moira SHIRE

Road Safety Strategy and Action Plan 2025 - 2030

As adopted 10 December 2025

Acknowledgements

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Executive Summary

Moira Shire is a rural municipality in northern Victoria which follows the southern bank of the Murray River between the Ovens and Goulburn Rivers and includes large towns of Cobram, Nathalia, Numurkah and Yarrawonga. The shire has nearly 31,000 permanent residents and its economy is driven by agriculture and tourism industries, with over 900,000 annual visitors.

The total length of its road network is 4,276 km, of which 3,813 km is local road under the administration of Council. This network is essential for connectivity, economic growth, and community well-being. However, the Shire faces significant road safety challenges, with a per capita annual fatal and serious injury (FSI) crash rate at 1.05 per 1,000 people per year, 33% higher than the Victorian state average.

The Moira Shire Road Safety Strategy 2025-2030 aligns with national and state road safety goals, aiming for a 50% reduction in fatalities and a 30% reduction in serious injuries by 2030 and an ultimate vision of zero road deaths by 2050.

The strategy adopts the Safe System for road management with five critical focus areas:

1. **Intersection Safety:** Nearly 50% of fatalities occur at intersections in 70-100 km/h zones. Actions include improved visibility for intersections and infrastructure improvements.
2. **Mid-block Safety:** High-speed crashes are prevalent within our Shire, actions include addressing off-road crashes through better road design and improved roadside environment.
3. **Speed Management:** Review speed management on our roads, speed enforcement campaigns, and ensure road maintenance is at a level to suit the speed limit.
4. **Vulnerable Road Users:** Pedestrians, cyclists, and motorcyclists remain at risk, with elderly and young drivers significantly represented in crashes. Council will seek to enhance pedestrian and cycling infrastructure and launch road safety education programs.
5. **Heavy Vehicles and Farming Machinery:** 11% of FSI crashes involve heavy vehicles. Council will facilitate education on driving with heavy vehicles. Council will also seek to improve road design on freight routes.

Moira Shire Council is the responsible road authority for the management of Council's local roads and road related infrastructure. The local road network is Council's largest asset with a total length of 3,813 km of sealed and unsealed road. Transport infrastructure is a key Council service that is utilised daily in some way by all residents and visitors.

The road network and its associated transport infrastructure are required to be maintained to ensure that Council managed roads continue to function and to provide a level of service including road safety acceptable to the community. The network consists of Arterial Roads (managed by Transport Victoria), Municipal Roads, which are under the control of the Council, and other roads, which are managed by the party responsible for the relevant land. Moira Shire does work with Transport Victoria on the management and improvement of both the local and arterial networks.

This strategy outlines a five-year action plan focused on high-impact safety improvements, data-driven decision-making, and collaboration with key stakeholders such as Victoria Police, TAC, and Transport Victoria.

By prioritising road safety, Moira Shire Council aims to create a safe, accessible, and sustainable road network that benefits residents, businesses, and visitors.

The strategy includes a structured monitoring and evaluation framework, featuring biannual safety reviews and performance assessments to ensure that safety improvements meet the 2030 reduction targets.

By prioritising safe road design, effective speed management, community education, and robust data monitoring, Moira Shire Council is committed to creating a safer road network, supporting economic growth, and enhancing the quality of life for all residents and visitors.

From the Administrators

We are pleased to introduce Moira Shire's Road Safety Strategy and Action Plan 2025–2030—a critical step forward in our commitment to improving the safety and liveability of our region.

With a road network that stretches over 4,200 kilometres and a thriving economy built on agriculture, manufacturing and tourism—including over 900,000 visitors annually—our roads are the lifeblood of our Shire. They connect our communities, support our industries, connect people to work and study, and enable opportunities for leisure and recreation.

However, our community is facing significant road safety challenges. In recent years, our community has experienced the devastating impact of road trauma first-hand. These tragic incidents have left lasting effects on families, first responders, and the broader community. With a fatal and serious injury crash rate 33% higher than the state average, we know that immediate action is needed.

This strategy will be an important roadmap in prioritising how Council approaches actions and improvements over the next five years to help reduce road trauma in Moira Shire. Guided by the Safe System approach, we are targeting five critical areas: improving dangerous intersections, reducing high-speed crashes between intersections, managing speeds on rural roads, protecting vulnerable road users like pedestrians and cyclists, and addressing risks involving heavy vehicles and farming machinery.

Our goal is ambitious but necessary - achieving a 50% reduction in fatalities and a 30% reduction in serious injuries by 2030 and striving toward zero deaths by 2050 - in line with national and state road safety goals. This will require sustained action, collaboration with partners such as Victoria Police, Transport Victoria and the Transport Accident Commission, and a strong commitment to data-driven solutions.

A safer road network supports stronger communities, improved connectivity and increased economic growth, with benefits for all in Moira Shire.

Dr Graeme Emonson, PSM
Chair Administrator

Susan Benedyka
Administrator

1. About Moira Shire

Moira Shire Council is a large rural shire council in northern Victoria spanning the southern side of the Murray River between the Ovens and Goulburn Rivers. It is approximately 250 km from Melbourne CBD. The shire covers a vast landscape of 4,057 square kilometres with four major townships Cobram, Nathalia, Numurkah, and Yarrawonga along with 22 smaller towns and communities with a total population of nearly 31,000 people.

The shire is primarily located on a floodplain landscape bordered by the Murray, Ovens, and Goulburn Rivers, and encompasses several distinct natural features, including various river and creek systems, wetlands, plains woodlands, and grasslands.

The Barmah National Park is located in the northwest corner of the shire; this national park features the Barmah-Millewa Forest — the world's largest River Red Gum Forest and a Living Murray Icon Site.

Agriculture is a major contributor to Moira's economy and includes industries such as horticulture, cereal, oilseed, livestock, and dairy production. Tourism also plays a role in supporting the shire's economy, with many visiting the Bamrah National Park, the Murray River, Lake Mulwala and engaging in outdoor activities. The shire's economy and tourism are closely connected to the natural environment it exhibits.

Roads and Movements within Moira Shire

The towns, communities and attractions are mainly connected via major arterial rural roads that are managed by the Department of Transport and Planning (DTP) and Transport Victoria (TV). Moira Shire Council manages the local road network, and the Department of Environment, Energy, and Climate Action (DEECA) manages roads and tracks within national parks. The total length of the road network within the municipality is 4,276 km, with 447 km managed by DTP, 3,813 km managed by Council and the remaining comprising of DEECA managed roads and private roads.

Based on the 2021 Census, it was found that 70.8% of residents mainly use private cars, either as a driver or passengers, with a majority of dwellings having 2 vehicles. Active transport and public transport usage was minimal, with only 4.8% of residents walking, 0.8% cycling, and 0.3% using public transport.

- **3,522 km (92.4%) of this network is in a rural environment with 291 km (7.6%) currently urban.**
- **1,104 km of road is sealed, with the remaining road unsealed.**

Tourism in Moira Shire attracts around 900,000 visitors annually, according to the Moira Shire Tourism Strategy. The number of tourists is forecasted to rise in the future as Council continues to expand the tourism industry. Due to limited alternative options available most tourists use private vehicles to travel to and within Moira, increasing the pressure on the shire's road network.

Moira Road network facilitates the movement of freight and goods within, to, from, or through the shire. A high quality, safe, and reliable road network is critical to support freight and logistics which is necessary to support our regional economy, vitality, and liveability. However, this freight transport network can become constrained due to road safety. Moira Shire must continue to work with the State Government and industry stakeholders to continue to ensure the safety and efficiency of travel for the freight sector and mitigate adverse impacts of freight movements on the local community.

2. The road network

Our road network serves as a crucial component in our daily lives by providing us with one of the most basic human needs: mobility. It connects communities, and people to work, education, and recreation, and facilitates families and friends to interact with each other. Our road network plays a pivotal role in supporting the economy by linking businesses to employees, customers, and freight, while also providing access for tourists and visitors to local towns, cities, and attractions.

Moira Shire covers a large area of 4,057 km² and has a road network of approximately 4,276 km. With a population of nearly 31,000, this equates to around 7.5 residents per km^2 or 7.2 residents per kilometre of road. This highlights the significant challenge of maintaining and improving such an extensive road network with a relatively small population density.

The Shire's road network is used by a wide range of heavy vehicles, including B-doubles and agriculture machinery. These vehicles generally use gazetted heavy vehicle routes as showed in Figure 1 below.

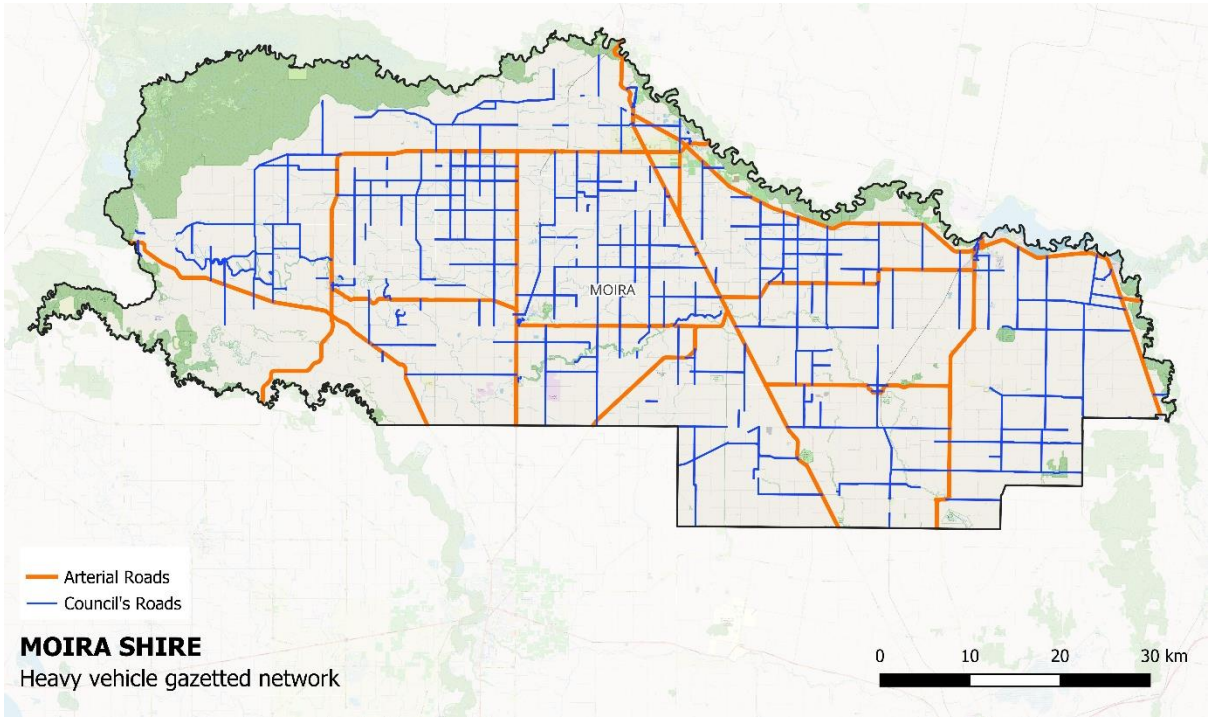


Figure 1: Moira Shire heavy vehicle gazette network

Considering the significant role that our road network plays in our lives, ensuring the safety of our roads has become of utmost importance. Safety is the fundamental principle of our road network to eliminate fatal and serious injuries, prevent road trauma, and reduce the detrimental impacts it has on communities.

Figure 2: Map of Moira Shire (https://www.moira.vic.gov.au)

A safer road network provides benefits to the community.

Our road network must facilitate safe travel for all road users enhancing the lives, health, and well-being of individuals while providing accessibility for all users including vulnerable members of the community.

Our road network encourages the use of active transport modes through creating safer and more secure surroundings for pedestrians and cyclists who commute to work or engage in recreation. This will have a positive impact on the environment due to reduced emissions, air pollution, and noise, and provides a boost to the local economy by increasing foot traffic and making it easier for people to visit local shops and businesses.

Moira Shire also needs to advocate for improvements to the arterial road network to improve safety outcomes. A key example of arterial road advocacy is the Yarrawonga-Mulwala Bridge Replacement and Belmore Street bypass project. By upgrading the bridge and removing through traffic from Belmore Street there will be a substantial improvement of road safety outcomes in a busy town centre with a history of crashes.

By improving road safety Moira Shire will create more liveable and enjoyable towns through safer access to places in which people and communities can meet, interact, dwell, and connect. This will also encourage tourists to visit local towns and attractions through improved perceptions of safety, further bolstering the local economy and exposing visitors to what the municipality can offer.

The Moira Shire Road Safety Strategy for 2025-2030 has been developed in acknowledgement of the significance of road safety and its positive impact on our communities.

The strategy analyses crash data and the key road safety issues within the shire and aligns with National, State and Council strategies (see Chapter 3) along with Safe System Principles. It provides guidance and an action plan for creating a safer travel environment for all road users on Moira Shire roads with the aim to reduce fatalities by 50% and serious injuries by 30% on municipal roads by 2030 from the 2019-2023 period with the longer-term goal of eliminating fatal crashes on our road network by 2050.

3. Strategic context

National and State Strategies and Plans

The Moira Shire Road Safety Strategy aligns with National and State Road Safety Strategies by adopting similar principles and goals within the local context of Moira Shire's Road environment. Underlying these strategies is the 'Safe System' approach to road safety and the Movement and Place framework for transport management. The details provided below highlight the areas of relevance for Moira Shire.

Safe System:

No one is killed or seriously injured in road crashes.

National Road Safety Strategy 2021–2030 and Action Plan 2023-2025

The National Road Safety Strategy 2021-2030 targets reducing fatalities by 50% and serious injuries by 30% by 2030 from the 2018-2020 period. The Strategy outlines priority issues and actions, including those for regional roads and local government. This includes the following:

- Develop network safety plans.
- Prioritise the most impactful road safety treatments.
- Implement staged Safe System treatments for roads with moderate to high traffic volumes (e.g. audio-tactile line markings or "rumble strips").
- Implement intersection and median treatments.
- Targeted stretches where barrier treatment is applicable.
- Provide shoulder widening and sealing and protection on curves and from roadside hazards.
- Review speed limits on the road network with priority on high-risk roads, particularly undivided roads and parts of the network where infrastructure improvements may not be possible within the life of the strategy.

The Strategy is supported by an Action Plan that specifies key issues and actions that need to be undertaken for a given period.

The latest national Action Plan 2023-2025 highlights that around 55% of fatalities occur on regional roads. The per capita average annual Fatal and Serious Injury crash rate in Moira Shire between 2019 and 2023 is 1.05 per 1,000 people, 33% higher than the Victorian State average. Many of these crashes occur on high-speed roads (see Section 7).

As an initial enabling action, the National Action Plan highlights the need for councils to conduct a road safety risk assessment, such as a road network safety plan. Following this, the Action Plan provides subsequent specific actions including:

- Undertake risk assessments on high to moderate volume regional roads.
- Identifying key priorities and implementing specific road safety infrastructure improvements to reduce run-off-road and head-on crashes within a 10-year investment program.

Victorian Road Safety Strategy 2021–2030 and Action Plan 2 (2024)

The Victorian State Strategy for 2021-2030 aims to reduce fatalities by 50% and progressively reduce the number of serious injuries by 2030, with the ultimate goal of achieving zero deaths by 2050.

The focus areas outlined in the Strategy are based on the Safe System principles and include the following:

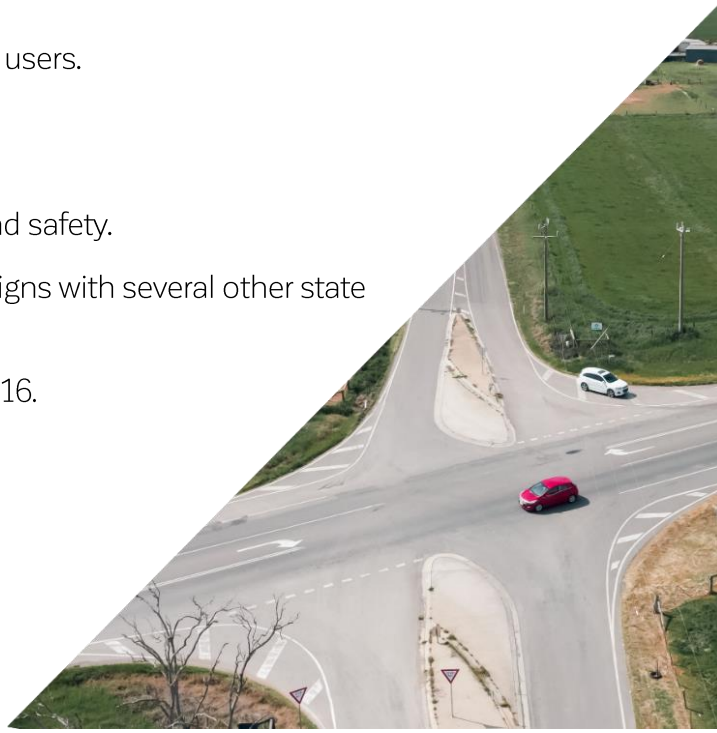
- Addressing key risks by supporting and enforcing safer driver behaviour.
- Removing unsafe vehicles from the roads.
- Improving safety for vulnerable and unprotected road users.
- Improving safety on high-speed roads and at intersections and reducing the underlying risk.
- Increasing safety for those using the road for work or at work.
- Recognising the importance of post-crash care.

In addition, the latest associated Road Safety Action Plan 2 (2024) outlines the priorities including:

- Improving safety across the network.
- Protecting vulnerable and unprotected road users.
- Addressing risky behaviours.
- Improving vehicle safety.
- Engaging for change.
- Research and data to inform an improve road safety.

Additionally, the Moira Road Safety Strategy also aligns with several other state plans and documents including:

- Victoria's 30-year Infrastructure Strategy 2016.
- Movement and Place in Victoria.
- Victorian Cycling Strategy 2018-2029.



Moira Shire Strategies and Plans

Council Plan 2025-2029

The Moira Shire Council Plan 2025-2029 provides the Shire with a strategic direction in realising the vision of a thriving, connected regional area, centred around four key themes: Community, Environment, Liveability and Prosperity—the things that matter most to our people.

The Shire is well-placed and located near regional cities and major transport routes. The plan recognises this as an opportunity for economic growth through the tourism and recreation sectors, as well as through other industries and services.

The plan defines five strategic pillars that underpin the vision, which are:

1. Community
2. Environment
3. Liveability
4. Prosperity
5. Leading Organisation

A safer road and transport network is a strategic focus area of pillar 3 – Liveability with implementation of the Road Safety Strategy and Action Plan a major initiative under this pillar. A key performance indicator in the plan will be reporting the number of Fatal/Serious Injury crashes within Moira Shire and the trend to Vision Zero targets.

Council Financial Plan 2025-2035

The 2025 - 2035 Financial Plan was adopted by Council on 30 June 2025. The development of a Financial Plan is a requirement that forms part of the implementation of the Local Government Act 2020 (the Act).

The Financial Plan outlines:

- the financial resources required to give effect to the Council Plan and other strategic plans of Council.
- information about decisions and assumptions on which it is based.
- any other resource requirements considered appropriate or contained in the regulations.

All Abilities Access and Inclusion Plan 2023-2026

The All Abilities Access and Inclusion Plan 2023-2026 aims to make Moira Shire a more accessible and inclusive community for all. Its vision is "to be a welcoming, healthy, and sustainable community that encourages diversity, business ingenuity, and inclusion."

Ensuring accessibility for all members of the community is a high priority. The plan outlines the following themes as guiding principles in creating a connected and accessible community and environment.

1. Accessible Places & Spaces
2. Leadership & Opportunity
3. Participation & Inclusion
4. Respect and Recognition

Specific road and transport related infrastructure and planning actions include:

- Ensure new strategies and plans consider disability access and inclusion.
- Improve pedestrian and cycling infrastructure (including crossing points) to facilitate connectivity and accessibility.
- Improve accessible car parking at key destinations and ensure there are sufficient spaces available, and educate the community on disabled car parking legalities
- Improve recreational areas and ensure they are connected, accessible and inviting.
- Improve public transport frequency and accessibility.
- Embed universal design principles.

Environmental Sustainability Strategy 2022-2026

The Environmental Sustainability Strategy 2022-2026 aims "to support and encourage an environmentally sustainable community today and for future generations." Moira Shire is home to various natural features, including numerous waterways, such as the Murray, Goulburn, and Ovens Rivers and the Barmah National Park, which is known for its River Red Gum forests. These areas provide habitat to many threatened natural flora and fauna. Additionally, 71% of the Shire's vast landscape is used for agriculture and the food processing industry.

The natural environment plays a vital role in the Moira Shire's economy, with agriculture and food processing industries being the largest contributors. Tourism is also the Shire's seventh largest contributor to employment.

In recent years, climate change has challenged the Shire with drought, floods, fires, and storms. These extreme climates threaten the economy and social well-being of the Moira Shire community.

The plan targets a net zero greenhouse gas goal by 2050, with road and transport related actions such as:

- Undertake urban greening projects such as reducing sealed surfaces, planting of street trees, and creating more public green spaces
- Install electric vehicle charging stations.
- Support uptake of electric and hydrogen vehicles in Council fleet and for the wider community.
- Promote activities within Council that minimise our carbon footprint (e.g. online meetings).

Tourism Plan 2022-2026

Moira Shire is a popular tourist destination known for its natural features, such as the Murray, Goulburn, and Ovens rivers and the Barmah National Park. Many tourists and residents partake in outdoor activities such as canoeing, swimming, fishing, camping, cycling, and bush walking. The Shire receives around 900,000 visitors annually.

Tourism is the Shire's seventh largest contributor to economic output generating approximately $90 million for the local community. The Tourism Plan 2022-2026 aims to raise the Shire's profile and future proof the region.

Road Management Plan (May 2021 Version 8) and Asset Plan 2025-2035

The Road Management Plan outlines the road-related infrastructure that the Council is responsible for and sets out inspection intervals, levels of intervention and appropriate response times to identified issues.

Similarly, the Asset Plan outlines processes for managing assets (including roads, footpaths and bridges) and meeting service levels. It sets standards for asset management duties and covers operations, maintenance, renewal, refurbishment, and upgrades.

Wellbeing for All Ages Strategy 2021-2025

The objective of the Wellbeing for All Ages Strategy 2021-2025 is to offer Moira Shire with a well-defined and strategic planning method that consolidates planning for health and wellbeing across different age groups.

Obesity and a lack of physical activity are becoming health concerns within the wider community. Additionally, 36% of the population of the Shire is expected to be over 60 by 2036. The community has raised concerns about the need for more transport options to access facilities and services and the need for additional and safe footpaths and shared paths to live an active lifestyle.

The road and transport related goals of the strategy includes:

- Identify and minimise gaps in the walking and cycling network.
- Investigate transport options to connect community members to each other and services.
- Promote safe driver behaviour, for both motorised and non-motorised vehicles.

Recreational Strategy 2016-2026

Recreation is an integral part of community well-being in Moira Shire, with 80% of residents participating in sports or other recreational activities.

Walking, jogging, and cycling are the most common types of activities within the Shire. To encourage further community participation, the strategy suggests to provide and maintain safe, well-lit paths with resting areas.

Furthermore, sports and active recreation within the municipality also play a vital role in supporting the tourism industry. The strategy recommends continuing to support major sporting events to continue supporting the tourism industry.

4. Road Safety Vision for Moira

Setting a vision

At its core, the Moira Shire Road Safety Strategy adopts the objective of the National and State Vision Zero to eliminate all road deaths by 2050.

This strategy is a path towards the National 2050 Vision Zero objective within the specific road environment of Moira Shire. It aims for an intermediate goal of reducing fatalities by 50% and serious injuries by 30% by 2030, compared to the average yearly fatality and serious injury rate during the 2019-2023 period.

This strategy aims to create a safe road network that allows access for all users, encourages active modes of transport, improves sustainability, and enhances the liveability of Moira Shire.

Table 1 - **Fact Box:** The Safe System

The Safe System approach consists of five components:

SAFER ROAD USERS | SAFER ROADS | SAFER SPEEDS | SAFER VEHICLES | SAFER POST-CRASH CARE

- Safe System acknowledges that people will make mistakes that can lead to crashes; however, these crashes should not result in a fatal or serious injury.
- Therefore, all components of the road system must be strengthened to maximise positive road safety outcomes and ensure that all road users are adequately protected even if one component fails.

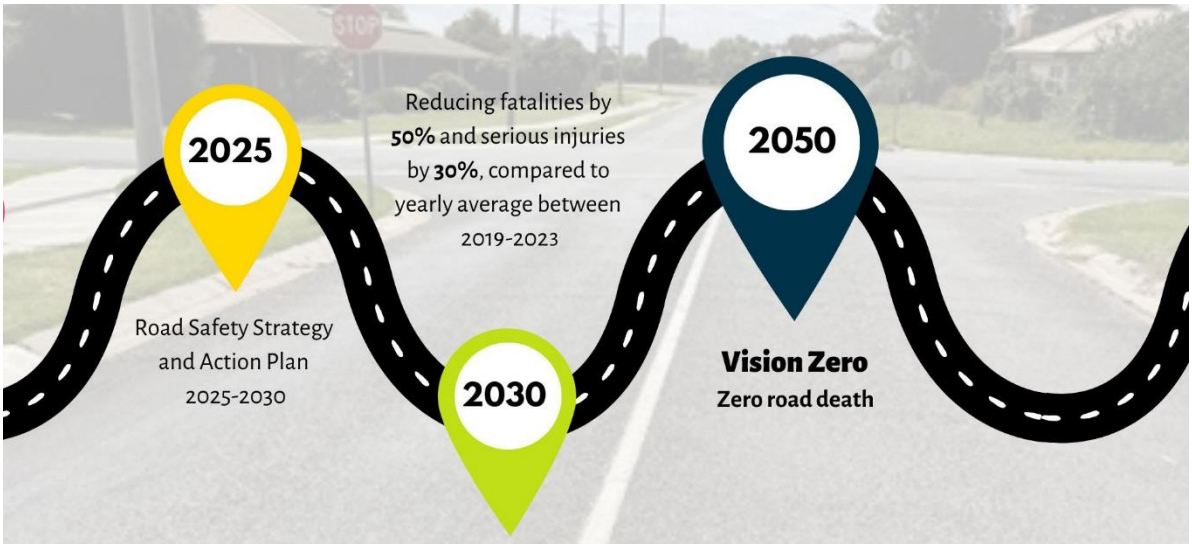


Figure 3: Road Safety Vision for Moira Shire

Achieving a vision

To achieve this safety vision Council must identify a path of action to address the core problems (Figure 4). First, a crash analysis is performed to understand the current context and problem on the Moira Shire road network. A review of strategic context, community survey, and stakeholder engagement are also conducted to gather council and community views on the road safety issues. Based on the results of these steps, several safety gaps are identified and targeted improvement path is developed.

Associated with these targeted paths, the strategy proposes multiple actions to address the safety gaps and achieve the 2030 target. Monitoring and evaluation are implemented during the process to make sure the 2030 target is reachable.

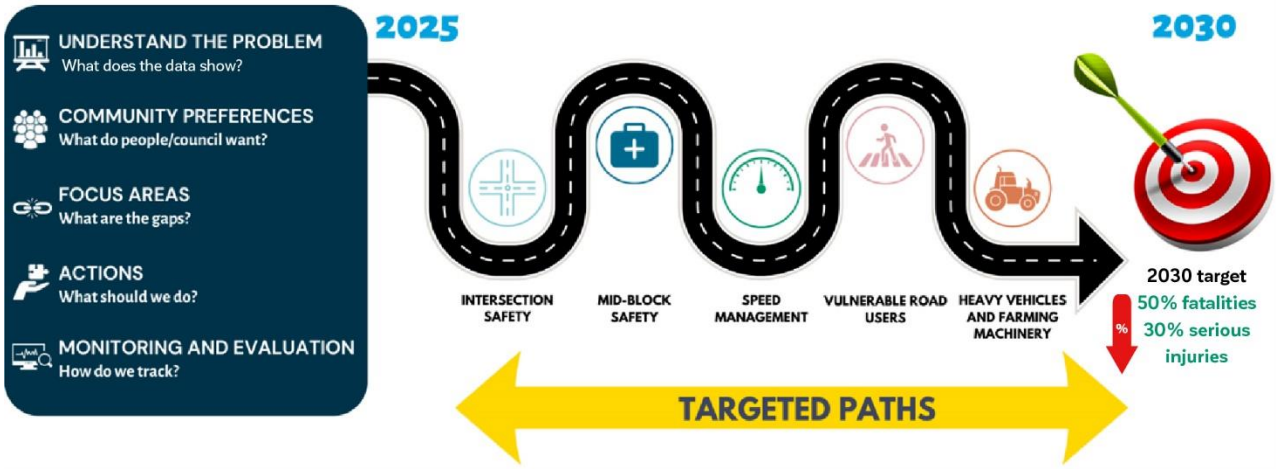


Figure 4: Achieving the vision

5. Leadership

Adopting a systemic approach and having strong institutional arrangements is the key characteristic of countries with the safest road networks. In the management of road traffic safety (Figure 5), a critical success factor is the development of evidence-based countermeasures that are formalised in strategies (investment plans), in combination with ambitious targets and institutional accountabilities.

Leadership is crucial in any road safety management plan to achieve improvements and eliminate road trauma. Significant and sustainable improvements are realised when leaders make informed decisions that are effectively implemented and monitored. These decisions should be based on a solid understanding of the relevant crash risk types and the most cost-effective measures to mitigate these risks through carefully targeted programs. This is a multi-sectoral task requiring specific, targeted management.

Figure 5: Road Safety Management

An example of leadership driving systemic improvement in the arterial network is the planned replacement of the Yarrawonga-Mulwala Bridge—an essential cross-border connection between Yarrawonga (Victoria) and Mulwala (NSW). Constructed in 1924, the existing bridge no longer meets the needs of modern transport. Both Moira Shire and Federation Council have expressed serious concerns regarding the bridge's reliability, condition, and safety, particularly highlighting its narrow width and the increasing traffic demands. These concerns underscore the urgency for a new, safer crossing to meet the region's growing transportation needs. In response, Transport for NSW and the Victorian Department of Transport have jointly undertaken a structured planning process, engaged the community and evaluated alignment options.

Action L1	Council will establish a dedicated role responsible for managing transport management and planning matters, specifically related to project scoping and development
Action L2	Improve staff capability by providing training on Movement and Place, Road Safety Audit, and Safe System Assessment for engineering and planning staff
Action L3	Advocate to the State and Federal Government for improvements to the Arterial Road Network that will improve road safety such as the construction of the new Yarrawonga-Mulwala Bridge and Belmore Street Bypass.

6. Overview of crash issues

During the 10-year crash period from 2014 to 2023, the average number of crashes per year remained within the same range and does not indicate a trend of increasing or decreasing road trauma within Moira Shire. This can most likely be attributed to the smaller sample size and lower traffic volumes within the municipality.

The number of fatal and serious injuries (FSI) crashes occurring each year has remained static with an average of 32 FSI crashes year. The most FSI crashes occurred in 2016 followed by 2023 where 39 and 37 occurred, respectively.

The number of FSI crashes in the 2019-2023 five year period, with an average of 31.6 FSI crashes per year, was similar to the 2014-2018 period with an average of 31.8.

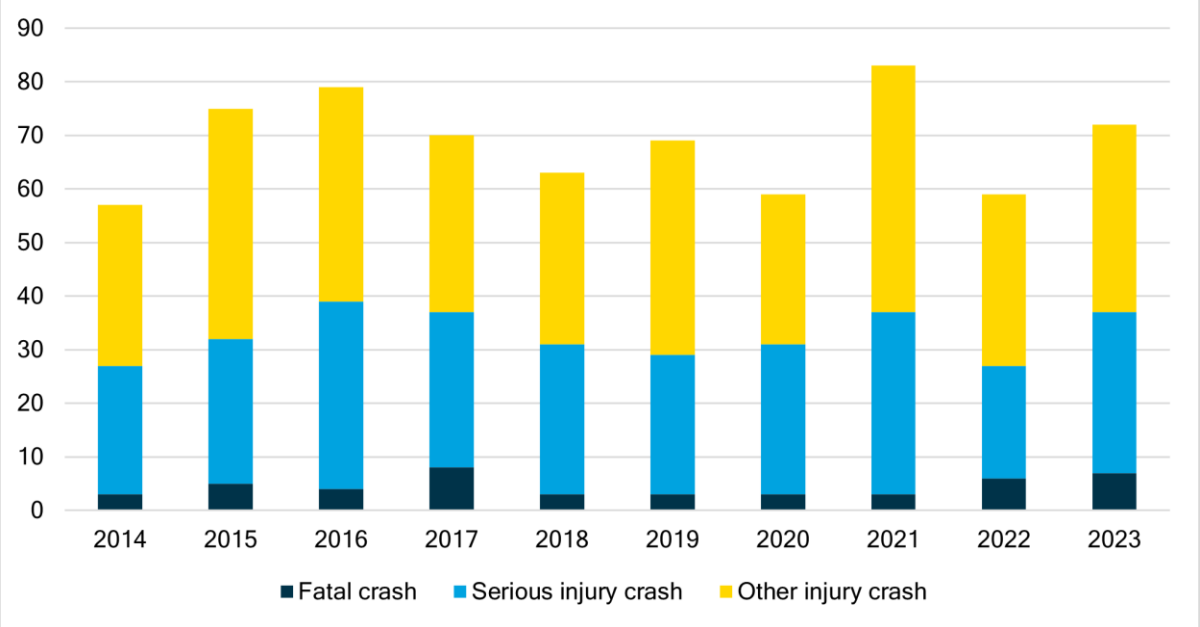


Figure 6: 10-year crash data (DTP and Moira roads – 2014 to 2023).

Between 2019 and 2023, 334 crashes took place in Moira Shire on both DTP and Council-managed roads. Of these, 136 resulted in serious injuries, and 22 resulted in fatalities.

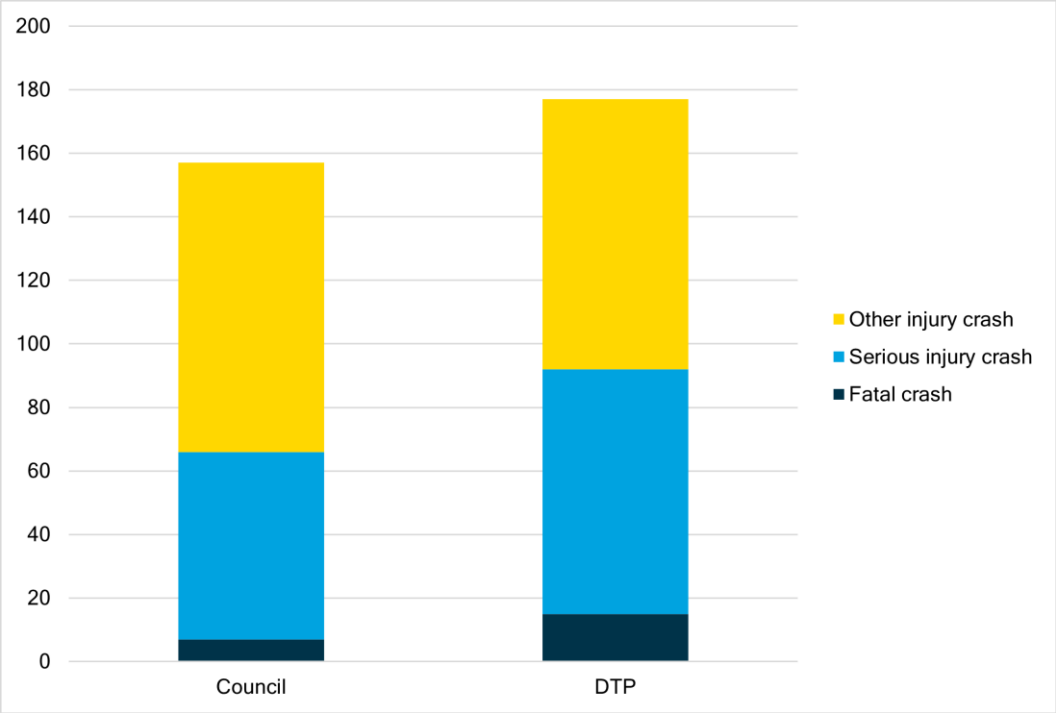


Figure 7: Crashes by road network (DTP and Moira roads – 2019 to 2023).

Figure 8 illustrates the heatmap of all crashes between 2019 and 2023 on Moira Shire's road network. Major crash hotspots are often located around the town centres including Cobram, Yarrawonga, and Numurkah.

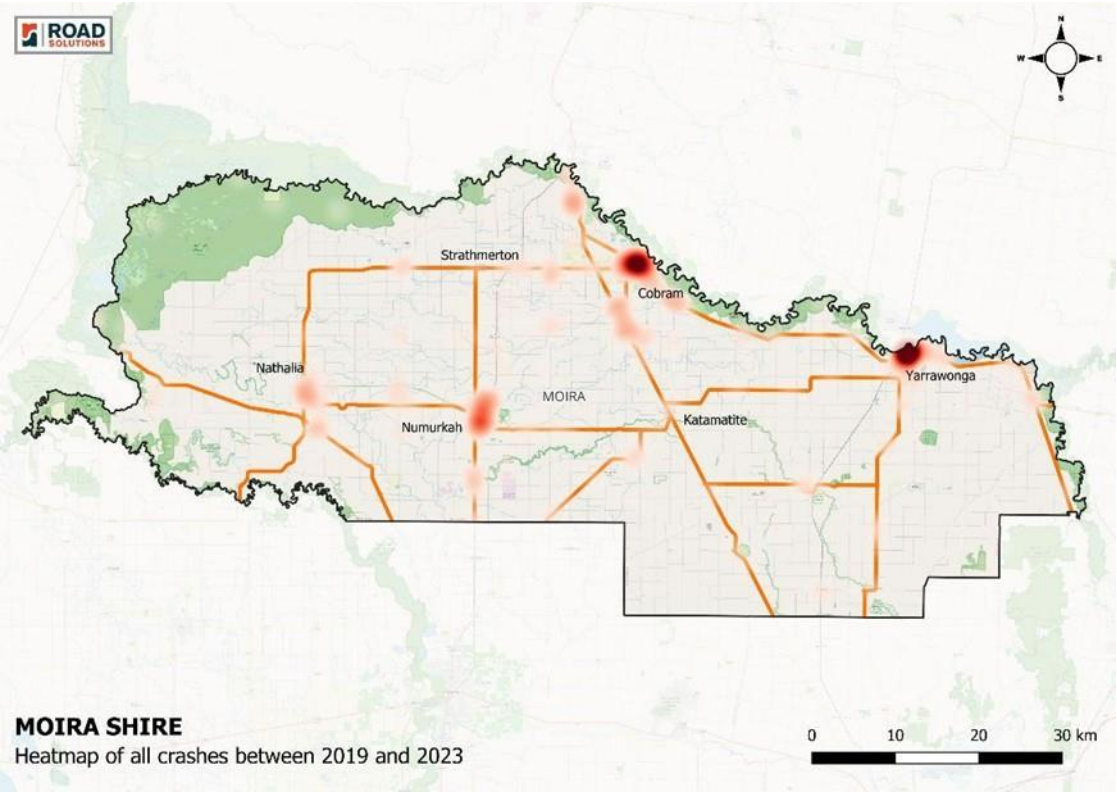


Figure 8: Heatmap of all crashes between 2019 and 2023

Figure 9 presents major crash risks across the Moira Shire local road network. Each of these identified risks will be addressed in a targeted improvement path in the following section.

Run-off-road crashes are the most common, followed by crashes at high-speed intersections. Heavy vehicles account for 11% of all FSI crashes, while vulnerable road users represent 21% of all FSI casualties.

The high risk roads are predominately rural roads with unsealed surface serving as access to surrounding agricultural land. Due to the road surface, narrow lane width, presence of roadside hazards and 100 km/h speed limit roads of this character have been classified as high risk under the Department of Transport Infrastructure Risk Rating.

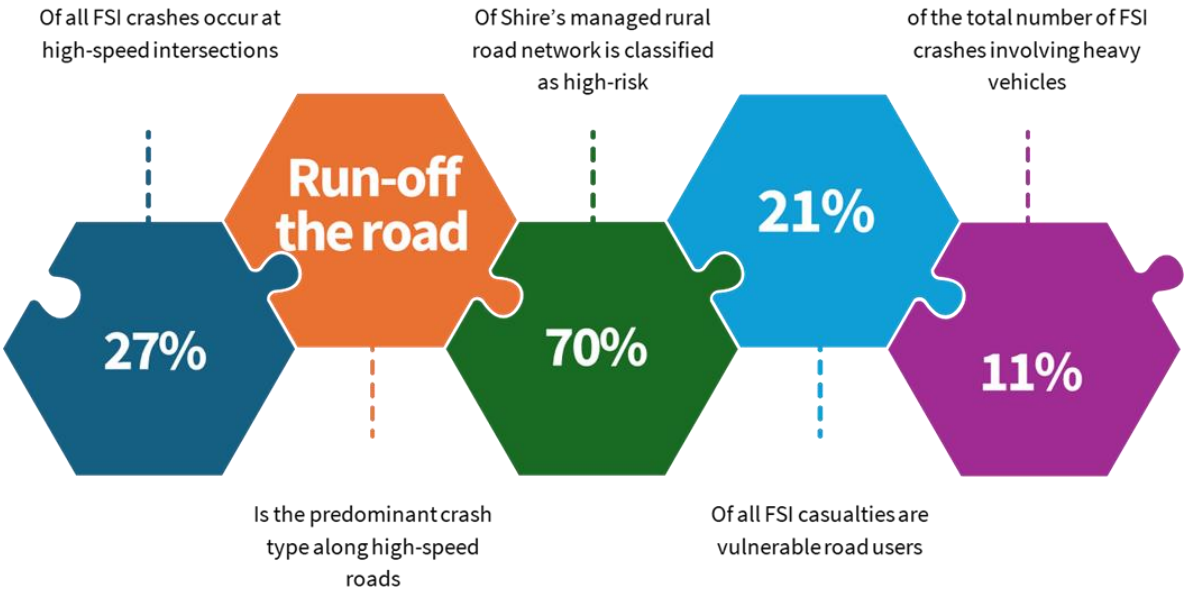


Figure 9: Summary of major crash risks on Moira Shire local road network

7. Targeted paths

The road network is constantly under pressure because of changes in traffic volume and types. Solutions are needed to meet current as well as future challenges. Below are the major target paths for future improvements on Moira Shire road network

Targeted Path 1 - Intersection safety

What does the data show?

There is a significant number of serious injury crashes, and three of seven fatalities on Moira roads occur at intersections with a speed zone of 70-100 km/h.

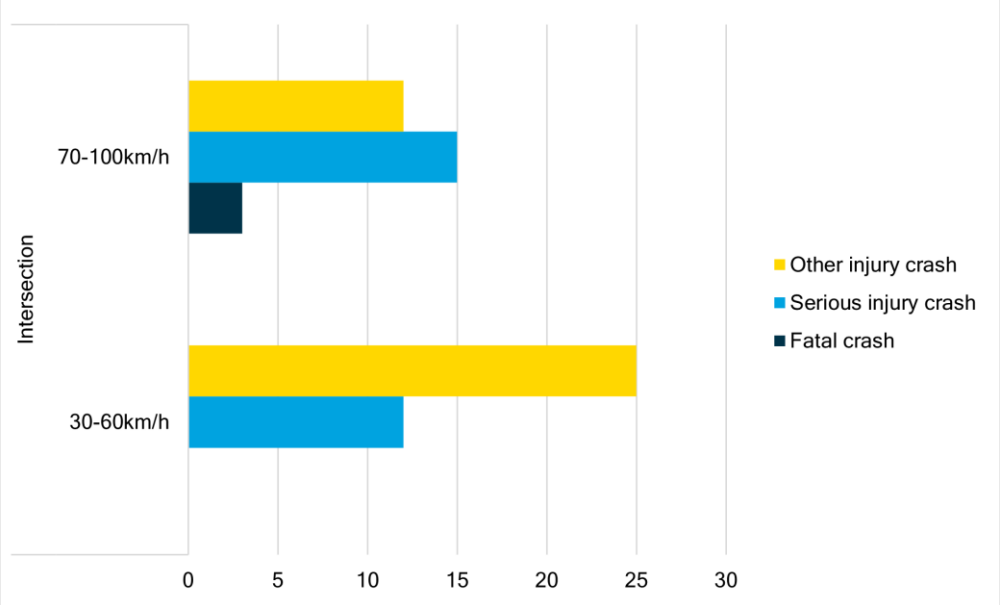
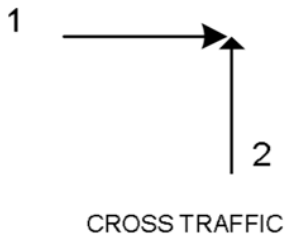


Figure 10: Crash by speed limit at intersection (Moira roads – 2019 to 2023).

Cross traffic crash is the most common crash type at Moira council road intersection that resulted in death and serious injury (accounted for 60% of FSI at intersection)



Crash analysis shows that intersection and off-path on straight are the two most common crash types on Moira council roads (Figure 11).

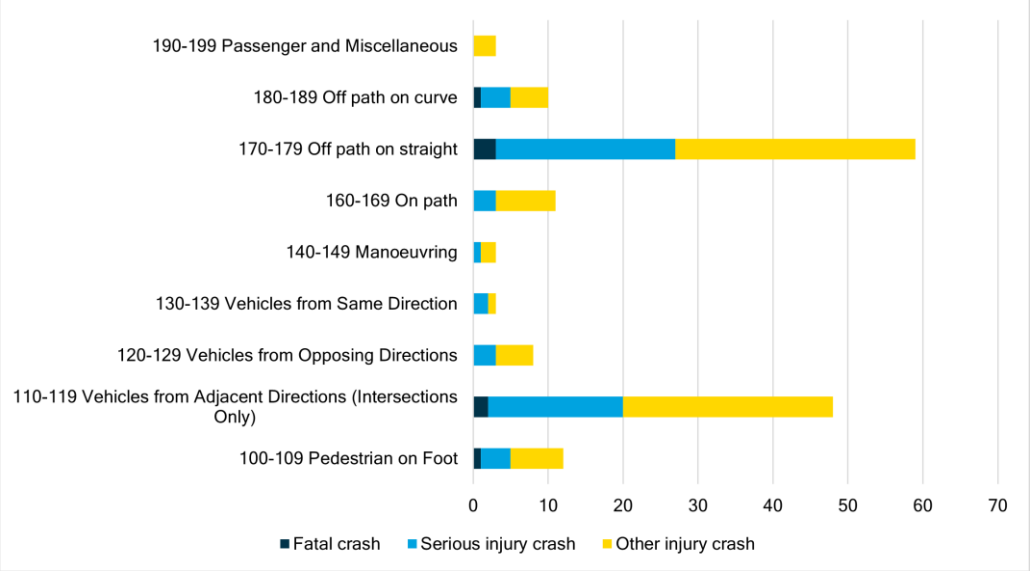


Figure 11: Number of crashes by DCA groups (Moira roads – 2019 to 2023)

Among the intersection crashes, most of them happened at Giveway or no control intersections (Figure 12)

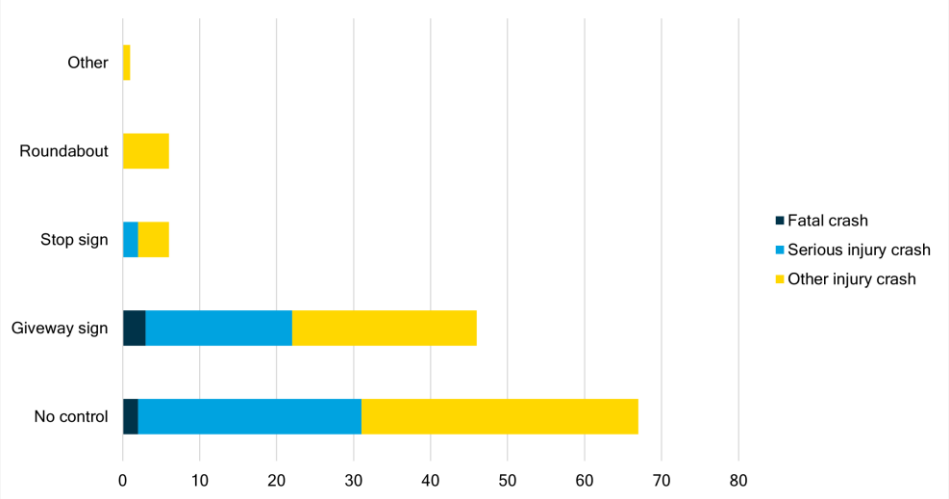


Figure 12: Number of vehicles involving in a crash by intersection type (Moira roads – 2019 to 2023)

What do people/ councils want?

- 66.67% of respondents want to address the safety at intersection issue over the coming five years

What are the gaps?	♦ There is a high risk of severe crashes at high-speed intersections ♦ There are a large number of uncontrolled or Giveway sign intersections	
What should we do?	Action 1.1	Conduct intersection visibility and awareness assessment, and implement suitable treatments (e.g., lighting, intersection warning signs, intersection controls etc)
	Action 1.2	Identify and prioritise upgrades to high risk urban intersections on collector roads and local streets.
	Action 1.3	Incorporate Safe System Design principles into design of intersections in new developments

Targeted Path 2 - Mid-block safety

What does the data show?

High-speed environments mid-block poses a significant risk of FSI crashes (Figure 13). The majority of the crashes at mid-block on Moira council roads are off-path on straight sections (Figure 11)

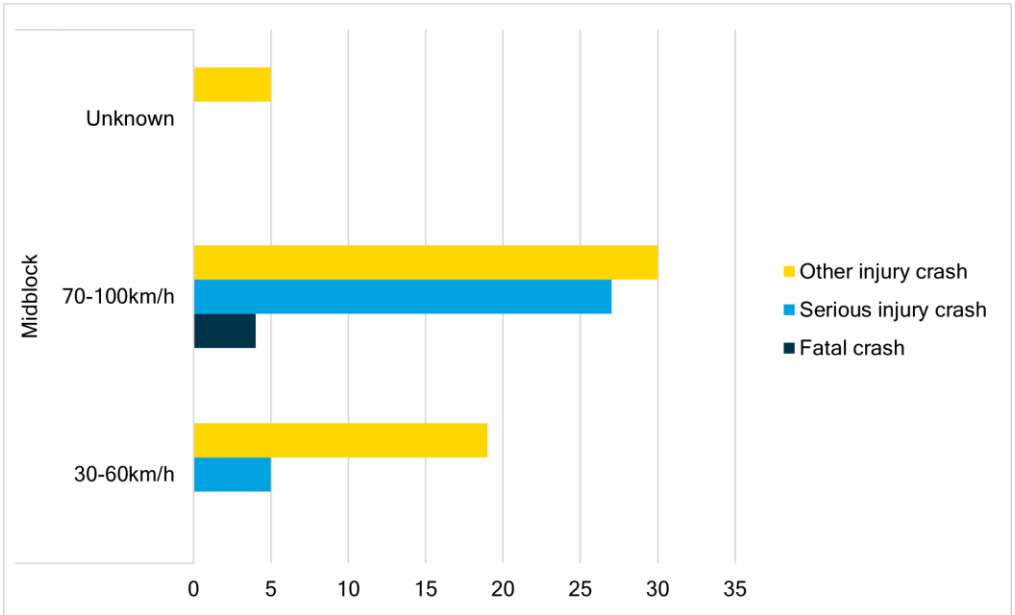
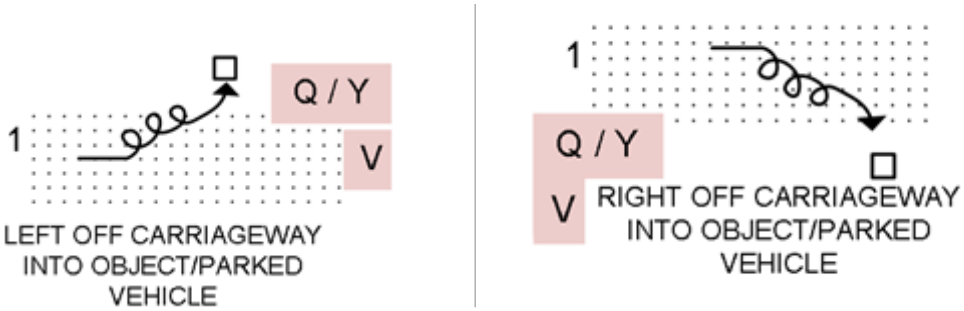


Figure 13: Crash by speed limit at midblock (Moira roads – 2019 to 2023)

	Off carriageway into object/parked vehicle is the most common midblock crash type on Moira council roads, which accounted for over 44% of all FSI crashes at midblock locations.  	
What do people/ councils want?	♦ 69.77% of respondents want to address the road infrastructure issue over the coming five years	
What are the gaps?	♦ High risk of severe crashes at high-speed, straight mid-blocks ♦ Exposed hazards on the roadside significantly increase the risk of high severity run-off road crashes	
What should we do?	Action 2.1	Identify and prioritise high-risk locations for safety improvements
	Action 2.2	Develop a program to provide roadside hazard protection at high-risk locations and pursue external funding opportunities to implement prioritised works

Targeted Path 3 - Speed Management

The speed at which people are driving or riding is the single most important determinant of both the likelihood of a collision occurring and the severity of the outcome. The faster a person is driving, the less time they have to react to avoid a collision, and the more severe any resulting injuries will be.

Design for human vulnerability:

Acknowledge humans' limitations and adopt Safe System travel speeds as the principle for selecting speed limits to maximise crash survivability.

What does the data show?

Figure 14 indicates that FSI crashes mainly occur on access roads to residential areas, collector roads, and link roads. The share of FSI crashes on collector roads and link roads is relatively high even though the total length of their network is smaller than other categories. It suggests that there may be a higher crash exposure or likelihood on collector and link network, hence higher collective risk.

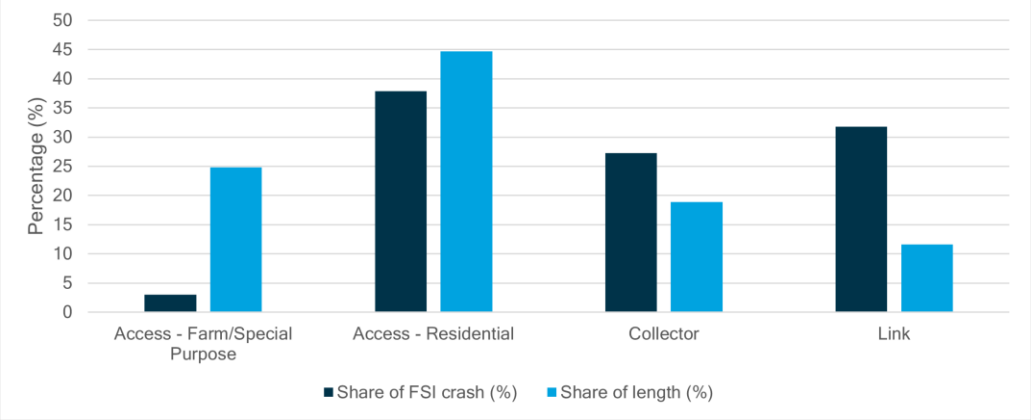


Figure 14: Share of FSI crashes between 2019 and 2023 compared to share of road length by council road hierarchy

The Infrastructure Risk Rating (IRR[1]) across Moira Shire suggests that nearly 70% of the Shire's managed rural road network is classified as high-risk (see Figure 15).

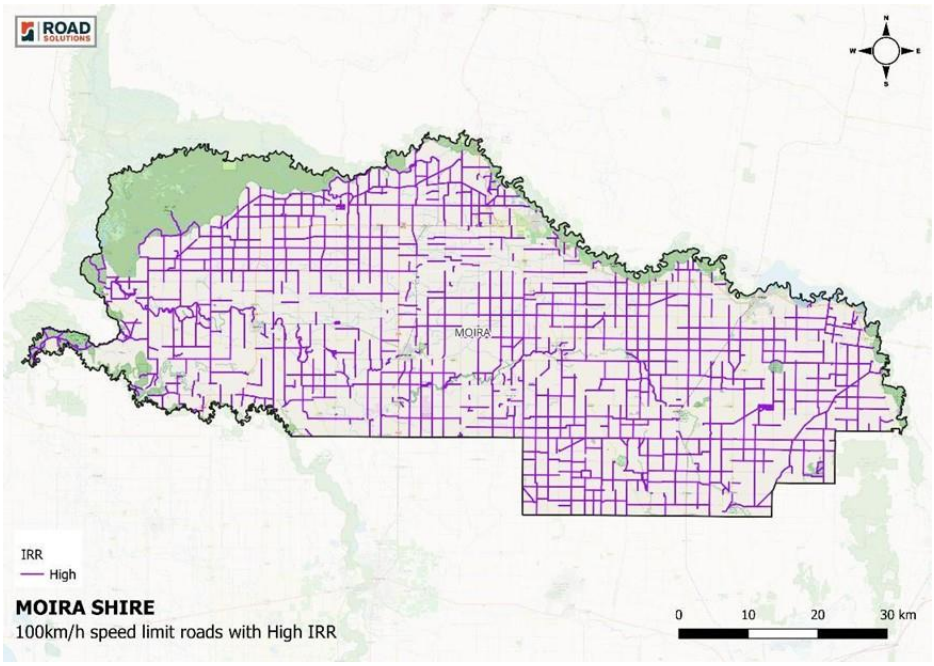


Figure 15: Moira Shire high IRR roads

The risk of a fatality or serious injury significantly increases at speeds above 50 km/h for a side impact with a fixed object or 70 km/h for a head-on collision.

[1] The Infrastructure Risk Rating (IRR), initially developed in New Zealand, is a simple road assessment methodology designed to assess road safety risk at a network level, primarily as an input to the speed limit setting process. IRR is calculated by coding the following road and roadside features:

a. Land use
b. Road stereotype
c. Lane and shoulder width
d. Horizontal alignment
e. Roadside hazards
f. Intersection density
g. Access density
h. Traffic volume – rural roads only
i. Speed limit – rural roads only

The Department of Transport and Planning (DTP), in partnership with the Transport Accident Commission (TAC), have developed the tool to present the IRR on Victorian network.

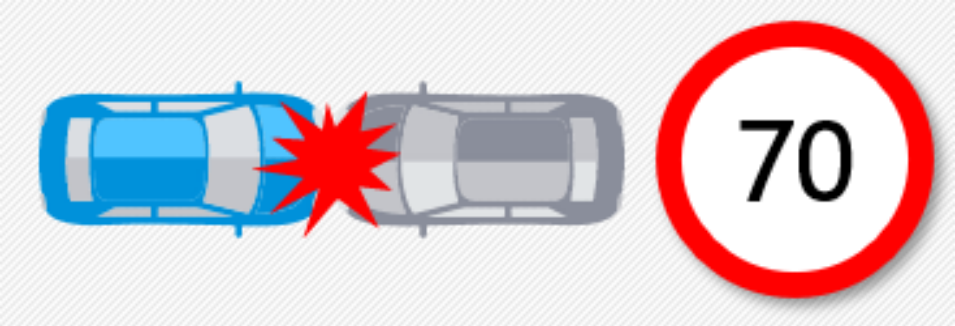


Figure 16: The Safe System threshold for head-on collision

Data indicates that a high proportion of serious injury crashes and more than half of fatalities occurred midblock on roads with a speed zone of 70-100 km/h. A high proportion are run-off road crashes into a roadside hazard on a straight alignment resulting in fatal or serious injuries.

What do people/ councils want?

- 43.8% of respondents indicated speed and speeding as an issue to be addressed in the Road Safety Strategy
- Speed reduction is the second most popular suggested safety improvement on Moira Shire roads, based on the community survey results

What are the gaps?

- Suitability of existing speed limit on high risk roads

What should we do?

Action 3.1	Develop a Network Safety Plan to identify systemic risk across the road network
Action 3.2	Develop Speed Limit Action Plan to manage speed limit on an area-wide base
Action 3.3	Undertake speed campaigns in collaboration with Victoria Police
Action 3.4	Maintenance activities to target high-risk roads – as part of maintenance works include works to upgrade rural link roads to increase safety outcomes
Action 3.5	Advocate to the State Government for greater investment in high-speed rural roads for increased maintenance and betterment
Action 3.6	Ensure road design in new developments incorporates safe system principles

Targeted Path 4 - Vulnerable Road Users

What does the data show?

The 30–39 and 40–49 age groups have the highest share of FSI casualties. It is also noted that the 18-21 and 26-29 age groups are notably overrepresented in the crash data, compared to their population size. Moreover, with 25% of the population aged 65 and over, this casualty distribution highlights the importance of targeted engagement with elderly drivers (Figure 17).

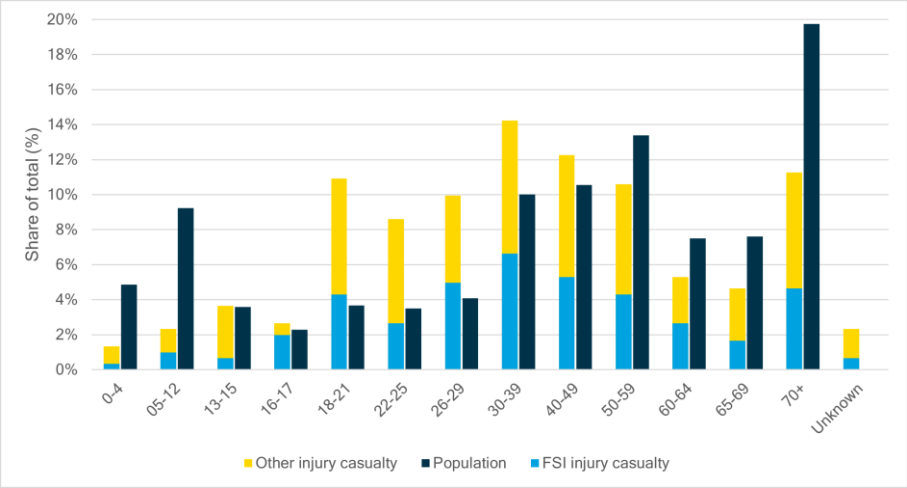
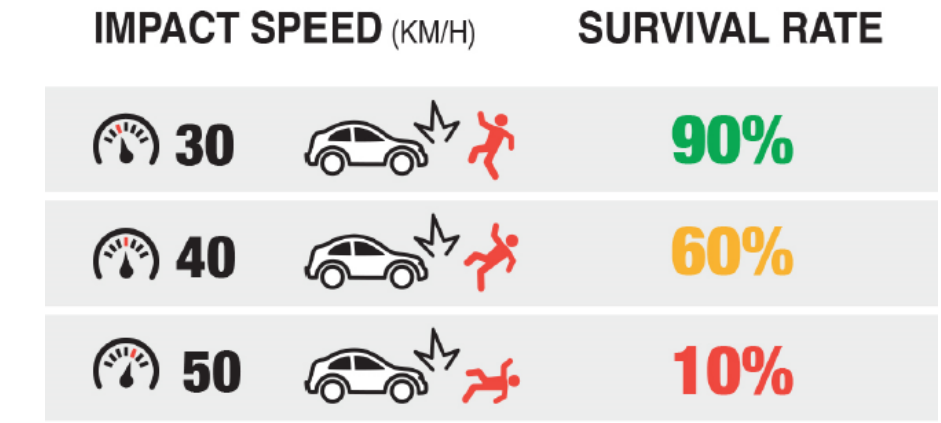


Figure 17: Share of casualties by age group and severity, compared to share of population by age group (Moira roads - 2019 to 2023).

The predominant road user type involved in crashes on council-managed roads is motorists (either drivers or passengers), representing 78.2% of crashes (Figure 18). Motorcycles, pedestrians, and cyclists have a lower representation, with 9%, 7.7%, and 3.9%, respectively.

The higher number of motorists involved in FSI crashes can be attributed to a high exposure where 70.1% of Moira Shire residents indicated their travel method for work in the 2021 census is by car either as a driver or passenger. This value is significantly higher than the Victorian average of 53.4% and can be attributed to the large distances between towns and communities and the limited availability and infrastructure of public transport.



A person hit by a car travelling at 30km/h has a **90%** chance of surviving. If they are hit at 40km/h, they have a **60%** chance of surviving. At 50km/h this drops to **10%** chance of surviving.

Source: Victoria Walks (2025)

A safe speed on roads with possible conflicts between cars and pedestrians, cyclists or other vulnerable road users is 30 km/h.

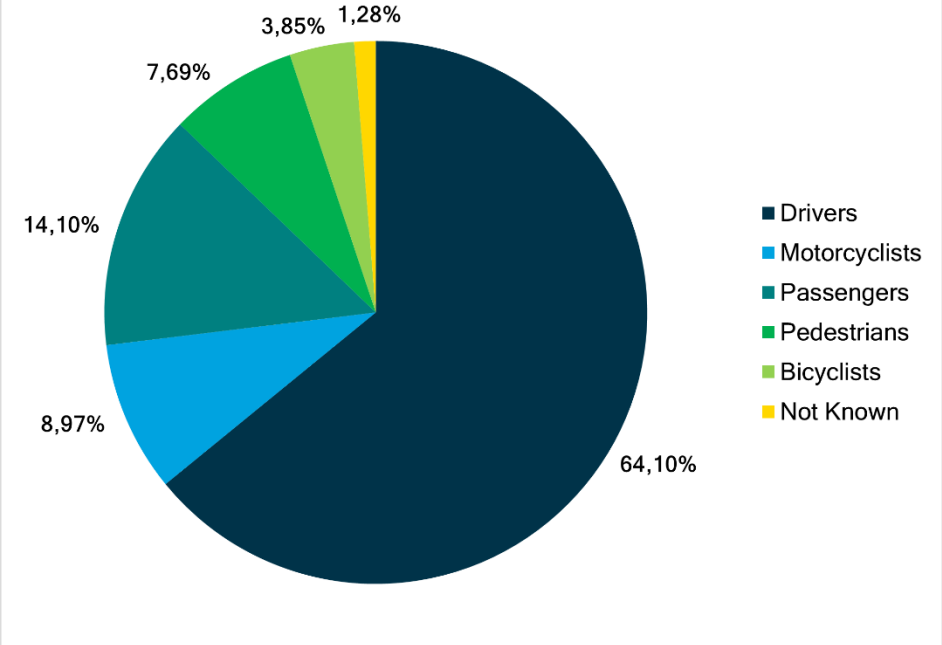


Figure 18: Share of FSI casualties by road user type (Moira roads – 2019 to 2023).

The number of males involved in a crash was significantly higher than the number of female casualties in the 5-year period (Figure 19)

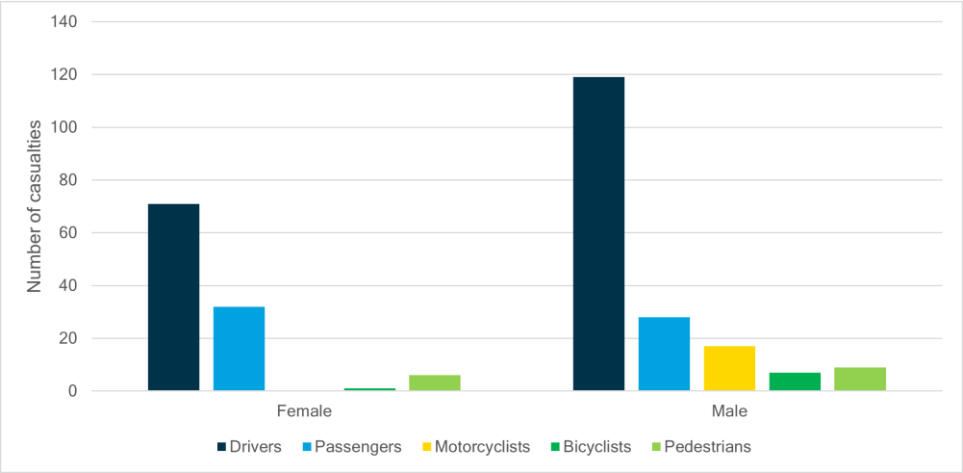


Figure 19: Number of casualties by sex and road user types (Moira roads – 2019 to 2023).

Figure 20 presents the locations of pedestrian crashes across the Moira Council road network. Two out of five FSI pedestrian crashes occurred on 100 km/h speed limit rural roads.

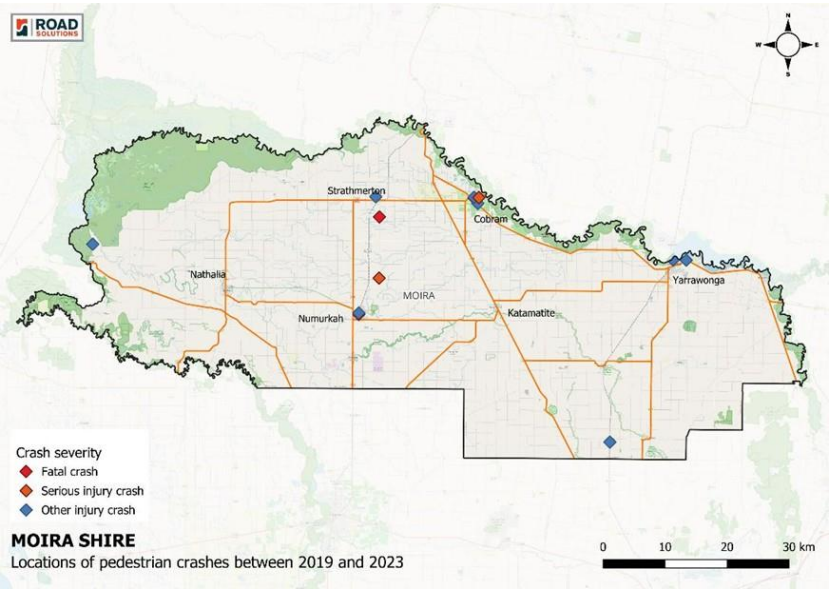


Figure 20: Locations of pedestrian crashes (Moira roads – 2019 to 2023)

What do people/ councils want?

- Create safer, more liveable towns by improving walking, cycling, and public transport infrastructure, reducing car dominance, and encouraging active, sustainable travel.
- Access and mobility issues were identified as part of the Shires 'All Abilities and Access and Inclusion Plan 2023-2026'. The findings of this Plan require serious consideration of accessibility and mobility solutions in the development of the Strategy and Action Plan.
- Pedestrian safety/infrastructure is ranked in 4th place of the issues to be addressed based on the community survey results.

	♦ Among the proposed road safety programs, road safety education programs for primary and secondary school students, and information sessions on road rules are ranked the highest, based on the community survey results.	
What are the gaps?	♦ Highest number of FSI crashes is in the early middle age groups. However, there are significant concerns related to the number of casualties in young adult (18-21), adult (26-29), and senior (65+) age groups ♦ The majority of FSI casualties are related to motor vehicle ♦ Pedestrian and cyclist infrastructure remains discontinuous in many locations within the Shire forcing pedestrians and cyclists to travel on road increasing the exposure to risk	
What should we do?	Action 4.1	Upgrade pedestrian crossings and speed management facilities, in pedestrianised areas i.e., around school or town centres
	Action 4.2	Consider pedestrians, cyclists, and motorcyclists safety in all new development works
	Action 4.3	Conduct educational campaign on road safety for students (primary and secondary) and young driver/rider group
	Action 4.4	Conduct educational campaign on road rules and safety risks for all road users, including senior citizens and vulnerable road users
	Action 4.5	Conduct educational campaign highlighting the presence of pedestrians and cyclists on rural roads

Targeted Path 5 - Heavy vehicles and farming machinery

Implement infrastructure that makes roads more forgiving to human mistakes, ensuring that errors do not lead to fatalities and serious injuries.

What does the data show?

Agriculture is the Shire's main economic driver, and heavy vehicles are therefore present on our roads. This is reflected in the high number of heavy vehicle crashes, which represented approximately 11% of the total number of crashes in the ten-year crash period ending 2023. Figure 21 shows the locations of heavy vehicle crashes on Moira council roads.

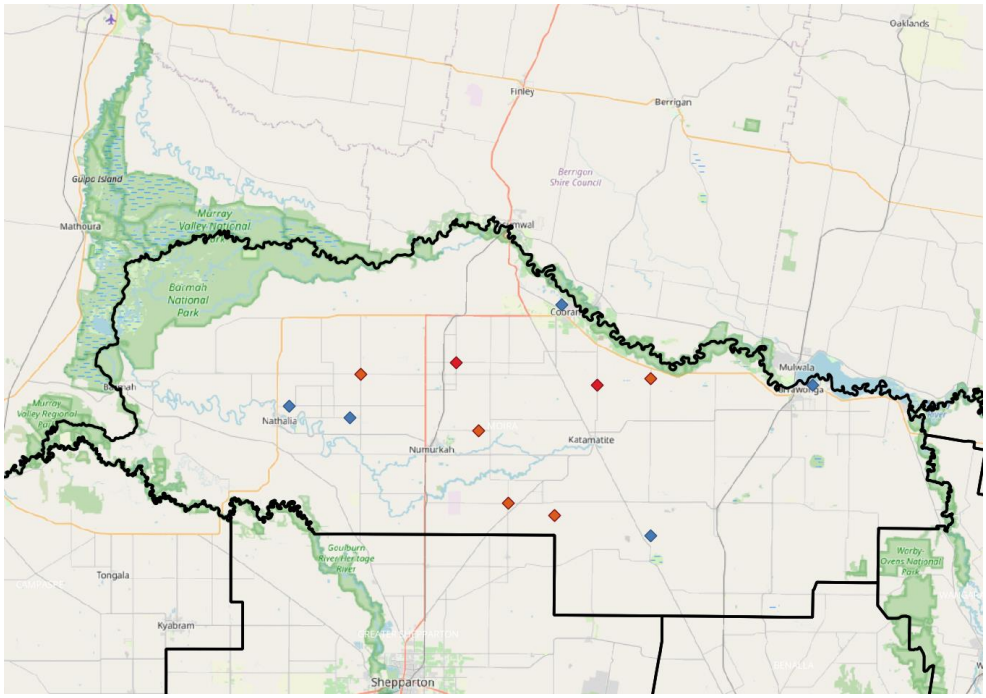


Figure 21: Heavy vehicle crash location

What do people/ councils want?

- It is recognised that heavy vehicle crashes contributed to a significant number of FSI crashes on Moira Shire local road network

What are the gaps?	♦ Heavy vehicle crashes often result in FSI ♦ High number of heavy vehicles crashes at intersections in rural areas	
What should we do?	Action 5.1	Undertake education and information campaigns with heavy vehicle drivers as well as other parties aimed at non-heavy-vehicle road users to improve driving behaviours around heavy vehicles
	Action 5.2	Review safety issues associated with heavy vehicle routes and propose suitable treatments or rerouting strategies
	Action 5.3	Undertake Road Safety Audits at locations where the risk for heavy vehicles and farming machinery is high

8. The Road Ahead – Action Plan

Paths	No.	Action	Objective	Performance measure	Council's role	Priority
Leadership	L1	Council will establish a dedicated role responsible for managing transport management and planning matters, specifically related to project scoping and development.	Bring more focus on road safety issues and ensure a systemic safety level across the network	A new dedicated transport engineering role	**Service Provider**	**High**
	L2	Improve staff capability by providing training on Movement and Place, Road Safety Audit, and Safe System Assessment for engineering and planning staff	Improve Council's technical capacity	Number of staff in transport management and planning roles who hold relevant Movement & Place and Safe System training	**Service Provider**	**Medium**
	L3	Advocate to the State and Federal Government for improvements to the Arterial Road Network that will improve road safety such as the construction of the new Yarrawonga-Mulwala Bridge and Belmore Street Bypass.	Construction of the new Yarrawonga-Mulwala Bridge and Belmore Street Bypass	Identify suitable forums to raise these matters and document in meeting minutes issue raised	**Provider**	**High**
Intersection safety	1.1	Conduct intersection visibility and awareness assessment, and implement suitable treatments (e.g., lighting, intersection warning signs, etc)	Improve visibility and awareness at intersection	• Perform assessment for all high-risk intersections • At least 2 high risk intersections per year are improved	**Part funder**	**High**
	1.2	Identify and prioritise upgrades to high risk urban intersections on collector roads and local streets.	Reduce the number of conflict points at identified intersections	• Identify suitable intersections for improvement • Upgrade at least one intersection per year	**Part funder**	**Medium**

	1.3	Incorporate Safe System Design principles into design of intersections in new developments	Ensure road safety is considered in design of new developments to avoid future road safety issues	Road safety audits and Safe System assessments are provided as part of Traffic Impact assessments for new developments	**Facilitator**	**Medium**
Midblock safety	2.1	Identify and prioritise high-risk locations for safety improvements	Identify and propose treatments for high-risk locations (both intersections and midblocks)	• Annually apply for funding such as Federal Black Spot program or Safe Local Roads programs • At least 2 hotspots are treated every year	**Part funder**	**High**
	2.2	Develop a program to provide roadside hazard protection at high-risk locations and pursue external funding opportunities to implement prioritised works	Reduce severe injuries associated with run-off road crashes	• Annually apply for funding such as Federal Black Spot program or Safe Local Roads programs • Number of FSI associated with run-off road crashes is decreased	**Part funder**	**Medium**
Speed management	3.1	Develop a Network Safety Plan to identify systemic risk across the road network	Assess systemic risk on Moira Shire road network	A Network Safety Plan is developed	**Part funder**	**Medium**
	3.2	Develop Speed Limit Action Plan to manage speed limit on an area-wide base	• Set suitable speed limits based on road hierarchy and risk • Introduce measures that reduce impact speed on approach to high speed rural junctions.	A Speed Limit Action Plan is developed	**Part funder**	**Medium**
	3.3	Undertake speed campaigns in collaboration with Victoria Police	Increase speed compliance level	At least one speed campaign undertaken yearly	**Advocate**	**Low**

	3.4	Maintenance activities to target high-risk roads – as part of the reseal program and capital works program, develop works to upgrade rural link roads to increase safety outcomes	Improve and maintain pavement condition	At least 1 rural link section is upgraded every year	**Part funder**	**High**
	3.5	Advocate the State for greater investment in high-speed rural roads	Improve safety on high speed rural roads	At least 1 externally funded road safety project per year	**Advocate**	**Low**
	3.6	Ensure road design in new developments incorporates Safe System principles	• Set suitable speed limit based on road hierarchy and risk • Ensure new developments incorporate appropriate design traffic speeds to protect vulnerable road users • Design speeds are safe for vulnerable road users	Road safety audits and Safe System assessments are provided as part of Traffic Impact assessments for new developments	**Part funder**	**Medium**
Vulnerable Road Users	4.1	Upgrade pedestrian crossing and speed management facilities, in pedestrianised areas i.e., around school or centre township	Provide safe crossing facilities and reduce approach speed	At least 2 pedestrian safety projects per year	**Part funder**	**Medium**
	4.2	Consider pedestrians, cyclists, and motorcyclists safety in all new development works	Ensure the safety of all road users is assessed	Road safety audits and Safe System assessments are provided as part of Traffic Impact assessments for new developments	**Facilitator**	**High**
	4.3	Conduct educational campaign on road safety for students (primary and secondary) and young driver/rider group	Address road safety among young road users	At least 2 educational campaigns over the 5 year period	**Part funder**	**Medium**

	4.4	Conduct educational campaign on road rules and safety risks for all road users, including senior citizens and vulnerable road users	Raise awareness of road rules and safety risks for drivers and riders	At least 1 educational campaign	**Part funder**	**Medium**
	4.5	Conduct educational campaign highlighting the presence of pedestrians and cyclists on rural roads	Raise awareness of drivers to anticipate the presence of pedestrians and cyclists on rural roads	At least 1 educational campaign	**Part funder**	**Medium**
Heavy vehicles and farming machinery	5.1	Undertake education and information campaigns with heavy vehicle drivers as well as other parties aimed at non-heavy-vehicle road users	Improve driving behaviours around heavy vehicles	At least 1 educational campaign	**Part funder**	**Medium**
	5.2	Review safety issues associated with heavy vehicle routes and propose suitable treatments or rerouting strategy	Ensure required safety level on heavy vehicle routes	A review of heavy vehicle routes in Moira Shire	**Part funder**	**Low**
	5.3	Undertake Road Safety Audits at locations where the risk for heavy vehicles and farming machinery is high	To assess the risk from heavy vehicles and farming machinery point of view	All identified locations are audited	**Part funder**	**Medium**

9. Monitoring and Evaluation

Investment in terms of human, financial and other resources require us to prove we have achieved results, and we do no harm. Being able to measure and communicate the results of work has a huge impact on 'trust' and 'credibility'. By communicating the effectiveness of activities undertaken, more resources can be mobilised to strengthen the interventions in the future.

Evaluation is a systematic way of collecting, analysing and using information to answer basic questions about a project/programme/intervention. It can be internal, external or involving many key stakeholders.

The evaluation, in terms of its focus, can be:

- Process evaluation: assess whether an intervention was implemented as planned, whether the target population was reached, and what were the major challenges and successful strategies used.
- Outcome evaluation: determine whether and to what extent the expected changes occurred and whether these changes can be attributed to the programme/intervention activities.

Moira Shire Council will keep track of crash records in order to closely monitor the effectiveness of the proposed treatments. By collaborating with government agencies such as DTP, Victoria Police, TAC, and other stakeholders within Moira Shire, we will produce a biennual review of implemented actions and safety trends. Performance measures outlined in Section 8 of this report will be used for evaluation. The result of the review process will help to adjust the action plan accordingly to ensure the crash reduction targets are met.