



Summary of  
Surface Transportation Reauthorization Act of 2021  
May 28, 2021

The Senate Committee on Environment and Public Works approved on May 26, 2021, 20 to 0, the Surface Transportation Reauthorization (STRA) Act of 2021. STRA provides \$303.5 billion for the Department of Transportation for highway, bridge, bike/ped, environment, research, and technology programs over a five-year authorization period (FY22-26). This is an increase of 22 percent from the FAST Act levels adjusted for inflation. Ninety percent (\$273.2 billion) is distributed to states through formula funding. Many of the programs in this bill were included in America's Transportation Infrastructure (ATIA) Act of 2019; however, they may consist of new policy or have higher funding levels. The bill maintains FAST Act technology eligibilities and expands those eligibilities to new programs.

While there was no substantial changes to the bill as introduced on May 22, ITS America wants to call your attention to new language that was included in the substitute bill that would allow states and other eligible entities with stranded dedicated short-range communications (DSRC) infrastructure assets from the Federal Communications Commission's decision on the 5.9 GHz transportation communications safety band to retrofit those assets to cellular vehicle-to-everything (C-V2X) technology under the Advanced Transportation and Congestion Mitigation Technology Deployment Program (ATCMTD) and Carbon Reduction Program. More details are in those sections of this bill summary.

The bill included a number of critical wins for ITS America, including first-time eligibility for cybersecurity under the National Highway Performance Program and Surface Transportation Block Grant Program, for which ITS America and our members have strongly advocated for a long time. In addition to providing for cybersecurity, the bill also expands opportunities for V2X technologies, including those that protect vulnerable road users, provides new opportunities for Mobility on Demand technologies, and includes necessary funding to build out electric vehicle infrastructure, including charging stations.

ITS America will continue to work with the Committee to improve the bill, with a focus on the ATCMTD Program, before it moves to the Senate floor. The ATCMTD program funding is flat at \$60 million per year, the federal share remains at up to 50%, and the source of the funding continues to be set-asides from the Highway Research and Development Program, Intelligent Transportation Systems Program, and the Technology Innovation Deployment Program. ITS

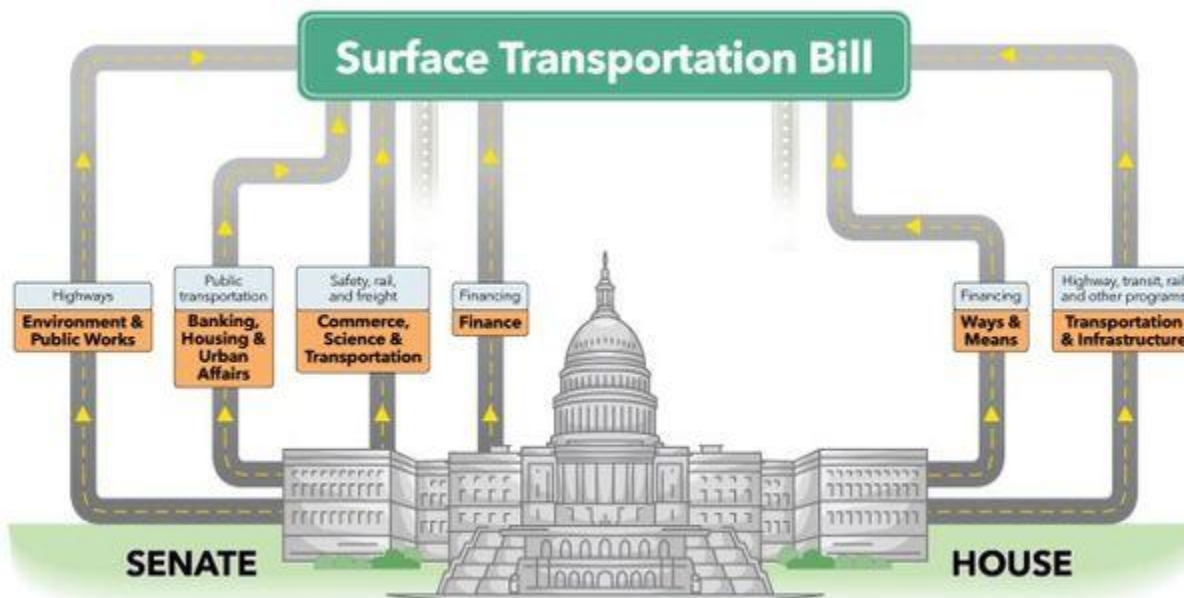
America supports significantly more funding, the federal share up to 80%, and funding outside of the programs mentioned.

This bill puts in motion Congress' race to complete the reauthorization before September 30, 2021. The House Committee on Transportation and Infrastructure will introduce and markup its bill shortly after the Memorial Day recess. The Senate Commerce, Science, and Transportation Committee will introduce and markup its bill in the next few weeks. The Banking, Housing, and Urban Affairs Committee's timing is less clear.

STRA now waits for the Banking, Housing, and Urban Affairs Committee to report the transit title, the Commerce, Science, and Transportation Committee to report a bill covering safety, technology, freight, and rail programs, and the Finance Committee, which has the hardest job of all, determines how to pay for the reauthorization. The FAST Act expired on September 30, 2020. Congress passed a one-year extension that will expire on September 30, 2021.

## Committees Responsible for Surface Transportation Reauthorization

Several panels will play a role in a long-term reauthorization.



Note: Additional committees – including House Energy and Commerce and Science, Space and Technology – may also be involved in the final bill.

Sources: Bloomberg Government reporting, Congressional Research Service

Bloomberg Government

This document is ITS America's summary of technology programs and eligibility within programs. Full text of the Surface Transportation Reauthorization Act can be found [here](#). Additional materials include opening statements from [Committee Chairman Tom Carper \(D-DE\)](#) and [Ranking Member Shelley Moore Capito \(R-WV\)](#), a [section-by-section](#), tables for [apportionments](#) and [authorizations](#), and ITS America's FAST Act reauthorization [Moving People, Data, and Freight](#).

## **Title I—Federal-Aid Highways**

### **Sec. 1105. National Highway Performance Program.**

Makes eligible measures to protect segments of the National Highway System from cybersecurity threats.

### **Sec. 1107. Federal Share Payable.**

Makes Federal share payable of up to 100 percent for vehicle-to-infrastructure communication equipment for work zones prior to or during roadway construction activities.

### **Sec. 1109. Surface Transportation Block Grant Program.**

Makes measures to protect a transportation facility otherwise eligible for assistance under this section from cybersecurity threats. Makes eligible installation of electric vehicle charging infrastructure and vehicle-to-grid infrastructure. Makes eligible the installation and deployment of current and emerging intelligent transportation technologies, including the ability of vehicles to communicate with infrastructure, buildings, and other road users. Funding average per year is \$14.4 billion from the HTF.

### **Sec. 1115. Congestion Mitigation and Air Quality Improvement Program.**

Makes eligible micromobility, including bikesharing and shared scooters. Funding average per year is \$2.64 billion from the HTF.

### **Sec. 1118. Bridge investment program.**

Innovative technologies will be a factor in evaluating applications for competitive grant programs to assist State, local, Federal, and tribal entities in rehabilitating or replacing bridges, including culverts, and eligibility for large projects and bundling of smaller bridges. Funding average is \$653 million per year from the HTF and \$653 million from the General Fund.

### **Sec. 1130. Public Transportation.**

Makes eligible the construction or installation of traffic signaling and prioritization systems and fare collection systems for a bus rapid transit corridor or dedicated bus lanes.

### **Sec. 1133. Rural Surface Transportation Grant Program.**

Establishes a rural surface transportation grant program to provide grants, on a competitive basis, to eligible entities to improve and expand the surface transportation infrastructure in rural areas. Technology project eligibility includes projects that develop, establish, or maintain an integrated mobility management system, a transportation demand management system, or on-demand mobility services. A grant under the program shall be in an amount that is not less than \$25 million. Funding is \$400 million per year from the HTF.

### **Sec. 1134. Bicycle Transportation and Pedestrian Walkways.**

Makes eligible bicycle and shared micromobility. The definition of electric bicycle is a bicycle that is equipped with fully operable pedals, a saddle or seat for the rider, and an electric motor of less than 750 watts; that can safely share a bicycle transportation facility with other users of such facility; and that is a class 1 electric bicycle, class 2 electric bicycle, or class 3 electric bicycle. Classes of electric bicycles are:

1. Class 1 Electric Bicycle: an electric bicycle, other than a class 3 electric bicycle, equipped with a motor that—(I) provides assistance only when the rider is pedaling; and (II) ceases to provide assistance when the speed of the bicycle reaches or exceeds 20 miles per hour.
2. Class 2 Electric Bicycle: an electric bicycle equipped with a motor that may be used exclusively to propel the bicycle; and is not capable of providing assistance when the speed of the bicycle reaches or exceeds 20 miles per hour.
3. Class 3 Electric Bicycle: an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling; and ceases to provide assistance when the speed of the bicycle reaches or exceeds 28 miles per hour.

**Sec. 1136. Updates to Manual on Uniform Traffic Control Devices.**

Directs the Secretary of Transportation to update the MUTCD, and to include updates on the protection of vulnerable road users (as defined in section 148(a) of title 23, United States Code); updates on supporting the safe testing of automated vehicle technology and any preparation necessary for the safe integration of automated vehicles on public streets; updates on the appropriate use of variable message signs to enhance public safety; and updates on the minimum retroreflectivity of traffic control devices and pavement markings. The Substitute bill adds language that would require that the Manual on Uniform Traffic Control Devices be updated every four years.

**Sec. 1304. Intelligent Transportation Systems.**

Requires the Secretary to develop guidance for using existing flexibilities with respect to the systems engineering analysis. Specifically, this section requires the Secretary to ensure that the guidance clarifies criteria for low-risk and exempt intelligent transportation system projects to minimize unnecessary delays or paperwork burdens.

**Sec. 1401. Grants for Charging and Fueling Infrastructure.**

The purpose of this section is to establish a grant program to strategically deploy publicly accessible electric vehicle charging infrastructure, hydrogen fueling infrastructure, propane fueling infrastructure, and natural gas fueling infrastructure along designated alternative fuel corridors or in certain other locations that will be accessible to all drivers of electric vehicles, hydrogen vehicles, propane vehicles, and natural gas vehicles. Considerations for receiving a grant include information on protecting personal privacy and cybersecurity; and how infrastructure installation can be responsive to technology advancements, such as accommodating autonomous vehicles, vehicle-to-grid technology, and future charging methods.

An eligible entity that receives a grant under this program may use a portion of the funds to provide to a private entity operating assistance for the first 5 years of operations while the facility transitions to independent system operations. Operating assistance shall be limited to costs allocable to operating and maintaining the electric vehicle charging infrastructure, hydrogen fueling infrastructure, propane fueling infrastructure, or natural gas fueling infrastructure and service. An eligible entity that receives a grant under this subsection may use a portion of the funds to acquire and install traffic control devices located in the right-of-way to provide directional information to publicly accessible electric vehicle charging infrastructure, hydrogen fueling infrastructure, propane fueling infrastructure, or natural gas fueling infrastructure acquired, installed, or operated with the grant.

50 percent of the total program funds will be made available each fiscal year for Community Grants, to install EV charging and alternative fuel in locations on public roads, schools, parks, and in publicly accessible parking facilities. These grants will be prioritized for rural areas, low-and moderate-income neighborhoods, and communities with low ratios of private parking, or high ratios of multi-unit dwellings. A grant may be used for a project that is expected to reduce greenhouse gas emissions and to expand or fill gaps in access to publicly accessible electric vehicle charging infrastructure, hydrogen fueling infrastructure, propane fueling infrastructure, or natural gas fueling infrastructure. In providing grants, the Secretary shall consider the extent to which the project meets current or anticipated market demands for charging or fueling infrastructure, including faster charging speeds with high-powered capabilities necessary to minimize the time to charge or refuel current and anticipated vehicles. Funding average is \$500 million per year from the HTF.

**Sec. 1402. Reduction of Truck Emissions at Port Facilities.**

Establishes a program to reduce idling and emissions at port facilities. This section requires the Secretary to study how ports would benefit from electrification and to study emerging technologies that reduce emissions from idling trucks. Funding is \$50 million per year from the HTF.

**Sec. 1403. Carbon Reduction Program.**

Establishes a carbon reduction program to reduce transportation emissions. Technology eligible projects include advanced truck stop electrification systems; advanced transportation and congestion management technologies; infrastructure-based intelligent transportation systems capital improvements; the installation of vehicle to infrastructure communications equipment; a project to support deployment of alternative fuel vehicles, including the acquisition, installation, or operation of publicly accessible electric vehicle charging infrastructure or hydrogen, natural gas, or propane vehicle fueling infrastructure.

Eligible projects also include projects or strategies designed to support congestion pricing, shifting transportation demand to nonpeak hours or other transportation modes, increasing vehicle occupancy rates, or otherwise reducing demand for roads, including electronic toll collection, and travel demand management strategies and programs.

Language in the Substitute would allow states and other eligible entities with stranded Dedicated Short-Range Communications (DSRC) infrastructure assets from the FCC's decision on the 5.9 GHz band to retrofit those assets to Cellular Vehicle-to-Everything (CV2X) technology. MOD projects and strategies to reduce transportation emissions may include shared or pooled vehicle trips within the State or an area served by the applicable metropolitan planning organization. Not later than two years after enactment, a State, in consultation with any metropolitan planning organization designated within the State, shall develop a carbon reduction strategy. Formula funding average is \$1.3 billion per year.

**Sec. 1404. Congestion Relief Program.**

Establishes a congestion relief program to provide competitive grants to States, local governments, and metropolitan planning organizations, for projects in large urbanized areas to advance innovative, integrated, and multimodal solutions to congestion relief in the most congested metropolitan areas of the United States. The goals of the congestion relief program are to reduce highway congestion, lessen

economic and environmental costs related to congestion, and to optimize existing highway capacity and usage of transit systems that provide alternatives to highways. To achieve these goals, the program allows States and MPOs to compete for grants for eligible projects within urbanized areas containing populations of more than 1,000,000 people. Grant awards shall be not less than \$10,000,000. Eligible technology use for deployment and operation of a system that implements or enforces high occupancy vehicle toll lanes, cordon pricing, parking pricing, or congestion pricing; and deployment and operation of mobility services, including establishing account-based financial systems, commuter buses, commuter vans, express operations, paratransit, and on demand microtransit. Funding average is \$50 million per year from the HTF.

**Sec. 1406. Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) program.**

Establishes a formula and competitive grant program to help States improve the resiliency of transportation infrastructure. Using this program, the DOT shall establish Community Resilience and Evacuation Route Grants for projects that strengthen and protect evacuation routes including technology projects, installation of communications, and intelligent transportation system equipment and infrastructure. Funding average is \$280 million per year from the HTF.

**Sec. 1510. Cybersecurity Tool; Cyber Coordinator.**

STRA requires the FHWA to develop a tool to assist transportation authorities in identifying, detecting, protecting against, responding to, and recovering from cyber incidents. Requires the FHWA to use the cybersecurity framework established by the National Institute of Standards and Technology, to establish a structured cybersecurity assessment and development program, and to provide for a period of public review and comment on the tool.

STRA also requires the FHWA to designate an office as a “cyber coordinator” for monitoring; provide to transportation authorities a secure method of notifying a single Federal entity of cyber incidents; monitor cyber incidents that affect transportation authorities; alert transportation authorities to cyber incidents that affect those transportation authorities; investigate unaddressed cyber incidents that affect transportation authorities; and provide to transportation authorities educational resources, outreach, and awareness on fundamental principles and best practices in cybersecurity for transportation systems.

**Sec. 1511. Report on Emerging Alternative Fuel Vehicles and Infrastructure.**

Not later than 1 year after the date of enactment of this Act, to help guide future investments for emerging alternative fueling infrastructure, the Secretary shall submit to Congress and make publicly available a report that includes:

- A. an evaluation of emerging alternative fuel vehicles and projections for potential locations of emerging alternative fuel vehicle owners during the 5-year period beginning on the date of submission of the report;
- B. identifies areas where emerging alternative fueling infrastructure will be needed to meet the current and future needs of drivers during the 5-year period beginning on the date of submission of the report;
- C. identifies specific areas, such as a lack of pipeline infrastructure, that may impede deployment and adoption of emerging alternative fuel vehicles;

- D. includes a map that identifies concentrations of emerging alternative fuel vehicles to meet the needs of current and future emerging alternative fueling infrastructure;
- E. estimates the future need for emerging alternative fueling infrastructure to support the adoption and use of emerging alternative fuel vehicles; and
- F. includes a tool to allow States to compare and evaluate different adoption and use scenarios for emerging alternative fuel vehicles, with the ability to adjust factors to account for regionally specific characteristics.

**Sec. 1525. Study of Impacts on Roads from Self-Driving Vehicles.**

Directs the Secretary to initiate a study on the existing and future impacts of self-driving vehicles to transportation infrastructure, mobility, the environment, and safety, including impacts on the Interstate System, urban roads, rural roads, corridors with heavy traffic congestion, and transportation systems optimization, and any other areas or issues relevant to operations of the Federal Highway Administration that the Secretary determines to be appropriate.

In carrying out the study, the Secretary shall consider the need for and recommend any policy changes to be undertaken by the Federal Highway Administration on the impacts of self-driving vehicles and for both rural and urban communities, including a discussion of the impacts that self-driving vehicles will have on existing transportation infrastructure, such as signage and markings, traffic lights, and highway capacity and design; the impact on commercial and private traffic flows; infrastructure improvement needs that may be necessary for transportation infrastructure to accommodate self-driving vehicles; the impact of self-driving vehicles on the environment, congestion, and vehicle miles traveled; and the impact of self-driving vehicles on mobility.

The Secretary shall convene and consult with a panel of national experts in both rural and urban transportation. Participants may include operators and users of the Interstate System, including private sector stakeholders; States and State departments of transportation; metropolitan planning organizations; the motor carrier industry; representatives of public transportation agencies or organizations; highway safety and academic groups; nonprofit entities with experience in transportation policy; National Laboratories; environmental stakeholders; and self-driving vehicle producers, manufacturers, and technology developers.

**Title III—Research, Technology, and Education**

**Sec. 3001. Strategic Innovation for Revenue Collection.**

Reauthorizes and renames the Surface Transportation System Funding Alternatives Program, to continue the program to test the feasibility of a road usage fee and other user-based alternative revenue mechanisms to help maintain the long-term solvency of the Highway Trust Fund, through pilot projects at the State, local, and regional level. The Secretary shall ensure that, in the aggregate, the pilot projects carried out using funds provided under this section meet the following objectives:

- A. To test the design, acceptance, equity, and implementation of user-based alternative revenue mechanisms, including among differing income groups; and rural and urban drivers, as applicable.

- B. To provide recommendations regarding adoption and implementation of user-based alternative revenue mechanisms.
- C. To quantify and minimize the administrative costs of any potential user-based alternative revenue mechanisms.
- D. To test a variety of solutions, including the use of independent and private third-party vendors, for the collection of data and fees from user-based alternative revenue mechanisms, including the reliability and security of those solutions and vendors.
- E. To test solutions to ensure the privacy and security of data collected for the purpose of implementing a user-based alternative revenue mechanism.
- F. To conduct public education and outreach to increase public awareness regarding the need for user-based alternative revenue mechanisms for surface transportation programs.
- G. To evaluate the ease of compliance and enforcement of a variety of implementation approaches for different users of the surface transportation system.
- H. To ensure, to the greatest extent practicable, the use of innovation.
- I. To consider, to the greatest extent practicable, the potential for revenue collection along a network of alternative fueling stations.
- J. To evaluate the impacts of the imposition of a user-based alternative revenue mechanism on transportation revenues; personal mobility, driving patterns, congestion, and transportation costs; and freight movement and costs.
- K. To evaluate options for the integration of a user-based alternative revenue mechanism with nationwide transportation revenue collections and regulations; toll revenue collection platforms; transportation network company fees; and any other relevant transportation revenue mechanisms.

An entity eligible to apply for a grant under this section is a State or a group of States; a local government or a group of local governments; or a metropolitan planning organization or a group of metropolitan planning organizations. The section also increases the federal-share for the program to 80 percent of the total cost of a project carried out by an eligible entity that has not otherwise received a grant under this section, and 70 percent of the total cost of a project carried out by an eligible entity that has received at least 1 grant previously. Funding average is \$15 million per year.

**Sec. 3002. National Motor Vehicle Per-Mile User Fee Pilot.**

Directs the Secretary, in coordination with the Secretary of the Treasury, to establish a pilot program to demonstrate a national motor vehicle per-mile user fee to restore and maintain the long-term solvency of the Highway Trust Fund; and to improve and maintain the surface transportation system. In carrying out the pilot program, the Secretary, in coordination with the Secretary of the Treasury, shall provide different methods that volunteer participants can choose from to track motor vehicle miles traveled, solicit volunteer participants from all 50 States, the District of Columbia, and the Commonwealth of Puerto Rico, ensure an equitable geographic distribution by population among volunteer participants, and include commercial vehicles and passenger motor vehicles.

Vehicle-miles-traveled collection tools include:

- A. third-party on-board diagnostic (OBD-II) devices;
- B. smart phone applications;
- C. telemetric data collected by automakers;
- D. motor vehicle data obtained by car insurance companies;



- E. data from the States that received a grant under section 6020 of the FAST Act (23 U.S.C. 503 note; Public Law 114–94) (as in effect on the day before the date of enactment of this Act);
- F. motor vehicle data obtained from fueling stations;
- G. any other method that the Secretary considers appropriate.

For the purposes of the pilot program, the Secretary of the Treasury shall establish, on an annual basis, per-mile user fees for passenger motor vehicles, light trucks, and medium- and heavy-duty trucks, which amount may vary between vehicle types and weight classes to reflect estimated impacts on infrastructure, safety, congestion, the environment, or other related social impacts. The section also establishes a Federal System Funding Alternative Advisory Board to assist with providing the Secretary with recommendations related to the structure, scope, and methodology for developing and implementing the pilot program, carrying out the public awareness campaign, and developing a report.

Not later than 1 year after the date on which volunteer participants begin participating in the pilot program, and each year thereafter for the duration of the pilot program, the Secretary and the Secretary of the Treasury shall submit to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives a report that includes an analysis of whether the objectives were achieved, how volunteer participant protections were complied with, whether motor vehicle per-mile user fees can maintain the long-term solvency of the Highway Trust Fund and improve and maintain the surface transportation system, which shall include estimates of administrative costs related to collecting such motor vehicle per mile user fees, how the privacy of volunteers was maintained, and equity impacts of the pilot program, including the impacts of the pilot program on low-income commuters. Average funding per year is \$10 million from the HTF.

**Sec. 3004. Data Integration Pilot Program.**

The Secretary shall establish a pilot program to provide research and develop models that integrate, in near-real-time, data from multiple sources, including geolocated weather conditions, roadway conditions, incidents, work zones, and other nonrecurring events related to emergency planning; and information from emergency responders; and to facilitate data integration between the Department, the National Weather Service, and other sources of data that provide real-time data with respect to roadway conditions during or as a result of severe weather events. Funding average is \$2.5 million per year from the General Fund.

**Sec. 3005. Emerging Technology Research Pilot Program.**

Establishes a pilot program to conduct emerging technology research. Research and development activities relating to leveraging advanced and additive manufacturing technologies to increase the structural integrity and cost-effectiveness of surface transportation infrastructure; and research and development activities (including laboratory and test track supported accelerated pavement testing research regarding the impacts of connected, autonomous, and platooned vehicles on pavement and infrastructure performance) to reduce the impact of automated and connected driving systems and advanced driver assistance systems on pavement and infrastructure performance; and to improve transportation infrastructure design in anticipation of increased usage of automated driving systems and advanced driver-assistance systems. Funding is \$5 million per year from the General Fund.

**Sec. 3006. Research and Technology Development and Deployment.**

Expands the objectives of the **Turner Fairbank Highway Research Center** to support research on non-market ready technologies in consultation with public and private entities. It establishes an open challenge and research proposal pilot program that provides grants for proposals to research needs or challenges identified or determined to be important by the Secretary.

It expands the **Technology and Innovation Deployment Program** by adding a focus on accelerated market readiness efforts, including new and innovative construction technologies for smarter, accelerated project delivery. Funding average is \$110 million per year from the HTF. The program is funded at \$67 million per year under the FAST Act.

The modified **Advanced Transportation Technologies and Innovative Mobility Deployment** program formerly Advanced Transportation and Congestion Management Technologies Deployment Program includes intermodal connectivity and a rural setaside of not less than 20 percent. The substitute bill includes [language](#) that would allow states and eligible entities with stranded DSRC infrastructure assets from the FCC's decision on the 5.9 safety band to retrofit those assets to VV2X technology. The language would amend the ATCMTD program to include retrofitting these assets within the eligible criteria and would allow an 80% federal match specific to these projects. Funding average per year is \$60 million (flat) from the Technology Innovation Deployment Program, Highway Research and Development Program and Intelligent Transportation Systems Program. ATCMTD is funded at \$60 million per year and the federal share is up to 50 percent under the FAST Act.

This section also authorizes a new **Center of Excellence** to collect, conduct, and fund research on the impacts of new mobility, such as docked and dockless bicycles and electric scooters, and automated vehicles on land use, urban design, transportation, real estate, equity, and municipal budgets.

The **Highway Research & Deployment Program** would receive an average of \$147 million per year from the HTF. The program is funded at \$125 million per year under the FAST Act.

The **Intelligent Transportation Systems Program** would receive an average of \$110 million per year from the HTF. The program is funded at \$100 million per year under the FAST Act.

The **University Transportation Centers** would receive an average of \$81 million per year from the HTF. The UTC program is funded at \$377.5 million over the five years of the FAST Act.

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For more information on ITS America's summary of the Senate Environment and Public Works' Surface Transportation Reauthorization Act of 2021, please contact ITS America's Vice President of Public Policy and Legislative Affairs Ron Thaniel at [rthaniel@itsa.org](mailto:rthaniel@itsa.org).