

## 2 Strategic and project justification

This chapter describes the need, objectives and justification of the project in terms of the strategic vision for NSW (including the NSW south coast). It also addresses the Director-General's requirements (DGRs) for the strategic justification of the project as shown below.

Director-General's requirements	Where addressed
<b>Strategic justification:</b>	
<i>Describe the strategic need, justification and objectives for the project taking into account the aims and objectives of relevant strategic planning and transport policies including: the State Plan (2006), the Illawarra Regional Strategy and the South Coast Regional Strategy.</i>	Sections 2.1 – 2.5  Chapter 11 (Justification and conclusion)

### 2.1 Strategic need

#### 2.1.1 The Princes Highway

The Princes Highway is the main north-south transport corridor linking Sydney and Wollongong to the NSW south coast and north-eastern Victoria. It is an important freight and bus route, particularly beyond Bomaderry where the existing rail service currently terminates. The Princes Highway is also a major route for tourist destinations, such as Berry, with peak traffic experienced on weekends and during holiday periods.

The project would form part of the Princes Highway upgrade which aims to provide a four lane divided highway between Waterfall and Jervis Bay Road, Falls Creek. (refer to **Figure 2-1** for the current status of these upgrades). The upgrade of the Princes Highway would improve road safety and traffic efficiency, including for freight, on the NSW south coast.

In recognition of the importance of the project, the NSW Government announced the allocation of \$9 million in the 2012-2013 budget to continue the planning and preconstruction activities for the project.

#### 2.1.2 NSW and Australian Government plans and strategies

##### *National Road Safety Strategy for Australia 2011 - 2020*

The *National Road Safety Strategy for Australia 2011 – 2020* (Australian Transport Council, 2011) is firmly based on Safe System principles and is framed by the guiding vision that no person should be killed or seriously injured on Australia's roads. As a step towards this long-term vision, the strategy presents a 10 year plan to reduce the number of serious injuries and fatalities on Australian roads by 30 per cent. To achieve this target, four key road safety actions or interventions have been identified, supported by immediate and future steps. Of the four actions, 'safe roads' and 'safe speeds' are relevant to the project.

The 'Safe roads' action aims to adopt improved standards for road design, construction and operation to reflect the Safe System principles (which have yet to be finalised), and to improve the manner in which road safety benefits are identified and implemented in road investment programs.

The 'Safe speeds' action aims to achieve a better balance between safety and mobility objectives, and to improve compliance with speed limits.

# Princes Highway upgrades

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Transport  
Roads & Maritime  
Services

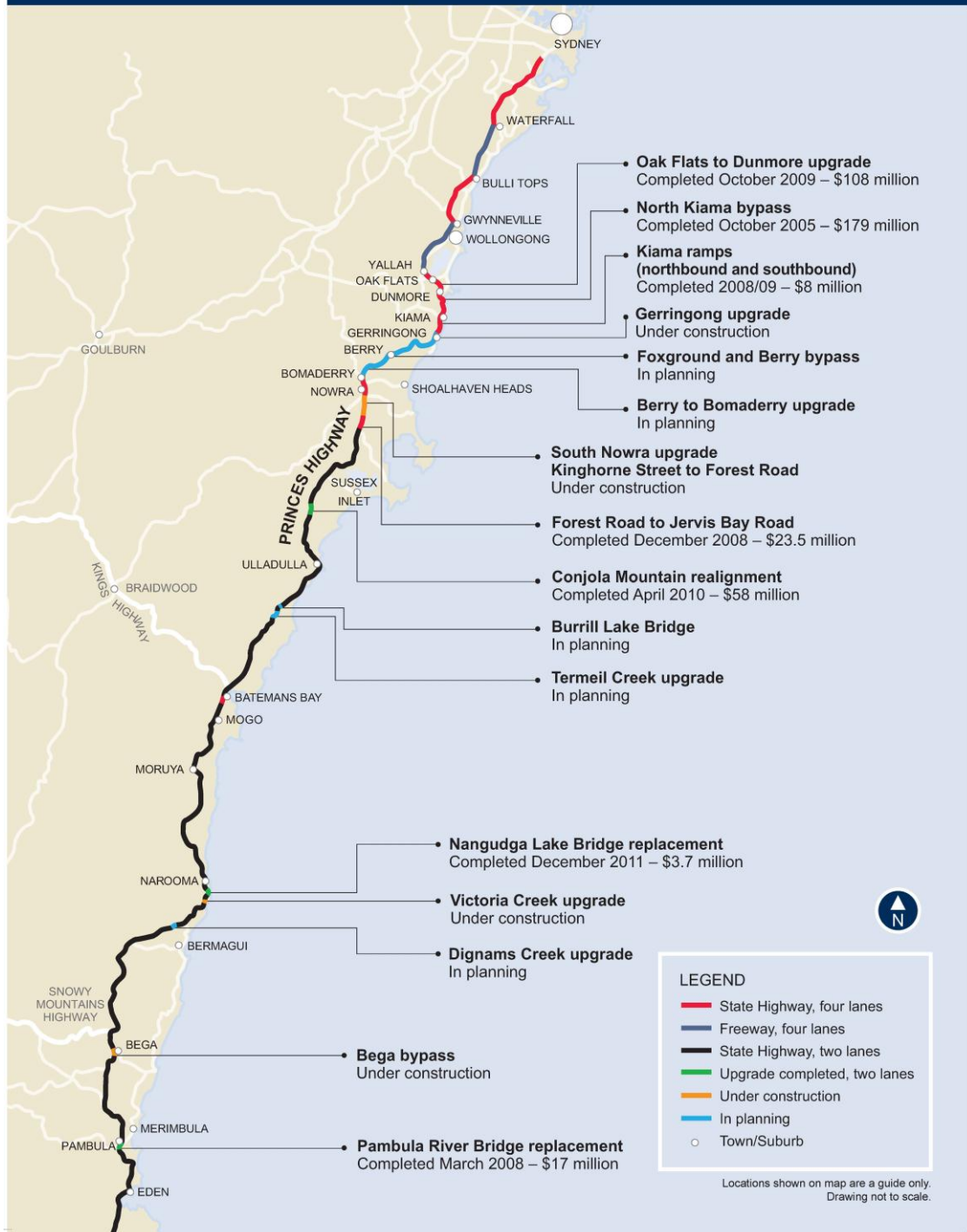


Figure 2-1 Princes Highway upgrade between Waterfall and Jervis Bay Road

The Safe System principles are yet to be released, however guiding principles are in place that require a holistic view of the road transport system and the interactions among roads and roadsides, travel speeds, vehicles and road users. This is an inclusive approach that caters for all groups using the road system, including drivers, motorcyclists, passengers, pedestrians, bicyclists, and commercial and heavy vehicle drivers. The Safe System approach recognises that people will always make mistakes and may have road crashes, but that the system should be forgiving and those crashes should not result in death or serious injury.

The project has been designed in accordance with current RMS road design guidelines, safety and traffic efficiency requirements to address the existing high crash history, and aims to deliver immediate safety benefits through introducing design features such as: dividing the highway to instantly remove the risk of both head on collisions, and collisions resulting from turns made across the highway; and providing separate pedestrian and cyclist facilities.

The project is considered to be consistent with the guiding vision of the Safe System approach, and would contribute towards achieving, the aims of the *National Road Safety Strategy for Australia 2011 – 2020*. The detailed design of the project would continue to consider road safety requirements.

### *Draft NSW Long Term Transport Master Plan*

The draft *NSW Long Term Transport Master Plan* (Transport for NSW, 2012), which was released for comment in September 2012, presents the NSW Government's direction for transport planning and investment for the next 20 years. It builds on the current transport commitments of the NSW Government, as announced in the 2011-2012 budget.

Chapter 6 of the draft Master Plan addresses the provision of essential access for regional NSW. It specifically identifies the upgrade of the Princes Highway as an action to improve the availability, reliability and timeliness of travel options in the south coast region.

Chapter 7 of the draft Master Plan addresses efficiency and productivity of freight and identifies a number of actions to promote this including: fixing bottlenecks; better using the existing road network; removing obstacles to improved freight productivity; growing future network capacity; and managing the community and environmental impacts of freight. By improving the safety and the capacity of the Princes Highway and upgrading the Foxground to Bomaderry section of the highway to four lanes consistent with the majority of the remainder of the highway, the project would contribute to all these actions for the NSW south coast.

While the draft Master Plan was under preparation, the NSW Government announced its current priorities for improving transport in NSW. Improvements to the Princes Highway were identified as a current priority to support the economy and regional NSW.

### *NSW 2021*

*NSW 2021 – A Plan to Make NSW Number One* (Department of Premier and Cabinet, 2011) was released in September 2011 and replaces the *State Plan 2006* (as revised in 2010) as the NSW Government's strategic plan for the future.

The NSW-2021 plan is a 10 year plan for change in NSW, and it aims to rebuild the economy, provide quality services, renovate infrastructure, restore government accountability and strengthen local environment and communities.

The Plan provides 32 goals including to improve the efficiency of the road network and reduce travel times and to improve road safety. Priority actions are specified in NSW 2021 to achieve these goals. These actions include the provision of real-time travel time information to motorists through the delivery of key initiatives including the use of variable message signs (VMS) and the delivery of road infrastructure to relieve congestion, improve safety and enhance and expand capacity on road corridors.

The project would improve the safety and efficiency of the road network by upgrading the Princes Highway to widen one of the last remaining two lane sections of highway between Waterfall and Falls Creek to four lanes with median separation. This would relieve congestion, improve safety and increase capacity on the highway. A VMS would be installed south of Berry, on the western side of the upgrade, between the southern Berry interchange and Schofield's Lane to service northbound traffic. The project is consistent with the NSW 2021 Plan and would contribute to the achievement of traffic and transport related goals.

### *Illawarra Regional Strategy*

The *Illawarra Regional Strategy 2006-2031* (Department of Planning (DoP), 2007a) applies to the Kiama, Shellharbour and Wollongong local government areas (LGAs) and recognises the importance of the region's transport networks in supporting economic growth and maximising the efficiency of freight transport.

The *Illawarra Regional Strategy* includes regional transport objectives, highlighting the importance of the Princes Highway as the major north-south corridor linking the Illawarra region to Sydney and the NSW South Coast, and citing the upgrade of the highway as an important transport infrastructure project in the region. The project is consistent with, and would contribute towards achieving, the objectives of the Illawarra Regional Strategy.

### *South Coast Regional Strategy*

The *South Coast Regional Strategy 2006-2031* (DoP, 2007b) applies to the Shoalhaven, Eurobodalla and Bega Valley LGAs. The strategy envisages a 36 per cent increase in the population of these LGAs over the next 23 years. The area encompassing Nowra and Bomaderry is identified as a major regional centre in the Shoalhaven LGA, which is expected to grow by an additional 34,000 people.

The NSW South Coast has transport and accessibility limitations due to a dispersed settlement pattern. The project is consistent with the South Coast Regional Strategy as it would improve the safety and efficiency of this major transport corridor and connections between communities and neighbouring regions, enabling economic development.

### *Shoalhaven – an Enterprising Alternative (An Economic Development Strategy) 2005*

*Shoalhaven – An Enterprising Alternative, an Economic Development Strategy* (Shoalhaven City Council et al, 2005) was developed by Shoalhaven City Council, the NSW Department of State and Regional Development, the Commonwealth Department of Transport and Regional Services and the Shoalhaven Area Consultative Committee.

A key transport focus area identified in the strategy is to “significantly improve access between Shoalhaven, Sydney, Canberra and Wollongong with respect to movement of goods and people” (Shoalhaven City Council et al, 2005). The project would improve access between Sydney and the Shoalhaven, and therefore between Wollongong city and regional centres within the Illawarra and the Shoalhaven.

A key tourism focus area identified in the strategy is to “foster higher levels of visitation and increased visitor yield” (Shoalhaven City Council et al, 2005). The project would improve access to the region and reduce travel times, which are expected to encourage increased visitation rates.

## 2.2 Need for the project

### 2.2.1 Existing road design

The Princes Highway between Toolijooa Road and Schofields Lane consists generally of two lanes (undivided) with horizontal and vertical alignments that result in lower speed limits and traffic inefficiencies, particularly near Toolijooa Ridge, Foxground and Broughton Village. There are limited overtaking opportunities, many at-grade junctions with rural roads and numerous private accesses.

The highway runs through the town centre of Berry, creating conflicts between through traffic, local traffic and pedestrians and reducing the amenity of Berry.

The posted speed limits along this section of the highway respond to the road conditions and conflicts along the highway, ranging from 80 kilometres per hour north of Berry, 50 kilometres per hour through Berry and 100 kilometres per hour south of Berry. This reduces the efficiency and safety of the highway, as vehicles transition between the posted speed limits.

There is a need to provide a highway that meets RMS network planning targets and minimises conflicts for current and future road users by providing an appropriate and consistent road design. If the highway is not upgraded, the efficiency, safety and amenity along the highway and within Berry would continue to deteriorate as traffic volumes increase over time.

### 2.2.2 Traffic volumes and transport

Based on traffic surveys undertaken in 2009 and 2011, the annual average daily traffic (AADT) on the Princes Highway near Berry is around 10,000 to 12,500 vehicles per day, of which 11 to 13 per cent are heavy vehicles. As the highway is a major tourist route, traffic flows are highest during major holiday periods. This has been measured at 20 per cent above the AADT during the Christmas holiday period at a permanent traffic count station on the Princes Highway north of Gerringong at Rose Valley Road.

The 'Sandtrack', as shown in **Figure 1-2**, provides an alternative route for regional traffic travelling between Gerringong and Bomaderry. It comprises Fern Street, Crooked River Road, Gerroa Road and Bolong Road. The AADT on the 'Sandtrack' is around 6500 to 8500 vehicles per day, which represents an average 55/45 per cent split of regional traffic flows between the Princes Highway and the 'Sandtrack'. The proportion of heavy vehicles using this alternative route is around three to four per cent and is attributed to the imposed five tonne load limit.

Between 2008 and 2010, daily traffic volumes on the Princes Highway in this region have grown at a rate of around three per cent per year, with the proportion of heavy vehicles remaining the same. This growth rate is forecast to continue, resulting in an AADT of around 16,500 to 21,000 vehicles per day by 2037. A similar rate of growth is expected along the 'Sandtrack'.

Without the Princes Highway upgrade, ongoing traffic growth would put pressure on the efficiency of the highway by lowering average travel speeds and increasing delays on the approach to and within Berry. Existing safety concerns would also be exacerbated.

The implications for highway efficiency and safety should the Princes Highway not be upgraded are discussed further in **Section 2.2.4** and **Appendix D** of this environmental assessment.

### 2.2.3 Level of service

Level of service (LoS) is a qualitative measure describing operational conditions within a traffic stream. The desirable maximum capacity of each road section is determined from the 'Guide to Traffic Management, Part 3: Traffic Studies and Analysis' (AUSTROADS, 2009). LoS has different criteria to assess the performance of a road and intersection, but is generally described in terms of service measures such as travel speed and travel time, freedom to manoeuvre, traffic interruptions, comfort and convenience, and road safety. There are six LoS, designated LoS A (best – free flow) to LoS F (worst – break-down in flow). Further information on LoS, including LoS definitions, can be found in **Section 7.1** and **Appendix D** of this environmental assessment.

Currently, the Princes Highway both north and south of Berry operates at LoS D for highway flows in both the AM peak and PM peak, and deteriorates to an unacceptable LoS E at most locations during peak periods. If the highway is not upgraded, the LoS will decrease over time as traffic volumes increase, resulting in longer travel times. By 2037, without the project, the highway is predicted to be operating at LoS E and LoS F during AM and PM peak periods.

At Berry, Queen Street (Princes Highway) intersects with numerous roads of local and regional importance. This includes Alexandra Street, Prince Alfred Street, Kangaroo Valley Road, Albert Street and Tannery Road. These intersections currently perform at LoS A, including during peak periods. Refer to **Figure 7.2** for local and regional road layout.

As traffic volumes increase on Queen Street (Princes Highway) into the future, conflicting traffic demands of through and local traffic within Berry would result in longer delays and decreased LoS. There would also be fewer gaps in the traffic flow creating significant delays to vehicles attempting to turn onto or cross Queen Street. This would cause some intersections on Queen Street, such as Kangaroo Valley Road, Alexandra Street and Tannery Road, to operate at LoS E and LoS F during peak periods, with significant average delays by 2037.

Longer delays would also have implications on the performance of the local road network in Berry where queuing traffic blocks adjacent intersections. If the road network remains unchanged and highway traffic is not removed from Berry, it is expected that intersections would be unable to accommodate the forecast increase in traffic volumes and delays would extend into local roads.

Overall, an upgrade to the highway is needed to provide additional road capacity, to maintain an acceptable LoS and to minimise conflicts between local and through traffic within Berry. In the absence of an upgrade, longer travel times and congestion within Berry would have economic consequences on local businesses, industry and tourism. Increased commuting times would also hinder employment growth in the region, and recreational travellers would become less inclined to accept the time and cost associated with travelling through the area.

### 2.2.4 Road safety

The current fatality rate for the project area is around 0.8 per 100 million vehicle kilometres travelled (MVKT). When compared to the NSW average fatality rate of 0.5 per 100 MVKT (for the 12-month period ending in July 2011), this indicates that the project area has over 50 per cent more fatalities per kilometre travelled than the NSW average. An analysis of crash statistics collected by the then NSW Roads and Traffic Authority (RTA) between 1 July 2003 and 30 September 2010, found that this section of the highway performs relatively poorly in comparison to connecting sections of the Princes Highway and other major highways in NSW. There were 118 recorded crashes during this period, of which 61 resulted in personal injury and three involved fatalities.

In addition, the alternative 'Sandtrack' route between Gerringong and Bomaderry has a fatality rate of 0.7 per 100 MVKT, again higher than the NSW average. Five fatal and 81 injury crashes occurred on the 'Sandtrack' between 1 July 2003 and 30 September 2010.

As projected traffic volumes increase, the potential for crashes is also likely to increase. An increase in demand on rural sections of the highway would result in lower travel speeds, and more time spent following other vehicles. This typically results in vehicles travelling closer together, increasing the likelihood of rear-end crashes. Motorists may also take greater risks to turn on or off the highway as gaps in the flow of traffic become less frequent. Access to and from local and private roads are also expected to become more difficult as traffic volumes increase.

Similarly, the likelihood of crashes at intersections along the highway and within Berry would increase, as traffic growth increases the frequency of conflicting at-grade turning movements.

Road safety improvements would be delivered by upgrading the highway with enhanced road design and travel efficiencies. Road safety would also increase by reducing the frequency of conflicting turning movements by removing highway traffic from within Berry, consolidating highway access to grade separated interchanges, and restricting direct access elsewhere to left-in left-out.

Improvements to the highway and associated improvements in road safety and travel time would lessen the inclination for regional traffic to use the 'Sandtrack' as an alternative route. The split between the Princes Highway and the 'Sandtrack' traffic is estimated to change from 55 per cent / 45 per cent to the north of Berry (60 per cent / 40 per cent to the south) in 2009 to 84 per cent / 16 per cent in 2037 (87 per cent / 13 per cent to the south), with the majority of traffic switching from the 'Sandtrack' in favour of the Princes Highway by 2037. As a consequence, the reduced traffic volume on the 'Sandtrack' would deliver safety benefits and amenity improvements to road users and the communities located alongside it.

### 2.2.5 Flood immunity

The highway currently has poor flood immunity, with the section immediately north of Berry, (between Woodhill Mountain Road and Prince Alfred Street, Berry) susceptible to flooding in the 1 in 5 year flood event. Flooding of the highway at this location restricts regional traffic movements and access to Berry from the north and access to the north from Berry.

Upgrading the highway to achieve flood immunity in the 1 in 100 year flood event would remove the obstacle to regional traffic flows, enhance road safety and provide for improved access during major flood events.

## 2.3 Project objectives

The project objectives are consistent with the strategic and project needs and incorporate environmental, social and economic considerations. Project objectives include:

- Improve road safety.
- Improve efficiency of the Princes Highway between Toolijooa Road and Schofields Lane.
- Support regional and local economic development.
- Provide value for money.
- Enhance potential beneficial environmental effects and manage potential adverse environmental impacts.
- Optimise the benefits and minimise adverse impacts on the local social environment.

## 2.4 Statement of strategic need

The project is part of a series of upgrades of the Princes Highway to achieve four lanes between Waterfall and Jervis Bay Road, Falls Creek. It is one of the remaining sections to be upgraded and would add to the road safety and traffic efficiency benefits provided by the other Princes Highway upgrades.

The project area encompasses both the bypass of the Foxground bends and the bypass of Berry in the one project. On completion of either bypass, traffic studies show that most through traffic (about 85 per cent) would be travelling on the upgraded highway. If only one of these bypasses were constructed, safety and efficiency issues on the remaining unimproved section of the highway would be exacerbated. The project area extends from Toolijooa Road to Schofield's Lane as the Toolijooa Road endpoint is the start of the section with the worst remaining crash statistics and the Schofield's Lane end point is the earliest tie in point after addressing the efficiency concerns in Berry.

The objectives of the project are consistent with the relevant strategic planning and policy frameworks and the need for the project.

The project is needed to provide a safer and more efficient road network to better serve current and future road users. It would assist in meeting this by:

- Addressing the high crash history and poor road safety record of this section of the Princes Highway and delivering immediate road safety benefits.
- Ensuring compliance with current design, safety and traffic efficiency requirements of the RMS.
- Removing through traffic from Berry town centre, improving the amenity of the town and road safety of the local road network.
- Delivering improved traffic efficiency by catering for projected traffic volumes in the design year, which is typically 20 years after the project becomes operational.
- Delivering a highway design consistent with that of the majority of the remainder of the highway between Waterfall and Jervis Bay Road.

Further justification for the project is provided in **Chapter 11**. This chapter also includes consideration of the objectives of the *Environmental Planning and Assessment Act 1979*, the environmental, social and economic impacts of the project, the suitability of the site and whether or not the project is in the public interest.