SPEED MANAGEMENT STRATEGY

SURF COAST SHIRE

ANGLESEA
AIREYS INLET
FAIRHAVEN
MOGGS CREEK



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2. BACKGROUND

Ensuring the safety of vulnerable and unprotected road users is one of the five focus areas in Surf Coast Shire's Road Safety Strategy 2022-2027. Recognising this need, in November 2024, Surf Coast Shire Council was allocated funding through the Regional Speed Package for Barwon South West to review, identify and implement speed zone changes in the coastal townships of Anglesea, Aireys Inlet, Fairhaven and Moggs Creek to support safer pedestrian, cyclist and motorcycle access through the towns. It was recommended that consideration be given to implementing speed zone areas of 40km/h or possibly 30km/h in areas where there is limited pedestrian/cyclist separation from traffic within these townships.

This report will discuss the application of a Road-for-Life framework to identify the suitable speed limit in these areas and propose prioritised actions. The structure of the report is as follows (Figure 1).

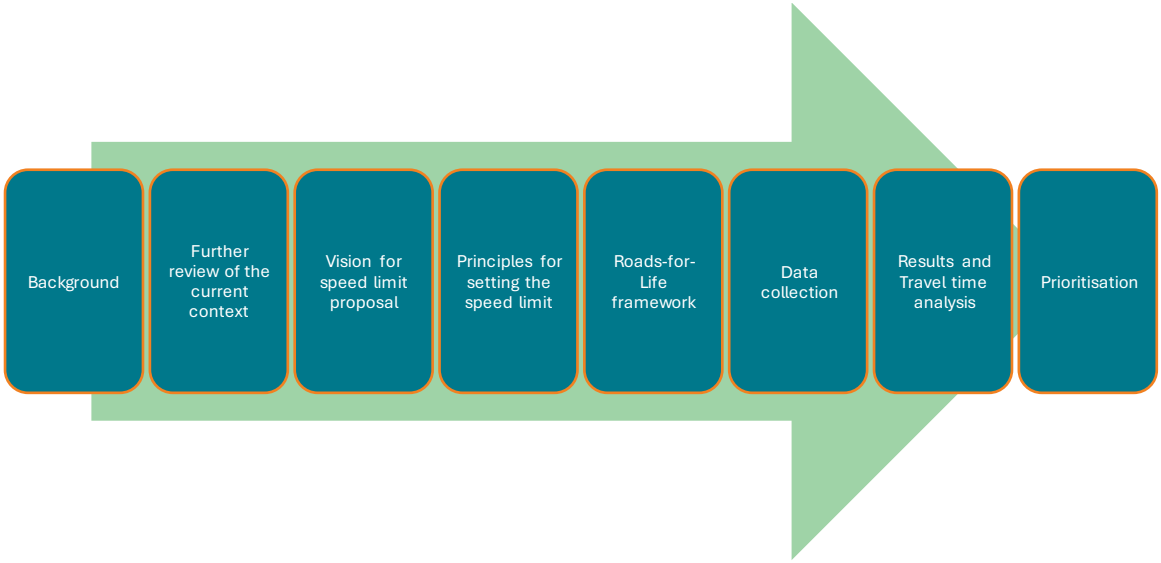


Figure 1: Report's structure

Firstly, a 'Background' section establishes the strategic drivers, network overview, and study areas, followed by a 'Further review of the current context', which examines safety performance and the network's movement and place functions. Next, the 'Vision for speed limit proposal' section articulates the objectives and desired outcomes for setting safe speed limits in these townships. The principles for setting a safe speed limit are presented in the next section. Then, the 'Roads-for-Life framework' section introduces the applied methodology to identify safe speed across the network. The 'Results and Travel time analysis' section summarises the key findings, based on applying the 'Roads-for-Life framework' to the collected data in the 'Data collection' section. Finally, a 'Prioritisation' is suggested, setting out the implementation pathway.

Some background information on the targeted areas is presented in the sections below.

1.1. ANGLESEA TOWNSHIP

Anglesea is a small coastal township on the Great Ocean Road and a popular destination for domestic and international tourists. It is the first beachside town encountered along the Great Ocean Road. The town's population increases threefold during the peak season, with day-trip visitation being double that of overnight visitors. With 740,000 day visitors and 475,000 overnight visitors, the Anglesea-Lorne area is a key tourist destination. There is limited pedestrian infrastructure in Anglesea, as most roads were originally constructed with limited or no pathway infrastructure provided. The town is divided by the Anglesea River; key destinations – such as the shopping village, sports and recreation clubs, school, etc. – are located on the east side of the river, while the majority of the town's population and housing is found on the west side. It is also home to two popular beaches on the southern side of the Great Ocean Road that attract large numbers of tourists.

The town is an attractive destination for both on-road and off-road cyclists, with popular mountain biking trails located north of the Great Ocean Road (GOR). It also has an enthusiastic resident cycling culture and attracts touring motorcyclists and trail bicycle riders accessing trails behind Anglesea. The majority of the township is subject to an existing 50 km/h urban default speed limit, with existing footpaths available primarily on the collector roads (namely Camp Road, Noble Street [from GOR to Golf Links Rd] and McMillan Street [from GOR to Murray Street]). In addition, gravel footpaths are located along the foreshore and riverfront.



The mix of active transport, seasonal visitors and vulnerable road users – combined with unsuitable infrastructure – has triggered a project to reduce speed limits within the township broadly.

This project includes considering the implementation of suitable 40 km/h or 30 km/h area-wide speed zones, subject to a review of the network. The urban network in Anglesea consists of a mix of sealed and unsealed roads.

For the purposes of this review, the township has been divided into three key areas. A suitable speed limit will be introduced across individual areas or separate zones for each area. However, it is noted that some road sections, particularly local collector roads, may have a different speed limit to maintain their movement function.

The three areas in Anglesea for review as detailed below (Figure 2):

- Roadknight Beach precinct (located southeast of Great Ocean Road and west of the Anglesea River) – existing urban default 50 km/h
- Anglesea West residential precinct (located north of Great Ocean Road and west of the Anglesea
- River) – existing urban default 50 km/h
- Anglesea East residential precinct (local streets located east of the Anglesea River) – existing urban default 50 km/h

Anglesea's major local collector roads, namely:

- Camp Road – existing urban default 50 km/h
- Noble Street – existing urban default 50 km/h
- O'Donohue Road – existing urban default 50 km/h
- McMillan Street (from Great Ocean Road to Noble Street) – existing urban default 50 km/h
- Murray Street (from Great Ocean Road to Noble Street) - existing urban default 50km/h



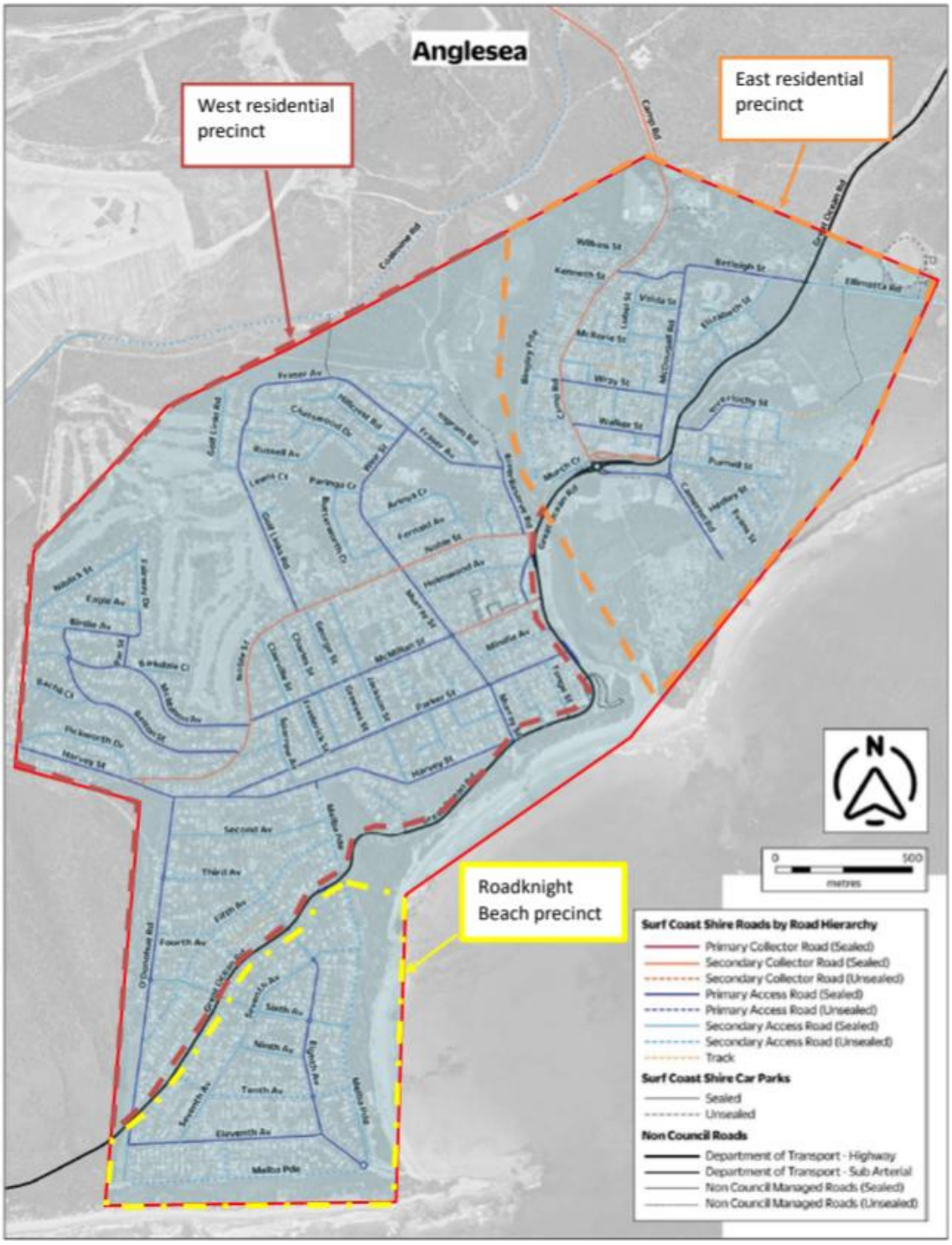


Figure 2: Anglesea's study areas

1.2. AIREYS INLET TOWNSHIP

Aireys Inlet is a small coastal township on the Great Ocean Road and a popular destination for domestic and international tourists. It is the second beachside town encountered along the Great Ocean Road. Pedestrian infrastructure in Aireys Inlet is limited, as the local roads were originally constructed with little or no pathway provision. The town is divided by the Great Ocean Road, with key destinations – such as the shopping precinct, cliff walks, community centre, sports facilities, school, etc. – located on the east side. The area west of the Great Ocean Road is primarily residential. Aireys Inlet is home to three popular beaches and a lighthouse, all of which attract tourists.

The town is also an attractive destination for both on-road and off-road cyclists. It draws touring motorcyclists and trail bicycle riders who access trails behind the township. Most of the area is subject to an existing 50 km/h urban default speed limit, with footpaths provided only along the Great Ocean Road. In addition, gravel footpaths are available along the foreshore and riverfront. The urban network in Aireys Inlet comprises a mix of sealed and unsealed roads.

During the peak season, the town's population increases dramatically, with significant day-trip visitation. The combination of active transport, seasonal visitors and vulnerable road users – coupled with unsuitable infrastructure – has prompted a project to reduce speed limits within the township broadly. This project includes the consideration of implementing suitable speed limits across the network, including 40 km/h or 30 km/h area-wide speed zones.

For the purposes of this review, the township has been divided into three key areas as follows (Figure 3):

- Lighthouse Beach precinct (located east of Great Ocean Road and southwest of Lighthouse Road) - existing 40 km/h area with a shared 10 km/h zone on Federal Street
- Aireys Inlet West residential precinct (located west of Great Ocean Road) – existing urban default 50 km/h
- Aireys Inlet East residential precinct (local streets located east of Great Ocean Road) – existing urban default 50 km/h

Aireys Inlet local collector roads, namely:

  - Bambra Road – existing 50 km/h, 60 km/h and 100 km/h
  - Lighthouse Road – existing 40 km/h area speed zone

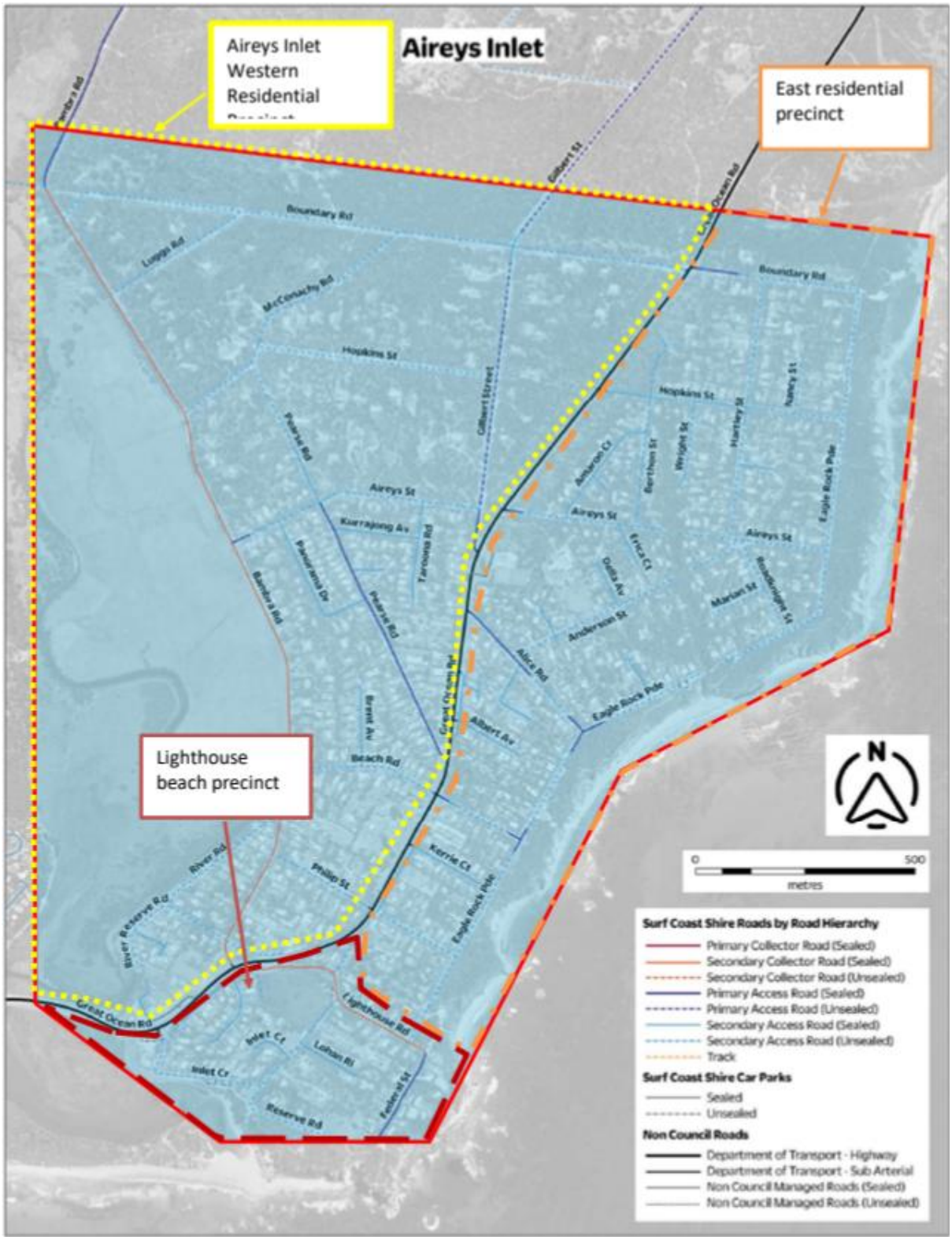


Figure 3: Aireys Inlet's study areas

1.3. FAIRHAVEN AND MOGGS CREEK TOWNSHIPS

Fairhaven and Moggs Creek are two small coastal residential areas located west of Aireys Inlet along the Great Ocean Road. They primarily provide access to the popular beaches of Moggs Creek and Fairhaven, as well as to facilities and shops in the adjacent townships of Aireys Inlet and Lorne. Both areas are popular with domestic and international tourists and have very small permanent resident populations, which dramatically increase during the peak season. There is almost no pedestrian infrastructure, except along the Great Ocean Road within these small residential pockets.

These townships are also attractive to cyclists – particularly mountain bike cyclists – with many off-road bush trails accessible from both areas. Each township has an existing 50 km/h urban default speed limit, with existing footpaths provided only along the Great Ocean Road.

The mix of active transport, seasonal visitors and vulnerable road users, combined with unsuitable infrastructure, has prompted a project to reduce speed limits within the townships broadly.

This project includes consideration of implementing suitable 40 km/h or 30 km/h area-wide speed zones.

The residential street network in both townships comprises a mix of sealed and unsealed roads (Figure 4).

The two townships will be considered independently, as shown in Figure 4 below, namely:

- Fairhaven residential precinct
- Moggs Creek residential precinct

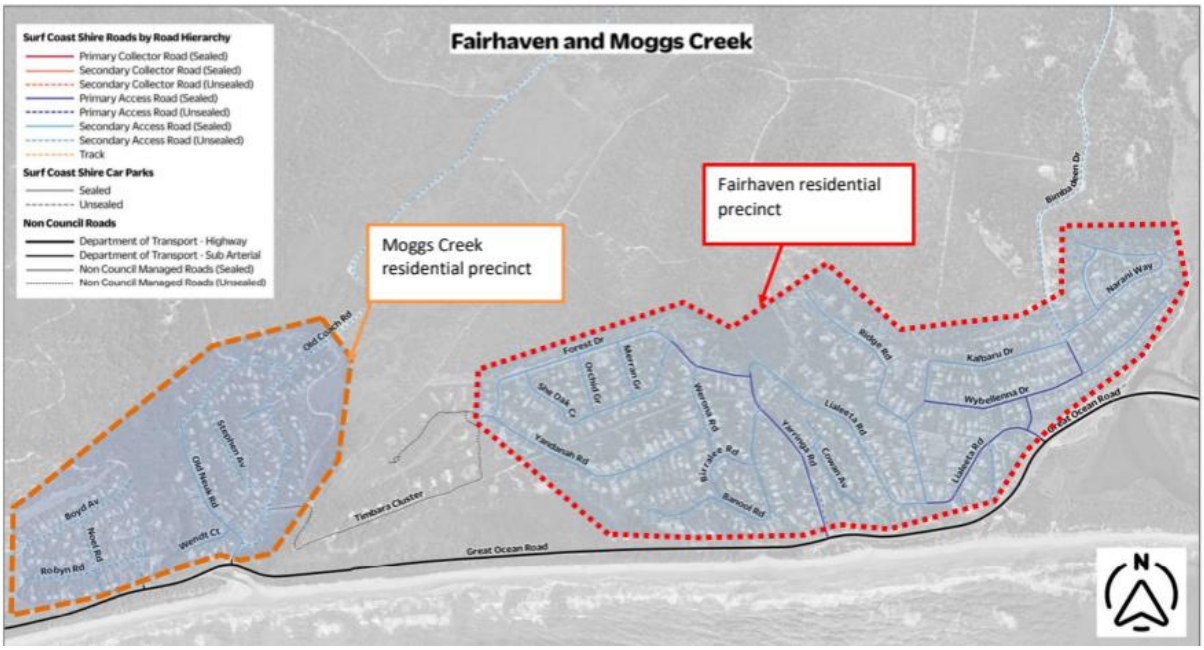


Figure 4: Fairhaven and Moggs Creek study areas



3. FURTHER REVIEW OF THE CURRENT CONTEXT

This section investigates the crash issues, as well as the movement and place functions in the four townships, particularly on the local road network.

2.1. CRASH ANALYSIS

There is a total of 21 crashes, of which 8 resulted in serious injuries (Figure 5). Twelve crashes, including 6 serious injury crashes, are located on the Great Ocean Road, where traffic volume and speed limit are higher compared to local roads. On the local network, there is a total of 9 crashes between FY20 – FY24, with 2 serious injury crashes.

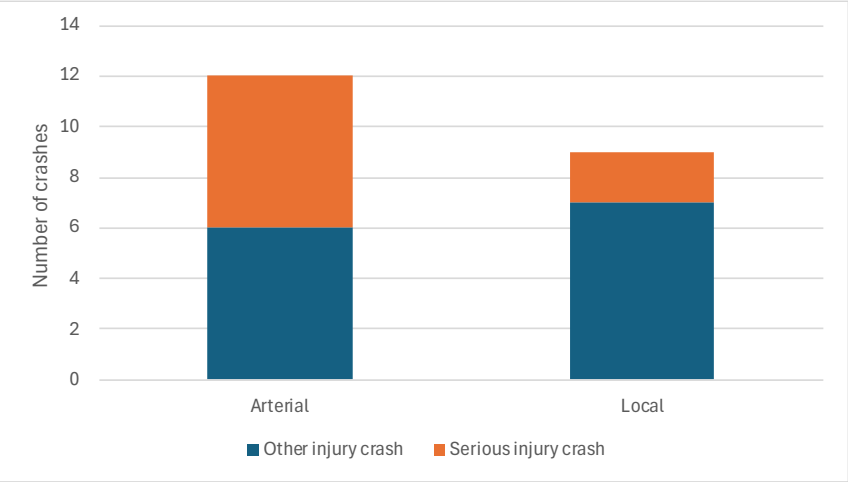


Figure 5: Number of crashes by RMA and Severity level between FY20 – FY24

Figure 6 demonstrates the number of crashes on local roads in the last 5 years. It suggests that there is an increasing trend of crashes on local roads in these townships.

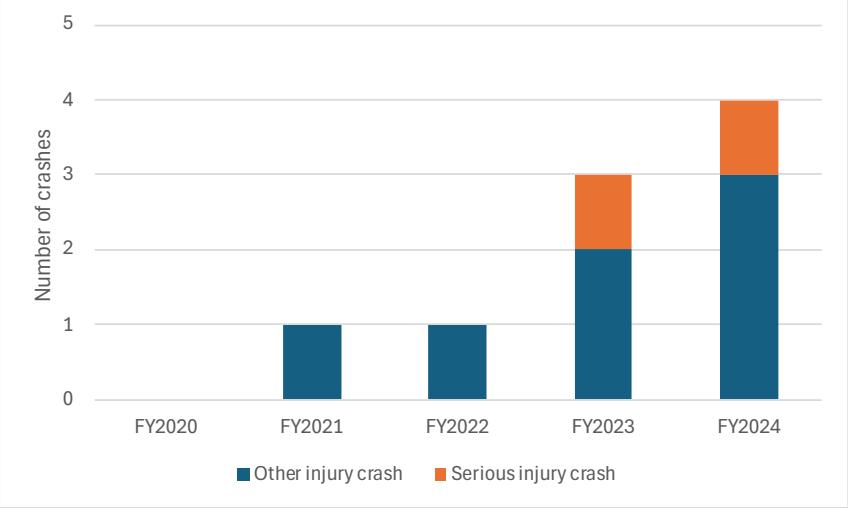


Figure 6: Number of crashes on local roads by year

2/3 of the crashes on local roads occurred at midblock (Figure 7).

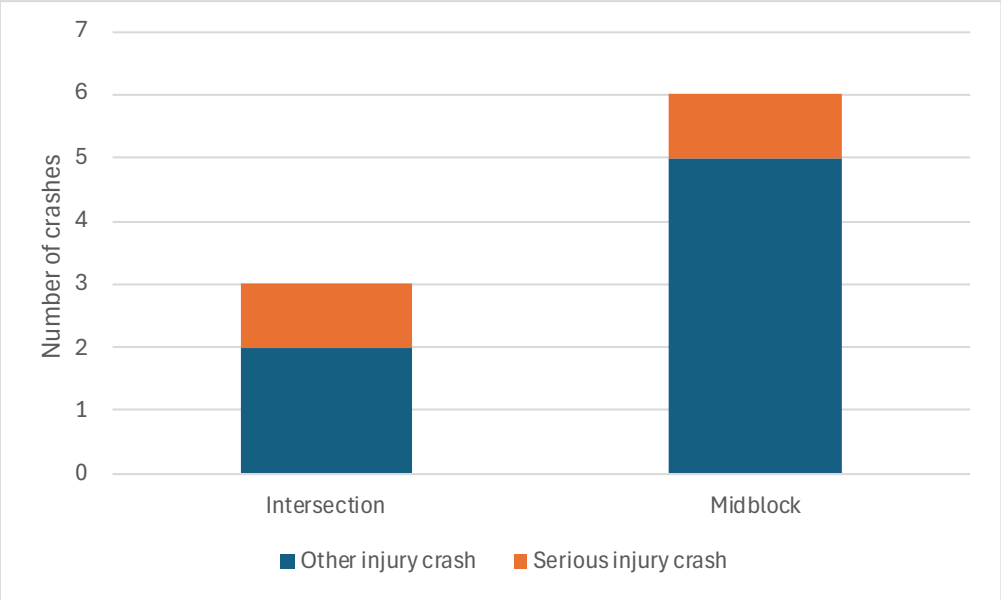


Figure 7: Number of crashes on local roads by location

The main crash type on the local road network is 'off path on straight' with 5 crashes, followed by three 'pedestrian on foot' crashes. Each of the above crash types resulted in one serious injury crash.

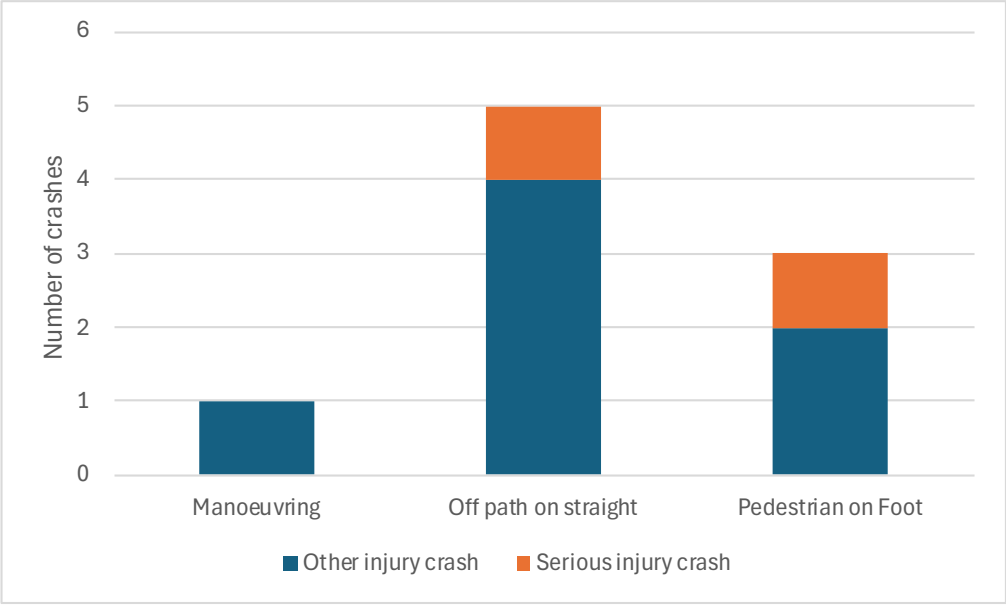


Figure 8: Number of crashes on local roads by crash type

The crash analysis presented a concerning trend of crashes on the local road network, including significant risks for vulnerable road users. Given the relationship between speed and the likelihood and severity of crashes in the Safe System approach, a speed reduction measure can improve road safety in these townships.

2.2. MOVEMENT AND PLACE

Movement and Place classification is analysed using DTP's Movement and Place dataset.

The total length of the local road network is over 80 km. Figure 9 shows the shares of movement and place categories by road length. In general, more than 90% of the network is classified as M5, and over 80% is M5P5. In addition to the Movement and Place data, additional data is used to further category the road network, such as points of interest, local road hierarchy, etc.

	P5	P4	P3	P2	P1
M1					
M2					
M3	3.6%	1.8%			
M4					
M5	81.5%	9.4%			

Figure 9: Movement and Place classification by length

4. VISION FOR SPEED LIMIT PROPOSAL

The vision for the speed limit proposal provides a strategic direction for how speed management can contribute to a safer, more efficient, and more livable road network in the four townships in Surf Coast Shire. It aims to enhance road safety by ensuring that speed settings are appropriate for the conditions and risks of the network. The proposal seeks to align speed limits with the actual road environment, its function, and the needs of its users, while also supporting smoother traffic flow and improving driver compliance. In doing so, it takes into account the requirements of local residents, businesses, and visitors, recognising the importance of balancing safety with accessibility and livability. Underpinning this vision is the development of a clear and comprehensive framework for setting speed limits, providing consistency, transparency, and long-term guidance for decision-making.

The objectives of the speed limit proposal are twofold.

Firstly, it seeks to establish an area-wide safe speed limit that reflects both the road environment and the needs of the community, ensuring consistency across the network.

Secondly, it aims to prioritise projects for implementation, directing resources towards locations where changes will deliver the greatest safety benefits and community outcomes.



5. PRINCIPLES FOR SETTING THE SPEED LIMIT

The principles for setting the speed limit under this report are based on the five principles of DTP's speed zoning policy. Table 1 presents the five principles, followed by the utilised data to reflect these principles and descriptions of the exact information will be used in each dataset.

Table 1: Speed limit setting principles

Principle	Data	Description
Road Safety (Safe System approach)	Risk index	Safe system approach considering safe speed, safe road, safe vehicle, and safe people
Movement and Place	Movement function	Based on road hierarchy: collector roads, access roads
	Place function	Based on the point of interest and local knowledge
Road User Expectation	Define precinct areas	Use of a decision tree to ensure the consistency of speed limit among similar environments
		Consider a consistent speed for area-wide speed limit change
	Community survey	Share of residents who support speed limit change
Community Wellbeing	Cycling routes	Based on the cycling strategy
	No through traffic	Promote the use of active transport on no-through, low traffic roads
	Speed limit	Regarding the vulnerable road user safety, the maximum speed limit to minimise serious injuries is 30km/h, and fatalities is 40km/h
Legislative Aspects	Relevant Victorian legislation	The determination, authorisation and implementation of speed limits shall be in accordance with relevant Victorian legislation

6. ROADS-FOR-LIFE FRAMEWORK

A fit-for-purpose framework was created to propose speed limit changes and communicate it with stakeholders. This framework utilises the Movement and Place Framework with the term "Roads-for-Life" (R4L). This is an innovative tool for selecting safe speed limits for all types of roads. In addition, this framework is based on evidence from global speed limit selection approaches.

Figure 10 presents the Roads-for-Life framework. This framework analyses every individual road section across the whole network. The green boxes are the inputs, including various spatial data and community/stakeholder feedback. The spatial data

consists of administrative boundaries, road characteristics and conditions, traffic data, points of interest locations, etc.

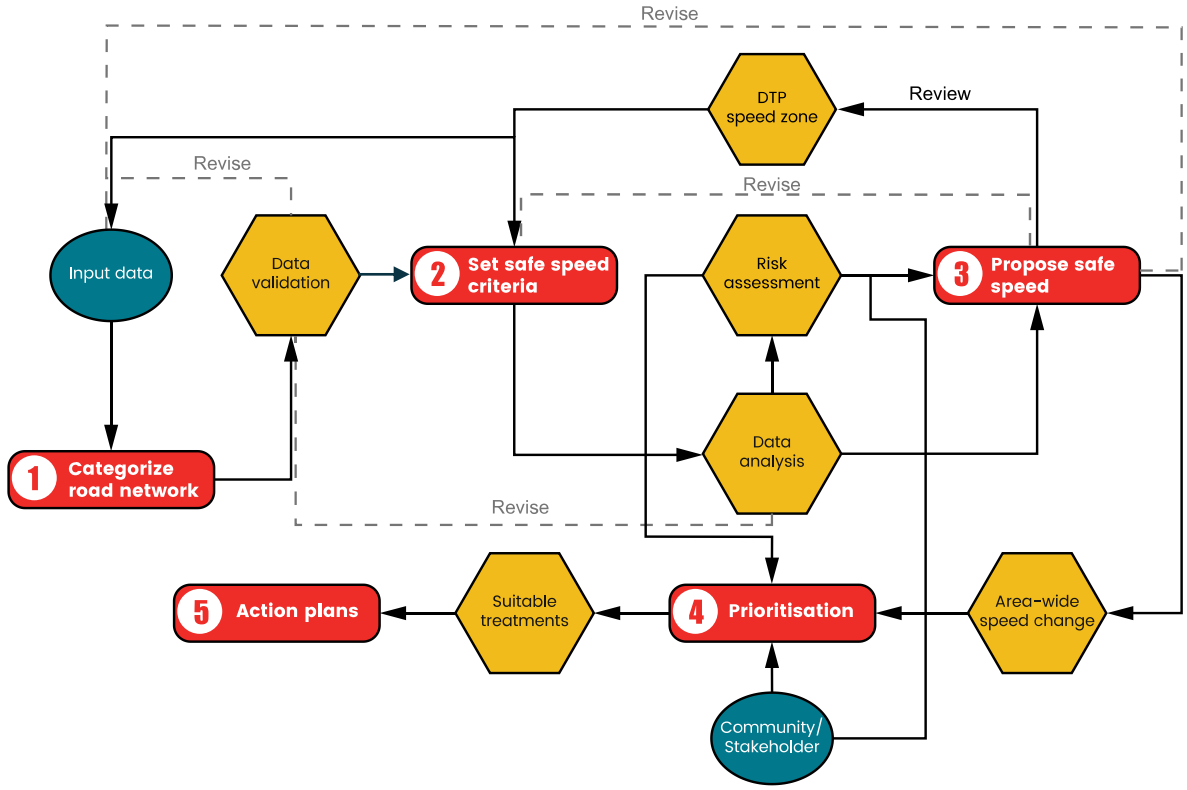


Figure 10: Roads-for-life framework

The main process is divided into five steps (red boxes). First, all road sections are categorised based on the study areas, their movement and place functions, and proximity to the traffic generator locations. The categorisation reflects the 'Transport Network Efficiency' principle, where speed limits are set in accordance with the movement and place functions of a road. Next, a set of criteria will be developed for every safe speed limit in each category. This means that, if a road section in one category meets the associated criteria, a certain speed limit should be applied to that road section. This decision-tree approach follows the 'Road Safety', 'Transport Network Efficiency', 'Community Wellbeing', and 'Road User Expectations' principles. The criteria may include land use, road infrastructures and conditions, road user types and activities, traffic environment, risks, road safety treatments, etc. These data will be derived from the input data by performing various spatial analyses and a network-wide risk assessment. This risk assessment is similar to the Safe System assessment, where exposure, likelihood, and severity risks associated with different road users are assessed. This reflects the 'Road Safety (Safe System approach)' principle. In Step 3, using the results from the spatial data analysis, risk assessment, and community consultation (Community engagement principle), a processing model will scan through each road section, compare the existing conditions with the criteria and assign a safe

speed limit. In addition, the input data undergoes several validation processes between Steps 1 and 3, including comparing with the DTP speed zone guideline, to ensure the data captures the existing context correctly. Then, an area-wide speed change will also be considered, where a linked road network shows a need to reduce the current speed limit to a new speed limit. This helps to define the list of area-wide speed limit changes. Next, several area-wide indices are calculated for the prioritisation process in Step 4. These indices capture the risk levels and community preferences in the study areas. Then, a total score is derived for ranking the projects. Finally, proposed actions are developed in Step 5 consists of ranked projects with associated treatments to make sure the new speed limits are effective.



7. DATA COLLECTION

6.1. PREPARE SPATIAL DATA

The input data consists of the following:

1. **Place function:**
   - Mapping of major activity centres in the towns (such as beaches, schools, accommodations, shops, golf course, etc), particularly where pedestrian activities are expected.
   - Local knowledge regarding the change of place function between peak and off-peak seasons. It is noted that, during peak season (summertime), people often park their car within 500 m of the beach and walk along the roads. It leads to a hike in pedestrian volume near the beach areas. In addition, people often avoid crossing Great Ocean Roads due to high traffic volume, high speed, and a lack of crossing facilities.
   - Assessing the satellite image to capture the change in parking demand throughout the years. This helps to understand where people start their walking journey to the beaches.
   - Place classification from Movement and Place data
2. **Movement function**
   - Mapping of cycling routes for commuters and tourists based on the Safer Cycling Strategy
   - Utilising road hierarchy data to categorise roads based on their movement function
   - Movement classification from Movement and Place data
3. **Other factors to be considered**
   - Footpath network
   - Road asset data, including road type, surface type (sealed vs gravel) and conditions.
   - Speed limit data
   - Historical crashes and severity level
   - High-risk curves
4. **Administrative data**
   - Defining the area of interest (4 townships)
   - Mapping of study areas for analysis

6.2. COMMUNITY SURVEY

An online speed limit review survey was conducted between 14th April, 2025 to 19th May, 2025 to capture the community preferences toward the safety level and existing speed limits on the local Council-managed road network in Anglesea, Aileys Inlet, Fairhaven, and Moggs Creek. There is a total of 983 submissions across the four towns (Figure 11): 546 in Anglesea, 286 in Aireys Inlet, 112 in Fairhaven, and 39 in Moggs Creek.



Figure 11: Speed limit review survey stats

The key feedback, captured from the survey, is as follows:

Feedback in Anglesea

- ⇒ Most respondents believe current speed limits are fine, but not enforced.
- ⇒ Noble Street, Harvey Street, and Camp Road are frequently mentioned for speeding.
- ⇒ Support for 30–40 km/h on residential and gravel roads
- ⇒ Slower speeds to protect kangaroos, ducks, and pedestrians, especially near nature areas.
- ⇒ Suggest seasonal speed limits (slower in summer)
- ⇒ Summer congestion around the town centre and Camp Road is a major issue.
- ⇒ Strong support for more footpaths, especially on gravel roads and key streets like Noble Street, Inverlochy Street, McDougall Road, Parker Street, and Eighth Avenue.
- ⇒ Requests for speed humps, roundabouts, or chicanes, especially on long/hilly streets.

Feedback in Aireys Inlet

⇒ Support for 40 km/h on all residential roads for safety and simplicity.
⇒ Unsealed roads should be 30–40 km/h due to poor conditions and shared use.
⇒ Speeding is common, especially by visitors; many call for better enforcement and traffic calming.
⇒ Footpaths are needed on busy roads like Bambra Road; most roads are shared with walkers and cyclists.
⇒ Wildlife and local character need protection—concerns about sealing roads.
⇒ Road conditions and visibility are major safety issues.
⇒ Mixed views: some want lower speeds, others say limits are fine or too low.

Feedback in Fairhaven

⇒ 30–40 km/h is supported for all local roads due to a lack of footpaths, pedestrians, and safety concerns.
⇒ Enforcement lacking – speed limits not followed, especially by visitors and tradies.
⇒ Calls for traffic calming – speed bumps, signs, and consistent limits.
⇒ Roads are unsafe – gravel roads, poor maintenance, and dangerous intersections.
⇒ Wildlife and pedestrian safety are frequently raised.
⇒ Some want no changes or higher limits, especially on back roads.
⇒ Too many signs confuse drivers.

Feedback in Moggs Creek

⇒ No visible speed signs in Moggs Creek; the default 50 km/h is often unknown or ignored.
⇒ Widespread support for lower limits – many residents prefer 40 km/h or less (some say 10–30 km/h), especially due to pedestrians, children, wildlife, and narrow, unsealed roads.
⇒ Visitors and renters are often cited for speeding and are unaware of local conditions.
⇒ Gravel roads help naturally slow traffic and are valued for preserving the area's character.
⇒ Old Coach Road and other steep or blind-spot areas are seen as particularly unsafe at current speeds.
⇒ Calls for consistent signage, better enforcement, and safe pedestrian access.
⇒ Some concern over dirt bikes and events increasing road risk.

8. RESULTS

The results in each step are presented in the sections below

7.1. CATEGORISE ROAD NETWORK

Road sections are categorised into four categories, including shared use areas, urban collectors, activity access roads, and residential access roads. Table 2 below provides some further description of each category.

Table 2: Road Categories

Road Category	Description
Shared Use Areas	Car park, Shared Zone, or Pedestrian Priority Shared Zone
Urban Collectors	Roads which are categorised as collector roads and not a shared-use area
Activity Access Roads	Access roads as part of the immediate network, which provide connection to the points of interest such as schools, shops, tourist attractions, etc, that have a high number of pedestrians (can vary throughout the year)
Residential Access Roads	Typical residential access roads

Figure 12 and Figure 13 present the results of the road categorisation process.

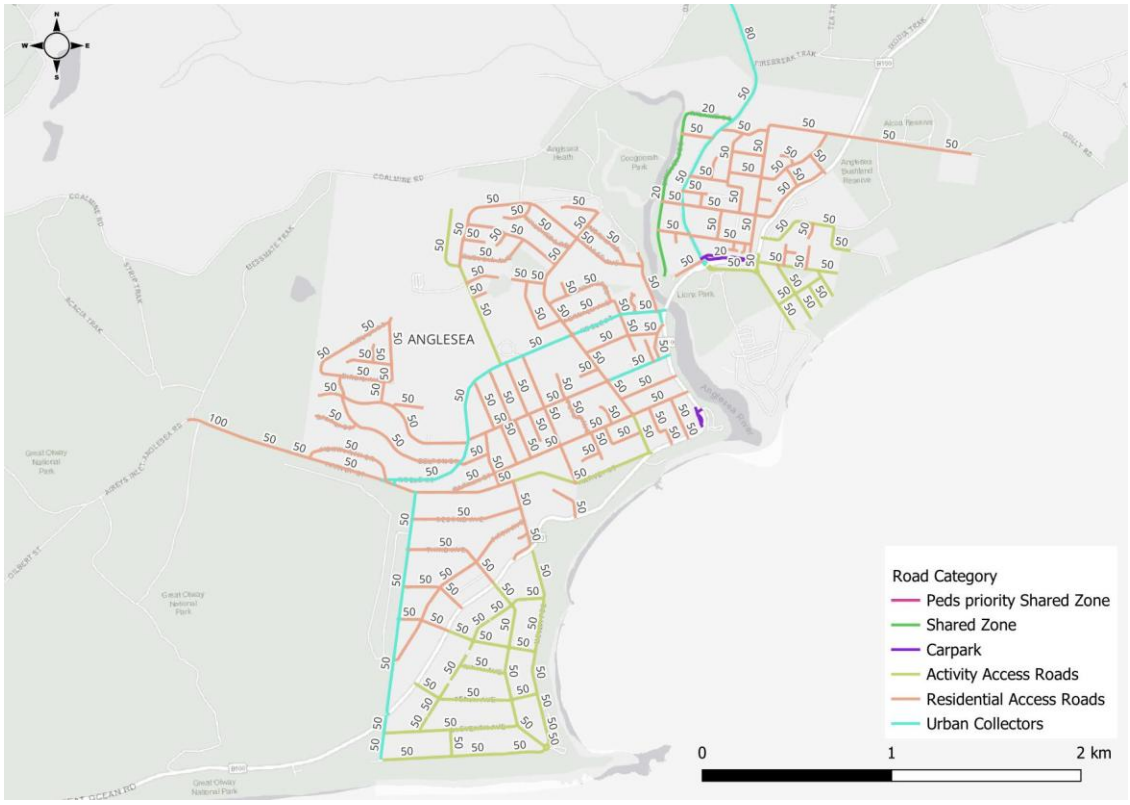


Figure 12: Road Category in Anglesea



Figure 13: Road Category in Aireys Inlet, Fairhaven, and Moggs Creek

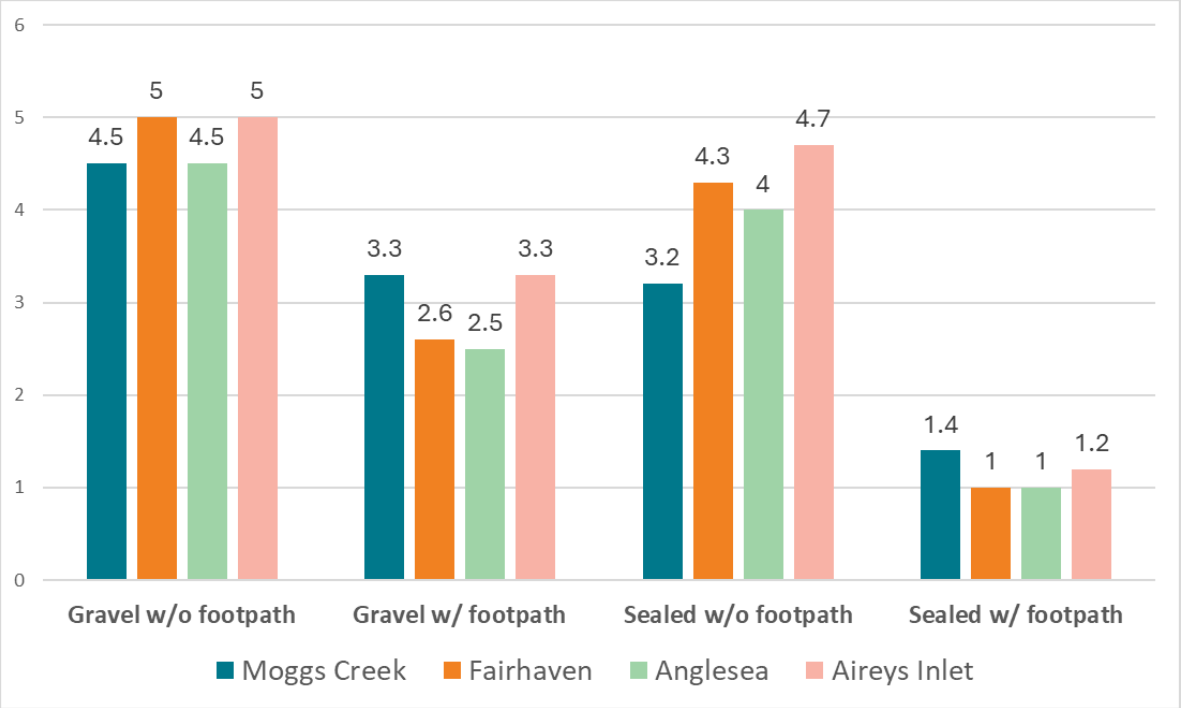
7.2. SETTING SAFE SPEED

A set of criteria associated with safe speed in each road category is defined. Those criteria include the amount of pedestrian and cyclist activities, presence of footpath, road surface type, risk assessment, community preferences, and road geometry.

A network-wide Safe System risk assessment was performed. A score between 0 and 4 was given for each type of road user (pedestrian, cyclist, and motorist) and each component (exposure, likelihood, and severity) of crash risk, with 4 being the highest risk. The risk score for each road user type is calculated by multiplying the exposure, likelihood, and severity scores. A total risk score of a road section is the sum of all road use types' scores. This total risk score is then normalised to vary between 1 and 5 (from lowest risk to highest risk).

Based on the results from 'Question 7. How do you feel about the speed limits on the following types of roads?', Community preferences scores have been given to the road sections in each township as an indicator of the degree of support in each township toward the speed limit reduction in different road environments. The score ranges from 1 to 5, with 5 indicating a very strong community support.

Figure 14 - Community preference score



Based on the above considerations, safe speed limits have been identified for all local road sections in the four townships. Speed limit reduction on roads with a community preference score from 4 to 5 will be preferred. However, following the "Road user expectations" principle, the area-wide speed limit changes are considered to ensure the number of speed limit changes is kept to a minimum.

The proposed speed limits in Figure 15 and Figure 16 are suggested by considering the area-wide speed limit reduction for consistency. It is noted that the variable speed limit option was not considered due to the high maintenance cost.

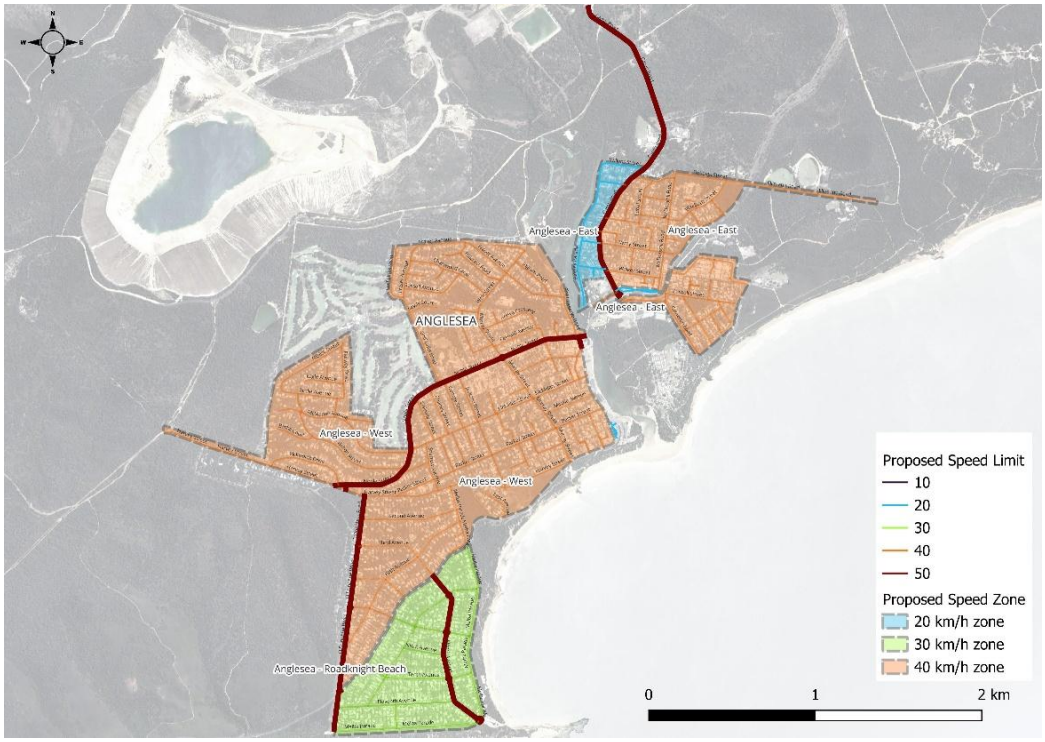


Figure 15: Proposed Area-wide Speed Limit in Anglesea

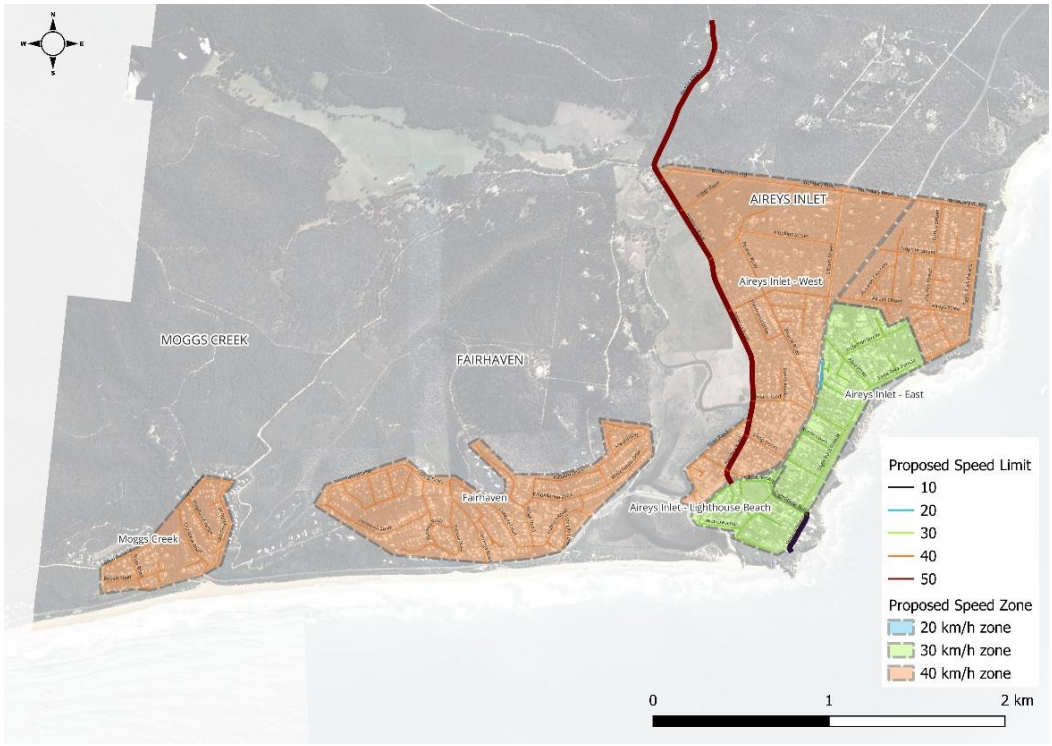
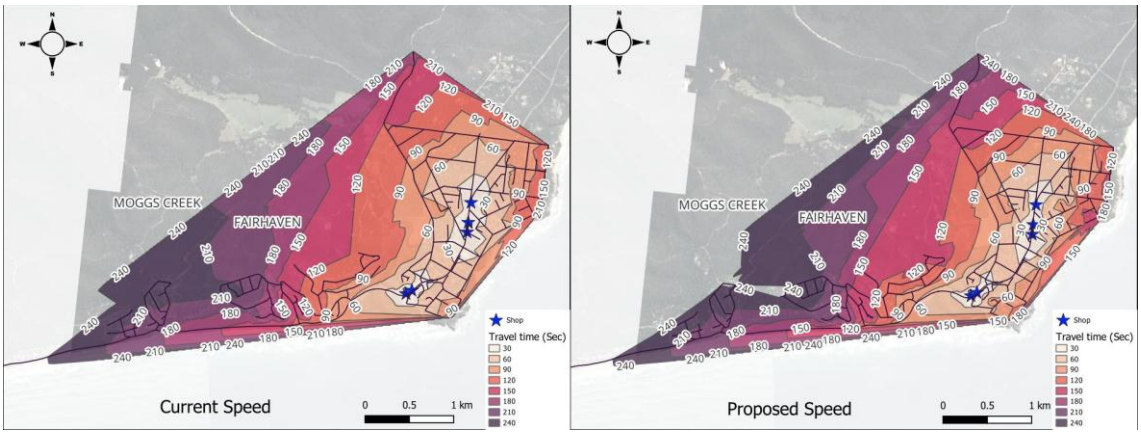


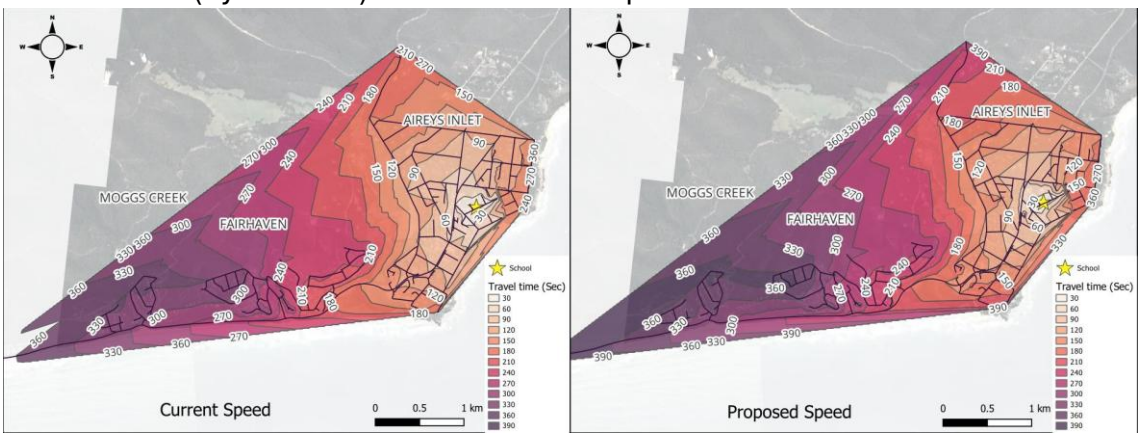
Figure 16: Proposed Area-wide Speed Limit in Aireys Inlet, Fairhaven, and Moggs Creek

9. TRAVEL TIME ANALYSIS

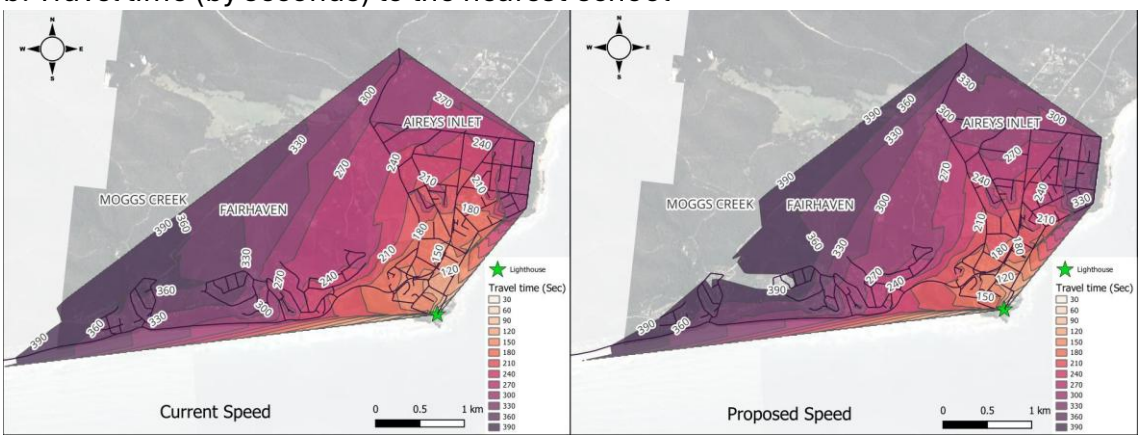
This section discusses the change in travel time within each town following the proposed area-wide speed limit reduction. Figure 17 and Figure 18 illustrate the travel time to access major points of interest in two scenarios: existing speed limit (on the left) and proposed area-wide speed limit (on the right).



a. Travel time (by seconds) to the nearest shop

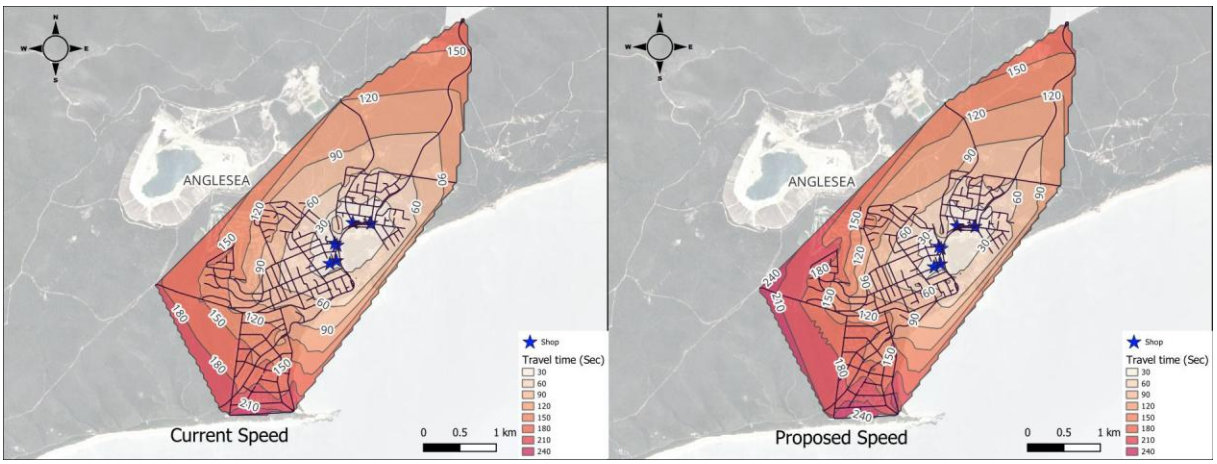


b. Travel time (by seconds) to the nearest school

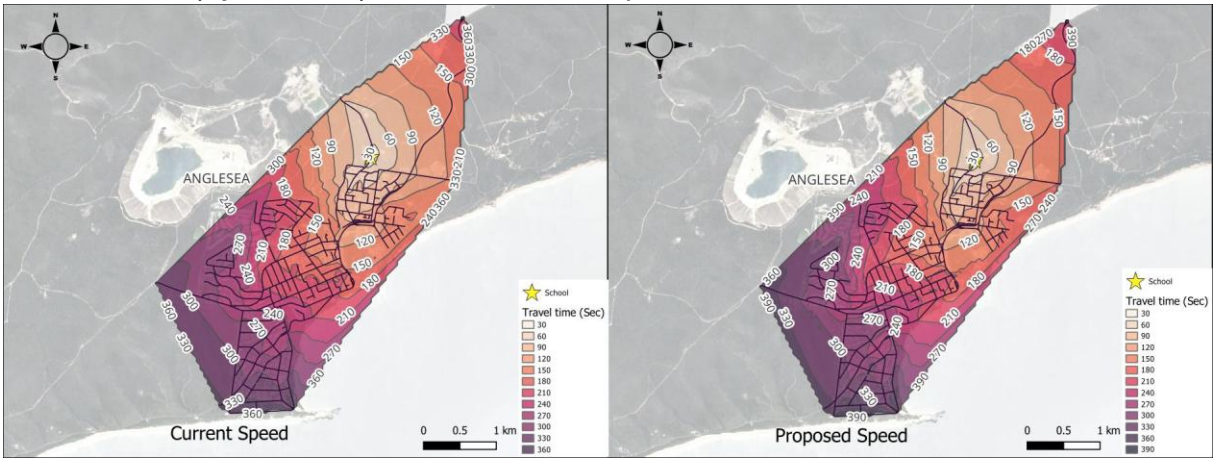


c. Travel time (by seconds) to the Lighthouse

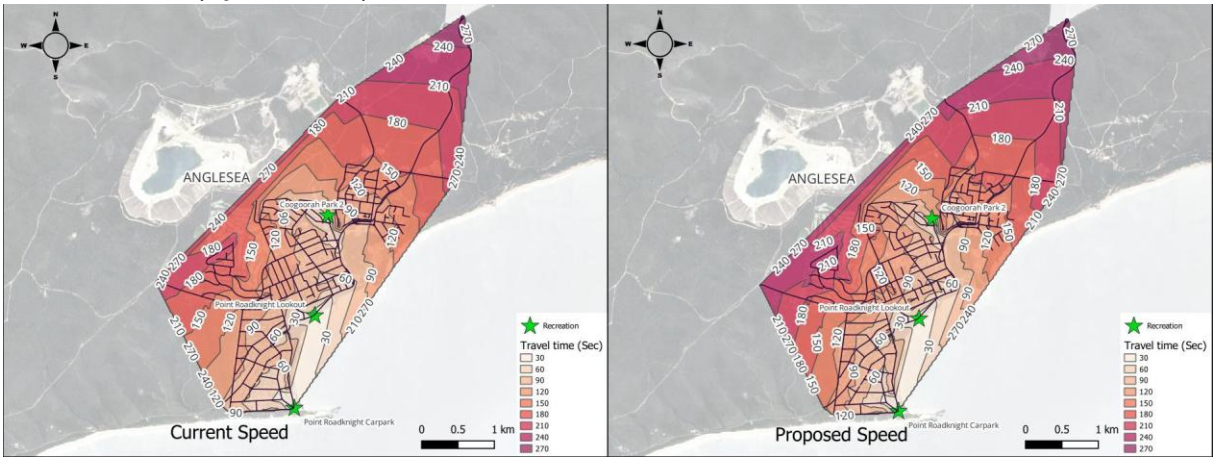
Figure 17: Comparison of travel time (by seconds) to various points of interest using current speed limit and proposed area-wide speed limit scenarios in Aireys Inlet, Fairhaven, and Moggs Creek



a. Travel time (by seconds) to the nearest shop



b. Travel time (by seconds) to the nearest school



c. Travel time (by seconds) to major recreation locations

Figure 18: Comparison of travel time (by seconds) to various points of interest using the current speed limit and proposed area-wide speed limit scenarios in Anglesea

In general, the results show that the proposed area-wide speed reduction will lead to an increase in travel time to access major points of interest in all townships. However, the additional travel time for most of the trips is less than 30 seconds. This is a minimal trade-off given the network wide safety improvements and the creation of active transport friendly environment on local streets.