

WHAT IS THE SAFE SYSTEM AND HOW CAN WE IMPLEMENT IT?

TUESDAY 7 MAY 2024

SUPPORTING



SPEAKERS



Professor Shimul Haque
Director
Smart Transport Safety Research
Lab, QUT



Dr Jason Deller
Transport Engineer
Advanced Mobility Analytics
Group (AMAG)

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AITPM INCLUSIVE MOBILITY PROGRAM

AITPM and its members support a vision of a sustainable, efficient, safe and accessible transport system. Inclusivity is a key challenge underpinning this vision and as such AITPM has introduced its Inclusive Mobility Program to shape progress towards delivering this vision.

The program's vision is for equitable mobility and access for all people regardless of their ability, background or circumstance. Through the Inclusive Mobility Program, AITPM will lead the transport community to create inclusive places, systems and networks.

Principles of the program

- **Increase Discussion** | On the challenges and opportunities to create positive action in our transport community
- **Establish & embed processes** | Within our transport community and with government agencies
- **Advocate to improve standards & guidelines** | For planning, design, delivery of infrastructure and services

FOR Societal change enhancing the places where we live, work and play

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Road Environment Safety

What makes a road safe?



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The Safe System

A forgiving system



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A forgiving system



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The Safe System

What is it really?

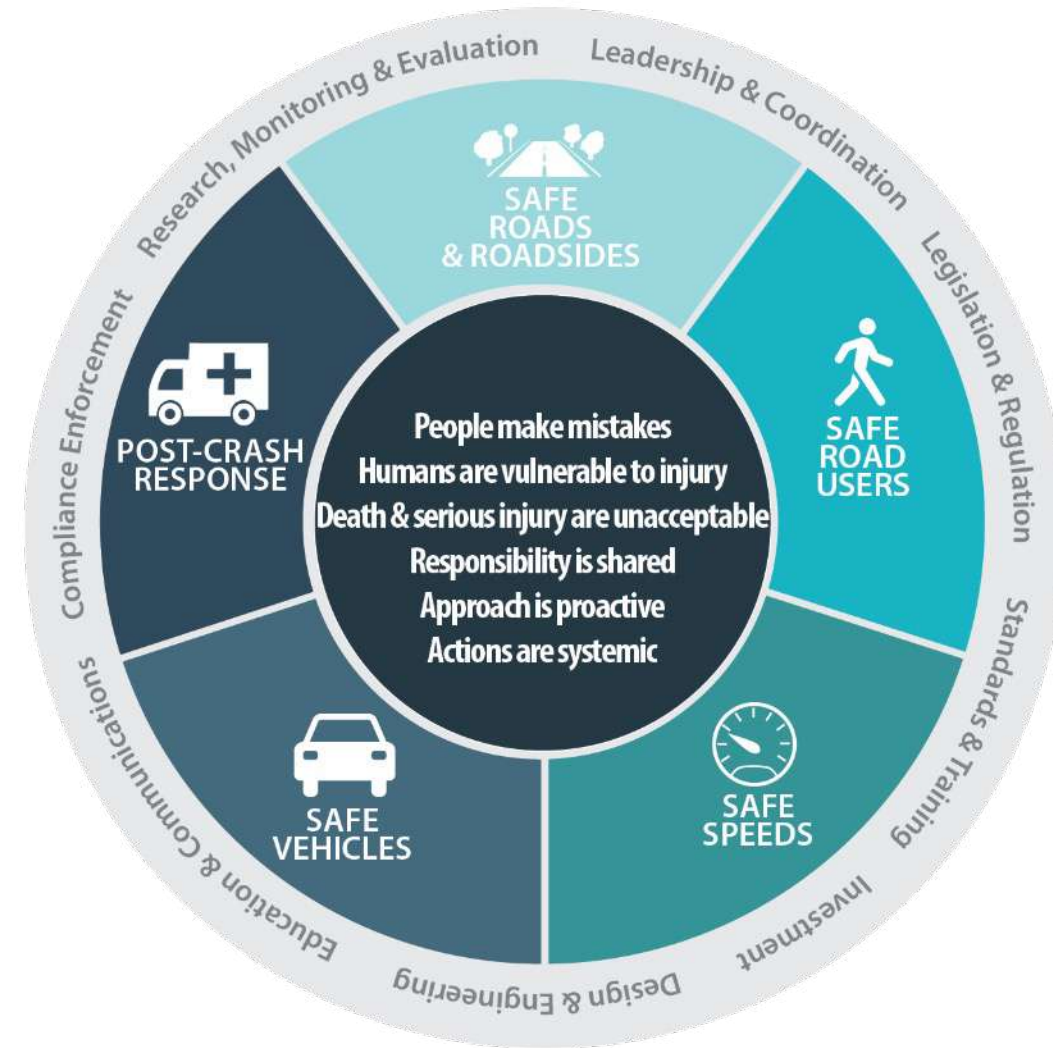
- People make mistakes
- People are vulnerable.



The Safe System

What is it really?

- Focus on forgiving system
- Can't assume all driver error can be eliminated
- Shared responsibility
 - planning, building, managing, users
- Safe System Approach
 - 5 pillars components.



The Safe System

A paradigm shift...

- Between conventional and safe system approaches

	Conventional	Safe System
What is the problem?	Crashes	Fatalities and Serious Injuries
What causes the problem?	Mainly poor road user performance Speeding, drink driving, inattention, deliberate risk taking	System failures
Who is ultimately responsible?	Individual road users	System designer and operators.

The Safe System

A paradigm shift...

- Between conventional and safe system approaches

	Conventional	Safe System
What is the major planning approach?	Incremental approach to reduce the problem with an associated residual crash problem	A systemic approach to build a safe road system and minimise the harm
What is the appropriate goal?	Optimum number of fatalities and serious injuries based on competing objectives	Towards the virtual elimination of death and serious injuries
What is the trade-off?	A balance between mobility and safety	Maximising safe mobility.

The Safe System

A paradigm shift...

- Between conventional and safe system approaches

	Conventional	Safe System
How is the effort coordinated?	Incremental gain within individual pillars (roads / speeds / vehicles / people)	Optimise solutions across pillars (roads / speeds / vehicles / people) – pillars compensate for each other where performance is poor
What are the cultural manifestations?	Legal liability avoidance and risk aversion	Risk assessment, innovation, trials and demonstrations.
How is the effort coordinated?	Incremental gain within individual pillars (roads / speeds / vehicles / people)	Optimise solutions across pillars (roads / speeds / vehicles / people) – pillars compensate for each other where performance is poor

The Safe System

A paradigm shift...

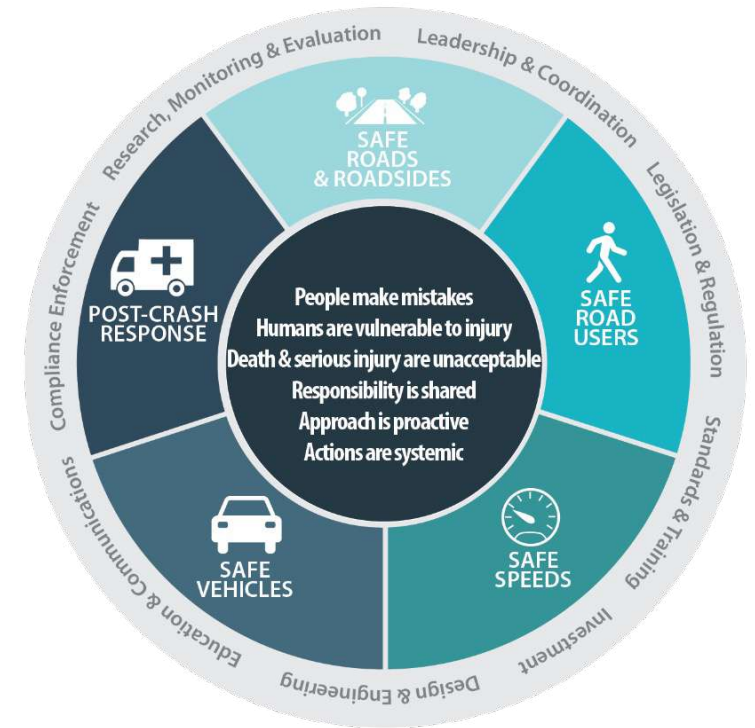
- Between conventional and safe system approaches

	Conventional	Safe System
Context of tools in use	Bias towards pre-existing crash history, understanding crash causes and likelihood, optimising the network for motor vehicles	Risk analysis based on network design attributes supplemented by crash data, understanding crash consequence, optimising the network for all road users and human frailty

The Safe System

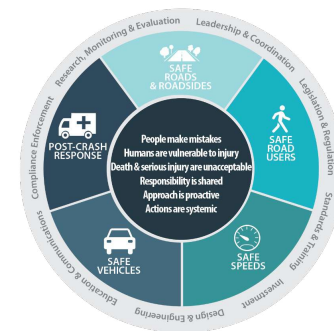
Cultural Maturity

- Five stages of cultural maturity
- Describing what an organisation
 - will be doing, saying, and thinking
- Can understand how to move forward
- Each levels can be explained in terms of
 - what all staff say
 - what all staff do
 - what all staff think
 - what the organisation needs to do to move to the next stage.



Cultural Maturity

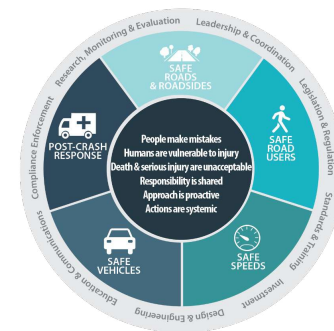
Vulnerable



What do we say?	What do we do?	What do we think?	What do we need to do?
<p>It's not our responsibility – other organisation need to lead on this</p> <p>We know what works</p> <p>Safe System is expensive and unnecessary</p>	<p>Work in silos and only deliver what is necessary</p> <p>No Safe System training</p> <p>Poor communication with others</p> <p>No data information activities or monitoring of delivery</p>	<p>We don't want to do anything that would make us culpable for mistakes</p> <p>Zero fatalities and serious injuries is an impossible target</p> <p>Road user behaviour is poor. Enforcement is necessary but will never achieve full compliance</p>	<p>Need to start to take the Safe System seriously and develop and awareness that things can be done differently.</p>

Cultural Maturity

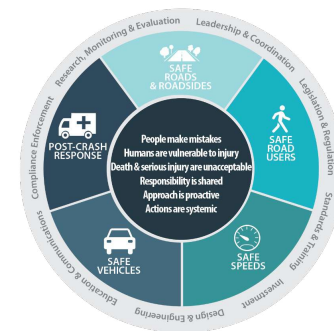
Emerging



What do we say?	What do we do?	What do we think?	What do we need to do?
<p>We are starting to look at the Safe System, but we can't influence all components</p> <p>We think we can carry on as usual in many ways</p> <p>Existing budgets are already stretched, new interventions are costly with few and far return on investments</p>	<p>Use casualty data to direct enforcement and engineering</p> <p>Start to think about additional safety elements in 3Es, when data shows there is a need</p> <p>Analyse casualties at sites we have enforced or engineered</p>	<p>We need to demonstrate that we have made a difference and the best way to do this is through casualty stats</p> <p>We prioritise and adopt a worst case approach</p> <p>We have existing protocols and procedures in place, we don't need to complicate it further</p>	<p>Need to start to develop Safe System approaches, looking at structure, language, knowledge and attitudes.</p> <p>Need to identify where Safe System thinking is weakest acknowledge we have a role to play</p>

Cultural Maturity

Developing



What do we say?	What do we do?	What do we think?	What do we need to do?
<p>Our leaders clearly state the Safe System is important to us</p> <p>We have had some Safe System training, where relevant</p> <p>The Safe System can be an added burden</p>	<p>Managers set agendas and direct out activities, but don't check progress</p> <p>We work in partnership with a range of stakeholders</p> <p>We have a road safety target</p> <p>We monitor and evaluated activities beyond casualty data</p> <p>We believe there is a shared responsibility between us, our partners, external stakeholders and road users</p>	<p>The Safe System is something we are aware of, but it doesn't really change the way I work</p> <p>I think we act in a Safe System way (because our leaders say we do) but I wouldn't be able to explain it</p>	<p>Need to realise that the Safe System requires collaboration and proactivity</p> <p>Need to identify who else might need to be at the table</p> <p>Need to embed Safe System thinking across the business</p>

Cultural Maturity

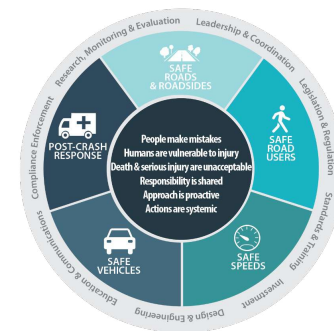
Maturing



What do we say?	What do we do?	What do we think?	What do we need to do?
<p>We're actively trying to identify how we can work in a Safe System way</p> <p>We're identifying partners to collaborate with across all components</p>	<p>We bring together the components so that we star rate our roads and design to address speeds, road user behaviour and vehicle choices</p> <p>We deliver Safe System training across the organisation</p> <p>We have adopted safety performance indicators</p> <p>We believe there is a share responsibility between us, our partners, external stakeholders and road users</p>	<p>We are working really hard on Safe System implementation, but we know we need to do more</p>	<p>Need to continue to bring everyone together, internally and externally, to break down barriers to integrate the Safe System into the organisation</p>

Cultural Maturity

Advanced



What do we say?	What do we do?	What do we think?	What do we need to do?
<p>We don't do anything without thinking how it fits into the Safe System</p> <p>We strive to eliminate road risk across the system</p> <p>It's what we do</p>	<p>Star rating, vehicle procurement choices, human centred design, involving road users and stakeholders in design is all routine practice</p> <p>We actively promote and advocate for the Safe System with colleagues and partners</p> <p>We are Safe System champions. We share best practice and help create guidance</p>	<p>We can't imagine thinking outside of a Safe System approach</p> <p>Across my organization and partners, we all share Safe System values and ambitions</p> <p>We talk the same language and share the same attitudes</p>	<p>Need to keep working looking at everything though a Safe System lens and avoid backsliding</p>

The Safe System

Typical Rural Location



100 km/h
Speed Limit

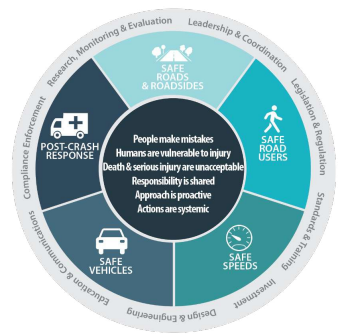
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Source: Fosdick et. al. 2024

The Safe System

Typical Rural Location



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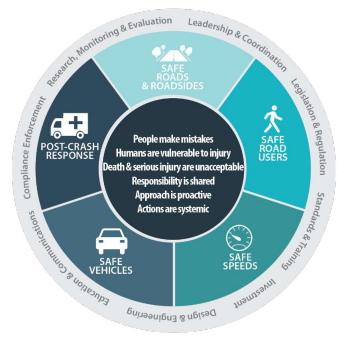
Typical Urban Location



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The Safe System

Typical Urban Location



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Typical Urban Location

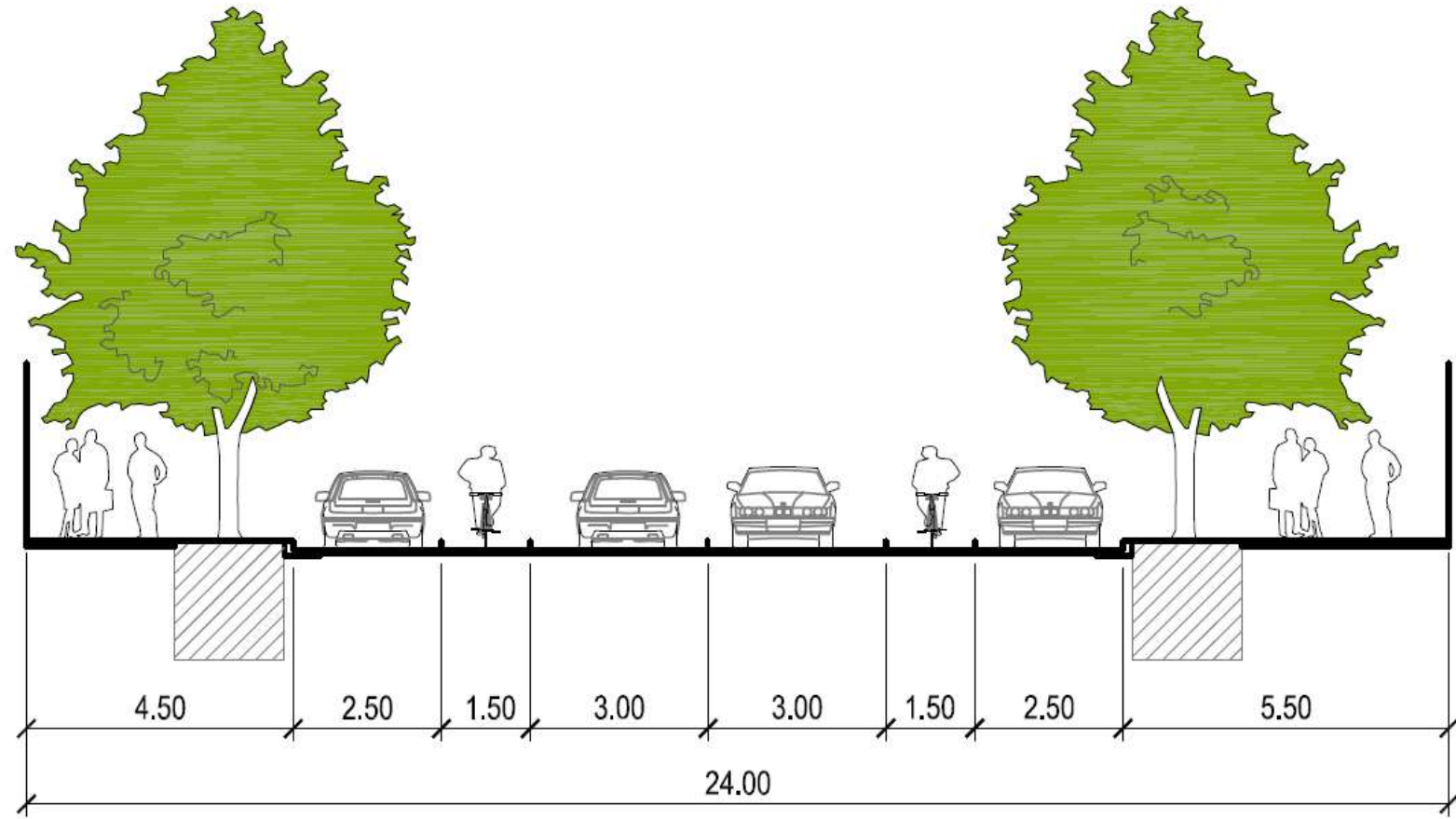


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Source: Fosdick et. al. 2024

The Safe System Cross Section

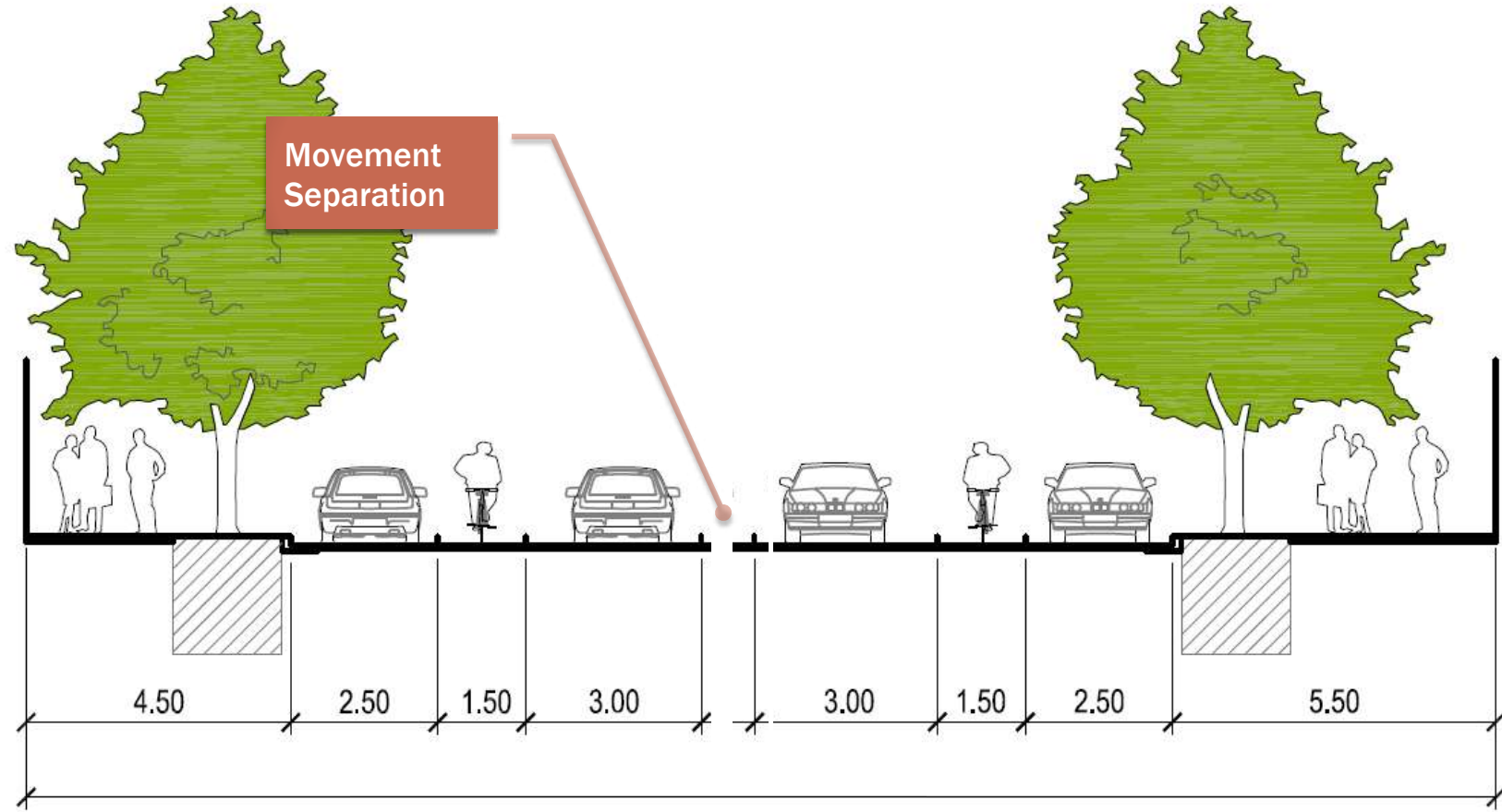


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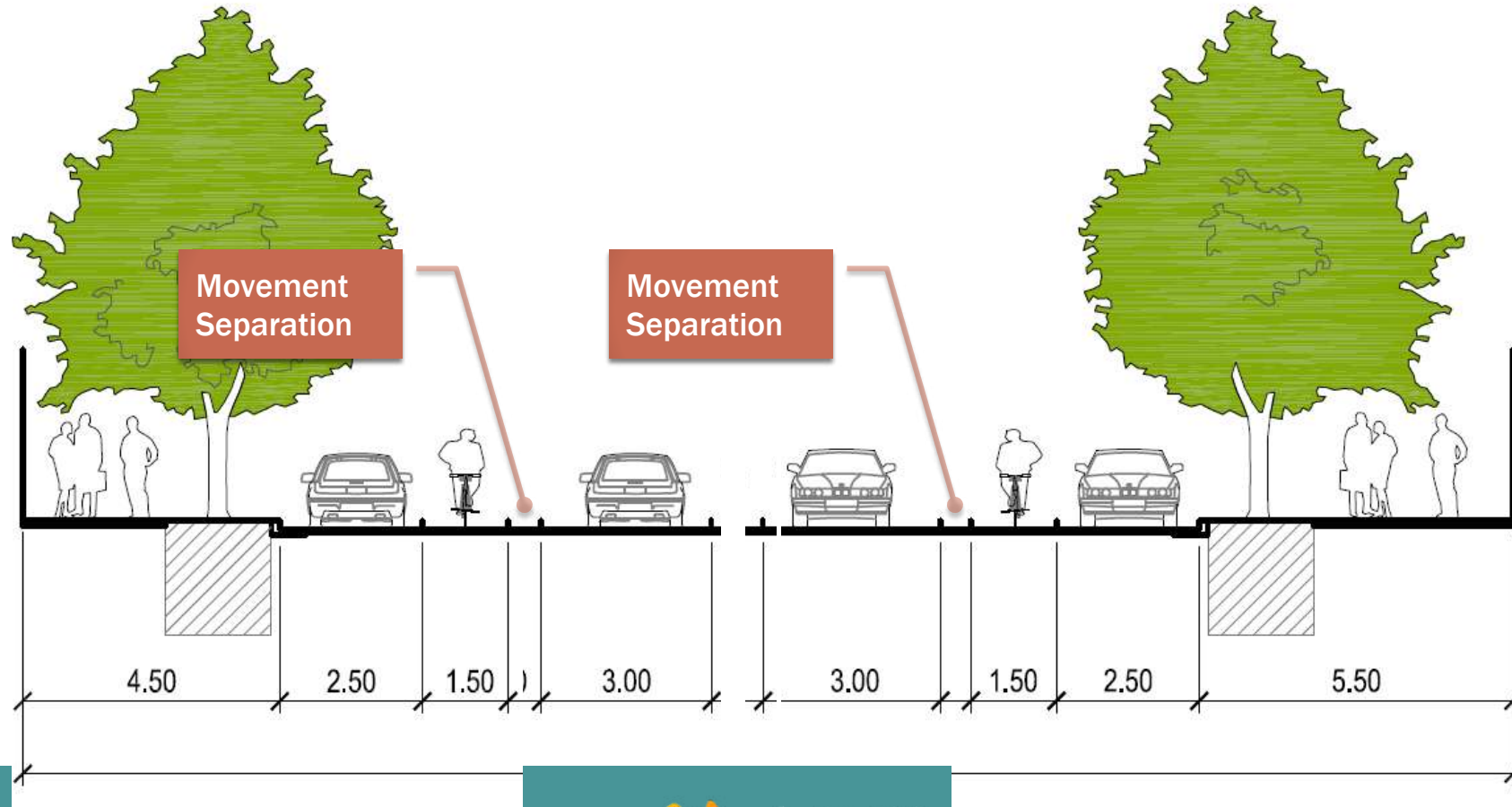


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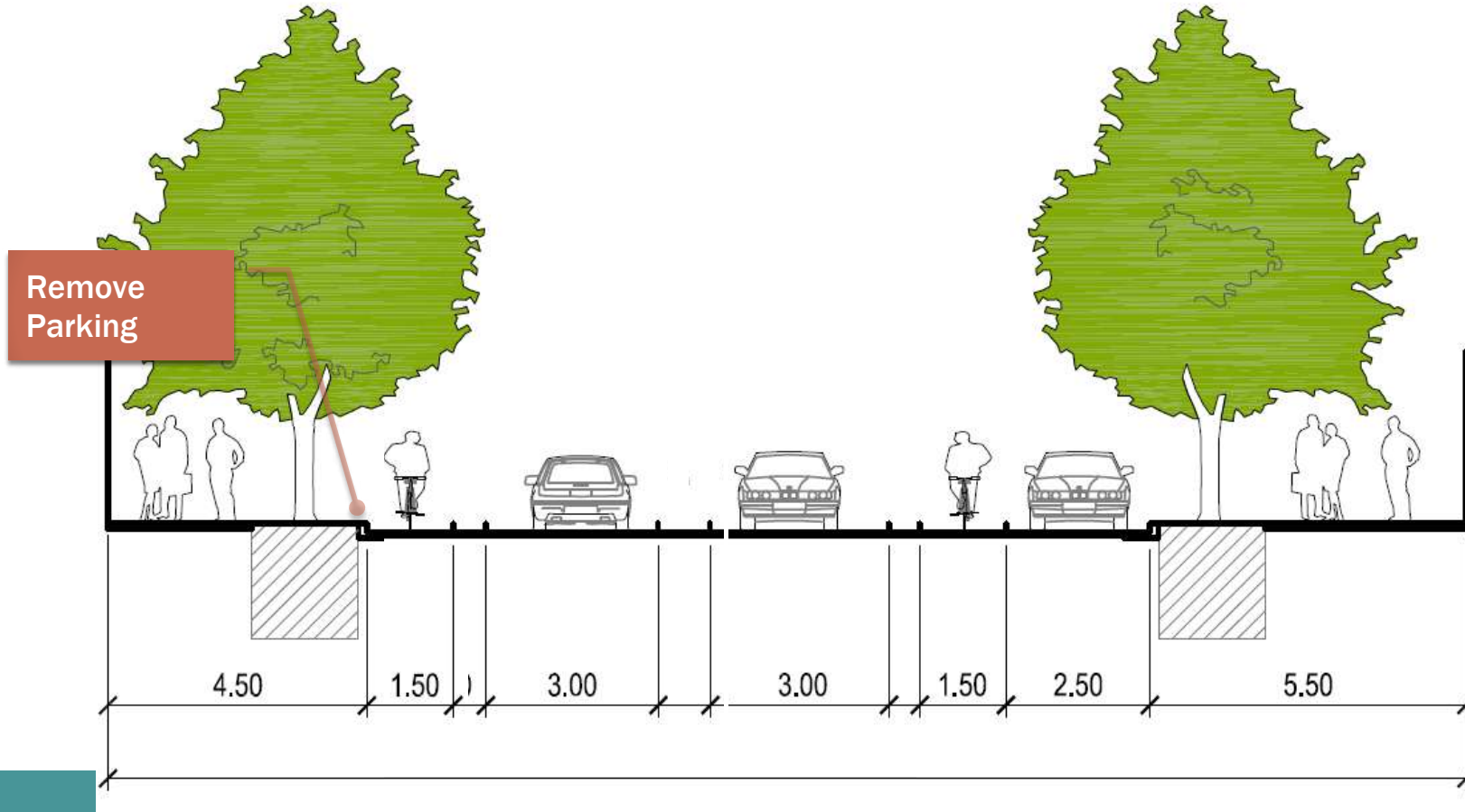


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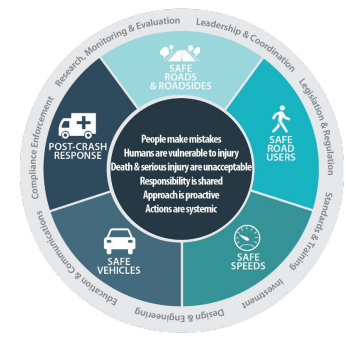
The Safe System Cross Section



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The Safe System

Separate the conflicts





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The Safe System

How do we implement it?

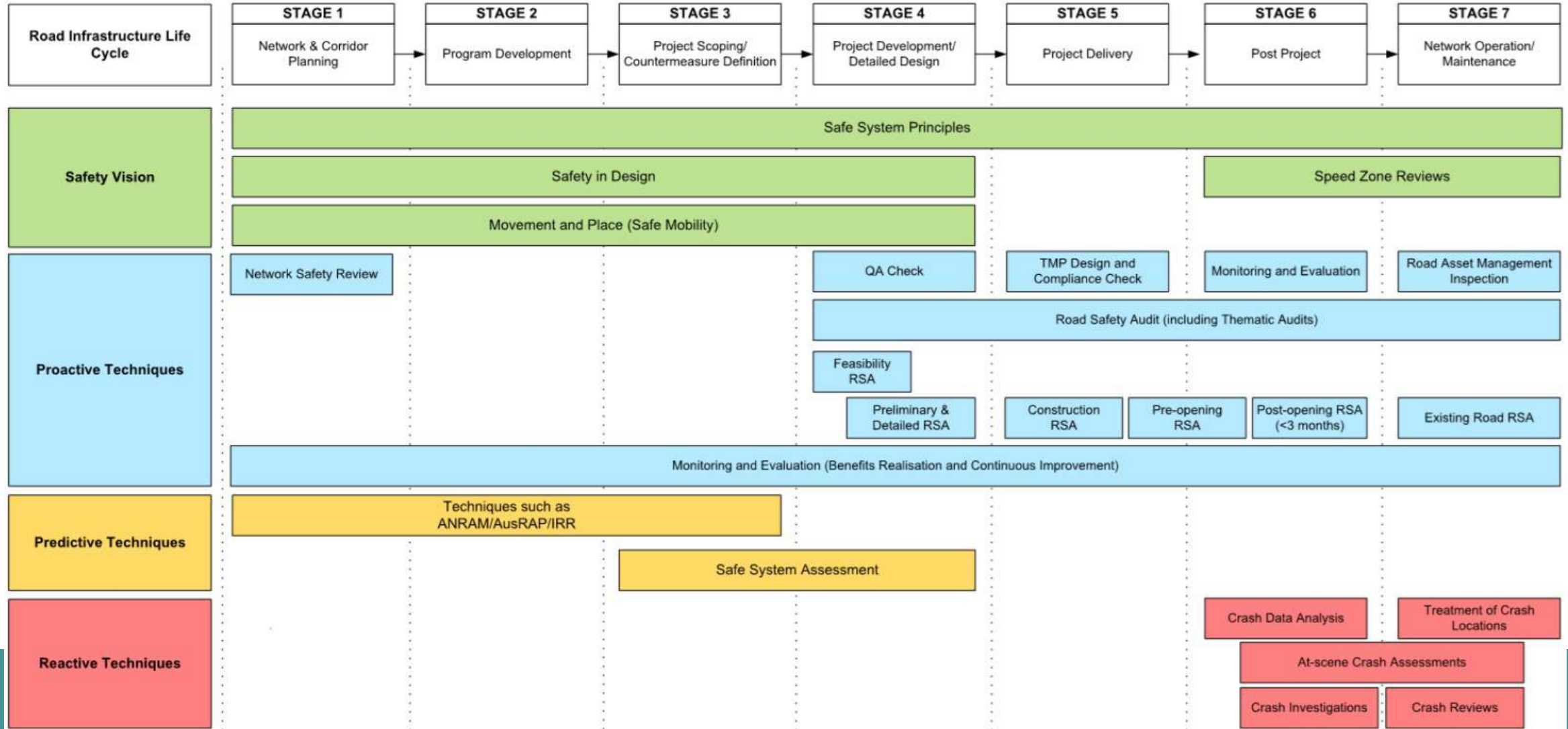
- Complex system
- Part of total quality management
- Getting it right the first time
- Road Safety Audits
- Safe System Assessments.



The Safe System

How do we implement it?

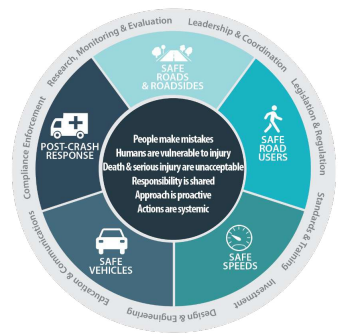
Safety Network Management Framework



The Safe System

How do we implement it?

- Professor Shimul Haque
- The role of AI and road safety
- How does this align with the safe system.



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UPCOMING AITPM EVENTS

National Road Safety Week – Half Day Seminar | South Australia

Wednesday 8 May | 8.30am - 2.00pm ACST

Crowne Plaza Hotel, 27 Frome Street, Adelaide (Kaurana Country)

Providing the premier platform for the industry to work together in improving road safety, this technical event will be of particular interest for professionals working in local government, state road agencies, private consulting, and academia.

QLD EPN Urban Unwind

Thursday 9 May | 5.30pm AEST

Death and Taxes, 35 Burnett Lane, Brisbane City

The AITPM Qld Emerging Professionals Network, in collaboration with EmAGN, PIA Young Planners and AILA Fresh, invite you to join us at Urban Unwind – an opportunity for emerging professional working in the urban space to network and build relationships.

Modernising guidance for transport impact assessments in NSW - Panel Discussion | New South Wales

Monday 13 May 2024 | 10.00am - 12.00pm AEST

Aerial UTS Function Centre, Level 7, UTS, Sydney

Join us for a panel discussion that will bring together industry experts to share diverse perspectives and explore how NSW can improve transport impact assessments.

UPCOMING AITPM EVENTS

NSW EPN | Sydney Museum Bus Tour | New South Wales

Sunday 19 May 2024 | 2.00pm – 4.00pm AEST

Sydney Bus Museum, 25 Derbyshire Rd, Leichhardt

AITPM EPN presents a guided tour of the Sydney Bus Museum followed by a ride on one of the historic buses. The Sydney Bus Museum is a not-for-profit organisation first established in 1986 at Tempe, and now permanently based within the Old Tramshed at Leichhardt in Sydney's inner-west.

Toowoomba Technical Seminar

Wednesday 5 June 2024 | 5.00pm – 7.00pm AEST

Multi Purpose Room, Toowoomba City Library

This month's seminar will discussed the tools for improving physical activity and public health by improving the walkability and cyclability of our neighbourhoods, cities, and regions.

UPCOMING NATIONAL EVENTS

NATIONAL CONFERENCE - PERTH

Monday 12 Aug – Wednesday 14 Aug 2024

Immerse yourself in the dynamic exchange of ideas, fostering collaboration and innovation.

With vibrant networking opportunities, enlightening addresses, more interactive sessions than ever before, and the backdrop of iconic venues including Crown Perth and Optus Stadium this conference promises to be a pivotal experience.



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