

1. Introduction

1.1 Preamble

Identification of a preferred route to upgrade the Pacific Highway between Wells Crossing and Iluka Road is a key step in progressing the completion of the upgrade of the highway.

With the \$2.2 billion Pacific Highway Upgrade Program in place since 1996, a total 233 kilometres of the highway are now double-lane divided road. As of September 2006, a further 480 kilometres of new highway are under construction, have been approved for construction or have had a preferred upgrade route identified.

The Pacific Highway is an AusLink National Network road. For the 10 years to June 2006, \$2.3 billion has been invested by the NSW and Australian governments. Over the past 10 years, the NSW Government has committed \$1.66 billion and the Australian Government \$660 million.

In December 2005, the NSW and Australian governments announced a jointly funded program of \$960 million for the three years to 2009. In May 2006, the Federal Budget announced an additional \$160 million, matched by NSW, for the period to the end of 2009. This increased the total value of the joint investment for the Pacific Highway Upgrade Program from \$960 million to \$1.3 billion.

As part of the Pacific Highway Upgrade Program the Roads and Traffic Authority (RTA) intends to upgrade the Pacific Highway between Wells Crossing and Iluka Road, on the north coast of NSW (refer to **Figure 1-1**). This 80 kilometre section of the highway is predominantly two lanes and it passes through several towns and rural areas.

Sinclair Knight Merz (SKM) has been commissioned by the RTA to investigate route options, undertake concept design, prepare an environmental assessment and implement a community involvement program for the Wells Crossing to Iluka Road project. This report has been prepared to document the process used to develop the preferred route. It provides a description of the key steps in the process to date since the project commenced in October 2004.

■ **Figure 1-1: The Pacific Highway Upgrade Program**



1.2 The need for the project

The upgrade of the Pacific Highway between Wells Crossing and Iluka Road is needed to improve road safety and to reduce travel times. Cumulatively, the projects that make up the Pacific Highway Upgrade Program are intended to achieve these core objectives. Each project therefore contributes to the achievement of the overall strategic objectives of the Program. Progressive development of the highway has led to changes in traffic profile. Enhancements to the highway have improved travel time on the Sydney-Brisbane trip for commercial travel, and it is now preferred by many road users as a quicker and higher standard alternative to the national route via the New England Highway. Completion of the Pacific Highway Upgrade Program would further reduce travel times, resulting in benefits for both passenger vehicles and freight transport.

The existing Pacific Highway through the study area is primarily a two-lane road with occasional overtaking lanes and some short sections of divided road. In some locations the alignment does not meet the design standards established for the Pacific Highway Upgrade Program. The highway currently passes through numerous towns, villages and other settlements. As vehicle volumes and the number of heavy vehicles have increased, the potential for conflicts between highway traffic (in particular heavy vehicles) and the amenity of settlements has also increased.

Road safety is a primary objective of the Pacific Highway Upgrade Program. The current accident rate between Wells Crossing and Iluka Road is approximately 28 accidents per 100 million vehicle kilometres travelled (MVKT). This rate is high when considered in relation to the RTA target for the Pacific Highway Upgrade Program of 15 accidents per 100 MVKT. The bus crash in 1989 at Cowper, north of Grafton, was a major incident within the study area, which elevated public concern about the safety of the Pacific Highway.

There is a need to provide a higher standard road to better serve existing and future road users. The upgrading of this section of road forms an essential part of the overall upgrade of the highway between Hexham and the Queensland border.

1.3 Project objectives

The proposed upgrade of the Pacific Highway between Wells Crossing and Iluka Road will need to meet both the Pacific Highway Upgrade Program and the project specific objectives presented in **Table 1-1**.

■ **Table 1-1: Pacific Highway Upgrade Program and Wells Crossing to Iluka Road project objectives**

Pacific Highway Upgrade Program objectives	Wells Crossing to Iluka Road project objectives
Significantly reduce road accidents and injuries	<ul style="list-style-type: none"> ■ Develop a dual carriageway road with a route target crash rate of a maximum of 15 crashes per 100 MVKT over the project length. ■ A concept design which achieves a 110km/hr design speed for the vertical alignment for Class M standard and a minimum 100km/hr design speed for Class A standard¹. ■ A concept design which achieves a 110km/hr design speed for the horizontal alignment. ■ No access points between interchanges along the length of the project for Class M standard road and minimise access points for Class A standard road sections. ■ A route that can be upgraded to Class M standard in the future (as applicable). ■ Retain or replace existing rest areas within the study area.
Reduce travel times	<ul style="list-style-type: none"> ■ Provide a route that maximises the reduction in travel time for Pacific Highway traffic. ■ Provide intersections designed to at least a Level of Service LOS C, 20 years after opening for the 100th Highest Hourly Volume. ■ Minimise user delay from incidents and road closure on the Highway including from flooding. ■ Reduce delays from holiday congestion. ■ Minimise disruption and delay during construction.
Reduce freight transport costs	<ul style="list-style-type: none"> ■ Provide a route which reduces overall freight transport costs of trucks using the Highway. ■ A route that meets or exceeds B-Double requirements.
Develop a route that involves the community and considers their interests	<ul style="list-style-type: none"> ■ Develop a project that meets the objectives of the Community and Stakeholders Involvement Plan and specifically the Criteria for Successful Projects. ■ Minimise the physical and traffic impacts of the route such as traffic noise levels, intrusion, community severance and access patterns. ■ Minimise the physical impacts on heritage (indigenous and non-indigenous) sites. ■ Provide transport developments which are complementary with land use. ■ Maintain access to affected properties and land during construction. ■ Upgrade and improve the existing highway where it is retained as part of the project.

¹ 110km/hr vertical alignment is desirable for Class A standard sections (upgrading/duplication of the existing Pacific Highway) where it can be achieved cost-effectively and without compromising environmental or social impact standards.

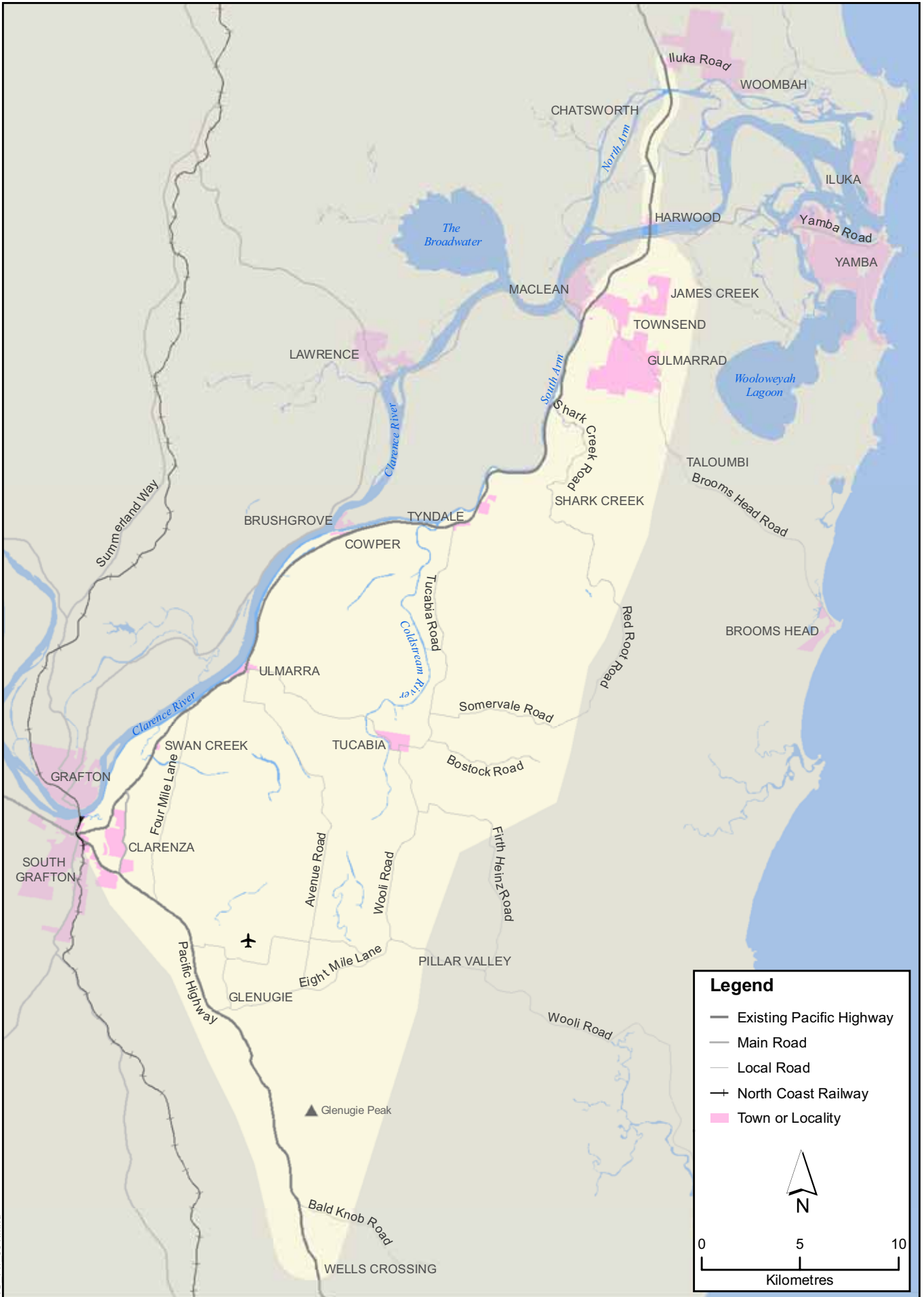
Pacific Highway Upgrade Program objectives	Wells Crossing to Iluka Road project objectives
Provide a route that supports economic development	<ul style="list-style-type: none"> ■ Maintain accessibility for local industries to regional and interstate markets. ■ Maintain access to local and regional centres of economic importance. ■ Minimise impacts on business/service facilities dependent on Pacific Highway traffic and create opportunities for businesses to capitalise on benefits that may arise from the upgrade. ■ Provide flood immunity on at least one carriageway between 1 in 100 year ARI flood event (target) and 1 in 20 year ARI (absolute minimum).
Manage the upgrading of the route in accordance with ecologically sustainable development principles	<ul style="list-style-type: none"> ■ Minimise the effects on sensitive habitats. ■ Minimise the effects on native vegetation. ■ Avoid direct impacts on National Parks and SEPP 14 wetlands where possible. ■ Effectively encapsulate the principles of ESD in the project framework and approach.
Provide the best value for money	<ul style="list-style-type: none"> ■ Minimisation of the Whole of Life Costs of the project. ■ Maximise the use of the existing road reserve for duplicated sections of the project where possible. ■ Achieve a Benefit Cost Ratio of greater than 2. ■ Expenditure supports NSW State Government and Clarence Valley Council development policies.

1.4 The study area

The study area for the Wells Crossing to Iluka Road project encompasses two sections that have been combined into a single project: Wells Crossing to Harwood Bridge and Harwood Bridge to Iluka Road. The study area is triangular in shape and covers an area of approximately 64,500 hectares, extending from Wells Crossing in the south to Iluka Road in the north, and from South Grafton in the west to Pillar Valley and Taloumbi in the east. It is predominantly located to the east of the existing Pacific Highway alignment. The study area is shown at **Figure 1-2**.

The existing Harwood Bridge and highway north of the Clarence River are valuable assets. Crossing the Clarence River at Harwood provides opportunities to optimise use of these assets in the upgrading of the highway. Options either side of Harwood village have been considered, however, the RTA's strategy for this section of the Pacific Highway Upgrade Program is to make use of the existing high standard road with upgrading initially involving duplication of the existing highway and bridges. For this reason, the study area boundary between Harwood Bridge and Iluka Road is a narrow corridor centred on the existing highway.

The decision to cross the Clarence River at Harwood, and the route of the existing highway, means that south of Harwood, the western boundary of the study area is generally defined by the Clarence River and South Arm, as options further west would not result in travel time savings or attract higher volumes of traffic.



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Wells Crossing to Iluka Road
Upgrading the Pacific Highway

Figure 1-2: The study area

The project connects to other Pacific Highway Upgrade Program projects to the north and south. In the south, the Woolgoolga to Wells Crossing section would connect to the Wells Crossing to Iluka Road section in the vicinity of Bald Knob Road. In the north, the project connects to the Iluka Road to Woodburn project at Banana Road, just to the north of Iluka Road.

The eastern boundary of the study area from Wells Crossing to Harwood Bridge is largely defined by topographic and ecological constraints. In the south, the eastern boundary is determined by steep topography, national parks and state forests. Further north, the eastern boundary of the study area has been located to minimise direct impacts on residential and rural residential areas around Maclean, Townsend, Gulmarrad and James Creek, while avoiding significant wetlands and waterways around Wooloweyah Lagoon and Yamba. The boundary has been defined to ensure route options that minimise impacts on urban and rural residential constraints could potentially be identified, while still ensuring appropriate connections to the existing highway south of the Harwood Bridge. Minor modifications to extend the eastern boundary of the study area were announced in early 2005 following initial constraints analysis and community and stakeholder consultation.

1.5 The planning process

The study process for the Wells Crossing to Iluka Road project involves two main stages:

- Stage 1: Development and assessment of route options:
 - A program of community and stakeholder consultation.
 - Development of project criteria, which are based on the program and project objectives.
 - Development of a long list of route options using a geographic information system (GIS) mapping tool, investigations of the study area, other project requirements such as design standards, and input from the community.
 - Assessment of the long list of route options against the project objectives and criteria to identify a short list of feasible options.
 - Development and display of a short list of route options.
 - Selection of a preferred route based on information collected during route development investigations, issues raised by the community and stakeholders in relation to the options and a Value Management Workshop.
- Stage 2: Assessment and approval of the preferred route:
 - Refinement and display of the preferred route.
 - Concept design and environmental impact assessment of the preferred route.
 - Public display of the concept design and environmental assessment.
 - Determination of the project.

1.5.1 The process to date

The project commenced in October 2004 and initial community involvement included two Community Information Sessions in December 2004, followed by the establishment of Community Liaison Groups. Initial stages of the project focused on data collection, study area familiarisation and community and stakeholder consultation. From this information, constraints were identified and the long list of route options was developed. Further investigations were then undertaken and the long list of options was refined to a short list of four main options and two potential connections. These were available for public comment in October 2005, with the period for public comment closing in December 2006. More than 1500 submissions were received from the public, organisations and government agencies. These have been recorded, analysed and responded to in the *Route Options Submissions Summary Report* (RTA, 2006h). More information on the consultation process and outcomes to date is provided in **Section 5.1**.

A Value Management Workshop was held in early March 2006 and involved community and government agency representatives along with members of the project team. The purpose of the Value Management Workshop was to seek a way forward in the process of selecting a preferred route. While the Workshop did not provide a clear recommendation for a preferred route it did provide useful indicators regarding the key issues and the opinions of a range of stakeholders on the route options. Assessment criteria were agreed, modified route options were identified and conclusions were made in relation to the relative performance of route options against evaluation criteria. Areas where further work was necessary were also identified. The Value Management process and outcomes from the Value Management Workshop are further described in **Section 5.3**.

The Value Management Workshop, submissions from the public, government agencies and other stakeholders, and the technical investigations of the project team are the three key inputs to the decision on a preferred route for the project. These inputs were reviewed at a route selection workshop in April 2006. A recommended preferred route was identified at the workshop for further assessment and consideration for approval by the NSW Minister for Roads. This *Preferred Route Report* has been prepared following the route selection workshop.

The next stages for the project will include concept design and detailed environmental assessment.

1.5.2 Community and stakeholder involvement

Since the commencement of the project in October 2004 there has been substantial community involvement through a wide range of consultation activities. These have included:

- Community Information Sessions at the start of the project.
- Establishment of Community Liaison Groups (CLGs) that meet in Grafton, Tucabia and Maclean.
- Focus group meetings on issues including business impacts, flooding and hydrology, ecology, Aboriginal heritage and culture, and maritime issues.
- Community updates to provide important information to the community at key stages of the project.
- Community and stakeholder input through letters, faxes, emails and telephone conversations.
- Meetings with land owners.
- The public display of the route options in late 2005 and the receipt of more than 1500 submissions.
- Meetings, correspondence and discussions with government agency representatives, and a Planning Focus Meeting with government and other stakeholder organisations.
- Community and stakeholder input to the Value Management Workshop in March 2006.

Community and stakeholder consultation will be ongoing as the project proceeds through the next stages.

1.5.3 The next steps

Following the public display period for the preferred route announcement, the next steps in the development stage of the project are:

- Preparation of a concept design for the preferred route, including refinement of the alignment, determination of the road reserve boundary and scoping of ancillary works such as construction compounds, environmental management and mitigation measures.
- Environmental assessment in accordance with the statutory requirements of the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act), and other relevant legislation.

1.6 Working papers

The technical investigations undertaken for the project have been documented in a series of Working Papers, including:

- *Biological Working Paper* (RTA, 2006a).
- *Cultural Heritage Working Paper* (RTA, 2006b).
- *Geotechnical Working Paper* (RTA, 2006c).
- *Hydrology and Hydraulics Working Paper* (RTA, 2006d).
- *Landscape and Visual Working Paper* (RTA, 2006e).
- *Noise and Vibration Working Paper* (RTA, 2006f).
- *Planning, Zoning and Land Use Working Paper* (RTA, 2006g).
- *Socio-economic Working Paper* (RTA, 2006i).
- *Traffic and Transport Working Paper* (RTA, 2006j).
- *Water Quality Working Paper* (RTA, 2006l).

Separate reports on submissions to the route options display held in late 2005 (RTA, 2006h) and the Value Management Workshop held in March 2006 (RTA, 2006k) have also been prepared.