A world-first living laboratory based in the streets of Melbourne is being established to test highly integrated transport technology and its ability to deliver safer, cleaner and more sustainable urban transport outcomes. Taking a leading role in testing and rollout is the University of Melbourne, working closely with government and leading national and international industry sectors via a partnership called AIMES – the Australian Integrated Multimodal EcoSystem.

A productive transport system is essential to the livability of cities and for industries to remain competitive in the global marketplace. With current transport infrastructure under stress, the AIMES street-based ecosystem provides a unique platform for collaborative trials of transport technology that connect the movement of people and goods with transport infrastructure options.

Central to AIMES is a network of smart sensors designed to connect all parts of the transport environment within a segment of Melbourne streets. The focus is on ‘multimodal’ transport – connected vehicles, connected public transport, connected pedestrians and cyclists, and smart public transport stations.

**IMPACTS AT A GLANCE**

- The global market for smart transport solutions based on integrated digital infrastructure is estimated to be worth more than $100 billion by 2018.
- The annual economic cost of road crashes and congestion in Australia is estimated at $27 billion and $18 billion per annum respectively.
- Connected transport can reduce the economic cost of road crashes by more than 90% and help reduce the cost of congestion.
AIMES TESTING GROUND
AIMES is creating a testing ground for the deployment of Connected Intelligent Transport Systems in complex urban environments, including Vehicle-to-Vehicle (V2V), Vehicle-to-Infrastructure (V2I) and Vehicle to Vulnerable Road User (V2X) communication systems.

As of February 2018, 15 intersections have been connected through AIMES and are providing real-time data.

AIMES LIVING LABORATORY
The connected multimodal transport ecosystem is a network of diverse, intelligent and distributed sensors that will convert a six-square-kilometre segment of inner-city Melbourne into the world’s first urban laboratory to study multimodal transport and pedestrian interactions. The ecosystem enables in-depth testing and unprecedented implementation of connected transport technology. It offers a platform for government, industry and academia to work collaboratively to explore better transport outcomes in a dynamic real-world environment including:

» Real-time information to users
» Real-time, proactive operational management
» Prevention of traffic incidents and congestion
» Comprehensive testing ground for all connected and automated vehicles trial

LOCATION
Located on the fringe of Melbourne’s central business district, AIMES comprises an ideal mix of road users, road types, infrastructure and traffic challenges:

» Local roads with low speed and low traffic – ideal for testing on-road intelligent transport technologies and exploring applications for connected and automated vehicles
» Major arterial roads with heavy traffic, trams and buses – ideal for collecting live traffic data and live simulation
» A mixed commercial and retail strip – ideal for connected freight and city logistics
» Several bus and tram routes – ideal for connected public transport testing.
» Major cycling routes and one of the busiest districts used by pedestrians to walk to work – ideal for smart non-motorised applications of connected transport systems

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