



## A Platform for the Transportation Industry to Cooperatively Develop and Test in a Secure Environment



The VOICES project aims to create a platform for facilitating collaboration on future surface transportation automation and connectivity technologies that have the potential to significantly benefit the safety, efficiency, and environmental impacts of transportation. A diverse group of stakeholders will design, build, test, and evaluate the performance and interoperability of these technologies.

VOICES can be used for:

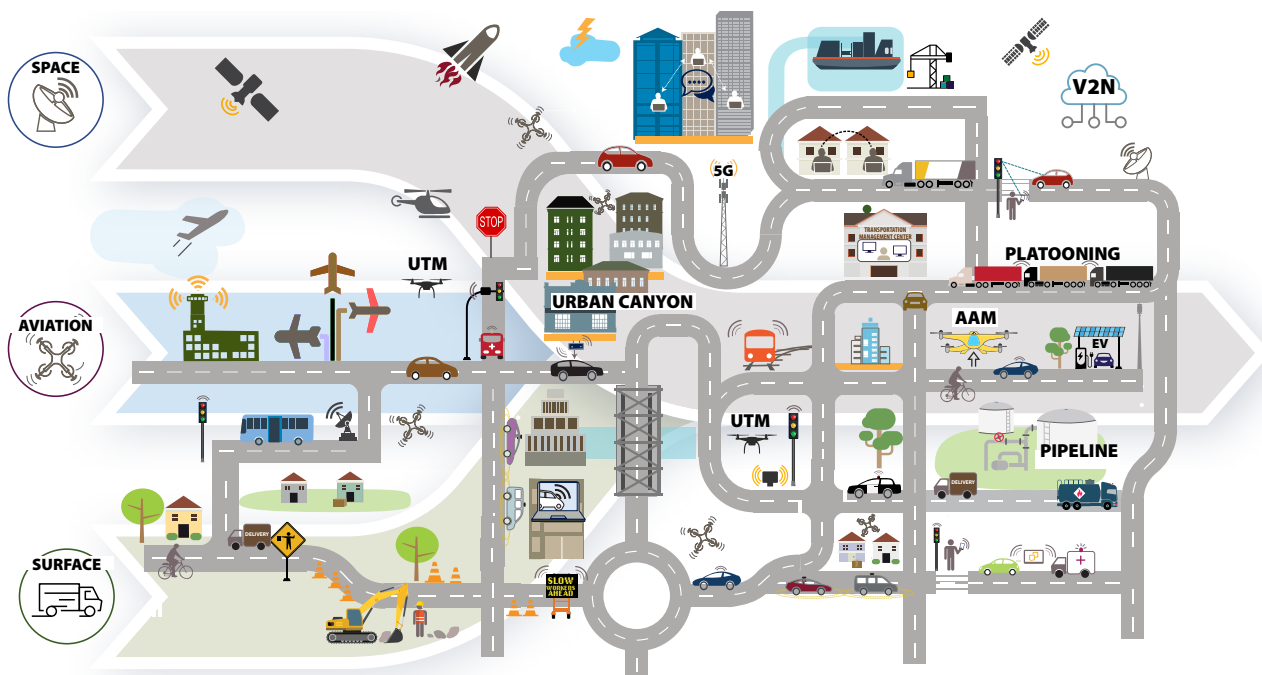
- Cooperative testing.
- Standards testing and verification.
- Product development.
- Certification and accreditation.
- Connected and autonomous vehicle technology readiness and safety.

### The Problem: A Challenge for Collaboration

The United States transportation system has evolved over time to become more complex, congested, and burdensome to travelers and the industry alike (Figure 1). VOICES seeks to change that.

With an industry actively delivering new technologies to a rapidly innovating system, several challenges come to the forefront:

- Lack of a simple, effective, and efficient mechanism to perform collaborative research and testing.
- Multiplicity of stakeholders.
- Natural silos.
- Intellectual property and competitive pressures.
- Cost and resource barriers.
- Lack of interoperable test tools.



AAM: Advanced Air Mobility; EV: electric vehicle; UTM: Unmanned Aircraft System Traffic Management; V2N: vehicle-to-network.

Source: FHWA.

**Figure 1. Illustration. Evolution of the United States transportation system.**

## The Solution: Interoperable Testing



The VOICES platform will enable public agencies, infrastructure and automotive industries, manufacturers, developers, and academic researchers to collaborate on research and development for transportation solutions. The virtual environment will help break down costly barriers to safe development and accelerate technology deployment.

VOICES will facilitate a connected transportation system by:

- **Bolstering cooperative driving automation development** through collaboration and testing, and by enabling organizations to work together in a virtual environment. Systems will interact using a high-quality representation of the surface transportation ecosystem.
- **Establishing a space for contributors** to add, integrate, and test capabilities, while protecting their intellectual property.
- **Delivering easier, less costly access** to essential engineering resources for research and development of traffic safety and mobility applications.
- **Compiling common scenario libraries and datasets** to benefit development and evaluation of system performance, and advance the understanding of conditions that exist within particular operational design domains.



Source: FHWA.

**Figure 2. Illustration. Connected, efficient, and safer transportation system.**

VOICES provides a unique opportunity for industry participants to identify priorities; shape and refine solutions; and formulate options for governance, operations, and long-term sustainment; including solutions that ensure data are not retained by, or accessible to, the Federal Government.

