FIXING AMERICA'S SURFACE TRANSPORTATION (FAST) ACT REAUTHORIZATION

PLATFORM AND RECOMMENDATIONS
Moving People, Data, and Freight: Safer, Greener, Smarter.

ITS America's vision is "A better future transformed by intelligent mobility – one that is safer, greener, and smarter." Our mission is to advance the research and deployment of intelligent transportation technologies and solutions to save lives, improve mobility, promote sustainability, and increase efficiency and productivity.

Our focus is policy that accelerates seamless mobility technology, connected and automated vehicle technologies, and smart infrastructure; policy that breathes new life into our transportation infrastructure by expanding investments in technologies that support smart communities; and policy that encourages new models and modes of transportation, including micro-transit, ridesourcing, carshare, bikeshare, micro-mobility, and unmanned systems. Investments in these new modes should also address issues of transportation equity so everyone gains access to mobility and opportunity. That said, our first and foremost priority has been, and continues to be, safety.

Founded as an official advisory board on road technology to the U.S. Department of Transportation, ITS America represents state and city departments of transportation, metropolitan planning organizations, automotive manufacturers, technology companies, engineering firms, automotive suppliers, insurance companies, and research and academic universities.[1] Our Board Chair is Jennifer Cohan, Secretary, Delaware Department of Transportation; our Vice-Chair is Ramin Massoumi, Senior Vice President & General Manager, Iteris Inc.

Over the years since the Fixing America's Surface Transportation (FAST) Act was signed into law, automated and connected vehicle technologies have advanced, the collection and use of big data has become an increasingly

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[1] The ITS America Board is represented by the following organizations: AAA, AECOM, Arizona Department of Transportation, California State Transportation Agency, California PATH University of California Berkeley, Central Ohio Transit Authority, Cisco, Cubic, Delaware Department of Transportation, District of Columbia Department of Transportation, Econolite, Florida Department of Transportation, Ford Motor Company, General Motors, PrePass Safety Alliance, HNTB, Iteris, Los Angeles Department of Transportation, Lyft, MCity, Michelin, Michael Baker International, Michigan Department of Transportation, San Francisco Bay Area Metropolitan Transportation Commission, National Renewable Energy Lab, Panasonic North America, Qualcomm, San Francisco County Transportation Authority, State Farm Insurance, Toyota, Texas Department of Transportation, Texas Transportation Institute, Virginia Department of Transportation, Washington State Department of Transportation.

valuable tool for decision makers, electrification of vehicles of every type from human scale to large-scale continues, and Mobility on Demand services are transforming how we get around. These technologies allow additional freedom of movement for those who have limited mobility access, such as people with disabilities, older adults, and those living in transit deserts. Technology advancements will also help begin to reduce the epidemic of fatalities on our roadways.

For these reasons, ITS America supports a FAST Act reauthorization that recognizes the added value of integrating technology into transportation infrastructure and services and provides funding for the rapid deployment of intelligent transportation technologies quickly and uniformly to transportation agencies and providers across the entire country.

Just as transportation infrastructure was critical to the development of our economy in the 20th century, maintenance of existing infrastructure and deployment of intelligent mobility and smart infrastructure will be critical for our global competitiveness in this century. Advances in robotics, artificial intelligence, and wireless communications will define the way people, goods, services, and information move in the 21st century.

New forms of mobility are being deployed even as others are being developed. When cars were invented a century ago, Departments of Roads were created to build infrastructure for this new form of transportation. Those agencies are now Departments of Transportation, having grown to include many modes of transportation. Now those same agencies are evolving again to provide seamless multimodal mobility and to build smart infrastructure that will support the technology-driven 21st-century economy, which is all about moving, people, data, and freight.

Our members come to one table—ITS America—to shape the next generation of transportation and infrastructure driven by intelligent transportation technologies.

Shailen P. Bhatt
President and CEO
The Intelligent Transportation Society of America

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1. **POLICY: INCREASE INVESTMENT IN RESEARCH AND DEPLOYMENT OF INTELLIGENT TRANSPORTATION TECHNOLOGIES.**

Intelligent transportation technologies advance transportation safety and mobility, reduce congestion, improve air quality, and enhance American productivity by integrating advanced technologies into transportation infrastructure, operations, and vehicles.

It has been more than 25 years since Congress last raised the federal fuel taxes that primarily support the Highway Trust Fund, and the purchasing power of this revenue has decreased by more than 40 percent over that time. Current revenues deposited into the Highway Trust Fund are insufficient to support existing federal transportation programs, including intelligent transportation technologies, without significant general fund transfers. According to the Congressional Budget Office, in order to simply maintain the current Highway Trust Fund spending levels adjusted for inflation after the FAST Act, Congress will need to identify about $100 billion in additional revenues for a six-year bill through 2026. Funding stability is crucial to meeting our nation's transportation needs.

A long-term FAST Act reauthorization is needed so that there is no authorization gap upon the expiration of the FAST Act in September 2020. Only with investment certainty will the nation finally see and benefit from the research and the large-scale transformational deployments of intelligent transportation technologies that will define the way people, goods, services, and information move in the 21st century - and most importantly, finally help begin to reduce the epidemic of fatalities on our roadways.

ITS America Recommendation

- Ensure the solvency of the Highway Trust Fund; transition to a long-term and sustainable revenue source for transportation; and support additional funding for intelligent transportation technologies.

- Increase funding authorizations from the Highway Trust Fund for research, development, and demonstration of intelligent transportation systems technology to secure the United States' global leadership in the development and deployment of advanced transportation technologies. Provide increased funding for research of connected and automated vehicle technology. Ensuring United States technological leadership in transportation will have broad and substantial safety and economic benefits.

- Support a national Vehicle Miles Traveled (VMT) pilot program and support and expand the existing state pilot program to test the viability of a VMT user fee collection system. The programs should, at a minimum, consider equity among users, determine the efficiency in collection of fees and address any diversion of revenue, and resolve driver privacy issues.

- In conjunction with a national VMT pilot program, support a national study to apply fuel excise taxes to grid acquired electricity used in transportation. In connection with a national VMT pilot, include large freight shippers as participants and examine if fleet telematics can be used as a method of data collection.

- Maintain federal programs that allow state, metropolitan areas, and city congestion pricing strategies to reduce congestion and to raise revenues to support transportation improvements and improve trip time reliability; fund the Value Pricing Pilot Program to provide grants to state, metropolitan areas, and local governments to demonstrate to what extent congestion may be reduced and person-throughput can be increased through application of congestion pricing strategies, and the magnitude of the impact of such strategies on driver behavior, traffic volumes, transit ridership, air quality and availability of funds for transportation programs.

- Enhance the transportation systems of communities through the use of innovative technologies, including connected and automated transportation and infrastructure; intelligent infrastructure; communications technology; and Mobility-on-Demand by authorizing new funding for a Strengthening Mobility and Revolutionizing Transportation (SMART) Communities Challenge Grant. Eligible applicants include large cities with a population between 400,000 and 1,000,000; mid-size city with a population between 75,000 and 400,000; mega-city/region including a city or multi-jurisdictional group with a population above 1,000,000; multi-jurisdictional group including two or more combination of States, tribal governments, local governments, counties, public transit agencies, public toll authorities, or metropolitan planning agencies; regional partnership including two or more jurisdictions with a combined population between 10,000 and 75,000; and rural community with a population between 10,000 and 75,000 people, not located within an urbanized area or cluster.

- Support increased funding for Intelligent Transportation Systems (ITS) programs to streamline the movement of goods beginning at ports and through the multimodal supply chain.

- Support policy that increases funding to improve supply chain efficiencies at ports and throughout the multimodal network the serve ports by increasing multimodal funding under current FAST Act formula programs and removing the multimodal caps from the Infrastructure for Rebuilding America (INFRA) grants. Support funding for Maritime Administration's (MARAD) Port Infrastructure Development Program that includes freight intelligent transportation systems and digital infrastructure systems as an eligible project.

1.1 ADVANCED TRANSPORTATION AND CONGESTION MANAGEMENT TECHNOLOGIES DEPLOYMENT (ATCMTD) PROGRAM

The Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) program funds cutting-edge technologies that are ready to be deployed to enhance traffic capacity for commuters and businesses. The FAST Act established ATCMTD to make competitive grants for the development of model deployment sites for large-scale installation and operation of advanced transportation technologies.

ITS America Recommendation

- Amend 23 U. S. C. §503 (c) to authorize and dedicate separate funding for the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) program. Under the FAST Act, the ATCMTD program has been funded through a set-aside from the Highway Research and Development, Technology and Innovation Deployment, and Intelligent Transportation System Research programs and has resulted in a reduction of transportation research and development that has historically propelled United States leadership in areas such

as connected and automated vehicle development as well as the emerging area of artificial intelligence in mobility management.

- Increase funding and federal share to 80% for the ATCMTD program to account for the overwhelming demand for advanced transportation and congestion management technologies. In 2017, the Federal Highway Administration (FHWA) received 68 applications from 52 states and localities requesting more than $362 million. In 2016, FHWA received 81 proposals requesting more than $509 million. (See increased funding for base grant program in 104(b) amendments).

- Increase the federal share to 100% for safety critical connected vehicle technologies including Vehicle-to-Vehicle (V2V), Vehicle-to-Infrastructure (V2I), and Vehicle-to-Pedestrian (V2P). Support policy that makes V2P technologies an eligible activity under ATCMTD at 100% federal share.

- Make safety databases required of Automated Driving System (ADS) Demonstration Grants eligible for ATCMTD funding.

- Adopt the FTA Mobility on Demand (MOD) Sandbox demonstration grant program rules regarding private sector partners. Under the MOD program, the FTA may determine that any named project partner in the proposal is a key partner and make any award conditional upon the participation of that key partner. A key partner that is essential to the project, as approved by FTA, is eligible for a noncompetitive award by the applicant to provide the goods or services described in the application. A key partner's participation on a selected project may not later be substituted without FTA's knowledge and approval. Eligible project partners under the MOD Sandbox program may include a private for-profit and not-for-profit organization, including shared use mobility providers and technology system suppliers.

- Support policy for Cooperative Automation Research Mobility Applications (CARMA).

2. **POLICY: SAFEGUARD CRITICAL TRANSPORTATION INFRASTRUCTURE FROM CYBERSECURITY THREATS**

As vehicles and infrastructure become more connected, our nation's transportation system faces increasing cybersecurity risks. Given the ability to cause loss of life and inflict significant economic damage in a highly visible manner, cybersecurity attacks directed at those producing or operating technologies travelling over or connected to U.S. roadways will intensify.

ITS America Recommendation

- Support policy that would provide states and localities funding and technical assistance to safeguard critical transportation systems that are more reliant than ever on connectivity to communicate and exchange data from cybersecurity threats.

- Amend 23 U. S.C. § Sections 119, 133, 167, and 148 of 23USC to authorize that funds made available may be used to implement measures to protect highways, roads, bridges, and tunnels against cybersecurity threats to transportation infrastructure by allowing system access only as authorized and preventing malicious activity.

- Amend 49 U. S. C. Chapter 53 of Subtitle III of 49USC to protect public transportation systems from cybersecurity threats – Amend § 5302 definitions to include measures to protect against cybersecurity threats under the definition of Capital Project to allow system access only as authorized and prevent malicious activity.

- Amend 23 U. S. C. § 503(c)(4)(E) to include measures to protect against cybersecurity threats as an eligible use of grants.

- Provide funding for risk assessments and planning services; developing best practices supporting cyber protection of legacy infrastructure, software and hardware solutions; implementing active and predictive threat monitoring services; deploying continuous monitoring and attack mitigation cyber security technologies and devices to harden traffic management systems and operations centers, creating Security Operations Centers (SOCs); and providing cybersecurity training to cybersecurity staff and other staff.

- Eligible activities include operating Intelligent Transportation System networks (ITS Networks) that enable infrastructure owner-operators to actively manage and protect transportation system such as secure traffic signal and sensor networks; secure wireless, wired, and fiber-optic networks; toll lane devices and systems; secure devices and systems to provide reliable and authoritative traveler information (VMS, websites, handheld device applications, in-vehicle information systems, etc.); active traffic management systems (lane use signals, variable speed limits); camera networks; weather-incident management systems; rock fall, flood, and avalanche detection systems; seismic detection systems; connected vehicle systems (Vehicle-to-Everything: infrastructure, other vehicles, people, cyclists, etc.); and Security Credential Management System (SCMS) that ensures connected vehicle technologies operate in a safe, secure, and privacy-protective manner.

3. **POLICY: PRESERVE THE 5.9 GHZ SPECTRUM FOR VEHICLE-TO-EVERYTHING (V2X) SAFETY TRANSPORTATION COMMUNICATIONS AND GROW INVESTMENTS IN VEHICLE-TO-INFRASTRUCTURE (V2I) AND VEHICLE-TO-PEDESTRIAN (V2P) TECHNOLOGIES**

The U.S. Department of Transportation is working with industry and public sector stakeholders to develop and evaluate cooperative technologies, equipment, and applications known as Connected Vehicle (CV) technologies that operate in the 5.9 GHz band, inclusive of Vehicle-to-Vehicle (V2V), Vehicle-to-Infrastructure (V2I), and Vehicle-to-Pedestrian (V2P) – collectively referred to as V2X; this includes all V2X technologies – such as Dedicated Short Range Communications (DSRC) as well as Cellular vehicle-to-everything (C-V2X) – because it can be configured to enable real-time crash-avoidance alerts and warnings—offering a significant opportunity to achieve a transformation in transportation safety. V2X technologies are not only saving lives, they are improving operational performance of our roads – weather and pavement condition, how signals are directing traffic, and even the location of potential hazards at intersections and other critical road safety hotspots.

A problem with a solution – but it is not that simple. The Federal Communications Commission (FCC) has recently proposed giving away a majority of that spectrum, and it has done so without any data or analysis. The FCC is prepared to sacrifice safer roads so that unlicensed devices can operate in the 5.9 GHz band. The U.S. Department of Transportation's research shows that this proposal would likely cause

significant interference with V2X technologies operating in the remaining spectrum, which could in effect render the spectrum useless for transportation safety.

Speed matters when safety information is involved. Reducing the spectrum allocated to V2X technologies could compromise this speed and put lives at risk. What if a driver knew, in fractions of a second, that an airbag deployed in a car in front of them? Alternatively, that the car in front, around the next curve, was sliding on black ice? Or a person is walking just around the next corner? Thanks to V2X, that driver would react – and avoid a crash. Deploying V2X that allow cars, trucks, bicycles, motorcycles, streetlights and other infrastructure to talk to each other will ensure more people travel safely. Safety is the top priority of the nation's transportation system.

ITS America Recommendation

- Support policy in the reauthorization of the FAST Act that makes clear the 5.9 GHz band is preserved for existing, new, and developing vehicle-to-everything (V2X) technologies that send hazard alerts to infrastructure, motorists, pedestrians, and other transportation system users and hold the promise to enhance automated driving systems.

3.1. VEHICLE-TO-INFRASTRUCTURE (V2I)

V2I communications, which involves the exchange of safety and operational data between vehicles and elements of the transportation infrastructure, offers a wide range of safety benefits. V2I provides vehicles and drivers information about infrastructure operations -- weather and pavement condition, how signals are directing traffic, and even the location of potential hazards at intersections and other critical road safety hotspots. V2I applications include red light violation warnings, reduced speed zone warnings, curve speed warnings, and spot weather impact warnings. V2I soon will support other applications that will disseminate the condition of the infrastructure, such as bridge integrity, and may even collect vehicle data that describes pavement condition.

According to NHTSA, V2I technology helps drivers safely negotiate intersections and could help prevent 41 to 55 percent of intersection crashes. Another connected vehicle safety application that helps drivers with left turns at intersections could help prevent 36 to 62 percent of left-turn crashes, according to NHTSA. In addition to the lives saved, just these two applications alone could prevent up to 592,000 crashes and 270,000 injuries each year.

ITS America Recommendation

- Increase the federal match to 100% for installation of V2I safety technologies. Expand eligibility to include data collection and analysis software (including data acquisition through private sector partnership), maintenance and operations, fiber, integration, the costs associated with systems, and equipment required for V2I communications technology. Amend 23USC §120(c) to make all V2I safety projects eligible to receive up to 100% federal share. Amend 23USC § 503(c)(4) to allow any project to receive up to 100% federal share of project costs.

3.2. VEHICLE-TO-PEDESTRIAN (V2P)

V2X will enable us to deploy safety solutions to protect vulnerable users of the system, which will be transformational. V2P encompasses a broad set of road users - people walking, children being pushed in strollers, people using wheelchairs or other mobility devices, passengers embarking and disembarking buses and trains, and people riding bicycles and scooters. Pedestrian detection systems can be implemented in vehicles, in the infrastructure, or with pedestrians themselves to provide warnings to drivers, pedestrians, or both. By allowing vehicles to communicate with these users through sensors or vehicle-to-device communication, we can significantly reduce the number of pedestrians killed on our roadways.

ITS America Recommendation

- Expand eligibility, under the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) program, to include V2P technologies. Allow up to 100 % federal share for these safety projects. Amend 23 U. S. C. § 503(c)(4)(E) to include advanced vulnerable road user safety information systems. Amend 23 U. S. C. § 503(c)(4)(J) to allow up to 100% federal share of the cost of a project.

4. **POLICY: EXPAND INVESTMENTS IN ADVANCED MOBILITY IMPROVEMENTS**

Expand eligibility under highway programs to include advanced mobility safety improvements including data infrastructure and analysis, smart mobility improvements such as smart truck parking, smart work zones, smart pavements, predictive analytics platform, and build out of electric vehicle charging stations, hydrogen fueling infrastructure, natural gas fueling infrastructure, and other alternative fuels.

ITS America Recommendation

- Amend 23 U. S. C. Federal-Aid Highways to include as an eligible project or program the deployment of advanced transportation safety improvements, including data infrastructure and analysis, smart mobility improvements such as smart truck parking, smart work zones, and smart pavements.

- Amend 23 U. S. C. §133(b), §119(d), § 167 – to make eligible a project or program to establish electric vehicle charging stations or natural gas or hydrogen vehicle refueling stations for the use of battery powered or natural gas or hydrogen fueled trucks or other motor vehicles at any location in the state (giving priority to corridors designated under section 151) except that such stations may not be established or supported where commercial establishments serving motor vehicle users are prohibited by section 111 of title 23, USC.

5. **POLICY: PLAN FOR TRANSFORMATIVE TRANSPORTATION TECHNOLOGIES**

States, providers of public transportation and Metropolitan Planning Organizations (MPOs) are expanding beyond traditional long-range scenario planning, which holds fixed certain transportation and land use assumptions, to consider big questions facing the transportation system, including whether connected and automated vehicles will increase the vehicle capacity of existing highway lanes; how automation and active transportation connections might help solve the first mile/last mile transit challenge; what roadway investments could incentivize the shift to connected and automated vehicles;

how to make sure the entire transportation system is working together; and how to expedite technology safety benefits.

Increased funding and flexibility will help planners analyze project performance across a range of different futures, including ensuring all modes of transportation work in concert and will lead to more informed project prioritization that maximizes the benefits of connected and automated technologies. Increased planning funding will also support states and MPOs in fulfilling current performance-based planning mandates, which were added in the 2012 transportation authorization without a commensurate increase in planning resources

ITS America Recommendation

- Support policy that provides additional planning funds to help regions and states better address complexities around transformative transportation technologies and climate change in the context of an integrated multimodal transportation system.

- Support policy that provides additional planning funds and flexibility to the planning process to prepare for a range of possible connected and automated vehicle futures scenarios.

- Amend section 23 U.S. C. § 104(b)(6) and 49 U. S. C. § 5338 to increase the amount of funding for Metropolitan Planning.

6. **POLICY: DEPLOY BROADBAND TO SUPPORT INTELLIGENT TRANSPORTATION TECHNOLOGIES**

Telecommunication technologies, such as broadband, are essential to the transport of people, data, and freight. Assisting states and localities with recovering costs associated with conduit installation, maintenance of conduit, and conduit inventory is critical to increasing broadband installation, especially in rural areas and economically disadvantaged urban areas. Combining broadband conduit installation with highway and road construction will result in decreased frequency of construction on highways and roads, reduce broadband installation costs, increase access to and reliability of broadband networks, increase public and economic benefits, and decrease the time needed to deploy fiber.

Nothing in this policy proposal establishes a mandate or requirement that a state or locality install broadband infrastructure in a highway right-of-way.

ITS America Recommendation

- Amend 23USC to add a new authorization that supports smart highways and streets with broadband fiber optic cable to make roads safer by establishing new federal funding to assist states and localities to:
  — Identify a broadband utility coordinator to facilitate the broadband infrastructure right-of-way efforts within the state;
  — Register broadband infrastructure entities that seek to be included in those facilitation efforts;
  — Establish a process to electronically notify such entities of the state transportation improvement program on an annual basis;
  — Coordinate statewide telecommunication and broadband plans and state and local transportation and land use plans, including strategies to minimize repeated excavations that involve the installation of broadband infrastructure in a right-of-way; and

— That any existing broadband infrastructure entities are not disadvantaged.

7. **POLICY: INCREASE BUILDOUT OF ALTERNATIVE FUEL VEHICLE INFRASTRUCTURE TO SUPPORT A FUTURE OF ZERO EMISSION VEHICLES**

Alternative Fuel Vehicles are shaping the future of mobility, and the United States is poised to lead a global transition to zero emission vehicles (ZEV). Nevertheless, U.S. government analysis suggests that additional ZEV infrastructure investments will be required to satisfy the future of transportation. ZEV sales continue to increase year-over-year; however, these new mobility options will need 21st century infrastructure to continue to spur consumer adoption and address consumers' "range anxiety". U.S. government analysis suggests that current and projected deployments represent only a fraction of the estimated demand. According to a 2017 U.S. Department of Energy report, the U.S. will require 600,000 Level 2 plugs and 25,000 DC fast charger plugs by 2030 to fuel the electric market alone. Additionally, a 2017 study commissioned by the U.S. Department of Energy found that a network of 1,500 to 3,300 hydrogen stations would be needed to serve a market of millions of fuel cell vehicles by 2035.

ITS America Recommendation

- Establish a grant program to support state and local governments' efforts with infrastructure providers to invest in electric vehicle charging and hydrogen fueling infrastructure along designated alternative fuel corridors.

- Support policy that increases federal funding under the Surface Transportation Block (STBG) Grant program and Congestion Mitigation and Air Quality (CMAQ) program to rapidly build out electric vehicle charging stations, hydrogen refueling stations, natural gas infrastructure, and technologies such as inductive charging to speed the deployment.

- Support policy that maintains the zero-emission plug-in electric vehicle tax credit. Provide an additional allocation of zero-emission plug-in electric vehicle tax credits reserved for medium-duty commercial delivery vans.

- Support policy that reinstates a zero-emission consumer tax credit for the purchase of fuel cell vehicles.

8. **POLICY: BUILD TRANSFORMATIVE AND ADAPTIVE INFRASTRUCTURE FOR DEPLOYMENT OF INTELLIGENT TRANSPORTATION TECHNOLOGIES TO MITIGATE CLIMATE CHANGE**

States, metropolitan regions, and cities will require substantial investment to adapt infrastructure to be resilient in a changing climate and responsive to a new mobility paradigm. Federally supported, near-term infrastructure improvements will provide the dual benefit of immediately mitigating carbon-emitting congestion while preparing our nation for intelligent mobility and smart infrastructure. For example, a high-speed communications infrastructure backbone would support near-term congestion-

reduction and air quality improvement strategies like smart traffic signal operations while laying the foundation for future vehicle-to-vehicle and vehicle-to-infrastructure communications.

ITS America Recommendation

- Establish a new flexible program to make transportation networks more resilient in the face of a changing climate and more responsive to the technology-fueled transformation in how people and goods move.

- The program should be highly flexible, mode-neutral and include formula and discretionary components. Eligible projects should include capital and operational investments that improve both near-term and long-term system safety and performance. Examples include programs to support deployment of automated vehicles; V2X communications technologies; priced managed lanes; transportation demand management programs; strategic micro-transit investments; advanced parking freight delivery and incident management systems; alternative fuel charging infrastructure and other advanced technologies to support a clean transportation system; and climate mitigation/resiliency improvements.

- In lieu of a new program, the next bill should provide-resources for 21st century transportation investments through existing FAST Act programs by expanding project eligibility within these programs.

- Support policy to make eligible funding for renewable energy projects in the Interstate rights-of-way for transportation use by states and localities for transportation related facilities (conversion and/or removal of existing lighting systems to high efficiency technologies, alternative fueling infrastructure, maintenance buildings, rest areas, etc.) on-site (including through net metering) or off-site through off setting electricity bills at other sites.

MOVING PEOPLE, DATA, AND FREIGHT: SMARTER

9. **POLICY: ESTABLISH A MOBILITY ON DEMAND (MOD) PROGRAM FOR THE NEW WORLD OF MOBILITY**

In the 21st century, mobility is less about moving vehicles and more about moving people, data and freight. Long-existing silos among cities, states, counties, road and transit agencies are disappearing; and private mobility service providers barely existed a decade ago. More choices exist now, but for people to fully realize the benefits of this new world of mobility, it must be easier to choose which option best meets their needs.

This also means services that are accessible for every traveler and in all communities and neighborhoods. In cities, Mobility on Demand (MOD) offers convenient, affordable, and, in the case of bikeshare, rideshare or micromobility services, more sustainable alternatives to driving within congested environments. For suburban areas, MOD offers first mile/last mile accessibility to transit, as well as more dynamic on-demand services to get around town. While often seen as an urban/metro transportation solution, MOD deployed in rural areas also provides first mile/last mile (though more like first/last 50 miles) connections to transit, intercity bus and rail transport, and essential air service airports. Rideshare

and ridesourcing is providing support for seniors to access social and health services. Micromobility services offer options to travel in town. MOD includes bikeshare and scooter share deployments on college campuses. New and improved MOD transit and paratransit services also can benefit rural communities.

ITS America Recommendation

- Support policy that makes clear that accessibility, equity, and opportunity are foundational pillars of Mobility on Demand (MOD). Support policy that makes clear that investment in MOD is an investment toward cleaner air.

- Support a MOD program with funding that encourages flexibility with federal transportation funding to meet changing mobility needs including partnerships with companies offering shared-use trips (car, bicycle, new mobility modes), data management, and other technology companies for first mile/last mile services and improved freight delivery, the integration of mobility services and technologies, and new fare and integrated payment technologies.

- Support increased federal formula-based and non-formula funding to public transit. The backlog of transit state-of-repair needs is more than $90 billion and growing. A safe, efficient, and modern transit system will be a key component in any successful implementation of MOD. Support policy that makes clear MOD should leverage public transportation investment.

- Add new terms to 49 U.S. Code § 5302 Definitions for public transportation related to mobility on demand services such as micromobility, ridesourcing, ridesharing, microtransit such as expanding eligibility of bicycle and micromobility storage shelters. Recommend adding to 49 U.S. Code § 5302(3)(K) to include the eligibility of capital support and operations hardware and software, including computer hardware and software, data services hardware and software, operations and vehicle diagnostic hardware and software, and other equipment that enhances operating efficiency. Add new (O) under 49 U.S. Code § 5302(3) that enables new or expanded reservation, fare, automation, or delivery designs to improve operations and options in public transportation.

- Add a new eligibility (E) under section (a)(1) in 49 U.S. Code § 5307 Urbanized Area Formula Grants consistent with 49 U.S. Code § 5311 formula grants for rural areas for the acquisition of public transportation services, including service agreements with private providers of public transportation service.

- Establish within 49 U.S. Code § 5312 Public Transportation Innovation Program new funding for a mobility innovation grant research program for new mobility programs or continued deployments. The fiscal year 2021 funding would be $25 million, the fiscal year 2022 funding would be $50 million, the fiscal year 2023 funding would be $75 million, and fiscal years 2024 through 2026 would be $100 million annually. Support a study through the National Academy of Sciences on the integration of mobility on demand options with public transportation systems with recommendations that foster the efficient use of capacity, enhanced operations and management of new modes of mobility, and promote the creation of innovative planning tools.

- Amend 49 U.S. Code § 5303 Metropolitan Transportation Planning, 23 U.S. Code § 134 Metropolitan Transportation Planning, and 23 U.S. Code § 135 Statewide and Nonmetropolitan

Transportation Planning to includes shared mobility options including, but not limited to ridesourcing, microtransit, micromobility, shared automated services, and mobility on demand services, as well as consultation with mobility on demand private mobility providers.

- Add new terms to the definition of transit capital projects under 23 U.S. Code § 133 Surface Transportation Block Grant Program (b)(1)(C) eligibility under chapter 53 of title 49 mobility on demand services such as micromobility, ridesourcing, ridesharing, microtransit such as expanding eligibility of bicycle and micromobility storage shelters. Recommend adding capital support and operations hardware and software, including computer hardware and software, data services hardware and software, operations and vehicle diagnostic hardware and software, and other equipment that enhances operating efficiency. Recommend adding new or expanded reservation, fare, automation, or delivery designs to improve operations and options in public transportation. Add to (b)(2) "Mobility Services." New language: (2)Operational improvements and capital and operating costs for traffic "and mobility services" monitoring, management, and control facilities and programs.

- Amend 23 U.S. Code § 146 Carpool and Vanpool Projects to focus on shared mobility in addition to car/vanpool. New language: (a) In order to conserve fuel, decrease traffic congestion during rush hours, improve air quality, and enhance the use of existing highways and parking facilities, the Secretary may approve for Federal financial assistance from funds apportioned under section 104(b)(2) of this title, projects designed to encourage the use of "shared-ride surface transportation services to include carpool/vanpool, shared ridesourcing, microtransit, shared fleet micromobility, as well as shared automated services." (As used hereafter in this section, the term "shared ride" "carpool" includes a vanpool.) Such a project may include, but is not limited to, such measures as providing shared ride carpooling opportunities to the elderly and handicapped, systems for locating potential riders and informing them of convenient shared ride carpool opportunities, acquiring vehicles appropriate for shared ride carpool use, designating existing highway lanes as preferential shared ride carpool highway lanes, providing related traffic control devices, and designating existing facilities for use as preferential parking for shared ride services carpools.

- Amend 23 U.S. Code § 149 Congestion Mitigation and Air Quality Improvement program to expand the definition mobility options to include mobility on demand services such as micromobility, ridesourcing, ridesharing, microtransit. Amend (b)(4) to establish or operate a traffic "and mobility" monitoring, management, and control facility or program, including advanced truck stop electrification systems, if the Secretary, after consultation with the Administrator of the Environmental Protection Agency, determines that the facility or program is likely to contribute to the attainment or maintenance in the area of a national ambient air quality standard; (b)(5) if the program or project improves traffic flow, including projects to improve signalization, "vehicle connectivity, improved infrastructure and asset management (i.e. curb usage or parking to improve efficient utilization)," construct high occupancy vehicle lanes, improve intersections, add turning lanes, improve transportation systems management and operations that mitigate congestion and improve air quality, and implement intelligent transportation system strategies and such other projects that are eligible for assistance under this section on the day before the date of enactment of this paragraph, including programs or projects to improve incident and emergency response or improve mobility, such as through real-time traffic, transit, and multimodal traveler information.

- Support a data sharing framework that provides standardization for the transfer of data among transportation operators and providers to foster the efficient use of capacity, enhance management of new modes of mobility, and promote the creation of innovative planning tools.

- Make permanent and increase funding for the FTA MOD Sandbox demonstration grant program, which experienced overwhelming demand for innovative approaches to integrating emerging mobility solutions within a public transportation framework. Increase funding in 49USC Chapter 5, Section 5338 for the Public Transportation Innovation authority under Section 5312(b). Support increasing funding for the Transit Cooperative Research Program (TCRP).

10. **POLICY: INVIGORATE THE ITS PROGRAM ADVISORY COMMITTEE**

With significant advances in automated technologies, deployment of connected vehicle technologies, the collection and use of big data, new forms of shared mobility, and workforce concerns, ITS America is clear that the role of the ITS Program Advisory Committee (ITSPAC) should be strengthened in the reauthorization of the FAST Act.

The ITS Program Advisory Committee (ITSPAC) was established to act solely in an advisory capacity to the Secretary of Transportation on all matters relating to the study, development, and implementation of intelligent transportation systems. Through its sponsor, the ITS Joint Program Office, the ITSPAC makes recommendations to the Secretary regarding ITS program needs, objectives, plans, approaches, content, and progress.

ITS America Recommendation

- Section 5305 of SAFETEA–LU (23 U.S.C. 512 note; Public Law 109–59) is amended by striking subsection (h) and inserting the following:

- Recommend that the membership of the Committee be composed of not more than 25 members; be balanced between metropolitan and rural interests; and include, at a minimum, a representative of a State department of transportation; a representative of a local department of transportation (other than a metropolitan planning organization); a representative of a State, local, or regional transit agency; a representative of a metropolitan planning organization; a representative of a national transit association; a representative of a national, State, or local transportation agency or association; a private sector user of intelligent transportation system technologies, including emerging vehicle technologies; a private sector developer of intelligent transportation system technologies, including emerging vehicle technologies; an academic researcher with expertise in computer science or another information science field related to intelligent transportation systems; and a representative of a nonprofit group representing the intelligent transportation system industry.

- Recommend that the term of a member be 3 years. Of the members first appointed to the Committee—
    — 1⁄3 shall be appointed for a term of 1 year;

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— 1⁄3 shall be appointed for a term of 2 years; and
— 1⁄3 shall be appointed for a term of 3 years.

- On expiration of the term of a member of the Committee, the member may be reappointed; and if the member is not reappointed may serve until a new member is appointed.

- The Committee shall, at a minimum, provide input into the development of the intelligent transportation system aspects of the 5-year strategic plan under section 6503 of title 49, United States Code; and annually review areas of intelligent transportation systems programs and research being considered for funding by the Department, to determine—
  — whether those areas of research are likely to advance the state of the practice or state of the art in intelligent transportation systems;
  — whether intelligent transportation system technologies are likely to be deployed by users, and if not, to determine the barriers to deployment;
  — the appropriate roles for government and the private sector in investing in the research and technologies being considered; "(iv) how Federal resources are being utilized to advance intelligent transportation systems; and "(v) how the Department is engaging and supporting local communities in the adoption and integration of intelligent transportation systems;
  — help develop and revise the resource guide described in section 4(b) of the Smart Transportation Advancement and Transition Act; and
  — respond to requests for assistance, advice, or consultation from States and local communities as a result of the resource guide described in section 4(b) of the Smart Transportation Advancement and Transition Act.

- The Committee shall convene not less frequently than twice each year; and may convene with the use of remote video conference technology.

11. POLICY: STRENGTHEN THE UNIVERSITY TRANSPORTATION CENTERS PROGRAM

The U.S. Department of Transportation invests in the future of transportation through its University Transportation Centers (UTC) Program, which awards and administers grants to consortia of colleges and universities across the United States. The UTC Program advances the state-of-the-art in transportation research and technology and develops the next generation of transportation professionals. The Congressionally mandated program has been in place since 1987 to help address our nation's ever-growing need for the safe, efficient and environmentally sound movement of people and goods.

ITS America Recommendation

- Support reforms in the University Transportation Centers program that directs grants to universities with research and technical expertise; encourages leading edge as well as near-term practical applied research (reduce the time period from research concept to completion); encourages broader inclusion of ITS-related curriculum, degrees, and professional development programs for current and future workforce; and increases opportunities for private sector funding contributions.

ITS America acknowledges the contributions of ITS America Smart Infrastructure Task Force FAST Act Reauthorization co-chairs John Barton, National DOT Market Sector and Senior Vice President, HNTB, and Tilly Chang, Executive Director, San Francisco County Transportation Authority, and more than 40 members of the task force representing the strength of ITS America: states, cities, metropolitan planning organizations, automakers, technology companies, research universities, and engineering, construction, and technical services firms. ITS America acknowledges the assistance of Boyagian Consulting.

For more information on ITS America's FAST Act Reauthorization Platform: Moving People, Data, and Freight, contact ITS America Vice President of Legislative Affairs Ron Thaniel at rthaniel@itsa.org.

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