

Company Name: Leidos

Project Title: 5G Automotive Association Vehicle-to-Everything (V2X) Demonstration at Turner-Fairbank Highway Research Center

Leidos proudly submits this nomination for the 2025 ITS World Congress Industry Award in recognition of its leadership and innovation in deploying advanced V2X technologies. This nomination centers on Leidos' successful organization and technical execution of the 5G Automotive Association Demonstration, which showcased real-world V2X use cases at the Turner-Fairbank Highway Research Center in 2025.

V2X Demonstration

Hosted on behalf of the U.S. Department of Transportation's ITS JPO, the demonstration marked a pivotal moment in cooperative safety applications. Leidos served as the lead technical integrator and event organizer, delivering an operational testbed where both cellular and direct V2X communication methods worked in concert—an industry-first under such compressed timelines. Planned and executed in just two months, the demonstration involved over 120 participants from more than 60 organizations, including key stakeholders from the automotive, telecom, and infrastructure sectors.

The live demonstrations included:

- Pedestrian and hazard detection via Verizon's Edge Transportation Exchange™, where a pedestrian with a mobile device triggered an in-vehicle alert, simulating a real-time crash avoidance scenario;
- Cyclist and vehicle coordination, where a mobile-enabled cyclist approaching a right-turning vehicle prompted an alert, preventing a potential crash;
- Same-lane collision warnings using direct V2X communication from Autotalks, enabling vehicles to detect cyclists obstructed by large vehicles ahead.

Each use case highlighted not only the technological capabilities but also the operational maturity required for deployment. Leidos developed the system architecture, conducted interoperability testing, and created a real-time performance dashboard to monitor cellular V2X message flow and system responsiveness—an innovation praised by industry experts for enhancing transparency and operational visibility.

This demonstration was not a one-off event but a strategic milestone in national V2X readiness. It directly informed the FCC's December 2024 Cellular V2X Auto Safety Spectrum Rules, influencing regulatory pathways for deploying connected vehicle technologies at scale.

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Why Leidos?

Leidos is a longstanding technology partner to the U.S. Department of Transportation and the operator of the Saxton Transportation Operations Laboratory (Saxton Lab)—a premier federal facility located at the Turner-Fairbank Highway Research Center in McLean, Virginia. As a nationally recognized center for research, development, testing, and evaluation of intelligent transportation systems, the Saxton Lab serves as one of several environments where Leidos delivers advanced solutions in support of national transportation goals.

The lab provides an end-to-end environment for advancing cooperative driving automation, connected infrastructure, and AI-enabled mobility systems. It includes live signalized intersections, a connected fleet, mobile edge computing platforms, and high-fidelity sensing systems. While Saxton Lab provided critical testbed capabilities for this demonstration, the success of the 5G Automotive Association demonstration was driven by Leidos' deep expertise, rapid integration capabilities, and ability to coordinate diverse industry stakeholders under extreme time constraints.

Leidos' team includes experts in V2X, systems engineering, telecommunications, and human-in-the-loop safety design. This uniquely positions Leidos to bridge the gap between conceptual ITS frameworks and practical deployment—an ability that was fully evident in the design and execution of the 5G Automotive Association demonstration. In addition to its work at Saxton Lab, Leidos supports transportation innovation across the country, translating emerging technologies into scalable, real-world deployments.

Impact and Legacy

Through its leadership in the 5G Automotive Association Demonstration, Leidos has significantly advanced the deployment readiness of next generation ITS solutions. The demonstration offered a credible, data-driven narrative for how V2X technologies can enhance road safety for all users—including pedestrians, cyclists, and drivers—by reducing visibility-related crash risks and improving reaction time through connected alerts.

The project further established a model for multi-stakeholder collaboration, involving public agencies, global technology firms, and automotive manufacturers, with Leidos orchestrating seamless interoperability across disparate platforms. By compressing months of integration and planning into a two-month window, Leidos set a new benchmark for agility, coordination, and technical leadership.

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Conclusion

Leidos exemplifies what the ITS World Congress Industry Award seeks to recognize: a research organization driving meaningful, scalable, and policy-relevant innovation in intelligent transportation systems. Its leadership in delivering the 5G Automotive Association Demonstration, coupled with its strategic role as operator of the Saxton Lab, positions Leidos at the forefront of ITS advancement in the Americas Region.

This project represents more than technical excellence, it demonstrates Leidos' unmatched ability to bring together public and private partners, accelerate complex innovation under intense timelines, and translate connected vehicle research into real-world policy and deployment outcomes.

With a proven track record of delivering national impact and shaping the future of transportation safety, Leidos is honored to be considered for the 2025 ITS World Congress Industry Award and is ready to continue leading the industry forward.

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