

Future Streets

How electric and autonomous vehicles and emerging technologies are reshaping road safety and street design.

What's it about?

The way we live and move around is changing with the proliferation of technology, automatic vehicles and e-vehicles.

Designing for safer streets needs to accommodate the rapid growth of e-mobility solutions such as electric vehicles (EVs), e-scooters, and automated vehicles (AVs). These advancements promise cleaner, more efficient transport systems but also pose challenges for road safety and infrastructure.

Designing streets for the future involves consideration of:

- Autonomous vehicles, and their interaction with human drivers,
- the safe integration of micro mobility including e-scooters and e-bikes, which travel at a different speed than both pedestrians, bikes and cars.
- Integrating electric charging stations, including embedding charging into roads.
- Adaptive traffic systems and automated traffic signaling to ensure safety for all users.

In Australia, embracing these technologies requires a forward-thinking approach to urban planning, balancing innovation with safety, equity, and sustainability.



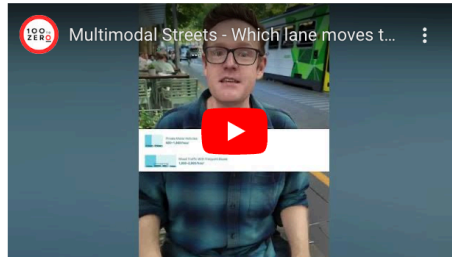
Watch Videos

Explore road safety topics in 100 seconds or less.



Yellow means...?

Red means STOP, Green means GO, what does the yellow light really mean?



Multi-modal Streets

Which lane moves the most traffic?



Vision Zero, Is it Possible?

Is a zero death rate on our roads really possible? Let's take a look.

Benefits

How new technology can improve road safety.

Enhanced Road Safety

Automated vehicles equipped with advanced sensors and communication technologies reduce human error, which accounts for over 90% of crashes. E-mobility lanes for scooters and bikes also decrease conflicts with pedestrians and cars.

Reduced Vehicle Noise

Electric vehicles operate more quietly than traditional combustion engine cars, leading to lower urban noise pollution. This contributes to improved public health and more peaceful city environments.

Fewer Vehicles

The rise of shared autonomous vehicle fleets could reduce private car ownership, leading to less congestion and more efficient use of road space.

Efficient Traffic Management

Real-time, data-driven traffic management systems can optimize signal timings and reduce congestion, leading to smoother and more predictable travel times.

Reduced Emissions

The adoption of EVs significantly reduces greenhouse gas emissions. Streets with integrated charging infrastructure support this transition, contributing to cleaner air and more sustainable cities.

Improved Accessibility

E-mobility devices, such as e-scooters and electric bikes, provide affordable and convenient transport options, reducing dependency on cars and increasing mobility for all demographics.

Future Mobility Examples

Sydney's E-Mobility Pilot

Sydney has implemented an e-micromobility Action Plan which will see an e-scooter trial in selected locations in partnership with local councils [1]. The action plan will review the current use of shared e-bikes across Sydney to assess how existing road rules might need to be adapted if e-scooters are to become legalised. Research from the NSW government has shown that 34 percent of e-micromobility trips (like the use of shared e-bikes) across Greater Sydney are replacing car trips, thereby reducing traffic.

The trial includes a Safety Design Tool designed to appropriately manage safety risks and protect riders and all road users [1].



Wireless EV Charging

Swinburne University aims to implement an embedded dynamic wireless charging technology into roads, which allows electric vehicles to charge up as they drive along [2]. The technology being developed thanks to a [\\$3 million grant](#) from the Australian Government [4].

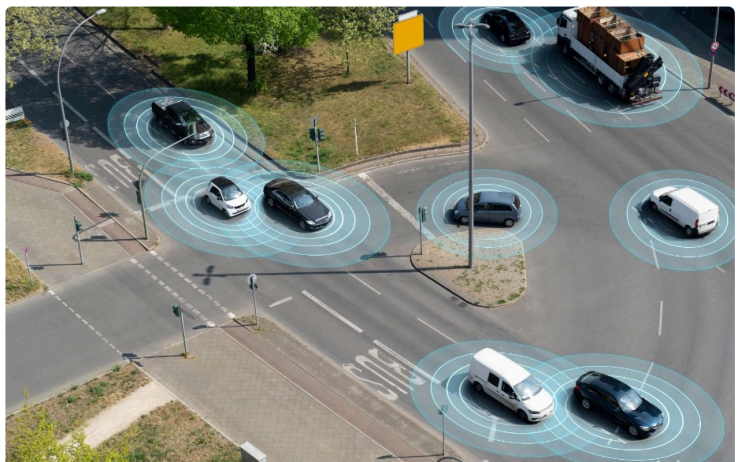
The project aims to unlock the uptake of electric heavy vehicles. It is estimated that electrifying heavy vehicles could save Australia \$324 billion by 2050, while contributing to a greener, safer and more efficient transport sector [2].



Intelligent Corridor, Melbourne

The [Intelligent Corridor](#), launched in Melbourne, is one of the world's most advanced traffic management systems, integrating real-time data to improve road safety and efficiency. The trial program, led by the University of Melbourne has the potential to expand across Australian cities [3].

The Intelligent Corridor will use sensors, cloud-based AI, machine learning algorithms, predictive models and real time-data capture to improve traffic management, with a goal of easing congestion and improving road safety, particularly for pedestrians, cyclists and vulnerable road users [3].



References

- [1] Transport for NSW, [NSW Shared E-scooter Trial Program](#)
- [2] Swinburne University, [World first project could see EVs charge wirelessly on the road.](#)
- [3] University of Melbourne, [World's smartest traffic management system launched in Melbourne](#)
- [4] Australian Government, Business Grants, [CRC Projects selection round outcomes](#)

Helpful Guides

- [AIMES](#) (Australian Integrated Multimodal EcoSystem)
- [Intelligent Transport Systems Australia](#)
- [Australian Electric Vehicle Association](#)