

# From Isolated Vehicle Navigation to Synchronized Urban Mobility

## AMBITION

Autonomous vehicle navigation required a transition from isolated sensor inputs to an integrated, 360-degree view of the surrounding environment. Existing communication systems lacked the low-latency connectivity required to share real-time data between vehicles, infrastructure, and pedestrians. To improve road safety and traffic efficiency, a leading pioneer in communication technology needed to establish a high-speed framework for synchronizing movement and navigating complex urban environments.

## ACTION

**Wipro Engineering – Connected Services** integrated 5G connectivity with Multi-access Edge Computing (MEC) to implement a robust Vehicle-to-Everything (V2X) architecture. Technical teams engineered the solution to process real-time map data and environmental alerts at the edge, reducing information delay for drivers and autonomous systems. This structure facilitated the deployment of applications that synchronize vehicle movement with road infrastructure and pedestrian sensors. Engineers designed the system to analyze surround-view data to provide proactive insights into accidents and traffic congestion.

## AMBITIONS REALIZED

The deployment established a high-bandwidth foundation for synchronized urban mobility and enhanced road safety.

### The Business Impact:

- **360-degree situational awareness** through real-time integration of surrounding environmental data.
- **Seamless urban mobility** enabled by low-latency 5G and MEC connectivity.
- **Proactive traffic navigation** using real-time map updates and incident detection.
- **Synchronized V2X communication** between road infrastructure, vehicles, and pedestrians.
- **Enhanced driver awareness** through automated delivery of safety-critical environmental insights.

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