4. Project need, objectives and design principles

This section outlines the RTA's Pacific Highway project objectives and provides an overview of the design guidelines were used in the development of the project.

4.1 Need for the project

The need to upgrade the Pacific Highway between Iluka Road and Woodburn has been evaluated in the context of the overall Pacific Highway. The highway is a major inter-state transport infrastructure facility that not only forms the primary Sydney-Brisbane transport link, but also serves a significant and growing coastal residential and recreational population.

The project is required to meet the NSW and Commonwealth Governments' overall objective of fully upgrading the Pacific Highway to a four-lane divided highway standard. It will provide additional capacity in an area with continued traffic growth, and will join other completed and planned projects to form a continuous high-standard road, better able to meet the demands placed on it.

The project is also an essential component of the wider regional network, and the need for it is based on a number of issues, including:

- Road safety – including the need to reduce the number and severity of road traffic accidents through safer design.
- Population growth, urban expansion, commercial development, tourism and employment growth on the NSW north coast and in southern Queensland.
- Freight transport demand and service patterns.

It is expected that traffic volumes on the Pacific Highway will continue to increase due to:

- Population increases in the North Coast region.
- Traffic diverted from other routes as the Pacific Highway is improved.
- Traffic generated by improved travel times and reduced travel costs.

4.1.1 Pacific Highway Upgrade Program objectives

The RTA's overall objectives for the Pacific Highway Upgrade Program are to:

- Significantly reduce road accidents and injuries.
- Reduce travel times.
- Reduce freight transport costs.
- Develop a route that involves the community and considers their interests.
- Provide a route that supports economic development.
- Manage the upgrading of the route in accordance with ESD principles.
- Provide the best value for money.

4.1.2 Highway design standards

The design of the Iluka Road to Woodburn upgrade of the Pacific Highway is being carried out according to Upgrading the Pacific Highway – Upgrading Program Beyond 2006: Design Guidelines (2006), prepared by the RTA's Pacific Highway Office. The project also seeks to comply with Austroads standards (various dates) and the RTA's Road Design Guide (1989). Key standards applying to this project are summarised below in Table 4.1.

Table 4.1 Pacific Highway Upgrade Standards Class A

Feature	Class A dual carriageway	Intersecting and other roads
Design speed	Horizontal 110 km/h. Vertical 100-110 km/h.	80 and 60 km/h dependent on function.
Cross section	Dual carriageway. Verge: typical 10 m. Shoulder: typical 2.5 m. Traffic lanes: minimum 2 x 3.5 m. Offside shoulder: minimum 0.5 m. Central median reserve minimum 11m. Offside shoulder: minimum 0.5 m. Minimum: 2 x 3.5 m traffic lanes. Shoulder: typical 2.5 m. Verge: typical 10 m.	Two lane single carriageway with typically 3.5 m lanes and shoulder width dependent on road function.
Flood immunity	One carriageway positioned above the 1 in 100 year flood level (desirable) or the 1 in 20 year flood level (minimum) across the flood plain.	No change to existing conditions.
Intersections	At-grade 'seagull' type T-intersections at key local roads. Grade separated "dumbbell" interchange at key location.	At grade T-intersections with some turning lanes. Connecting to dumbbell interchange
Access	Left-in, left out for most existing access roads and private properties not serviced by 'seagull' type T-intersection (Class A). Some accesses may have u-turns and right hand-in layouts.	Unrestricted.
Minimum radius	1000m	
Overhead clearances	5.3 m.	Varies dependent on function. Typically 5.3m
Fill/batter	1 vertical : 3 horizontal to 1 vertical : 2 horizontal	1 vertical : 3 horizontal to 1 vertical : 2 horizontal
Cuttings	1 vertical : 2 horizontal	1 vertical : 2 horizontal

Source: RTA, various publications.