head Hall, Broken Head Road, Broken Head, Friday 4 November 2005, 10am-6pm
- Lennox CWA Hall, Park Lane, Lennox Head, Saturday 5 November 2005, 9am-2pm
- Newrybar Hall, Old Pacific Highway, Newrybar, Wednesday 9 November 2005, 10am-6pm
- Ewingsdale Hall, Old Pacific Highway, Ewingsdale, Saturday 12 November 2005, 9am-2pm

Have your say

Written submissions are welcome and should be sent by close of business **Friday 18 November 2005** to the address below.

You may want to indicate your preferred option but it is important to state the reason why. Community feedback is not a vote and a route is to be selected that has the least negative impact on the community, the environment and economy. Dot points will help set out these reasons and will assist the study team.

A feedback form has been inserted into this community update, or can be obtained by contacting the project team on the freecall number below. The feedback form is reply paid.

All information in correspondence is collected for the sole purpose of assisting in the assessment of this proposal. Submissions will not be responded to individually. All information received, including names and addresses of respondents, may be published in subsequent assessment documents unless clear indication is given in the correspondence that all or part of that information is not to be published.

Please send submissions to:

Peter Waugh, Arup Project Manager
Tintenbar to Ewingsdale Pacific Highway Upgrade
Reply Paid 76
Millers Point NSW 2000

tintenbarewingsdale.upgrade@arup.com.au

www.rta.nsw.gov.au/pacific (click on Tintenbar to Ewingsdale)

1800 882 787 (Toll Free) Project Information Line

For more information contact the RTA's Project Manager, Shane Higgins:
PO Box 546 Grafton NSW 2460

T 02 6640 1000 **F** 02 6640 1001 Shane_Higgins@rta.nsw.gov.au

RTA/Pub. 05.207

Appendix C

Route Options Display Submissions

Cross Referencing Issues to Responses

The individual issues identified within written submissions have been assigned to an issue category. Each issue category is linked to a response number. The list below may be used to find the appropriate response to issues raised by individual community members.

Last Name	First Name	Issue Category	Response
Alcorn	Neville	Planning and Landuse-Route preference on basis of agricultural land impacts	86
Alexander	Tamara	Noise and Vibration-Impacts of upgrade on or near existing highw	76
		Planning and Landuse-Highway development not compatible with coastal area	90
		Strategic Planning-Inland route as an alternative option	129
		Traffic and Transport-Impact on traffic volumes	133
Allan	Grahame	Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
Allen	Cindy	No issues stated-Used for statistical purposes only	160
Allen	John	Geology, Geotechnics and Soil-Areas of instability	58
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Amor	Gary	Noise and Vibration-Impacts for upgrade away from existing highv	77
		Safety-Safety as priority in program	105
		Social and Business-Upgrade on/near existing Highway	115
Amor	H	Planning and Landuse-Route preference on basis of agricultural land impacts	86
Amor	Kathleen	Noise and Vibration-Impacts for upgrade away from existing highv	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Process-Not enough weight is given to newly affected residents	102
		Social and Business-Upgrade on/near existing Highway	115
Anderson	Allan	Engineering Design-Upgrade on/near existing highway	49
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Safety as priority in program	105
		Safety-Measures for immediate implementation	106
		Social and Business-Impact to community/livelihoods	114
Anderson	Judy & Gary	Social and Business-Impacts to economy and businesses (non-agricultural)	117
Anderson	Melissa	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over proces	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Andreou	Susanne	Land Acquisition and Compensation-Compensation arrangements	71
Annandale	Jacqui	Engineering Design-Speed limits for upgrade are excessive	46
		Strategic Planning-Inland route as an alternative option	129
Arieni	Sarah	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71

Last Name	First Name	Issue Category	Response
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Armstrong	Jim	Access-Access to/within individual properties/businesses and community facilities	4
		Community Consultation-Feedback forms	21
		Community Consultation-Uncertainty and anxiety during route selection process	31
		Engineering Design-Design guidelines for upgrade are excessive	46
		Hydrology and Water Quality-Water quality at specific location/prc	64
		Hydrology and Water Quality-Floodplain hydrology	68
		Hydrology and Water Quality-Identification of flood prone areas	69
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Noise and Vibration-Impacts of upgrade away from existing highw	77
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consideration of future residential develop	87
		Process-Inaccurate/missing/misleading information in RODR	97
		Process-Sieve 1 analysis	99
		Safety-Significance of Fog	111
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Accountability/transparency in process	125
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Visual Impact and Urban Design-Landowners amenity	158
Armstrong	John	Engineering Design-Upgrade on/near existing highway	49
Armstrong	T	Process-Criticism of route selection process	93
		Social and Business-Impacts to residents and dwellings	116
Atteridge	Aaron	Planning and Landuse-Consideration of future residential development	87
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impact to community/livelihoods	115
		Visual Impact and Urban Design-Upgrade on/near existing Highway	151
Bader	H	Community Consultation-Criticism of consultation program	18
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Planning and Landuse-Consistency with environmental planning instruments	89
		Social and Business-Impacts to residents and dwellings	116

Last Name	First Name	Issue Category	Response
Bader	Henri	Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Bagnall	William	Strategic Planning-Inland route as an alternative option	129
Bailey	Janeece	Engineering Design-Upgrade on/near existing highway	49
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
Bain	Christine	Engineering Design-Design guidelines for upgrade are excessive	46
Baker	Judith	Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impact to community/livelihoods	114
Bangalow Chamber of Commerce		Access-Local access impacts	1
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Impacts to Bangalow	76
		Noise and Vibration-Route preference on basis of noise impacts	76
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Safety as priority in program	105
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impact to Bangalow community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Tunnel-Prefer specific tunnel option	146
		Visual Impact and Urban Design-Impacts to townships	150
Bangalow Heartbeat (Editors)		Community Consultation-CEPS 4 point submission	22
		Community Consultation-Influence of lobby groups	24
		Noise and Vibration-Impacts to Bangalow	76
		Noise and Vibration-Mitigation measures	78
		Noise and Vibration-General	78
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Safety-Safety as priority in program	105
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Use of the existing highway as a tourist route	119
		Tunnel-Supported	141
Barnett	Peter	Engineering Design-Upgrade on/near existing highway	49
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Inland route as an alternative option	129
Basu	Abheek	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115

Last Name	First Name	Issue Category	Response
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Battersby	BD	Planning and Landuse-Route preference on basis of agricultural land impacts	86
Bauer	Keith	Community Consultation-Uncertainty and anxiety during route selection process	31
		Ecology-Data/Information	44
		Engineering Design-Upgrade on/near existing highway	49
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Planning and Landuse-Linking with Ballina Bypass	84
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Dual carriageway required	108
		Safety-Heavy freight vehicles	109
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Inland route as an alternative option	129
Bauer	Robyn Mary	Community Consultation-Uncertainty and anxiety during route selection process	31
		Engineering Design-Speed limits for upgrade are excessive	46
		Planning and Landuse-Linking with Ballina Bypass	84
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Dual carriageway required	108
		Strategic Planning-Inland route as an alternative option	129
Bauwach	K	Social and Business-Upgrade on/near existing Highway	115
Beacroft	Sally	Strategic Planning-Inland route as an alternative option	129
		Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
Bell	Adrian	Community Consultation-Feedback forms	21
		Community Consultation-Division of community during route selection process	30
		Community Consultation-Uncertainty and anxiety during route selection process	31
		Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Engineering Design-Upgrade on/near existing highway	49
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85

Last Name	First Name	Issue Category	Response
		Planning and Landuse-Consistency with environmental planning instruments	89
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
Bennie	David	Access-Use of existing highway for local access road/tourist drive	2
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Social and Business-Impacts to residents and dwellings	116
Bennie	Johanna	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Use of existing highway during construction	54
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Social and Business-Impacts to residents and dwellings	116
Bernard	Tony	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Bishop & Co		Access-Access to/within individual properties/businesses and community facilities	4
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Blackford	Bruce	Ecology-Impacts to the coastal plain/escarpment area	38
		Planning and Landuse-Upgrade on/near existing Highway	82
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Blackford	J	Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Visual Impact and Urban Design-Impacts to the coastal escarpment and coastal plain	155
Blackmore	Steve	Access-Access to/within individual properties/businesses and community facilities	4
		Land Acquisition and Compensation-Compensation arrangements	71
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Blaylock	Margaret	Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-An inland route is not appropriate	130
		Tunnel-Non tunnel options preferred	142
Blumer	Michelle & George	Community Consultation-Uncertainty and anxiety during route selection process	31
		Engineering Design-Upgrade on/near existing highway	49
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Land Acquisition and Compensation-Depreciation of land value as investments	74

Last Name	First Name	Issue Category	Response
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Process-Weighting of evaluation criteria	101
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Visual Impact and Urban Design-General impacts	150
Bodman	Drewin	Safety-Heavy freight vehicles	109
		Social and Business-Tourism impacts	118
		Social and Business-Health	122
		Strategic Planning-Inland route as an alternative option	129
		Tunnel-Opposed	143
Bogg	Melissa	Engineering Design-Use of existing highway during construction	54
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consistency with environmental planning instruments	89
		Process-Sustainability of project	94
		Social and Business-Impact to community/livelihoods	114
		Strategic Planning-Prioritisation of road freight industry concerns	124
Booker	Gloria & Neville	Hydrology and Water Quality-Identification of flood prone areas	69
Bordin	R	Air Quality-Impacts to the community	14
		Community Consultation-Criticism of consultation program	18
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Strategic Planning-Inland route as an alternative option	129
Bourke	S	Engineering Design-Upgrade to Class A on/near existing highway	46
		Planning and Landuse-Prime agricultural land should be avoided	85
		Safety-Measures for immediate implementation	106
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-General impacts	150
Bourne	Ashley	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Bowen	JE & MJ	Engineering Design-Upgrade on/near existing highway	49
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131

Last Name	First Name	Issue Category	Response
		Strategic Planning-Build Ballina Bypass	132
Bowler	D & H	Access-Use of existing highway for local access road/tourist drive	2
		Ecology-Impacts of upgrade are too great	35
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Upgrade away from existing highway	83
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Tunnel-Supported due to improvements in safety, noise and amenity	141
Boyd	Cameron	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Boyes	Audrey	Access-Access to/within individual properties/businesses and community facilities	4
		Air Quality-Consideration of local meteorological knowledge	17
		Ecology-Rehabilitation and revegetation projects	41
		Engineering Design-Upgrade on/near existing highway	49
		Geology, Geotechnics and Soil-Areas of instability	58
		Heritage-Non-Aboriginal	62
		Hydrology and Water Quality-Private water supply and dams	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Prime agricultural land should be avoided	85
		Safety-Significance of Fog	111
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Visual Impact and Urban Design-General impacts	150
Brady	David	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115

Last Name	First Name	Issue Category	Response
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Brecht	Paul	Engineering Design-Design guidelines for upgrade are excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Brook	Pam	Air Quality-Impacts to agriculture	11
		Community Consultation-Misrepresentation by stakeholder groups	25
		Ecology-Minimise and confine impacts	36
		Ecology-Impacts to the plateau/escarpment area	37
		Ecology-Rehabilitation and revegetation projects	41
		Ecology-Data/Information	44
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Hydrology and Water Quality-Water quality of Byron Creek	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Noise and Vibration-Impacts to St Helena/Ewingsdale	76
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Inaccurate/missing/misleading information in RODR	97
		Process-Expansion of Study Area	104
		Safety-Measures for immediate implementation	106
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Strategic Planning-Inland route as an alternative option	129
		Tunnel-Impacts of tunnel	143
		Tunnel-Noise impacts	144
Brophy	Gerard & Jenny	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Noise assessment process	81
		Safety-Safety as priority in program	105
Brown	Alan	Planning and Landuse-Linking with Ballina Bypass	84
		Planning and Landuse-Consideration of future residential development	87
		Safety-Measures for immediate implementation	106
		Strategic Planning-Build Ballina Bypass	132
Brown	Jocelyn	Engineering Design-Route preference on basis of engineering design and feasibility	51
Brown	Mark V	Engineering Design-Upgrade must comply with design guidelines	47
		Safety-Safety as priority in program	105
Browning	Scott	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128

Last Name	First Name	Issue Category	Response
		Strategic Planning-Inland route as an alternative option	129
Bruce	Garry	Access-Use of existing highway for local access road/tourist drive	2
		Access-Access to/within individual properties/businesses and community facilities	4
		Air Quality-Impacts to the community	14
		Community Consultation-Impacts to watercourses and riparian zones	43
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Disruption to services	52
		Geology, Geotechnics and Soil-Soft soils	57
		Geology, Geotechnics and Soil-Areas of instability	58
		Heritage-Non-Aboriginal	62
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Noise and Vibration-Impacts to Newrybar	76
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Noise and Vibration-Route preference on basis of noise impacts	77
		Noise and Vibration-Heavy vehicles	78
		Noise and Vibration-Mitigation measures	78
		Noise and Vibration-Noise modelling	80
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Inaccurate/missing/misleading information in RODR	97
		Safety-Safety as priority in program	105
		Safety-Measures for immediate implementation	106
		Safety-Heavy freight vehicles	109
		Safety-Significance of Fog	111
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Visual Impact and Urban Design-General impacts	150
		Visual Impact and Urban Design-Light Pollution	153
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Buchmann	Klause	No issues stated-Used for statistical purposes only	160
Bulmer	Patricia	Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Inland route as an alternative option	129

Last Name	First Name	Issue Category	Response
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Bulmer	Trent John	Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Burless	Cornelia	Access-Access to/within individual properties/businesses and community facilities	4
		Community Consultation-Feedback forms	21
		Community Consultation-CEPS 4 point submission	22
		Community Consultation-Request for new CLG	29
		Heritage-Non-Aboriginal	62
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Noise and Vibration-General	78
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Inaccurate/missing/misleading information in RODR	97
		Process-Too much weight is given to newly affected residents	103
		Social and Business-Impact to Bangalow community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Social and Business-Tourism impacts	118
		Social and Business-Use of the existing highway as a tourist route	119
		Visual Impact and Urban Design-Impacts to townships	150
Burnett	Alan	Community Consultation-Influence of lobby groups	24
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Noise and Vibration-Noise modelling	80
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Upgrade should be completed as soon as possible	127
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Burnett	Kerrie	Community Consultation-Influence of lobby groups	24
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Noise and Vibration-Noise modelling	80
		Process-Weighting of evaluation criteria	101
		Social and Business-Impact to community/livelihoods	114

Last Name	First Name	Issue Category	Response
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Burns	Steven	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Burrows	John	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Noise and Vibration-Route preference on basis of noise impacts	76
Butler	Jenny	Engineering Design-Upgrade on/near existing highway	49
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Buttigieg	Paul	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Social and Business-Impact to community/livelihoods	114
Buultjen	J	Engineering Design-Upgrade on/near existing highway	49
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
Byrnes	Peter	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Byron Bay Land Development P/L		Access-Access to/within individual properties/businesses and community facilities	4
		Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Water quality of Byron Creek	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Impacts to wetlands	67
		Hydrology and Water Quality-Identification of flood prone areas	69

Last Name	First Name	Issue Category	Response
		Noise and Vibration-Route preference on basis of noise impacts	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Linking with Ballina Bypass	84
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Land trapped between existing roads and the upgraded highway	91
		Safety-Significance of Fog	111
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to Newrybar School	120
		Traffic and Transport-Traffic Movement - Impacts to Local Road Networks	137
		Visual Impact and Urban Design-Impacts to townships	150
Cantrill	Scott	Air Quality-Flatter grades will lower emissions	7
		Ecology-Impacts to watercourses and riparian zones	43
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Use of existing highway during construction	54
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Water quality of Platypus Creek	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Upgrade away from existing highway	83
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Use of the existing highway as a tourist route	119
		Social and Business-Impacts to Newrybar School	120
		Traffic and Transport-Traffic Movement - Impacts to Local Road Networks	137
Cariss	Paul	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Social and Business-Impacts to residents and dwellings	116
Carlopio	Bronte	Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
		Traffic and Transport-Traffic Movement - Impacts to Local Road Networks	137
Carlopio	J & B	Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
Carlson	Shayne	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115

Last Name	First Name	Issue Category	Response
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Cartwright	Leann	Engineering Design-Upgrade to Class A on/near existing highway	46
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-General	78
		Planning and Landuse-Upgrade on/near existing Highway	82
		Safety-Measures for immediate implementation	106
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Visual Impact and Urban Design-General impacts	150
Cartwright	Peter	Engineering Design-Upgrade to Class A on/near existing highway	46
		Engineering Design-Upgrade on/near existing highway	49
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-General	78
		Planning and Landuse-Upgrade on/near existing Highway	82
		Safety-Measures for immediate implementation	106
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Visual Impact and Urban Design-General impacts	150
Casey Family		Engineering Design-Upgrade on/near existing highway	49
		Social and Business-Impacts to residents and dwellings	116
		Visual Impact and Urban Design-General impacts	150
Catchpoole	AD	Access-Interchanges and access onto/off the upgraded highway	3
		Engineering Design-Cost estimations	53
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Noise and Vibration-Noise assessment process	81
		Process-Quality of RODR	96
		Process-Sieve 1 analysis	99
		Process-Expansion of Study Area	104
		Safety-Measures for immediate implementation	106
		Safety-Significance of Fog	111
		Strategic Planning-Upgrade should not be fast tracked	128
		Traffic and Transport-Travel times	140
Catchpoole	Daphne	Community Consultation-Criticism of consultation program	18
		Community Consultation-CLG Confidentiality	27
		Ecology-Minimise and confine impacts	36
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Noise and Vibration-Impacts for upgrade away from existing highway	77
		Planning and Landuse-Prime agricultural land should be avoided	85
		Process-Pairwise analysis	98
		Process-Expansion of Study Area	104

Last Name	First Name	Issue Category	Response
		Safety-All options require upgrade to the same safety standards	107
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Tourism impacts	118
		Strategic Planning-Alternative route(s) should be considered	131
		Tunnel-Non tunnel options preferred	142
		Tunnel-Fog	145
Catchpoole	David	Engineering Design-Upgrade on/near existing highway	49
Chapman	K & C	Noise and Vibration-Impacts to Tintenbar	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Measures for immediate implementation	106
Chapple	Julia	Engineering Design-Upgrade to Class A on/near existing highway	46
		Strategic Planning-Inland route as an alternative option	129
		Tunnel-Opposed	143
Chegwyn	Asa	Engineering Design-Upgrade on/near existing highway	49
		Tunnel-Opposed	143
Chegwyn	David	Community Consultation-Criticism of consultation program	18
		Community Consultation-Uncertainty and anxiety during route selection process	31
		Engineering Design-Upgrade on/near existing highway	49
		Land Acquisition and Compensation-Compensation arrangements	71
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Consistency with environmental planning instruments	89
		Process-Expansion of Study Area	104
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Ciavola	Nadine	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Social and Business-Impact to community/livelihoods	114
Clark	Fiona	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Clarke	Raymond	Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Strategic Planning-Inland route as an alternative option	129
Cole	Aileen	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Noise and Vibration-Route preference on basis of noise impacts	76

Last Name	First Name	Issue Category	Response
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Fog	112
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
Coles	Chad	Strategic Planning-Inland route as an alternative option	129
Connable	Brett	Access-Interchanges and access onto/off the upgraded highway	3
		Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Engineering Design-Upgrade on/near existing highway	49
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Connable	Leone	Access-Interchanges and access onto/off the upgraded highway	3
		Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Engineering Design-Upgrade on/near existing highway	49
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Conner	A	Engineering Design-Design guidelines for upgrade are excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Connor	J	Air Quality-Impacts to the community	14
		Community Consultation-Criticism of consultation program	18
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Strategic Planning-Inland route as an alternative option	129
Constable	Garren	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Conway	Kalindi	Engineering Design-Upgrade on/near existing highway	49
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Cook	Carol	Community Consultation-Influence of lobby groups	24
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Impacts to Bangalow	76
		Social and Business-Impacts to residents and dwellings	116
		Tunnel-Prefer specific tunnel option	146
Cook	Colin	Air Quality-Flatter grades will lower emissions	7
		Community Consultation-CEPS 4 point submission	22
		Community Consultation-Community representation by CLG members	26

Last Name	First Name	Issue Category	Response
		Engineering Design-Upgrade should not be on/near existing highway	50
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Noise and Vibration-Impacts to Bangalow	76
		Noise and Vibration-Route preference on basis of noise impacts	76
Cooke	Ian	Community Consultation-Influence of lobby groups	24
		Community Consultation-Misrepresentation by stakeholder groups	25
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Planning and Landuse-Consistency with environmental planning instruments	89
		Social and Business-Impact to community/livelihoods	114
		Strategic Planning-Political motives	123
Cooke	Jane	Hydrology and Water Quality-Impacts to water catchment areas	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Impacts to Newrybar School	120
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Cooke	Penny	Engineering Design-Route preference on basis of engineering design and feasibility	51
Cornwall	Jacob	Engineering Design-Upgrade on/near existing highway	49
Cornwell	Belinda	Air Quality-Health impacts	9
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Strategic Planning-Alternative route(s) should be considered	131
Cornwell	Eric	Engineering Design-Upgrade on/near existing highway	49
Cornwell	Leon	Engineering Design-Upgrade on/near existing highway	49
Cornwell	Mikaela	Visual Impact and Urban Design-Impacts to scenic escarpment	154
Cornwell	S	Engineering Design-Upgrade on/near existing highway	49
Costigan	Jennifer	Air Quality-Impacts to water quality	13
		Community Consultation-Community representation by CLG members	26
		Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade away from existing highway	83
		Planning and Landuse-Route preference on basis of agricultural land impacts	86

Last Name	First Name	Issue Category	Response
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Planning and Landuse-Consistency with environmental planning instruments	89
		Process-Inaccurate/missing/misleading information in RODR	97
		Social and Business-Impact to community/livelihoods	114
		Strategic Planning-Prioritisation of road freight industry concerns	124
Coulthurst	Roger	Engineering Design-Upgrade on/near existing highway	49
		Land Acquisition and Compensation-Compensation arrangements	71
		Access-Use of existing highway for local access road/tourist drive	2
		Social and Business-Upgrade on/near existing Highway	115
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Court	Sean	Engineering Design-Route preference on basis of engineering design and feasibility	51
Cox	Deb	Access-Local access impacts	1
		Access-Interchanges and access onto/off the upgraded highway	3
		Noise and Vibration-Impacts to St Helena/Ewingsdale	76
		Safety-Safety as priority in program	105
		Strategic Planning-Political motives	123
		Strategic Planning-Alternative route(s) should be considered	131
		Tunnel-Prefer specific tunnel option	146
		Visual Impact and Urban Design-Upgrade on/near existing Highway	151
		Visual Impact and Urban Design-Landowners amenity	158
Craig	Helen	Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Planning and Landuse-Prime agricultural land should be avoided	85
		Safety-Measures for immediate implementation	106
		Strategic Planning-Inland route as an alternative option	129
Craig	Helen & Alan	Community Consultation-Community representation by CLG members	26
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Engineering Design-Upgrade on/near existing highway	49
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Noise and Vibration-Heavy vehicles	78
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Safety-Measures for immediate implementation	106
		Safety-Heavy freight vehicles	109

Last Name	First Name	Issue Category	Response
		Social and Business-Impact to Newrybar Village community/livelihoods	114
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Traffic and Transport-Impact on traffic volumes	133
Craike	Karen	Social and Business-Upgrade on/near existing Highway	115
Crethar	Kaye	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
Crethar	Leisa	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Crethar	Simon	Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Noise and Vibration-Route preference on basis of noise impacts	76
Cristini	Laura	Engineering Design-Upgrade to Class A on/near existing highway	46
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Planning and Landuse-Consideration of future residential development	87
		Social and Business-Tourism impacts	118
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-General impacts	150
Crosby	Robin	Air Quality-Vehicle emissions and greenhouse/global warming	5
		Planning and Landuse-Prime agricultural land should be avoided	85
		Process-Quality of RODR	96
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
Curnow	JA	Community Consultation-Response to community correspondence	23
		Ecology-Impacts to remnant and native vegetation	42
		Ecology-Data/Information	44
		Engineering Design-Disruption to services	52
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Hydrology and Water Quality-Water quality of Knockrow Creek	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Hydrology and Water Quality-Impacts to bores	66
Curnow	JA & BA	Air Quality-Impacts to water quality	13

Last Name	First Name	Issue Category	Response
		Air Quality-Consideration of local meteorological knowledge	17
		Community Consultation-Response to community correspondence	23
		Community Consultation-Request for new CLG	29
		Ecology-Impacts to the plateau/escarpment area	37
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Water quality of Knockrow Creek	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Planning and Landuse-Upgrade away from existing highway	83
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Weighting of landuse criteria	92
		Process-Criticism of route selection process	93
		Process-Constraints mapping	100
		Safety-Fog	112
		Social and Business-Impact to community/livelihoods	114
Cusack	Katharine	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Cuss	Amanda	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Dall	Ian	Community Consultation-Community representation by CLG members	26
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Flooding as a non or insignificant issue	70

Last Name	First Name	Issue Category	Response
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Process-Criticism of route selection process	93
Darroch	Carol	Access-Local access impacts	1
		Access-Use of existing highway for local access road/tourist drive	2
		Community Consultation-Influence of lobby groups	24
		Community Consultation-Division of community during route selection process	30
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Noise and Vibration-Route preference on basis of noise impacts	76
		Noise and Vibration-General	78
		Safety-Safety as priority in program	105
		Social and Business-Impacts to residents and dwellings	116
		Tunnel-Prefer specific tunnel option	146
Dart	Ainslee	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Darurle	S	Engineering Design-Design guidelines for upgrade are excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Davies	Alison	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Davies	Greg	Hydrology and Water Quality-Impacts to water catchment areas	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Upgrade away from existing highway	83
		Planning and Landuse-Route preference on basis of agricultural land impacts	86

Last Name	First Name	Issue Category	Response
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Davies	Sue	Community Consultation-Consideration of submissions	22
		Safety-Measures for immediate implementation	106
		Social and Business-Impact to community/livelihoods	114
		Strategic Planning-Inland route as an alternative option	129
Davis	GB	Access-Local access impacts	1
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Use of existing highway during construction	54
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Tunnel-Prefer specific tunnel option	146
Davis	Simon	Community Consultation-Influence of lobby groups	24
De Lorme	M	Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Use of existing highway during construction	54
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Land trapped between existing roads and the upgraded highway	91
		Safety-Safety as priority in program	105
		Safety-Significance of Fog	111
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Traffic and Transport-Travel times	140
		Tunnel-Supported due to improvements in safety, noise and amenity	141
		Tunnel-Noise considerations	148
		Tunnel-Impact to Ewingsdale	149
Deards	Robert	Community Consultation-Criticism of consultation program	18
		Community Consultation-Feedback forms	21
		Community Consultation-Consideration of submissions	22
		Community Consultation-Influence of lobby groups	24
		Community Consultation-Division of community during route selection process	30
		Community Consultation-Uncertainty and anxiety during route selection process	31
		Community Consultation-Route announcement methodology	34
		Ecology-Minimise and confine impacts	36
		Ecology-Rehabilitation and revegetation projects	41
		Engineering Design-Footprint width	48
		Engineering Design-Route preference on basis of engineering design and feasibility	51

Last Name	First Name	Issue Category	Response
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Impacts to waterways	64
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Hydrology and Water Quality-Private water supply and dams	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Hydrology and Water Quality-Hydrology	68
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Process-Inaccurate/missing/misleading information in RODR	97
		Process-Weighting of evaluation criteria	101
		Safety-Safety as priority in program	105
		Strategic Planning-Political motives	123
		Strategic Planning-Accountability/transparency in process	125
		Visual Impact and Urban Design-General impacts	150
del Villar	Rosanna	Ecology-Impacts to the coastal plain/escarpment area	38
		Noise and Vibration-Impacts to Newrybar	76
		Safety-School transportation	110
Delian	Bree	Ecology-Impacts to the coastal plain/escarpment area	38
		Social and Business-Upgrade on/near existing Highway	115
Dempster	Susan	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Denardi	Robert	Social and Business-Impact to Bangalow community/livelihoods	114
		Social and Business-Use of the existing highway as a tourist route	119
Devine	Kathy	Planning and Landuse-Prime agricultural land should be avoided	85
		Safety-Safety as priority in program	105
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Tourism impacts	118
		Strategic Planning-Inland route as an alternative option	129
DeWeaver	LH	Community Consultation-Scope of consultation program	20
		Planning and Landuse-Prime agricultural land should be avoided	85
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-General impacts	150
Dietrich	K	Air Quality-Impacts to the community	14
		Community Consultation-Criticism of consultation program	18
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85

Last Name	First Name	Issue Category	Response
		Strategic Planning-Inland route as an alternative option	129
Diggins	Gary	Engineering Design-Route preference on basis of engineering design and feasibility	51
Dingjam	L & F	Safety-Safety as priority in program	105
		Safety-Measures for immediate implementation	106
		Tunnel-Prefer specific tunnel option	146
Doherty	Sarah	Air Quality-Impacts to the community	14
		Community Consultation-Criticism of consultation program	18
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Strategic Planning-Inland route as an alternative option	129
Donaldson	Tony	Air Quality-Increased truck traffic	6
		Noise and Vibration-Heavy vehicles	78
		Strategic Planning-Inland route as an alternative option	129
		Tunnel-Supported	141
		Visual Impact and Urban Design-General impacts	150
Donoghoe	Philip	Access-Use of existing highway for local access road/tourist drive	2
		Community Consultation-CEPS 4 point submission	22
		Engineering Design-Upgrade must comply with design guidelines	47
		Engineering Design-Upgrade should not be on/near existing highway	50
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Use of existing highway during construction	54
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Safety-Measures for immediate implementation	106
		Safety-Heavy freight vehicles	109
		Social and Business-Impacts to residents and dwellings	116
		Traffic and Transport-Impact on traffic volumes	133
Dorey	Col	Access-Access to/within individual properties/businesses and community facilities	4
		Air Quality-Health impacts	9
		Air Quality-Impacts to the community	14
		Ecology-Impacts due to light pollution	40
		Ecology-Rehabilitation and revegetation projects	41
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Acid sulfate soils	59
		Geology, Geotechnics and Soil-Issues at Newrybar Swamp	60
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Hydrology and Water Quality-Floodplain hydrology	68
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Noise and Vibration-Noise modelling	80
		Noise and Vibration-Noise assessment process	81
		Process-Expansion of Study Area	104
		Safety-Significance of Fog	111
		Safety-Sun glare	113
		Traffic and Transport-Travel times	140
		Visual Impact and Urban Design-Cuttings and bridges	152

Last Name	First Name	Issue Category	Response
		Visual Impact and Urban Design-Light Pollution	153
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Dorey	Ken	Ecology-Data/Information	44
Dumpletin	Ken	Community Consultation-Scope of consultation program	20
		Safety-Heavy freight vehicles	109
		Traffic and Transport-Traffic Movement - Impacts to Local Road Networks	137
Dwyer	SO	Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
East	Lois	Ecology-Minimise and confine impacts	36
		Engineering Design-Number of lanes for upgrade is excessive	46
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Noise and Vibration-Noise modelling	80
		Planning and Landuse-Consideration of future residential development	87
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Visual Impact and Urban Design-Upgrade on/near existing Highway	151
Edwards	Rick	Engineering Design-Design guidelines for upgrade are excessive	46
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Social and Business-Use of the existing highway as a tourist route	119
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Upgrade on/near existing Highway	151
Ellis	Patricia	Access-Interchanges and access onto/off the upgraded highway	3
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Traffic and Transport-Heavy vehicle access	136
Elsworth	FD	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Route preference on basis of noise impacts	76
		Social and Business-Impacts to residents and dwellings	116
Elton	Peter	Land Acquisition and Compensation-Compensation arrangements	71
		Safety-Safety as priority in program	105
Engl	Renee	Access-Interchanges and access onto/off the upgraded highway	3
		Air Quality-Increased truck traffic	6

Last Name	First Name	Issue Category	Response
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Engineering Design-Upgrade on/near existing highway	49
		Noise and Vibration-Heavy vehicles	78
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Engler	Holly	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Epsten	Daniel	Engineering Design-Design guidelines for upgrade are excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Erskine	Carol	Ecology-Impacts to wetland ecology on coastal plain	39
		Geology, Geotechnics and Soil-Soft soils	57
		Safety-Measures for immediate implementation	106
		Social and Business-Impacts to residents and dwellings	116
Evans	Lyn & Bob	Access-Interchanges and access onto/off the upgraded highway	3
		Community Consultation-Criticism of consultation program	18
		Community Consultation-Influence of lobby groups	24
		Community Consultation-Division of community during route selection process	30
		Community Consultation-Uncertainty and anxiety during route selection process	31
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Soft soils	57
		Hydrology and Water Quality-Identification of flood prone areas	69
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Criticism of route selection process	93
		Process-Weighting of evaluation criteria	101
		Safety-Significance of Fog	111
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Visual Impact and Urban Design-General impacts	150
Ewald	Dan	Air Quality-Vehicle emissions and greenhouse/global warming	5
		Community Consultation-Criticism of consultation program	18
		Ecology-Minimise and confine impacts	36
		Ecology-Impacts to wetland ecology on coastal plain	39

Last Name	First Name	Issue Category	Response
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Hydrology and Water Quality-Hydrology	68
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Noise and Vibration-Noise assessment process	81
		Planning and Landuse-Upgrade on/near existing Highway	82
		Process-Inaccurate/missing/misleading information in RODR	97
		Safety-Heavy freight vehicles	109
		Safety-Significance of Fog	111
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to Newrybar School	120
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-General impacts	150
		Visual Impact and Urban Design-Upgrade on/near existing Highway	151
Ewingsdale Hall & Progress Association		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Impacts to St Helena/Ewingsdale	76
		Process-Weighting of evaluation criteria	101
		Safety-Safety as priority in program	105
Exley	Kerrie	Engineering Design-Upgrade to Class A on/near existing highway	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
Farrand	Peter	Noise and Vibration-Heavy vehicles	78
		Visual Impact and Urban Design-Upgrade on/near existing Highway	151
Fauser	Rodney	Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Feehan	Madeleine	No issues stated-Used for statistical purposes only	160
Fenton	Garry	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Build Ballina Bypass	132
Fenwick	Ian	Community Consultation-Division of community during route selection process	30
		Community Consultation-Impacts to Broken Head National Park	38
		Ecology-Data/Information	44
		Engineering Design-Upgrade must comply with design guidelines	47
		Engineering Design-Cost estimations	53
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Hydrology and Water Quality-Floodplain hydrology	68

Last Name	First Name	Issue Category	Response
		Hydrology and Water Quality-Identification of flood prone areas	69
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Noise and Vibration-Mitigation measures	78
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Expansion of Study Area	104
		Safety-Safety as priority in program	105
		Safety-Significance of Fog	111
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Strategic Planning-An inland route is not appropriate	130
		Traffic and Transport-Through traffic needs	138
		Visual Impact and Urban Design-Light Pollution	153
		Visual Impact and Urban Design-Landowners amenity	158
Ferns	T & E	Planning and Landuse-Prime agricultural land should be avoided	85
		Safety-Safety as priority in program	105
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
Fiford	Jim	Engineering Design-Upgrade to Class A on/near existing highway	46
		Safety-Measures for immediate implementation	106
		Safety-Significance of Fog	111
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
Fiford (Jim) & Hollis (Jocelyn)		Ecology-Impacts to the plateau/escarpment area	37
		Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Upgrade to Class M highway is excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Geology, Geotechnics and Soil-Soft soils	57
		Geology, Geotechnics and Soil-Areas of instability	58
		Geology, Geotechnics and Soil-Issues at Newrybar Swamp	60
		heritage-Aboriginal	61
		heritage-Preservation	63
		Hydrology and Water Quality-Identification of flood prone areas	69
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consideration of future residential development	87
		Planning and Landuse-Consistency with environmental planning instruments	89
		Process-Criticism of route selection process	93
		Safety-Significance of Fog	111
		Social and Business-Impact to community/livelihoods	115

Last Name	First Name	Issue Category	Response
		Traffic and Transport-Impact of project delay on traffic volumes	134
		Traffic and Transport-Travel times	140
		Visual Impact and Urban Design-Route preference to minimise impacts	150
		Visual Impact and Urban Design-Cuttings and bridges	152
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Fizzell	Steve	Noise and Vibration-Impacts to Bangalow	76
Flick	John	Access-Access to/within individual properties/businesses and community facilities	4
		Air Quality-Impacts to the community	14
		Ecology-Minimise and confine impacts	36
		Geology, Geotechnics and Soil-Soft soils	57
		Hydrology and Water Quality-Floodplain hydrology	68
		Noise and Vibration-Noise modelling	80
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consideration of future residential development	87
		Safety-Safety as priority in program	105
		Safety-Significance of Fog	111
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Flick	Keith	Social and Business-Impacts to residents and dwellings	116
Flick	SM	Social and Business-Impacts to residents and dwellings	116
Franks	E	Air Quality-Impacts to the community	14
		Community Consultation-Criticism of consultation program	18
		Engineering Design-Design guidelines for upgrade are excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Fraser	Brian	Access-Local access impacts	1
		Air Quality-Construction and dust impacts	12
		Ecology-Impacts to the plateau/escarpment area	37
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Water quality of Byron Creek	64
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Noise and Vibration-Construction	79
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Quality of RODR	96
		Social and Business-Impact to Bangalow community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Visual Impact and Urban Design-Route preference to minimise impacts	150

Last Name	First Name	Issue Category	Response
		Visual Impact and Urban Design-Route preference on or near the existing highway to minimise impacts	151
Fulton	E	Land Acquisition and Compensation-Compensation arrangements	71
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Planning and Landuse-Upgrade on/near existing Highway	82
Gale	Marie	Access-Local access impacts	1
		Access-Interchanges and access onto/off the upgraded highway	3
		Air Quality-Vehicle emissions and greenhouse/global warming	5
		Engineering Design-Design guidelines for upgrade are excessive	46
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Impacts to Newrybar	76
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Highway development not compatible with coastal area	90
		Process-Sustainability of project	94
		Safety-Safety as priority in program	105
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to Newrybar School	120
		Strategic Planning-Political motives	123
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Traffic and Transport-Impact on traffic volumes	133
Gannon	Margaret	Community Consultation-Uncertainty and anxiety during route selection process	31
		Ecology-Rehabilitation and revegetation projects	41
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Planning and Landuse-Prime agricultural land should be avoided	85
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-General impacts	150
Gannon	Mathew	Ecology-Minimise and confine impacts	36
		Ecology-Data/Information	44
		Engineering Design-Upgrade on/near existing highway	49
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Disruption to services	52
		Planning and Landuse-Prime agricultural land should be avoided	85
		Process-Inaccurate/missing/misleading information in RODR	97
		Safety-Safety as priority in program	105
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Tunnel-Fog	145
Gannon	Paul	Community Consultation-Community representation by CLG members	26
		Ecology-Data/Information	44

Last Name	First Name	Issue Category	Response
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Cost estimations	53
		Geology, Geotechnics and Soil-Soft soils	57
		Geology, Geotechnics and Soil-Issues at Coopers Shoot	60
		Geology, Geotechnics and Soil-Issues at Piccadilly Hill Road	60
		Hydrology and Water Quality-Private water supply and dams	64
		Noise and Vibration-Noise modelling	80
		Noise and Vibration-Noise assessment process	81
		Process-Quality of RODR	96
		Process-Inaccurate/missing/misleading information in RODR	97
		Process-Pairwise analysis	98
		Process-Not enough weight is given to newly affected residents	102
		Social and Business-Impact to community/livelihoods	115
		Tunnel-Fog	145
Gannon	Paul & Margaret	Ecology-Rehabilitation and revegetation projects	41
		Heritage-Non-Aboriginal	62
		Hydrology and Water Quality-Private water supply and dams	64
		Noise and Vibration-Noise modelling	80
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Tourism impacts	118
Gannon (Petition)	Margaret	Ecology-Impacts to the coastal plain/escarpment area	38
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Process-Expansion of Study Area	104
		Social and Business-Upgrade on/near existing Highway	115
Garbutt	Darryl	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Geddes	Fahey	Community Consultation-Influence of lobby groups	24
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Prime agricultural land should be avoided	85
		Safety-Safety as priority in program	105
Geelhoed	Melinda	Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Planning and Landuse-Upgrade away from existing highway	83
		Planning and Landuse-Prime agricultural land should be avoided	85

Last Name	First Name	Issue Category	Response
		Planning and Landuse-Consistency with environmental planning instruments	89
		Strategic Planning-Prioritisation of road freight industry concerns	124
Geelhoed	Steven	Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Planning and Landuse-Upgrade away from existing highway	83
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Consistency with environmental planning instruments	89
		Strategic Planning-Prioritisation of road freight industry concerns	124
Gianatti	Vince	Community Consultation-Response to community correspondence	23
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Noise and Vibration-Mitigation measures	78
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consideration of future residential development	87
		Process-Inaccurate/missing/misleading information in RODR	97
		Social and Business-Impact to community/livelihoods	114
Gianatti	Vince & Wanda	Hydrology and Water Quality-Private water supply and dams	64
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Inaccurate/missing/misleading information in RODR	97
		Traffic and Transport-Impact of project delay on traffic volumes	134
Gilding	Tony	Community Consultation-Scope of consultation program	20
		Community Consultation-Feedback forms	21
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Land Acquisition and Compensation-Compensation arrangements	71
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Noise and Vibration-Mitigation measures	78
		Social and Business-Tourism impacts	118
		Strategic Planning-Accountability/transparency in process	125
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
Gillmore	Ged	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38

Last Name	First Name	Issue Category	Response
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Gillott	Andrew	Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Linking with Ballina Bypass	84
Glasson	Craig	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Social and Business-Impacts to residents and dwellings	116
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Goffett	Paul	Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Upgrade on/near existing highway	49
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Hydrology and Water Quality-Identification of flood prone areas	69
		Safety-Significance of Fog	111
Goffett	Tanya	Ecology-Impacts to the coastal plain/escarpment area	38
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Hydrology and Water Quality-Identification of flood prone areas	69
		Planning and Landuse-Upgrade on/near existing Highway	82
		Safety-Significance of Fog	111
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Gotterson	Tim & Ruth	Ecology-Rehabilitation and revegetation projects	41
		Engineering Design-Upgrade on/near existing highway	49
		Planning and Landuse-Consistency with environmental planning instruments	89
		Safety-Significance of Fog	111
		Strategic Planning-Inland route as an alternative option	129
Gould	Barbara	Noise and Vibration-Noise modelling	80
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Strategic Planning-Build Ballina Bypass	132
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Greenaway	Kate	Hydrology and Water Quality-Impacts to waterways	64
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Planning and Landuse-Prime agricultural land should be avoided	85
		Strategic Planning-Inland route as an alternative option	129
Greenlees	Narelle	Noise and Vibration-Mitigation measures	78
		Social and Business-Upgrade on/near existing Highway	115
		Visual Impact and Urban Design-Impacts to the coastal escarpment and coastal plain	155
Greenwood	Malcolm	Ecology-Rehabilitation and revegetation projects	41

Last Name	First Name	Issue Category	Response
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
Gresham	Nicola	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Grier	Delene	Access-Interchanges and access onto/off the upgraded highway	3
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Impacts to Knockrow	76
		Planning and Landuse-Prime agricultural land should be avoided	85
		Strategic Planning-Inland route as an alternative option	129
Grimshaws	Bennie	Engineering Design-Upgrade on/near existing highway	49
		Tunnel-Opposed	143
Grzegrzulka	Richard	Community Consultation-Feedback forms	21
		Community Consultation-Division of community during route selection process	30
		Engineering Design-Upgrade on/near existing highway	49
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Noise and Vibration-Noise assessment process	81
		Process-Criticism of route selection process	93
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Visual Impact and Urban Design-General impacts	150
		Visual Impact and Urban Design-Impacts to the coastal escarpment and coastal plain	155
Grzegrzulka	Richard & Robyn	Planning and Landuse-Upgrade on/near existing Highway	82
Grzegrzulka	Robyn	Engineering Design-Upgrade to Class A on/near existing highway	46
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Gundersen	Mark	Community Consultation-Influence of lobby groups	24
		Community Consultation-Community are not equipped to make ju	33
		Safety-Safety as priority in program	105
Hagley	Richard	Ecology-Minimise and confine impacts	36
		Engineering Design-Upgrade on/near existing highway	49
		Planning and Landuse-Prime agricultural land should be avoided	85
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Visual Impact and Urban Design-General impacts	150
Hale	Mitchell	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71

Last Name	First Name	Issue Category	Response
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Hale	Tara	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Hamilton	Katrina	Planning and Landuse-Prime agricultural land should be avoided	85
Hampton	Brian & Lesley	Noise and Vibration-General	78
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
Hand	M	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Harding	Judy	Engineering Design-Upgrade on/near existing highway	49
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Harford	Heather	Engineering Design-Upgrade to Class A on/near existing highway	46
		Strategic Planning-Inland route as an alternative option	129
Harper	Derek	Engineering Design-Design guidelines for upgrade are excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Harper	Jack	Community Consultation-Criticism of consultation program	18
		Community Consultation-Division of community during route selection process	30
		Community Consultation-Landholders forced to defend properties during route selection process	32
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Soft soils	57
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Hydrology and Water Quality-Identification of flood prone areas	69
		Land Acquisition and Compensation-Compensation arrangements	71

Last Name	First Name	Issue Category	Response
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Weighting of evaluation criteria	101
		Process-Expansion of Study Area	104
		Process-Expansion of Study Area	104
		Safety-Safety as priority in program	105
		Safety-Significance of Fog	111
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Tourism impacts	118
		Strategic Planning-Build Ballina Bypass	132
		Tunnel-Fog	145
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Harris	Rex	Ecology-Rehabilitation and revegetation projects	41
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Traffic and Transport-Pedestrian and cyclist use	135
Hart	Tamara	Ecology-Rehabilitation and revegetation projects	41
		Social and Business-Impacts to residents and dwellings	116
		Visual Impact and Urban Design-General impacts	150
Hawkins	P	Air Quality-Vehicle emissions and greenhouse/global warming	5
		Engineering Design-Road infrastructure maintenance costs from truck usage	56
		Noise and Vibration-Heavy vehicles	78
		Process-Sustainability of project	94
		Process-Expansion of Study Area	104
		Safety-Measures for immediate implementation	106
		Safety-Heavy freight vehicles	109
		Social and Business-Tourism impacts	118
		Strategic Planning-Accountability/transparency in process	125
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Visual Impact and Urban Design-Upgrade on/near existing Highway	151
Hay	Christine	Air Quality-Vehicle emissions and greenhouse/global warming	5
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Noise and Vibration-Impacts to Bangalow	76
		Safety-Heavy freight vehicles	109
		Strategic Planning-Accountability/transparency in process	125
		Strategic Planning-Upgrade should be completed as soon as possible	127
Hayes	Ian & Bev	Air Quality-Flatter grades will lower emissions	7

Last Name	First Name	Issue Category	Response
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Safety-Measures for immediate implementation	106
		Safety-Heavy freight vehicles	109
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to Newrybar School	120
		Strategic Planning-Alternative route(s) should be considered	131
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Haylock	Tracie	Process-Too much weight is given to newly affected residents	103
		Social and Business-Impacts to residents and dwellings	116
Hayter	Elvin	Engineering Design-Footprint width	48
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Process-Too much weight is given to newly affected residents	103
		Safety-Measures for immediate implementation	106
		Strategic Planning-Build Ballina Bypass	132
Henry	Esabel	Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Henry	Lana	Access-Local access impacts	1
		Safety-Safety as priority in program	105
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Tunnel-Supported	141
		Tunnel-Supported due to improvements in safety, noise and amenity	141
Henry	Lana & Rick	Community Consultation-CEPS 4 point submission	22
Henry	Rick	Access-Use of existing highway for local access road/tourist drive	2
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Hersch	Jessica	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Hilton	Albert & Josee	Community Consultation-Uncertainty and anxiety during route selection process	31
		Engineering Design-Speed limits for upgrade are excessive	46
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Planning and Landuse-Linking with Ballina Bypass	84
		Strategic Planning-Inland route as an alternative option	129

Last Name	First Name	Issue Category	Response
Hodgson	Richard	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Route preference on basis of noise impacts	76
		Social and Business-Impacts to residents and dwellings	116
		Tunnel-Prefer specific tunnel option	146
Hogan	David	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Hollis	Jocelyn	Engineering Design-Upgrade to Class M highway is excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Safety-Safety as priority in program	105
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Strategic Planning-Build Ballina Bypass	132
		Tunnel-Supported due to improvements in safety, noise and amenity	141
Holloway	Sarah	Community Consultation-Feedback forms	21
		Engineering Design-Upgrade to Class M highway is excessive	46
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
Holmes	R & C	Social and Business-Impacts to residents and dwellings	116
Hood	Nadine	Air Quality-Increased truck traffic	6
		Air Quality-Vehicle emissions should be minimised by technology and maintenance	8
		Air Quality-Health impacts	9
		Air Quality-Impacts to the community	14
		Community Consultation-CEPS 4 point submission	22
		Community Consultation-Community representation by CLG members	26
		Noise and Vibration-Impacts to Bangalow	76
		Safety-Measures for immediate implementation	106
		Safety-Heavy freight vehicles	109
		Social and Business-Impact to Bangalow community/livelihoods	114
		Strategic Planning-Inland route as an alternative option	129
		Traffic and Transport-Impact on traffic volumes	133
		Tunnel-Supported	141
		Tunnel-Noise considerations	148
Horner	Carmel & Carey	Planning and Landuse-Route preference on basis of agricultural land impacts	86
Hornery	Robyn & Jeff	Ecology-Minimise and confine impacts	36

Last Name	First Name	Issue Category	Response
		Ecology-Rehabilitation and revegetation projects	41
		Hydrology and Water Quality-Private water supply and dams	64
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consistency with environmental planning instruments	89
		Social and Business-Impacts to educational/agricultural research facilities impacted	121
Horstmanshof	A	Access-Use of existing highway for local access road/tourist drive	2
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Identification of flood prone areas	69
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Safety-Significance of Fog	111
		Tunnel-Prefer specific tunnel option	146
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Hoskings	R	Planning and Landuse-Upgrade on/near existing Highway	82
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Howard	Judy	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Social and Business-Impact to community/livelihoods	114
Howard	Robert	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Use of existing highway during construction	54
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
Hughes	Howard	Strategic Planning-An inland route is not appropriate	130
Hughes	Owen	Community Consultation-Criticism of consultation program	18
		Engineering Design-Upgrade must comply with design guidelines	47
		Engineering Design-Upgrade on/near existing highway	49
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Consideration of future residential development	87
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-An inland route is not appropriate	130
		Traffic and Transport-Fuel costs	139
Hulbert	Cherie	Access-Interchanges and access onto/off the upgraded highway	3

Last Name	First Name	Issue Category	Response
		Ecology-Impacts to the plateau/escarpment area	37
		Ecology-Data/Information	44
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Hydrology and Water Quality-Water quality at specific location/property	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Too much weight is given to newly affected residents	103
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Impacts to Newrybar School	120
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Impacts to plateau	156
Hulbert	Claire	Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to Newrybar School	120
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Hulbert	Claire & Terence	Hydrology and Water Quality-Impacts to water catchment areas	64
Hutchinson	Jeffrey	Hydrology and Water Quality-Floodplain hydrology	68
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Significance of Fog	111
Hutton	John	Safety-Safety as priority in program	105
		Strategic Planning-Upgrade should be completed as soon as possible	127
Ingham	Beate	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impact to Bangalow community/livelihoods	114
		Social and Business-Impacts to Newrybar School	120
Innes	Annette	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Tourism impacts	118
Innes	JGD & AM	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Hydrology and Water Quality-Flooding as a non or insignificant issue	70
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Noise and Vibration-Impacts to Bangalow	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impact to community/livelihoods	114

Last Name	First Name	Issue Category	Response
Ivin	Ron & Hazel	Air Quality-Impacts to agriculture	11
		Community Consultation-Community representation by CLG members	26
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Mitigation measures	78
		Planning and Landuse-Upgrade away from existing highway	83
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Planning and Landuse-Consistency with environmental planning instruments	89
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Strategic Planning-Alternative route(s) should be considered	131
James	Cliff & Deenie	Access-Local access impacts	1
		Access-Use of existing highway for local access road/tourist drive	2
		Access-Interchanges and access onto/off the upgraded highway	3
		Community Consultation-Influence of lobby groups	24
		Community Consultation-Community representation by CLG members	26
		Ecology-Impacts of upgrade are too great	35
		Ecology-Impacts to the plateau/escarpment area	37
		Ecology-Impacts to remnant and native vegetation	42
		Ecology-Data/Information	44
		Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Upgrade must comply with design guidelines	47
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Disruption to services	52
		Engineering Design-Use of existing highway during construction	54
		Geology, Geotechnics and Soil-Soft soils	57
		Geology, Geotechnics and Soil-Areas of instability	58
		Geology, Geotechnics and Soil-Acid sulfate soils	59
		heritage-Aboriginal	61
		Heritage-Non-Aboriginal	62
		heritage-Preservation	63
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Flooding as a non or insignificant issue	70
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72

Last Name	First Name	Issue Category	Response
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Noise and Vibration-Route preference on basis of noise impacts	76
		Noise and Vibration-Construction	79
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consideration of future residential development	87
		Process-Terminology	95
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Tourism impacts	118
		Social and Business-Use of the existing highway as a tourist route	119
		Social and Business-Impacts to Newrybar School	120
		Strategic Planning-Political motives	123
		Strategic Planning-Inland route as an alternative option	129
		Traffic and Transport-Traffic Movement - Impacts to Local Road Networks	137
		Visual Impact and Urban Design-Route preference to minimise impacts	150
James	Greg	Community Consultation-CEPS 4 point submission	22
		Ecology-Impacts to the plateau/escarpment area	37
		Engineering Design-Upgrade on/near existing highway	49
		Hydrology and Water Quality-Water quality of Knockrow Creek	64
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Land Acquisition and Compensation-Relocation	75
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Social and Business-Impacts to educational/agricultural research facilities impacted	121
		Strategic Planning-Political motives	123
James	Greg, Joanne, Amy, Kim	Community Consultation-CEPS 4 point submission	22
		Ecology-Impacts to remnant and native vegetation	42
		Ecology-Impacts to watercourses and riparian zones	43
		Land Acquisition and Compensation-Relocation	75
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Strategic Planning-Political motives	123
Jamieson	Matthew	Air Quality-Increased truck traffic	6
		Air Quality-Impacts to agriculture	11
		Air Quality-Impacts to the community	14
		Air Quality-Dispersion modelling	15
		Ecology-Impacts to the coastal plain/escarpment area	38
		Ecology-Impacts Specific to Options - Impacts to Options B, C, D	38
		Land Acquisition and Compensation-Compensation arrangements	71

Last Name	First Name	Issue Category	Response
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Process-Criticism of route selection process	93
		Process-Quality of RODR	96
		Process-Inaccurate/missing/misleading information in RODR	97
		Safety-Heavy freight vehicles	109
		Safety-Significance of Fog	111
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Traffic and Transport-Impact on traffic volumes	133
		Visual Impact and Urban Design-Landowners amenity	158
Jarrett	Donna	Access-Access to/within individual properties/businesses and community facilities	4
		Community Consultation-Uncertainty and anxiety during route selection process	31
		Ecology-Minimise and confine impacts	36
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Private water supply and dams	64
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Significance of Fog	111
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Social and Business-Tourism impacts	118
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Tunnel-Fog	145
Jarrett	Hollie	Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Heavy freight vehicles	109
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-General impacts	150
Jenner	Ian	Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Impacts to Newrybar School	120
John	Smith	Strategic Planning-Alternative route(s) should be considered	131
Johnston	Christopher & Bronwyn	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Route preference on basis of noise impacts	76
		Social and Business-Impacts to residents and dwellings	116
		Tunnel-Prefer specific tunnel option	146
Johnston	R	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Route preference on basis of noise impacts	76
		Strategic Planning-Political motives	123

Last Name	First Name	Issue Category	Response
		Tunnel-Prefer specific tunnel option	146
Johnston	R & H	Social and Business-Impacts to residents and dwellings	116
Johnston	Robert	Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Impacts to Bangalow	76
Johnston	Robert	Planning and Landuse-Prime agricultural land should be avoided	85
Johnstone	Paul	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consideration of future residential development	87
		Planning and Landuse-Consistency with environmental planning instruments	89
		Process-Terminology	95
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to Newrybar School	120
		Visual Impact and Urban Design-Route preference to minimise impacts	150
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Jones	David	Community Consultation-Division of community during route selection process	30
		Engineering Design-Design guidelines for upgrade are excessive	46
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Tourism impacts	118
Jones	Mark	Engineering Design-Design guidelines for upgrade are excessive	46
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Joyce	Bob	Planning and Landuse-Upgrade on/near existing Highway	82
Kahlert	Bettina	Community Consultation-Consideration of submissions	22
		Process-Weighting of evaluation criteria	101
Kahlert	Stephen	Access-Interchanges and access onto/off the upgraded highway	3
		Engineering Design-Upgrade must comply with design guidelines	47
		Tunnel-Supported	141
Kahlert	Zen	Noise and Vibration-Route preference on basis of noise impacts	76
Kellner	Michael	Hydrology and Water Quality-Impacts to water catchment areas	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
Kelly	Tim & Amanda	Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Upgrade on/near existing highway	49
		Engineering Design-Cost estimations	53
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
Kennedy	Alan	Noise and Vibration-Heavy vehicles	78
		Safety-Measures for immediate implementation	106
Kenny	David	Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Tourism impacts	118

Last Name	First Name	Issue Category	Response
Kiehl	Shaunti	Ecology-Impacts of upgrade are too great	35
		Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Upgrade on/near existing highway	49
		Hydrology and Water Quality-Impacts to wetlands	67
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consistency with environmental planning instruments	89
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
Kile (Claire) & Young (Mac)		Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
King	Ron	Engineering Design-Route preference on basis of engineering design and feasibility	51
Kinkead	Geoff	Land Acquisition and Compensation-Relocation	75
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
Kinkead	J	Community Consultation-Scope of consultation program	20
		Social and Business-Impact to community/livelihoods	114
		Strategic Planning-Inland route as an alternative option	129
Kirk	Josh	Engineering Design-Upgrade to Class M highway is excessive	46
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Safety-Safety as priority in program	105
		Strategic Planning-Inland route as an alternative option	129
Knight	Bryce	Geology, Geotechnics and Soil-Soft soils	57
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Planning and Landuse-Consideration of future residential development	87
Knight	Gary	Access-Local access impacts	1
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Kunzli	Peter	Engineering Design-Use of existing highway during construction	54
		Social and Business-Impacts to residents and dwellings	116
		Tunnel-Prefer specific tunnel option	146
Lacey	Michelle	Social and Business-Impact to community/livelihoods	114

Last Name	First Name	Issue Category	Response
Lacey	Peter & Michelle	Safety-Safety as priority in program	105
		Social and Business-Tourism impacts	118
		Strategic Planning-Upgrade should be completed as soon as possible	127
		Tunnel-Supported	141
Lamb	David	Planning and Landuse-Upgrade on/near existing Highway	82
		Safety-Significance of Fog	111
		Strategic Planning-An inland route is not appropriate	130
Lance	Peter	Planning and Landuse-Upgrade on/near existing Highway	82
Langley	Kay	Air Quality-Impacts to the community	14
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Noise and Vibration-Impacts to Bangalow	76
		Safety-School transportation	110
		Social and Business-Impact to Bangalow community/livelihoods	114
Latham	Michael	Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Strategic Planning-Inland route as an alternative option	129
Le Sueur	Lyle	Engineering Design-Upgrade on/near existing highway	49
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Land Acquisition and Compensation-Compensation arrangements	71
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Process-Criticism of route selection process	93
		Safety-Measures for immediate implementation	106
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Accountability/transparency in process	125
		Strategic Planning-Inland route as an alternative option	129
		Tunnel-Opposed	143
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Lee	Brian	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Impacts to Newrybar School	120
Lee	William & Debra	Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Noise and Vibration-General	78
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Criticism of route selection process	93
		Safety-Significance of Fog	111
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Strategic Planning-Inland route as an alternative option	129
		Tunnel-Non tunnel options preferred	142
		Tunnel-Impacts of tunnel	143
		Visual Impact and Urban Design-Light Pollution	153
Leedom	John	Ecology-Impacts of upgrade are too great	35
		Ecology-Impacts to the coastal plain/escarpment area	38

Last Name	First Name	Issue Category	Response
		Ecology-Impacts to wetland ecology on coastal plain	39
		Ecology-Impacts to rehabilitation and revegetation projects	41
		Ecology-Impacts to remnant and native vegetation	42
		Ecology-Classification of constraints	43
		Ecology-Impacts to watercourses and riparian zones	43
		Ecology-Data/Information	44
		Land Acquisition and Compensation-Compensation arrangements	71
		Process-Quality of RODR	96
		Strategic Planning-Inland route as an alternative option	129
		Tunnel-Impacts of tunnel	143
Leftwich	Hope	No issues stated-Used for statistical purposes only	160
Lester	Graham	Community Consultation-Influence of lobby groups	24
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Heavy freight vehicles	109
Lester	Graham & Margaret	Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Too much weight is given to newly affected residents	103
		Safety-Heavy freight vehicles	109
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Use of the existing highway as a tourist	119
Lester	Margaret	Ecology-Impacts to remnant and native vegetation	42
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Heritage-Non-Aboriginal	62
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
Lewis	Colin	Strategic Planning-Inland route as an alternative option	129
Lewis	Noel & Marie	Noise and Vibration-Impacts of upgrade away from existing highway	77
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Upgrade should be completed as soon as possible	127
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Landowners amenity	158
Lewis (Ann) & McEvoy (Lewis)		Engineering Design-Upgrade on/near existing highway	49
		Hydrology and Water Quality-Upgrade will not impact water quality	65
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Safety-Significance of Fog	111
		Visual Impact and Urban Design-Impacts to the coastal escarpment and coastal plain	155
Lind	Allen	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Use of the existing highway as a tourist route	119

Last Name	First Name	Issue Category	Response
		Tunnel-Prefer specific tunnel option	146
		Tunnel-Noise considerations	148
Lind	Maureen	Access-Use of existing highway for local access road/tourist drive	2
		Social and Business-Impact to community/livelihoods	114
		Tunnel-Noise considerations	148
Lloyd	Heather	Engineering Design-Upgrade to Class A on/near existing highway	46
		Planning and Landuse-Upgrade on/near existing Highway	82
		Process-Inaccurate/missing/misleading information in RODR	97
		Process-Expansion of Study Area	104
		Social and Business-Impact to community/livelihoods	114
		Strategic Planning-Inland route as an alternative option	129
Lloyd	Nick	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Use of the existing highway as a tourist route	119
		Strategic Planning-Political motives	123
		Tunnel-Supported due to improvements in safety, noise and amenity	141
Locke	Peter	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Logan	Alan	Community Consultation-Feedback forms	21
		Community Consultation-Uncertainty and anxiety during route selection process	31
		Ecology-Impacts Specific to Options - Impacts to Options B, C, D	38
		Engineering Design-Number of lanes for upgrade is excessive	46
		Engineering Design-Upgrade on/near existing highway	49
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Soft soils	57
		Hydrology and Water Quality-Floodplain hydrology	68
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Noise and Vibration-Impacts for upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Criticism of route selection process	93
		Process-Expansion of Study Area	104
		Process-Expansion of Study Area	104
		Safety-Dual carriageway required	108
		Safety-Heavy freight vehicles	109

Last Name	First Name	Issue Category	Response
		Safety-Significance of Fog	111
		Safety-Sun glare	113
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Tunnel-Non tunnel options preferred	142
		Visual Impact and Urban Design-Upgrade on/near existing Highway	151
		Visual Impact and Urban Design-Light Pollution	153
		Visual Impact and Urban Design-Impacts to the coastal escarpment and coastal plain	155
Logan	Dane	Engineering Design-Upgrade on/near existing highway	49
		Process-Not enough weight is given to newly affected residents	102
		Strategic Planning-Inland route as an alternative option	129
Logan	Marianne	Ecology-Impacts to the coastal plain/escarpment area	38
		Ecology-Impacts to remnant and native vegetation	42
		Ecology-Data/Information	44
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Safety-Safety as priority in program	105
		Safety-Significance of Fog	111
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Lorraway	Chris & Bronwyn	Access-Interchanges and access onto/off the upgraded highway	3
		Community Consultation-Influence of lobby groups	24
		Community Consultation-Uncertainty and anxiety during route selection process	31
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Noise and Vibration-Noise modelling	80
		Planning and Landuse-Linking with Ballina Bypass	84
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Significance of Fog	111
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Visual Impact and Urban Design-Route preference to minimise impacts	150
		Visual Impact and Urban Design-Impacts to the coastal escarpment and coastal plain	155
Lorraway	Christopher	Social and Business-Impacts to residents and dwellings	116
		Visual Impact and Urban Design-Route preference on or near the existing highway to minimise impacts	151
Louise	Parkes	Air Quality-Vehicle emissions and greenhouse/global warming	5
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Impacts to Bangalow	76

Last Name	First Name	Issue Category	Response
		Process-Inaccurate/missing/misleading information in RODR	97
		Visual Impact and Urban Design-Cuttings and bridges	152
Lovett	Jeff	Community Consultation-Scope of consultation program	20
		Planning and Landuse-Consideration of future residential development	87
Lyon	Jennifer	Engineering Design-Construction Impacts	55
		Noise and Vibration-Impacts to St Helena/Ewingsdale	76
		Noise and Vibration-Construction	79
		Social and Business-Use of the existing highway as a tourist route	119
		Tunnel-Supported due to improvements in safety, noise and amenity	141
MacDonald	Nino	Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Noise and Vibration-General	78
		Safety-Safety as priority in program	105
		Strategic Planning-Inland route as an alternative option	129
Macfadyen	Dan	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Mackey	Dianne	Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Upgrade on/near existing highway	49
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Soft soils	57
		Planning and Landuse-Upgrade on/near existing Highway	82
		Safety-Safety as priority in program	105
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Inland route as an alternative option	129
		Traffic and Transport-Traffic Movement - Impacts to Local Road Networks	137
		Tunnel-Impacts of tunnel	143
Mackney	Ben	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Mackney	Brian	Community Consultation-Scope of consultation program	20
		Community Consultation-Community representation by CLG members	26
		Ecology-Impacts Specific to Options - Impacts to Options B, C, D	38
		Engineering Design-Upgrade on/near existing highway	49

Last Name	First Name	Issue Category	Response
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Consistency with environmental planning instruments	89
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Accountability/transparency in process	125
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
Mackney	Elizabeth	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Mackney	Kathryn	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Mackney	Leanne	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Mackney	Madeline	Community Consultation-Scope of consultation program	20
		Community Consultation-Community representation by CLG members	26
		Ecology-Impacts Specific to Options - Impacts to Options B, C, D	38
		Engineering Design-Upgrade on/near existing highway	49
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Consistency with environmental planning instruments	89
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116

Last Name	First Name	Issue Category	Response
		Strategic Planning-Accountability/transparency in process	125
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
Mackney	Peter	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Mackney	Philip	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Mackney	Suzette	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Mackney	Tim	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
MacMaster	Lee	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71

Last Name	First Name	Issue Category	Response
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Macrae	David	Engineering Design-Upgrade to Class A on/near existing highway	46
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
Madden	Jane	Access-Access to/within individual properties/businesses and community facilities	4
		Planning and Landuse-Consideration of future residential development	87
		Social and Business-Tourism impacts	118
		Strategic Planning-Inland route as an alternative option	129
Madden	John	Ecology-Impacts to the coastal plain/escarpment area	38
		Geology, Geotechnics and Soil-Soft soils	57
		Hydrology and Water Quality-Impacts to waterways	64
		Hydrology and Water Quality-Identification of flood prone areas	69
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Significance of Fog	111
		Visual Impact and Urban Design-Route preference on or near the existing highway to minimise impacts	151
Maitre	Eric	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Manceil	Stefanie	Air Quality-Impacts to the community	14
		Community Consultation-Criticism of consultation program	18
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Strategic Planning-Inland route as an alternative option	129
Mancini	Leia	Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Upgrade on/near existing highway	49
		Hydrology and Water Quality-Identification of flood prone areas	69
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82

Last Name	First Name	Issue Category	Response
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Impacts to the coastal escarpment and coastal plain	155
		Engineering Design-Upgrade on/near existing highway	49
		Safety-Safety as priority in program	105
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
Margules	Ray	Planning and Landuse-Upgrade on/near existing Highway	82
Martin	John	Hydrology and Water Quality-Impacts to bores	66
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
Martin	John (JA)	Community Consultation-Division of community during route selection process	30
		Engineering Design-Upgrade on/near existing highway	49
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Prime agricultural land should be avoided	85
		Safety-Heavy freight vehicles	109
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Tourism impacts	118
		Strategic Planning-An inland route is not appropriate	130
		Strategic Planning-Alternative route(s) should be considered	131
Martin	John (JE)	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Water quality at specific location/property	64
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Use of the existing highway as a tourist route	119
Martin	Nick	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Maxwell	Anthony	Access-Use of existing highway for local access road/tourist drive	2
		Engineering Design-Use of existing highway during construction	54
		Hydrology and Water Quality-Flooding as a non or insignificant issue	70
		Social and Business-Impact to Bangalow community/livelihoods	114
McAllister	Darren	Noise and Vibration-Route preference on basis of noise impacts	76

Last Name	First Name	Issue Category	Response
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
McAndrew	Norma & Jack	Community Consultation-Uncertainty and anxiety during route selection process	31
		Strategic Planning-Inland route as an alternative option	129
McDermott	Aaron	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
McDermott	Luke	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
McDonell	Rona	Air Quality-Impacts to the community	14
		Community Consultation-Criticism of consultation program	18
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Strategic Planning-Inland route as an alternative option	129
McGauley	Yari	Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
McGregor	Debra	Safety-Measures for immediate implementation	106
		Social and Business-Upgrade on/near existing Highway	115
McGregor	John	Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
McIntosh	Ian	Air Quality-Consideration of local meteorological knowledge	17
		Community Consultation-Scope of consultation program	20
		Community Consultation-Community representation by CLG members	26
		Community Consultation-CLG Independent facilitator	28
		Community Consultation-Uncertainty and anxiety during route selection process	31
		Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Speed limits for upgrade are excessive	46

Last Name	First Name	Issue Category	Response
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		heritage-Preservation	63
		Hydrology and Water Quality-Water quality of Byron Creek	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Hydrology and Water Quality-Floodplain hydrology	68
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Land Acquisition and Compensation-Compensation arrangements	71
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consideration of future residential development	87
		Process-Criticism of route selection process	93
		Process-Not enough weight is given to newly affected residents	102
		Process-Expansion of Study Area	104
		Safety-Safety as priority in program	105
		Safety-Measures for immediate implementation	106
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Tourism impacts	118
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Tunnel-Impacts of tunnel	143
		Tunnel-Noise impacts	144
		Tunnel-Fog	145
		Visual Impact and Urban Design-Landowners amenity	158
McKinley	Annette	Ecology-Impacts to the coastal plain/escarpment area	38
		Ecology-Data/Information	44
		Engineering Design-Upgrade to Class M highway is excessive	46
		Process-Quality of RODR	96
		Strategic Planning-Inland route as an alternative option	129
McQuhae	Peter	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Noise and Vibration-Route preference on basis of noise impacts	76
		Process-Inaccurate/missing/misleading information in RODR	97
		Safety-Safety as priority in program	105
		Safety-School transportation	110
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Tunnel-Prefer specific tunnel option	146
Meadows	W	Engineering Design-Upgrade on/near existing highway	49
		Safety-Significance of Fog	111
		Strategic Planning-Inland route as an alternative option	129

Last Name	First Name	Issue Category	Response
		Visual Impact and Urban Design-Impacts to the coastal escarpment and coastal plain	155
Mearns	Anne Maree	Planning and Landuse-Upgrade on/near existing Highway	82
		Safety-Measures for immediate implementation	106
Mearns	Dayne	Access-Interchanges and access onto/off the upgraded highway	3
		Air Quality-Health impacts	9
		Community Consultation-Criticism of consultation program	18
		Community Consultation-Praise of consultation program	19
		Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Upgrade to Class A permits local use of upgrade	46
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Cost estimations	53
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Floodplain hydrology	68
		Noise and Vibration-Impacts to Bangalow	76
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Noise and Vibration-Impacts for upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Linking with Ballina Bypass	84
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Expansion of Study Area	104
		Safety-Measures for immediate implementation	106
		Safety-Significance of Fog	111
		Social and Business-Impact to Bangalow community/livelihoods	114
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Tunnel-Non tunnel options preferred	142
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Mearns	Travis	Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
Mellor	Jerome	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Use of existing highway during construction	54
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
Mellor	Jerome & Jane	Social and Business-Impacts to residents and dwellings	116
Michael	Bell	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116

Last Name	First Name	Issue Category	Response
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Middleton	Mavis	Social and Business-Impacts to residents and dwellings	116
Mills	D	Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Planning and Landuse-Upgrade on/near existing Highway	82
Mills	Reg	Traffic and Transport-Heavy vehicle access	136
Mitchell	Professor RM	Access-Use of existing highway for local access road/tourist drive	2
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Use of existing highway during construction	54
		Social and Business-Impacts to residents and dwellings	116
Molyneux	Maxine	Access-Interchanges and access onto/off the upgraded highway	3
		Air Quality-Health impacts	9
		Air Quality-Ecology impacts	10
		Community Consultation-Uncertainty and anxiety during route selection process	31
		Ecology-Impacts to the coastal plain/escarpment area	38
		Ecology-Data/Information	44
		Geology, Geotechnics and Soil-Soft soils	57
		heritage-Aboriginal	61
		Hydrology and Water Quality-Water quality of Byron Creek	64
		Hydrology and Water Quality-Floodplain hydrology	68
		Hydrology and Water Quality-Identification of flood prone areas	69
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Process-Inaccurate/missing/misleading information in RODR	97
		Safety-Significance of Fog	111
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Social and Business-Tourism impacts	118
		Visual Impact and Urban Design-Landowners amenity	158
Monthule	N	Community Consultation-Feedback forms	21
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Safety-Safety as priority in program	105
		Safety-Measures for immediate implementation	106
		Safety-Significance of Fog	111
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
Monthule	Nadia	Community Consultation-Uncertainty and anxiety during route selection process	31
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Safety-Significance of Fog	111
		Strategic Planning-Inland route as an alternative option	129

Last Name	First Name	Issue Category	Response
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Monthule	Sid	Engineering Design-Upgrade on/near existing highway	49
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impact to community/livelihoods	115
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Monthule - McIntosh	Olivier	Community Consultation-CLG Independent facilitator	28
		Ecology-Impacts to Broken Head National Park	38
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Safety-Measures for immediate implementation	106
		Safety-Heavy freight vehicles	109
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Political motives	123
		Strategic Planning-Inland route as an alternative option	129
Morden	Denise	Ecology-Impacts to Broken Head National Park	38
		Planning and Landuse-Prime agricultural land should be avoided	85
		Process-Criticism of route selection process	93
		Safety-Heavy freight vehicles	109
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Inland route as an alternative option	129
Morrison	Robert	Engineering Design-Upgrade to Class A on/near existing highway	46
		Strategic Planning-Build Ballina Bypass	132
Morrissey	Elizabeth	Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Tourism impacts	118
Morrow (Christian) & Preston (Karen)		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Engineering Design-Upgrade on/near existing highway	49
		Strategic Planning-Inland route as an alternative option	129
Mudge	Jamie	Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Upgrade on/near existing highway	49
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Muller	Dennis	Social and Business-Impact to community/livelihoods	114
Munn	Kay	Community Consultation-Criticism of consultation program	18
		Community Consultation-CLG Confidentiality	27
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Planning and Landuse-Prime agricultural land should be avoided	85
		Process-Quality of RODR	96
		Safety-Heavy freight vehicles	109
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132

Last Name	First Name	Issue Category	Response
Muzaly	Miguel	Access-Use of existing highway for local access road/tourist drive	2
		Safety-Heavy freight vehicles	109
		Social and Business-Use of the existing highway as a tourist route	119
Nash	Greg	Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Upgrade on/near existing Highway	115
Nature Conservation Council		Air Quality-Ecology impacts	10
		Community Consultation-Criticism of consultation program	18
		Ecology-Minimise and confine impacts	36
		Ecology-Impacts to the coastal plain/escarpment area	38
		Hydrology and Water Quality-Truck spillage and road run-off	64
		Planning and Landuse-Prime agricultural land should be avoided	85
		Process-Sustainability of project	94
		Process-Quality of RODR	96
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Strategic Planning-Inland route as an alternative option	129
		Traffic and Transport-Impact on traffic volumes	133
Nelson (Shirley) & Pulsford (Nan)		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Identification of flood prone areas	69
		Strategic Planning-Inland route as an alternative option	129
Nesbitt	David	Ecology-Impacts to the plateau/escarpment area	37
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Newham	Anne-marie	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Newland (Maxine) & Nieuwenhuizen (Frank)		Access-Local access impacts	1
		Access-Access to/within individual properties/businesses and community facilities	4
		Community Consultation-Uncertainty and anxiety during route selection process	31
		Ecology-Impacts to the coastal plain/escarpment area	38
		Ecology-Impacts to Broken Head National Park	38
		Ecology-Data/Information	44
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Engineering Design-Upgrade on/near existing highway	49
		Hydrology and Water Quality-Floodplain hydrology	68
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Significance of Fog	111
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132

Last Name	First Name	Issue Category	Response
		Visual Impact and Urban Design-Impacts to the coastal escarpment and coastal plain	155
		Access-Local access impacts	1
		Access-Access to/within individual properties/businesses and community facilities	4
		Air Quality-Dispersion modelling	15
		Community Consultation-Uncertainty and anxiety during route selection process	31
		Ecology-Impacts to the coastal plain/escarpment area	38
		Ecology-Impacts to Broken Head National Park	38
		Ecology-Data/Information	44
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Engineering Design-Upgrade on/near existing highway	49
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to waterways	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Hydrology and Water Quality-Floodplain hydrology	68
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Highway development not compatible with coastal area	90
		Safety-Significance of Fog	111
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Visual Impact and Urban Design-Route preference to minimise impacts	150
		Visual Impact and Urban Design-Impacts to the coastal escarpment and coastal plain	155
		Visual Impact and Urban Design-Landowners amenity	158
Newman	Kalyani	Engineering Design-Design guidelines for upgrade are excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Newman-Pache	R	Engineering Design-Design guidelines for upgrade are excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Newrybar Landcare Group		Air Quality-Health impacts	9
		Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Number of lanes for upgrade is excessive	46
		Planning and Landuse-Prime agricultural land should be avoided	85
		Social and Business-Impacts to Newrybar School	120
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Visual Impact and Urban Design-Impacts to townships	150
Newrybar Public School		Air Quality-Health impacts	9
		Ecology-Minimise and confine impacts	36

Last Name	First Name	Issue Category	Response
		Ecology-Impacts to watercourses and riparian zones	43
		Safety-Measures for immediate implementation	106
		Social and Business-Tourism impacts	118
		Social and Business-Impacts to Newrybar School	120
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Visual Impact and Urban Design-General impacts	150
		Visual Impact and Urban Design-Impacts to townships	150
Noble	Enid	Planning and Landuse-Prime agricultural land should be avoided	85
		Strategic Planning-Inland route as an alternative option	129
North	Holly	Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Number of lanes for upgrade is excessive	46
		Engineering Design-Upgrade on/near existing highway	49
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Soft soils	57
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Inland route as an alternative option	129
		Traffic and Transport-Traffic Movement - Impacts to Local Road Networks	137
		Tunnel-Impacts of tunnel	143
O Dwyer	Susan	Air Quality-Impacts to the community	14
		Community Consultation-Criticism of consultation program	18
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Strategic Planning-Inland route as an alternative option	129
Oelrichs	Claire	Air Quality-Vehicle emissions and greenhouse/global warming	5
		Ecology-Minimise and confine impacts	36
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Planning and Landuse-Prime agricultural land should be avoided	85
		Social and Business-Tourism impacts	118
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Visual Impact and Urban Design-General impacts	150
Oelrichs	Cooper	Air Quality-Vehicle emissions and greenhouse/global warming	5
		Ecology-Minimise and confine impacts	36
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Planning and Landuse-Prime agricultural land should be avoided	85
		Social and Business-Tourism impacts	118
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Visual Impact and Urban Design-General impacts	150
Oelrichs	Dexter	Air Quality-Vehicle emissions and greenhouse/global warming	5
		Ecology-Minimise and confine impacts	36
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Planning and Landuse-Prime agricultural land should be avoided	85

Last Name	First Name	Issue Category	Response
		Social and Business-Tourism impacts	118
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Visual Impact and Urban Design-General impacts	150
Oelrichs	Ian	Ecology-Minimise and confine impacts	36
		Ecology-Impacts to the plateau/escarpment area	37
		Ecology-Impacts to the coastal plain/escarpment area	38
		Ecology-Rehabilitation and revegetation projects	41
Oldham	Douglas & Margaret	Air Quality-Impacts to the community	14
		Air Quality-Fog data inadequacies	16
		Community Consultation-Division of community during route selection process	30
		Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Upgrade on/near existing highway	49
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Soft soils	57
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Private water supply and dams	64
		Hydrology and Water Quality-Floodplain hydrology	68
		Hydrology and Water Quality-Identification of flood prone areas	69
		Land Acquisition and Compensation-Compensation arrangements	71
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Linking with Ballina Bypass	84
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consistency with environmental planning instruments	89
		Process-Criticism of route selection process	93
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Upgrade on/near existing Highway	151
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Olley	Jan	Air Quality-Vehicle emissions and greenhouse/global warming	5
		Air Quality-Impacts to the community	14
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Noise and Vibration-General	78
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Highway development not compatible with coastal area	90
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Impacts to economy and businesses (non-agricultural)	117

Last Name	First Name	Issue Category	Response
		Social and Business-Use of the existing highway as a tourist route	119
		Strategic Planning-Inland route as an alternative option	129
Ormsby	Winsome	Ecology-Impacts to the coastal plain/escarpment area	38
		heritage-Preservation	63
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
O'Shannessy	G	Hydrology and Water Quality-Impacts to wetlands	67
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Noise modelling	80
		Safety-Significance of Fog	111
		Social and Business-Impact to community/livelihoods	114
O'Shannessy	Gabrielle	Community Consultation-Uncertainty and anxiety during route selection process	31
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Prime agricultural land should be avoided	85
		Process-Sustainability of project	94
		Strategic Planning-Inland route as an alternative option	129
Overington	Samuel	Engineering Design-Upgrade to Class A on/near existing highway	46
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Planning and Landuse-Consideration of future residential development	87
		Social and Business-Tourism impacts	118
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-General impacts	150
Overington	Tim & Anoshe	Engineering Design-Upgrade to Class A on/near existing highway	46
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Hydrology and Water Quality-Impacts to bores	66
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impact to Newrybar Village community/livelihoods	114
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Route preference to minimise impacts	150
P	Daniel	Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Pache	Markus	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to wetland ecology on coastal plain	39
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Planning and Landuse-Upgrade on/near existing Highway	82
		Process-Terminology	95
		Safety-Significance of Fog	111
		Social and Business-Upgrade on/near existing Highway	115

Last Name	First Name	Issue Category	Response
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Parker	Norm	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Identification of flood prone areas	69
		Planning and Landuse-Linking with Ballina Bypass	84
Parkes	Louise	Community Consultation-Scope of consultation program	20
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
Payselen	Annette & Philip	Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Land trapped between existing roads and the upgraded highway	91
		Safety-Measures for immediate implementation	106
		Safety-Significance of Fog	111
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Tunnel-Noise considerations	148
Peake	David	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Social and Business-Upgrade on/near existing Highway	115
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Peard	K	Hydrology and Water Quality-Identification of flood prone areas	69
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Pearson	Mr & Mrs B	Planning and Landuse-Route preference on basis of agricultural land impacts	86
Perkins	M	Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Perrow	Kieren	Noise and Vibration-Impacts of upgrade away from existing highway	77
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Inland route as an alternative option	129
Peterson	Paul	Engineering Design-Route preference on basis of engineering design and feasibility	51

Last Name	First Name	Issue Category	Response
		Social and Business-Impacts to residents and dwellings	116
Pietsch	Natasha	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Pilgrim	P	Community Consultation-Criticism of consultation program	18
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Planning and Landuse-Consistency with environmental planning instruments	89
		Social and Business-Impacts to residents and dwellings	116
Pilgrim	Russell	Community Consultation-Criticism of consultation program	18
		Community Consultation-Influence of lobby groups	24
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Planning and Landuse-Consistency with environmental planning instruments	89
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Tunnel-Supported due to improvements in safety, noise and amenity	141
		Tunnel-Noise considerations	148
Pink	Roger & Pamela	Community Consultation-Division of community during route selection process	30
		Planning and Landuse-Consistency with environmental planning instruments	89
		Strategic Planning-Inland route as an alternative option	129
Poole	Sharyn	Ecology-Data/Information	44

Last Name	First Name	Issue Category	Response
Porter	Michael	Access-Interchanges and access onto/off the upgraded highway	3
		Community Consultation-Scope of consultation program	20
		Community Consultation-Division of community during route selection process	30
		heritage-Aboriginal	61
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Noise modelling	80
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Social and Business-Tourism impacts	118
		Strategic Planning-Alternative route(s) should be considered	131
		Visual Impact and Urban Design-Landowners amenity	158
Power	Chris	Air Quality-Impacts to the community	14
		Engineering Design-Upgrade on/near existing highway	49
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Hydrology and Water Quality-Hydrology	68
		Hydrology and Water Quality-Identification of flood prone areas	69
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Consideration of future residential development	87
		Planning and Landuse-Highway development not compatible with coastal area	90
		Safety-Safety as priority in program	105
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Accountability/transparency in process	125
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Traffic and Transport-Impact on traffic volumes	133
		Visual Impact and Urban Design-Upgrade on/near existing Highway	151
Poyas	Sam	heritage-Aboriginal	61
		Noise and Vibration-Route preference on basis of noise impacts	77
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Inland route as an alternative option	129
		Tunnel-Prefer specific tunnel option	146
Priest	Don	Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
Priest	Joanne	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Identification of flood prone areas	69
Priest	Julie	Engineering Design-Route preference on basis of engineering design and feasibility	51

Last Name	First Name	Issue Category	Response
Priest	Mike	Social and Business-Impacts to Newrybar School	120
		Strategic Planning-Upgrade should be completed as soon as possible	127
		Strategic Planning-Alternative route(s) should be considered	131
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Priest	Tracey	Social and Business-Use of the existing highway as a tourist route	119
Primikiri	Katerina	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Prior	Geoff	Community Consultation-Praise of consultation program	19
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Process-Weighting of evaluation criteria	101
		Safety-Safety as priority in program	105
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
Pullman	Sue	Noise and Vibration-Impacts to Bangalow	76
		Social and Business-Impacts to residents and dwellings	116
Quijano	Fabio	Community Consultation-Response to community correspondence	23
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Land Acquisition and Compensation-Compensation arrangements	71
		Social and Business-Impact to community/livelihoods	114
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Visual Impact and Urban Design-General impacts	150
		Visual Impact and Urban Design-Cuttings and bridges	152
Radburn	GM	Air Quality-Impacts to agriculture	11
		Community Consultation-Scope of consultation program	20
		Ecology-Impacts to the coastal plain/escarpment area	38
		Ecology-Specialist analysis	45
		Engineering Design-Upgrade on/near existing highway	49
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Private water supply and dams	64
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Noise and Vibration-Impacts for upgrade away from existing highway	77
		Process-Criticism of route selection process	93
		Safety-Safety as priority in program	105

Last Name	First Name	Issue Category	Response
		Safety-Significance of Fog	111
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Visual Impact and Urban Design-Light Pollution	153
		Visual Impact and Urban Design-Landowners amenity	158
Ranscombe	FJ	Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impact to community/livelihoods	114
Ranscombe	FJ & P	Hydrology and Water Quality-Impacts to water catchment areas	64
Ranscombe	Pauline	Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Social and Business-Impact to Newrybar Village community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Prioritisation of road freight industry concerns	124
Rastelli	RO	No issues stated-Used for statistical purposes only	160
Rawling	John	No issues stated-Used for statistical purposes only	160
Ray	Jackie	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Regan	J Barry	Geology, Geotechnics and Soil-Acid sulfate soils	59
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
Reid	John	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Reilly	Isaac	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82

Last Name	First Name	Issue Category	Response
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Restall	Barrie	Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Dual carriageway required	108
Reynolds	Nicholas	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Ritchie	Ian & Julie	Ecology-Impacts of upgrade are too great	35
		Engineering Design-Speed limits for upgrade are excessive	46
		Safety-Significance of Fog	111
		Traffic and Transport-Impact on traffic volumes	133
		Visual Impact and Urban Design-General impacts	150
Roberts	BT	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Planning and Landuse-Upgrade on/near existing Highway	82
		Strategic Planning-Inland route as an alternative option	129
Roberts	Tony	Engineering Design-Upgrade on/near existing highway	49
		Social and Business-Upgrade on/near existing Highway	115
Robertson	JCM	Ecology-Impacts to Broken Head National Park	38
		Social and Business-Impact to community/livelihoods	115
Robinson	Cilla	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Roel	Frances	Ecology-Impacts Specific to Options - Impacts to Options B, C, D	38
		Engineering Design-Upgrade on/near existing highway	49
		Hydrology and Water Quality-Private water supply and dams	64
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-General impacts	150

Last Name	First Name	Issue Category	Response
Roel	Jone	Engineering Design-Upgrade on/near existing highway	49
		Land Acquisition and Compensation-Compensation arrangements	71
		Strategic Planning-Alternative route(s) should be considered	131
Roel	Robert	Engineering Design-Upgrade on/near existing highway	49
		Hydrology and Water Quality-Hydrology	68
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Consistency with environmental planning instruments	89
		Process-Weighting of evaluation criteria	101
Rose	Cassandra	Engineering Design-Design guidelines for upgrade are excessive	46
		Hydrology and Water Quality-Water quality at specific location/property	64
		Hydrology and Water Quality-Impacts to wetlands	67
		Noise and Vibration-Noise assessment process	81
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Criticism of route selection process	93
		Process-Quality of RODR	96
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Visual Impact and Urban Design-Assessment methodology	159
Rose	Cecilia	Ecology-Impacts to the coastal plain/escarpment area	38
		Ecology-Data/Information	44
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Areas of instability	58
		Geology, Geotechnics and Soil-Acid sulfate soils	59
		Hydrology and Water Quality-Impacts to wetlands	67
		Hydrology and Water Quality-Floodplain hydrology	68
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Noise and Vibration-Impacts for upgrade away from existing highway	77
		Noise and Vibration-Noise assessment process	81
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consideration of future residential development	87
		Process-Sustainability of project	94
		Process-Inaccurate/missing/misleading information in RODR	97
		Safety-Measures for immediate implementation	106
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Visual Impact and Urban Design-Landowners amenity	158
Rose	Christine	Ecology-Impacts to the coastal plain/escarpment area	38
		Ecology-Impacts to watercourses and riparian zones	43
		Geology, Geotechnics and Soil-Acid sulfate soils	59
		Hydrology and Water Quality-Hydrology	68
		Hydrology and Water Quality-Floodplain hydrology	68
		Noise and Vibration-Impacts of upgrade away from existing highway	77

Last Name	First Name	Issue Category	Response
		Noise and Vibration-Noise assessment process	81
		Visual Impact and Urban Design-Landowners amenity	158
Rose	Gavin	Community Consultation-Community representation by CLG members	26
		Ecology-Data/Information	44
		Engineering Design-Disruption to services	52
		Hydrology and Water Quality-Impacts to wetlands	67
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Noise and Vibration-Mitigation measures	78
		Noise and Vibration-Noise assessment process	81
		Planning and Landuse-Consideration of future residential development	87
		Process-Criticism of route selection process	93
		Process-Quality of RODR	96
		Process-Inaccurate/missing/misleading information in RODR	97
		Strategic Planning-Inland route as an alternative option	129
		Traffic and Transport-Through traffic needs	138
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Rosie	G	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Tunnel-Supported	141
Ross	Colin Brock	Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Weighting of evaluation criteria	101
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Rostron	Paul	Air Quality-Impacts to the community	14
		Community Consultation-Criticism of consultation program	18
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Strategic Planning-Inland route as an alternative option	129
Rowley	Michael	Community Consultation-Criticism of consultation program	18
		Planning and Landuse-Prime agricultural land should be avoided	85
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Tunnel-Non tunnel options preferred	142
		Visual Impact and Urban Design-General impacts	150
Rudglen	Philip	Hydrology and Water Quality-Flooding as a non or insignificant issue	70
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Social and Business-Impacts to residents and dwellings	116
Rudgley	Sharon	Ecology-Data/Information	44
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Identification of flood prone areas	69
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Significance of Fog	111
		Social and Business-Impact to community/livelihoods	114

Last Name	First Name	Issue Category	Response
		Social and Business-Impacts to residents and dwellings	116
Rutledge	Carle	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Ryan	Mike & Janelle	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Sadler	Timo	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Social and Business-Impact to community/livelihoods	115
Salem	Margaret	Ecology-Data/Information	44
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
		Visual Impact and Urban Design-Impacts to the coastal escarpment and coastal plain	155
Sales	Errol R	Air Quality-Flatter grades will lower emissions	7
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Noise and Vibration-Noise modelling	80
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Safety as priority in program	105
		Social and Business-Impact to community/livelihoods	115
		Traffic and Transport-Fuel costs	139
Salmon	Purnell	Access-Use of existing highway for local access road/tourist drive	2
		Safety-Measures for immediate implementation	106
Salomon	Miriam	Engineering Design-Design guidelines for upgrade are excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Sandberg	Rho	Access-Interchanges and access onto/off the upgraded highway	3
		Air Quality-Impacts to the community	14
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Impacts to Bangalow	76

Last Name	First Name	Issue Category	Response
		Noise and Vibration-Route preference on basis of noise impacts	76
		Noise and Vibration-Route preference on basis of noise impacts	77
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Inaccurate/missing/misleading information in RODR	97
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
		Tunnel-Supported due to improvements in safety, noise and amenity	141
Sandon	Jeff	Air Quality-Impacts to agriculture	11
		Community Consultation-Community representation by CLG members	26
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Impacts to bores	66
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade away from existing highway	83
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Planning and Landuse-Consistency with environmental planning instruments	89
		Social and Business-Impact to Newrybar Village community/livelihoods	114
Sandon	Nicole	Air Quality-Impacts to water quality	13
		Community Consultation-Community representation by CLG members	26
		Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Private water supply and dams	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade away from existing highway	83
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Planning and Landuse-Consistency with environmental planning instruments	89

Last Name	First Name	Issue Category	Response
		Process-Inaccurate/missing/misleading information in RODR	97
		Social and Business-Impact to community/livelihoods	114
		Strategic Planning-Prioritisation of road freight industry concerns	124
Sandon	Terry	Engineering Design-Speed limits for upgrade are excessive	46
		Heritage-Non-Aboriginal	62
		Hydrology and Water Quality-Private water supply and dams	64
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Noise and Vibration-General	78
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to Newrybar School	120
		Strategic Planning-Inland route as an alternative option	129
Scanlan	Paul	Community Consultation-Uncertainty and anxiety during route selection process	31
		Ecology-Impacts to the coastal plain/escarpment area	38
		Geology, Geotechnics and Soil-Soft soils	57
		Hydrology and Water Quality-Floodplain hydrology	68
		Hydrology and Water Quality-Identification of flood prone areas	69
		Planning and Landuse-Upgrade on/near existing Highway	82
		Safety-Significance of Fog	111
Scanlon	Jacqueline	Air Quality-Impacts to the community	14
		Community Consultation-Criticism of consultation program	18
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Strategic Planning-Inland route as an alternative option	129
Schoeman	Andre	Community Consultation-CEPS 4 point submission	22
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Flooding as a non or insignificant issue	70
		Land Acquisition and Compensation-Compensation arrangements	71
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Noise and Vibration-Impacts to Bangalow	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Measures for immediate implementation	106
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Inland route as an alternative option	129
Schuback	Alistair	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Scott	Malcolm	Planning and Landuse-Upgrade on/near existing Highway	82

Last Name	First Name	Issue Category	Response
		Planning and Landuse-Consistency with environmental planning instruments	89
		Strategic Planning-An inland route is not appropriate	130
Scruton	Peter	Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Significance of Fog	111
Seddon	Eli	Social and Business-Impact to community/livelihoods	115
Sellers	Elissa	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Heavy vehicles	78
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Inland route as an alternative option	129
Selwood	Joyce	Access-Local access impacts	1
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Social and Business-Impacts to residents and dwellings	116
Sharman	Eleanor	Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
		Engineering Design-Design guidelines for upgrade are excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
Sharman	Emma	Noise and Vibration-Heavy vehicles	78
		Planning and Landuse-Prime agricultural land should be avoided	85
		Social and Business-Impact to Bangalow community/livelihoods	114
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Impacts to townships	150
Sharman	Gary	Heritage-Non-Aboriginal	62
		Noise and Vibration-Heavy vehicles	78
		Planning and Landuse-Prime agricultural land should be avoided	85
		Social and Business-Impact to Newrybar Village community/livelihoods	114
		Social and Business-Impact to Bangalow community/livelihoods	114
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Impacts to townships	150
Sherringham	Carol	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Safety-Safety as priority in program	105
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Shevellar	Chris	Access-Interchanges and access onto/off the upgraded highway	3
		Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Water quality of Emigrant Creek	64

Last Name	First Name	Issue Category	Response
		Noise and Vibration-Impacts to St Helena/Ewingsdale	76
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Safety as priority in program	105
		Safety-Measures for immediate implementation	106
		Social and Business-Impact to community/livelihoods	115
		Tunnel-Prefer specific tunnel option	146
		Visual Impact and Urban Design-Impacts to townships	150
Shevellar	Helen	Access-Local access impacts	1
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Use of the existing highway as a tourist route	119
Sicloth	Amanda	Engineering Design-Design guidelines for upgrade are excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Siddharta	Fiona	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Siebert	Rob	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Simes	Catherine	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Simes (Paul) & Ryan (Natalie)		Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71

Last Name	First Name	Issue Category	Response
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Simpson	Amanda	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Simpson	Andrew	Engineering Design-Number of lanes for upgrade is excessive	46
		Safety-Measures for immediate implementation	106
		Social and Business-Impact to community/livelihoods	114
		Strategic Planning-Inland route as an alternative option	129
Simpson	Craig	Access-Access to/within individual properties/businesses and community facilities	4
		Ecology-Data/Information	44
		Engineering Design-Upgrade on/near existing highway	49
		Hydrology and Water Quality-Water quality at specific location/property	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Process-Not enough weight is given to newly affected residents	102
		Social and Business-Impact to Knockrow community/livelihoods	114
		Social and Business-Upgrade on/near existing Highway	115
		Strategic Planning-Accountability/transparency in process	125
Simpson	G	Air Quality-Impacts to agriculture	11
		Community Consultation-Division of community during route selection process	30
		Land Acquisition and Compensation-Depreciation of land value as investments	74
		Noise and Vibration-Noise modelling	80
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Linking with Ballina Bypass	84
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Simpson	Merryn & Alan	Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Consideration of future residential development	87
Singh	Garry J	Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Social and Business-Impacts to residents and dwellings	116
		Tunnel-Non tunnel options preferred	142

Last Name	First Name	Issue Category	Response
Skennar	Colin	Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Consideration of future residential development	87
		Strategic Planning-Inland route as an alternative option	129
Skyring	Nigel	Access-Interchanges and access onto/off the upgraded highway	3
		Air Quality-Ecology impacts	10
		Community Consultation-Uncertainty and anxiety during route selection process	31
		Ecology-Impacts to the coastal plain/escarpment area	38
		Ecology-Data/Information	44
		Geology, Geotechnics and Soil-Soft soils	57
		heritage-Aboriginal	61
		Hydrology and Water Quality-Water quality of Byron Creek	64
		Hydrology and Water Quality-Floodplain hydrology	68
		Hydrology and Water Quality-Identification of flood prone areas	69
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Process-Inaccurate/missing/misleading information in RODR	97
		Safety-Significance of Fog	111
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Social and Business-Tourism impacts	118
		Visual Impact and Urban Design-Landowners amenity	158
Smith	Emily	Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
Smith	Ian	Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Upgrade on/near existing highway	49
		Noise and Vibration-General	78
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Smith	Jon & Lynn	Access-Interchanges and access onto/off the upgraded highway	3
		Access-Access to/within individual properties/businesses and community facilities	4
		Air Quality-Impacts to agriculture	11
		Air Quality-Construction and dust impacts	12
		Air Quality-Impacts to water quality	13
		Community Consultation-CEPS 4 point submission	22
		Community Consultation-Influence of lobby groups	24
		Community Consultation-Division of community during route selection process	30
		Ecology-Rehabilitation and revegetation projects	41
		Ecology-Data/Information	44
		Engineering Design-Construction Impacts	55
		Heritage-Non-Aboriginal	62
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Water quality of Skinner Creek	64
		Hydrology and Water Quality-Private water supply and dams	64
		Land Acquisition and Compensation-Compensation arrangements	71

Last Name	First Name	Issue Category	Response
		Noise and Vibration-Construction	79
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Land trapped between existing roads and the upgraded highway	91
		Safety-Heavy freight vehicles	109
		Safety-School transportation	110
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Political motives	123
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-An inland route is not appropriate	130
		Traffic and Transport-Impact on traffic volumes	133
		Traffic and Transport-Impact of project delay on traffic volumes	134
		Visual Impact and Urban Design-Cuttings and bridges	152
Spatt	Maurice	Engineering Design-Upgrade to Class A on/near existing highway	46
		Planning and Landuse-Prime agricultural land should be avoided	85
		Safety-Measures for immediate implementation	106
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
St Clair	Geoff	Engineering Design-Upgrade on/near existing highway	49
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Planning and Landuse-Upgrade on/near existing Highway	82
		Land Acquisition and Compensation-Compensation arrangements	71
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Strategic Planning-Build Ballina Bypass	132
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Standage	Norman	Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Stanley	Lewis	Social and Business-Impacts to residents and dwellings	116
		Tunnel-Supported	141
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Stanley	Sandra	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
Staples	Richard	Engineering Design-Road infrastructure maintenance costs from truck usage	56
		Hydrology and Water Quality-Floodplain hydrology	68
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Noise and Vibration-Heavy vehicles	78
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85

Last Name	First Name	Issue Category	Response
		Safety-Safety as priority in program	105
		Safety-Significance of Fog	111
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Strategic Planning-Inland route as an alternative option	129
Starkey	Andrew	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Social and Business-Impacts to residents and dwellings	116
Stebbing	Renee	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Steel	Sarndra	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Social and Business-Impact to community/livelihoods	114
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Stephens	Nick	Community Consultation-Feedback forms	21
		Safety-Measures for immediate implementation	106
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
Stephenson	Brett	Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Strategic Planning-Inland route as an alternative option	129
Stewart	Wendy	Air Quality-Impacts to the community	14
		Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Engineering Design-Upgrade on/near existing highway	49
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Hydrology and Water Quality-Hydrology	68
		Hydrology and Water Quality-Identification of flood prone areas	69
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Consideration of future residential development	87
		Planning and Landuse-Highway development not compatible with coastal area	90
		Safety-Safety as priority in program	105
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Upgrade on/near existing Highway	115

Last Name	First Name	Issue Category	Response
		Strategic Planning-Accountability/transparency in process	125
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Traffic and Transport-Impact on traffic volumes	133
		Visual Impact and Urban Design-Upgrade on/near existing Highway	151
Sundstrom	Brian	Access-Interchanges and access onto/off the upgraded highway	3
		Community Consultation-Scope of consultation program	20
		Community Consultation-Community representation by CLG members	26
		Noise and Vibration-Impacts to Bangalow	76
Swain	Anna	Heritage-Non-Aboriginal	62
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Social and Business-Tourism impacts	118
		Strategic Planning-Alternative route(s) should be considered	131
Swain	Gerry	Access-Use of existing highway for local access road/tourist drive	2
		Air Quality-Increased truck traffic	6
		Air Quality-Impacts to agriculture	11
		Community Consultation-CEPS 4 point submission	22
		Ecology-Rehabilitation and revegetation projects	41
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Noise and Vibration-General	78
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Land trapped between existing roads and the upgraded highway	91
		Safety-Measures for immediate implementation	106
		Social and Business-Impact to Newrybar Village community/livelihoods	114
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Tourism impacts	118
		Strategic Planning-Inland route as an alternative option	129
Swain	Gerry & Marie	Community Consultation-Consideration of submissions	22
		Community Consultation-CEPS 4 point submission	22
		Planning and Landuse-Linking with Ballina Bypass	84
Swain	Marie	Planning and Landuse-Prime agricultural land should be avoided	85
		Social and Business-Use of the existing highway as a tourist route	119
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
Swain	Nicole	Air Quality-Vehicle emissions and greenhouse/global warming	5
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Planning and Landuse-Prime agricultural land should be avoided	85
		Process-Weighting of evaluation criteria	101
		Safety-Safety as priority in program	105
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Strategic Planning-Inland route as an alternative option	129

Last Name	First Name	Issue Category	Response
Swain	Rhoda	Engineering Design-Number of lanes for upgrade is excessive	46
		Engineering Design-Upgrade on/near existing highway	49
Sweeny	MF	Noise and Vibration-General	78
		Strategic Planning-Inland route as an alternative option	129
Taylor	Andrew	Community Consultation-Influence of lobby groups	24
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Noise and Vibration-Heavy vehicles	78
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consistency with environmental planning instruments	89
		Process-Weighting of evaluation criteria	101
		Visual Impact and Urban Design-Impacts to plateau	156
		Visual Impact and Urban Design-Landowners amenity	158
Taylor	Andrew & Glenda	Access-Use of existing highway for local access road/tourist drive	2
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Noise and Vibration-Route preference on basis of noise impacts	76
		Noise and Vibration-General	78
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
Taylor	P	Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Impact to community/livelihoods	114
The Byron Environment Centre		Air Quality-Increased truck traffic	6
		Ecology-Minimise and confine impacts	36
		Ecology-Data/Information	44
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Planning and Landuse-Prime agricultural land should be avoided	85
		Strategic Planning-Inland route as an alternative option	129
Thompson	Katya	Community Consultation-Feedback forms	21
		Safety-Measures for immediate implementation	106
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
Thompson	L	Engineering Design-Upgrade on/near existing highway	49
Thorpe	D	Access-Access to/within individual properties/businesses and community facilities	4
		Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
		Visual Impact and Urban Design-Route preference to minimise impacts	150

Last Name	First Name	Issue Category	Response
Tobin	Geoff	Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
Tongmar	Rosie	Community Consultation-Criticism of consultation program	18
		Engineering Design-Upgrade to Class A on/near existing highway	46
		Process-Weighting of evaluation criteria	101
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
Touzel	Greta	Ecology-Impacts to the coastal plain/escarpment area	38
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Safety-Significance of Fog	111
Touzel	Jamie	Engineering Design-Upgrade on/near existing highway	49
		Hydrology and Water Quality-Feasibility of highway on flood prone land	69
		Safety-Significance of Fog	111
Toynbee	Robert & Rosemarie	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Land Acquisition and Compensation-Depreciation of land values distant from the existing highway	73
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Process-Criticism of route selection process	93
		Process-Pairwise analysis	98
		Safety-Heavy freight vehicles	109
Treichel	Marissa	Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Route preference on or near the existing highway to minimise impacts	151
Tromp (Aloys) & Gartly (Elizabeth)		Community Consultation-CEPS 4 point submission	22
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Inland route as an alternative option	129
		Tunnel-Prefer specific tunnel option	146
Trussell	Dianne	Engineering Design-Upgrade on/near existing highway	49
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Route preference to minimise impacts	150
		Visual Impact and Urban Design-Impacts to the coastal escarpment and coastal plain	155
Turnbull	PB	No issues stated-Used for statistical purposes only	160
United Voices		Engineering Design-Upgrade to Class A on/near existing highway	46
		Strategic Planning-Inland route as an alternative option	129
		Build Ballina Bypass	132
Upper Emigrant Creek Landcare Group		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Planning and Landuse-Consistency with environmental planning instruments	89
Valle	Peter	Access-Local access impacts	1
		Strategic Planning-An inland route is not appropriate	130

Last Name	First Name	Issue Category	Response
Van Yzendoern	Gillian	Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
Vincent	George	Engineering Design-Use of existing highway during construction	54
		Tunnel-Prefer specific tunnel option	146
Vogler	Wendy	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Wallen	Jonathan	Safety-Heavy freight vehicles	109
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Alternative route(s) should be considered	131
		Tunnel-Impacts of tunnel	143
Walsh	Fiona	Noise and Vibration-Route preference on basis of noise impacts	77
		Planning and Landuse-Linking with Ballina Bypass	84
Walters	Cherie	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Ward	CJ	Ecology-Impacts to the coastal plain/escarpment area	38
		Engineering Design-Upgrade on/near existing highway	49
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Noise modelling	80
		Strategic Planning-Inland route as an alternative option	129
		Strategic Planning-Build Ballina Bypass	132
		Traffic and Transport-Impact on traffic volumes	133
Watercatchers & Waterdrinkers of Ballina Shire Inc		Air Quality-Vehicle emissions and greenhouse/global warming	5
		Ecology-Rehabilitation and revegetation projects	41
		Engineering Design-Footprint width	48
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66

Last Name	First Name	Issue Category	Response
		Hydrology and Water Quality-Hydrology	68
		Planning and Landuse-Consistency with environmental planning instruments	89
		Planning and Landuse-Land trapped between existing roads and the upgraded highway	91
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
Watson	Sean	Access-Use of existing highway for local access road/tourist drive	2
Weiley	J	Planning and Landuse-Upgrade away from existing highway	83
Weinert	WF & BR	Access-Local access impacts	1
		Air Quality-Health impacts	9
		Community Consultation-Influence of lobby groups	24
		Ecology-Impacts to the plateau/escarpment area	37
		Ecology-Impacts to the coastal plain/escarpment area	38
		Ecology-Data/Information	44
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Use of existing highway during construction	54
		Geology, Geotechnics and Soil-Areas of instability	58
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Hydrology and Water Quality-Impacts to waterways	64
		Hydrology and Water Quality-Water quality of Knockrow Creek	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Land Acquisition and Compensation-Value of the land for acquisition purposes	72
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Noise and Vibration-Impacts to Newrybar	76
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Upgrade away from existing highway	83
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Land trapped between existing roads and the upgraded highway	91
		Process-Weighting of evaluation criteria	101
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Impacts to Newrybar School	120
		Visual Impact and Urban Design-Importance of visual impact	157
Welstead	Annette	Engineering Design-Number of lanes for upgrade is excessive	46
		Planning and Landuse-Prime agricultural land should be avoided	85
Welstead	B & D	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Social and Business-Impacts to residents and dwellings	116
Weston	Dinah	Engineering Design-Route preference on basis of engineering design and feasibility	51

Last Name	First Name	Issue Category	Response
		Noise and Vibration-Impacts of upgrade on or near existing highway	76
		Noise and Vibration-Heavy vehicles	78
		Safety-Heavy freight vehicles	109
		Social and Business-Impact to community/livelihoods	114
White	Anita	Noise and Vibration-Route preference on basis of noise impacts	76
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Engineering Design-Use of existing highway during construction	54
		Hydrology and Water Quality-Water quality of Emigrant Creek	64
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impacts to residents and dwellings	116
White	Ashley	Social and Business-Impacts to residents and dwellings	116
White	Bryan	Community Consultation-Influence of lobby groups	24
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Noise and Vibration-Impacts to Bangalow	76
		Noise and Vibration-Route preference on basis of noise impacts	76
		Noise and Vibration-General	78
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Tunnel-Prefer specific tunnel option	146
White	Colin & Anita	Engineering Design-Route preference on basis of engineering design and feasibility	51
White	Renee	Engineering Design-Route preference on basis of engineering design and feasibility	51
Whiting	Paul	Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Social and Business-Impacts to educational/agricultural research facilities impacted	121
Will	Carol A	Planning and Landuse-Upgrade on/near existing Highway	82
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Safety-Significance of Fog	111
		Social and Business-Impact to community/livelihoods	115
Will	TM	Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Visual Impact and Urban Design-Impacts to scenic escarpment	154
Williams	Michael	Noise and Vibration-Impacts to Bangalow	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Process-Sustainability of project	94
Williamson	David	Community Consultation-Criticism of consultation program	18

Last Name	First Name	Issue Category	Response
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Winslow	Dennis	Engineering Design-Route preference on basis of engineering design and feasibility	51
		Geology, Geotechnics and Soil-Soft soils	57
		Hydrology and Water Quality-Private water supply and dams	64
		Hydrology and Water Quality-Impacts to springs/groundwater	66
		Hydrology and Water Quality-Identification of flood prone areas	69
		Noise and Vibration-Noise modelling	80
Wolff	David	No issues stated-Used for statistical purposes only	160
Woodlands	John & Cheryl	Access-Use of existing highway for local access road/tourist drive	2
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Strategic Planning-Alternative route(s) should be considered	131
Woolcott	Juanita	Visual Impact and Urban Design-Impacts to scenic escarpment	154
Woolsey	D & D	Access-Access to/within individual properties/businesses and community facilities	4
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to waterways	64
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Social and Business-Impact to community/livelihoods	114
Yeates	Suzanne	Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Tunnel-Supported	141
Young	Jason	Noise and Vibration-Impacts to St Helena/Ewingsdale	76
		Social and Business-Upgrade on/near existing Highway	115
Young	Robert	Land Acquisition and Compensation-Compensation arrangements	71
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
Youngkin	Clay	Community Consultation-Criticism of consultation program	18
		Ecology-Impacts to the coastal plain/escarpment area	38
		Land Acquisition and Compensation-Compensation arrangements	71
		Planning and Landuse-Upgrade on/near existing Highway	82
		Social and Business-Upgrade on/near existing Highway	115
		Social and Business-Impact to community/livelihoods	115
		Social and Business-Impacts to residents and dwellings	116
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Upgrade should not be fast tracked	128
		Strategic Planning-Inland route as an alternative option	129
Zentveld	John	Social and Business-Impacts to residents and dwellings	116

Last Name	First Name	Issue Category	Response
Zentveld	June	Community Consultation-Criticism of consultation program	18
		Ecology-Rehabilitation and revegetation projects	41
		Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Planning and Landuse-Consistency with environmental planning instruments	89
		Safety-Heavy freight vehicles	109
		Social and Business-Impact to community/livelihoods	114
		Social and Business-Impact to Newrybar Village community/livelihoods	114
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Tourism impacts	118
		Social and Business-Use of the existing highway as a tourist route	119
		Social and Business-Impacts to Newrybar School	120
		Strategic Planning-Prioritisation of road freight industry concerns	124
		Strategic Planning-Criticism of governments and RTA over process of entire Pacific Highway upgrade	126
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Route preference to minimise impacts	150
Zentveld	Rebecca	Community Consultation-Criticism of consultation program	18
		Engineering Design-Route preference on basis of engineering design and feasibility	51
		Hydrology and Water Quality-Impacts to water catchment areas	64
		Hydrology and Water Quality-Impacts to drinking water and water supplies	64
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Route preference on basis of noise impacts	76
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Future residential development should not be given priority over existing residents	88
		Planning and Landuse-Consistency with environmental planning instruments	89
		Social and Business-Impacts to residents and dwellings	116
		Social and Business-Impacts to Newrybar School	120
Zenvestments Pty Ltd		Access-Access to/within individual properties/businesses and community facilities	4
		Air Quality-Health impacts	9
		Air Quality-Impacts to the community	14
		Ecology-Minimise and confine impacts	36

Last Name	First Name	Issue Category	Response
		Ecology-Rehabilitation and revegetation projects	41
		Ecology-Data/Information	44
		Engineering Design-Speed limits for upgrade are excessive	46
		Engineering Design-Number of lanes for upgrade is excessive	46
		Engineering Design-Upgrade on/near existing highway with reduced speed limits and lanes	46
		Land Acquisition and Compensation-Compensation arrangements	71
		Noise and Vibration-Impacts of upgrade away from existing highway	77
		Planning and Landuse-Prime agricultural land should be avoided	85
		Planning and Landuse-Route preference on basis of agricultural land impacts	86
		Planning and Landuse-Consideration of future residential development	87
		Process-Inaccurate/missing/misleading information in RODR	97
		Social and Business-Impact to Newrybar Village community/livelihoods	114
		Social and Business-Impacts to economy and businesses (non-agricultural)	117
		Social and Business-Tourism impacts	118
		Social and Business-Impacts to educational/agricultural research facilities impacted	121
		Strategic Planning-Inland route as an alternative option	129
		Visual Impact and Urban Design-Landowners amenity	158
(Unknown)	Tony	Community Consultation-Uncertainty and anxiety during route selection process	31
(Unknown)	Tracey	Engineering Design-Upgrade should not be on/near existing highway	50
		Strategic Planning-Upgrade should be completed as soon as possible	127

Appendix D

Consideration of Submissions on the Route Options

Contents

Appendix D - Consideration of Submissions on the Route Options

D1. Access

ACCESS		
Response Number	**Issue Summary**	**Response**
1	Different options are preferred based on concerns with access to the local road network. Option A is identified as causing the most issues for local access arrangements whereas Option D is identified as having fewer local access issues.	The local road system would be fully maintained for all options by using a mix of overpasses, underpasses and new sections of local road. All properties would have direct access to the local road system.
2	The existing highway should be maintained for local access to and from the upgraded highway. Preference for Options B, C, and D so that the existing highway can be retained for local access.	Options C and D would allow the existing Highway to be retained for local access and as a tourist drive. Parts of Options A and B would utilise the existing road reserve and would restrict the full use of the existing highway. Option A utilises more of the existing highway than Option B. The revised local road system would provide alternative tourist routes.
3	Need to address access to upgraded highway and interchanges, particularly the ability of local residents to get on and off the highway, as well as in relation to the location and suggestion of potential extra interchanges.	For each of the options there would be no access onto or off the upgraded Highway except at the interchanges located at Ewingsdale and either Ross Lane or Sandy Flat. Local traffic would access the interchanges from the local road system. There are no other interchanges planned at this stage for this section of the Pacific Highway.
4	Access to and/or within residential and business properties may be problematic with the proposed upgrades, particularly regarding the suitability of the property for heavy vehicles and agricultural/business related machinery.	When the preferred route has been chosen each individual property affected by the preferred route would be investigated for impacts including access. The project team would discuss with each landowner their access requirements both within the property and to the local road system. The project team and the landowner would agree on the access to be incorporated into the concept design.

D2. Air Quality

AIR QUALITY		
Response Number	**Issue Summary**	**Response**
5	There will be an associated increase in vehicle emissions, particularly from heavy vehicles, with the highway upgrade. The climatic impacts on greenhouse and global warming issues (including carbon credit projects in the study area) from the increased vehicle emissions are not addressed in the current assessments.	The lower grades and reduced deceleration/acceleration due to vehicles entering properties and side roads would mean less vehicle emissions on the new highway. Greenhouse gas emissions are being calculated for the different route options based on estimated fuel consumption, and would be a factor in the preferred route selection process. Alternative freight options that might impact on the number of heavy vehicles on the highway are outside the scope of this environmental assessment. It is noted that with or without the upgrade vehicle movements will increase.
6	Increased vehicle emissions, especially from heavy vehicles, will further degrade the air quality. A concentration of vehicle emissions is emphasised along ridgelines and in fog prone areas.	The air quality criteria of the Department of Environment and Conservation must be met by the preferred route. The air quality assessment for the preferred option would assess the health impacts of heavy vehicle diesel emissions near the highway, at residences, schools and other sensitive locations where people spend a significant amount of time. The purpose of the air quality assessment is to determine the impacts of vehicle emissions on human health. The assessment would consider topography and fog prone areas when identifying emission concentrations. Refer to response 5 for further information.
7	Flatter grades are associated with lower fuel consumption and vehicle emissions. Options which facilitate reduced vehicle emissions should be selected.	In general, routes which have shorter sections of steep grade would have less overall emissions. Whether they also have a lower impact on health would also depend on whether there are receptors close to the sections that have a steep grade. Also routes that are shorter would have less overall emissions (assuming similar topography). Whichever option is chosen, the pollution levels must not exceed the air quality criteria set out by the Department of Environment and Conservation (DEC).

AIR QUALITY		
Response Number	**Issue Summary**	**Response**
8	Heavy vehicle maintenance should be enforced, combined with technical innovation and strategies, to minimise pollution.	In NSW, heavy vehicle maintenance is enforced through the Roads and Traffic Authority inspection process for vehicle registration, and through the NSW Environment Protection Authority (Department of Environment and Conservation) smoky vehicle enforcement program. Strategic management issues need to be addressed at a national and state level to reduce vehicle emissions at the tailpipe. The roadway would be designed, where practical, to minimise transport emissions.
9	Vehicle emissions have corresponding related health issues and will further affect community areas, residents with existing health problems and school children.	The highway would be designed to meet the air quality criteria set by the Department of Environment and Conservation. The air quality analysis would assess the health impacts of emissions near the highway, at residences, schools and other sensitive locations where people spend a significant amount of time.
10	Pollution will adversely impact on fauna living, feeding and nesting in the proximity to the highway.	Whichever option is chosen, the pollution levels must not exceed the air quality criteria set out by the DEC. These air quality criteria set out to protect human health and amenity, and would also protect other species.
11	Air pollution is a significant impact on the 'clean, green' image, organic farms and plantations susceptible to dieback	Diesel emissions do have the potential to impact on human health, and their controls (also DEC guidelines) are being targeted by both federal and state governments through the control of the sulfur content of fuel and design rules for diesel engines. It is unlikely that the amount of NO_2 emitted by the volume of traffic that has been projected would affect local crop growth and production. A literature review is being undertaken to investigate the issue of air pollution impacts on vegetation.

AIR QUALITY		
Response Number	**Issue Summary**	**Response**
12	Increased air and visual pollution during construction of the highway is a concern.	Dust would be generated from earthworks associated with the proposed upgrade. The Department of Environment and Conservation has prepared a general document containing safeguards to protect the environment during construction activities. The contractor would be required to comply with these guidelines. An Air Quality Management Plan would be part of an overall Environmental Management Plan for construction, where mitigation measures would be outlined. The impact of construction on dust sensitive industries and operations would be looked at in detail.
13	Will the water quality degrade in tank water and dams where the inversion effect enhances deposition of pollutants?	Most of the emissions from motor vehicles would be gaseous and would not affect rainwater tanks. Also, particulate emissions from diesel combustion are very fine and behave like gases. The level of particulate fallout in the dams would not be discernible.
14	The highway upgrade will permanently increase odour and vehicle emissions settling on properties and in community areas. The effectiveness of mitigation measures is of concern for residences along on the escarpment and in coastal townships.	The traffic has been forecast to increase in the future, which is likely to occur with or without the upgrade. However there are new vehicle emission's standards, fuel standards and technology which would counteract this trend.

AIR QUALITY		
Response Number	**Issue Summary**	**Response**
15	The impacts of air pollutants were not sufficiently considered in RODR and need to be assessed thoroughly using computer modelling. Concern that within the RTA's timeframe, the impacts can not be calculated.	Air quality in the Route Option Development Report was not seen as an option differentiator at that stage. Computer modelling would be conducted on the preferred route option, and would take into account worst case dispersion conditions including temperature inversions when fogs are present.
16	How can a fog study from Alstonville in 1963 be relevant to this highway?	The fog and frost data from Alstonville that was presented was from 1963 to 2005. Community observations of fog occurrence and locations are detailed in the “fog constraints map”. We would be assuming that the conditions that lead to fog formation i.e. atmospheric inversions can occur along the entire route.
17	Local community members have experience/knowledge of weather conditions which is not consistent with RODR. Consideration of weather records and anecdotal information from community members has been ignored.	Meteorological data collected in Ballina 2004 have been presented. Cape Byron and longer term records from the area would also be considered to investigate the variation in weather patterns from year to year. Community observations have been considered and cross-checked with available meteorological data.

D3. Community Consultation

COMMUNITY CONSULTATION		
Response Number	**Issue Summary**	**Response**
18	The community consultation process is flawed and does not meet the standards of the Environmental Protection and Assessment Act 1979. The route options do not address the concerns of the community and those put forward by the CLG. The RTA is following due process in order to state that consultation was undertaken despite having a predetermined route.	Community consultation is part of the decision making process. A Community Involvement Plan was prepared for the project. It was prepared in accordance with the RTA's Community Involvement Practice Notes and Resource Manual (July 1998) and recognises the RTA's Community Involvement Policy: "The Roads and Traffic Authority would strive for effective community involvement in decision making across all functional areas and at all levels of activity". Once the route options were announced, a comment period for submissions was set for four weeks. However, the RTA received requests to extend this period and the submission period was lengthened to 6 weeks. A Preferred Route would be identified following input from the community, stakeholder groups and government agencies as well as a technical evaluation of the short listed options. The preferred route would be assessed by the Department of Planning in accordance with the Environmental Planning and Assessment Act 1979.
19	The information on the short listed route options was well presented. Community information should continue.	Noted.

COMMUNITY CONSULTATION		
Response Number	**Issue Summary**	**Response**
20	RTA must work collaboratively with all community members. Concern that some key stakeholders and communities were not consulted. This includes local areas (i.e. Suffolk Park, Lennox Head) as well as in Sydney or interstate. Some residents directly affected were not consulted prior to route option announcement. In addition, local and state governments were not consulted.	A strategy has been put in place to reach as many key stakeholders as possible in the local area (see Section 2 of this report). The strategy has included: advertising in local newspapers; regular community updates in local and regional papers; delivery of community updates; community information displays (staffed and static) held in local areas; website for further information; project Freecall line and email line. A mail out for those outside the study area requesting updates on the project was maintained. All community members were invited to make a submission on the route options display. In addition, consultation with the community will be ongoing after the announcement of the preferred route.
21	Concern that the purpose of the feedback form was not clear and is flawed creating bias in process. There is not enough detail provided in listed 'tick box' issues and may result in bias. The wording stating that the form is 'not a vote' encourages submissions with unique/unrecognised issues and discourages submissions from those who have obvious concerns (such as Bangalow noise).	The feedback form was made available to the community to assist in providing feedback on the Route Options Display to the project team. All feedback forms were reviewed as part of the submissions assessment process. The selection of the preferred route is not a voting exercise and the submissions on the route options form only one of many inputs into the selection of the preferred route. All senders of written submissions were sent a letter of acknowledgement. By doing this, those that no longer felt they supported the text on the form letters were given the opportunity to contact the project team to retract their submissions, and some people did retract their submissions.

COMMUNITY CONSULTATION		
Response Number	**Issue Summary**	**Response**
22	The RTA needs to detail its methodology in considering submissions. Concern that the quantity of submissions is being considered. Many submissions, particularly the CEPS four point form submission, have come from people outside the area and tourists who may not understand the issues. Concern that the more important views of locals are not being heard.	The project team received 19,118 submissions, which make up the content of this report. The goal of the submissions was to inform the study team of issues associated with each option. All submission senders, where included, have been sorted by postcode. The form submissions received were analysed to determine the location of the sender. Please see Section 3 of this report for an overview of submissions received. 5,082 from postcode 2478 (Ballina/Lennox Head area) 1,282 from postcode 2479 (Bangalow/Newrybar area) 1,144 from postcode 2480 (Lismore area) 4,044 from postcode 2481 (Byron Bay/Suffolk Park area)
23	The project team failed to respond to community correspondence or provide a fair method to address complaints.	Every effort was made to respond to all community correspondence. All phone calls and emails were logged and tracked to ensure that responses were given as required. All issues raised will be considered by the study team in determining the preferred route.
24	The RTA and the community are being influenced by sub-groups who are well funded, more politically savvy, vocal or large. Such groups may only be interested in their own agenda rather than the interests of the broader community.	Many community groups representing different interests have developed during the course of the project. The RTA seeks and considers all issues of importance to the community. Submissions have been received from numerous interest groups. The project team is considering all issues raised in determining the preferred route, and no preference is given to submissions from larger or more vocal interest groups.
25	Concern that the issues raised by stakeholder groups do not reflect the concerns of the people they represent. Examples include poor representation of ratepayers' concerns by Ballina Shire Council, poor representation of the rural sector and St Helena residents' concerns by noise taskforce, and biased representation by community liaison officers.	The RTA considers representations from individual's and stakeholder groups and the assessment is based on the merit of the issue not the source location of the submission was received from. Ballina Shire Council has been and continues to be consulted in respect of the proposed housing developments that may be impacted by any of the route options. Community and Council representatives clearly stated the issues for the village of Bangalow, the rural sectors and St Helena residents at the Value Management Workshop.

COMMUNITY CONSULTATION		
Response Number	**Issue Summary**	**Response**
26	The CLG is not representative of the whole community and concluded in unfair results in the pairwise process. Democratic election of CLG representatives by the community would have been fairer. The selection process of CLG members for attendance at the Value Management Workshop was unfair.	The process for selecting the members of the CLG after the expansion of the study area was open and clearly documented. Applications were received and applicants assessed against criteria listed in the application pack. This included community members in three zones (North, Central and South). Members were selected by an Independent Facilitator, with final approval by the RTA, in relation to the publicly advertised criteria and by geographical region. The involvement of community members was not limited to the CLG. There was also input from the Agricultural Focus Group, the Aboriginal Focus Group and Community Information Sessions. Additionally, it is important to note that community members have contacted members of the project team through various communication links, such as the Freecall line, project email, as well as the opportunity for feedback at any time during the project. The Pairwise was completed by the project team, the CLG and the government stakeholders. The CLG results were used as a sensitivity test only and not used as the sole determinant of the short list of options.
27	Confidentiality at CLG meetings created suspicion in the community. There should not have been confidential material or discussions.	At CLG meetings, notes outlined the topics and presentations by the project team. These notes were distributed to CLG members for discussion within their community groups, made available on the project website and were accessible by contacting the project team on the Freecall Line or the project email. Confidentiality at CLG meetings occurred when the project team had developed a preliminary list of route options. As many of these route options would not exist in the publicly exhibited short list and to avoid unnecessary stress and concern for potentially affected community members, the project team asked that the CLG members not discuss the 'long' list with their community groups. When the short list was developed, the long list of options was subsequently published in the Route Options Development Report for community reference.
28	The original CLG should have had an independent facilitator.	As with most of the Pacific Highway Upgrading projects, the consultancy team were required to provide a facilitator for CLG meetings.

COMMUNITY CONSULTATION		
Response Number	**Issue Summary**	**Response**
29	A new CLG should be set up that represents the broader community.	As stated in the CLG charter, the CLG was formed as an advisory body to the project and is not a decision-making group. The project team considers that the current members can continue to play a valuable role in this advisory capacity and we do not propose to change the CLG membership in the short term. The best consultation model for the next phase of the project would be determined after the announcement of the preferred route.
30	The process, particularly the study area expansion and the shortlist of route options, has divided the community. Emotive behaviour and incorrect information spread amongst the community is corrupting the process. It is suggested that the decision on the preferred route option should be made based on a study carried out or a poll of residents within the study area. It appears the RTA intended the division in order to impose a preferred route.	The RTA does not have a predetermined route. The project team is undertaking a rigorous, comprehensive and transparent route development process with considerable community input in order to select a preferred route that best meets the overall objectives of the Pacific Highway upgrade program and the specific objectives of this project. Potentially affected landowners have had the opportunity to meet with the project team members to discuss individual property concerns. The consultation process allows for all of the community to present their views, concerns and issues to the project team for consideration. The RTA does not set out to divide the community and would welcome any suggestions to improve the consultation process.
31	The process has resulted in a period of uncertainty, confusion and anxiety for community members especially with respect to the expanded study area and the short list of route options. This affects people's ability to maintain their businesses and livelihoods with health and economic impacts for which compensation should be provided. Are medical professionals treating patients with emotional and physiological illnesses, being provided with briefing documents to address these issues?	The RTA is aware of the effects the period of route selection for the project would have on people within the study area and those affected by the route options. The RTA is endeavouring to undertake the process as quickly as possible but still ensure a robust and thorough assessment that addresses issues raised by the community on various route options. It is intended to identify the preferred route by mid 2006.

COMMUNITY CONSULTATION		
Response Number	**Issue Summary**	**Response**
32	Property owners have been forced to defend and justify properties at their own expense.	A comprehensive community involvement program has been implemented on the Tintenbar to Ewingsdale project. This program has included Community Information Sessions, numerous meetings with the Community Liaison Group (CLG) and the Agricultural Focus Group (AFG), the State and Local Government agency input through Planning Focus Meetings. Additionally, all of these bodies were involved in the Corridor Assessment Workshop and the Value Management Workshop. These have been significant opportunities for all community members to contribute through these avenues or directly through feedback forms on the website www.rta.nsw.gov.au/pacific (Tintenbar to Ewingsdale link), written submissions or discussions with project staff on the free information line or at the many community information sessions. Input on social and cultural values has been sought through these groups and meetings, and significant input was received on the development of the selection criteria for the project.
33	The community is not equipped to make judgements about the options, especially safety.	Community concerns and perceptions are important inputs to design process including safety. The RTA has endeavoured to provide the community with sufficient information to make informed decisions.
34	The news of the recent routes announcement and display was delivered without an understanding of community values. Perception is that news was delivered in an uncoordinated and ill conceived manner with a 'could not care less' approach.	The announcement of the routes by the Minister was followed by flyers to all residents of the study area, updates to the web site and telephone contact with land owners directly affected by any of the routes. This was a co-ordinated and comprehensive approach and was completed as quickly as practical.

D4. Ecology (Aquatic and Terrestrial)

ECOLOGY (AQUATIC AND TERRESTRIAL)		
Response Number	**Issue Summary**	**Response**
35	Habitats and threatened species are impacted under all options.	It is recognised that much of the native vegetation within the study area contains habitat for threatened plant and animal species and where practical impacts to threatened species and their habitat would be avoided. The final footprint of the road is likely to be significantly less than the 250 m corridor over most of its length. Therefore, many vegetation patches of high constraint that fall within the 250 m wide corridor may be able to be avoided. Furthermore, mitigation measures would be detailed at the detailed design phase of the project, with the aim to further minimise environmental impacts.
36	Impacts from the highway upgrade during construction and operation need to be minimised and confined to avoid further fragmentation of habitats and wildlife corridors, and destruction to ecosystems. A large proportion of high value vegetation is impacted relative to the area of the study area.	The final footprint of the road is likely to be significantly less than the 250 m corridor over most of its length. Therefore, many vegetation patches of high value that fall within the 250 m wide corridor may be able to be avoided. Furthermore, mitigation measures would be defined at the detailed design phase of the project, with the aim to further minimise environmental impacts. These best practice designs; construction and maintenance techniques would represent an improvement on the current situation regarding current impacts of creek crossings. Mitigation measures may include replanting with locally endemic species and over and underpasses where the route crosses wildlife corridors. The number of wildlife corridors crossed is used as a criterion to distinguish between route options. It is recognised that route options on or close to the existing highway would in general have the least ecological impacts.

ECOLOGY (AQUATIC AND TERRESTRIAL)		
Response Number	**Issue Summary**	**Response**
37	There are important flora and fauna habitats existing in the plateau and escarpment area, which are high constraints and include rainforest plantings, remnant vegetation and creeks. The significance of wildlife in these areas has been underestimated. Options in this area eliminate the possibility of the wildlife corridor being extended to the west. Options outside this area are preferred.	It should be noted that the plateau, escarpment and coastal floodplain areas all have high constraint ecological values. Rainforest plantings have been given a high constraint rating, regardless of the age of the plantings, in recognition of the valuable contribution of such efforts to improving ecological values within the region. All rainforest vegetation on the escarpment and plateau, including remnant vegetation, has been given a high constraint rating. Riparian vegetation has been given a higher constraint rating than equivalent non-riparian vegetation due to the important role that riparian vegetation plays in maintenance of the aquatic ecosystem and as wildlife corridors. All four options have an impact on ecological values. Mitigation measures would be identified at the detailed design phase of the project and consideration would be given to the movements of fauna along wildlife corridors
38	Options on the coastal plain impact areas of extensive restoration and revegetation, Endangered Ecological Communities and sensitive coastal environments including wet and dry sclerophyll forests, native forest, floodplain, remnant vegetation, swampy areas, and wetlands. These environments contain fauna and flora with local and national significance recognised under a conservation agreement with the NSW State Government. These options fragment wildlife corridors, impacting on species migration. Appropriate crossings over or under the highway should be constructed along the wildlife corridors to prevent this. However a highway on or close to the existing highway is preferred as it does not further impact the environment. Options on the floodplain also indirectly impact areas of high ecological value by altering water drainage patterns.	The significance of the coastal floodplains as a resource for nationally significant bird and mammal species is recognised. It should be noted that the escarpment and plateau areas also contain threatened species and communities, and contains areas that have been rehabilitated and are recognised under conservation agreements. The importance of native vegetation remnants and wildlife corridors have been highlighted and included as criteria for route option selection. The RODR (Section 5.8) identifies specific values of National and State environmental significance that may be impacted either directly or indirectly by each of the possible route options. These criteria are used to differentiate between route options and would help in selecting a route that reduces the impacts to the ecological values that contribute to the ecological significance of the NSW north coast region. The project team recognise that the coastal plain has greater ecological value than the adjacent hinterland due to a greater diversity of habitats and its proximity to a number of nature reserves, although the recent preliminary determination of Lowland Rainforest as an Endangered Ecological Community on the Threatened Species Conservation Act 1995 may reduce the difference between these two areas.

ECOLOGY (AQUATIC AND TERRESTRIAL)		
Response Number	**Issue Summary**	**Response**
		It is important to recognise that flora and fauna habitats may be impacted by all the options. It is recognised that route options on or close to the existing highway would have the least ecological impacts, with Options A and B scoring best on ecological criteria, when compared with the other options. However, it should be noted that Option B1 comes very close to the Killen Falls remnant, which is the largest and most significant example of the Big Scrub Rainforest within the study area. The impact of all route options on the connectivity between the Hinterland to Coast has been considered and during the detailed design stage mitigation measures would be considered.
39	Runoff from the road reserve would also have a detrimental effect to areas of high ecological value on the coastal plain, especially Ballina Nature Reserve, old growth remnants and wetlands located behind Lennox Head.	The sensitivity and significance of the wetland environments under or adjacent to options is recognised and taken into consideration during the route option assessment stage (route selection). After a final route is selected, effort would be made to avoid potential impacts to ecological values, including wetlands and remnant vegetation through design and runoff mitigation works both for the final highway and during construction.
40	Light pollution on proposed routes will cause road kill, especially where nocturnal species are prevalent.	This issue is common across all options. Appropriate mitigation (such as road side plantings, set backs and fencing) will be considered.
41	Regenerated vegetation areas, which have been dissected by the proposed routes, have been planted with the objective of joining remnant vegetation with National Parks and wildlife corridors. Significant amounts of personal time, revenue and grants have been invested. Areas of revegetation and restoration include Emigrant Creek, Byron Bay Road, "Wild Goose Chase" and Piccadilly Park.	Rainforest plantings have been given a high constraint rating, regardless of the age of the plantings, in recognition of the valuable contribution such efforts have in improving ecological values within the region. Additionally, the final road footprint is likely to be less than the 250 m corridor over most of its length and therefore, the loss of revegetated areas may be limited.

ECOLOGY (AQUATIC AND TERRESTRIAL)		
Response Number	**Issue Summary**	**Response**
42	Important to protect native vegetation (old macadamias) and remaining remnants, particularly that of the Big Scrub Rainforest habitat. The potential impact of water deficit and quality on Killen Falls Rainforest, and the close proximity of Option B1 to it (75-100m) are of concern. The Big Scrub Rainforest Landcare Group has dedicated time and money to rehabilitating and restoring these subtropical rainforest remnants.	The maps of remnant vegetation patches provided by the Big Scrub Rainforest Landcare Group form a major component of the constraints mapping, and due to the importance of remnant vegetation (as distinct from regrowth) within the study area, those remnant patches (along with patches of Endangered Ecological Communities) are important terrestrial ecological criteria for the route option assessment. Patterns of water flow and water quality would be maintained as far as possible using appropriate design, construction and mitigation measures. The design of the new highway would include structures to divert road run off away from waterways and wetlands. This would reduce risks to aquatic ecology. Note that the current highway runs through the drinking water catchment and has few such water diversion and treatment provisions.
43	Watercourses are areas of high ecological diversity and provide habitats for a variety of fauna. Any alterations to watercourses will degrade these habitats. The proposed options impact directly and indirectly creeks, wetlands and riparian vegetation. Of particular concern are options close to Emigrant Creek and its catchment area. The classification of small creeks should consider riparian habitat not just the absence or presence of fish.	Riparian vegetation within the catchment area has been given a higher constraint rating than equivalent non-riparian vegetation in recognition of the important role of this vegetation in maintaining aquatic and terrestrial ecosystem health. Currently the major impacts on water quality in the Emigrant Creek catchment are due to poor agricultural land use practice in the past. While the current highway has some impact, analysis through time of water quality has shown that it does not contribute in a major way to degradation of water quality. However the new highway design includes water diversion and treatment structures which represent an improvement to the current impact of the highway on water quality. Furthermore mitigation measures such as bridging over major creeklines and riparian vegetation and revegetation/rehabilitation of disturbed areas would reduce any impacts. These would be detailed once a preferred route is selected during the detailed design phase of the project.

ECOLOGY (AQUATIC AND TERRESTRIAL)		
Response Number	**Issue Summary**	**Response**
44	Flora and fauna are present on properties and adjacent areas. Some of the flora and fauna are endangered species, remnant vegetation or protected by various pieces of legislation. This information needs to be incorporated to ensure that species lists are correct and complete. In some instances, this ecological information was previously given to consultation team during CLG meetings and CIS but was not included in RODR.	Rather than the records of threatened species, the presence of suitable habitat for threatened species has been used as an indicator that threatened species are present or may be present, and patches of vegetation have been mapped accordingly. Furthermore, patches that are dominated by Camphor Laurel have been upgraded to a higher constraint rating if threatened species are known to occur in these patches. Records of threatened species have been compiled from a variety of sources, including Biosis Research's surveys, DEC, Ballina Shire and Byron Bay Council, Big Scrub Rainforest Landcare Group, Birds Australia and information passed on from landowners at the CLG and CIS's. All this information has been used to assist in determining the constraints mapping. This approach is more conservative than if the location of threatened species was used as an indicator of constraint level, as it is likely that many threatened species would be missed as they are, by definition, rare. Additional records of threatened species have been complied from the various sources listed above as well as additional fieldwork since the printing of RODR and have been incorporated in the updated constraints mapping.
45	Sub contractor has assessed endangered species on property	Noted

D5. Engineering Design

ENGINEERING DESIGN		
Response Number	**Issue Summary**	**Response**
46	RTA design guidelines are excessive. A 'M' class highway with 6 lanes is not required. A 110km/hr speed limit is too high especially for heavy vehicles. An 'A' class dual / divided carriageway with a reduced speed limit is more appropriate and allows for more intersections which will be able to be used for local access.	Design standards for the Pacific Highway Upgrade Program require two lanes in each direction, with consideration for the future addition of another lane each way, separated by a median of a desirable width of 12 metres when warranted, grade separation where the upgraded highway crosses local roads or the existing highway, and the elimination of direct access to provide freeway type conditions. The preferred standard for the highway upgrade is 'M Class' as designated in the UPH Design Guidelines. The project should therefore be designed to 110 km/h Freeway standard, and requires alternative routes to be available for local traffic through the provision of service roads or local arterial road networks. As an absolute minimum, if an 'M Class' project cannot be provided then the 'A Class' project requirements would apply. 'A Class' projects are to be designed as Controlled Access Roads, and must be developed with a strategy for conversion to 'M Class' standard in the future. Future conversion should not require changes to the alignments, although 'A Class' projects would generally be signposted at 100 km/h. Further information regarding the RTA highway design standards are described in RODR Section 4.3.3.
47	Highway upgrade that does not meet design and safety criteria should not be considered (such as Section L4 and parts of the existing highway alignment).	All short listed route options that are being considered would meet the design and safety standards for the Pacific Highway Upgrade Program.
48	Concern regarding width of footprint and associated impacts. Concern that the width will be greater than considered in RODR due to establishment of batter, cuttings, sediment basins etc.	The planning corridor of 250m is a very conservative approach and it is expected that most of the required road reserve for the preferred route would be minimised to limit the impacts (the general width is less than 120m).

ENGINEERING DESIGN		
Response Number	**Issue Summary**	**Response**
49	Upgrade existing highway and keep it on or near the existing highway alignment.	There are a number of difficulties associated with upgrading on or close to the existing highway as described in RODR Section 5.14.2. Nevertheless, within the Ross Lane to Bangalow section the short list of route options includes Option A which follows the existing highway to the extent possible considering the highway design criteria adopted (see also response above on design criteria). Option A would be assessed in detail and compared to the other short listed route options prior to making a decision on the preferred route. The only sections where an upgrade which follows the corridor of the existing highway has not been short listed are: ➢ Between Tintenbar and Ross Lane where the horizontal and vertical alignment of the existing highway is well below requirements and upgrading along this alignment would not be feasible. ➢ Between Bangalow and St Helena where the existing highway alignment is also substandard and unsuitable for upgrading to the required standard. Further information on why Option B Modified from the Bangalow to St Helena EIS was not short listed is described in RODR Section 7.5.4.1.
50	Opposed to "keep the highway on the highway". Highway cannot be upgraded along the existing highway due to unacceptable grade on St Helena Hill and Tintenbar Hill. An M class motorway must be built.	Noted

ENGINEERING DESIGN		
Response Number	**Issue Summary**	**Response**
51	A number of submissions have opposed or supported various highway upgrade options. Reasons given include general engineering design issues, logic, highway orientation, number of structures and bridges, cost, cut and fill requirements, construction feasibility, grades and curves, length, footprint size and overall environmental impact.	All of the short listed routes have been subject to a road safety audit which takes into account all potential safety issues including fog and east-west orientation. The results of the road safety audits would be an important factor in selecting the preferred route. All of the short listed routes are designed to be safe and to not increase flooding. The Ballina Bypass can be built to Sandy Flat Road without impact on the route to be selected for the Tintenbar to Ewingsdale section. This achieves a bypass of Ballina. Each of the routes has issues that are being addressed in design and all are above the minimum design standards for the Pacific Highway. Cost for each of the options would be calculated in more detail and a value for money test would be applied before a preferred route is selected.
52	Various submissions Identified the location of services on or near properties and route options which may influence the selection of the preferred route, or be affected or dislocated during and after construction of the upgraded highway. Of particular reference are services adjacent to the existing highway which may be affected by Option A.	Section 5.10 of RODR is a preliminary assessment of the major existing utilities within the study area. As part of the assessment of short listed route options and selection of the preferred route, further investigations would be carried out on the likely cost of protection and relocation of existing utilities for each of the short listed route options.
53	Costs are misleading or inaccurate due to contingencies and therefore make it difficult to distinguish between the options on this basis. Final details and costs of all 4 routes should be completed before a final route is decided upon to make proper comparison and should be made public.	The relative cost of the various options had only a minor influence on the selection of the short listed route options, with the weighting applied to the relative cost only 2% to 3% (refer RODR Appendix C). More detailed cost estimates would be prepared for each of the short listed route options prior to selection of the preferred route. These detailed cost estimates would allow value for money to be considered after assessing the performance of the short listed route options using a broad range of functional, social, economic and environmental criteria.

ENGINEERING DESIGN		
Response Number	**Issue Summary**	**Response**
54	Option A is not desirable as it does not allow the use of the existing highway for traffic during the construction period, resulting in disruptions and delays. Option B will similarly cause disruptions, but to a lesser extent. On this basis, options C and D are preferred. Option D in particular is identified as the least disruptive.	Options C, D and T2 would be easier to construct than Options A, B or T1 when considering only disruption to existing traffic during construction. While this issue would be factored into the evaluation of the short listed route options it would not be a major influence on the selection of the preferred route because it can be managed by appropriate design and construction methods.
55	Concerned about environmental impacts during construction of highway and structures such as bridges and culverts including generation of mud.	Guidelines for management of environmental impacts during construction would be set out in the environmental assessment documents to be prepared following selection of the preferred route. The construction contractor would be required to meet these environmental guidelines during construction.
56	Concerned road infrastructure will deteriorate and highway maintenance will increase from heavy vehicle use.	Highway pavements would be designed to be adequate for 40 years allowing for current and future heavy vehicle traffic.

D6. Geology, Geotechnics and Soils

GEOLOGY, GEOTECHNICS AND SOILS		
Response Number	**Issue Summary**	**Response**
57	Soft soils require considerable investigation to understand the extent of their location and character. Soft soils can not only subside at a rapid rate but they have significant cost implications with construction and future maintenance of the highway. Soft soils are also found north of the proposed Ross Lane Interchange for Option A, Option C/D experiences subsidence around Cumbalum and on the floodplain Option D overlays soft soils	The RTA has considerable experience in design, construction and management of roads over soft soils and has identified the necessary mitigation measures for the type of soft soil on this section of the highway. Furthermore sufficient studies have been undertaken to understand soft soils specific to the study area. As part of the environmental assessment, further evaluation of these areas would be carried out after the preferred route announcement.
58	Areas of high geological instability have increased construction costs and heightened environmental concerns. These areas would be prone to land slips during high rainfall periods, and possibly resulting in closure of the highway and loss of surrounding agricultural land. Removal of large quantities of rocks will exacerbate land slips. Areas of high geological instability should be avoided.	Geotechnical investigations have assessed geological instability along the corridor. Preliminary engineering designs to mitigate the risks of instability are being developed along each of the Route Options to reduce cost uncertainty. Geotechnical constraints for all routes have been considered as part of the route options development process.
59	Altered flow regimes will expose acid sulfate soils and flow into the drainage area, of particular concern is the SEPP 14 Wetlands. Any crossing of a watercourse or coastal areas needs to be designed accordingly. An Acid Sulfate Management Plan is required to assess the environmental impact of the route options prior to the selection of the preferred route.	Acid Sulfate Soil risk and management have been considered and would be managed in such a way that drainage areas would be unchanged and alterations to flow regimes would be minimal. Acid Sulfate Soil risks have been incorporated into the route options development process and would be considered prior to selection of the preferred route.
60	Geotechnical and soil investigations to date underestimate or misrepresent geological constraints.	The geological constraints for the route options are well understood and a conservative approach has been taken in accounting for their impacts on design, costs, and corridor width. Further investigations have been undertaken since RODR in response to community submissions and requests, and have confirmed previous assumptions. Geotechnical constraints would continue to be used to identify a preferred route option. Additional investigations would be undertaken once the preferred route has been identified.

D7. Heritage

HERITAGE		
Response Number	**Issue Summary**	**Response**
61	There are Aboriginal sites within the study area which are directly impacted by Options B and C, and are in the vicinity of Option D.	There are Aboriginal sites on some options and areas of archaeological potential on all options. The Aboriginal Heritage Information Management System register was consulted prior to fieldwork which provided a list of known sites and list of reports of previous work in the study area. The importance of the landscape has also been mentioned by Aboriginal representatives. The low number of recorded sites to linked portions of the study area also makes broad assessments difficult. It must also be acknowledged that the landscape has been highly altered by Europeans. Aboriginal groups are continuing to be consulted about the significance of the study area. Since receiving submissions several more sites have been assessed by more recent fieldwork.
62	Specific sites within the study area are part of the European heritage. These sites vary and include buildings, graves, areas on the escarpments, villages, existing highway, businesses and agricultural and forested areas	Since the publication of the RODR assessments have continued on potential sites of European heritage. The sites identified have been mapped and would inform the preferred route identification process. Additional fieldwork was undertaken in response to submissions.
63	The location of the upgraded highway should ensure areas of cultural importance are avoided and preserved.	Investigations were carried out by cultural heritage specialists to identify the location of sacred sites and areas of importance. Inspection of sites within particular properties was also performed. The development of the route options accounted for these areas which were classified as either a high, medium or low constraint.

D8. Hydrology and Water Quality

HYDROLOGY AND WATER QUALITY		
Response Number	**Issue Summary**	**Response**
64	Highway will impact water quality in the region. Road run-off and truck spillages during construction and operation will enter water catchment areas and result in deterioration of water quality in local waterways, private water supplies and public drinking water supplies. Loss of vegetation to Highway will reduce natural filtration in catchment areas. Impacts could be avoided by selection of a route avoiding catchment areas or by design precautions.	Best practice design and management would be employed to minimise the risk of pollution from highway run off during both construction and operation of the highway. These measures include the separation of cross drainage systems from pavement drainage systems, and the incorporation of methods for retention of polluted runoff. The measures can potentially provide an improvement to controls on the existing highway. Waterway openings beneath any highway would be sized to minimise impacts on flow volumes, velocities and local flood levels.
65	Impact to water quality is not a reason to eliminate any options and should not be a significant issue. Impacts are manageable and are able to be mitigated. Technology exists to build roads through such areas.	The route options process balances a number of issues, one of which is water quality, and no one issue dictates the elimination of an option. Impacts on water quality can be managed to some extent by appropriate mitigation measures but the risks cannot be eliminated and potential water quality impacts therefore still need to be considered. Water quality is a constraint in so far as the route options should ideally avoid drinking water infrastructure (for example Emigrant Creek Dam), minimise impacts at waterway crossings, and mitigate for runoff (including spills) from the highway. Refer to response 64 for additional information.

HYDROLOGY AND WATER QUALITY		
Response Number	**Issue Summary**	**Response**
66	Impact to natural springs including direct impacts of cuttings and indirect impacts to basalt layer will destroy water flow to natural springs. Of particular concern are those springs which feed into creeks, feed into dams and provide direct water supply to properties. Concern that impact to springs will affect water quality and flow volumes.	It is an objective of the project design to mitigate (where feasible) any disruption to groundwater flows and springs that may be directly affected by the Pacific Highway upgrade. Initially after the preferred route is announced by the Minister all landowners would be consulted individually on the impacts on their property including flows for dams and springs. Also a further investigation of the depth of groundwater and groundwater flow regime would be completed to assess the likely extent of the impacts of the road on groundwater flow and to determine the mitigation works necessary to meet the project objectives. A hydrogeological study of each deep cut, supported by further investigation of the depth of groundwater and groundwater flow regime would be required to assess the likely extent of the impacts, including the drawdown and the impact that this drawdown has on the quantity of groundwater flow through water bearing horizons within the cut. For most situations it would be possible to mitigate the potential impacts on groundwater regime at the location of deep cuts. Feasibility would depend on the topography at each cut and would need to be assessed on a cut by cut basis on the preferred route.
67	Proximity of routes to wetland areas, in particular the Belongil-Cumbalum SEPP 14 Wetlands, may cause hydrological disturbances affecting the water quality which may have ecological consequences.	As part of the assessment of the route options, computer modelling of flooding on the coastal plain would be undertaken. Route options C and D would be modelled, and drainage structures sized to achieve: ➢ minimal change in flood levels against the baseline (existing) model ➢ a limited change in the time of inundation ➢ a limited change in flow velocities ➢ a similar time to reach peak flows Designing to the above criteria would mitigate impacts on hydrology and wetlands. The study area was defined so as to avoid the Belongil-Cumbalum wetlands.

HYDROLOGY AND WATER QUALITY		
Response Number	**Issue Summary**	**Response**
68	High rainfall, flooding and drainage are significant considerations in the study area. Options on the floodplain, particularly C and D, alter the hydrological conditions and drainage flows. The effects of vegetation removal and high water flows from the escarpment have not been adequately addressed in the design of bridging, drainage and detentions basins.	Rainfall data and patterns for the local area would be used in all hydraulic and hydrologic modelling undertaken as part of the assessment of the route options, in order to establish the extent and depth of flooding. This data would be used to size the cross drainage structures required to minimise hydraulic impacts. Refer to response 67 for additional information.
69	Flood prone areas are identified particularly under option C and D, including Newrybar valley, Armstrong Lane, Midgen Flat Road to Ross Lane, Tinderbox Creek, Ross Lane to Martin's Lane, sugar cane land and coastal regions, Swamp Road as a result of high rainfall. Other areas may also be subject to further flooding under climate change predictions. A highway on flood prone land may not be feasible and would have high cost implications.	These areas have been identified as flood prone areas on constraints mapping undertaken to date and included in the RODR. Computer modelling would be undertaken as part of the assessment of route options to clarify the extent and depth of flooding on the coastal plain. A highway can be engineered through flood prone land, incorporating drainage structures to minimise hydraulic impacts. The cost of these drainage structures would be incorporated into the assessment of the options.
70	Flooding is not a reason to eliminate any options and should not be a significant issue. Impacts are manageable and are able to be mitigated. Technology exists to build roads through such areas.	Noted. Refer to response 69.

D9. Land Acquisition and Compensation

LAND ACQUISITION AND COMPENSATION		
Response Number	**Issue Summary**	**Response**
71	Compensation arrangements fail to acknowledge potentially affected landowners near the upgraded highway, and the loss of amenity and the local environmental impacts.	For property owners living close to but whose land is not directly affected by the highway (that is, no part is required to be purchased for route construction), there are provisions for the RTA to provide property improvements to minimise the impact of the highway on the land or dwellings. If a number of properties are impacted the focus would switch to adopting mitigation measures on the highway itself so that impact on properties is reduced to acceptable levels. Under the Land Acquisition (Just Terms Compensation) Act 1991, there is no provision for compensation for perceived devaluation of a property due to its proximity to the highway. Owners of properties which fall within the announced preferred corridor may seek compensation or RTA purchase if attempts to sell the property are hampered by the route location. The RTA would discuss noise abatement measures with all property owners and residents if unmitigated traffic noise was to exceed DEC goals. The most appropriate noise mitigation measures would be selected and would range from the consideration of suitable road pavements to reduce noise, to the architectural treatment of homes if required. Consultation with adjacent landowners would continue once a preferred route is announced.
72	The value of the land varies between areas, particularly on the coastal plain, escarpment and plateau regions due to the differences in characteristics and landuse. These variables should be considered in land valuations so that options with the lowest acquisition costs may be identified.	Acquisition costs are one component of many when determining the total cost of the highway upgrade and the preferred route option. A comparative analysis of the impact on agriculture has been undertaken as part of the assessment of route options. The analysis recognises that there are direct impacts under the footprint and indirect impacts on the severed portions of lots affected by the footprint. The analysis also recognises that the value of land varies within the study area. The methodology proposed to undertake this assessment was discussed with the AFG in early December and generally received a very good response.

LAND ACQUISITION AND COMPENSATION		
Response Number	**Issue Summary**	**Response**
73	Options that are not on or near the existing highway alignment will affect property values on the premium land where land owners purchased on the reasonable expectation that there would be no highway upgrade near them. Whilst land owners near the existing highway should have been aware of the potential upgrade to the highway. As such Option C and D would affect property prices more so than for other options.	Land values are influenced by a range of factors including location, supply, proximity to existing main roads or approved future road alignments. The key factors influencing the land values may change over time but longer term trends tend to be consistent. In the design and selection of route options the RTA has attempted to minimise the impact on private properties as much as possible. The comparative impact on properties and dwellings of the various route options is one of the criteria upon which routes are assessed during the selection of a preferred route. In addition, the noise assessment includes consideration of the change in noise impact on a property, i.e. properties newly affected by an option would be judged as worse affected than an affected property which is already alongside the existing highway. Further refinements to reduce the number and nature of property impacts would continue at the concept design stage of the preferred route. Design would include minimising the amount of private property affected, solutions to mitigate visual and environmental impacts and solutions to access, severance and noise problems arising from the route alignment.
74	Different route options will result in corresponding depreciation of property values. This has subsequent effects on personal finances, which owners have established with life savings and include homes/business loans, superannuation and business income. Owners expected that properties would financially support them in retirement.	Noted. Refer to responses 71 to 73 for more details.
75	Issues are associated with the process of relocation. These include ability to acquire land of equal quality elsewhere in the region, re-establishment of family enterprises timely and difficult, if possible at all and uprooting children from their homes and schools.	Under the Land Acquisition (Just Terms Compensation) Act 1991 and the RTA policy, the owners are entitled to costs reasonably incurred in the acquisition of their property. This is a matter of individual negotiation with the RTA during the acquisition process.

D10. Noise and Vibration

NOISE AND VIBRATION		
Response Number	**Issue Summary**	**Response**
76	Route options along existing highway and surrounding areas will have significant noise impacts, which will be intensified at night. These are areas of high population density and include the townships of Bangalow, Clover Hill Estate, Newrybar (including Newrybar school), Knockrow, Ewingsdale and Tintenbar. Residents in these areas currently experience a significant noise impact from the existing highway traffic. An upgraded highway route away from these townships and existing alignment would alleviate noise burden associated with steep grades, heavy vehicle compression braking and gear changing. Due to the existing noise conditions, residents are concerned that if a route close to the existing alignment is selected, compensation will not be provided for an increased noise impact. Interim noise mitigation measure should be implemented.	All route options are likely to have noise impacts on communities near to the alignment and are an important consideration in the evaluation of the route options. However T1 and T2, including the tunnel, would significantly improve upon the current highway noise levels. Night-time noise impacts, particularly from trucks, would be assessed in the Environmental Assessment for the preferred route and the road would be designed to achieve noise levels within the guidelines given in the Department of Environmental Conservation Environmental Criteria for Road Traffic Noise, where this is feasible.
77	Noise impacts away from existing highway in newly affected areas are unexpected, undesirable and would ruin the amenity of those residents who chose to live away from the highway. Newly affected areas include Lennox Head, Broken Head, Suffolk Park, Fig Tree Hill, Broken Head Road, Byron Bay Road and Martin's Lane. Such areas would experience two sources of noise from the existing highway and newly constructed motorway. Where routes traverse low lying land, residents in elevated positions relative to the proposed highway will experience noise levels likely to be too high to mitigate.	The issue of change in noise impacts on receivers, and particularly those that are currently unaffected is complex. All route options are likely to have noise impacts on communities near to the alignment but may result in fewer incidences of 'peak' noise events due to truck engine brakes because of the overall lower gradients. However noise levels in these areas are likely to be below the ECRTN criteria. Noise levels for residential premises in elevated positions relative to the road may be more difficult to mitigate using conventional noise barriers due to the difficulty in screening the road alignment. However there are other mitigation options, such as low-noise road surfaces and architectural treatments which may be more appropriate in these areas. It is not appropriate to suggest that noise levels are ‘too high’ to mitigate, since the level of noise mitigation (i.e. the noise level reduction provided by engineering elements of the built environment) is independent of the existing noise level. It must be understood that the guideline noise targets in the DEC ECRTN are *not* limits that ‘must be achieved’, but rather noise level targets that are to be aimed for during the design process and achieved where it is reasonable and feasible to do so.

NOISE AND VIBRATION		
Response Number	**Issue Summary**	**Response**
78	The noise impact of the upgrade is important in determining the preferred route. Noise needs to be minimised particularly in community areas and areas where noise emanates from structures, such as bridges and culverts. Trucks on the Pacific Highway, (particularly B doubles) create noise issues night and day which will increase with the highway upgrade. Noise from trucks exhaust braking can be minimised by flatter grades and signs instructing truck drivers to reduce brake use. It is also suggested that standards for trucks should be improved across the transport industry and/ or trucks should not be allowed on the highway altogether. Noise mitigation measures such as noise walls, earth mounds, other technical innovations and provision of thicker windows to residents can also be used to minimise noise impacts for all routes.	All route options are likely to have noise impacts on communities near to the alignment. Minimum requirements relating to truck noise levels are given in the relevant Australian Design Rules. The Police and DEC are responsible for compliance checks, but this is currently very difficult. Traffic noise mitigation, including noise walls, earth mounds, architectural treatments to residences (including thicker glazing) and road surface treatments would be evaluated in detail as a part of the EA for the preferred route.
79	Noise impacts during construction of the highway including drilling and blasting are of concern.	Preliminary construction noise impacts would be assessed as a part of the EA for the preferred route. This would include procedures for mitigation of blasting noise and vibration impacts.
80	How will the noise dispersion assessment methodology account for travel distance of noise, N/E winds off the sea and landform of the escarpment, vegetation buffers and valley amphitheatres?	Noise propagation is affected by meteorological factors such as wind and temperature inversions. However, this usually occurs over large distances where traffic noise levels are likely to be audible, but below the ECRTN criteria targets. At closer distances where noise levels are at or near the ECRTN criteria targets, meteorological effects are only likely to result in slight subjective changes in noise level. The effect of landforms is included in the 3-D computer noise propagation model being used for analysis for this project.

NOISE AND VIBRATION		
Response Number	**Issue Summary**	**Response**
81	The noise assessment methodology is flawed from technical/scientific perspective and is misleading as it makes qualitative judgements. Of particular concern is that noise impacts are not considered for residents more than 500m away from proposed routes. RODR does not provide assessment of the feasibility of noise mitigation measures.	The issue of change in noise impacts on receivers, and particularly those that are currently unaffected is complex. Noise impacts for residences more than 500m away from the proposed route are not included in the analysis even though traffic noise may be audible, since at that distance: a) the exterior noise level is likely to be considerably below the ECRTN target noise levels, and b) the average internal noise level is likely to be below ambient occupational noise levels.

D11. Planning and Landuse

PLANNING AND LANDUSE		
Response Number	**Issue Summary**	**Response**
82	Based on the construction of the Bangalow Bypass; the approval of the Ballina Bypass; the Ewingsdale Bangalow Environmental Assessment; and the 9(a) zoning established for the highway upgrade, there was an expectation that the highway upgrade would occur in close proximity to the existing highway and utilise existing infrastructure and maximise funds already outlaid. Such a route would have the lowest impact to current or future landuse and is in accordance with the principles of Ecological Sustainable Development. Residents and stakeholders have based their property acquisition decisions and land improvement decisions on planning decisions.	While use of existing infrastructure and zonings is beneficial in terms of reducing the size of the additional footprint of land required for the upgraded road, it creates additional engineering and design complications in terms of construction, local access and traffic management, and potentially as impacts a greater number of people due to the closer proximity to towns and villages along the existing highway. Where possible existing infrastructure has been utilised as part of one or more of the options (for example Bangalow and Ballina Bypasses, existing highway and 9A zoning). This is only one of the many factors used to evaluate the route options and select a preferred route.
83	A route away from the existing highway and contiguous settlements on the plateau is preferred. Such a route allows for proper planning for future population growth, less impact on agricultural investments on the plateau and has less environmental impact.	The route selection process balances environmental and cultural issues with socio-economic issues and functionality cost. All route options have been developed with knowledge of known future growth areas as advised by Byron and Ballina Shire Councils.
84	The preferred route should link with the Ballina Bypass. Preference for options have been based on the notion that either A, B, C or D does/does not link with the Ballina Bypass.	All of the proposed route options link with Ballina Bypass. Option A/B links in at the top of Ross Lane while option C/D joins the Ballina Bypass at Sandy Flat Rd.

PLANNING AND LANDUSE		
Response Number	**Issue Summary**	**Response**
85	Avoidance of prime agricultural land should be a high priority. All of the options are identified as impacting on prime agricultural land including State and Regionally Significant Farmland. No options are stated as being preferred, alternatives are suggested, including options that avoid, fragment or minimise disruption to prime agricultural land in the study area, such as western option and use of the railway corridor.	Section 8.9 of the Route Options Development Report identifies that Option A would impact the lowest amount of agricultural land, followed by Option C, Option B and Option D. This is based on the 250 metre wide corridor and the primary land use of the entire property with no consideration of actual areas under production. The agricultural impact assessment takes into consideration land worth as a reflection of market price for agricultural land. As the market responds to high quality land, the comparative analysis includes consideration of the productive land capacity. The comparative analysis considers the direct and indirect impact of the footprint on agricultural land, taking into consideration the different land uses affected by the routes. This comparison applies a base land worth and agricultural improvement worth to each affected lot to determine the impact of the route options. Severance issues are also considered for affected lots. The assessment would also compare the routes in terms of estimated changes in regional economic activity arising from impacts on agricultural activities. State and Regionally significant land has been considered as an equally high constraint as per advice from the Department of Planning.
86	Routes are opposed or preferred due to impacts to agricultural land (including State Significant Farmland) and farming activities. Specific impacts include severance, economic viability of individual farming enterprises and impact to the regional economy which is dependent on agriculture.	The objective of the route options development included minimisation of impacts to agriculture. This extends to State and Regional significant land, individual business and the associated activities. This objective would be carried through into the selection of the preferred route. The assessment of impacts to agricultural land is currently being evaluated along with the impacts on the local and regional economy. Furthermore severance issues are also being assessed for affected lots including impact on remnant blocks.

PLANNING AND LANDUSE		
Response Number	**Issue Summary**	**Response**
87	Options that impact land which has potential for, or is currently zoned for future residential development, are considered to result in poor planning outcomes. Options C and D are identified as conflicting with Ballina Shire Council's planning for urban development at Cumbalum Ridge. Recent subdivisions for the purposes of residential development are also identified in the study area.	Impacts to existing residential areas and impacts to areas zoned for future residential areas would both be considered in the analysis of the route options, as well as impacts to contiguous settlements and the density of affected residential areas. The weight placed on these different social, planning and land use criteria are reflected by the pairwise process and the Corridor Assessment Workshop Report. The project team has also consulted with Ballina Shire Council on this use and the possibility of mitigating impacts on the proposed Cumbalum Ridge development.
88	A high emphasis has been placed on future residential areas (e.g. Cumbalum) but more weight should be given to existing residents.	Refer to response 87.
89	The construction of the highway seems to be inconsistent with the development controls and the objectives of these zones in environmental planning instruments. The highway passes through environmentally sensitive land which is zoned for protection, including the water catchment and the escarpment zonings.	None of the route options pass though zones which prohibit the construction of a road. Under the relevant provisions of the Ballina and Byron LEPs, and otherwise by the application of SEPP 4 development consent is not required and approval must be obtained under the Environmental Planning and Assessment Act 1979. The preferred route would be designed with consideration of and would be fully assessed against each of the objectives and controls in the relevant zonings.
90	A coastal motorway would pass through valuable residential areas and farmland. Coastal towns are already at capacity (regarding urban growth, development and tourist demands) and should be left untouched by highways.	The proposed upgrade would have no access onto and off the highway except at the designated interchanges at Ewingsdale and Ross Lane (or Sandy Flat Road) and would serve to facilitate the movement of through traffic. This allows separation of the local road network and towns from the through traffic and allow for planned growth and management of the villages and towns.

PLANNING AND LANDUSE		
Response Number	**Issue Summary**	**Response**
91	A and B results in land trapped between old and new highway, therefore wasted land.	This affect has been termed 'islanding'. The agricultural impact assessment takes into account severance with varying degrees of affectation applied to the residual land parcels with a higher degree of affectation applied to the section trapped between the old and new highways. This recognises the islanding situation and would be included in the consideration of the preferred route.
92	There is an inequality of rights between residents who use their property only as a place of residence opposed to a place of business or agricultural enterprise.	The impacts on agricultural production/business and the impacts on residential properties are both included as separate criteria in the evaluation of the route options. Additionally all residences on agricultural properties are considered separately within the agricultural impact assessment. In this way the residential component whether part of a large agricultural enterprise or a rural lifestyle retreat are considered in a similar way.

D12. Process

PROCESS		
Response Number	**Issue Summary**	**Response**
93	The selection process of the short listed route options was flawed. Concerns over the decision to include certain routes (including B, C and D) where there is no apparent benefit, only relocation of problems, and exclude others (including B modified, L1, L2, E and Z). The motives behind these decisions have not been explained or are not aligned with the project objectives. A 'do nothing' option has also not been considered.	The process for selecting the route options was comprehensive. It assessed each route against a wide range of social, environmental, engineering and economic criteria to determine the best options to further investigate. These criteria were determined using the project objectives and community input from the community information sessions and the Community Liaison Group. An upgraded existing road option was included in the analysis as L1, L2, and L3. A do nothing option was not considered as it did not meet the key project objectives of improving safety and providing a suitable Highway standard to support the economic growth of the region and the State.
94	The upgrade is not sustainable. A more long term outcome is required especially considering anticipated population increases, traffic projections, fuel shortages and environmental impacts.	The principles of ecologically sustainable design are incorporated into the planning and design processes for this project.
95	The term 'upgrade' is not appropriate for the project which involves an entirely new motorway and should be subject to more stringent environmental assessment.	The Pacific Highway from Tintenbar to Ewingsdale is to be upgraded from its current standard to those which satisfy the safety and growth needs both now and in the future. Due to the topography and the social and environmental constraints this means the necessary improvements to the highway cannot be met on its current alignment. The project would be fully assessed under the environmental and planning legislation.

PROCESS		
Response Number	**Issue Summary**	**Response**
96	RODR lacked quality and information including a lack of detail, lack of scientific basis, lack of independent research, reliance on desk-top studies, lack of local knowledge/understanding, lack of consistency of assessment methodology between RODR sections, poor mapping and failure to consider issues such as current development applications, fuel efficiency and road safety associated with heavy freight. The RODR could have been improved by showing contours on the routes and supported by physically marking out the route options to avoid confusion.	The studies at this stage involved a thorough analysis of existing information including detailed 2005 aerial photography, discussions with local community, reference to the CLG, discussions with the Shires and State Government Departments, field studies to verify findings and independent analysis by acknowledged experts. In Chapter 8 of the RODR the route options are overlaid onto the constraints. The tables accompanying the figures clearly list the impacts by option.
97	There is misleading, inaccurate and/or missing information provided in RODR including incorrect reporting of land use, land ownership, omission of fog data, omission of recognition of several business, residents and residential clusters, registered groundwater bores, school bus companies servicing the area and additional engineering constraints. There is concern that impacts are considered within the entire 250m corridor rather than just the road reserve, and that the RTA is conveying a message that an A class upgrade is being considered.	The details in the Route Option Development Report are appropriate and current for this stage of the project. Further research, analysis and detail are being performed to arrive at a preferred route and for the detail design of the highway. A 250m planning corridor is used so that all routes can be assessed in a like way. It is prudent at this stage as the road design is not developed and the 250m represents the area of investigation for future refinements until a preferred route is determined. The large number of intersections, population densities, and the current high use of the Pacific Highway for local trips dictates for safety reasons that the Tintenbar to Ewingsdale section should be Class M standard. This is stated in the RODR in Section 4.4 page 31. It should be noted that apart from intersections/interchanges, the design principles for Class A and Class M roads are the same and would result in the same final road footprint.
98	The pairwise process is flawed. Particular concerns include the assumption of an equal interval scale and matrix assessment of community noise burden.	In arriving at the shortlist of route options for the public display and comment, the project team did not rely on the outcomes of the CAW and CLG assessment. The project team used separate criteria and weighting as the base case. The outcomes from the CAW and CLG assessment were used as sensitivity testing. The alignment of the results confirms the rigour of this process.

PROCESS		
Response Number	**Issue Summary**	**Response**
99	There is concern that sieve 1 criteria of assigning scores 1 to 5 is not able to adequately quantify differences between route options.	The process is clearly outlined in the RODR and the results indicate that significant differences were evident between the various route options.
100	The constraints mapping has not been considered in route selection process.	Constraints mapping has been used extensively in the route selection process and would continue to be an important factor in determining the preferred route. Further field studies have been conducted to update and confirm the type and extent of these constraints for the short listed options only.
101	Concern and suggestions for the weighting of various criteria during route option identification and assessment including weighting of environmental impact compared against socio-economic impact and safety and cost efficiency against socio-economic impact.	The criteria were developed to cover a broad range of community concerns and to meet the objectives of the project. Weighting of these criteria was completed by the project team and compared to the weightings prepared by CLG and the State and local government stakeholders. This sensitivity analysis showed that the weightings adopted are robust.
102	Newly affected residents, compared to residents already affected by the highway, are not given enough weight.	The process does recognise the impacts to all residents in the social and health, visual and landscape and noise sections of the criteria. In the Social and Health section further recognition is given to those residents who are not currently living within 200m of the existing highway (Criterion 8) and in noise the cumulative change from the existing noise levels (Criterion 20).

PROCESS		
Response Number	**Issue Summary**	**Response**
103	The process does not give enough weight to impacts to residents on existing highway especially those in a low social demographic.	The process does recognise the impacts to all residents in the social and health, visual and landscape and noise sections of the criteria. While a greater emphasis has been placed on newly affected residents for air quality and noise the upgrade would be designed to meet relevant guidelines for all impacted residents.
104	The expansion of the study area should not have occurred. The decision to expand the study area was based upon concerns of a narrow interest group and irrelevant submissions. The complexity of issues in the expanded study area was not properly considered before the decision was made. A proper process was not followed in awarding the investigation of the study expansion area to Arup without a tendering process, creating a conflict of interest. Other alternative inland routes should have been considered when the study area was expanded. If study area was allowed to expand previously, then it could be expanded again to investigate these alternative routes.	The process for expanding the study area followed the procurement guidelines for government project work and there is no actual or perceived conflict of interest as Arup were not involved in the decision to expand the study area. The decision was made by the Minister on advice from the RTA after the November 2004 Community Information Sessions where individuals, communities, community groups and agencies raised concerns regarding the extent of the study area. The RTA initiated a desktop study to identify the feasibility of potential highway corridors outside of the original study area. Alternative routes outside this region were not part of the scope of this study. Based on these outcomes of this study, the RTA recommended the expansion of the study area. The original tender was awarded to Arup following a competitive and transparent process and it provided a priced mechanism for variations to the scope of work within that tender.

D13. Safety

SAFETY		
Response Number	**Issue Summary**	**Response**
105	Road safety is a key consideration in developing the upgraded highway.	Road safety has been identified as a key consideration for the selection of a preferred route.
106	The current blackspots on the existing highway need urgent attention to reduce accidents (i.e. Tintenbar Hill, St Helena's Hill, Coolamon Scenic Drive Lookout, Tintenbar to Cumbalum). Blackspots also include intersections and individual driveways that exit on to the highway. Reducing speed and enforcing speed limits through speed cameras should be mandatory for blackspots and driver education increased. The immediate construction of the Ballina Bypass is also necessary to improve safety.	Interim treatment of the existing highway is outside the scope of the T2E project and is managed by the RTA. It is noted that: ➢ The RTA has published a Safety Review (2004) which examines and reports on safety issues on the Pacific Highway. Key safety issues reviewed include fatal crashes, appropriateness of current speed limits and police enforcement, including all with respect to heavy vehicles; ➢ The RTA has recently reduced the speed limit on the St Helena Hill descent in an attempt to reduce accidents; ➢ Driveway accesses and intersections are best treated through a new highway alignment, separating through traffic from local traffic. The proposed highway upgrade would include these improvements; ➢ The invitation to tender for initial works on the Ballina Bypass will be issued in April 2006; ➢ Driver education strategies to promote road safety are in place within the RTA, but outside the scope of the T2E project.
107	All roads, if built to standard are safe and this cannot be a means for comparison.	Whilst all short listed route options are designed within the safety standards, the degree of safety is determined by geometric parameters including grades and curvature on the highway. These parameters do vary slightly between options.
108	A dual carriageway is recommended to address safety issues.	The construction of a dual carriageway is one of the objectives of the Pacific Highway Upgrading Program. The upgrade would be a dual carriageway.

SAFETY		
Response Number	**Issue Summary**	**Response**
109	The existing highway is unsafe and demonstrates the issues associated with the mix of cars and heavy freight vehicles, particularly B-doubles. The issues include the following: the volume of heavy freight traffic is increasing, particularly at night; freight should not drive near densely populated areas; trucks passing other vehicles is unsafe; truck drivers use excessive speed on the highways; some truck drivers intimidate other drivers by following too closely; trucks climb hills slowly and present a risk to other drivers; spray from trucks during wet weather affects other the visibility of other drivers; trucks need to indicate length of load clearly for other road users.	The impact of freight movement on residential amenity is being managed through the separation of local and through traffic, reducing grades and introduction of continuous dual carriageway, as well as noise assessment and mitigation. Options such as heavy vehicle curfews and driver behaviour are outside the scope of this project
110	The upgraded highway must not pose any risks to children and school transport.	It is envisaged that school transport would use the local road system and this would be safer than the current use of the Pacific Highway. Pedestrian links would be incorporated into the local road system in the vicinity of the Newrybar Public School, throughout the concept design process.
111	Fog throughout the study area presents a hazard. The extent of fog is dependent on the topography. Fog traps air pollution and is a visual hazard to drivers.	The issue of fog is being considered as part of the route selection and concept design process. Currently only anecdotal evidence relating to local fog frequency and density is available. Fog occurs with varying frequency and density throughout the study area. Fog issues associated with all of the short listed options would be addressed in the assessment of the options and recommendation of a preferred option. If necessary, appropriate mitigation measures would be recommended to minimise potential safety issues associated with fog.
112	Fog is not a reason to eliminate any options and should not be a determining issue. Highways elsewhere have been built through fog prone areas.	Fog is present across all short listed options and poses some safety risk. This risk can be mitigated through appropriate design and signage, in accordance with recognised standards.
113	Sunglare may be a safety issue for road users. Option D climbing the escarpments and Option C climbing Old Byron Bay Road are of particular concern.	Sunglare is an issue which was considered in the "Safety Audit" for each of the options. Where it is a concern, as for fog, appropriate design can be used to mitigate the issue.

D14. Socio-Economic and Business Impacts

SOCIO-ECONOMIC AND BUSINESS IMPACTS		
Response Number	**Issue Summary**	**Response**
114	All of the highway upgrade options impact on communities and existing townships. The route with the smallest impact to the community and its connectivity should be selected. Social impacts have not been adequately considered in the assessment process.	Development of major infrastructure such as a highway upgrade has the potential for impacts on the community both in general on specific groups and properties. The social impacts associated with the route options have been taken into consideration in the criteria used in the route options assessment. The RTA recognises that the options included in the shortlist have varying degrees of social impacts to communities, residents and possibly tourists and that all route options affect people with a deep connection to their properties. Route options for the project were developed by attempting to minimise the impacts on a whole range of constraints including social, economic, environmental, cultural, and engineering impacts. Minimisation of impacts noted in the RODR would be investigated in the development of the concept design of the short listed options and the detailed design of the preferred route. The mitigating measures may take the form of integrated urban design elements, landscaping and noise barriers.
115	The existing highway corridor should be utilised as this will result in lower social impact, since people who live on the highway are already affected by the highway. Newly affected residences should be considered as the best indicator of impacts, as people who are near the existing highway expected an upgrade to it. Use of the existing highway corridor is therefore preferred. Many people specifically purchased property at a premium to avoid problems associated with highway.	The RTA understands that a segment of the local population in the study area feel that the 'highway should stay on the highway', and that there are others in the study area that have different points of view. A comprehensive range of route selection criteria derived from the project objectives (including social considerations) would be used to evaluate the route options. This includes specific criteria that addresses 'newly affected properties' or the number of dwellings acquired that are located beyond 200m of the existing highway. Additionally, assessment criteria would include proximity of residences and sensitive receivers to the proposed upgraded highway. The short list of route options includes two options (A and B) which incorporate or closely follow the existing highway. The highway must be upgraded with consistency in terms of engineering design standards for an M class highway, and therefore duplication of the existing highway is not feasible.

SOCIO-ECONOMIC AND BUSINESS IMPACTS		
Response Number	**Issue Summary**	**Response**
116	Options affecting residences/dwellings and properties are opposed due to social and business impacts and emotional distress. Concerns relate to the number of dwellings impacted and/or impacts to specific properties.	Selection of the preferred route would be based upon a balance of minimisation of impacts including social, economic, environmental, cultural and engineering considerations. In RODR, Table 8.34 and 8.25 outline the number of properties and dwellings affected by the short listed route options under a 250m corridor.
117	Impacts to the economy and non-agricultural businesses should be minimised. Submissions identify which options would impact on their own businesses as well as raising concerns of the cumulative impact to the local and regional economy. Impacts should be minimised to those industries relying on drive-by trade and patronage due to distance from highway. Additionally, smaller value-adding businesses should be avoided, such as cottage and accommodation industry.	The process leading to the identification of the preferred route would consider economic impacts in three separate ways: ➢ the impacts on agriculture ➢ the impacts on local businesses other than agriculture ➢ the impact of changes in agricultural land use on the regional economy (using the Tweed Economic Development Corporation's regional model). These impacts would be important in determining the selection of the route and would be used to adjust the concept design of the preferred route where feasible.
118	The study area is renowned for its ecotourism promoted by the coastal vista and the serenity of the local area. The RODR underestimates the ecotourism currently operating (e.g. farms stays, bed and breakfasts) and does not recognise potential tourism opportunities.	The RTA recognises the value that residents and tourists place on the local beauty and serenity of the area. Detailed landscape and visual assessment studies have been conducted to address these issues. Additionally, more detailed studies on impacts on local businesses are proposed to expand the information upon which to select a preferred route. It should be noted that the highway upgrading would provide a safer route for regional tourism access. The detailed design of the preferred route would address integration of the route into the landscape setting consistent with the scenic quality of the study area.

SOCIO-ECONOMIC AND BUSINESS IMPACTS		
Response Number	**Issue Summary**	**Response**
119	The existing Pacific Highway is a community asset and it would be beneficial if it was retained as a tourist and/or local access route. This would allow for heavy vehicles to be separated from local/tourist traffic and allow access to residents, maintaining social equity.	If the existing Highway does not from part of the preferred route, there would be opportunities for a revised role for this road that the local community could examine in conjunction with Byron and Ballina councils, the RTA and other stakeholders. It is proposed that the existing Pacific Highway or a replacement local road would serve as a local access and tourist route. Issues relating to Old Byron Bay Rd would need to be addressed by Council.
120	The route should not adversely impact on Newrybar Village or Newrybar School. Newrybar grew in identity and amenity in the 1960s when it was bypassed. The historical village has developed into a community with significant business opportunities. Options A an B are identified as having greatest impact.	The RTA understands the importance of the Newrybar School to the close knit community of Newrybar and the social and economic importance of the Newrybar village. Members of the project team have met with the school and business owners in Newrybar to attempt to minimise impacts of the route options. Minimisation of impacts noted in the RODR would be investigated in the development of the concept design of the short listed options and the detailed design of the preferred route.
121	Some properties in the area have significant educational and/ or agricultural research facilities. The viability of these facilities is in jeopardy under some of the route options including A, B and C.	The RTA acknowledges the potential impact on facilities of educational and research significance to the community. Selection of the preferred route would be based upon a balance of minimisation of the total impacts on social, economic, environmental, cultural and engineering areas.
122	All options affect the spiritual and physical qualities of the area (the ley lines) which are required for its services regarding healing.	The RTA acknowledges the spiritual attachment of some residents and tourists to the study area. The characteristics associated with the spiritual quality (safety, visual amenity, environmental and noise impacts) are considered in the selection criteria to be used in the detailed assessment of the options. The project team would endeavour to minimise impacts of the routes in the detailed assessment of the options.

D15. Strategic Planning

STRATEGIC PLANNING		
Response Number	**Issue Summary**	**Response**
123	Concern that route selection is influenced by political motives or politicians' conflicts of interest rather than individual route merits. Also concern that upgrade is a political 'quick fix'.	The route selection process is clearly documented in the Route Options Development Report and involved considerable community and technical input. The selection process was based on determining the best route options using the broad based criteria developed in close liaison with the CLG.
124	The process prioritises needs of road freight industry for economic gain at the expense of residents and environment.	The process for determining the best routes was very broad based and contained 39 separate criteria. Twenty nine of these concerned local social, environmental and economic impacts, four related to road safety five were engineering and cost related and one related to travel time savings. The process was clearly designed to minimise the local social, environmental and economic impacts.
125	There are issues regarding the accountability and transparency of decision making, especially considering that the RTA is both developer and consent authority and past mismanagement by the RTA. This creates suspicion amongst the community.	The approval authority for this project lies with the Government not the RTA. This project is subject to the provisions of the Environmental Planning and Assessment Act 1979 and the decision on its approval would be made by the Minister for Planning following a public consultation period conducted by the Department of Planning. The Minister for Roads is responsible for the implementation of the project after this approval has been obtained.
126	Poor planning at both the State and Federal level and by RTA. The upgrade should include proper strategic planning and holistic analysis and with full consideration of settlement patterns, and future potential scenarios including population increases, and food production.	The RTA has undertaken to implement the State Government's strategy to upgrade the Pacific Highway between Newcastle and the Queensland border. To achieve this a common set of standards has been prepared and a consistent approach has been deployed so that the Highway can be looked upon as a single project with compatible sub-projects.
127	The Highway Upgrade should be completed as soon as possible to reduce accidents, community uncertainty and anxiety and minimise traffic disruptions	This would be considered at the time of implementation of the project construction. Refer to response 134 for additional information.

STRATEGIC PLANNING		
Response Number	**Issue Summary**	**Response**
128	The Highway Upgrade should not be fast tracked under public pressure and sufficient time should be allowed so that community impacts are able to be adequately addressed.	The process for implementing projects involves several policy and Statutory steps which take time to complete. A significant part of this time involves public consultation and obtaining of approval from Department of Planning. The timing after this approval is dependant on the availability of funding and is unknown at this point in time.
129	An inland route is a better option particularly for freight. Suggestions include the Summerland Way, New England Highway, a straight line from Coffs Harbour to Brisbane, Grafton bridge system, Woodburn to Tyagarah (west of Lismore, Grafton to Casino (linking with Beaudesert) and through Lismore. The upgrade should form part of an integrated plan for a freight transport system where the majority of freight is removed from the Pacific Highway and separated from local and tourist traffic This could be achieved by diverting freight to an inland route (via legislation or economic incentives), to rail and/or sea.	The RTA, as an agency of the NSW Government, is required to carry out the relevant aspects of the government's policy in respect of roads and transport. The Federal Governments Auslink White Paper outlines this policy in respect of major transport routes, and sets the development strategy framework for freight movement across all of Australia for all transport infrastructure, including rail, road and sea transport. There has been widespread community support for the upgrading of Pacific Highway so that the levels of road safety are considerably improved. Road safety improvement of Pacific Highway is a high priority for the RTA. Traffic studies undertaken in the early 1990's and detailed in the "North Coast Road Strategy Report" (1992) have shown that the amount of traffic that would divert to the New England Highway if it was upgraded would not substantially reduce the traffic volumes on Pacific Highway. The government has asked the RTA to examine the feasibility of other complementary routes west of the Pacific Highway in meeting the transport needs of the State and the region. The RTA is currently undertaking a preliminary assessment of the proposals put forward by the Local member for Ballina, Mr Don Page, and others. At this stage the RTA has no plans to remove B-doubles from the Pacific Highway

STRATEGIC PLANNING		
Response Number	**Issue Summary**	**Response**
130	An inland route is not a better option as the bulk of the traffic will still traverse the coastal road and will not meet the demands of local agricultural transport industry, impacting on other agricultural enterprises to the west. The Pacific Highway is the most direct route, has existing infrastructure and is a better road than the New England Highway in terms of grades and lanes.	Refer to Response 129 for details.
131	The Tintenbar to Ewingsdale upgrade should not occur. A motorway and associated freight in the area is not warranted and is opposed by the community. Alternative routes should be considered. RODR does not provide adequate assessment of feasible or planned alternatives, including alternative routes and road types.	The RTA understands there are community members opposed to the Tintenbar to Ewingsdale upgrade. The need to upgrade the highway between Tintenbar to Ewingsdale is based on a combination of factors including regional growth, economic issues and road safety issues. It is a vital link for the region and as part of the Pacific Highway provides an important inter-regional link. RODR does not address alternative routes as this is outside the scope of the project.
132	Construction of the Ballina Bypass should commence immediately.	The invitation to tender for initial works on the Ballina Bypass will be issued in April 2006;

D16. Traffic and Transport

TRAFFIC AND TRANSPORT		
Response Number	**Issue Summary**	**Response**
133	The RODR states a traffic volume increase of 3.2% however this may not be applicable to heavy vehicles. Road improvements have proven to increase traffic volumes dramatically. This is a concern for residents living in the study area and townships were crowding will occur. Traffic loads need to be reduced by removing heavy vehicles and consideration of impacts on the local road network should be addressed.	An average linear growth rate of 3.2% is forecast for all vehicle types. Historical data indicates that the proportion of heavy vehicles in the overall traffic stream has not significantly changed with recent Pacific Highway improvements. Heavy vehicles comprise 16% of daily traffic flows south of Bangalow and 14% north of Bangalow. Removing heavy vehicles from the Pacific Highway is outside the scope of this project. The local road networks and access have been and will continue to be considered throughout the project.
134	Impact of increasing traffic volumes in the study area with the delay of upgrade. Traffic volumes from Lennox Head to Lismore not considered and would have an increased distance with Option C and D	Construction timing is related to RTA/ Government funding and is outside the scope of this project. Future traffic volumes have been estimated for most local roads including Ross Lane. Any additional distance travelled on Ross Lane as a result of an interchange for Options C or D would be minimal and would have a negligible effect on overall travel time between Lennox Head and Lismore.
135	Access for cyclists and pedestrians needs to be addressed. Concerns for current pedestrian walking tracks which would be severed under Option C	Pedestrian volumes along the Pacific Highway are currently low. All existing pedestrian and cyclist networks associated with local roads and movement would be assessed and catered for in the concept design plan.
136	Access for trucks travelling interstate should be addressed. Need to incorporate good access to Lismore City and west. An interchange at Bangalow should be constructed to allow heavy vehicles to be directed through Bangalow.	There would be interchanges at Ewingsdale and Ross Lane or Sandy Flat Road as part of this project. The issue of truck traffic in Bangalow is not part of this project and would need to be part of a strategic transport and land use planning study for Bangalow and/or the region.

TRAFFIC AND TRANSPORT		
Response Number	**Issue Summary**	**Response**
137	Overall concern with highway traffic integrating and placing more pressure on the local road networks and town centres. Options C and D are identified as impacting on coastal townships. However this may have positive effects in other areas where traffic has been eased. This may create pressure for additional interchanges to be constructed near to town centres, further exacerbating traffic issues on local roads.	Grade separation (overpass or underpass) would be provided where the short listed route options intersect with significant local roads such as Midgen Flat Rd and Broken Head Rd. Additional traffic volumes on St Helena Rd are not expected with any of the proposed Options and Interchanges. No interchange with Midgen Flat Rd is proposed as part of Option D.
138	The upgrade should service through traffic including cars and the long distance trucking industry	The proposed upgrade would be designed for all traffic and would connect to the local road network through designated interchanges locations. This limited access provides a separation of the local and regional transport networks whilst still permitting local community members access onto and off the highway.
139	Fuel efficiency of the highway should be considered especially with travelling up and down the escarpment. Alternate transport such as rail should be considered to increase fuel efficiency.	The proposed grades and travelling conditions climbing the escarpment would be an improvement on the existing highway and comparable to the short listed options that traverse the plateau. Alternate transport is outside the scope of the T2E project.
140	Travel times are meaningless and mislead the community to prefer Option C or D	The travel times for heavy vehicles reported in the RODR have been calculated in accordance with standard methods. This uses typical truck acceleration and deceleration profiles, and gives an indication of the effect of grades on travel times. The travel speed of light vehicles would generally be unaffected by the grades used in the short listed route options.

D17. Tunnel

TUNNEL		
Response Number	**Issue Summary**	**Response**
141	The tunnel under St Helena Hill will eliminate a dangerous and noisy section of the highway and will improve the amenity of the area for people living in the surrounding villages.	Noted. Refer to response 143 and 144 for details.
142	Community members opposed tunnel for various reasons including the belief that 'Option B modified' from the Bangalow to St Helena EIS should be reinvestigated, the tunnel will destroy farming businesses, agricultural land, native vegetation and habitat, and the head waters of Byron Creek. The tunnel option primarily benefits the trucking industry.	Both tunnel and non-tunnel alignments were considered in developing potential route options. There were two non-tunnel routes on the long list that was evaluated to determine a short list of options (Option B modified from the Bangalow to St Helena Study and one similar to Option F from the same study). Recommendations, particularly recommendation 13, from the Northern Pacific Highway Noise Taskforce (RTA, 2003) were the catalyst for further review of Option B modified from the Bangalow to St Helena EIS, however Option B modified did not rank well because of several factors. Recommendation 13 outlines the necessity for highway alignments to be modified to maximise noise protection to residences. It was in comparative terms less safe, longer, created more difficult access conditions, crossed more wildlife corridors and had higher noise impacts. The other option involved extensive viaducts and large cuttings, affected more agricultural land and was less safe on a comparative basis. When compared to other options (that included a tunnel) these two options performed much worse in several categories and were not short listed.
143	The tunnel option is not only expensive, it will destroy farming businesses, agricultural land, native vegetation and habitat, and the head waters of Byron Creek. The tunnel option primarily benefits the trucking industry.	The preferred route is to be chosen using a broad range of criteria so that it best meets the project objectives. This allows all factors to be considered and a route chosen on balance as being the best in an overall sense. The type of agricultural production, the current stage of development and the viability of remaining farming land are all taken into account when making these assessments. The agricultural impacts of each short listed route has been analysed on a lot by lot basis and is a significant factor in the preferred route selection process. Regional economy impacts due to agriculture and other businesses affected are being evaluated and would be considered in the selection process. There is some possibility that rainforest replanting in this area may be impacted by the tunnel route options.

TUNNEL		
Response Number	**Issue Summary**	**Response**
144	Tunnel will not fix the safety and noise issues as trucks will still utilise the existing highway.	The number of trucks using the existing highway down St Helena Hill would be substantially reduced following the opening of the upgraded highway through the tunnel. The number of trucks using the existing highway would drop by approximately by 75% and as a local road further speed reduction can be applied thus significantly improving the safety levels from those currently applying.
145	Fog will occur in and at the southern exit of the tunnel. This is hazardous.	The issue of fog is being considered as part of the route selection and concept design process. Currently only anecdotal evidence relating to local fog frequency and density is available. The RTA is investigating potential fog safety mechanisms, based on global examples. Refer to response 111 and 112 for additional information.
146	Tunnel option preferences comparing T1 and T2 were given. Option T1 preferred over T2 as it utilises the existing dual carriageway, noise impacts are minimal and appears to be more direct and therefore safer. Option T2 preferable as it reduces noise impacts, environmental impacts and has lower grades which increases safety is better for visual amenity and reduces fuel consumption.	All route options are likely to have noise impacts on communities near to the alignment. Option T2 may reduce the incidence of 'peak' noise events due to truck engine brakes because of the lower gradient; however the alignment is likely to be slightly closer to Ewingsdale than the T1 alignment. The lower grades would reduce vehicle operation costs and greenhouse gas emissions. Both T1 and T2 would require noise mitigation works such as noise walls and low noise pavements.
147	Suggestions for variation in tunnel design including earlier tunnel access, a lower gradient and tunnel portals west of the existing highway, away from Ewingsdale residences.	Because of the topography lowering the tunnel to any great extent greatly increases the tunnel length and hence the project costs. The current levels for the tunnel are a balance between achieving the best grades and total cost. This would continue to be reviewed as the concept design for the preferred route proceeds.
148	The tunnel will decrease noise levels in local communities when combined with noise mitigation measures. Concerns involve noise echoes at tunnel entrance and noise impact to residences on Plantation Drive.	Preliminary investigations indicate that there is likely to be only a small build-up of noise at tunnel portals and only in close proximity to the portal. However, appropriate mitigation measures would be developed as required to meet the Department of Environmental Conservation, Environmental Criteria for Road Traffic Noise guidelines.

TUNNEL		
Response Number	**Issue Summary**	**Response**
149	Ewingsdale residents are most benefited by T1 and therefore strongly support this option. However, the impacts of the highway upgrade upon Ewingsdale are not exacerbated by any of the route options and therefore their tunnel preferences should not be given as much weight as residents who are most impacted by the upgrade.	All route options are likely to have noise impacts in communities near to the alignment. An objective of the design would be to meet the Department of Environmental Conservation, Environmental Criteria for Road Traffic Noise guidelines where possible. This approach would be used in evaluating all options.

D18. Visual Impact and Amenity

VISUAL IMPACT AND AMENITY		
Response Number	**Issue Summary**	**Response**
150	Options impact on visual amenity of townships and the natural beauty of the area which is both nationally and internationally world renowned. A 6 lane highway with B double trucks are not compatible with the visual amenity of the area	It is recognised that the highway upgrade would have a visual impact on the study area and the route selection criteria reflect this scenic quality of the area. Mitigation measures would be developed to reduce this impact as much as possible.
151	The upgrade should not further destroy the landscape. The existing road reserve should be utilised with buffering for residents and coastal area preserved.	The visual assessment of route options takes into account the benefits of retaining the highway within the existing reservation. The visual assessment is only one of several criteria being used in the process to determine a preferred route.
152	The impact of the proximity of large cuttings and bridges to properties, as well as the height of highway at eye level from some houses should be considered.	The density of residences throughout the study area results in each option affecting properties to varying degrees. The visual impact from the properties is taken into consideration in the route selection and visual assessment process. A detailed assessment of visual impacts on specific properties would be undertaken once a preferred route has been determined and confirmed. This would also include the identification of appropriate mitigation measures to address these concerns.
153	Concerned about light pollution (including headlights), associated with Option B, C and D, impacting on residences of Bangalow and properties on the escarpment.	The visual assessment takes into consideration the visual effect of relocating the highway to areas which cannot currently view the highway. All options would include mitigation measures which would consider the amenity of adjoining residents. For example, plantings would be provided where possible to reduce the impact of headlight glare on neighbouring properties.

VISUAL IMPACT AND AMENITY		
Response Number	**Issue Summary**	**Response**
154	The proposed options would be highly detrimental to the scenic escarpment which needs to be protected especially where options pass through the 7(d) Scenic Escarpment Zones, impacting the escarpment and coastal views to the ocean. Areas of particular reference are the Newrybar Scenic Escarpment, Midgen Flat, Newrybar Swamp and the coastal plain. This will impact tourism in the area.	The importance of the scenic escarpment has been discussed in the RODR. Its importance for the visual character of the area has been considered in the visual assessment of the highway options, and this consideration would continue up to and beyond the identification of a preferred route.
155	Options on the escarpment and coastal plain reduce the amenity of the area and destroy the natural beauty of the coastal hinterland. Social issues should not be minimised for the cost of visual amenity in the coastal area.	The coastal settlements would not be greatly affected by the eastern options due to the low-lying nature of the coastal flats and the distance of these routes from these settlements
156	A large highway would significantly detract from the visual amenity of the area especially in plateau areas which are more valuable than the cane fields.	A new highway in the coastal flats would have less visual impact due to the relatively low profile and landscape verges however it would be visible from a wide area particularly the escarpment. The route selection and visual assessment considers these issues.
157	Other environmental issues, such as native wildlife, communities, safety and agriculture are more important than visual amenity issues	The project team acknowledges the significance of different issues and has applied weightings to the criteria when selecting the short listed route options. These weightings were established through stakeholder and project team pairwise. The CLG pairwise results were then used for sensitivity analysis. The criteria cover a full range of environmental, social and functionality issues.
158	Locating a highway near properties would detract from views and unfairly impact upon specific individual properties. In some cases, land owners purchased property away from the highway for the scenic views and amenity. Of particular concern are iconic properties.	The visual impact on properties has been taken into account in the visual assessment for the short listed route options and would be continued to be used as one of the criteria in the selection of the preferred route.

VISUAL IMPACT AND AMENITY		
Response Number	**Issue Summary**	**Response**
159	Concerned about methodology used for the visual assessment. Need to ensure technical innovation and strategies are used to mitigate visual impacts.	Reporting to date (Route Options Development Report) as well as the public exhibition of the route options has only provided a summary of key issues for each of the specialist areas of investigation. The specialist report provides a detailed review of the Visual and Landscape Assessment method, and outlines the key considerations, Visual Sensitivity and Visual Effect, in Identifying a preferred. These characteristics in turn consider: 1. Scenic quality of the landscape and landscape character type 2. Number and sensitivity of viewers 3. Distance from existing highway infrastructure 4. Degree of exposure of route 5. Scale of new infrastructure. Appropriate visual mitigation measures would be implemented to reduce impacts.

Appendix E

Agency/Stakeholder Submissions

Contents

E1 Ballina Shire Council

Three separate council submissions on the Tintenbar to Ewingsdale Route Option Development Report/Display were received by the project team. These included:

- 28 November 2005 Newrybar Landcare Group submission addressed to Council
- 6 December 2005 submission including one letter and five form letters addressed to Council (protection of drinking water)
- 28 November 2005 Council submission regarding the Ballina Bypass.

Responses to the above submissions (relating directly to the Tintenbar to Ewingsdale project) are provided below.

E1.1 Landcare Group

The issues and constraints associated with the Landcare Group properties on Broken Head Road have been taken into account in the development of the constraint mapping included in the Route Options Display Report. The project team is aware of the concerns of this group and these concerns have been represented by Rebecca Zentveld, a member of the project's Community Liaison Group.

E1.2 Submissions Relating to Water Catchment and Drinking Water Supplies

The concerns and interests of the 'Water Catchers and Water Drinkers' have been made known to the project team through a separate submission. Responses to their concerns are included in the Route Options Submissions Report. This report will be available on the project website in the near future.

E1.3 Council Submission on the Ballina Bypass

The project team notes the Council's preference for the finalisation of the planning, design and construction of the Ballina Bypass on its approved alignment at the earliest opportunity, including planned construction to Ross Lane, thereby negating impacts to structure planning under investigation at Cumbalum Ridge.

As noted in the Route Options Display Report, Options A and B follow the approved Ballina Bypass alignment between Sandy Flat Road and Ross Lane; Options C and D would tie into the Ballina Bypass at Sandy Flat Road.

If Option C or D becomes the preferred route, then the section of the Ballina Bypass alignment north of Sandy Flat Road would not be required. Timing on the decision of the preferred route for the Tintenbar to Ewingsdale project is such that if Option A or B becomes the preferred route, it will not impact the proposed implementation schedule for the construction of the Ballina Bypass north of Sandy Flat Road.

Potential impacts to the Cumbalum Ridge area will be taken into account in the assessment of the short list of route options.

E2 Byron Shire Council

E2.1 General Comments

Maintaining connectivity of communities must be assured.

- Grade separation (overpass or underpass) will be provided where the short listed route options intersect with significant local roads such as Midgen Flat Road and Broken Head Road. This will ensure that the current connectivity of communities is maintained as much as possible.

Ease of access to town centres must be maintained, in particular to Bangalow, to ensure the viability of the community and local businesses.

- Access to Bangalow will be maintained through the existing highway and connections. Vehicles travelling from outside the study area to Bangalow along the proposed upgraded Pacific Highway would use the interchanges proposed at Ross Lane/Sandy Flat Road or Ewingsdale and travel along the existing highway to Bangalow. Appropriate signage will be provided prior to the interchanges to ensure drivers' understanding of access to Bangalow.

Road safety is of the highest importance when considering access to/from the highway and connectivity of communities.

- Road safety has been identified as a key consideration for the selection of a preferred route. For this reason, all access to and from the upgraded highway would be through grade-separated interchanges. Safety would also be a key consideration with respect to any alterations of the local road network.

Interchanges must be considered in terms of the potential impact they may have in adding traffic to a local road network that has already reached its full capacity. In particular, council has concerns about additional traffic loads being put onto the coast road from Lennox Head to Byron Bay. However there has been no indication as to whether there would be any other interchanges, or how access to existing communities will be achieved. Council wants to know how the RTA will address issues of impact on the local road network knowing that any interchange south of Ewingsdale with access to the coast road will add more traffic to this road.

- No additional interchanges have been proposed between Ross Lane and the existing Ewingsdale Interchange. The RTA is aware of Council's concerns regarding additional traffic on the coast road.

E2.2 Comments on Terrestrial Ecology Component of Report

Summary: Report is deficient and should be discarded.

- It is acknowledged that the information on the threatened species section of the RODR needs clarification. Some input on threatened species methodology that was included in the *Terrestrial Ecology Working Paper* was not included in the RODR and this has resulted in a misinterpretation of the data. However, the RTA stands behind the data presented and feels that it provides an appropriate preliminary level of information to differentiate between the options. Additional field investigations and analysis have been conducted since the RODR. This information will be used in the detailed analysis of the short list of route options.

E2.2.1 Presentation of Information

Impacts assessed within the various route option corridors are described as "ecological characteristics" (s.8.8.1) when characteristics normally refer to ecological attributes such as the type, condition, size, shape, connectivity etc of vegetation patches, presence of conservation priority communities and species, presence of threatened species' habitat, known populations or occurrence of threatened species etc, but not perturbations.

- The ecological attributes used to characterise the vegetation patches for the constraints mapping are the same as those discussed and included in the RODR identification of terrestrial constraints, Section 5.8.2. Chapter 8 addresses impacts associated with the route options and Section 8.8.1 identifies this section as Overview of Impacts.

One impact is described as the "number of patches and area of …… vegetation or habitat that potentially would be affected …." but the terms are not explained. What does "potentially" mean? Does this include vegetation patches adjacent to the route options that would not require destruction? Is the "area" only that area of the patch falling within the 250 m route option corridor or the whole area of a patch that falls inside and outside the corridor?

- ''Number of patches and area of vegetation that potentially would be affected" refers to patches or parts of patches that fall within the proposed 250 m wide corridor shown for the route options and does not include any part of a patch that falls outside the 250 m corridor.

  The footprint design of the options will most likely require less land than that shown for the corridors in the RODR. Therefore it is likely that some 'affected' patches that fall within the corridor (particularly those on the corridors edge) will be able to be avoided by the footprint.

Regional and sub-regional wildlife corridors are described as "wildlife route options" (s.8.8.1).

- Regional and sub-regional wildlife corridors described as 'wildlife route options' is a misprint in the RODR summary. They should be referred to as 'wildlife corridors'.

Threatened Species Occurrence. It is suggested that threatened species are likely to exist within many vegetation patches because of the "disturbed and highly fragmented nature of much of the vegetation in the local area". However, poor vegetation condition usually mitigates against the occurrence of most threatened species.

- Many threatened species have been found within patches of vegetation dominated by Camphor Laurel.

  The statement that threatened species are likely to exist within many vegetation patches because of the "disturbed and highly fragmented nature of much of the vegetation in the local area" refers to the fact that the general fragmentation of vegetation in the local area has led to many local species being listed as threatened because their habitat has previously been cleared.

Table 8.11 states two threatened species records are "very close to B1" but Table 8.12 indicates only one record for this route option. Table 8.11 also lists the presence of a colony of the threatened (TSC Act 1995) Grey-headed Flying-fox* Pteropus poliocephalus *in close proximity to route option D1 but Table 8.12 ignores this occurrence.

- Please note Table 8.11 refers to recordings by section and in Section B1 and D1 the explanations say 'very close' and 'approximately 200 m of a no go area'; Table 8.12 refers to those that are 'directly impacted' or lie within the 250 m corridor of the route option. Furthermore, additional records of threatened species have been compiled since the printing of this report and are included in the updated constraints mapping. Previous records of threatened species have not been used directly to distinguish between route options, but instead each vegetation patch within the study area has been assessed as potential habitat for threatened species. This approach is more conservative than it would be if constraints were simply determined using the location of threatened species, as it is likely that many threatened species would be missed as they are, by definition, rare.

Evaluation criterion 27 (Appendix A) refers to the "Number and area (ha) of …. vegetation or habitat likely to be affected", but what does "likely to be affected" mean? Are these patches that will be destroyed by the Upgrade construction and also patches close by, downstream or connected by corridors that will be cut, or none of the latter?

- The evaluation criteria "Number and area of vegetation likely to be affected" refers to the patches of vegetation that fall within the proposed corridors. The area refers to the total area of vegetation that falls within the corridor, not including sections of patches outside the corridors. The number refers to the number of patches of vegetation that fall within the vegetation corridor, including those falling partially outside the corridor. It is likely that once the road footprint is finalised, a smaller area and number of vegetation patches will be impacted.

The explanation of evaluation criterion 27 states, "Where riparian flora and fauna has been mapped, this will also be included". Does this mean that if "flora and fauna" have not been mapped then they will not be included?

- A more detailed explanation of this criterion is as follows:

  This criterion accounts for threatened species and migratory animals; the patches of vegetation where these species are known to occur are given a higher constraint rating than equivalent vegetation without such records. In addition, riparian vegetation is given a higher constraint rating than equivalent non-riparian vegetation.

E2.2.2 The mapped information is confused and inaccurate

Mapping of vegetation within route options. Although roads, nodes and threatened species records are superimposed over route options (Fig. 8.6), vegetation patches falling within options are obscured, with the result that it is not possible to check tabulated data.

- The detail of the mapping can get lost when presented in the report as A4 figures – we apologise for this. Please refer to *Preliminary Terrestrial Ecology Assessment Report* for larger, more detailed maps.

High constraint vegetation ("key habitat") is indicated as falling within a wildlife corridor (Fig. 8.6) but the mapping shows many patches outside corridors and s.8.8.1 states other factors were considered in assessing values.

Medium constraint vegetation is indicated to include "all other native vegetation" (Fig. 8.6) and although s.8.8.1 claims Camphor Laurel* Cinnamomum camphora*-dominated patches within corridors were rated as medium constraint, the mapping shows many Camphor Laurel patches outside corridors mapped as medium constraint.

- Definitions of low, medium and high terrestrial ecological constraints classifications are provided in Table 5.9, page 58 of the RODR.

Threatened species occurrence. Only three threatened species records (one flora, two fauna) are shown within route option corridors (Fig. 8.6) whereas Table 8.12 indicates the existence of five records. Confusingly, one of the mapped records (Fig. 8.6) is shown as falling within the C/D corridor while Table 8.12 shows no threatened species recorded within these route corridors.

- This is an error in summarising the *Preliminary Terrestrial Ecology Assessment Report* for the RODR. Refer to *Preliminary Terrestrial Ecology Assessment Report* for larger, more detailed maps and more explanation with regards threatened species.

  Additional records of threatened species have been complied since the printing of this report and are included in the updated constraints mapping, but not used directly to differentiate between route options. Records of threatened species have been compiled from a variety of sources, including Biosis Research's surveys, DEC, Ballina Shire and Byron Bay Council, Big Scrub Rainforest Landcare Group, Birds Australia Atlas Database, Community Information Sessions and information passed on from landowners. Once finalised, Biosis Research are happy to provide BSC with data sets for its own records.

  We note that threatened species were not used as evaluation criteria, instead a more conservative approach was adopted where by the quality o the habitat was assessed.

  Additional records of threatened species have been complied since the printing of this report and are included in the updated constraints mapping, but not used directly to differentiate between route options. Records of threatened species have been compiled from a variety of sources, including Biosis Research's surveys, DEC, Ballina Shire and Byron Bay Council, Big Scrub Rainforest Landcare Group, Birds Australia Atlas Database, Community Information Sessions and information passed on from landowners.

E2.2.2.1 Methodology - the ecological evaluation criteria adopted are flawed and result in ecological values being downgraded

Number of Ecological Criteria Adopted. Only four ecological criteria (three terrestrial and one aquatic), of a total of 39 criteria (Appendix A), are selected for the evaluation of route options. This results in ecological values being significantly downgraded when compared with social, engineering and economic factors and is inconsistent with the equal ranking assigned to these four major values.

- The evaluation criteria for the Sieve 1 process (selection of the short list of route options) was developed and agreed in conjunction with the Community Liaison Group for the project. A refined set of criteria will be used in the selection of the

preferred route; this refined group of criteria will be grouped into three 'silos' which are Functional, Social/Economic, and Natural and Cultural Environment. Performance of each of the shortlisted options in the separate silos will be evaluated. Thus environmental issues will be assessed exclusive of functional and social and economic concerns.

Evaluation Criterion 27 apparently combines the number and areas of both high and medium value remnant and regenerated vegetation or habitat into one value. No explanation is provided as to how this was achieved, but it appears that such combination would have cancelled out the initial ranking (and presumably weighting) of the sub-criteria of high and medium value remnant and regenerated vegetation or habitat.

- High and Medium constraint vegetation are considered separately, with a higher weighting being applied to High constraint vegetation.

Further, the values assigned to individual sub-criteria are likely to have been highly subjective. For example, how were patches assessed as habitat for threatened species? The data provided suggest that this was only on the basis of records from the extremely selective Atlas of NSW Wildlife.

- Patches of vegetation that contained potential habitat for threatened species were treated as though they contained threatened species and were given a high constraint rating accordingly, regardless of whether or not threatened species had been previously recorded in them. Biosis Research's on-site surveys and information provided to us by Ballina and Byron Shire Councils, DEC, Big Scrub Rainforest Landcare Group and landowners were used to assist in evaluation of patches as potential habitat for threatened species. The DEC records were one source among a variety of other sources of information that were used to assess habitat values of patches of vegetation.

High value/constraint vegetation/habitat is defined as "generally consists of rainforest with minimal Camphor Laurel infestation" (s.8.8.1) but this ignores communities in the study area such as swamp sclerophyll forest and river-flat eucalypt forest on coastal floodplains, both listed as endangered ecological communities (EECs, Threatened Species Conservation (TSC) Act 1995) and consequently of high significance.

- All vegetation patches meeting the criteria of an endangered ecological community were given a high constraint rating regardless of condition.

Medium value vegetation/habitat is indicated to include all other native vegetation and Camphor Laurel-dominated patches within wildlife corridors (s.8.8.1). However, this appears to overlook Camphor Laurel-dominated forest outside corridors, which ignores its function in providing habitat for threatened plant species and important foraging habitat for threatened bird species such as the Rose-crowned Fruit-dove **Ptilinopus regina*.***

- Camphor Laurel patches outside wildlife corridors were given a lower constraint rating relative to other native vegetation patches within the study area, which are in better condition or contain better flora and fauna habitat than Camphor Laurel. This is not to infer that Camphor Laurel patches have no significance as flora and fauna habitat, only that the significance of these patches is lower relative to other patches of native vegetation. It is recognised that Camphor Laurel patches contain habitat for some threatened plants and animals. Camphor Laurel patches inside wildlife corridors were given a higher constraint rating than those outside wildlife corridors because they helped maintain connectivity by providing sub-optimal habitat

between patches of optimal habitat (native vegetation), not because they provided better habitat. Refer to *Preliminary Terrestrial Ecology Assessment Report* for more details..

Evaluation Criterion 28 assesses impact due to the "number of 'edges' created through remnant and regenerated habitat areas" but the number of edges would equate to the number of patches cut, so has little validity as a separate criterion. A more meaningful measure would have been to calculate the length or edge/unit area of affected patches.

- Evaluation Criterion 28 assesses the impact due to the number of edges created through patches of vegetation. For this criterion, only new edges were considered, that is, edges created were only considered if they dissected larger patches of vegetation greater than 50 m wide, as research suggests that this distance is the extent of most edge effects. Therefore edges created through smaller patches, which are likely to already be entirely impacted by edge effects, were not counted as new edges.

Evaluation Criterion 29 provides the number of times a wildlife corridor would be crossed, but the cutting of regional and subregional corridors appears to be subsumed into one value, negating the initial separation.

- The one Regional corridor within the study area is traversed by all four route options for similar lengths, so there is no need to differentiate between the different types of wildlife corridors.

Local corridors have been ignored, particularly riparian corridors, and no attempt has been made to differentiate between corridors already cut by the existing highway and those still relatively uninterrupted.

- Local corridors are considered to be important and have been considered. Riparian vegetation, which acts as a wildlife corridor, was given a higher constraint than equivalent non-riparian vegetation. Local corridors already cut by the existing road are differentiated from those that are less disturbed, which is one reason why options close to the existing highway have less impacts than those more distant.

The assessment also fails to realise that the proposed tunnel section does not cross or cut a sub-regional corridor, invalidating totals in Tables 8.10 and 8.12. No attempt is made to take into account the potential for connecting interrupted corridors through the provision of vegetation under bridges or over a route by employing cut and cover tunnels.

- With respect to the St Helena wildlife corridor, all four options pass under this corridor through a tunnel, therefore not differentiating the results shown. Where possible, impacts to wildlife corridors will be minimised in the design of the footprints of the options. Impacts on corridors may be mitigated through the provision of fauna over and under passes in appropriate locations. The concept design phase of the preferred route will include a more detailed analysis of proposed mitigation measures.

E2.2.3 The Pairwise comparison used to rate ecological evaluation criteria against other criteria is not valid

Number of ecological evaluation criteria. As noted above, with only four ecological criteria selected, comparison with more numerous social, engineering and economic criteria is biased against ecological values. A total of 10 ecological criteria are required to achieve a balanced comparison.

Comparison of ecological criteria with social, engineering and economic criteria. Even with criteria being evenly selected, the comparison of ecological criteria with social, engineering and economic criteria is invalid because these values cannot be rated against each other. Such comparison could also be expected to be highly subjective, with results reflecting the expertise and interests of participants.

- Highway planning projects seek to achieve a balance in environmental, social, economic, cultural and engineering impacts. This is a difficult and complex process. However in the end compromises and trade-offs are generally required. The Sieve 1 process reflects this difficult decision making process.

  The pairwise assessment of the evaluation criteria provided a sensitivity test to the Sieve 1 process, and was undertaken by a variety of project team and stakeholders. The evaluation criteria were developed and agreed in conjunction with the Community Liaison Group for the project. A refined set of criteria will be used in the selection of the preferred route. These criteria will be grouped into 'silos' for 'Safety and Functionality', 'Natural and Cultural Environment' and 'Social and Economic'. Within these silos the criteria will undergo another pairwise assessment. The silos themselves are not weighted.

E2.2.4 Bioregional Significance of the Area - No attempt appears to have been made to assess or place into context the significance of the study area, and the NSW north coast region generally, for biodiversity conservation.

National significance. The NSW North Coast region is nationally important in providing autumn and winter food resources for nomadic and migratory insectivorous, nectarivorous and frugivorous birds and nomadic nectarivorous and frugivorous fruit bats. The region and the study area are at the centre of one of two refugia for the ancient Tumbunan subtropical rainforest biota, representative of pre-Gondwanan flora and fauna and of particular scientific and conservation significance. The coastal plain area of the region and study area supports Wallum plant and animal communities of high scientific and conservation significance. With regard to the latter attribute, expansion of the route options study area onto the coastal plain appears to have taken no account of the much higher likelihood for significant ecological impact. This area contains a substantially higher diversity of habitats than the immediate hinterland, reflected by the recent listing of six EECs under the TSC Act (1995), with consequent greater potential for significant impact. This would include permanent dislocation of coast to hinterland connectivity and major disruption to ecological functioning through changes to landforms and drainage patterns caused by the requirements for road construction cut and fill.

State significance. The NSW north coast region supports the highest number of threatened plant and animal species and endangered ecological communities in the State.

- The significance of the NSW north coast region as a resource for nationally significant bird and mammal species is recognised. However, it is important to note the vast majority of the study area has been previously cleared and or highly modified. As stated above the importance of native vegetation remnants and wildlife corridor have been highlighted and included as criteria for route option selection. All route options occur within the region that Council notes concern for and therefore the value of the region as a resource for nationally significant fauna is common to all routes. The RODR specifically focuses attention on ranking the route options according to environmental sensitivity and therefore this proposed criterion, being common to all routes, does not provide a mechanism to differentiate between route options.

  The RODR does however identify specific values of National environmental significance that may be impacted either directly or indirectly by each of the possible route options. These criteria are used to differentiate between route options and will help in selecting a route that reduces the impacts to the ecological values that contribute to the ecological significance of the NSW north coast region.

  It is important to note that the recent listing of six vegetation communities as Endangered Ecological Communities on the TSC Act renders these communities as significant at the state level and discussion of the significance of these communities should be confined to State Significance. Biosis Research agrees that the coastal plain has greater ecological value than the adjacent hinterland due to a greater diversity of habitats and its proximity to a number of nature reserves, although the recent preliminary determination of Lowland Rainforest as an Endangered Ecological Community on the TSC Act may reduce the difference between these two areas.

  The impact of all route options on the connectivity between the hinterland to coast has been considered. We note, in discussion with Byron Shire Council, that Options C and D have potential to add an additional 'barrier effect' to east west wildlife movements.

E2.2.5 Threatened Communities and Species Values

Dependence on Atlas of NSW Wildlife records. The threatened species records as provided, representing a few opportunistic observations contained in the Atlas of NSW Wildlife, are meaningless for comparing route options. This is inferred by the claim made in relation to "potentially affected vegetation patches", where it is stated that "it is likely that threatened species exist within these areas" (s.8.8.2). However, the numbers of Wildlife Atlas records are then misleadingly (and inaccurately, see s.1 above) inserted in a table designed to show "terrestrial ecology characteristics" of each route option (Table 8.12) and included in the comparison of route options "key characteristics" (s.8.8.3).

A valid threatened species assessment would have examined vegetation and other habitats along each of the route options as potential threatened species habitat and then made a comparison on that basis. A conservative assessment of threatened species' records in the vicinity of the route options, together with habitats along the routes indicates that 16 threatened plant species and 20 threatened vertebrate species are likely to be present.

- Threatened species records from the DEC Atlas of NSW Wildlife have not been used directly for identification of ecological impacts of route options. It is acknowledged that the information on the threatened species section of the RODR needs clarification. Some input on threatened species methodology that was included in the *Terrestrial Ecology Working Paper* was not included in the RODR and this has resulted in a misinterpretation of the data. Rather than using the records of threatened species, Biosis Research used the presence of potential habitat for threatened species to determine the constraint level of each vegetation patch, and these were used to compare route options. However, threatened species records were used to upgrade Camphor Laurel to the next highest constraint rating if threatened species were known from these patches. Records of threatened species have been compiled from a variety of sources, including Biosis Research's surveys, DEC Atlas, Birds Australia's Atlas, Ballina and Byron Council, Big Scrub Rainforest Landcare Group and information passed on from landowners. This information has been used to assist in constraints mapping. Biosis Research's approach is more conservative than it would be if simply the location of threatened species were used as an indicator of constraint level. For the current assessment Biosis used similar methods for the threatened species assessment as those recommended, i.e. "examined vegetation and other habitats along each of the route options as potential habitat for threatened species habitat and made a comparison on that basis".

Lack of consideration of endangered ecological communities (EECs) in the study area. EECs, which have equal status with threatened species under the TSC Act (1995), are largely ignored in the study area assessment and route options summary. The study area contains examples of freshwater wetlands on coastal floodplains, swamp sclerophyll forest on coastal floodplains, swamp oak floodplain forest, river-flat eucalypt forest on coastal floodplains, subtropical coastal floodplain forest and lowland rainforest on floodplain and several of these are present in route option corridors. Apart from a reference to swamp sclerophyll forest (on coastal floodplains) within route option C (s.8.8.), no other consideration is given to EECs in route options evaluation.

A recent preliminary listing of lowland rainforest as an EEC will also now need consideration in route options assessment, as this community is widespread in the study area.

- Endangered Ecological Communities have been defined as such in the constraints mapping and have been given a high constraint regardless of condition. The EECs that are known to be present within the study area include Swamp Sclerophyll Forest, Lowland Rainforest on Floodplains and Freshwater Wetlands on Coastal Floodplains. Although there is potential habitat for Sub-tropical Coastal Floodplain Forest within the study area, it has not been previously recorded. If Byron Council have further information, from that provided by council previously, which suggests other patches of EECs occur within the study area and have not as yet been mapped, then Biosis Research would be grateful for that information. Since the completion of the *Preliminary Terrestrial Ecology Assessment Report*, Lowland Rainforest has been preliminary listed on the TSC Act as an EEC and will be treated as an EEC in future reporting and analysis until a final determination is made.

E3 Department of Environment and Conservation

E3.1 Biodiversity

Of the four options presented, Options A (Blue) and B (Green) appear likely to have the least potential to adversely impact on the biodiversity of the study area and its local and regional landscape. Through mostly following the existing highway corridor, these options will minimise disturbance of key habitat and wildlife corridors, remnant high conservation value (HCV) native communities (EECs), freshwater wetlands, and landscape structure and function. DEC supports the route option/s that will have the least potential to adversely impact on the ecological integrity, persistence and long-term survival of threatened and protected flora and fauna and their habitat within the local and regional landscape.

- It is agreed that potential impacts to native flora and fauna are minimised with options that follow or are in close proximity to the existing Pacific Highway Corridor.

  Options A and B have fewer crossings of waterways than Options C and D, but Options A and B cross two aquatic habitats with medium constraints. Options C and D cross aquatic habitats with low to negligible constraints.

Options A and B will, however, bisect 16 and 20 patches, respectively, of high conservation value native vegetation, create edge effects through these remnants, traverse one sub-regional and one regional wildlife corridor, and potentially degrade the habitat of a number of threatened plant and animal species. A range of mitigation measures will need to be developed and implemented to safeguard the quality of these attributes of the study area's biological diversity.

In contrast, Options C and D appear to have greater potential to adversely impact on the ecological integrity, condition and landscape connectivity of native vegetation and faunal assemblages and their remaining habitat in the study area and its region. Both options bisect in two places a subregional wildlife corridor that runs from Broken Head to Newrybar and southeast to connect with several significant coastal regional wildlife corridors. Option D especially impinges on key lowland habitat within the wildlife corridor. Both options also bisect a regional wildlife corridor linking upland remnant native vegetation at Tintenbar with lowland swamp and forest communities in nearby Ballina Nature Reserve (NR).

- The route options assessed in the Route Options Development Report (RODR) were based on corridor widths of 250m. Therefore patches of vegetation falling within the corridor, particularly those on the edge of the corridor, may be avoided in the concept design of the footprints of the options. Where possible, impacts to high value vegetation and wildlife corridors will be minimised in the design of the footprints. Impacts on wildlife corridors may be mitigated through the provision of fauna over and under passes in appropriate locations.

It is agreed that, as stated in the terrestrial ecology report, it is difficult to prescribe detailed mitigation measures to protect flora and fauna at this stage in the project, other than to identify requirements for fauna passage where wildlife corridors are impacted. However, an important consideration will be the feasibility of mitigative measures to reduce potentially adverse impacts of this project on ecological processes and biodiversity. These will need to be assessed against each option to ensure that standards of environmental performance can be achieved in the survey, construction and operation phases of the project. Temporary measures to ameliorate potential impacts on native flora and fauna and their habitats will need to be agreed upon before construction commences. Proposed works will need to provide adequate underpasses and overpasses to facilitate the movement of terrestrial and arboreal fauna to and from foraging and breeding areas either side of the dual carriageway route.

- The assessment of the short list of route options includes a preliminary analysis of mitigation measures that is reflected in the costing of the options. The concept design phase of the preferred route will include a more detailed analysis of mitigation proposed for the preferred route, and finally the environmental assessment phase of the project would include specifics associated with mitigation measures.

The maintenance of the quality and connectedness of regional and subregional wildlife corridors is recommended wherever possible. This requires consideration of native vegetation, regardless of tenure, as providing potential links for the movement and dispersal of fauna. Overlaying the various route options in Figure 5.10 of the RODR would assist the reader in considering the location of route options in relation to wildlife corridors.

- Figure 5.10 shows the existing terrestrial ecology conditions and constraints. The route options are overlaid on the wildlife corridors in Figure 8.6, Terrestrial Ecology Characteristics and the Short List of Route Options. Mitigation of impacts to wildlife corridors will be assessed as described previously.

Development and implementation of a revegetation plan to ameliorate disturbance to wildlife corridors caused by future construction activities is recommended. This would utilise indigenous species and detail measures to ensure the sustainability of plantings and weed control. Design of the selected route will need to incorporate fauna underpasses and overpasses and perimeter fencing adjacent to the highway at points bisecting key wildlife corridors, e.g. between Nodes 1 and 2 (Sandy Flat Road vicinity) and Nodes 4 and 5 (Tinderbox Creek area).

- Details of the requirements of any revegetation plan will be provided during the environmental assessment phase of the preferred route, and is likely to include rehabilitation and revegetation of native vegetation communities, management plans for threatened species, a weed management plan, use of locally indigenous species and design of fauna over and under passes.

The only DEC estate near the study area is Ballina NR and Hayters Hill NR to the northeast. Potential impacts of the proposal on these reserves are likely to be confined to water quality and impairment of wildlife corridors that partially link these reserves to native vegetation remnants on privately owned lands.

- Mitigation against disturbance to wildlife corridors that provide links between nature reserves will be detailed during the environmental assessment phase of the preferred route, and is likely to include fauna under and over passes and revegetation/rehabilitation of disturbed areas of native vegetation.

DEC must ensure that threatened flora and fauna species, populations and ecological communities and their habitat are adequately protected from the proposed roading activities and appropriate habitat restoration measures are devised and implemented. The importance of this is highlighted by the occurrence of a number of threatened species, EECs, and HCV vegetation communities on land subject to Options A, B and C. These include, for example, Swamp Sclerophyll Forest, Spotted-tailed Quoll, Square-tailed Kite, Osprey, Little Bent-wing Bat and Grey-headed Flying-fox.

- The study area supports a variety of valuable areas of native vegetation. These constraints have been assessed in the development of the short list of route options. Further minimisation of impacts is being investigated in the development of the footprints of the route options. Where impacts cannot be avoided, suitable mitigation measures will be proposed to reduce the impact and/or compensate for impacted areas.

DEC is concerned that the RODR and the terrestrial ecology report have not included reference to the full range of threatened plants and animals that have been recorded in or near the study area, or that are considered likely to be present. There is a need for the consultants to review all available databases and studies including those held or undertaken by DEC, Australian Museum, Forests NSW, CSIRO Sustainable Ecosystems, national herbarium, and universities. This will allow a more accurate and comprehensive identification and assessment of the potential impact of the proposal on threatened and locally and regionally significant biodiversity in and near the study area. It will also facilitate the development of measures to mitigate potential impacts of the proposal on threatened biota.

- Rather than the records of threatened species, Biosis Research have used the presence of suitable habitat for threatened species as an indicator that threatened species are or may be present, and patches of vegetation have been mapped accordingly. Furthermore, patches that are dominated by Camphor Laurel have been upgraded to a higher constraint rating if threatened species are known to occur in these patches. Records of threatened species have been compiled from a variety of sources, including Biosis Research's surveys, DEC, Ballina Shire and Byron Bay Council, Big Scrub Rainforest Landcare Group, Birds Australia Atlas Database, Community Information Sessions and information passed on from landowners. This information has been used to assist in constraints mapping. This approach is more conservative than it would be if constraints were simply determined using the location of threatened species as an indicator, as it is likely that many threatened species would be missed as they are, by definition, rare.

  DEC representative, Andrew Huggett, has been contacted regarding DEC's query. Arup will re-review the DEC information and contact Andrew if necessary for clarification.

The scope of the terrestrial ecology report could be increased by the inclusion of a desktop assessment of whether the study area contains any "centres of endemism", or modelled "key habitat" for threatened species. This information is available under licence from DEC.

- DEC mapping of "centres of endemism" and "Key Habitat" were used in the constraints assessment mapping to aid in identification of areas of high constraint. Refer to *Terrestrial Ecology Working Paper*.

One SEPP 14 wetland occurs within the path of Option D north of Midgen Flat Road. DEC recommends that the proposed routes avoid SEPP 14 wetlands wherever possible. Specific impact mitigation measures will be needed to safeguard the ecological integrity of this wetland and its catchment. Measures to minimise the impact of route options that bisect existing floodplain and non-SEPP 14 wetlands will also need consideration. Species of intercontinental migratory wading birds subject to JAMBA and CAMBA provisions will require consideration in the design of mitigation measures, especially if Option D is selected as the preferred route.

- The boundaries of the expanded study area and the development of route options were designed to avoid SEPP 14 Wetlands. SEPP 14 Wetlands have been mapped as "no-go" areas within the constraints mapping. According to the SEPP 14 Wetlands mapping we have been provided, there are no SEPP 14 Wetlands in the study area. Mitigation measures for non-SEPP 14 Wetlands and floodplains will be addressed during the concept design of the preferred route.

  DEC representative, Andrew Huggett, has been contacted regarding this query. Andrew will provide data to Arup via email.

The defined assumptions and vegetation classifications used in discussion of environmental constraints in the terrestrial ecology report are generally satisfactory. The criteria subsequently used to evaluate the route options should also consider impacts to wetlands and any mapped SEPP 44 Koala habitat.

- In the RODR, wetlands and SEPP 44 habitat are included in the assessment criteria with all other habitat types, as areas of SEPP 44 have not been mapped at this time. SEPP 44 habitat would be surveyed and mapped during the environmental assessment stage of the project. However, preliminary investigations suggest that SEPP 44 habitat does not exist within the 250m corridors of the short list of route options.

Whilst SEPP 44 Koala Habitat Protection is referenced as relevant legislation in the terrestrial ecology report, and Koalas are known to occur in the study area, there is no discussion on the presence or absence of mapped SEPP 44 Koala habitat in the study area. Therefore this element does not appear to have influenced consideration of each route options.

- Koalas, along with other threatened species, have been considered in the constraints mapping. There is one known location of a Koala in the northern section of the study area, although this location will not be directly impacted by any of the short list of route options. This site was not shown in the RODR, but has been included in the updated constraints mapping.

The conservation status, habitat requirements and response to disturbance of aquatic plants and vertebrate fauna will require consideration in the impact assessment process. Threatened fish species such as the Oxleyan Pygmy-Perch will require special consideration.

- The importance of aquatic plants and vertebrate fauna is recognised and the impact on these species will be considered in more detail during the environmental assessment stage of the project. In the RODR, the presence of habitat for these species is used to indicate that they are present, and the potential impact on these species is considered accordingly.

  Habitat requirements, conservation status and response to disturbance of aquatic plants will be considered in the assessment of impacts for the preferred route. Note that no Oxleyan Pygmy perch or any other threatened fish species have been found when sampling in appropriate habitats.

There is also a need to evaluate the overall ecological impact of the proposed route options at a total landscape scale. That is, potential impacts of the development need to be considered within the context of other development occurring within the local and regional landscape, including the other sections of the Pacific Highway Upgrade Project. Of key importance to the protection of ecological integrity (ecosystem structure and functioning) at a regional scale is the degree to which the T2E project is likely to contribute to the cumulative effects of development within the region. While this is characteristically difficult to quantify, consideration needs to be given to appropriate planning and mitigation measures to reduce the cumulative ecological impact of the T2E project in the region. The DEC is encouraged that the terrestrial ecology report considers Ballina Shire Council's draft Biodiversity Strategy and relates the draft Strategy to other information sources used.

- Cumulative impacts would be assessed once the preferred route is selected and during the more detailed environmental assessment stage of the project.

E3.2 Aboriginal Cultural Heritage

The Aboriginal cultural significance of the study area needs to be carefully assessed in consultation with the local Aboriginal community. There is a need to understand the importance of the indigenous cultural landscape as one large site rather than as individual significant sites. DEC recommends that archaeological investigations be undertaken in areas of cultural significance prior to any works commencing. Scrutiny of these investigations by suitably qualified persons is also recommended. Further consultation with DEC's Aboriginal Heritage Information management System and Northern Aboriginal Heritage Section, the Local Aboriginal Land Council, and the local Elders should be undertaken prior to selection of the preferred route option.

- The AHIMS register, consulted prior to fieldwork, provided a list of known sites and list of reports of previous work in the study area. Additionally, an Aboriginal Focus Group was formed for this project to help facilitate consultation. The importance of the landscape has been mentioned by Aboriginal representatives. Assessment of the cultural landscape is difficult as any construction (highway or other) will impact on the landscape of the study area. The low number of recorded sites to link portions of the study area also makes broad assessments difficult. It must also be acknowledged that the landscape has been highly altered by Europeans. Consultation with the Aboriginal Focus Group will continue in the refinement of the short list of route options and selection of the preferred route.

  Consultation with the Northern Aboriginal heritage unit of DEC has not yet been undertaken but will be during the detailed assessment of the short list of route options.

E3.3 Air quality

Whilst Section 5.9.3 provides limited information on air quality, the only other information provided in the RODR is a summary of the length of grades over 4.5% as presented in Tables 8.1 and 8.34. This information is not sufficient to accurately gauge the air quality impacts of the various route options.

- The DEC submission states that the summary of the length of grades over 4.5% for each option, as presented in the RODR, is not sufficient to accurately gauge the air quality impacts of the various route options. The grade summary provides a way of ranking the various options that is useful at this stage in the assessment process. Further, greenhouse gas emissions will be calculated from estimates of fuel consumption on each of the routes, which will be a factor in the preferred route

selection process. In general, the options that are most favourable in terms of greenhouse gas will also be favourable for other vehicle emissions.

Regarding air quality, it is often the case that there is little distinction between rural highway upgrade route options.

The air quality impacts of the preferred route will be assessed using computer dispersion modelling, which will take account of road grade, vehicle speed, traffic mix, local dispersion conditions, degree of congestion, proximity of sensitive receptors, and background levels of pollution.

E3.4 Noise

The community Noise Burden (CNB) approach used in the RODR fails to indicate how each of the proposed options perform in relation to the DEC guideline Environmental Criteria for Road Traffic Noise (ECRTN). The RODR therefore is not unable to provide information as to the number of receivers who will experience noise levels that exceed the ECTRN for the various route options, nor is any assessment of the feasibility of mitigation measures provided.

In general, the DEC favours the route options that comply with the (ECRTN) and have the least impact on new noise receivers, based on the information available, option A appears to perform best in this regard.

Whilst options B, C and D impact on fewer receivers than option A, they impact on receivers who currently experience low background and low local traffic noise levels. The potential noise impacts and the reasonable and feasible options for effective mitigation should be carefully considered when determining the suitability of these options.

- The assessment of the long list of route options (Sieve 1) does not explicitly consider how the options perform in relation to the DEC ECRTN. It was considered appropriate to evaluate only the more general 'noise burden' of the route options, rather than the number of properties which would exceed the specific traffic noise criteria, since the routes were still subject to revision at that stage of the project.

  Care must be exercised with assessment of the feasibility of mitigation at the route option development stage. A preliminary assessment of feasibility of mitigation is provided in the *Noise Working Paper.*

  The number of properties likely to exceed the DEC traffic noise criteria was determined as a part of the ongoing noise studies being undertaken for the detailed assessment of the short list of route options; the results indicate:

  - Option A: 112
  - Option B: 51
  - Option C: 44
  - Option D: 35

  Option D is therefore likely to have the lowest impact in this regard.

  We are not aware of any published DEC policy that states DEC's preference for route options that have the least impact on new noise receivers.

  The issue of change in noise impacts on receivers, and particularly those that are currently unaffected is clearly complex. Arup has developed the Relative Community Noise Burden measure as an indicator of the burden imposed on the community by the change in noise levels. It is a scientifically based methodology, based on the Noise Burden methodologies developed by the UK DETR and studies

of subjective impact of change in traffic noise levels published in the UK Design Manual for Roads and Bridges. It is the most advanced and technically rigorous study ever undertaken for the route options assessment in NSW.

Questions of impacts on lifestyle or social equity relating to 'new' noise impacts on previously unaffected receivers are not addressed in the *Preliminary Noise Impact Assessment Report*.

E3.5 Water

As stated above, DEC supports the option that has the least impact on sensitive receiving waters such as SEPP 14 wetlands and floodplains. The extent of floodplain crossed by options C and D will require significant engineering works during construction to ensure the stability of the carriageway and associated bridges and culverts.

- DEC's support of options that have the least impact on sensitive receiving waters such as SEPP 14 wetlands and floodplains is noted. According to available data, there are no SEPP14 wetlands impacted by the short list of route options (see response page 3, para 3).

We note the extent to which the options traverse the catchments for Emigrant Creek Dam and the Proposed Lismore Water Source. We agree with the RODR that best practice management measures would be required to minimise impacts on drinking water catchments and would expect that best management practices would be applied to all aspects of the proposed highway upgrade. The engineering and designs for all bridges and culverts must fully consider all environmental impacts associated with their construction and operation, including the provision for water quality pollution controls. The feasibility and practicality of these controls should be provided to better differentiate between the proposed options.

- Requirements for mitigation measures (including design and costs) will be included in the detailed assessment of the short list of route options. Effective mitigation for water quality and sedimentation is possible for all route options and is therefore not a differentiator between options.

E3.6 Space required for mitigation

An important factor in differentiating between the route options is ensuring that sufficient corridor can be acquired to permit the installation and maintenance of appropriate mitigation measures for noise, water quality and fauna during both the construction and operation phases of the upgrade. This information is not provided in the RODR.

- The comparison of the route options in the RODR was based on a route option corridor width of 250m which would include adequate space required for mitigation measures. The refinement of the route options includes the development of footprints for each option which will generally be less than the 250m. Footprint designs will include allowances for mitigation measures.

E4 NSW Department of Planning

Regarding your submission dated 12 December 2005, we note the Department's role in the management, development and conservation of resources and the value the Department places on both state and regionally significant farmland identified in the Farmland Protection Project.

The Tintenbar to Ewingsdale Route Options Development Report identified state significant farmland as a high constraint and impacts to this resource have been minimised, where possible. It should be noted that route options for this project were developed by attempting to minimise the impacts on a whole range of high constraints, not just those relating to farmland. Most of the study area is designated regionally significant farmland and therefore impacts are unavoidable.

The project team has recently conducted detailed surveys of agricultural properties in the study area. This data will assist the project team in refining the options and, where possible, minimizing severance impacts to agricultural properties.

We note that the Department of Planning will not be making any formal comment on the proposed options (email of 18 January 2006, Brendon Baker).

E5 NSW Department of Primary Industries

Regarding your submission dated 18 November 2005, we note that your response is a coordinated DPI submission and reflects the views of the former NSW Fisheries, Mineral Resources NSW, State Forest NSW and NSW Agriculture. Following are responses to the issues included in your submission.

E5.1 Agricultural Issues

This section of highway and the study areas contains some of the best quality agricultural land in the north coast region and indeed NSW. The majority of the locality has been mapped as regionally significant farmland by the Northern Rivers Farmland Protect Project. In addition, the soils and climate of the locality support a diversity of high value and regionally important agricultural industries. The locality also supports a rural community and rural based businesses which are either reliant or closely linked to the rural and agricultural landscape that has been created and continues to be created in this locality.

The importance and value of the agricultural lands within this locality and the production these lands can sustain is substantial. All proposed route options have an impact on good quality agriculture land and individual agricultural enterprises. Options A and B are expected to have substantial impacts on high quality agricultural land and agricultural production. These two options are also expected to have impacts on farm economics due to property severance as well as considerable impacts on property access arrangements. Options C and D have less overall impact on the high quality horticultural lands and horticultural production though will have localised impacts on horticulture and specific property impacts. Option D will have an impact on lands utilised for sugar cane production, macadamias and some soy beans.

All options converge at a tunnel in the northern section. The potential impacts of this tunnel on agriculture in this locality and the local micro climate in the vicinity of the tunnel have not been assessed at this time by NSW DPI though this issue requires consideration in route option development in order to ascertain the full potential impacts of the options on local agriculture.

The RTA acknowledges the value that DPI places on the regionally significant farmland in the study area and the impacts of route options A, B, C and D on agricultural lands. We note that to date the DPI has not commented on impacts in the vicinity of the proposed tunnel.

Mr Rik Whitehead's participation in the Value Management Workshop, December 2005, is appreciated. Information presented at the workshop included detailing the scope of the agricultural study being conducted by Hassall's. This agricultural study will provide significant input in the detailed assessment of the short list of route options and can be further discussed with DPI through future Agricultural Focus Group meetings. If required alternative arrangements can be made to discuss the results of this study with DPI.

E5.2 Fisheries Issues

The RTA acknowledges that the DPI Aquatic habitat protection Unit (AHUP) is satisfied with the information provided in the RODR. Additionally, that DPI (AHUP) prefers a route that minimises impact upon fish and aquatic habitat such as wetlands, especially SEPP 14 wetlands. Please note that SEPP 14 wetlands have been avoided in the development of the route options.

E5.3 Minerals Issues

A separate response from Mineral Resources should be forthcoming. To date, we have not received their response.

E5.4 State Forest Issues

Comments that all options are remote from areas of Forests NSW and they have no issues to raise have been noted.

E6 Jali LALC

E6.1 Letter from Appointed Adminstrator

Discussions between the Appointed Administrator of Jali Local Aboriginal Land Council (LALC) and the Co-ordinator of Jali LALC have concluded that the most appropriate route for the Ballina to Tintenbar Pacific Highway upgrade is to follow the existing highway pattern, wherever possible.

We say this because the infrastructure that has evolved in this area is a result of placing the Highway in its present location.

We understand that this route has the potential to impact on approximately 70 houses and ask that the sensitivity of this issue be taken into account.

Where ever possible we would like negotiations with land owners to ascertain the best outcome for their situation.

We are also of the view that there is justifiable means to have a highway inland (west) to cater for the trucks travelling interstate on a regular basis.

This area is well known for its tourism ability and this road should enhance the growth of tourism in this area and not hinder it. Further, the proposed routes traverse land of known past indigenous occupation and we are fearful of possible damage to items of indigenous artefacts and heritage.

We note that discussions between the Administrator and the Co-ordinator of Jali LALC have concluded that the most appropriate route for the upgrade is to 'where ever possible follow the existing highway pattern'. We also note that the members of the Jali LALC have not endorsed this position.

The following responses are provided to the issues and/or concerns included in your letter.

- The project team has endeavoured to minimise impacts on dwellings in the study area and 100 meetings have been held with property owners to better understand their concerns and explore mitigation measures where possible.
- The scope of the project is to develop a 'M Class' motorway between Tintenbar and Ewingsdale to cater for all vehicle types. The large number of intersections, population densities, and the current high use of the existing Pacific Highway for local trips dictates that the Tintenbar to Ewingsdale section of the Pacific Highway upgrade should be 'M Class' for safety reasons.
- Traffic studies undertaken in the early 1990's and detailed in the *'North Coast Road Strategy Report (1992)*' have shown that the amount of traffic which would divert to the New England Highway if it was upgraded would not substantially reduce the traffic volumes on the Pacific Highway. The government has asked the RTA to examine the feasibility of other routes west of the Pacific Highway in complementing the Pacific Highway in meeting the transport needs of the State and the region. The RTA is currently undertaking a preliminary assessment of the proposals put forward by the Local Member for Ballina, Mr Don Page, and others. A report is expected to be finalised in the next month or so.
- The importance of tourism in the area is being taken into account in the assessment of the short list of route options and the recommendation of a preferred route.

- Known and potential Aboriginal heritage constraints have been taken into consideration in the development of the route options. Mitigation measures will be proposed, where necessary, to minimise impacts. Implementation of standard RTA environmental management practices during construction will ensure that any newly discovered artefacts are handled in accordance with requirements as defined in the *National Parks and Wildlife Act 1974* and the *Heritage Act l977.* Consultation and liaison with the LALCs and community representatives would continue during the pre-construction and construction periods of the project.

E7 Northern Rivers Regional Development Board

E7.1 Strategic Approach to Transport Planning

The Development Board recognises the central importance of transport to the health of the Northern Rives, and advocates for the development of an integrated regional transport strategy that will ensure that the investment and consumption decisions of all transport stakeholders – the three tiers of government, transport operators, the business sector, households and visitors – complement and support the wider regional objective of delivering a balanced and environmentally sustainable pattern of development.

Transport is a key element of the Northern Rivers regional economy with major implications for both current and future public sector and commercial investment decisions and land use planning. Transport decisions therefore affect social equity and amenity and the health and wellbeing of our communities – where and how we live, work, learn and recreate. Effective transport planning and management is fundamental to our collective impact on the environment's life support systems and has far-reaching implications for income distribution and welfare dependency.

Approximately half the region's population is currently concentrated on the coast in the centres of Tweed Heads, Murwillumbah, Ballina, Lismore, Yamba and Grafton. However, the region has a dispersed settlement pattern, with 57% of the region's population living in the 300 small villages or localities scattered throughout the region. Planning work on the Northern Rivers Regional Strategy[1] and the DIPNR/Department of Planning Far North Coast Regional Strategy have recognised the village settlement pattern as a key element in past and future growth of the Northern Rivers region. Consequently, infrastructure provision and transport planning needs to be considered in terms of this settlement pattern and the unique opportunities and needs it poses.

The provision of sufficient strategic/economic enabling infrastructure to maintain appropriate conditions for continued employment and economic growth is critical for the region's communities. The Development Board has been facilitating the development of a Regional Industry and Economic Plan (RIEP) for the Northern Rivers and in this process has identified a need for investment in strategic infrastructure associated with transport and access. The RIEP[2] 17) identifies the required road infrastructure upgrading works, and notes a need for prioritisation of these is required. It is also noted that improving access to national and international gateways is a key requirement, noting the importance of the Pacific Highway and a need to the link the northern NSW hinterland with the growth areas of South East Queensland and the Port of Brisbane.

The Development Board encourages government to consider the following principles in all matters related to transport planning, including upgrade of the Pacific Highway:

- ***a holistic, integrated and long-term approach to transport is needed to address the economic, social and environmental needs and challenges of the region;***
- ***environmental sustainability and the evolution of settlement patterns appropriate to the specific environmental, cultural and economic characteristics of the region should drive transport planning, investment and management decisions;***
- ***transport planning and development should aim to maintain a stable and predictable investment environment for regional industries including agriculture, tourism and residential development;***

- ***the importance to the region of efficient, cost effective and convenient transport links to South East Queensland must be central to transport planning and development;***
- ***transport planning is an integral part of a comprehensive approach to major infrastructure development including telecommunications, energy and water distribution;***
- ***transport development should balance the needs of stakeholders and avoid usage conflicts to ensure higher standards of safety and a more equitable sharing of transport costs and impacts;***
- ***triple bottom line evaluation including full cost accounting should be applied to all transport infrastructure projects; and***
- ***transport development should encourage behavioural change by all categories of users to achieve more energy efficient and environmentally sustainable outcomes.***

A particular need is the integration of transport planning with regional economic and land use – planning (ie through the Department of Planning's Far North coast Regional Strategy) to minimise the negative impacts of transport development on land values and commercial investment planning in the broader regional economy. Greater integration is required between local, regional, state and national economic objectives and the needs of all categories of users including: local residents/workers, inter-urban travellers, inter-regional travellers, tourists, local and regional businesses, national freight forwarders is also required.

We note the importance of transport planning in the Northern Rivers area and the principles which your Development Board supports and encourages. Detailed agricultural land use and regional economic studies are being conducted by Hassall and Associates as part of the economic analysis of the shortlisted route options. These studies will significantly contribute to the comparison of the shortlisted options and the selection of a preferred route.

E7.2 Pacific Highway Upgrade

In term of the highway upgrade it is important to ensure:

Adequate consideration of the impacts of major highway development on the region's secondary roads network

Traffic and Transport analysis and reporting throughout the project has and will continue to give adequate consideration to both the local and state road network.

Separation of local and interstate traffic to the greatest extent possible

One of the T2E evaluation criteria in the Route Options Development Report is 'local traffic use of the highway', where higher performing options have a lower local traffic use. The 'M Class' (or freeway) design standard does not allow local property access to the upgraded highway and requires grade separation of all intersections with the local road network. The design of the shortlisted route options incorporates interchanges in the vicinity of the southern and northern project extents only, further limiting the likelihood of local traffic using the upgraded highway for short trips. It is anticipated that the existing highway or a replacement service road will allow local access to occur in a manner similar to present activity without the issue of highway through traffic.

Elimination of known safety black spots and areas of conflict between different categories of users and utilisation of divided carriageways to separate traffic flow

The Pacific Highway upgrade from Tintenbar to Ewingsdale will bypass the two known accident blackspots of Tintenbar Hill and St Helena Hill. Following the upgraded highway opening, the existing Pacific Highway between Bangalow and Ewingsdale would fulfil a

regional road function rather than the current state highway function. It is envisaged that safety along this route would be enhanced through the following:

- A posted speed limit of 80 km/h with 60 km/h in parts which is more consistent with the design speed of the existing geometry
- A reduction in traffic volumes along the length of the route
- A reduction in the percentage and size of heavy vehicles along the route
- Minor works or treatments to ensure the road environment is consistent with the intended role, speed limit and usage of the route
- Greater consistency in the road environment between Bangalow to Ewingsdale and Bangalow to Lismore, compared with the relative inconsistency between Tintenbar to Ewingsdale and other upgraded sections of the Pacific Highway
- Greater consistency in driver behaviour with the removal of the Pacific Highway 'through' traffic.

It is expected that these factors would reduce the current accident rates to a level more consistent with typical rates for a rural 2-lane undivided road.

Adequate community engagement in transport planning, decision-making and management to ensure that the transport system reflects the social and cultural values of the community

A comprehensive community involvement program has been implemented on the Tintenbar to Ewingsdale project. This program has included Community Information Sessions, numerous meetings with the Community Liaison Group (CLG) and the Agricultural Focus Group (AFG), and State and local government agency input through Planning Focus Meetings. Additionally, all of these bodies were involved in the Corridor Assessment Workshop and the Value Management Workshop. Input on social and cultural values has been sought through these groups and meetings, and significant input was received on the development of the selection criteria for the project.

Management of the impact of freight movements to preserve residential amenity by, for example, the use of limited access zones and heavy vehicle curfews

The impact of freight movement on residential amenity is being managed through the separation of local and through traffic, reducing grades where possible, as well as the noise assessment and mitigation process. Options such as heavy vehicle curfews are outside the scope of this project.

The use of technical innovation to mitigate transport related noise, visual and air pollution

The project team is up to date on the latest practices available to mitigate impacts of new highways. These practices will be applied to the extent appropriate for this project**.**

The introduction of strategies to alleviate the environmental impacts of high traffic volumes and congestion

The higher traffic volume capacity of the dual carriageway roadway, combined with the reduction of grades, assists in the reduction of environmental impacts.

The alignment of transport planning and development with the protection of high value agricultural lands and environmental conservation values

The Tintenbar to Ewingsdale Route Options Development Report identified state significant farmland as a high constraint and impacts to this resource have been minimised, where possible. It should be noted that route options for this project were developed by attempting

to minimise the impacts on a whole range of high constraints, not just those relating to farmland. Most of the study area is designated regionally significant farmland and therefore impacts are unavoidable.

Preservation of natural and cultural landscape values as a necessary condition for transport infrastructure development

A comprehensive and detailed analysis of the natural landscape values is provided in Section 5.12 and 8.12 of the Route Options Development Report, October 2005. Four of the 39 selection criteria included in the selection of the short list of options addressed landscape and visual impacts of the options.

Additionally, an Aboriginal Focus Group has been established for the project and this group has addressed minimisation of impacts on the cultural landscape.

E7.3 Data Analysis

In the case of the Ewingsdale and Tintenbar proposals, all the proposed routes in this area have potential to negatively impact on the economic viability of businesses and industry sectors (horticulture, coffee, sugar cane etc) in the study area, with further flow on effects. The Route Options Report only assesses agricultural impacts in terms of the number of properties, area of land and type of agricultural land use. The Route Options Report does not quantify the current agricultural development investment, production or employment capacity and there is no modelling of the impacts of the proposed changes on the local economy. The Economic Model for the Tweed and Northern Rivers provides a mechanism to examine the impacts on local economic production, employment, imports and exports (but not investment) and it is recommended that this tool is used to undertaken a full analysis of the economic costs and benefits and develop a thorough understanding of the costs to the local economy. The Tweed Economic Development Corporation could provide this service.

The analysis provided in the Route Options Development Report was of sufficient detail to enable comparison of the long list of options and select the best performing options to be carried forward as the short list of options. Comprehensive agricultural surveys were conducted in late 2005, and this information will supplement that contained in the Route Options Development Report to assess the comparative impacts of the shortlisted route options and to determine a recommended preferred route option. Hassall and Associates will be conducting this additional work and they will also be addressing regional economic impacts.

As noted in Hassall's presentation to NRRDB on 10 February 2006, the project team will be using regional multipliers from the economic model for the Tweed and Northern Rivers (TEDC) to assist in the analysis of economic impacts in the region.

E7.4 Agricultural Land Protection

In the case of the Ewingsdale and Tintenbar proposals, the Development Board encourages full consideration of the importance of the protection of regionally and state significant agricultural land. The identification and protection of regionally and state significant agricultural land through the Farmland Protection Project is to ensure the long term protection of agricultural land for the purposes of agricultural, not residential or infrastructure development. Whilst the planning rules do not prevent the use of this land resource for infrastructure development, this should be primary consideration in the determination of route options.

As noted in Section A7.2, impacts to State Significant Land have been considered as a high constraint and impacts have been minimised. Where possible, further refinement to the

route options will address minimisation of acquisition and severance impacts to Regionally Significant Land.

E8 Rous Water

E8.1 General Comments on All Route Options

Policy 11.14 Pacific Highway Upgrade: Tintenbar to Ewingsdale

The RTA acknowledges the Rous County Council's policy adopted 18 May 2005. Emigrant Creek Dam is presently functioning as a water supply for the study area with the Pacific Highway in its present location. The existing highway runs through the catchment area and in most places does not contain design features to prevent road runoff from entering creeks. Any upgrade route option chosen would be designed and constructed to minimise impact on the Emigrant Creek water catchment, including the use of sediment detention ponds where required. The risks associated with potential spills will be addressed through the concept design development and EA phase of the project. The new highway would represent lower risks to the drinking water catchment than the present Pacific Highway situation.

To ensure the viability of Emigrant Creek Dam as a long term water supply, ensure that upgrade is designed, constructed and maintained in a manner which ensures the risks are identified and not increased.

Disturbances during construction and operation of the upgrade could lead to negative impacts to aquatic ecosystems and groundwater resources.

The preferred route would be designed, constructed and maintained in a manner that would result in a reduction of risks to the water supply compared to the present situation. Mitigation measures would be included in the concept design of the preferred route. Mitigation measures include structures that catch road run off and direct it away from waterways. Where appropriate, this may also involve the use of constructed sediment ponds which filter road run off. Aquatic ecology mitigation includes locating structures out of the stream bed, thus avoiding disturbances to creek banks from crossing support structures. Structures would also be built such that they do not impeded fish passage or reduce connectivity of waterways, mainly by correct size, type and positioning of smaller crossing structures such as culverts.

Preference of Rous Water is that the alignment of the upgraded highway be situation no closer to Emigrant Creek Dam than it is at present. The preferred alignment should be the option with minium impact to aquatic ecosystems and water quantity and quality; i.e. the one that maximises the distance between and catchment disturbance and the dam itself.

RTA acknowledges Rous Water's preference.

E8.2 Comments on Specific Route Options

E8.2.1.1 Option A1

It is not clear why Option A1 deviates so significantly to the west of the existing highway in the vicinity of Emigrant Creek Dam.

The route options include specific engineering design criteria outlined in RODR which are reflected in the proposed alignments. As outlined in pages 19 and 20 of RODR the existing highway's horizontal and vertical geometry at this location does not meet the new highway design standards Additionally, the development of the route options has taken into consideration social, economic, land use, and natural and cultural environmental constraints. The route options presented in the RODR were based on 250 m wide corridors. Development of the footprints of the route options provides opportunities for minimisation of these impacts.

Concerned about impacts of A1 in close proximity to important aquatic resources. Best management practices cannot guarantee that risks associated with potential impacts associated with runoff from highway surfaces and spills of chemicals/hazardous materials can be eliminated. Additional concern regarding periods of very high intensity rainfall.

The RTA acknowledges Rous Water's concern with the proximity of A1. These risks would be minimised through implementation of mitigation measures identified and through further consultation with Rous Water during the concept design development and EA phase.

Major construction disturbance along Option A1 has the potential to significantly impact on the quantity and quality of both groundwater and surface water flows. Concerned about issues within basaltic soils and rock profiles, etc.

The route options have the potential to impact on groundwater regimes at the location of deep cuts, in the following situations:

- If the cut penetrates below the groundwater table;
- If the cut coincides with the location of springs;
- If the cut is within the zone of influence of groundwater flow to a spring and impedes the groundwater flow to the spring, or
- If the cut cuts off natural drainage flows from springs uphill of the cut.

Cuts that extend below the groundwater table have the potential to cause local drawdown of the groundwater table, because they will behave like a drain. The drawdown will occur as seepage from the rock face, and the water will be collected in drains at the toe of the cut batters. The amount of drawdown will depend on the hydrogeological characteristics of the rock and the depth of the cut. The extent to which groundwater flows are impacted will depend on the topography at the cut and the depth of the cut below the groundwater table.

Along Option A and B the typical depth of cut within the Emigrant Creek catchment is expected to be less than 10 m, with one cut up to about 15 m. We have installed groundwater monitoring wells in two boreholes drilled along this section. These indicate that the groundwater table is at a depth of about 8 m in BH307 and 12 m in BH303.

Further information will be needed from groundwater monitoring wells installed at each cut to verify the depth of the groundwater table. However, on the basis of the data available for RODR, it is likely that the groundwater will be close to or below the base of most cuts along Options A and B. In this case, cuts along Options A and B are unlikely to significantly impact on the groundwater regime and quantity of groundwater flow.

Within the Emigrant Creek catchment there is one spring (shown on the spring map in the RODR) along Option A and B that may coincide with a cut.

Concept design of the preferred route will include appropriate mitigation measures to minimise impacts on groundwater and surface water.

Closer proximity to Emigrant Creek Dam increases the risks associated with air quality discharges.

Current advice and experience on Pacific Highway upgrades is that air quality along the new highway will meet current guidelines for all route options, however this issue will be examined in more detail including air quality modelling during the EA phase.

E8.2.1.2 Option B1

Major disturbances to areas in close proximity to Emigrant Creek Dam, destruction of important aquatic, riparian and terrestrial habitat areas along Emigrant Creek and a series of crossing of Emigrant Creek.

The riparian vegetation along Emigrant Creek has been mapped as a high constraint due to its habitat values and the importance of the riparian vegetation for maintenance of the water catchment area ecosystem. No riparian vegetation along Emigrant Creek is directly impacted by Option B1. However, it is recognised that Option B1 impacts on terrestrial habitat in close proximity to Emigrant Creek. It is also recognised that Option B1 is in close proximity to the Killen Falls Big Scrub remnant.

All concerns noted for Option A1 are also concerns for B1, except that the magnitude of risks is far greater for B1.

The responses provided for general comments and Option A1 also apply to Rous Water's concerns for B1.The final road footprint is unlikely to be as wide as the corridor width (250 m) resulting in minimisation of impacts and design refinement. The risks associated with potential spills will be addressed through the concept design development and EA phase of the project.

In the vicinity of Newrybar, there are also dams and wetlands of local significance to the water catchment that would be destroyed.

Option B1 would represent a 36% reduction in the size of the constructed wetland at 'Yarrenbool'. Farm dams impacted could be relocated outside any potential influence from road run off. Where springs intersect the new highway, impacts would be mitigated to minimise impact on ground water flow. This issue will be addressed through the concept design development and the EA phase of the project.

E8.2.1.3 Section C/D

Avoids water catchment area of Emigrant Creek Dam, consistent with Council's policy.

RTA acknowledges Rous Water's preference.

E8.2.1.4 Option C1

Option C1 would disturb a series of springs and wetlands at the headwaters of Emigrant Creek, the origin of Emigrant Creek water supply and may disrupt aquatic habitats in this location.

Along Option C there are likely to be several deep cuts in excess of 25 m deep along the escarpment section. A monitoring well installed near to the point that Option C crosses Old Byron Road indicates a groundwater depth of about 15 m. Hence there is a high likelihood that cuts along Option C will encounter groundwater and may impact significantly on the groundwater regime. There are also several springs shown under the corridor along the escarpment section of Option C.

Mitigation of impacts to springs and the groundwater regime at deep "double-sided" cuts may be difficult and it is possible that some springs could be lost. A hydrogeological study of each deep cut, supported by further investigation of the depth of groundwater and groundwater flow regime will be required to assess the likely extent of the impacts, including the drawdown and the impact that this drawdown has on the quantity of groundwater flow through water bearing horizons within the cut.

There are some situations in which it may be possible to mitigate the potential impacts on the groundwater regime at the location of deep cuts, as illustrated in the attached sketches. For the case where the spring is uphill of a hillside cut or where springs are located in a

hillside cut, it may be possible to construction drainage blankets and channels to maintain the groundwater flow and redirect the flow beneath the highway to the natural drainage path. The feasibility will depend on the topography at each cut and will need to be assessed on a cut-by-cut basis.

Emigrant Creek's feeder creeks that would be crossed by Option C are small waterways that can be crossed without disturbance to water flow, water volume and water quality.

E8.2.2 Option D1

Completely avoids the water catchment area of Emigrant Creek Dam. Clearly consistent with Council's policy.

RTA acknowledges Rous Water's preference.

E8.2.2.1 Northern Portion of Study Area

Concerns of Proposed Lismore Source, select route with provides minimum impact to aquatic ecosystems.

The RODR has addressed the impacts associated with the Proposed Lismore Source. All comments provided in earlier sections pertain to potential impacts in this area.

E8.2.2.2 Other Comments

Additional criteria should be presented in the extent of aquatic/riparian habitat impacts.

Riparian and aquatic habitats are considered in the constraints mapping in the terrestrial vegetation category. However, there is some merit to considering aquatic and riparian habitat impacts separately. The RTA will consider this recommendation.