

INTELLIGENT MOBILITY

Solutions for safe, clean and efficient transportation.sm

Safe, clean and efficient mobility is a foundation for sustainable economies and communities. The University of Nevada, Reno's Intelligent Mobility brings together researchers, citizens, ideas, projects and resources to meet this grand challenge and contribute to the vibrant communities of our future.

This pioneering effort builds on the expertise of University researchers in advanced autonomous systems, computer sciences, synchronized transportation and robotics. Intelligent Mobility is further strengthened by its setting. As early as 2011, Nevada Governor Brian Sandoval signed a first-of-its-kind bill to allow qualified test drives of autonomous vehicles in public traffic. Since then, the State of Nevada – with the support and commitment of its research universities, industry and startups – has established itself as a renowned location for innovative vehicle and transportation technologies.

THE LIVING LAB: OPEN, INNOVATIVE TESTING

Living Labs will be created to allow the testing of synchronized mobility technologies in complex urban environments. **The greater Reno-Sparks-Carson City area in Northern Nevada will be a Living Lab in which researchers and partners will test, develop and refine technologies aimed at making transportation more efficient, sustainable and safe.**

ECONOMIC POTENTIAL

The establishment of a Living Lab in Northern Nevada supports the state's highly successful, future-oriented economic strategies. The University of Nevada, Reno and its faculty, staff and students have been instrumental in the creation of Northern Nevada's entrepreneurial ecosystem that is spurring innovation, growing tech-based industries and contributing to a more resilient economy.

A PARTNERSHIP EFFORT

Joining the University in the creation of Living Labs is a coalition of public and private stakeholders. Fraunhofer, Europe's largest application-oriented research organization, brings global perspective and expertise in transportation and infrastructure systems to the effort.

**SAFETY.
SUSTAINABILITY.
EFFICIENCY.**



Nevada Governor's Office of
ECONOMIC DEVELOPMENT
Empowering Success



University of Nevada, Reno



IMAGINE A SAFE, SYNCHRONIZED, ZERO-EMISSION TRANSPORTATION SYSTEM

The initial project of the University of Nevada, Reno's Intelligent Mobility is an ambitious effort. In the Living Lab of the greater Reno-Sparks-Carson City area, researchers and partners will test, develop and refine systems in which vehicles sense their environment and communicate with other vehicles, infrastructure and individuals through mobile devices.

RTC's state-of-the-art electric buses manufactured by Proterra will be used for the project. Driver-operated buses on specific routes will be fully instrumented to sense and gather a range of data that will contribute to the development of new ideas, technologies and systems.

The success of the project will be defined by its contributions to transportation safety, reductions in fuel consumption and emissions, commercialization of research, business growth and workforce development.

V2V – Vehicle-to-vehicle

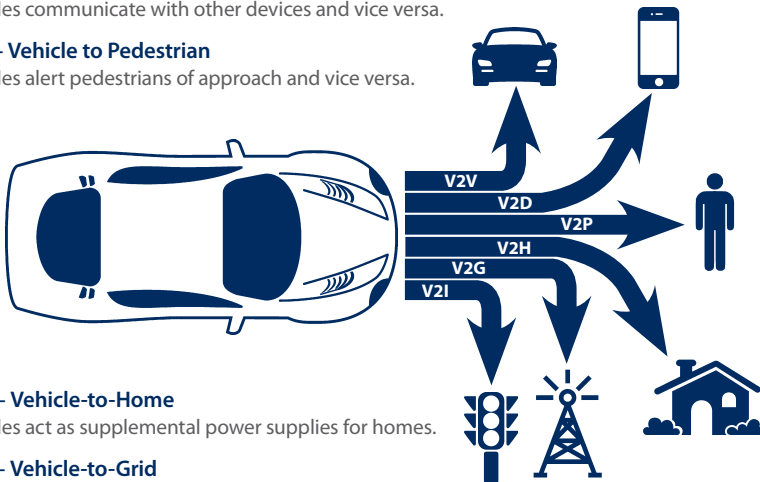
Alerts on vehicles indicate the presence of another. Cars “talk” using DSRC technology.

V2D – Vehicle-to-Device

Vehicles communicate with other devices and vice versa.

V2P – Vehicle to Pedestrian

Vehicles alert pedestrians of approach and vice versa.



V2H – Vehicle-to-Home

Vehicles act as supplemental power supplies for homes.

V2G – Vehicle-to-Grid

Smart grid controls vehicle charging and returns electricity to the grid.

V2I – Vehicle-to-Infrastructure

Vehicles are alerted to traffic lights, traffic congestion, road conditions, etc.

THE PROJECT WILL STUDY:

- Positioning and orientation of subject vehicles
- Pedestrian and cyclist behavior
- Coordination of multiple vehicles and traffic control systems

PROJECT PHASES

- Phase I:** Data Collection, Vehicle Instrumentation and Intelligent Transportation System Assessment
- Phase II:** Data Mining, Communications and Algorithms Development
- Phase III:** Licenses, Commercialization and Policies

THE NEVADA CENTER FOR APPLIED RESEARCH (NCAR)

at the University of Nevada, Reno will provide industry and citizens with a central access point to participate in Intelligent Mobility and its Living Lab activities. NCAR offers a broad range of technical services, intellectual capital, testing and research capabilities, plus advanced tools and methodologies available through the University's shared research facilities.

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