

Smart Columbus Connected Corridor project, Ohio, USA

The project: Creating a full-featured Connected Vehicle Environment for the 'Smart Columbus' program

The Connected Vehicle Environment (CVE) project, which started in 2016, aims to increase transportation mobility, safety, and efficiency for local residents in the city of Columbus in Ohio. The CVE integrates connected vehicles into the city's transportation environment by installing in-vehicle and roadside technology, and by deploying CV applications that will enable enhanced safety and mobility features.

The CVE roadside equipment and in-vehicle onboard units (OBUs) generate the transportation-related data that enables the connected vehicle applications to provide priority to transit vehicles and 'pre-emption' for emergency vehicles to allow them to pass intersections without obstruction. CV applications have also been deployed to display real-time information to drivers in their vehicles. This helps to increase awareness of traffic signals and speed limits, and reduces the response time for traffic incidents and accidents – supporting better safety outcomes for road users.

Delivery and integration of the multiple components of the CVE

To support the CVE rollout in Columbus, Kapsch TrafficCom led the CV implementation and integration. A total of 100 roadside units supplied by Kapsch and other vendors were deployed to enable data collection at intersections along the key corridors in the city.

The Kapsch Connected Mobility Control Center (CMCC) software platform, which is interoperable with Kapsch and other vendor devices, has been deployed to configure, monitor, and gather live data from the CVE. This data is integrated into the Smart Columbus network with the ultimate goal of improving mobility for local residents while improving the safety and efficiency of the transportation network.





The benefits: Improved road safety and reduced congestion and delays

By providing information such as traffic signal status, speed limits, and other alerts to drivers in their vehicles, Columbus' CVE is delivering a wide range of benefits for the city, and for road users.

For example, the CVE is improving traffic flow and corridor mobility by optimising signalling and reducing start-stop traffic. Increased driver awareness of potential hazards and speed limits outside schools, for example, is also reducing accident risks and helping to improve public safety.

With real-time awareness of traffic incidents, the city can respond more quickly and effectively, especially through emergency vehicle pre-emption at traffic lights, which ensures that first responders who deliver life-saving services can arrive on the scene faster.

The CVE also supports a range of other benefits, including increased freight mobility in Columbus, which is a major win for the city and for local businesses.