

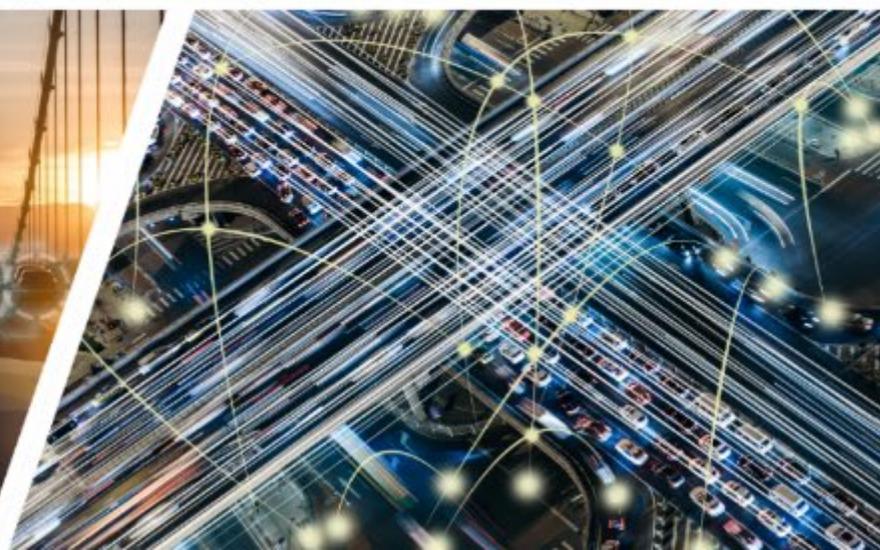
TRANSPORTATION RESEARCH BOARD 2020 ANNUAL MEETING

STATE OF ITS

Intelligent Transportation
Systems Joint Program Office



U.S. Department of Transportation



U.S. DOT's INTELLIGENT TRANSPORTATION SYSTEMS JOINT PROGRAM OFFICE

The ITS JPO's role is to coordinate the U.S. DOT's ITS research and deployment portfolio.



**Intelligent
Transportation
Systems Joint
Program
Office**



The collage features five circular images: top-left shows a row of white scooters; top-right shows a red semi-truck on a road; center shows a man and woman in a control room looking at a tablet; bottom-left shows a blue and white bus; bottom-right shows a futuristic blue car.



U.S. Department of Transportation

-  Federal Highway Administration
-  Federal Motor Carrier Safety Administration
-  Federal Railroad Administration
-  Federal Transit Administration
-  Maritime Administration
-  National Highway Traffic Safety Administration
-  Office of the Assistant Secretary for Research and Technology
-  Pipeline and Hazardous Materials Safety Administration
-  St. Lawrence Seaway Development Corporation

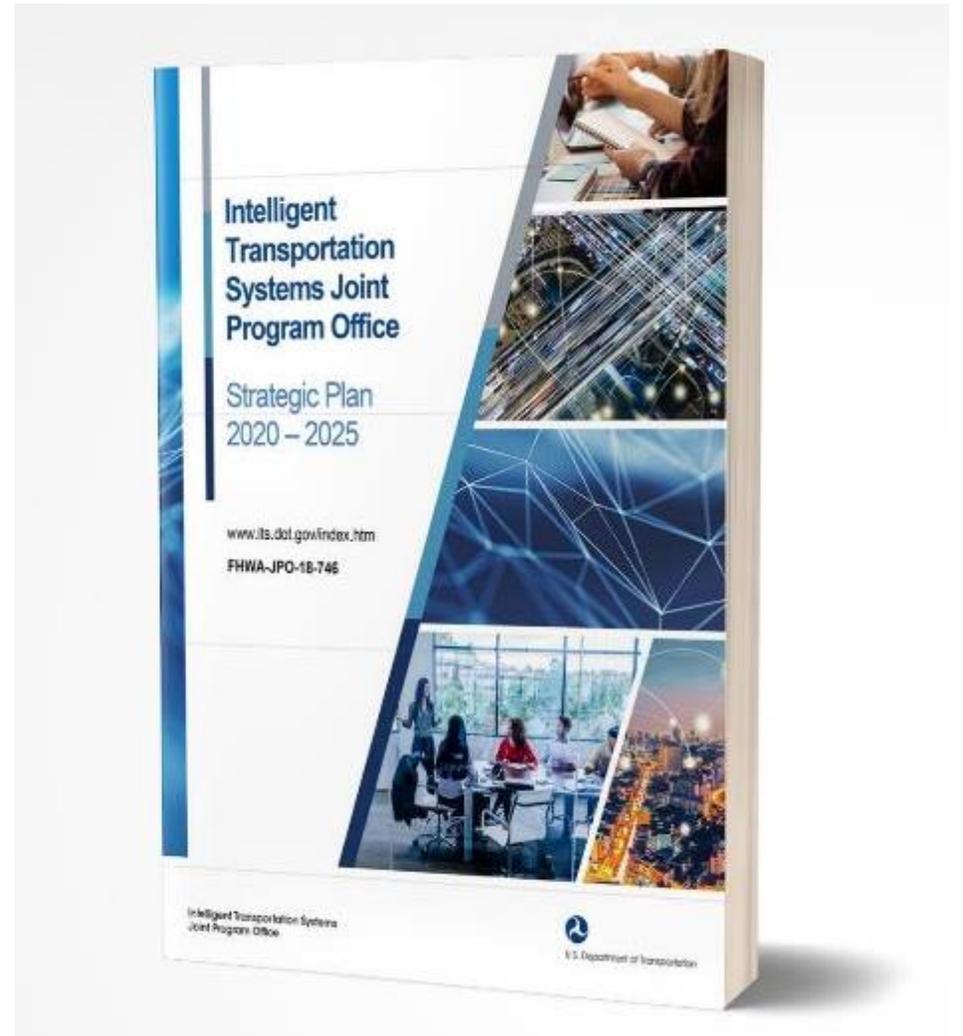
MOVING FORWARD – A NEW ITS JPO STRATEGIC PLAN

VISION

- Accelerate the use of ITS to transform the way society moves.

MISSION

- The ITS JPO leads collaborative and innovative research, development, and implementation of intelligent transportation systems technologies to improve safety and mobility for all.



ITS JPO STRATEGIC PLAN | STRATEGIC RESEARCH AREAS

The ITS JPO advances the next wave of transformations through six research areas and four technology transfer programs, which work to accelerate deployment.



AUTOMATION



GOAL:

ITS research will advance the safe, interoperable, and efficient integration of automation technologies into the transportation system.

ACTIVITY HIGHLIGHTS:

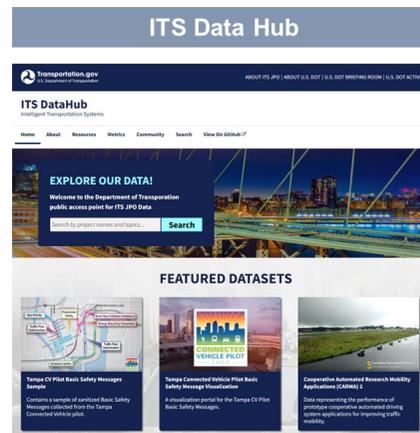
- CARMA software version released; four light vehicle completed and began testing
- Published results of Naturalistic Driving Study of 120 drivers using on-the-market L2 light vehicles

ITS DATA ACCESS AND EXCHANGES

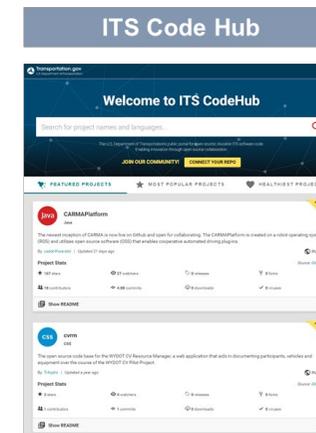
GOAL:

ITS research will develop mechanisms for jurisdictions to have ubiquitous, consistent, trusted access to ITS data to support accelerated integration of automation, artificial intelligence applications, and transportation service data with other essential public services.

ACTIVITY HIGHLIGHTS: Open Data and Code Access



www.its.dot.gov/data



www.its.dot.gov/code

- Work Zone Data Exchange Demonstration Grants



transportation.gov/av/data/wzdx

CYBERSECURITY FOR ITS



GOAL:

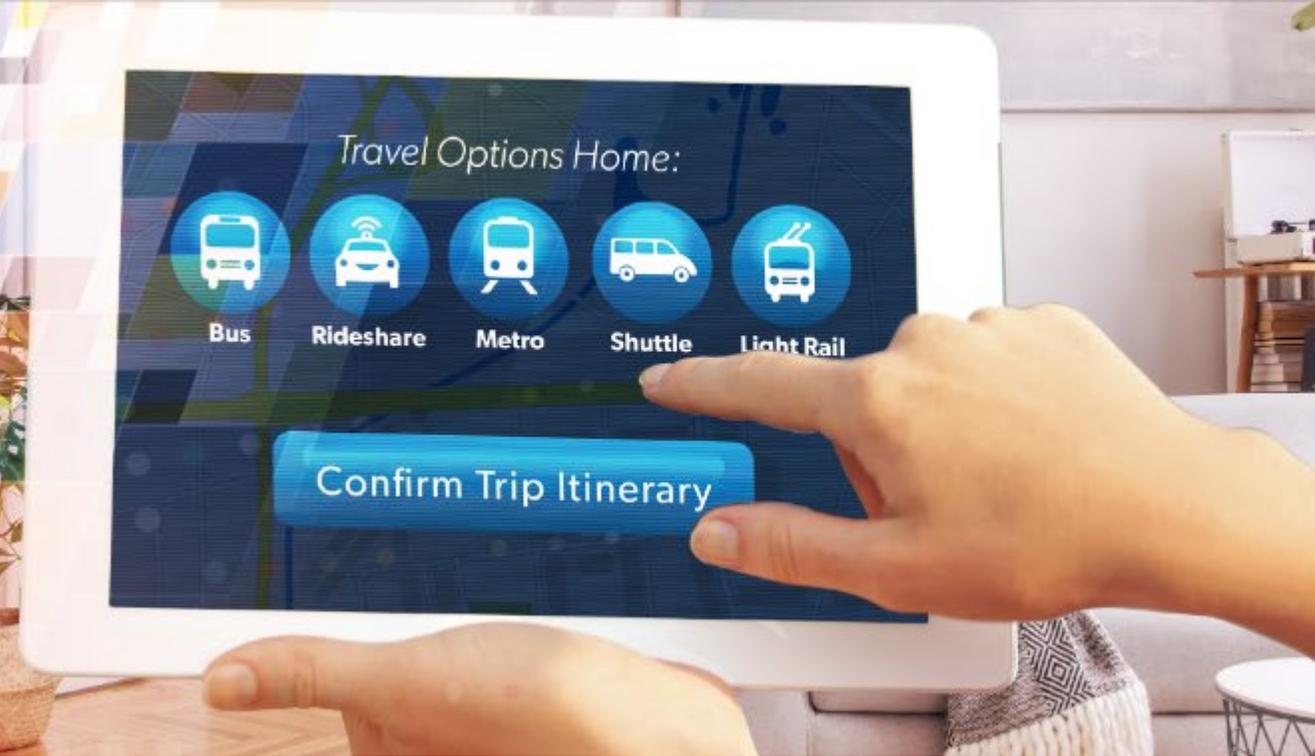
ITS will be cyber-resilient. The vulnerabilities that ITS deployments create in the transportation system will be continually and systematically assessed at all levels to mitigate risks associated with malfunction or malfeasance to an acceptable level and establish and use resiliency plans.

ACTIVITY HIGHLIGHTS:

- Development of Cybersecurity and ITS – Best Practices Guide
- Development of Secure Credential Management System (SCMS)
- Development of SCMS Governance and Ownership Model Deployment Options

COMPLETE TRIP

ITS4US



GOAL:

ITS research will create new technology and deployment configurations that eliminate “transportation deserts” and create access to effective “complete trips” for consumers.

ACTIVITY HIGHLIGHTS:

- Development of Program Vision, Mission, and Guiding Principles
- Development of 5 Complete Trip Deployment Scenarios

EMERGING AND ENABLING TECHNOLOGIES



GOAL:

ITS JPO will coordinate and conduct investigations and exploratory research into emerging technologies across government, academia, and the private sector.

ACTIVITY HIGHLIGHTS:

- Development of a test plan and test procedures for measuring the ability for DSRC and unlicensed devices to share the spectrum
- Development of a test plan and test procedures for testing LTE-CV2X devices

ACCELERATING ITS DEPLOYMENT



GOAL:

ITS research will facilitate the transfer of knowledge and technologies into regular practice and help bring the next generation of ITS into interoperable deployment.

ACTIVITY HIGHLIGHTS:

- Tampa CV Pilot transitioned from Design to Operations
- Delivered ARC-IT version 8.3
- Provided training for over 700 students in FY 2019
- Conducted CV/AV Deployment Survey and 2019 Rural Transit ITS Deployment Survey

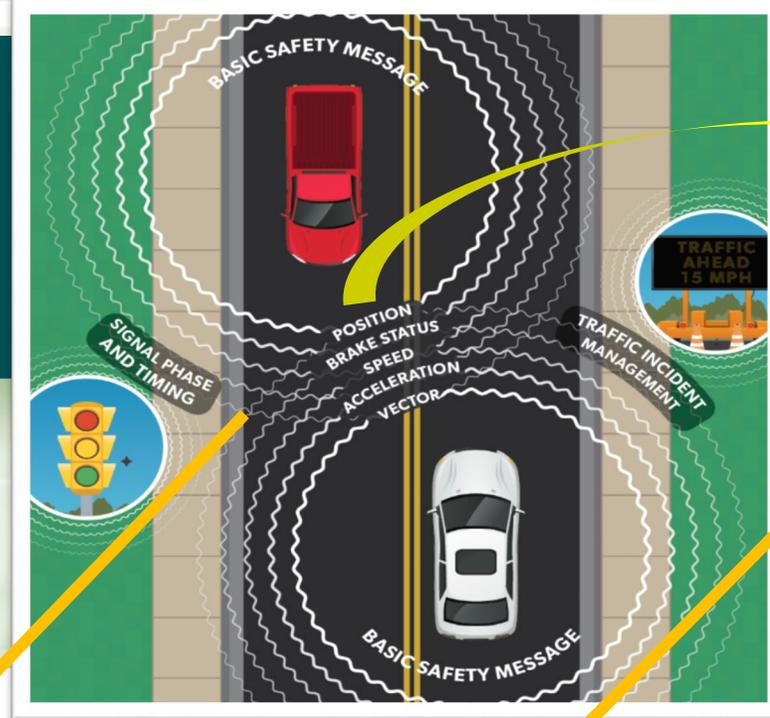
TRANSPORTATION NEEDS SPECTRUM—IMPORTANCE OF THE SAFETY BAND

With over **37,000** deaths on our nation's roads every year, it is critical that efforts to free up additional spectrum do not come at the expense of life-saving technologies.

As a Nation, we have set a goal of moving to a traffic system without crashes. Today, we are able to make significant advancements in safety and mobility, improve system transportation system operations using existing cooperative technologies, and reduce taxpayer burden...***why would we walk away from the opportunity to save so many lives?***



SAFETY BAND IN USE



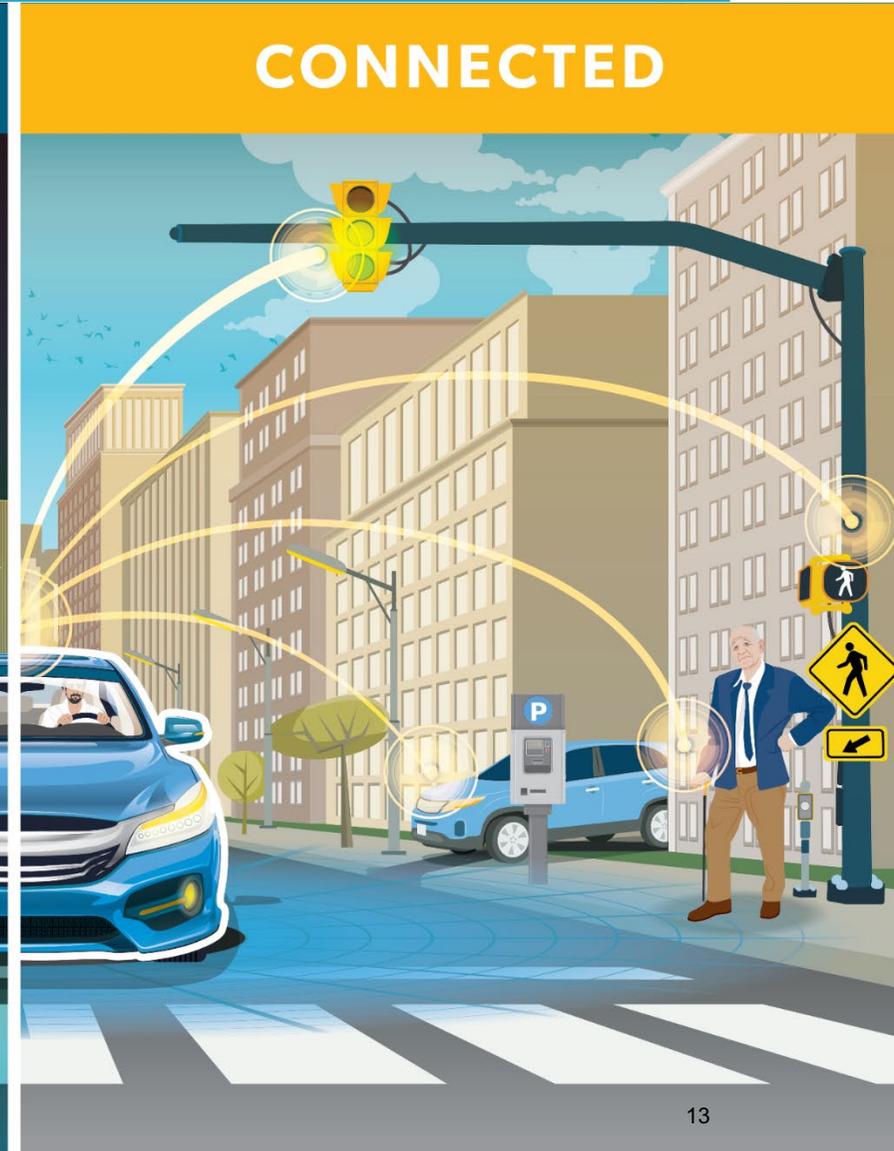
5.850 GHz

5.925 GHz

5.850 GHz				5.925 GHz			
		CH 175		CH 181		CH 183	
5850-5855 reserve 5 MHz	CH 172 Service 10 MHz	CH 174 Service 10 MHz	CH 176 Service 10 MHz	CH 178 Service 10 MHz	CH 180 Service 10 MHz	CH 182 Service 10 MHz	CH 184 Service 10 MHz
	V2V/V2I BSMs	SCMS	Red Light Viol	WAVE	SCMS	Red Light Viol	Public Safety
	SPaT/MAP	SPaT/MAP	Curve Speed	RSA	Personal Safety	Curve Speed	Signal Preemption
	HMI	Platooning	V2 Pedestrian	BSMs	OTA Updates	V2 Pedestrian	Signal Request
		AVs	Probe		Signal Request	Probe	

AN UNCONNECTED VS. A CONNECTED TRANSPORTATION SYSTEM

The future of transportation safety and collision avoidance is connectivity.



QUESTIONS

