

Milton Ulladulla bypass

Environmental impact statement

Chapter 8 Traffic and transport

September 2026



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8. Traffic and transport

This chapter provides an assessment of the potential impact on traffic and transport because of the project and identifies mitigation measures to minimise these impacts. This chapter draws on information provided in Technical Report 2: Traffic and Transport Impact Assessment.

8.1 Existing environment and background

8.1.1 Assessment approach

Methodology

A Traffic and Transport Impact Assessment (refer to Technical Report 2: Traffic and Transport Impact Assessment) has been undertaken to assess the potential impacts on traffic and transport from the construction and operation of the project. The assessment approach of the assessment included:

- defining the traffic and transport study area
- examining and assessing the existing traffic and transport conditions within the study area in terms of existing traffic volumes and patterns, traffic network performance, road safety and crash history, heavy vehicle access and routing, public transport provisions, parking provisions, and facilities for active transport users
- developing a calibrated and validated traffic model for the AM (8.30am-9.30am), PM (3.00pm-4.00pm), and weekend (11.30am-12.30pm) peak periods during the non-holiday period and the holiday (10.45am-11.45am) peak period¹ to assess the performance of the existing traffic network and the impact of the proposed road upgrade and forecast traffic volumes in the study area
- undertaking a traffic performance sensitivity analysis for end of year holiday peak (Sunday) to assess the performance of the existing traffic network and the impact of the project and forecast holiday traffic volumes in the study area
- developing a calibrated and validated traffic model to assess the current and future years' road network performance for the existing and proposed road configuration. The following scenarios were used to assess the potential impacts of the project under the 'With project' scenarios and 'Without project' scenarios:
 - the opening year of the project (2031)
 - opening year +10 years (2041)
 - opening year +20 years (2051)
- assessing the impacts of the project for all road users during construction and operation, including potential impacts on property and local access, public transport, pedestrians, cyclists and vehicular traffic
- recommending safeguards and mitigation measures to minimise the identified construction and operation impacts.

The traffic modelling included the following limitations:

- the effect of congestion and alternative route choices outside the modelled study area have not been considered
- the model is limited to the study area and key intersections considered likely to influence the performance of the project. It does not include all roads and intersections within the broader network.

A detailed description of the assessment methodology is presented in Section 3 of the Technical Report 2: Traffic and Transport Impact Assessment and further detail on limitations is provided in Section 4 of Attachment A of Technical Report 2: Traffic and Transport Impact Assessment.

¹ Future year modelling of holiday peak traffic was conducted to assess the design against the temporary increases in traffic volumes during holiday periods, as well as the regular traffic demand

Study area

The study area adopted for Technical Report 2: Traffic and Transport Impact Assessment) includes the Milton, Mollymook and Ulladulla townships and their surrounding areas, capturing the local and regional road network that supports access to these townships. It extends north to the existing Princes Highway / Golden Flats Lane intersection and to the south beyond Wheelbarrow Road and Burrill Lake, incorporating key approaches that influence traffic conditions around the bypass corridor. The study area has been selected to capture the extent of the existing road network and surrounding transport environment, as well as to identify any potential traffic and transport impacts associated with the construction and operation of the project.

The study area is shown in Figure 8-1 and also includes the following key connecting roads:

- peri-urban rural links
 - Matron Porter Drive
 - Bishop Drive
- peri-urban and rural connector streets
 - Croobyar Road
 - Woodstock Road
 - Woodburn Road
 - Wheelbarrow Road
- local roads within the Milton and Ulladulla town centres functioning as suburban and urban streets.



Milton Ulladulla bypass EIS
Figure 8-1: Traffic and transport study area

Traffic model development

Traffic modelling was carried out in accordance with the *Traffic Modelling Guidelines* (Roads and Maritime Services, 2013) and as described in Section 3.4 of the Technical Report 2: Traffic and Transport Impact Assessment. Microsimulation modelling for the project provided details on traffic flows, delays, and travel times at intersections and along road segments, considering travel demand and road network arrangements. The traffic modelling for the project comprised three development stages, being:

- the development of a calibrated and validated base year (2025) model that accurately represents the existing traffic conditions within the study area
- the development of future year scenario traffic models to compare the traffic conditions between the 'With project' scenario and 'Without project' scenario
- the modelling and assessment of proposed road layouts to optimise design layouts and assess future traffic conditions under the 'With project' scenario and the 'Without project' scenario using forecasted traffic volumes.

Assessment criteria

Intersection performance has been assessed by evaluating intersection turning volumes, vehicle delays and level of service (LOS). LOS is a measure used to determine the effectiveness of intersection operation and is commonly used to analyse intersections by categorising traffic flow conditions. Table 8-1 outlines the standard LOS criteria that have been used to assess intersection performance.

Table 8-1: Level of service criteria

Level of service	Average delay per vehicle (seconds per vehicle)	Traffic signals, roundabouts	Give way and stop signs
A	<14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity, at signals, incidents would cause excessive delays	At capacity, requires other control mode
F	>70	Unsatisfactory and requires additional capacity	Unsatisfactory and requires additional capacity

A detailed description of the criteria adopted is presented in Section 3.3 of Technical Report 2: Traffic and Transport Impact Assessment.

8.1.2 Policy and planning setting

The project would provide benefits for road users at the local, regional and state level and would contribute towards achieving some of the goals identified in the following strategic plans:

- *Connecting NSW Strategy* (Transport, 2025a)
- *Delivering Freight Policy Reform in New South Wales* (Transport, 2025b)
- *Staying Ahead: State Infrastructure Strategy 2022-2042* (Infrastructure NSW, 2022)
- *2026 Road Safety Action Plan* (Transport, 2022)

Further detail on the above strategic plans, and how they apply to the project, is provided in Section 3.1 of Chapter 3 (Strategic context and project need).

Technical Report 2: Traffic and Transport Impact Assessment was prepared to assess the potential impacts of the project in accordance with *Traffic Modelling Guidelines* (Roads and Maritime Services, 2013) and relevant Austroads guidelines.

8.1.3 Existing environment

The project is located within the Shoalhaven Local Government Area (LGA). Residents within the Shoalhaven LGA have a strong reliance on private vehicles for daily travel with around 70 to 73 per cent of journeys made to work by car, above the NSW average of 47 per cent. This car dependency is driven by the LGA's dispersed land use and limited public transport options, with bus services operating at low frequencies and the nearest rail station located at Bomaderry, about 68 kilometres north of Ulladulla.

The following section provides detail on the existing road network.

Road network

The road network within the study area is described in the following section and shown in Figure 8-2.

State roads

The Princes Highway is the only state road captured within the study area. The Princes Highway is an arterial state road providing the primary north to south connection between Sydney and Melbourne. Within the study area, it connects the townships and localities of Milton, Mollymook, Ulladulla, Burrill Lake, Croobyar, Woodstock, and Kings Point. It carries a mix of local and regional traffic and supports vehicle, public transport, active transport, and freight movements.

It is predominantly an undivided carriageway with one lane in each direction. The posted speed limit is:

- 50 kilometres per hour (km/h) in the Milton town centre, increasing to 60 kilometres per hour on its approaches
- 50 to 60 kilometres per hour in Ulladulla, increasing to 70 kilometres per hour on its approaches
- 60 kilometres per hour through Burrill Lake.

Outside urban areas, the speed limit is generally 100 kilometres per hour.

Local roads

The local roads within the study area are summarised in Table 8-2.

Table 8-2: Local roads within the study area

Local road	Description
Croobyar Road	Croobyar Road runs east to west, connecting rural residences of the Woodburn and Morton localities in southwest Milton with Woodstock Road and Woodburn Road. Within the study area, it extends west from the existing Princes Highway / Matron Porter Drive / Croobyar Road intersection in Milton. Croobyar Road is an undivided two-lane, two-way road, with a posted speed limit of 50km/h between Pettys Creek and the existing Princes Highway, increasing to 80km/h west of Pettys Creek. During peak periods, motorists would use Croobyar Road to bypass Burrill Lake and Ulladulla along the existing Princes Highway.
Woodstock Road	Woodstock Road runs north to south, connecting residential and agricultural areas west of Ulladulla. Within the study area, the road provides a linkage between Croobyar Road and Woodburn Road, supporting movements between rural properties and the Princes Highway. Woodstock Road is an undivided two-lane, two-way road with a posted speed limit of 80km/h.
Woodburn Road	Woodburn Road runs north to south, connecting properties in the localities of Woodburn and Morton. It is an undivided two-way, two-lane road with a posted speed limit of 80km/h, increasing to 100km/h as it continues south. Together with Croobyar Road and Woodstock Road, Woodburn Road forms an interconnected rural road network that can attract through-traffic during peak periods, particularly when congestion occurs on the Princes Highway or within the Ulladulla town centre.
Wheelbarrow Road	Wheelbarrow Road runs east to west, connecting Woodburn Road with the Princes Highway. It is an undivided two-lane, two-way road with a posted speed limit of 60km/h. Wheelbarrow Road provides access to rural residents and agricultural properties while also functioning as an alternative route for local traffic movement between the inland rural areas and Ulladulla. During holiday peak periods, Wheelbarrow Road is a key linkage with Woodburn Road, attracting a growing proportion of vehicles seeking to bypass peak traffic within Burrill Lake and Ulladulla.

Local road	Description
Matron Porter Drive	Matron Porter Drive runs east to west, connecting Milton with Mollymook and Narrawallee. It provides access to the Princes Highway for residents to the east of the Princes Highway in Narrawallee and Mollymook. Within the study area, it extends east from the existing Princes Highway / Matron Porter Drive / Croobyar Road intersection in Milton.
Slaughterhouse Road	Slaughterhouse Road provides access between the existing Princes Highway and surrounding industrial and rural land uses on the southwest outskirts of Ulladulla. It is an undivided two-lane, two-way road with a posted speed limit of 60km/h, reducing to 50km/h as the road approaches the urban area of Ulladulla.
Bishop Drive	Bishop Drive is about 1.1 kilometres in length, running north to south, linking the existing Princes Highway to Matron Porter Drive and providing connectivity to Mollymook Beach. It is an undivided two-lane, two-way road with sealed shoulders on both sides with a posted speed limit of 50km/h.
Ilett Street	Ilett Street is a street within the Ulladulla town centre, providing access to residential properties and local commercial land uses. It operates primarily as a local access street with limited traffic volumes and low operating speeds. It is an undivided two-lane, two-way road. The posted speed limit is 50km/h.
Village Drive	Village Drive services residential areas and local destinations within Ulladulla. It functions as a collector road, distributing traffic between local streets and the broader road network. Village Drive is an undivided two-lane, two-way road with a posted speed limit of 50km/h.
Golf Avenue	Golf Avenue is a street providing access to residential areas and recreational land uses, including the Ulladulla Golf Course precinct. Its link to Mitchell Parade provides access to Mollymook Beach. It primarily carries local traffic and does not serve a notable through-traffic function. The road is an undivided two-lane, two-way road with a posted speed limit of 50km/h.
St Vincent Street	St Vincent Street runs north to south between the existing Princes Highway and Parson Street in Ulladulla. It is an undivided two-lane, two-way road with a posted speed limit of 50km/h. St Vincent Street functions as a key parallel route to the existing Princes Highway, carrying a large portion of town centre traffic circulation. Most intersections along St Vincent Street are controlled by roundabouts or give-way signs.
Green Street	Green Street is a street within the Ulladulla area that provides access to residential and local commercial properties. It connects to Slaughterhouse Road via Pirralea, allowing movements between the town centre and the light industrial and rural areas to the west. During peak times, it is also used with Pirralea Road and Slaughterhouse Road as a bypass of Ulladulla Central Business District. Green Street is an undivided two-lane, two-way road with a posted speed limit of 50km/h.
Kings Point Drive	Kings Point Drive provides the only access between Ulladulla and the Kings Point residential area. It serves both local and commuter traffic and functions as a key access route for the Kings Point community. The road is an undivided two lane, two-way road, with a posted speed limit of 60km/h, reducing to 50km/h within residential areas.

Further information regarding the existing road network within the study area and its relevance to the project is provided in Section 4.2 of Technical Report 2: Traffic and Transport Impact Assessment.



- Milton Ulladulla bypass (the project)
- Project boundary
- Key intersections
- Study area
- State roads
- Local roads

Source: Aurecon, TfNSW, NSW Spatial Services, ESRI

1:95,000 @ A4
0 1 2 km

Projection: GDA2020 MGA Zone 56



Milton Ulladulla bypass EIS

Figure 8-2: Road network within the study area

Seasonal traffic patterns

Traffic conditions within the study area are strongly influenced by seasonal tourism activity, with distinct variation in traffic volumes and travel direction between holiday and non-holiday periods.

Outside of holiday periods, traffic demand is mainly from local residents, commuters, business activity and regional movements. During these times, travel patterns are generally stable and predictable, with demand spread across the day. Although weekend volumes are typically higher than mid-week conditions, they remain well below volumes seen during holiday periods. Non-holiday traffic conditions represent the baseline operation of the corridor and the typical demand it needs to accommodate year-round.

Holiday periods generate very different traffic conditions across the study area compared to non-holiday periods. An assessment of traffic data from 2018 to 2024 identified recurring peaks associated with school holidays, public holidays and long weekends, particularly between Christmas and New Year, Easter and Labour Day. These peak periods are consistent across multiple years and are a defining feature of traffic patterns in Milton, Ulladulla and surrounding coast communities. At the start of holiday periods, demand is primarily southbound as travellers head down the South Coast. As the holiday period progresses and concludes, this demand shifts northbound as travellers return to Sydney and other metropolitan centres.

Short visits from nearby destinations such as Binalong and Lake Conjola in the north and Burrill Lake, Lake Tabourie and Bawley Point in the south, also contribute to holiday traffic in Milton and Ulladulla.

Existing traffic volumes and patterns

Traffic volumes

Existing trends of traffic volume in the study area indicate:

- Total traffic volume on the existing Princes Highway south of Canberra Crescent (south of Ulladulla town centre) is about six per cent higher than the total traffic volumes on the Princes Highway north of Corks Lane (north of Milton town centre)
- Total traffic volumes on the Princes Highway south of Bishop Drive are about 1,300 vehicles per day higher than on the section north of Bishop Drive. This increase in total traffic reflects the traffic demand from local roads such as Bishop Drive and nearby properties
- A further 3,600 vehicles exit the Princes Highway between north of Bishop Drive and the Princes Highway north of Corks Lane, indicating strong traffic demand to Milton and local roads such as Croobyar Road, Matron Porter Drive and nearby properties.

Congestion along the Princes Highway varies by time of day, with higher levels generally occurring during AM and weekend peaks in Milton due to an increase on-street parking and activities related to business and educational access.

In Ulladulla, heavy congestion is experienced on the Princes Highway through the town centre during the PM peak, with St Vincent Street also operating at capacity but not as congested as Princes Highway. Weekend peak periods also indicate high congestion on the Princes Highway and St Vincent Street, though less congested compared to the PM peak. During the AM peak, the lower levels of congestion along the Princes Highway are likely due to business opening hours generally starting later in the peak.

Travel time

Travel time surveys were carried out on the 28 June and 24 July 2025 to assess weekday and weekend peak travel times along four routes in both directions of travel (refer to Figure 8-3). The results from the survey indicate the following:

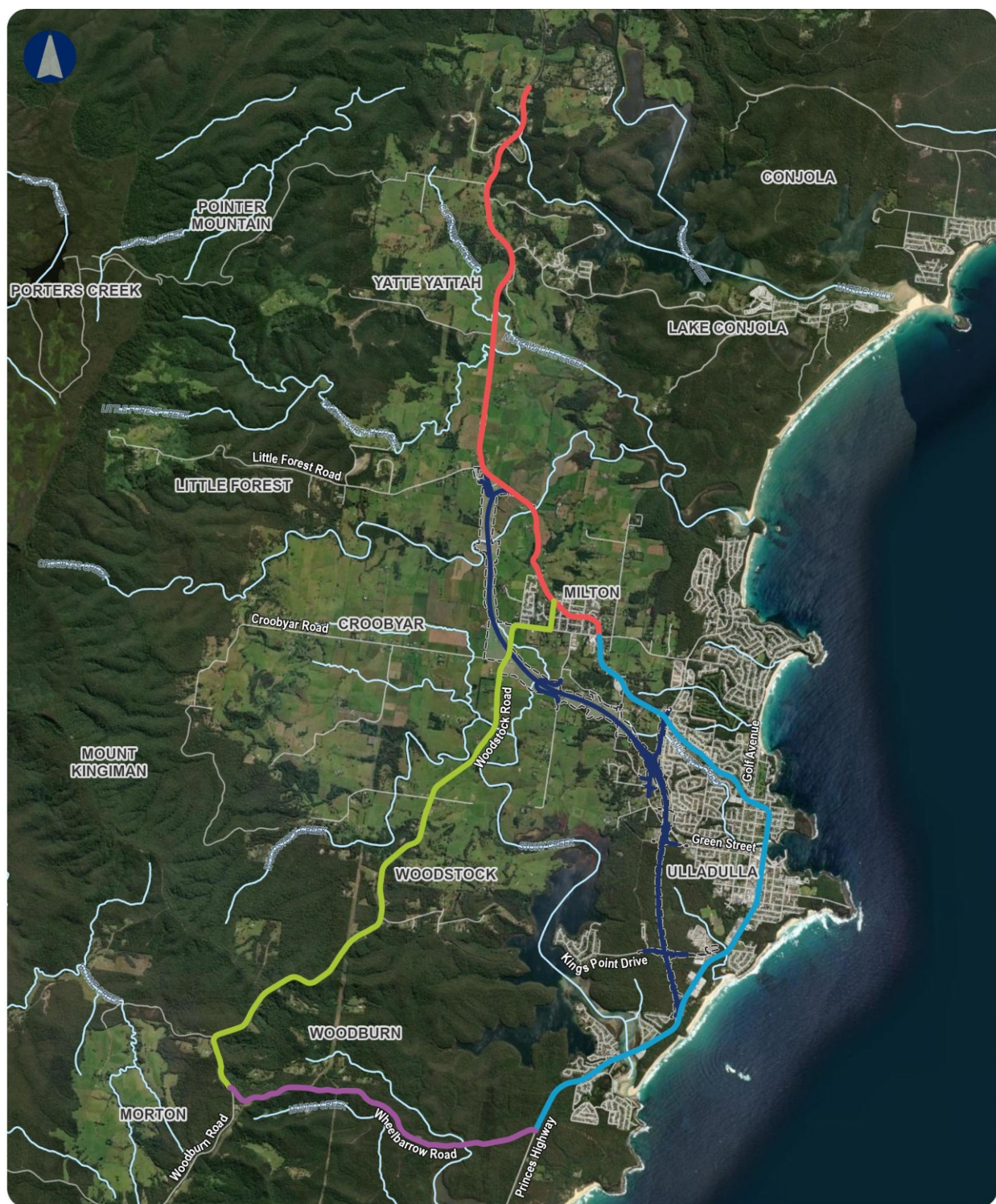
- **Route A (Princes Highway, Fishermans Paradise Road to Croobyar):** Northbound (under 10 minutes) and southbound (under 10 minutes and 30 seconds) travel times are relatively consistent across AM peak and PM peak, with shorter travel times during weekend peak (under 9 minutes 30 seconds)
- **Route B (Princes Highway, Croobyar Road to Wheelbarrow Road):** Northbound travel times remain stable across all peak periods (under 14 minutes). Southbound travel times are highest during the weekend peak (13 minutes and 30 seconds), followed by the PM peak (12 minutes and 29 seconds), and lowest during the AM peak (12 minutes and 5 seconds)

- **Route C (Woodstock Road, Croobyar Road, Myrtle Street between Wheelbarrow Road and Princes Highway):** Northbound travel times are longer during the weekend peak (10 minutes and 42 seconds) compared to the AM peak (10 minutes and 18 seconds) and PM peak (10 minutes and 26 seconds). Southbound travel times are consistent across all periods (under 10 minutes and 31 seconds)
- **Route D (Wheelbarrow Road, between Woodstock Road and Princes Highway):** Eastbound (under 6 minutes and 8 seconds) and westbound (under 5 minutes and 50 seconds) travel times are relatively consistent across AM and PM peaks, with relatively higher travel time during weekend peak (above 6 minutes and 57 seconds eastbound).

In addition to weekday and weekend travel times, holiday peak travel time information was collected for the 28 December 2025 along two routes. Route 1 for the holiday peak period is about 3.5 kilometres longer than Route A for the non-holiday peak period. Route 1 follows the Princes Highway between Lake Conjola Entrance Road and Croobyar Road, and Route A follows the Princes Highway between Fishermans Paradise Road and Croobyar Road. Route 2 in the holiday peak period and Route B in the non-holiday peak period are identical. Table 8-3 shows the average observed travel time for the model holiday peak period, with times reaching about 23 minutes northbound and 17 minutes southbound along the Princes Highway, between Matron Porter Drive and Wheelbarrow Road, during holiday peak times.

Table 8-3: Average observed travel time (minutes:seconds) for the model holiday peak period

Travel route – holiday peak	Direction	Travel time
Route 1 – Princes Highway, between Lake Conjola Entrance Road and Croobyar Road	Northbound	8:39
	Southbound	14:48
Route 2 – Princes Highway, Matron Porter Drive to Wheelbarrow Road	Northbound	23:20
	Southbound	16:52



Project boundary

Milton Ulladulla bypass (the project)

Waterway

Route A

Route B

Route C

Route D

Source: Aurecon, TfNSW, NSW Spatial Services, ESRI

1:95,000 @ A4
0 1 2 km

Projection: GDA2020 MGA Zone 56



Milton Ulladulla bypass EIS

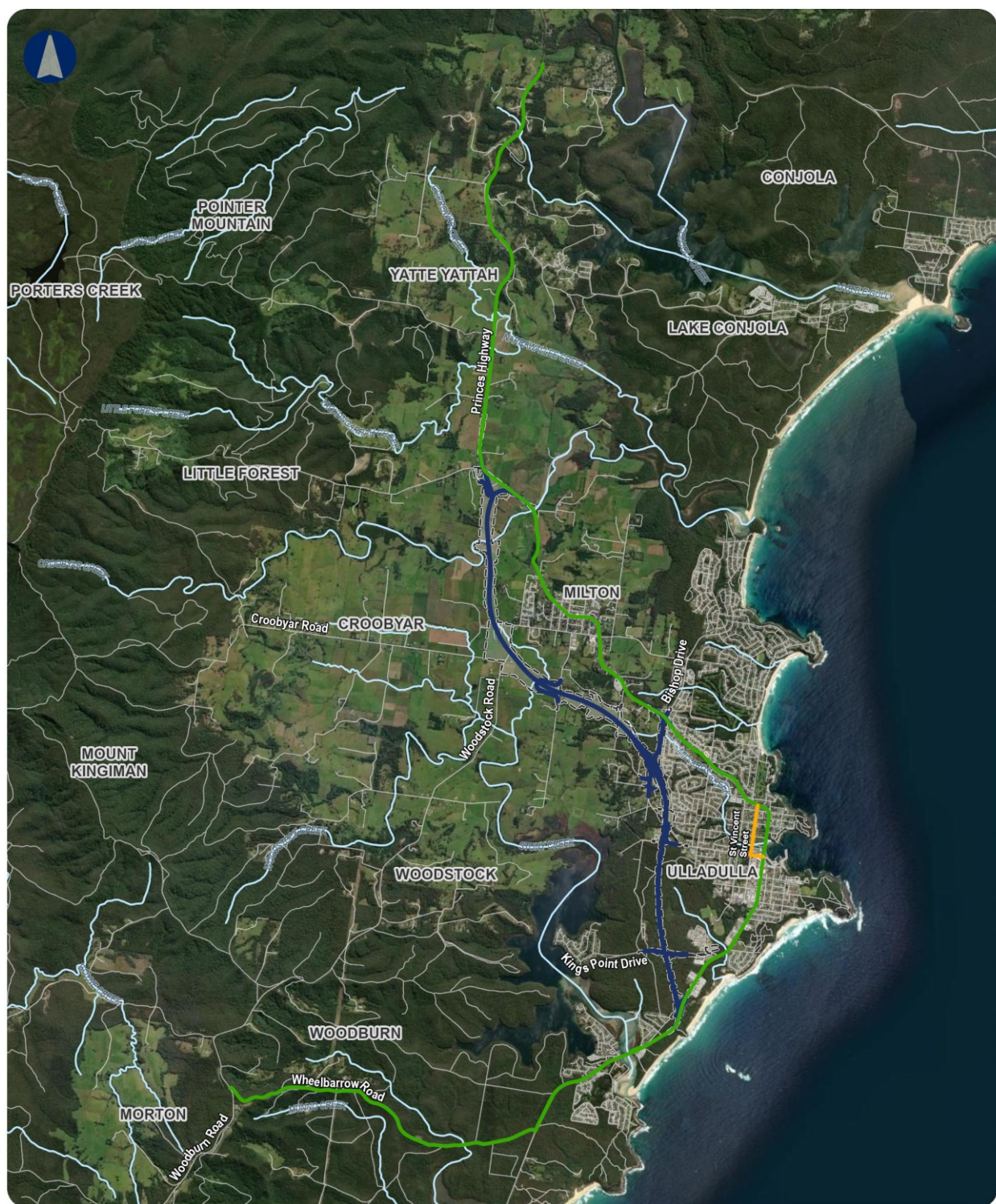
Figure 8-3: Peak travel time routes

Heavy vehicles

The study area is connected to the approved Restricted Access Vehicle networks, supporting 19 metre and 23 metre B-double vehicle movements along Princes Highway, St Vincent Street and sections of Deering Street between the existing Princes Highway and St Vincent Street, as shown in Figure 8-4. These approved routes provide connectivity between Milton, Ulladulla, Burrill Lake and surrounding industrial and logistics areas, with onward access to regional freight routes via the existing Princes Highway, including towards Nowra to the north and Batemans Bay and the NSW South Coast freight corridor to the south.

Heavy vehicle movements within Milton and Ulladulla are generated by both through-traffic and local industrial, commercial and retail activities, and would continue to operate along the existing Princes Highway following project completion. Existing heavy vehicle movements through the town centres are affected by multiple roundabouts and signalised intersections, resulting in slower freight travel times, increased vehicle operating costs and higher fuel consumption. Heavy vehicle traffic is concentrated primarily on the Princes Highway, with some use of local and regional roads associated with industrial and agricultural land uses.

Further information regarding heavy vehicles and their relevance within the study area is provided in Section 4.4 of Technical Report 2: Traffic and Transport Impact Assessment.



Project boundary

Milton Ulladulla bypass (the project)

Waterway

Road network

Approved 19m and 23m B-double

Approved with conditions 19m and 23m B-double

Source: Aurecon, TfNSW, NSW Spatial Services, ESRI

1:95,000 @ A4
0 1 2 km

Projection: GDA2020 MGA Zone 56



Milton Ulladulla bypass EIS

Figure 8-4: Approved heavy vehicle routes

Intersection and network performance

Intersection performance – non holiday period

Intersection performance has been assessed for the 17 key intersections in accordance with the LOS criteria described in Table 8-1. The intersection performance has been assessed for the absolute peak period during the AM, PM and weekend peaks and presented in Table 8-4. The absolute peak period is anticipated to experience the highest hourly traffic volume on the road network, representing the worst traffic conditions. In contrast, non-peak periods are expected to experience reduced traffic volumes and correspondingly better intersection performance.

During AM, PM and weekend peaks, most intersections operate at LOS B or better suggesting satisfactory intersection performance with acceptable delays, except for:

- the Princes Highway / Village Drive intersection which operates at LOS C during PM peaks
- the Princes Highway / South Street intersection which operates at LOS F during all non-holiday peak periods
- the Princes Highway / Ilett Street intersection which operates at LOS C during PM peaks
- the Princes Highway, Balmoral Road and Dolphin Point intersection that operates at LOS C during AM peaks.

The analysis suggests that the through traffic on the Princes Highway operates satisfactorily during AM, PM and weekend peaks, however traffic on local roads may experience some delays in accessing the Princes Highway due to wait times turning onto the Princes Highway.

Refer to Section 4.5.1.1 of Technical Report 2: Traffic and Transport Impact Assessment for further information on intersection performance.

Table 8-4: Key intersection performance within the study area during the non-holiday period

No.	Intersection	Control type	Peak (AM)			Peak (PM)			Weekend peak		
			Volume (veh)	Delay (s)	LOS	Volume	Delay (s)	LOS	Volume	Delay (s)	LOS
1	Princes Highway / Bishop Drive	Priority	1,491	19	B	1,680	26	B	1,411	11	A
2	Princes Highway / Wason Street (Milton)	Traffic signal	1,037	27	B	1,180	19	B	1,126	27	B
3	Princes Highway / Croobyar Road / Matron Porter Drive	Traffic signal	1,604	24	B	1,956	32	C	1,600	18	B
4	Princes Highway / Ilett Street	Priority	1,593	25	B	1,778	40	C	1,471	21	B
5	Princes Highway / Village Drive	Priority	1,543	36	C	1,704	45	D	1,432	16	B
6	Princes Highway / Golf Avenue	Roundabout	1,763	11	A	1,930	9	A	1,967	12	A
7	Princes Highway / St Vincent Street	Roundabout	1,739	11	A	1,874	8	A	1,838	13	A
8	Princes Highway / Green Street	Priority	1,337	15	B	1,558	16	B	1,434	20	B
9	Princes Highway / Wason Street (Ulladulla)	Traffic signal	1,270	13	A	1,451	15	B	1,433	13	A
10	Princes Highway / South Street	Priority	1,395	84	F	1,475	83	F	1,444	136	F
11	Princes Highway / Deering Street	Roundabout	1,672	9	A	1,869	44	D	1,805	12	A
12	Princes Highway / Parson Street	Roundabout	1,617	12	A	1,912	14	A	1,820	7	A
13	Princes Highway / Kings Point Drive	Priority	1,276	19	B	1,378	37	C	1,394	17	B
14	Princes Highway / Canberra Crescent	Priority	1,026	11	A	1,107	10	A	1,181	9	A
15	Princes Highway / Princess Avenue South / McDonald Parade	Roundabout	1,022	12	A	1,100	7	A	1,205	10	A
16	Princes Highway / Balmoral Road / Dolphin Point Road	Roundabout	985	34	C	1,050	11	A	1,103	17	B
17	Princes Highway / Dolphin Point Road / Wallaroy Drive	Roundabout	774	10	A	762	22	B	797	9	A

Intersection performance – holiday period

The most substantial peak periods occur during holiday times (10am to 1pm), reflecting the high demand generated by South Coast tourism in the region and the resulting influx of traffic from the north. Traffic data indicates that the highway is impacted by holiday related travel on most weekends between the October long weekend and ANZAC day, typically experiencing southbound peaks on Fridays and northbound peaks on Sundays. These traffic volumes increase substantially during public holiday long weekends and throughout the spring, summer, and autumn school holidays.

During the initial days of the peak season, southbound holiday traffic continues to build steadily. This southbound demand can be more sudden on shorter holiday weekends such as Easter, on Boxing Day and on public holiday long weekends, while the December and January period generally observes a longer spreading of this southbound traffic. The hourly build up of traffic tends to be constant and often extends into the late afternoon.

The northbound holiday peak shows a sharper hourly build-up in the morning associated with the 10am exit times from most tourist venues, as through traffic leaves the area to return north. This northbound demand builds through the day before reducing in the afternoon. The northbound returning peak is at its most substantial as the holiday peak seasons draw to an end, or on the last day of a long weekend. This peak tends to occur at the end of school holiday periods, after New Years Day and on Easter Monday.

Intersection performance during the holiday peak has been assessed for the 17 key intersections in accordance with the LOS criteria described in Table 8-1. The intersection performance has been assessed for the absolute peak period during the holiday peak and is presented in Table 8-5.

During the holiday peak period, intersection performance along the Princes Highway corridor deteriorates. Most intersections operate at LOS C or worse, indicating increased congestion and delays. The intersections of the existing Princes Highway with Ilett Street, St Vincent Street, South Street and Kings Point Drive operate at LOS F, indicating unsatisfactory performance, with excessive delays for road users.

Through traffic on the existing Princes Highway experiences varying levels of congestion across the study area. While vehicles turning out of side streets onto the Princes Highway or those turning from the Princes Highway into side streets face excessive delays during the holiday peak period.

Table 8-5: Holiday peak intersection performance of key Princes Highway intersections

#	Intersection	Control type	Holiday peak		
			Volume (veh)	Delay (s)	LOS
1	Princes Highway / Bishop Drive	Priority	1,808	11	A
2	Princes Highway / Wason Street (Milton)	Traffic signal	1,457	40	C
3	Princes Highway / Croobyar Road / Matron Porter Drive	Traffic signal	2,119	36	C
4	Princes Highway / Ilett Street	Priority	1,929	158	F
5	Princes Highway / Village Drive	Priority	1,821	39	C
6	Princes Highway / Golf Avenue	Roundabout	2,512	31	C
7	Princes Highway / St Vincent Street	Roundabout	2,416	96	F
8	Princes Highway / Green Street	Priority	1,901	36	C
9	Princes Highway / Wason Street (Ulladulla)	Traffic signal	1,684	23	B
10	Princes Highway / South Street	Priority	1,565	108	F
11	Princes Highway / Deering Street	Roundabout	1,887	15	B
12	Princes Highway / Parson Street	Roundabout	2,242	51	D
13	Princes Highway / Kings Point Drive	Priority	1,786	998	F
14	Princes Highway / Canberra Crescent	Priority	1,645	25	B
15	Princes Highway / Princess Avenue South / McDonald Parade	Roundabout	1,747	20	B

#	Intersection	Control type	Holiday peak		
			Volume (veh)	Delay (s)	LOS
16	Princes Highway / Balmoral Road / Dolphin Point Road	Roundabout	1,744	28	B
17	Princes Highway / Dolphin Point Road / Wallaroy Drive	Roundabout	1,507	29	C

Road safety

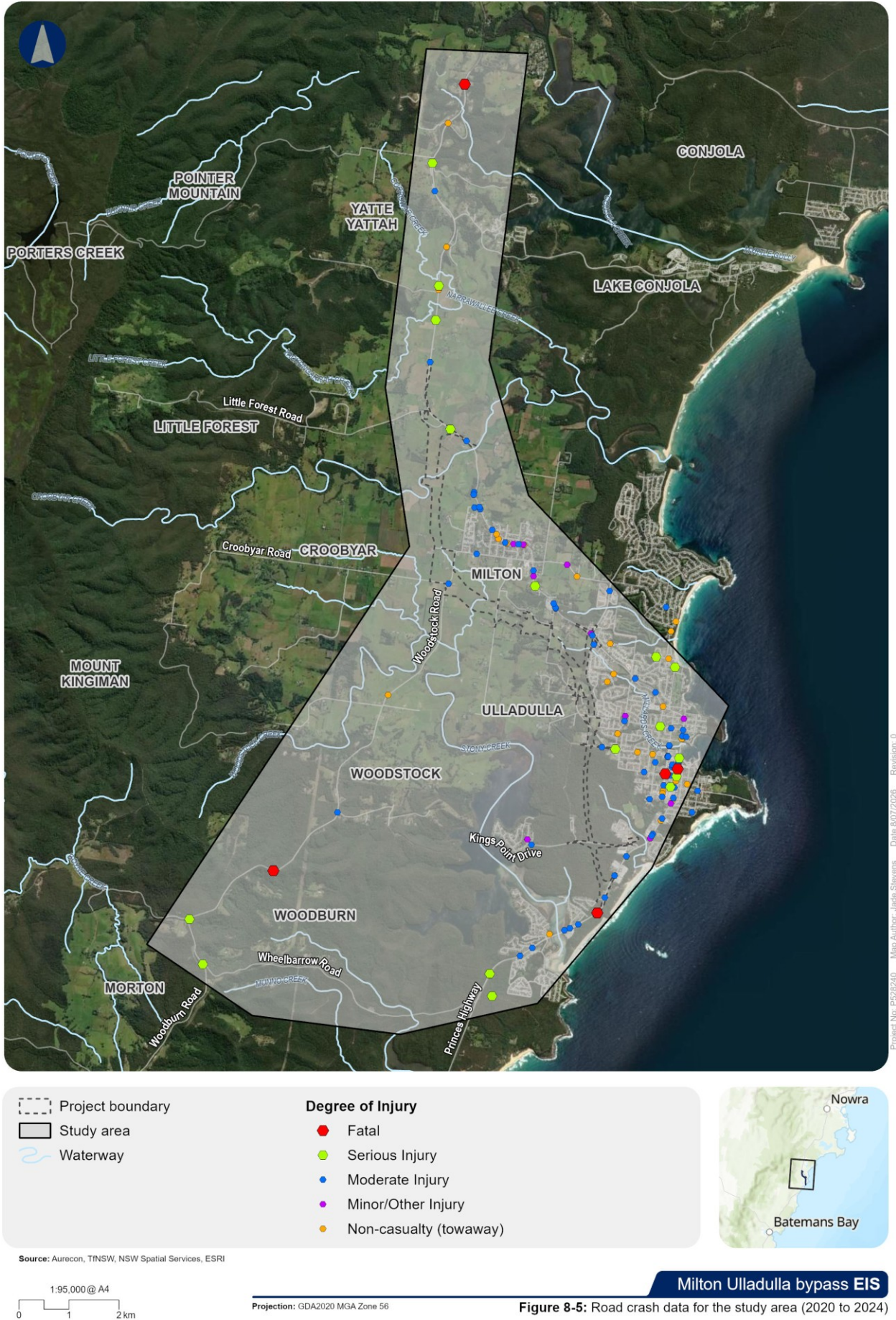
A review of crash data for the study area between 2020 and 2024 identified a total of 144 crashes, including five fatal and 16 serious injury crashes. About 23 per cent of crashes involved heavy vehicles (heavy and light rigid trucks).

The recorded crashes included two fatal crashes in 2020 and one in 2021, 2023 and 2024. Of the five fatal crashes, three occurred on the Princes Highway, one on Woodstock Road and one on St Vincent Street. Of the five crashes, two involved pedestrians, while the remaining three involved only vehicles. There were three crashes involving heavy vehicles; one was a head on collision, one involved a pedestrian nearside impact, and one was unclassified. Of the five fatal crashes, three were during daylight, including the two involving pedestrians, while the remaining two were during dusk and darkness lighting conditions.

Analysis of the crash data indicates that the most common crash type within the study area is classified as crashes involving lane change manoeuvres or vehicles emerging from driveways (37 per cent), followed by off-carriageway crashes into an object (26 per cent). These types of crashes suggest that there could be a misjudgement of horizontal curves on the road alignment and subsequent loss of driver control. Rear-end crashes (13 per cent) and cross-traffic crashes (12 per cent) are commonly associated with turning movements, priority control and interruptions to traffic flow along the existing Princes Highway and connecting local roads. Several moderate and serious injury crashes have occurred at intersections within the Milton and Ulladulla town centres, particularly along the Princes Highway corridor, reflecting the higher safety risk at locations with higher traffic volumes, mixed vehicle types and frequent turning movements.

A summary of crash locations and severity within the study area is presented in Figure 8-5.

Further information regarding crash history and road safety within the study area is provided in Section 4.6 of Technical Report 2: Traffic and Transport Impact Assessment.



Public transport

Bus services

Bus services are the primary mode of public transport in the study area, providing local connections between Milton, Mollymook, Narrawallee, Burrill Lake, Ulladulla, and surrounding localities. Bus routes 100, 740, and 741 operate along sections of the existing Princes Highway.

In addition, 27 dedicated school bus services operate within the study area which provide transport for students attending schools such as Ulladulla High School, Ulladulla Public School, Budawang School, Milton Public School and Nowra Anglican College. A total of 15 school bus services operate during the AM peak and 24 during the PM peak.

Servicing both the public and school buses, there are over 500 bus stops within the study area, with the highest concentration of bus stops in Milton, Ulladulla, Mollymook, and Burrill Lake / Dolphin Point.

Further information regarding public transport within the study area is provided in Section 4.8.2 of Technical Report 2: Traffic and Transport Impact Assessment.

Active transport

Pedestrian infrastructure within the Milton and Ulladulla town centres primarily consists of footpaths, pedestrian island crossings, and signalised intersections located along the existing Princes Highway. Continuous footpaths are provided on both sides of the existing Princes Highway through the main town centres, between Myrtle Street and Church Street in Milton, and between Church Street and Deering Street in Ulladulla. Outside of the town centres, pedestrian infrastructure is limited along the existing highway and key connecting roads such as Croobyar Road, Bishop Drive, Slaughterhouse Road, Green Street and Kings Point Road. Additionally, some sections of the Princes Highway contain discontinuous pedestrian infrastructure, where pedestrians are likely to walk along the road shoulder or verge. The longest continuous shared user path (SUP) within the study area is the off-road path between Ulladulla and Burrill Lake, with the Matron Porter Drive pathway also providing infrastructure for recreational walking.

Cycling infrastructure within the study area is discontinuous and largely informal, with cyclists often required to share the road carriageway with general traffic. Dedicated SUPs are provided along sections of the Princes Highway between Ulladulla and Burrill Lake and within parts of Milton, Mollymook and Ulladulla, while no dedicated on-road cycle lanes are currently provided within the study area.

Cycling activity is common along Matron Porter Drive, Croobyar Road, and Bishop Drive, where moderate traffic volumes and wider road shoulders allow safer cycling conditions. However, sections of the existing Princes Highway and Deering Street lack sufficient shoulder width, limiting their suitability for cyclists, particularly during peak traffic periods.

While the existing network provides basic pedestrian and cycling access within the town centres, there are limited continuous active transport links between Milton and Ulladulla.

Further information regarding active transport within the study area is provided in Section 4.9 of Technical Report 2: Traffic and Transport Impact Assessment.

Parking

On-street parking within the Milton and Ulladulla town centres is generally limited to short-term parking spaces located along the existing Princes Highway and local streets, particularly within commercial and retail precincts. These areas typically include sign posted time-restricted parking bays to support access for visitors, shoppers, and local businesses.

Emergency services and routes

Emergency services

Emergency services that support townships of Milton and Ulladulla and nearby communities within the study area include:

- Milton Ulladulla Hospital, directly accessible from the Princes Highway
- Milton Rural Fire Service Brigade, located on Croobyar Road
- Fire and Rescue NSW, located on Narrawallee Street, west of the Princes Highway
- Ulladulla Police Station, located on North Street, east of the Princes Highway

- Ulladulla Ambulance Station, directly accessible from the Princes Highway, located between South Street and Deering Street.

Emergency egress

The Princes Highway is the primary evacuation route for the Milton and Ulladulla area, particularly during extreme weather events such as bushfires. Areas located east of the Princes Highway, including Mollymook and Mollymook Beach, benefit from a well-connected local road network, offering several access points to the existing Princes Highway.

Further information regarding emergency services and egress routes relevant to the study area is provided in Section 4.10 of Technical Report 2: Traffic and Transport Impact Assessment.

8.2 Avoidance and minimisation of impacts

The project design has undergone development and refinement to minimise the impacts on traffic and transport to the road network within the study area. The preferred option for the project was selected with consideration of key environmental constraints, including traffic and transport.

Throughout the planning phase of the project, reliance on imported fill has been minimised where practicable by considering the reuse of fill material from the project. Re-using fill on site reduces construction impacts on the road network by reducing the number of heavy vehicle movements along the road network from project related deliveries and haulage from construction ancillary facilities.

Notably, haulage movements during construction have been planned along the project alignment where practicable. These haulage movements would only be viable after the early construction period has passed. During early construction, the existing Princes Highway and local roads would still need to be used. However, the long-term benefits of using haulage routes along the project alignment for most of the construction would reduce longer term network disruption due to construction vehicle movements. Indicative haulage routes are shown in Section 5.3 of Chapter 5 (Project description).

Operational traffic modelling was undertaken to optimise the layout for the upgraded intersection at Princes Highway /Bishop Drive to ensure it accommodates the introduction of the new Bishop Drive extension, while providing the best traffic performance without materially reducing the performance of the Princes Highway at this location.

Further discussion of options development is provided in Sections 4.4 and 4.5 of Chapter 4 (Selection of the preferred project).

8.3 Assessment of potential impacts

8.3.1 Construction

Construction of the project is expected to commence in 2028 and take about three to four years, subject to planning approval and weather. Further details of the construction of the project, including construction activities and work hours, are provided in Section 5.3.14 of Chapter 5 (Project description).

The majority of the project would be constructed on a new alignment, with interactions with the existing Princes Highway limited to designated tie-in locations. As such, staged construction and temporary modifications to the road network are likely to be required to facilitate the safe and efficient delivery of construction work. Staged construction is expected at the following key tie-in locations:

- northern connection (including Little Forest Road) - construction activities likely extending over 18 to 24 months
- central connection (including Princes Highway and Bishop Drive extension) - construction activities likely extending over 12 to 18 months
- southern connection (including Canberra Crescent) - construction activities likely extending over 12 to 18 months.

Construction related traffic would use the surrounding public road network to:

- haul materials from quarries to work site areas
- provide access for the delivery of construction materials and the removal of waste
- provide access for the workforce to the various locations along the construction footprint, particularly to the construction ancillary facilities.

Impacts on the road network

Construction traffic

Construction of the project would generate additional traffic associated with the delivery and removal of materials and equipment, workforce movements and haulage activities, which would generally be scheduled within standard construction work hours (7am to 6pm). Some deliveries including those involving oversize plant and equipment, pavement tie-in works at the existing Princes Highway, temporary changes to road network for traffic management works and finishing works may be scheduled outside of standard construction work hours, including during the night. For the purposes of this assessment, it is assumed that construction traffic would use the same routes during and outside standard working hours.

Due to the potential impacts on the existing road network through the towns of Milton and Ulladulla, a temporary haul road would likely be constructed within the project boundary, including requiring temporary waterway crossings across Croobyar Creek, Pettys Creek and Millards Creeks. Once the temporary haul road is built, construction traffic through Milton and Ulladulla would be minimised as most haulage and construction vehicle movements would occur along the project corridor.

Prior to the construction of the temporary haul road, the use of public roads would be required to access construction areas, which may result in a temporary increase in traffic volumes, potential delays, and an increased risk of interactions between light and heavy vehicles. A preliminary constructability assessment identified what roads on the existing road network would be required to gain access to either the work site or construction ancillary facilities. Where feasible, construction access routes were selected to provide the most direct route to the project, while minimising interactions with local roads and property access points. Refer to Section 5.3.1 of Chapter 5 (Project Description) for figures showing identified haulage routes.

Any potential impacts from the use of haulage routes during construction would be managed in accordance with a Construction Traffic Management Plan (CTMP) which would consider mass haul and earthwork movements to mitigate anticipated traffic impacts. Traffic volumes on the existing road network during this time is shown in Table 8-6). Increases in traffic volumes on the existing road network as a result of additional construction traffic is considered minor (contributing only six per cent or less to overall volumes) and is not expected to result in noticeable changes to travel times or levels of service during non-holiday periods as traffic volumes on local and collector roads would remain within their respective capacity thresholds.

Further information regarding construction traffic impacts is provided in Section 5.5 of Technical Report 2: Traffic and Transport Impact Assessment.

Table 8-6: Construction traffic estimates

Road	Use for construction*	Peak daily construction traffic			2025 daily volumes	Total with construction traffic
		Light vehicles	Heavy vehicles	Total		
Princes Highway north of Little Forest Road	Construction route	430	220	650	11,640	12,290
Princes Highway south of Little Forest Road	Construction route	150	80	230	12,090	12,320
Little Forest Road	Construction route	30	20	50	560	610
Croobyar Road (north of Croobyar road and Woodstock Road intersection)	Construction access	310	160	470	1,440	1,910
Woodstock Road (south of Croobyar road and Woodstock Road intersection)	Construction access	50	30	80	880	960
Wilfords Lane (at the intersection with Croobyar Road)	Construction access	120	60	180	1,180	1,360
Wilfords Lane (at bypass)	Construction access	120	60	180	200	380
Princes Highway north of Slaughterhouse Road	Construction route	320	170	490	16,530	17,020

Road	Use for construction*	Peak daily construction traffic			2025 daily volumes	Total with construction traffic
		Light vehicles	Heavy vehicles	Total		
Prices Highway south of Slaughterhouse Road	Construction route	170	130	300	16,120	16,420
Slaughterhouse Road north of Windward Way	Construction access	240	120	360	850	1,210
Windward Way	Construction access	240	120	360	140	500
Pirrrelea Road	Construction route	220	110	330	520	850
Tetley Place	Construction access	220	110	330	100	430
Tuckerman Road	Construction route	30	20	50	100	150
White Gum Road	Construction access	170	90	260	100	360
Green Street	Construction route	170	90	260	4,220	4,480
Village Drive	Construction route	110	60	170	4,070	4,240
North Street	Construction route	100	50	150	1,410	1,560
Princes Highway North of Green Street	Construction route	110	60	170	16,830	17,000
Princes Highway south of Green Street	Construction route	170	90	260	16,310	16,570
Kings Point Drive/ Princes Highway	Construction route	100	30	130	3,760	3,890
Princes Highway north of Kings Point Drive	Construction route	200	30	230	13,000	13,230
Princes Highway south of Canberra Crescent	Construction route	220	110	330	12,760	13,090

* "Construction access" refers to roads that facilitate entry to and exit from construction ancillary facilities, while "Construction route" are identified pathways for haulage of construction materials and enabling workforce movement during construction.

Construction ancillary facilities and site access

Construction ancillary facilities would generate additional light and heavy vehicle movements associated with workforce access, delivery of materials, equipment and specialised construction vehicles. Table 8-7 summarises the indicative daily number of these vehicles accessing each construction ancillary facility during the peak construction period. These vehicle movements would interact with the existing road network at designated access and egress points, resulting in increased traffic activity near the facilities.

Access to construction ancillary facilities would be carefully planned and managed to minimise the project's reliance on constrained local roads. Detailed access arrangements would be developed and refined during detailed design to allow construction vehicles to enter and exit safely and efficiently, reducing delays to public road traffic and minimising interactions with pedestrians and cyclists. Most construction ancillary facilities are located away from areas of high pedestrian activity, further limiting potential safety impacts.

Table 8-7: Indicative daily construction vehicle numbers accessing construction ancillary facilities

Construction ancillary facilities	Estimated light vehicles	Estimated heavy vehicles
Northern connection construction ancillary facility	120	60
Croobyar Road construction ancillary facility	60	30
Woodstock Road construction ancillary facility	60	30
Wilfords Lane construction ancillary facility	60	30

Construction ancillary facilities	Estimated light vehicles	Estimated heavy vehicles
Windward Way construction ancillary facility	120	60
Central connection construction ancillary facility	120	60
White Gum Road construction ancillary facility	60	30
Kings Point Drive construction ancillary facility	50	25
Southern connection construction ancillary facility	100	50

Temporary changes to road network

While the majority of existing roads would remain open during construction, temporary changes to traffic control measures and minor modifications to existing roads would be required, including the temporary closure of Bishop Drive between Princes Highway and Combe Drive. This would result in the following short-term traffic impacts:

- Temporary speed limit reductions along sections of the Princes Highway near construction access points may result in slightly longer travel times
- Installation of temporary traffic barriers and staged reconfiguration of intersections at Bishop Drive and Canberra Crescent may create narrower traffic lanes and restrict turning movements
- Detours, lane realignments, lane closures at key tie-ins, partial closure of Canberra Crescent and full closure of Bishop Drive (between the Princes Highway and Combe Drive) may redistribute traffic onto alternative routes
- Construction haulage and workforce movements prior to completion of the temporary haul road may increase traffic on local roads, with potential delays and increased risk of interactions between light and heavy vehicles
- Temporary traffic control measures and minor changes at local road interfaces (including Croobyar Road, Wilfords Lane, Green Street, Kings Point Drive and roads near the central connection interchange) may result in short-term, localised delays. Changes may include changes in road alignments, closures of turning lanes, local road closures and/or diversions including one way- sets ups, and changes to active transport infrastructure such as footpath closure or relocation or shoulder closures
- Public transport users may experience temporary changes, including relocated bus stops near Bishop Drive and Canberra Crescent, potentially increasing walking distances
- Construction works undertaken outside standard hours that require traffic control or lane closures may affect evening or night-time traffic flow; however, traffic volumes during these periods are generally low
- A temporary increase in road safety risk may occur as road users adapt to changing traffic conditions and staged road layouts during construction.

Overall, road network impacts during construction are expected to be temporary and localised, with the existing LOS largely maintained. Construction of the project at local road interfaces is expected to last about six to 12 months sporadically across the three to four years construction duration while work on the central connection would likely extend over 24 to 30 months. Impacts would be minimised through the implementation of traffic management measures in accordance with *Traffic Control at Work Sites Technical Manual Version 6.1* (Transport, 2026), maintenance of traffic lane capacity where practicable, temporary speed reductions, clear signage and line marking, and scheduling of major deliveries outside peak traffic periods (refer to Section 8.5).

Alternative traffic arrangements would be established for any impacts on local roads. The addition of construction traffic on the Princes Highway would contribute about six per cent or less to existing daily traffic volumes during non-holiday periods. This increase is considered a low level of impact and is unlikely to cause any noticeable changes to travel times or the level of service on the Princes Highway during non-holiday periods. Any increase in heavy vehicle traffic would be temporary and is not expected to substantially affect freight operations, with construction vehicles diverted to the proposed bypass once operational to avoid travel through the town centres. During holiday periods there would be an increase in traffic volumes on the road network, particularly on the Princes Highway. The staging details and timing of construction works would be finalised during the detailed design phase, and where possible, works on the existing Princes Highway would be avoided during peak holiday periods.

Impacts on road safety

Construction of the project has the potential to impact road safety if adequate controls are not implemented. Potential road safety impacts during construction would be managed through the development and implementation of a CTMP in accordance with Transport's *Traffic Control at Work Sites Technical Manual* (refer to Section 8.5).

Impacts on public transport

Bus services operating within the study area would generally continue during construction, with pedestrian access to bus stops maintained. However, bus users may experience temporary impacts, including:

- minor delays due to traffic management measures such as reduced speed limits, construction vehicle movements and deliveries near work sites
- temporary relocation of some bus stops near construction areas, resulting in slightly longer walking distances for passengers. The impacted bus stops include:
 - Princes Highway opposite Bishop Drive, Ulladulla (Stop ID 2539113) – southbound
 - Princes Highway before Bishop Drive (Stop ID 2539114) – northbound
 - Princes Highway at Princess Avenue, Burrill Lake (Stop ID 2539149) – northbound
 - Princes Highway opposite Canberra Crescent, Burrill Lake (Stop ID 2539144) – southbound

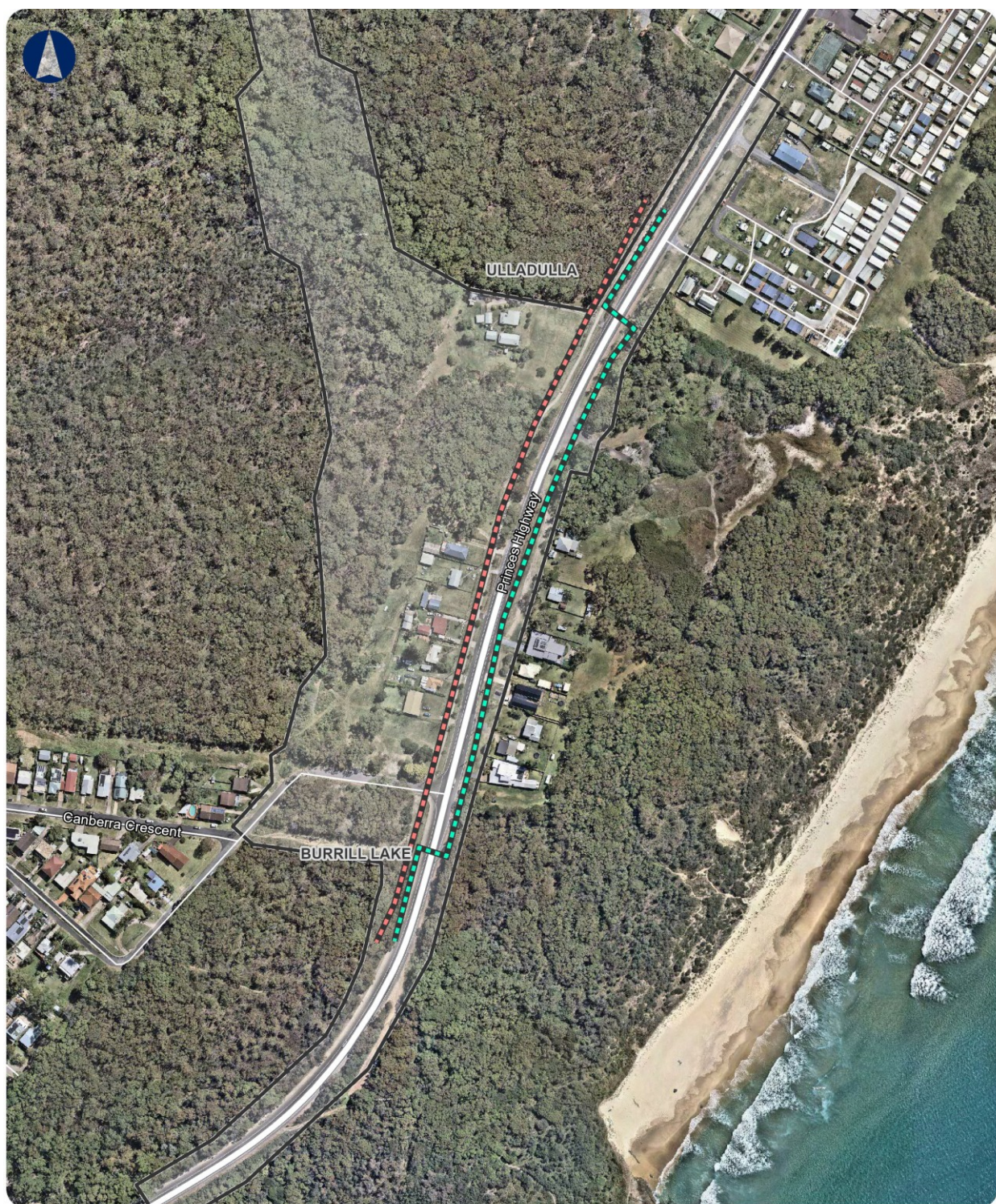
Construction works would permanently truncate Slaughterhouse Road and temporarily close a section of Bishop Drive during construction of the central connection. This would require the reconfiguration of five bus routes along Slaughterhouse Road and seven bus routes along Bishop Drive, resulting in increased travel times for affected services. The construction contractor, in consultation with Transport for NSW, would liaise with Buslines Group and Ulladulla Buslines prior to and during construction to manage route and bus stop changes and minimise disruption to bus operations and users (refer to mitigation measures in Section 8.5). Refer to Section 5.6 of Technical Report 2: Traffic and transport impact assessment for further detail on public transport impacts.

Impacts on active transport

Given that the project would be largely constructed on a new alignment, most construction activities are not expected to directly interact with existing pedestrian and cyclist infrastructure. As such, impacts to cyclists and pedestrians along the Princes Highway and the broader road network are anticipated to be minimal for the majority of the construction period.

Localised impacts may occur at the southern connection near Canberra Crescent, where construction works would temporarily disrupt access along the existing shared user path on the western side of the Princes Highway. In this location, temporary detours would be implemented where feasible for the duration of construction activities, which likely extends over 12 to 18 months, with alternative routes clearly signposted to maintain safe pedestrian and cyclist access as shown in Figure 8-6. Where required, traffic controllers may be deployed to manage interactions between construction vehicles and pedestrians and cyclists.

Other localised impacts may occur where pedestrians and cyclists currently use informal paths, such as road shoulders or verges, along roads including Kings Point Drive, Green Street and Wilfords Lane. Appropriate management measures would be implemented at these locations to maintain safety. All detours and access changes would be temporary and would be communicated to the community in advance. The timing of these changes would be finalised during the detailed design phase and would be implemented for the duration of construction activities, which likely extends over 12 to 18 months.



-  Project boundary
-  Detour route
-  Existing route

Source: Aurecon, TfNSW, NSW Spatial Services, ESRI

1:4,000 @ A4
0 75 150 m

Projection: GDA2020 MGA Zone 56



Milton Ulladulla bypass EIS

Figure 8-6: Proposed active transport connection during construction

Impacts on property access and emergency vehicles

Access to properties for residents, businesses and emergency services would be maintained throughout construction. In some cases, short-term access restrictions may be required to facilitate construction works. Affected residents, businesses and relevant authorities would be consulted in advance by the construction contractor (refer to Section 8.5). Where access is temporarily restricted, alternative safe and efficient access or detours may be provided, which may require travelling slightly longer distances. New temporary access arrangements would be in place prior to construction commencing.

Near key tie-ins of the project at Little Forest Road, Bishop Drive and Canberra Crescent, informal parking for emergencies or vehicle breakdown may be available on the shoulders of the Princes Highway, if space permits. Where construction works affect road shoulders near key tie-in locations, alternative arrangements would be implemented where feasible to support emergency response and incident management.

Impacts on parking

During construction, impacts to existing on-street parking are expected to be minimal, as the bypass is being constructed offline from the existing road network and most on-street parking areas are located beyond the project boundary.

Construction ancillary facilities would be designed to provide sufficient parking for the construction workforce, heavy vehicles and equipment, minimising impacts on the surrounding road network and public amenity. However, there would be instances where plant and vehicles are parked at active work areas throughout other areas of the project.

Further information regarding parking impacts during construction is provided in Section 5.11 of Technical Report 2: Traffic and Transport Impact Assessment.

8.3.2 Operation

Impacts on road network

Traffic volumes on the bypass

Forecast average daily traffic volumes for the bypass for 2031, 2041 and 2051 show that the bypass would carry increasing traffic over time, reflecting the redistribution of traffic demand from the existing Princes Highway to the bypass during operation.

The forecasts indicate that the northern section of the project is expected to carry higher traffic volumes than the southern section, consistent with existing north to south travel patterns along the existing Princes Highway, until 2051 when volumes would be equal in both directions. The proportion of heavy vehicles using the bypass is forecast to remain relatively stable over time, while overall traffic volumes are expected to increase gradually, at around 1.5 per cent per annum at the northern connection and around one per cent per annum at the southern connection.

Traffic volumes on the existing road network

Future traffic demand has been modelled with the project in operation. The forecast daily traffic volumes for the 'Without project' and 'With project' scenarios in 2031, 2041 and 2051 are presented in Table 8-8.

Table 8-8: Forecast daily traffic volume (two-way) on road network

Location		2031			2041			2051		
Road name	Section	Without project	With project	Change	Without project	With project	Change	Without project	With project	Change
Princes Highway (existing)	North of Milton	13,100	4,600	-8,500	15,100	6,000	-9,100	15,700	6,900	-8,800
Bypass	Northern section	-	9,900	+9,900	-	11,800	11,800	-	13,200	+13,200
Bishop Drive Extension	South of Bishop Drive to central connection	-	12,100	+12,100	-	12,700	+12,700	-	12,900	+12,900
Princes Highway (existing)	South of Bishop Drive	18,800	15,900	-2,900	20,900	17,800	-3,100	22,100	19,500	-2,600
Bishop Drive	North of Princes Highway (existing)	4,400	3,800	-600	5,500	4,700	-800	7,100	6,000	-1,100
Princes Highway (existing)	North of Bishop Drive	16,600	12,200	-4,400	17,900	13,400	-4,500	18,600	15,100	-3,500
Green Street	Connection under bypass	2,500	6,500	+4,000	3,200	7,600	+4,400	4,000	9,200	+5,200
Bypass	Southern section	-	11,800	+11,800	-	12,400	+12,400	-	13,200	+13,200
Princes Highway (existing)	North of the southern connection	12,100	9,800	-2,300	13,700	11,500	-2,200	15,600	13,400	-2,200
Princes Highway (existing)	South of Canberra Crescent	12,000	14,700	+2,700	13,700	16,600	+2,900	15,400	18,400	+3,000

The operation of the project is expected to result in redistribution of north to south traffic from the existing Princes Highway to the bypass. Additionally, traffic volumes on key local roads including Croobyar Road and Wheelbarrow Road are forecasted to decrease as improved conditions on the bypass reduce the need for drivers to divert through local streets. The changes to traffic volumes include:

- the project is expected to decrease traffic volumes on the existing Princes Highway north of Milton by about 65 per cent in 2031, 60 per cent in 2041 and 56 per cent in 2051
- traffic volume would decrease on the existing Princes Highway for the section north of Bishop Drive by about 27 per cent in 2031, 26 per cent in 2041 and 19 per cent in 2051
- traffic volume would decrease on the existing Princes Highway for the section south of Bishop Drive by about 15 per cent in 2031 and 2041 and 12 per cent in 2051
- traffic volumes on Croobyar Road between Corks Lane and Woodstock Road would decrease by about 56 per cent in 2031, 49 per cent in 2041 and 39 per cent in 2051
- the project would reduce traffic on the existing Princes Highway approaching Ulladulla from the south by about 19 per cent in 2031, 17 per cent in 2041 and 14 per cent in 2051.

The project is also expected to reduce traffic diversion onto local roads such as Wheelbarrow Road and Woodstock Road, which currently carry increasing volumes of traffic to bypass congestion in Ulladulla. Without the project, traffic volumes and times on this diversion is forecast to worsen over time, placing additional pressure on local streets in Milton and Ulladulla. The bypass would mitigate this trend by restoring through-traffic to the state road network, reducing congestion and improving traffic conditions within the town centres.

Capacity

Under the 'Without project' scenario, elevated levels of congestion would occur along the existing Princes Highway and within the Milton and Ulladulla town centre road networks.

Under the 'With project' scenario, traffic is redistributed to the bypass, resulting in reduced congestion across the network, particularly on local roads and within the town centres. During all peak periods, the 'With project' scenario demonstrates lower overall congestion levels compared to the 'Without project' case. While some localised congestion remains at the Princes Highway / Bishop Drive intersection, the diversion of through-traffic to the bypass leads to a net improvement in network performance and traffic conditions along the existing Princes Highway and surrounding town centre streets.

Impacts on intersection performance

Intersection performance has been assessed for 22 key intersections of the project (including 17 existing intersections and five new intersections on the bypass, refer to Figure 8-7) during operation in accordance with the LOS criteria described in Section 8.1.1. The intersection performance has been assessed for the absolute peak period during AM, PM and weekend periods. The assessment also compares the 'With project' scenario intersection performance against the 'Base Case' and the 'Without project' scenarios.

Table 8-9, Table 8-10 and Table 8-11 shows the intersection performance summary for the AM, PM and weekend peak periods, respectively.

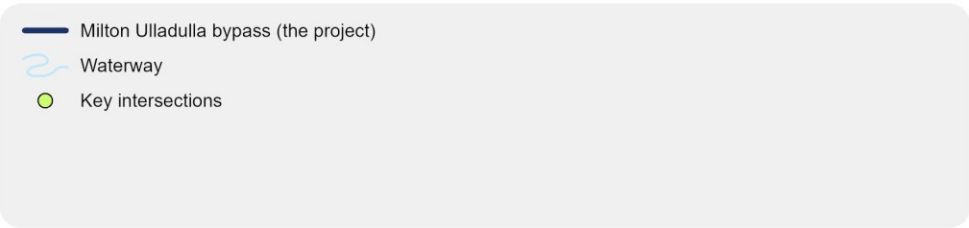
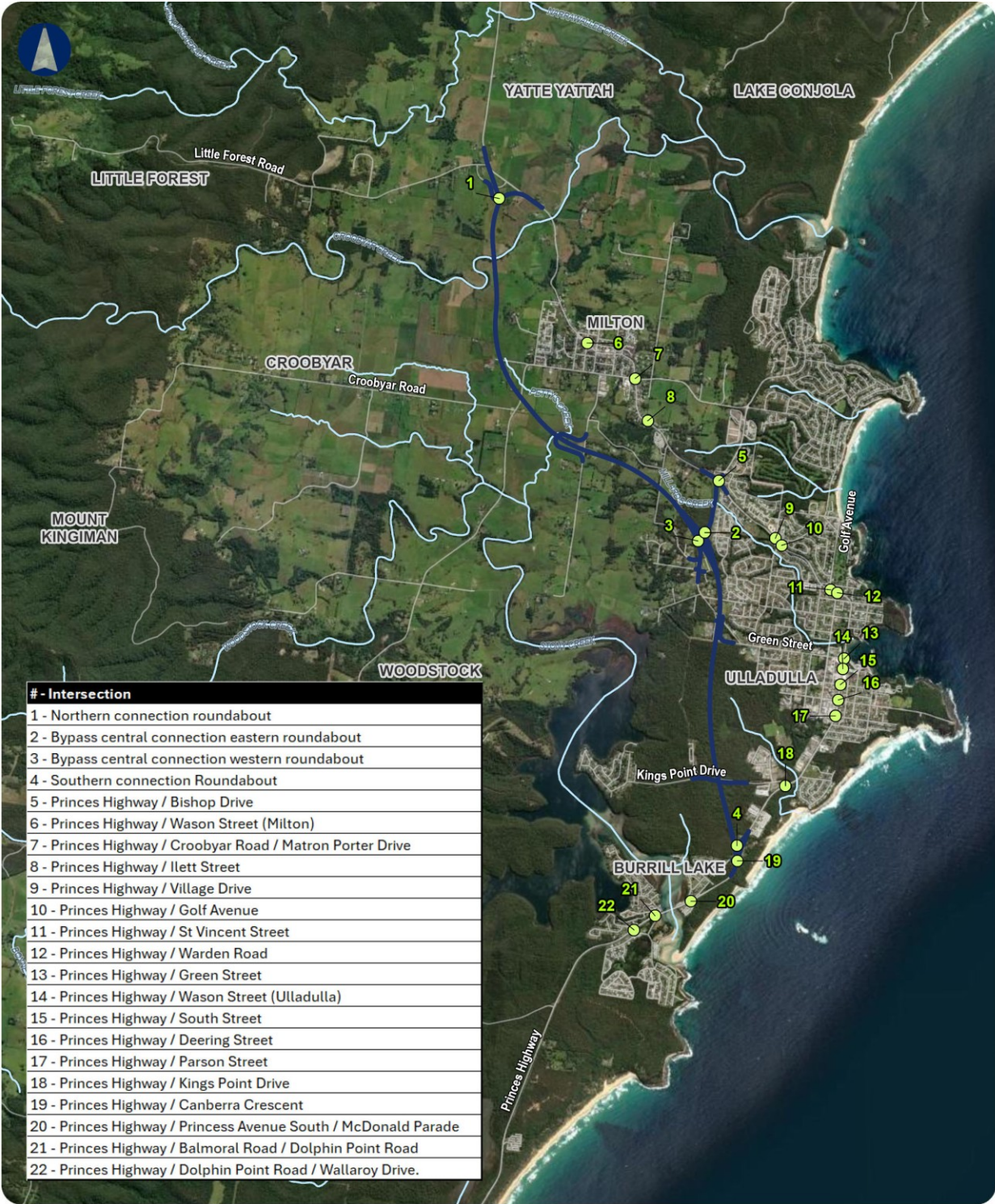
Across the AM, PM and weekend peak periods, the assessment indicates that most intersections along the existing Princes Highway through Milton and Ulladulla perform better under the 'With project' scenario compared to the 'Without project' scenario across all modelled years. This improvement is primarily driven by the redistribution of through-traffic from the existing Princes Highway to the bypass, resulting in reduced traffic volumes, delays and congestion at town centre intersections.

However, an exception to this overall trend is the Princes Highway / Bishop Drive intersection. Under the 'Without project' scenario, the intersection would continue to operate as a three-leg, priority-controlled seagull intersection and is forecast to maintain satisfactory performance across all peak periods and modelled years. Under the 'With project' scenario, the intersection would be upgraded to a four-leg signalised intersection with an additional southern approach. The connection of the bypass with the existing Princes Highway at this intersection (between Milton and Ulladulla) would allow bypass traffic to access the Princes Highway outside the town centres, providing direct routes from the bypass to Milton, Narrawallee, Mollymook and northern Ulladulla, while facilitating smooth travel along the highway and optimising local connectivity.

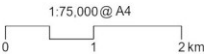
The upgraded configuration would result in an increase in traffic on northern and southern approaches, and an increase in traffic turning right from eastern and western approaches (Princes Highway) to access the bypass and Bishop Drive. The signalised intersection would prioritise the movement with higher traffic volumes, leading to delay on approaches with lower volume.

Further, the assessment includes the operation of signalised pedestrian and cyclist facilities at the intersection, which would also contribute to vehicular traffic delays. This outcome reflects the optimal result for the 'With project' scenario and should not be directly compared to 'Without project' scenarios, as the levels of traffic distribution and intersection function remain comparatively low without the project. In contrast, the 'With project' scenario demonstrates enhanced intersection role and traffic distribution characteristics.

Further detailed intersection performance results during the AM, PM and weekend peak periods are provided in Section 6.3 of Technical Report 2: Traffic and Transport Impact Assessment.



Source: Aurecon, TINSW, NSW Spatial Services, ESRI



Projection: GDA2020 MGA Zone 56

Milton Ulladulla bypass EIS
Figure 8-7: Key intersection locations

Table 8-9: Intersection performance summary – AM peak (8.30am-9.30am)

Intersection	Control type	Level of service						
		2025 Base	2031 Without project	2031 With project	2041 Without project	2041 With project	2051 Without project	2051 With project
Northern connection roundabout	Roundabout	-	-	B	-	B	-	B
Bypass central connection eastern roundabout	Roundabout	-	-	A	-	B	-	B
Bypass central connection western roundabout	Roundabout	-	-	B	-	B	-	C
Southern connection roundabout	Roundabout	-	-	A	-	A	-	B
Princes Highway / Bishop Drive	Priority / Traffic signal	B	B	C	C	C	C	D
Princes Highway / Wason Street (Milton)	Traffic signal	B	B	B	C	B	C	B
Princes Highway / Croobay Road / Matron Porter Drive	Traffic signal	B	C	B	F	B	F	C
Princes Highway / Warden Road	Roundabout	-	A	A	B	A	B	A
Princes Highway / Ilett Street	Priority	B	E	C	F	C	F	F
Princes Highway / Village Drive	Priority	C	F	A	F	C	F	C
Princes Highway / Golf Avenue	Roundabout	A	A	A	A	A	A	A
Princes Highway / St Vincent Street	Traffic signal	A	A	A	B	A	A	A
Princes Highway / Green Street	Priority	B	B	A	C	A	C	B
Princes Highway / Wason Street (Ulladulla)	Traffic signal	A	B	B	B	B	E	B
Princes Highway / South Street	Priority	F	B	A	C	A	C	A
Princes Highway / Deering Street	Roundabout	A	B	A	B	A	A	A
Princes Highway / Parson Street	Roundabout	A	A	A	B	A	A	A
Princes Highway / Kings Point Drive	Priority	B	C	B	D	B	F	C
Princes Highway / Canberra Crescent	Priority	A	A	B	B	B	B	A
Princes Highway / Princess Avenue South / McDonald Parade	Roundabout	A	A	B	B	B	B	B
Princes Highway / Balmoral Road / Dolphin Point Road	Roundabout	C	B	B	C	B	C	C
Princes Highway / Dolphin Point Road / Wallaroy Drive	Roundabout	A	A	A	A	A	A	A

Table 8-10: Intersection performance summary – PM peak (3.00pm-4.00pm)

Intersection	Control type	Level of service						
		2025 Base	2031 Without project	2031 With project	2041 Without project	2041 With project	2051 Without project	2051 With project
Northern connection roundabout	Roundabout	-	-	B	-	B	-	B
Bypass central connection eastern roundabout	Roundabout	-	-	A	-	A	-	A
Bypass central connection western roundabout	Roundabout	-	-	B	-	B	-	B
Southern connection roundabout	Roundabout	-	-	A	-	A	-	A
Princes Highway / Bishop Drive	Priority / Traffic signal	B	A	C	A	C	B	C
Princes Highway / Wason Street (Milton)	Traffic signal	B	B	A	D	A	F	B
Princes Highway / Croobay Road / Matron Porter Drive	Traffic signal	C	F	B	F	D	F	F
Princes Highway / Warden Road	Roundabout	-	A	A	C	A	D	A
Princes Highway / Ilett Street	Priority	C	E	C	D	E	F	F
Princes Highway / Village Drive	Priority	D	F	C	F	E	F	F
Princes Highway / Golf Avenue	Roundabout	A	A	A	A	A	A	A
Princes Highway / St Vincent Street	Traffic signal	A	A	A	A	A	A	A
Princes Highway / Green Street	Priority	B	E	D	F	D	F	E
Princes Highway / Wason Street (Ulladulla)	Traffic signal	B	C	B	D	B	D	B
Princes Highway / South Street	Priority	F	B	A	C	A	D	A
Princes Highway / Deering Street	Roundabout	D	B	A	B	E	C	B
Princes Highway / Parson Street	Roundabout	A	A	A	B	E	C	A
Princes Highway / Kings Point Drive	Priority	C	B	B	C	B	D	C
Princes Highway / Canberra Crescent	Priority	A	A	A	A	A	A	A
Princes Highway / Princess Avenue South / McDonald Parade	Roundabout	A	A	B	A	A	A	B
Princes Highway / Balmoral Road / Dolphin Point Road	Roundabout	A	A	A	A	A	A	A
Princes Highway / Dolphin Point Road / Wallaroy Drive	Roundabout	B	A	B	A	B	B	B

Table 8-11: Intersection performance summary – Weekend peak (11.30am-12.30pm)

Intersection	Control type	Level of service						
		2025 Base	2031 Without project	2031 With project	2041 Without project	2041 With project	2051 Without project	2051 With project
Northern connection roundabout	Roundabout	-	-	A	-	B	-	B
Bypass central connection eastern roundabout	Roundabout	-	-	A	-	A	-	A
Bypass central connection western roundabout	Roundabout	-	-	A	-	B	-	B
Southern connection roundabout	Roundabout	-	-	A	-	A	-	A
Princes Highway / Bishop Drive	Priority / Traffic signal	A	B	C	B	C	C	D
Princes Highway / Wason Street (Milton)	Traffic signal	B	E	B	F	B	F	B
Princes Highway / Croobay Road / Matron Porter Drive	Traffic signal	B	D	C	D	C	D	C
Princes Highway / Warden Road	Roundabout	-	B	A	A	A	A	A
Princes Highway / Ilett Street	Priority	B	D	D	F	D	F	E
Princes Highway / Village Drive	Priority	B	F	F	F	F	F	F
Princes Highway / Golf Avenue	Roundabout	A	A	A	A	A	D	B
Princes Highway / St Vincent Street	Traffic signal	A	A	A	A	A	B	A
Princes Highway / Green Street	Priority	B	C	C	D	C	E	D
Princes Highway / Wason Street (Ulladulla)	Traffic signal	A	B	B	C	B	E	B
Princes Highway / South Street	Priority	F	B	B	B	B	E	B
Princes Highway / Deering Street	Roundabout	A	A	A	B	A	D	A
Princes Highway / Parson Street	Roundabout	A	A	A	A	A	D	A
Princes Highway / Kings Point Drive	Priority	B	B	B	C	B	C	C
Princes Highway / Canberra Crescent	Priority	A	A	A	A	A	A	A
Princes Highway / Princess Avenue South / McDonald Parade	Roundabout	A	A	A	A	A	A	A
Princes Highway / Balmoral Road / Dolphin Point Road	Roundabout	B	B	B	A	B	A	B
Princes Highway / Dolphin Point Road / Wallaroy Drive	Roundabout	A	A	A	A	A	A	A

Intersection performance – holiday peak

During the holiday peak period, analysis of the holiday peak indicates that most intersections along the existing Princes Highway through Milton and Ulladulla perform substantially better under the 'With project' scenario compared to the 'Without project' scenario across all modelled years. Under the 'Without project' scenario, most intersections are anticipated to experience substantial delays, operating at LOS D or worse by 2031. By 2041, the majority of these intersections are expected to function at LOS F, indicating that the road network would be nearing its capacity and approaching gridlock.

The assessment indicates that without the project, the 2051 projected holiday peak traffic volumes would exceed the capacity of the road network. This would create a compounding bottleneck where queues from downstream intersections backed up and blocked adjacent intersections, resulting in a system-wide gridlock. This indicates that the 2051 projected holiday peak traffic volumes cannot be accommodated on the road network without the project, or without an alternative strategy to manage demand.

The overall improvement in the 'With project' scenario is primarily driven by the additional road network capacity and the redistribution of through-traffic from the existing Princes Highway to the bypass. This redistribution results in reduced traffic volumes and congestion passing through the existing town centre intersections. The improved road network would be able to accommodate holiday peak demand through to 2051, with most intersections operating at LOS D or better, except for the existing Princes Highway intersections with Balmoral Road and Dolphin Point Road. Notably, the newly constructed central and southern bypass connections would perform at a satisfactory LOS C or better across all modelled years.

Table 8-12 shows the intersection performance summary for the holiday peak period.

Further detailed intersection performance analysis during the holiday peak period is provided in Section 6.6 of Technical Report 2: Traffic and Transport Impact Assessment.

Table 8-12: Intersection performance summary – Holiday peak (10.45am-11.45am)

Intersection	Control type	Level of service					
		2025 base	2031 Without project	2031 With project	2041 Without project	2041 With project	2051 With project
Northern connection roundabout	Roundabout	-	-	D	-	F	E
Bypass central connection eastern roundabout	Roundabout	-	-	A	-	A	B
Bypass central connection western roundabout	Roundabout	-	-	B	-	B	B
Southern connection roundabout	Roundabout	-	-	B	-	B	C
Princes Highway / Bishop Drive	Priority / Traffic signal	A	B	C	F	C	D
Princes Highway / Wason Street (Milton)	Traffic signal	C	D	B	D	B	B
Princes Highway / Croobay Road / Matron Porter Drive	Traffic signal	C	F	B	F	C	C
Princes Highway / Warden Road	Roundabout	-	A	B	F	A	A
Princes Highway / Ilett Street	Priority	F	F	D	F	F	F
Princes Highway / Village Drive	Priority	C	F	B	F	B	D
Princes Highway / Golf Avenue	Roundabout	C	D	B	F	C	F
Princes Highway / St Vincent Street	Traffic signal	F	B	B	F	C	F
Princes Highway / Green Street	Priority	C	C	B	F	A	B
Princes Highway / Wason Street (Ulladulla)	Traffic signal	B	C	B	D	B	B
Princes Highway / South Street	Priority	F	C	A	F	A	B
Princes Highway / Deering Street	Roundabout	B	B	A	F	A	B
Princes Highway / Parson Street	Roundabout	D	C	A	F	A	A
Princes Highway / Kings Point Drive	Priority	F	F	A	F	B	B
Princes Highway / Canberra Crescent	Priority	B	F	B	F	B	C
Princes Highway / Princess Avenue South / McDonald Parade	Roundabout	B	F	D	F	F	F
Princes Highway / Balmoral Road / Dolphin Point Road	Roundabout	B	F	F	F	F	F
Princes Highway / Dolphin Point Road / Wallaroy Drive	Roundabout	C	F	C	F	F	F

Impacts on travel time

Travel time – non-holiday peak

The Princes Highway is a key transport and freight corridor linking Milton and Ulladulla with other regional centres in the Illawarra–Shoalhaven region and providing wider connections to New South Wales and Victoria. The project would introduce a faster alternative route for through-traffic not destined for Milton or Ulladulla, resulting in substantial travel time savings for these movements.

Travel time performance for future year scenarios has been assessed for two representative route corridors, as shown in Figure 8-8:

- **Route A**, which follows the existing Princes Highway from the Lake Conjola Entrance Road intersection, through the Milton and Ulladulla town centres, to the Princes Highway / Wheelbarrow Road intersection,
- **Route B**, which follows the bypass between the same northern and southern control points.

Travel times for Routes A and B under the 'With project' scenario were compared with travel times along Route A under the 'Without project' and base scenarios for the AM, PM and weekend peak periods in the years 2031, 2041 and 2051.



- Milton Ulladulla bypass (the project)
- Project boundary
- Route A - via Princes Highway
- Route B - via Bypass
- Waterway

Source: Aurecon, TfNSW, NSW Spatial Services, ESRI

1:95,000 @ A4
0 1 2 km

Projection: GDA2020 MGA Zone 56



Milton Ulladulla bypass EIS

Figure 8-8: Travel time routes during project operation

Peak travel time analysis

Travel time analysis indicates that operation of the project would deliver substantial and increasing travel time savings for through traffic travelling northbound and southbound between the Princes Highway / Lake Conjola Entrance Road intersection and the Princes Highway / Wheelbarrow Road intersection. These savings are primarily attributable to the bypass providing a faster and more reliable north-south route, reducing through-traffic volumes on the existing Princes Highway through the Milton and Ulladulla town centres. This analysis is further detailed below for AM, PM and weekend peak travel times.

Peak (AM)

Across all assessment years, Route B (the bypass) is forecast to deliver consistent AM peak travel time improvement compared to the 'Without project' scenario. Minor travel time increases may occur along Route A in future years under the 'With project' scenario due to the introduction of signalised control at the Bishop Drive intersection. However, these increases are negligible over the full route length and are offset by improved traffic redistribution and overall network performance.

Expected travel time for vehicles passing through the study area in the northbound and southbound directions along Route A and Route B for all modelled scenarios during the AM peak are presented in Table 8-13.

Table 8-13: Predicted travel time (minutes:seconds) - AM peak

Peak (AM) 8:30 – 9:30										
Direction	2025	2031			2041			2051		
	Route A	Route A		Route B	Route A		Route B	Route A		Route B
	Base	Without project	With project	With project	Without project	With project	With project	Without project	With project	With project
Northbound	21:06	22:21	22:49	14:04	23:58	23:03	14:16	27:06	23:21	14:20
Southbound	21:22	22:45	20:48	14:24	25:59	21:00	14:32	28:05	21:27	14:35

Peak (PM)

The results indicate that without the project, congestion on the existing Princes Highway (Route A) would continue to worsen with increasing traffic demand. In contrast, the stable PM peak travel times on Route B demonstrate that the project would accommodate future traffic growth while maintaining reliable network performance and delivering long-term travel time savings for through-traffic.

Expected travel time for vehicles passing through the study area in the northbound and southbound directions along Route A and Route B for all modelled scenarios during the PM peak are presented in Table 8-14.

Table 8-14: Predicted travel time (minutes:seconds) - PM peak

Peak (PM) 15:00 – 16:00										
Direction	2025	2031			2041			2051		
	Route A	Route A		Route B	Route A		Route B	Route A		Route B
	Base	Without project	With project	With project	Without project	With project	With project	Without project	With project	With project
Northbound	21:31	23:18	22:48	14:03	28:48	24:21	14:12	38:54	24:46	14:17
Southbound	21:49	21:55	20:50	14:03	25:14	21:31	14:07	38:54	23:33	14:14

Weekend peak

The results indicate that without the project, weekend peak congestion on the existing Princes Highway would continue to worsen with increasing traffic demand, particularly in the southbound direction. In contrast, the stable weekend peak travel times on the bypass demonstrate that the project would accommodate future growth while maintaining reliable network performance and delivering ongoing travel time savings.

Expected travel time for vehicles passing through the study area in the northbound and southbound directions along Route A and Route B for all modelled scenarios during the weekend peak are presented in Table 8-15.

The 2041 'Without project' scenario shows higher southbound delays than the 2051 'Without project' scenario because by 2051, congestion levels are expected to cause more vehicles to divert onto local roads. Consequently, the 2051 'With project' southbound travel time saving appears lower, however, in reality, the bypass travel times are expected to remain comparable in both 2041 and 2051.

Table 8-15: Predicted travel time (minutes:seconds) - weekend peak

Peak (Weekend) 11:30 – 12:30										
Direction	2025	2031			2041			2051		
	Route A	Route A		Route B	Route A		Route B	Route A		Route B
	Base	Without project	With project	With project	Without project	With project	With project	Without project	With project	With project
Northbound	20:52	21:07	22:12	13:42	22:21	22:42	13:54	25:09	23:08	13:58
Southbound	21:02	24:53	21:05	13:54	48:05	21:45	13:55	40:53	21:57	13:59

Travel time – holiday peak

Holiday peak travel time analysis indicates that, without the project, the substantial delays that occur during holiday peak periods would continue to worsen. The operation of the project would, in contrast, result in a substantial travel time saving for vehicles travelling through the study area in both the northbound and southbound direction between the intersection of the Princes Highway and Lake Conjola Entrance Road and the intersection of the Princes Highway and Wheelbarrow Road

The expected travel time for vehicles passing through the study area in the northbound and southbound directions along Route A and Route B for all modelled scenarios during holiday peak is presented in Table 8-16.

Table 8-16: Predicted travel time (hours:minutes:seconds) - holiday peak

Peak (Holiday) 10:45 – 11:45										
Direction	2025	2031			2041			2051		
	Route A	Route A		Route B	Route A		Route B	Route A		Route B
	Base	Without project	With project	With project	Without project	With project	With project	Without project	With project	With project
Northbound	0:32:10	1:02:35	0:24:18	0:14:33	1:17:30	0:30:22	0:19:36	-	0:41:52	0:28:50
Southbound	0:34:38	0:53:42	0:22:33	0:14:29	1:43:45	0:24:37	0:15:49	-	0:30:18	0:16:47

Table 8-17 shows the approximate travel time savings as a result of the project in both the northbound and southbound directions between the intersection of the Princes Highway and Lake Conjola Entrance Road and the intersection of the Princes Highway and Wheelbarrow Road.

Table 8-17: Approximate travel time saving – bypass (between Wheelbarrow Road and Lake Conjola Entrance Road)

Peak period	Northbound	Southbound
Weekday AM peak	2031 ~ 8 minutes 2041 ~ 10 minutes 2051 ~ 13 minutes	2031 ~ 9 minutes 2041 ~ 11 minutes 2051 ~ 14 minutes
Weekday PM peak	2031 ~ 9 minutes 2041 ~ 15 minutes 2051 ~ 25 minutes	2031 ~ 8 minutes 2041 ~ 11 minutes 2051 ~ 25 minutes
Weekend peak	2031 ~ 7 minutes 2041 ~ 8 minutes 2051 ~ 11 minutes	2031 ~ 11 minutes 2041 ~ 34 minutes 2051 ~ 27 minutes
Holiday Peak	2031 ~ 48 minutes 2041 ~ 58 minutes	2031 ~ 39 minutes 2041 ~ 1 hour 28 minutes

Further information regarding network performance throughout all peak periods during operation is provided in Section 6.4 of Technical Report 2: Traffic and Transport Impact Assessment.

Impacts on road safety

As discussed in Section 8.1.3, crash data for the study area indicates that intersection related conflict points, congested traffic environments, and road departure risks are key contributors to both crash frequency and severity. The project is expected to deliver the following safety benefits, which would address these existing risks:

- The bypass is expected to divert through-traffic away from the existing Princes Highway, thereby reducing traffic demand, potential for stop-start conditions along the existing Princes Highway and cross traffic conflicts at the intersections.
- Revised pedestrian and cyclist crossing arrangements at the Bishop Drive / Princes Highway intersection, including the provision of signalised pedestrian crossings and improved shared user path connections, are expected to improve the level of safety for pedestrians by providing controlled crossing opportunities and reducing the potential for conflicts with road traffic. At this location, historical crash data indicates that there have been two crashes involving vehicle to vehicle crash (rear-end and through-right). A signalised intersection would improve safety for vehicles by providing dedicated phases for turning movements compared to the existing priority-controlled intersection.
- Historical crash data indicates 23 per cent of all crashes involved heavy vehicles. Once operational, the bypass would serve as a B-Double approved corridor, providing a fast alternative freight route between Milton and Ulladulla. This is expected to reduce the heavy vehicle traffic travelling through the town centres, as freight traffic without destinations in Milton or Ulladulla would benefit from faster and uninterrupted travel. This is anticipated to reduce interactions between heavy vehicles, local traffic, and vulnerable road users along the existing Princes Highway, particularly at intersections and access points where crash activity has historically occurred.
- Provision of an indented bus bay stop off the Princes Highway for relocated bus stop facilities at Bishop Drive would not only improve the safety of bus service users but would also reduce the likelihood of rear-end type crashes with buses and improve the safety of bus service users.

Impacts on freight

During operation, the bypass would be designated as a B-Double approved route and would provide an alternate high-speed freight connection route around Milton and Ulladulla. This would reduce heavy vehicle traffic through the Milton and Ulladulla town centres by diverting through-freight traffic not destined for these areas to the bypass, which would provide faster and uninterrupted travel while accommodating future freight demand. As a result, heavy vehicle volumes on the existing Princes Highway are expected to reduce by 780 heavy vehicles in 2031, 940 in 2041, and 1,050 in 2051 from the existing Princes Highway between the northern connection and central connection. Between Canberra Crescent and Bishop Drive, the bypass would reduce traffic on the Princes Highway by up to 640 heavy vehicles in 2031, 700 in 2041, and 720 in 2051.

Overall, the project is expected to improve travel times and reliability for all vehicle classes, including freight. These improvements are expected to lower vehicle operating costs for freight movements through the study area.

Impacts on public transport

During operation, the project would impact several existing bus stops near the Princes Highway / Bishop Drive intersection (as shown in Figure 8-9) and the southern connection roundabout (as shown in Figure 8-10).

The existing bus stops at Princes Highway / Bishop Drive intersection do not currently provide passenger amenities such as shelters, seating, signage, or pavement markings. The relocated bus stops as part of the project would be directly serviced by the proposed signalised pedestrian crossing and shared path infrastructure, improving pedestrian accessibility from the surrounding residential areas.

Similarly, the existing bus stops at the southern connection do not currently provide passenger amenities. These bus stops would be relocated south of the bypass to maintain continuity of bus services along the existing Princes Highway and to avoid operational constraints associated with the southern connection roundabout.

Additionally, the truncation of Slaughterhouse Road would require the realignment of two existing school bus routes, which are the Frog bus and the Horse bus. These routes would be rerouted via the Bishop Drive extension, crossing the bypass and reconnecting to Pirralea Road and Green Street, consistent with the current bus routing. Further consultation with Ulladulla Buslines would be undertaken to finalise bus route arrangements.

Bus services operating along the Princes Highway would also benefit from improved travel times associated with the project, as discussed above. Design refinements, including the relocation of the Bishop Drive bus stop to the departure side of the intersection, would further support safe and efficient bus operations.



- B Proposed bus stops
- B Existing bus stop

Source: Aurecon, TfNSW, NSW Spatial Services, ESRI

1:796 @ A4
0 10 20 m

Projection: GDA2020 MGA Zone 56



Milton Ulladulla bypass EIS

Figure 8-9: Existing and proposed bus stop locations at the Bishop Drive/Princes Highway intersection



B Existing bus stop

Source: Aurecon, TfNSW, NSW Spatial Services, ESRI

1:1,500 @ A4
0 10 20 m

Projection: GDA2020 MGA Zone 56



Milton Ulladulla bypass EIS

Figure 8-10: Existing bus stop locations at the southern location

Impacts on active transport

The project would include a new SUP along the southern side of the Bishop Drive extension, delivering a new continuous east to west active transport connection across the study area. The SUP would extend from Pirrarea Road (north of Tetley Place), cross the bypass via the central connection, cross the Princes Highway and tie into the existing footpath network near Combe Drive beyond the signalised intersection in the north, as shown in Figure 8-11. This SUP would establish a new continuous off-road pedestrian and cyclist route from Bishop Drive to Pirrarea Road, provide a direct connection between the eastern villages such as Mollymook and Narrawallee with local business in the west and provide a signalised pedestrian crossing at the Bishop Drive / Princes Highway intersection.

At the southern connection near Canberra Crescent, the project would relocate the existing SUP from the western side of the Princes Highway to the eastern side, consolidating pedestrian and cyclist movements and improving operation safety. A grade-separated shared user path underpass is proposed, allowing pedestrians and cyclists to cross the high-speed traffic corridor safely. The revised alignment is expected to be marginally less direct for some movements but would result in improved safety and overall continuity of paths for active transport users while reducing conflict with vehicular traffic.

In addition to the new Bishop Drive extension SUP and southern connection SUP alterations, the project provides a range of SUP improvements that enhance east to west connectivity and integration with existing and planned active transport networks, these include:

- **Kings Point Drive (southern side):** A new SUP would maintain the existing local east–west connectivity and access to the broader network.
- **Green Street underpass:** SUPs linking through the underpass to development land, with an intersecting stub toward Cashman Road to facilitate future Council-shared path connections.

SUPs are not provided along the bypass corridor, however, a three metre wide shoulder to kerb face would be provided to accommodate on-road cyclists. Additionally, the bypass bridge over Croobay Road has been designed with sufficient width to allow a future SUP to be accommodated beneath the bridge on the western side of Croobay Road, supporting long-term expansion of the active transport network. Further information about SUPs is presented in Section 5.2.8 of Chapter 5 (Project description).

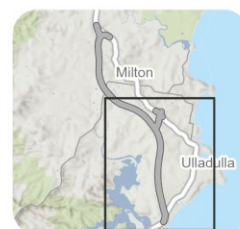


- Milton Ulladulla bypass (the project)
- Project boundary
- Roads
- Proposed shared user path

Source: Aurecon, TfNSW, NSW Spatial Services, ESRI

1:30,000 @ A4
0 250 500 m

Projection: GDA2020 MGA Zone 56



Milton Ulladulla bypass EIS

Figure 8-11: Proposed shared user paths and active transport connections

Impacts on parking

During operation, the project is not likely to result in any impacts on on-street parking, with existing parking arrangements along the existing Princes Highway through Milton and Ulladulla to be maintained. Parking would not be permitted on the bypass.

Impacts on emergency services

The project would provide an alternative north to south route operating to a higher operational standard than the existing Princes Highway through the town centres. By redistributing through-traffic, including heavy vehicles, away from urban sections of the Princes Highway, the project is expected to reduce congestion and improve travel time reliability on local roads within the town centres. This would allow emergency vehicles, including ambulances, fire trucks and police vehicles, to move more efficiently during peak periods and critical incidents. Refer to Section 5.2.6 of Chapter 5 (Project description) for further information about emergency service and restricted vehicle access.

Dedicated emergency services accesses to the bypass would be provided near the Milton Rural Fire Service Brigade and on Green Street near the waste facility. These would enable direct use of the bypass and substantially reduce emergency response times. The designated breaks in the median on the Princes Highway would facilitate U-turns and access to opposite sides of the highway for emergency vehicles.

Between Milton and Ulladulla, Slaughterhouse Road and White Gum Road would be converted to no-through roads. Emergency access and egress for localities located between the existing Princes Highway and the bypass would remain unchanged via the Princes Highway. Localities west of the project would benefit from direct connectivity to the bypass via entry and exit ramps at the central connection during both normal and emergency conditions. An underpass would be provided at Kings Point Drive, maintaining existing access between Kings Point and the Princes Highway. Overall, the project would provide fast and reliable egress to the communities west of the existing Princes Highway.

8.4 Uncertainties

The traffic and transport assessment has been undertaken in line with guidelines and there are no key associated uncertainties.

8.5 Mitigation measures

Table 8-18 Provides a summary of the mitigation measures and environmental safeguards that are recommended for the project based on this assessment of potential traffic and transport impacts.

Table 8-18: Mitigation measures – traffic and transport

Ref	Impact/ uncertainty	Mitigation measure	Timing
TT01	Traffic and transport	A Construction Traffic Management Plan (CTMP) will be prepared as part of the Construction Environmental Management Plant (CEMP). The CTMP will be prepared in accordance with the latest Transport for NSW <i>Traffic Control at Work Sites Manual</i>. The CTMP will include: - confirmation of haulage routes including timing of availability - measures to maintain access to local roads, properties and emergency services, including consultation with relevant stakeholders before starting any work that may temporarily restrict or control access - traffic guidance scheme outlining site-specific traffic control measures (including signage) to guide road users through changed conditions and vehicle movement plans to manage and regulate construction traffic movement - measures to maintain pedestrian and cyclist access	Pre-construction, construction

Ref	Impact/ uncertainty	Mitigation measure	Timing
		- requirements and methods to consult and inform the local community and other affected stakeholders of construction impacts on the local road network and property access - requirements to consult with the relevant bus operator/s about temporary changes to bus stops within the study area and any associated bus services to identify alternate arrangements - requirements to consult with emergency services prior to and during construction regarding any access arrangement changes, diversions during construction and other operational road network changes - access to construction sites including entry and exit locations, including for Oversize Overmass vehicles, and measures to prevent construction vehicles queuing on public roads - a response plan for any construction traffic incident - consideration of other developments that may be under construction to minimise traffic conflict and congestion that may occur due to the cumulative increase in construction vehicle traffic - monitoring, review and amendment mechanisms - Traffic Guidance Schemes updated as the works progress.	
TT02	Damage to local roads	A road condition report will be prepared by a suitably qualified engineer. This report will document the condition of all local roads proposed to be used during the construction period, before the commencement of construction. Any damage to the local road network identified during construction or at the completion of work, which is caused by construction vehicles, would be rectified by the contractor to its existing condition or alternatively by providing compensation to the relevant road authority.	Pre-construction, construction
TT03	Traffic management measures	Any temporary traffic diversions, clearways and road closures will be implemented in accordance with Transport Management Centre (TMC) and Road Occupancy Licenses (ROLs) requirements.	Construction