



SNS COLLEGE OF TECHNOLOGY
COIMBATORE - 641 035.
(An Autonomous Institution)

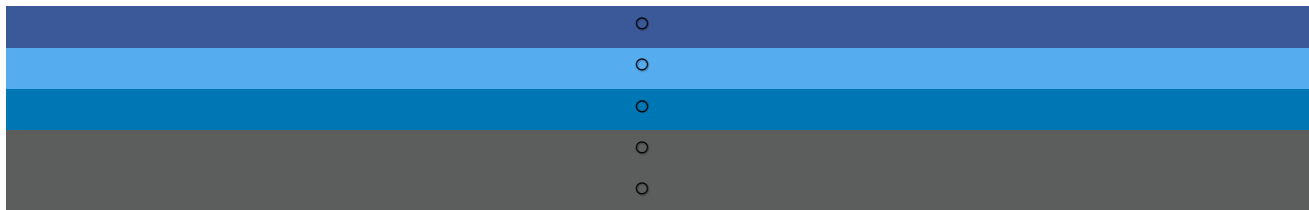


DEPARTMENT OF MECHANICAL ENGINEERING

19MEZ404-Connected and Automated Vehicles

UNIT I CONNECTED VEHICLE (CV) TECHNOLOGY

vehicle to infrastructure (V2I or v2i)



By

- TechTarget Contributor

Vehicle-to-infrastructure (V2I or v2i) is a communication model that allows vehicles to share information with the components that support a country's highway system. Such components include overhead RFID readers and cameras, traffic lights, lane markers, streetlights, signage and parking meters. V2I communication is typically wireless and bi-directional: data from infrastructure components can be delivered to the vehicle over an ad hoc network and vice versa. Similar to vehicle-to-vehicle (V2V) communication, V2I uses dedicated short range communication (DSRC) frequencies to transfer data.

In an intelligent transportation system (ITS), V2I sensors can capture infrastructure data and provide travelers with real-time advisories about such things as road conditions, traffic congestion, accidents, construction zones and parking availability. Likewise, traffic management supervision systems can use infrastructure and vehicle data to set variable speed limits and adjust traffic signal phase and timing (SPaT) to increase fuel economy and traffic flow. The hardware,

software and firmware that makes communication between vehicles and roadway infrastructure is an important part of all driverless car initiatives.

In January 2017, the U.S. Department of Transportation announced Federal Highway Administration (FHA) V2I guidance aimed at improving safety and mobility by accelerating the deployment of V2I communication systems. The guidance is aimed at helping state and local governments prepare to accommodate vehicle to infrastructure initiatives and manage the data that supports it. A major concern is funding, which is likely to create a shift from public funding through fuel taxes and toll roads to a more public-private partnership that includes the automobile manufacturers who will benefit from access to the big data that V2I creates.

This was last updated in March 2017

Continue Reading About vehicle to infrastructure (V2I or v2i)

- The United States Department of Transportation offers more information about V2I initiatives.
- Connecting the connected car: What needs to happen now
- Driving forces accelerating and decelerating connected car security
- Car makers collaborate on autonomous and connectivity initiatives