

Inquiry into e-mobility safety and use in Queensland

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Submission to the Inquiry into E-Mobility Safety – See.Sense (Limeforge Ltd)

Thank you for the opportunity to contribute to this important inquiry into the safety of e-mobility devices in Queensland.

About See.Sense

See.Sense (Limeforge Ltd) is a Northern Ireland–based cycling and micromobility technology company, with a growing presence in Australia through our Brisbane office. We are recognised globally for our award-winning patented AI-enabled sensor technology, embedded in both our intelligent bike lights and Summit GPS trackers. These devices collect rich, real-time data on rider behaviour, surface conditions, near-miss events, and other contextual insights—helping cities and mobility operators design safer, smarter transport systems.

Our technology is deployed in projects across Europe, North America, and Australia. In Australia, our work includes a partnership with the Transport Accident Commission (TAC), Deakin University and iMOVE on the Light Insight Trial ([iMove](#)), and our data is currently being used on a National Road Safety Action Grant with Deakin University and QUT. We are also members of ITS Australia, AITPM and the Australian College of Road Safety, invited to speak at all of their conferences. We are also partners to Bicycle Queensland ([BQ](#)).

Internationally, our technology is now deployed on the shared e-scooter fleet operated by Dott in Helsinki ([Forum Helsinki](#)), as part of a city-led initiative to better understand e-mobility safety, and we are a Winner of the Prince Michael International Road Safety Award for our work with Transport for London on Vision Zero ([Road Safety Award](#)).

The Role of E-Mobility in Queensland

E-scooters and e-bikes offer significant benefits to Queenslanders—reducing congestion, improving first- and last-mile transport, and supporting more active, sustainable travel. Their rapid adoption, particularly in urban centres, shows strong community demand and the potential to reduce dependence on car-based transport.

However, the surge in usage has been accompanied by an increase in injuries and safety concerns. Emergency department presentations for e-scooter injuries in Queensland rose from 279 in 2019 to 1,273 in 2023 ([ABC News](#)). Paediatric cases are also growing, with 176 children treated for e-scooter-related injuries at a single hospital in one year ([The Guardian](#)).

E-bike use, with its higher speeds and heavier frames, may require infrastructure that accommodates faster travel and safer interaction with other road users—something not consistently accounted for in traditional cycling infrastructure design (Transport for NSW, Auckland Transport).

A Safe Systems Approach and the Role of Infrastructure

We strongly support the Safe System approach to road safety, recognising that human error is inevitable and that system design must proactively mitigate harm. Infrastructure is a core pillar of this framework. Research from Virginia Tech and others confirms that infrastructure shortcomings, such as surface transitions and lack of separation, contribute to the majority of incidents involving e-micromobility devices.

The Data Deficit and a Path Forward

Despite the growing body of evidence, Queensland faces a major challenge in obtaining consistent and useful data on e-scooter and e-bike usage. Operator-supplied data is inconsistent and proprietary, and there is no effective system for collecting data from private e-scooters—even though these now account for the majority of serious incidents ([George Beard](#)).

We strongly support the development of standardised national reporting formats and shared data infrastructure. Without this, it is difficult for authorities to identify trends, evaluate risk, or make informed decisions about infrastructure investments.

A Broader Role for Technology

Until now, technology on e-scooters has often been applied in a narrow, enforcement-focused way—such as using onboard cameras to detect footpath use. However, this reactive framing ignores the systemic reason riders often choose footpaths: infrastructure frequently does not feel safe.

See.Sense takes a broader, more holistic perspective. Our technology enables operators to work in partnership with cities, generating data that supports planning, risk management, and community trust. For example:

- **Sharp braking events** can be used to detect areas of high conflict with pedestrians or vehicles.
- **Swerving and braking patterns** are a proactive way to identify hazardous areas where riders are reacting suddenly to obstacles or threats, and for the monitoring and evaluation of the performance of infrastructure.
- **Surface condition monitoring** allows us to distinguish between rough and smooth sections of the network, helping cities identify poor quality paths that are particularly dangerous for e-scooter users.
- **Swerving and braking patterns**, when correlated with **time-of-day**, can help identify locations where intoxicated riding is more likely.
- We can generate a **"Rider Score"** that profiles riding style (e.g. frequent harsh braking, swerving, speed, or surface roughness). This helps operators differentiate rider behaviour and identify persistently risky users who may pose a safety issue despite good infrastructure.

This type of data empowers cities to move beyond punitive measures and into proactive infrastructure improvement.

Our Proposal for Queensland

In Helsinki, See.Sense sensors are being deployed on Dott's shared e-scooter fleet to support city-led safety analysis. A similar approach could be adopted in Queensland. By requiring operators to mount See.Sense sensors on a portion of their fleet, cities can obtain high-quality, standardised safety data across all providers.

Further, we recommend exploring the potential to mandate a safety-grade sensing device—such as See.Sense—for sale with private e-scooters. This would allow data collection from a previously invisible segment of users, helping to close the current information gap.

Conclusion

The growth of e-mobility in Queensland is a positive and necessary shift toward sustainable transport. To support this, we must invest in infrastructure and adopt smarter ways of gathering insight. See.Sense technology enables cities to make data-led decisions that improve safety for all road users, while fostering collaboration between operators, riders and planners. We welcome the opportunity to support this important work in Queensland.

Kind regards,

Irene McAleese

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