

TAC

FUTURE ROAD COMPETITION

2026

ROAD SAFETY BY DESIGN

COMPETITION GUIDELINES



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About the Competition

About the Transport Accident Commission (TAC)

The TAC is a Victorian Government-owned organisation whose role is to promote road safety, support those who have been injured on our roads and help them get their lives back on track.

The TAC covers the costs of injuries which are the direct result of the driving of a car, motorcycle, bus, train or tram, and provide support services for people injured in a transport accident as a driver, passenger, pedestrian, motorcyclist, and in many cases, a cyclist.

The TAC is committed to the prevention of road trauma, and work closely with road safety partners of Victoria, to increase awareness of road safety issues, make infrastructure improvements aligned with Safe System principles and ultimately reduce the incidence of road trauma.

The Victorian Road Safety Strategy 2021-2030 commits to the ambitious target of eliminating death from our roads by 2050, with the first step of halving road deaths by 2030. Find out more about the [Victorian Road Safety Strategy](#).

About the Competition

Background

The TAC, along with its road safety partners, is committed to halving the lives lost on Victorian roads by 2030. To help achieve this, the TAC is seeking innovative solutions and the application of Safe System principles to road design projects. This approach supports the commitment of the National Road Safety Strategy 2021-2030 in strengthening all elements of our road transport system under four key themes: Safe roads, Safe vehicles, Safe speeds and Safe road use.

A safer future starts with you.

Students entering the industry can make long-term changes necessary to ensure safety is a central consideration for how we design and deliver safer roads across Australia.

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The Challenge

The Future Road Competition follows a real-world infrastructure project in Victoria within the Victorian Government's Safe Local Roads and Streets Program (SLRSP).

Launched in July 2023, the program will run until June 2027. Over this time, all Victorian councils are being supported to plan, design and deliver safety improvements on their local roads, intersections, and precincts.

One of these projects has been selected and this real-world project will run in parallel with the Future Road Competition.

Engineering students from Victorian Universities will participate to put their skills to the test and help prevent lives lost on our roads.

The Competition Brief will reference key parts of the real-world program funding guidelines and project information to assist students with their response to the brief. The guidelines support the application of Safe System approaches to design solutions.

Your challenge is to propose Safe System applications to the project and demonstrate innovative thinking.

The challenge will be conducted over two stages:

Stage One

Stage One entry requirement is a concise response following an adapted real-world funding Expression of Interest (EOI) process. The EOI process will determine a short list of teams to progress to Stage Two.

Stage Two

Stage Two invites the shortlisted teams to complete a set of focused tasks and participate in a hands-on Masterclass with experts and peers.



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Why participate?

The competition is an industry-led activity with unique opportunities to follow a real-world project cycle and engage with industry experts.

Overall, the Competition encourages the following opportunities:

- Gain best-practice industry knowledge required for entering the workforce
- Apply Safe System theory to a real-world project proposal
- Improve your understanding of a full project cycle from concept to delivery
- Get involved with the 'selection of treatments' and 'develop and design' project phases
- Opportunities to connect with peers and network with industry experts at the Masterclass event
- Gain professional development experience to add to your CV and interviews; and
- Be awarded with prize money

Meet the experts

Shortlisted teams will have the opportunity to present their work to the jury of industry experts and their peers at a Masterclass event and engage with the industry lead consultant on the delivery of the real-world project.

The Masterclass provides the following benefit to students:

- Hear from the experts
- Experience presenting to industry experts and your peers
- Participate in a live demo of an innovative Safe System geometric design process
 - Hands-on demo using CAD software, MicroStation.
 - Learn to analyse the safety levels in the design options for the real-world project using kinetic energy analysis.
- Network with peers and industry members
- Hear final announcements of winners

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Entry Process

Competition Terms and Conditions

Refer to the full Terms and Conditions containing all information required for participating in the Competition (https://www.tac.vic.gov.au/_data/assets/pdf_file/0006/1054725/Terms-and-Conditions-Future-Road-Competition-2026.pdf).

Who can enter

Entry is only open to Competitors who at the time of entering the competition:

- Are residents of Victoria
- Are aged 18 years or older
- Are actively enrolled in undergraduate engineering courses of an Australian University
- Are not an employee, or related to an employee, of the Promoter or one of its agencies connected with this competition
- Have not had their motor vehicle license previously suspended or cancelled in the two years prior to date of entry or have more than five demerit points in the last five years

How to enter

Register to enter

- Form a team of two to three students
- To receive communications and updates about the competition, we encourage you to register your interest via the TAC Future Road Competition website (<https://www.tac.vic.gov.au/road-safety/campaigns/future-road-competition>)

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Stage One: Submit your Safe System submission (EOI)

- Use Section 3 of the Competition Brief as the background to the real-world project, to assist you in preparing a submission
- Complete Section 4 of the Competition Brief
- Complete one submission entry per team via the TAC Future Road website form (<https://www.tac.vic.gov.au/road-safety/campaigns/future-road-competition?tab=2>)
- Attach your submission as a pdf

Stage Two: Safe System Masterclass event

Shortlisted submissions will:

- Be required to attend the Masterclass
- Be requested to prepare a short presentation prior to the Masterclass with an overview of the Stage One submission
- Teams will be provided concise supporting material to assist presentation preparation
- Be invited to present their presentation to their peers and a panel of industry experts
- The presentation shall be no longer than 10-minutes
- No more than 10 slides should be used
- Presentations will be required to be submitted in pdf format one week prior to the Masterclass
- Presentations should be presented at the Masterclass in a PowerPoint format

Submission Format

- Submission must be entered before the close of the Competition Submission period
- Only one submission should be entered per team
- Competitors must respond to all Stage One questions
- Attach your submission as a pdf
- Only shortlisted teams will be required to complete Stage Two presentations

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The Prize

To reward you for your Safe System approach thinking, the below prizes will be awarded at the Masterclass, as determined by the panel of judges in accordance with the Assessment of Entries.

1st Prize

- \$5000 cash reward
- Public recognition as winners by TAC

2nd Prize

- \$3500 cash reward
- Public recognition as runner up by TAC

3rd Prize

- \$1500 cash reward
- Public recognition as third place by TAC

Competition Timeline

Stage	Milestones	Date	Activity
Stage One	Form a team and register your participation	20 April – 17 August	All participants are encouraged to register via the TAC website to receive timely updates and communications
	Submissions Open	13 July	Review the competition brief and begin preparing your submission
	Q&A period	13 July – 12 August	Submit any questions regarding the Brief & Conditions
	Submissions close	17 August, 12pm	Submit your submission via pdf on the TAC website
	Shortlisting period	17 – 31 August	Panel of industry experts to review all submissions and complete judging process
	Shortlisted teams informed	3 Sept	TAC requires all shortlisted participants to be verified and pass a licence check
Stage Two	Prepare for the Masterclass	3-17 Sept	Shortlisted teams prepare a short presentation
	Submit Submission Presentation	17 Sept, 12pm	Submit pdf presentation via email
	Participate in the Masterclass	22 Sept	Present your submission at the Masterclass Award announcements

Judging Process

A panel of industry experts have been selected to assess the submissions and determine the shortlisted Teams for Stage Two.

The Evaluation Criteria will form the basis of the panel's decision.

The following judging process will take place:

- The judging panel will assess all eligible Stage One submissions
- Six (6) teams will be shortlisted and invited to attend the Masterclass
- The top three (3) shortlisted teams will be invited to present their proposal at the Masterclass for the finalist judging
- Winners and prize holders will be determined and announced at the Masterclass event

Evaluation of Submissions

Stage	Evaluation Components	Weighting
Stage One	Target User Groups	10%
	Design Options (car occupants)	25%
	Designing for Safe Speeds (pedestrians)	10%
	Managing Kinetic Energy (pedestrian safety thresholds)	10%
	Managing Kinetic Energy (designing for pedestrians)	25%
Stage Two	Masterclass Presentation Content	10%
	Masterclass Presentation	10%

Questions and Answers (Q&As)

Q&A entries will be open throughout Stage One and Stage Two (presentation preparation phase only). All Registrants may ask questions in the Q&A.

All questions:

- Must be sent to futureroad@graffiti.com.au
- Must be submitted within the time specified in the Competition Timeline
- Will be responded to as soon as possible by the Competition team and/or industry experts
- Questions and answers will be sent to all teams

Competition Scope - Qualifications

- The Competition involves concept designs which are for the purposes of the Competition only
- Safe System professionals will be engaged to undertake the design work, and your thinking approach may be relevant and useful in that work
- Competitors are not required to visit the site to participate in the Competition
- Students are encouraged to use available resources to complete their response
- Competitors are not permitted to contact the Warrnambool City Council regarding the Competition, for any purpose such as to gain additional insight, information or details



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The Design Brief

1. What is the Safe System?

Australian governments have committed to a vision of zero deaths and serious injuries by 2050 (Vision Zero).

The 2050 Vision Zero statement represents a stronger commitment to the Safe System approach which is supported internationally.

The 2021-2030 Victorian Road Safety Strategy outlines an approach to road safety that is built around a Safe System approach. The approach is coordinated to include all the road safety partners of Victoria.

Safe System principles aspire to zero lives lost and serious injuries on our roads. The approach avoids economic motives and prioritises human life above all else.

The guiding principles behind the approach are:

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- People make mistakes - a mistake should not cost anyone's life or health
 - Human physical frailty - humans cannot withstand crash forces
 - Design a 'forgiving' road transport system
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The Safe System acknowledges that humans will continue to make mistakes and crashes will occur. With the combination of the Safe System pillars, energy shall be managed such that harm does not occur in the event of a crash. This is called 'system design'.

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The Safe System model is typically represented by the following image.



Figure 1 - The Safe System Model

A Safe System is the (virtual) elimination of death and serious injury by users of that system.

The Safe System approach is regarded as international best practice in road safety and provides an outcome whereby death and serious injury are virtually eliminated amongst users of the road system. Safe System is the management and design of the road system such that impact energy on the human body is firstly avoided or secondly managed at tolerable levels by manipulating speed, mass and crash angles to reduce crash injury severity.

Austroroads definition of Safe System design.

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Kinetic Energy

In Safe System terms, the ‘why and how’ relate to reducing harm by the management of kinetic energy. Understanding kinetic energy is a key foundation to this Competition.

There are adequate resources available that describe the science of kinetic energy management in road engineering that can firstly avoid a crash, and in the instance of a crash, manage the outcome to avoid human harm.

Real-World Application

The Competition provides an example of industry application of Safe System design and will also encourage innovative thinking.

This in turn aligns graduate learning with industry needs. Safe System road design is still evolving in its application, and it is crucial that today’s engineering graduates understand and can apply these elements of the Safe System approach to shape the future of our road system.

Investing in Safe System capability and capacity in today’s graduate engineers invests in eliminating harm on our roads by 2050.

The competition will follow the real-world project in real-time and offer you the opportunity to experience phases of project development.

2. Safe Local Roads and Street Program

The TAC, in partnership with the Department of Transport and Planning, have developed the [Safe Local Roads and Streets Program](#) to support the development and delivery of road safety infrastructure projects on local roads.

This \$214 million program is designed to integrate local governments’ priorities with a Safe System approach.

The program will run from July 2023 to June 2027. Over this time, the TAC and DTP are working with all Victorian local governments to plan, design and deliver safety improvements on local roads, intersections and precincts, such as schools.

The Safe Local Roads and Streets Program encourages the implementation of safety-related traffic management techniques and other road safety measures that have proven road safety value, including Safe System alignment.

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Treatment Philosophy

The complete elimination of systemic risk on our roads is not achievable in the near-term future. The most appropriate treatment will depend on where the area/road lies in the Movement and Place framework.

These treatments should be supplemented where appropriate with targeted communications that explain to the community how they address the road safety issue, how they work and their benefits.

Guiding Principles

Key elements of the guiding principles include:

- The most effective way to reduce risk is to eliminate a road user's exposure to crashes, such as closing a street or intersection to vehicles, restricting high risk movements, or separating vulnerable road users (pedestrians and cyclists) from higher speed traffic (e.g. separated bicycle paths, grade separated pedestrian facilities).
- If exposure cannot be eliminated, treatments that reduce the severity of crashes should be used to bring the energy of a collision below the relevant Safe System injury threshold.
- Innovation is encouraged if it can achieve better alignment with Safe System principles through lower cost, or more effective or desirable treatments.

3. Real-World Project Information

Case Study

This Competition follows the Warrnambool City Council real-world project proposal for the Safe Local Roads and Streets Program. The project submission is for the Timor St & Gilles St roundabout upgrade in Warrnambool.

This real-world project will generally run in parallel with the funding program and the Competition. The guidelines provided will assist student entries to develop Safe System aligned design solutions.

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Project Cycle

The Safe Local Roads and Streets Program guidelines inform Councils about the project development cycle and provide an overview which is provided below in Figure 2.

In this real-world project this Competition will have a focus on the following two phases:

- ‘Select treatments’ (the blue shaded area in Figure 2)
- ‘Develop and design’ (the green shaded area in Figure 2)

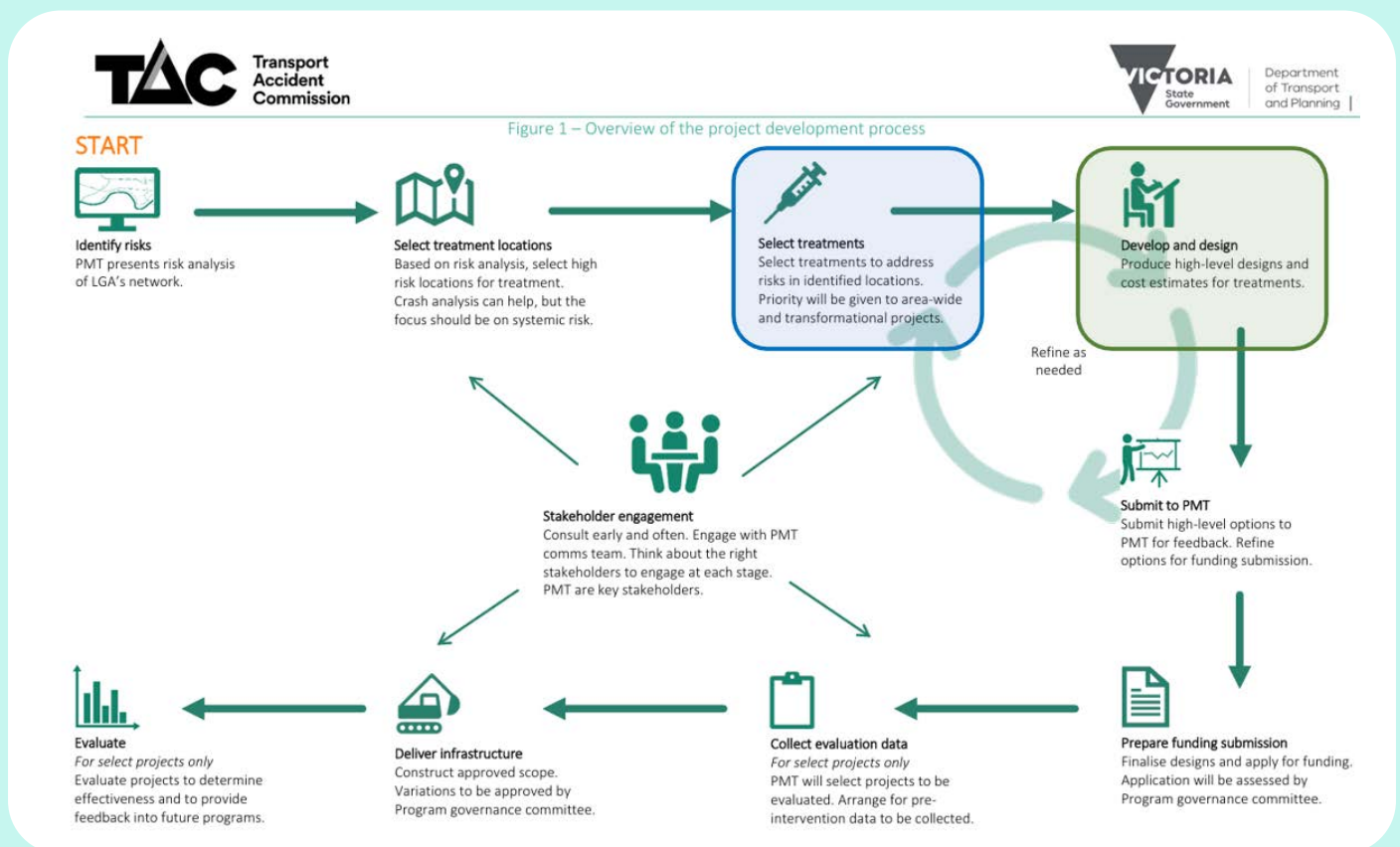


Figure 2 - SLR&S Project Cycle

Competition Project Location



Figure 3 – Competition Project Site – Timor and Gilles St, Warrnambool

Project Objective

The Warrnambool City Council targets a range of road users with Safe System best practice alignment to the solutions.

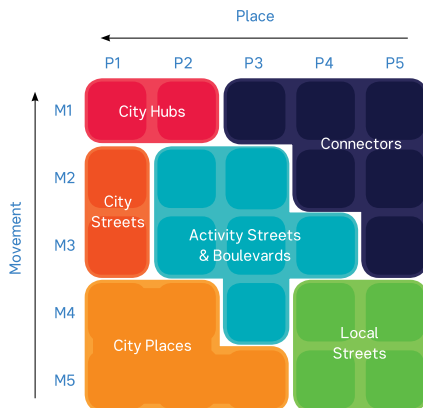
Problem Definition

Ongoing road safety concerns have been flagged relating to pedestrians, the road at the entrances to, and within, the Timor Street/Gilles Street roundabout, accompanied by ongoing speed and sight distance issues for the vehicle movements approaching and within the roundabout.

Confusion is also common at this intersection due to the bookend nature of pedestrian priority roundabouts, being Timor/Kepler and Timor/Liebig Roundabouts.

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Movement and Place



Understanding where on the Movement and Place matrix a road or street sits is crucial to deciding on the treatments that will be employed to improve road safety. For example, movement corridors prioritise traffic operations and may put more emphasis on separating vulnerable road users from vehicle traffic to maintain efficiency of operation, sometimes through higher operating speeds. Other high movement routes might prioritise the efficient operation of public transport vehicles, particularly trams and buses. On the other hand, pedestrians and cyclists will be prioritised in activity areas, while vehicles will be discouraged from entering. Vehicles that do enter will be required to be driven slowly so that vulnerable road users are protected.

The Movement and Place (M&P) Classification has been determined as:

- M4: Movement of people and/or goods within a municipality
- P3: Place of Municipal significance

Description of the Area

The area presents a range of unique facilities further adding to the high pedestrian traffic through this roundabout. Key activity points are;

- Southwest Corner - Southwest Tafe & Warrnambool Library (Tech School also under construction)
- Southeast Corner - Council Offices, Chamber and Lighthouse Theatre
- Northern Corners - Retail and Dining, along with access to a 300 space car park

Scope Details

The project cycle per Figure 2 has nine project cycle phases, with stakeholder engagement central to them all. Within these phases the Safe Local Roads and Streets guidelines call for designs. This real-world project Competition will focus on the following two phases:

- 'Select treatments' (the blue shaded area in Figure 2)
- 'Develop and design' (the green shaded area in Figure 2)

The next section will require you to answer questions related to treatment selection and your understanding of those treatments in Safe System terms.



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Competition Entry Requirements

Stage One: Submission Questions

You are required to answer a series of questions. Please download the Future Road Competition Submission template, complete the required fields and upload as a PDF as your Stage One submission. You must answer all questions for your submission to be considered.

Stage Two: Masterclass Presentation

- Shortlisted teams will be required to prepare a short presentation for evaluation and presenting at the Masterclass
- The task will be issued to the shortlisted teams after the evaluation of the Stage One submissions

Resources

All Supporting Reference Material can be accessed via the hyperlinks provided below.

Required Source Materials:

Safe System for Universities

- <https://www.roadsafetyeducation.vic.gov.au/educational-resources/tertiary-education/safe-system-for-universities>

Module 2 - Safe System objectives for a road transport system:

- <https://www.roadsafetyeducation.vic.gov.au/educational-resources/tertiary-education/module-2-safe-system-objectives-for-a-road-transport-system>

Part 6: Design that support harm elimination:

- https://www.roadsafetyeducation.vic.gov.au/_data/assets/powerpoint_doc/0010/786178/SS4U_Module-2_Snippet-6_Design-that-supports-harm-elimination.pptx

Module 3 – Safe System design for a road transport system: <https://www.roadsafetyeducation.vic.gov.au/educational-resources/tertiary-education/module-3-safe-system-design-for-a-road-transport-system>

Part 1 Managing Energy on Our Roads: https://www.roadsafetyeducation.vic.gov.au/_data/assets/powerpoint_doc/0012/786189/SS4U_Module-3_Snippet-1_Managing-energy-on-our-roads.pptx

RDN-0307-Raised Safety Platforms-v4: [DTP technical publications | vic.gov.au](https://www.vic.gov.au/dtp-technical-publications)

AGRS02-24_Guide_to_Road_Safety_Part_2 - Safe_Roads: <https://austroads.gov.au/>

Research Report AP-R642-20 Effectiveness and Implementation of Raised Safety Platforms: <https://austroads.gov.au/>

[Effectiveness and Implementation of Raised Safety Platforms](https://austroads.gov.au/research-reports/2020/ap-r642-20-effectiveness-and-implementation-of-raised-safety-platforms)

Austroads Towards Safe System Infrastructure: A Compendium of Current Knowledge, Austroads 2018 <https://austroads.gov.au/>

National Road Safety Strategy: <https://www.roadsafety.gov.au/>

Resources

All Supporting Reference Material can be accessed via the hyperlinks provided below.

Supporting Reference Materials:

Safe System for Universities

Austroads Understanding and Improving Safe System Intersection Performance, Austroads 2017
<https://austroads.gov.au/publications/road-design/ap-r556-17>

Austroads Integrating Safe System with Movement and Place for Vulnerable Road Users, Austroads 2020

Publication: <https://austroads.gov.au/publications/road-safety/ap-r611-20>

Webinar: <https://austroads.com.au/publications/road-safety/web-r611-20>

Safe System Solutions Fact Sheets: <https://safesystemsolutions.com.au/resources/>