

8. Project Team Route Selection Workshop

8.1 Introduction

Following the VMW, the project team and the RTA undertook the assessment and selection of a preferred option in Sections B, C and E, based upon the performance of each option under various assessment criteria. Since the route options in Section A and Section D of the project follow a common route, they were not assessed as part of the Project Team Route Selection Workshop. The objective of the workshop was to select a route within Sections B, C and E of the project for further development during the next phase of the project. The assessment included the four options that had been displayed in October-November 2005 as well as the Refined Orange option, which was developed following the VMW. All of these options were assessed against agreed assessment criteria by the project team.

The outcomes of the Project Team Route Selection Workshop were also used by the RTA to assist in making a decision on a preferred route.

8.2 Key Principles

The assessment of route options was based on which option within each section of the project best satisfied the Pacific Highway Upgrade Program objectives. To do this, assessment criteria were developed to enable a comparison of each option. The criteria were developed to test which option(s) best met the Pacific Highway Upgrade Program Objectives. The criteria were grouped into three assessment criteria categories encompassing the program objectives as stated in Section 2. The assessment criteria categories used were:

- ▶ Functional;
- ▶ Community; and
- ▶ Environment.

The aim of the assessment was to differentiate the performance of each option against the assessment criteria developed under each of these three categories.

8.3 Assessment Criteria

The assessment criteria developed under the functional, community and environment categories and their relevant descriptive measures are listed in Table 8.1, 8.2 and 8.3, below.

Table 8.1 Project Team Assessment Criteria – Functional

Criteria	Descriptive Measure
Transport efficiency – light vehicles	Travel time for passenger vehicles measured in seconds.
Engineering risks	<ul style="list-style-type: none"> ▶ Length of route through floodplain and / or soft soils; ▶ Extent of cut and fill in steep areas; and ▶ Extent of widening of existing cuttings.
Transport efficiency – heavy vehicles	Travel time for Heavy Vehicles (Semi-Trailers and B-Double Trucks) to travel along both Section B and Section C (i.e. the ascent up through Dirty Creek Range). Times for Section B and C were combined to allow assessment from a common start and finish point for each option.
Re-use of existing assets	Length of existing road pavement re-used as part of the new highway carriageway.
Staging opportunities	Group discussion and consensus on whether or not the route option would enable staging of the works to be undertaken in order to achieve early benefits in safety, transport efficiency and / or other Pacific Highway Upgrade Program objectives.
Safety during construction	<ul style="list-style-type: none"> ▶ Extent of areas where speed zones would be required during the works; and ▶ Extent of traffic interfaces within the works area.

Table 8.2 Project Team Assessment Criteria – Community

Criteria	Descriptive Measure
Noise for private properties	Weighted noise impact score based on property distances from the route option centreline to address existing and new noise receivers.
Community severance / consolidation	Changes in access provisions for the townships of Corindi and Corindi Beach.
Private properties acquired	Area of private land (excluding commercial farms) to be acquired and the number of affected owners.
Houses / structures acquired	Number of houses and other structures directly affected by the route option.
Visual amenity	Length of the proposed route through high visual constraint areas. This option was agreed to be highly subjective.
Commercial business impacts	Potential negative impacts on commercial businesses through acquisition of land and loss of access and visibility.
Loss of public estate	Loss of public recreation lands.
Aboriginal heritage	Number of significant sites and key cultural areas within the 250m wide route corridor study area.
Non-Aboriginal heritage	Number of significant and / or registered sites within the 250m wide route corridor study area.
Loss of productive land	Extent of impact upon land currently zoned for rural, horticultural or forest management (excludes conservation zones in State Forests).

Table 8.3 Project Team Assessment Criteria – Environment

Criteria	Descriptive Measure
Water quality	Number of watercourses the route option would cross as an indication of potential risk to water quality through the project route.
Native flora – threatened species	Number of potentially threatened flora species within the 250m wide route corridor study area.
Native flora – vegetation	Area of native vegetation to be cleared.
Native flora – communities	Area of endangered ecological communities to be cleared.
Native fauna – known threatened species	Area of habitat to be cleared which would have the potential for threatened species to be present. Areas were defined as having high, medium and low potential.
Native fauna – known wildlife corridors	Number of known wildlife corridors that would be affected and the extent to which the corridors are affected. It was noted that the widening of an existing severance of a corridor was considered better than the creation of a new severance.

8.4 Assumptions

The options assessment was based on a Class M (Motorway) upgrade scenario within a corridor width of 250 metres.

The discussion and outputs of the workshop were based upon the following assumptions:

- ▶ The assessment of all options was based on a Class M corridor to ensure a comparative basis in how they are assessed, particularly against the primary objectives of the Pacific Highway Upgrade Program; and
- ▶ The assessment does not need to reflect in any detailed way on the positives or negatives of the options, but rather to emphasise how they address the issues, concerns and potential improvements raised in the VMW and the Route Options Submissions Report.

8.5 Scoring and Ranking Process

The criteria in each category were ranked in terms of importance using a paired comparison matrix approach in order to determine a relative weighting. The weighting was used to determine a score for each criterion, which was then summed to provide a ranking for each option within each of the three categories.

The ranking of each option within each of the three assessment categories represents how well the option meets / performs against the criteria compared with all other options. This was then considered in conjunction with the estimated construction cost to determine which option would provide the best value for money. The assessed rankings for each project section are presented in Tables 8.4 to 8.6. The data used during the Project Team Route Selection Workshop to compare options against the assessment criteria is presented in Appendix A. It should be noted that the data presented in Appendix A was updated following the Value Management Workshop as a result of additional investigations being undertaken. As a result some of the data / statistics may differ to that contained in Appendix 4 of the Value Management Workshop Report. A copy of the Value Management Workshop Report (Australian Centre for Value Management, 2005) can be viewed on the project website: www.rta.nsw.gov.au/pacific (click on Woolgoolga to Wells Crossing).

Table 8.4 Project Team Ranking of Route Options – Section B

Option	Functional	Community	Environment	Cost (\$M) ⁽¹⁾
Blue	2	3	1	\$120
Green	3	3	3	\$105
Purple	3	5	2	\$115
Orange	3	2	4	\$90
Refined Orange	1	1	4	\$90

Table 8.5 Project Team Ranking of Route Options – Section C

Option	Functional	Community	Environment	Cost (\$M)
Blue	2	3	3	\$60
Green	2	3	4	\$60
Purple / Orange	4	2	1	\$65
Refined Orange	1	1	1	\$65

Table 8.6 Project Team Ranking of Route Options – Section E

Option	Functional	Community	Environment	Cost
Blue	1	1	1	\$100
Green / Purple / Orange	1	2	2	\$85
Refined Orange	1	3	2	\$95

(1) Estimates rounded to the nearest \$5M.

8.6 Summary of Recommendations

Based on the assessment of options against the criteria developed for the Project Team Route Selection Workshop, the following recommendations with respect to a preferred route within each section of the project and the rationale behind each recommendation is summarised below:

Section B

Workshop participants recommended that the **Refined Orange option** be adopted as the preferred route because the Refined Orange option:

- ▶ Was the best performing option in terms of addressing the assessment criteria listed under the categories of Functional criteria and Community criteria;
- ▶ Would potentially better satisfy community expectations through this section;
- ▶ Allows the existing highway to be used as a local access road for the full length of Section B without the need to build any new local roads;
- ▶ Has the lowest capital (project) cost; and
- ▶ On balance, represents the best overall value for money option.

Section C

Workshop participants recommended that the **Refined Orange option** be adopted as the preferred route because the Refined Orange option:

- ▶ When combined with the recommendations made in **Section B**, the **Refined Orange option** would result in the lowest overall capital cost and is the best performing option in terms of addressing all of the assessment criteria listed under the categories of Functional, Community and Environment within this section.

Section E

Workshop participants recommended that a combination of the **Blue, Refined Orange** and the **Orange options** be adopted as the preferred option to move the project forward on the basis that:

- ▶ The Blue option performed best across all assessment criteria categories of Functional, Community and Environment within this section;
- ▶ When combined with the Refined Orange option in the vicinity of Kungala Road and the Orange option north of Wells Crossing, this combination would:
 - avoid impact to Aboriginal vested lands;
 - minimise vegetation clearance;
 - reduce the risk of uncertainty associated with impacts on a potentially culturally sensitive site south of Luthers Road;
 - maximise the reuse of the existing road reserve; and
- ▶ On balance, represents the best overall value for money option.