References

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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.

What is vehicle infrastructure communication?
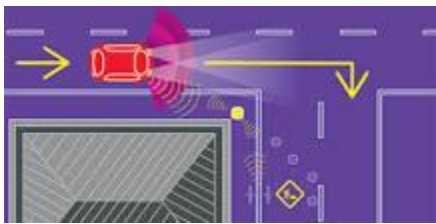
Vehicle-to-Infrastructure (V2I) communication is **the wireless exchange of data between vehicles and road infrastructure**

What is Vehicle-to-Infrastructure (V2I) communication?

- Vehicle-to-Infrastructure (V2I) communication is the wireless exchange of data between vehicles and road infrastructure.

Enabled by a system of hardware, software, and firmware, V2I communication is typically wireless and bi-directional: infrastructure components such as lane markings, road signs, and traffic lights can wirelessly provide information to the vehicle, and vice versa.

With so much data being captured and shared, rich, timely information can be used to enable a wide range of safety, mobility, and environmental benefits.

Why do we need V2I?

- Roadways are soon to be the stage for a revolution. Self-driving vehicles, long dreamed of, are becoming a reality. The race to make a successful and safe autonomous car is on, with everyone from young tech companies to traditional auto manufacturers entering the competition.

Public attention follows companies as their autonomous vehicles go from strength to mishap and back again, but the reality is that leading automotive manufacturers around the globe will be producing driverless cars sooner than most would guess—think 2021.

Change is just around the corner. And it's going to bring huge benefits. The biggest—a possible end to nearly 90 percent of traffic fatalities, a public health triumph that could mean almost 30,000 lives saved a year in America alone, plus $190 billion dollars in health care costs saved.[1]

In order for this revolution to take place, the environment surrounding the vehicle must evolve as well.

oad infrastructure will need to move from analog to digital
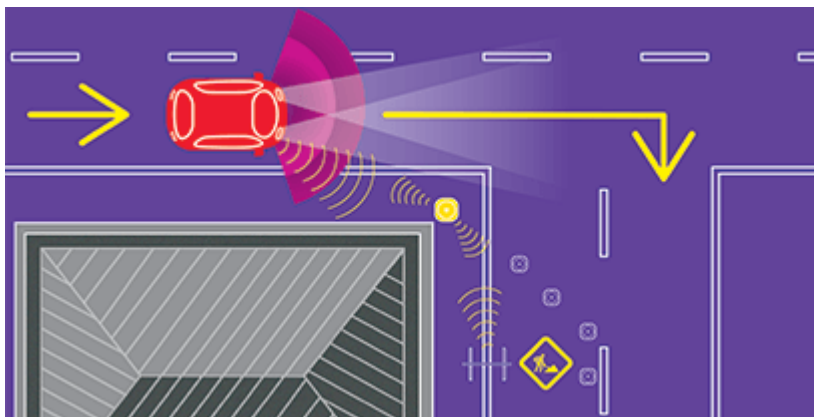
- As we leave behind the days when cruise control and assisted driving were the smartest operations the car could perform, we move into new levels of automation. Vehicle systems will take on more responsibility and the role of the driver will diminish.

So how can we navigate the road ahead?

First and foremost, infrastructure will need to support both human and machine vision. The roadway infrastructure must move from analog messages designed for human eyes to digital messages designed so technology in automated cars can interpret the surrounding environment and quickly respond, creating redundancy which increases the confidence of the vehicle to make critical driving decisions.