



scats

Move Smarter

How connected technologies will improve safety on our roads

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Road safety is a global issue



~1.3 million road fatalities each year globally



~50 million injuries each year



1,194 fatalities in Australia in 2022



289 fatalities in NSW in 2022

Cit-e

SCATS new product **Cit-e** is a software solution that will provide Vehicle to Everything (V2X) connections, starting with Vehicle to Infrastructure (V2I).

Our solution aims to:

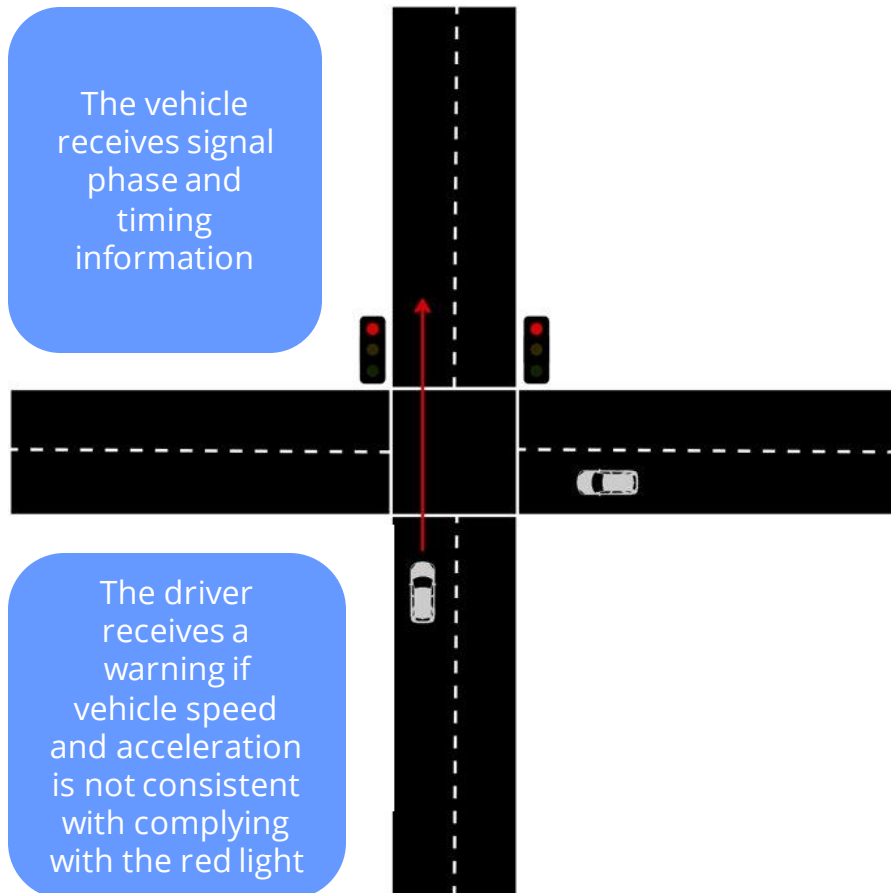
- improve driver behaviour
- vehicle productivity
- deliver enhanced network insights that support network performance and optimisation.



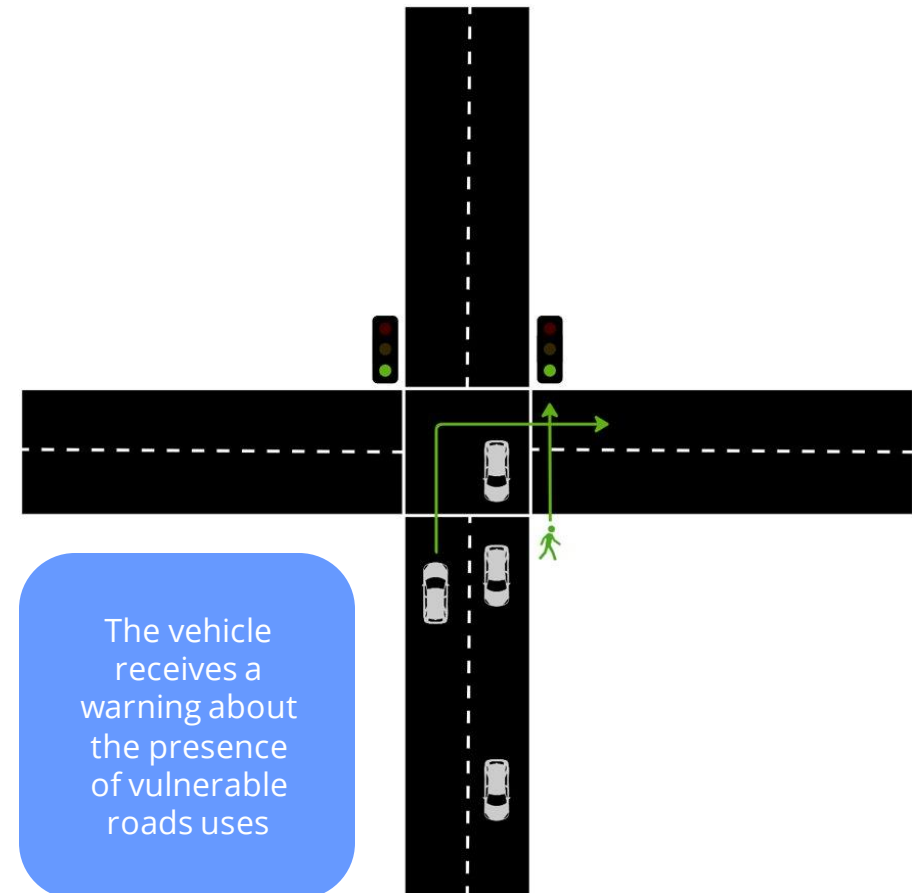
Cit-e use cases

Cit-e enables [Signal Phase and Timing \(SPaT\)](#) messages to be broadcast via a [Roadside Unit \(RSU\)](#) to [Connected and Automated Vehicles \(CAVs\)](#). The messages are used to implement two vehicle specific use cases:

1. Red light violation warning (RVLW)



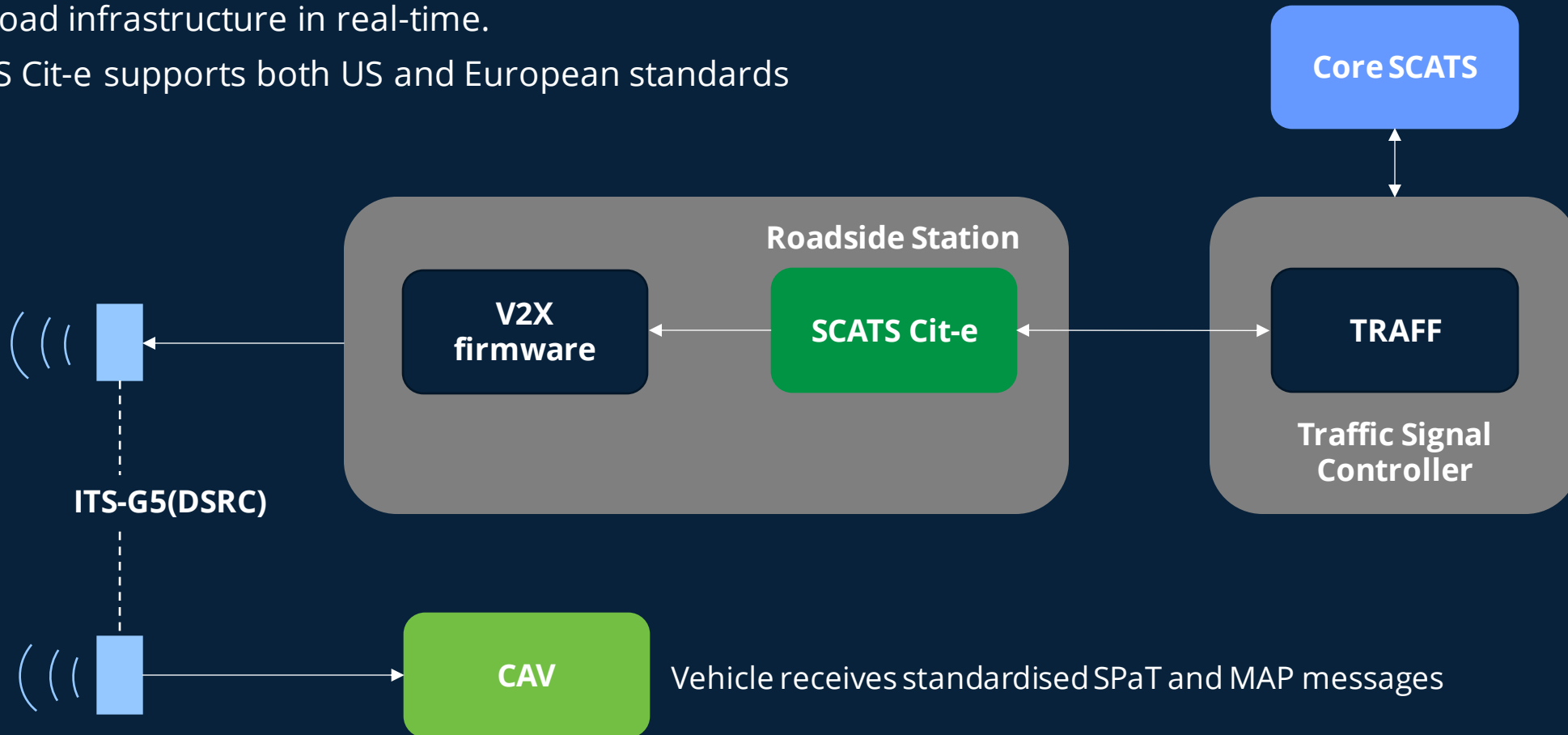
2. Turn warning for vulnerable road users (TWVR)



How does it work?

Vehicle to Infrastructure (V2I):

- Two-way wireless exchange of information between vehicle and road infrastructure in real-time.
- SCATS Cit-e supports both US and European standards



NSW Crashes where traffic signals were present, and a motor vehicle disobeyed traffic control

| Degree of incident | Reporting year | | | | | Total |
|------------------------|----------------|------------|------------|------------|------------|--------------|
| | 2018 | 2019 | 2020 | 2021 | 2022* | |
| Fatal | 3 | 4 | 4 | 2 | 5 | 18 |
| Serious injury | 130 | 122 | 109 | 85 | 113 | 559 |
| Moderate injury | 142 | 145 | 127 | 136 | 142 | 692 |
| Minor / other injury | 48 | 68 | 41 | 53 | 58 | 268 |
| Non-casualty (towaway) | 38 | 28 | 36 | 45 | 42 | 189 |
| Total | 361 | 367 | 317 | 321 | 360 | 1,726 |

*Note: this is preliminary data from 2022 and is subject to change.

Source: Centre for Road Safety, Transport for NSW

NSW Crashes involving pedestrians where traffic signals were present, and a motor vehicle disobeyed traffic control

| Degree of incident | Reporting year | | | | | Total |
|----------------------|----------------|-----------|-----------|-----------|-----------|------------|
| | 2018 | 2019 | 2020 | 2021 | 2022* | |
| Fatal | 1 | 2 | 1 | 0 | 1 | 5 |
| Serious injury | 24 | 29 | 15 | 10 | 16 | 94 |
| Moderate injury | 15 | 14 | 13 | 18 | 16 | 76 |
| Minor / other injury | 9 | 11 | 6 | 8 | 9 | 43 |
| Non-casualty | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 49 | 56 | 35 | 36 | 42 | 218 |

*Note: this is preliminary data from 2022 and is subject to change.

Source: Centre for Road Safety, Transport for NSW

Economic Cost of Road Trauma (2015)

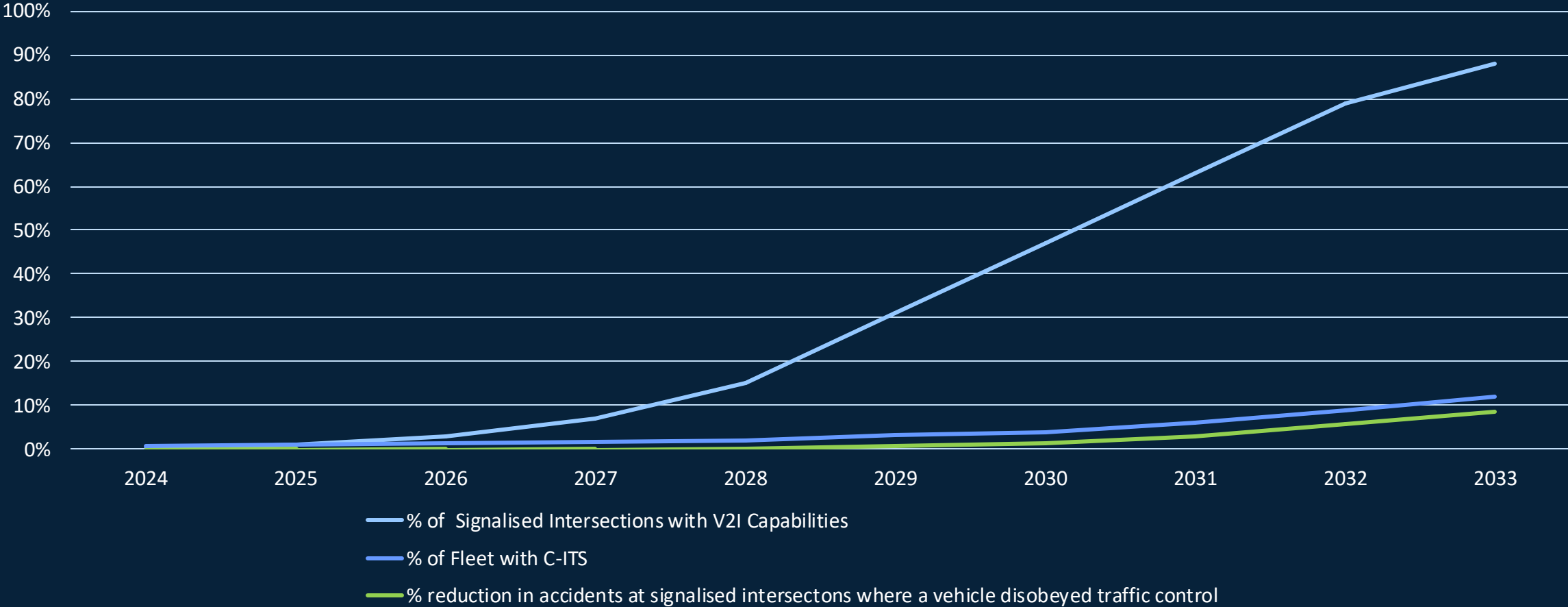
- Road trauma cost the Australian economy an estimated \$22.2 billion

| Casualty Type | Number | Total Cost \$m | Cost per person \$m |
|---------------------------|---------|----------------|---------------------|
| Fatalities | 1,205 | \$5,228.9 | \$4.339 |
| Hospitalised Injuries | 37,964 | \$9,072.5 | \$0.239 |
| Disabled persons* | 4,436 | \$3,078.9 | \$0.694 |
| Non-hospitalised injuries | 227,572 | \$2,830.6 | \$0.012 |
| TOTAL | 266,741 | \$17,132.0 | |

*Disabled persons are included in hospitalised injuries total

Source: Cost of Road Trauma in Australia, 2017, Australian Automobile Association

C-ITS Adoption (NSW)

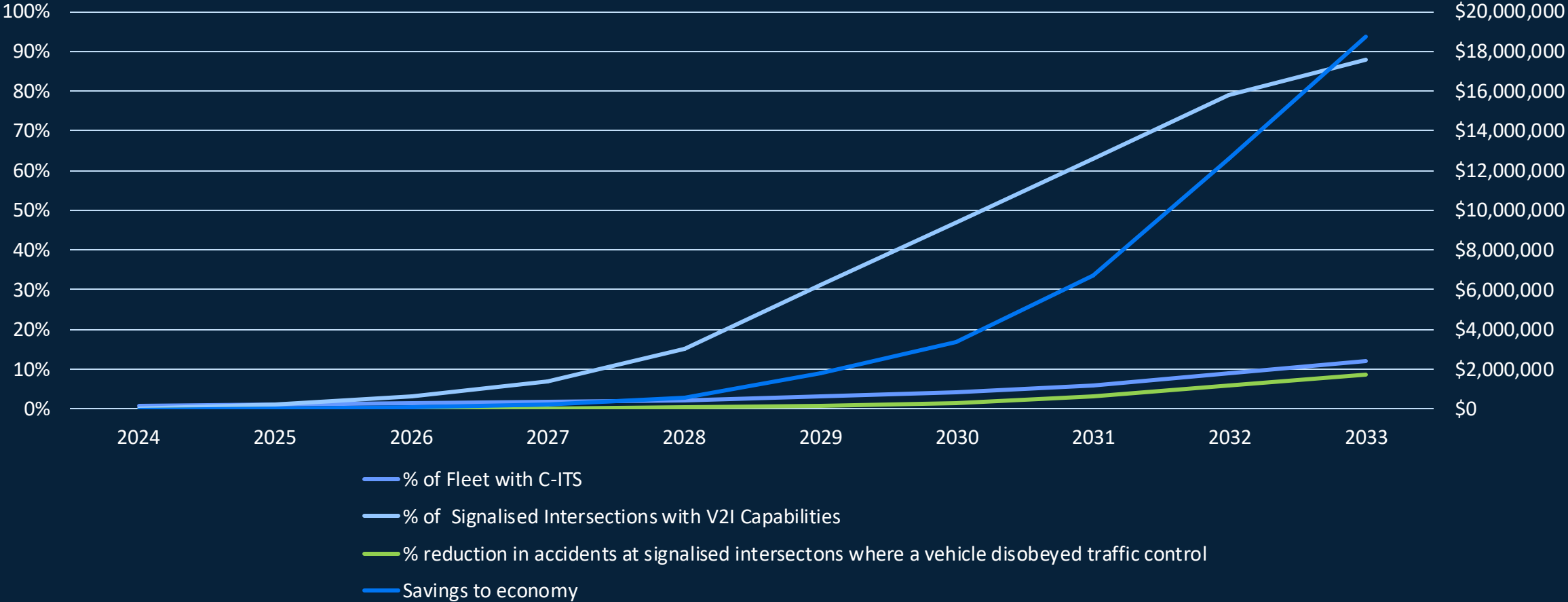


Source for % of fleet with C-ITS from Future Vehicles Forecasts update 2031 (2024 to 2031 only)

C-ITS Adoption Outcomes (NSW)

- 8.4% reduction of accidents at signalised intersections by 2033.
- 68 accidents avoided in the first 10 years.
- \$44 Million in savings to the economy over the first 10 years
- If we were to use the Rapid case for fleet penetration, the numbers double.
- Retrofit to commercial vehicles and added to mobile devices the number would be higher.
- Benefits continue to accelerate beyond 2033 as fleet penetration increases more rapidly.

C-ITS Adoption (NSW)



Source for % of fleet with C-ITS from Future Vehicles Forecasts update 2031 (2024 to 2031 only)

AIMES – Enabling Infrastructure to Vehicle Communication for Safety Applications

Partners:

AIMES, VDoT, Lexus, University of Melbourne, Q-Free, Kapsch, SCATS, ATC

Objectives of the trial:

Demonstrate and test multiple use cases including TWVR, RLVW under real traffic conditions.

Insights:

- Australian states and territories must standardise on a technology (DSRC vs C-V2X)
- OEM's require assurances on technology and rollout, including signalised intersection adoption rates
- A national approach to credential management is required for authenticating equipment and vehicles in Australia

*What's Next in 2024

- Expansion from 3 to 30+ intersections (scale)
- OBU's installed in 60+ council and fleet vehicles, buses and trams.
- Additional safety use cases.
- Outputs to help drive national harmonisation.

iMOVE – Development and Demonstration of Cooperative Intelligent Transportation Systems (C-ITS) on NSW Roads

Partners:

iMOVE, Australian Centre for Field Robotics (ACFR), Transport for NSW Future Mobility, SCATS, ATC

Objectives of the trial:

1. Understanding the impact, considerations and benefits of implementing Cooperative Intelligent Transport Systems (C-ITS) in urban traffic environments.
2. Support the development of technical Advice for CAV policy
3. Release tools and collected data publicly for use by the CAV Community
4. Collaborate with SCATS to test and assess the technologies



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