I

112TH CONGRESS
1ST SESSION

H. R. 995

To improve transportation safety, efficiency, and system performance through innovative technology deployment and operations.

IN THE HOUSE OF REPRESENTATIVES

MARCH 10, 2011

Mr. CARNAHAN (for himself and Mr. ROGERS of Michigan) introduced the following bill; which was referred to the Committee on Transportation and Infrastructure

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A BILL

To improve transportation safety, efficiency, and system performance through innovative technology deployment and operations.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Smart Technologies for Communities Act''.

SEC. 2. FINDINGS.

Congress finds the following:

(1) Congestion on our roadways is hampering American's daily lives, slowing down commerce, pol-

luting the environment we live in, and wasting fuel. It is estimated that in our metropolitan communities, the average commuter wasted 34 hours in 2009 sitting in traffic, resulting in 3,900,000,000 gallons of wasted fuel and costing more than $115,000,000,000 annually. With our growing population and demand for freight transportation expected to double by 2035, failure to address traffic congestion adds to the cost of goods movement and threatens the Nation's economic competitiveness and quality of life.

(2) Even with a record decline in traffic fatalities in 2009, nearly 34,000 people were killed on United States roads, the equivalent of more than 200 fully loaded 737 airliners. The economic cost alone of traffic fatalities and injuries has been estimated at $230,000,000,000 each year.

(3) The transportation sector contributes nearly one-third of the Nation's carbon dioxide emissions, while wasted fuel from idling vehicles and stop-and-go traffic puts family budgets in the red, drives up the cost of goods and services, and increases our Nation's dependence on foreign oil.

(4) The United States cannot continue to simply build our way into a safer, cleaner, and more ef-

ficient transportation system. We must make better use of the tools that are available, including intelligent transportation systems (ITS), to actively manage our transportation network to improve safety, efficiency, and multimodal connectivity.

(5) Technology solutions are available today to help cities and States reduce congestion and emissions, make our roads and transit systems safer, and provide the public with improved access to transportation options and real-time information to make efficient travel decisions.

(6) Transitioning to electric and other alternative fueled vehicles requires the integration of intelligent transportation systems with the Smart Grid and other energy distribution and charging systems.

(7) ITS technologies are cost effective and quick to deploy, with solutions like synchronized and adaptive traffic signals yielding a $40 return in time and fuel savings for every $1 invested while also reducing carbon dioxide emissions up to 22 percent and travel delays by 25 percent. The Government Accountability Office found the benefit-cost ratio of a nationwide real-time traffic information system to be 25 to 1, with a $1,200,000,000 investment returning more than $30,000,000,000 in safety, mobil-

ity, and environmental benefits. The overall benefit-cost ratio of ITS-enabled operational improvements is estimated at 9 to 1, a significant return on investment when compared to the addition of new highway capacity which has an estimated benefit-to-cost ratio of 2.7 to 1.

(8) An estimated 31 percent of traffic crashes could be prevented or have their impact reduced through the deployment of collision avoidance technologies, according to the Insurance Institute for Highway Safety. Moreover, the Department of Transportation estimates that a comprehensive vehicle-to-vehicle and vehicle-to-infrastructure communications network could potentially prevent or reduce the impact of 81 percent of all unimpaired vehicle crashes. For ITS technologies like vehicle-to-vehicle and vehicle-to-infrastructure communications, a national coordinated deployment structure is important for ensuring uniform standards and regulations that ensure interoperability and stability.

(9) Transitioning to a more efficient, performance-based transportation network requires ITS technologies to provide accurate, real-time traffic and multimodal transportation system information necessary for measuring performance, as well as for

actively managing the transportation network to optimize capacity and meet or exceed system performance goals.

(10) Effective transportation financing mechanisms of today and tomorrow depend on ITS to be viable, including electronic toll collection, dynamic pricing, integrated payment systems for transit, tolls, parking and other services, and potential future alternatives such as variable mileage-based user fees.

(11) Investing in ITS creates good jobs, with an average of 50 percent of ITS project spending going directly to wages and salaries as compared to 20 percent for new highway construction. Researchers from the London School of Economics and the Information Technology and Innovation Foundation (referred to in this section as ''ITIF'') have found that investing in ITS creates a network effect throughout the economy and stimulates job creation across multiple sectors, including green jobs, high-tech, automotive, information technology, consumer electronics, and related industries. In addition, investing in ITS provides a foundation for long-term benefits including government cost savings, econ-

omy-wide productivity, and an improved quality of life.

(12) The lack of national investment in ITS has caused the Nation to fall behind other world innovation leaders. A 2010 ITIF report found that the United States is lagging behind Japan, South Korea, Singapore, and other leading Asian and European nations in the deployment of ITS technologies with countries like China beginning to invest heavily in the deployment of transportation technology. These countries have generated significant benefits for their citizens, economy, and environment by investing heavily in ITS solutions. In order to strengthen the Nation's economic competitiveness and quality of life, it is in the interest of the United States to encourage the accelerated development and deployment of intelligent transportation systems.

SEC. 3. DEFINITIONS.

In this Act, the following definitions apply:

(1) ELIGIBLE ENTITY.—The term ''eligible entity'' means a State or local government, including a territory of the United States, tribal government, transit agency, port authority, metropolitan planning organization, or other political subdivision of a State

or local government or a multi-State or multi-jurisdictional group applying through a single lead applicant.

(2) ITS.—The term ''ITS'' means intelligent transportation systems.

(3) MULTI-JURISDICTIONAL GROUP.—The term ''multi-jurisdictional group'' means a combination of State governments, locals governments, metropolitan planning agencies, transit agencies, or other political subdivisions of a State that have signed a written agreement to implement the Smart Communities Technology Initiative across jurisdictional boundaries. Each member of the group, including the lead applicant, must be an eligible entity to receive a grant under this Act.

(4) SECRETARY.—The term ''Secretary'' means the Secretary of Transportation.

SEC. 4. SMART COMMUNITIES TECHNOLOGY INITIATIVE.

(a) ESTABLISHMENT OF PROGRAM.—Not later than 6 months after the date of enactment of this Act, the Secretary shall establish a Smart Communities Technology Initiative to provide grants to eligible entities to develop pilot programs to serve as model deployment sites for large scale installation and operation of ITS to improve safety, efficiency, system performance, and return on investment.

The Secretary shall develop criteria for selection of an eligible entity to receive a grant, including how the deployment of technology will enable the recipient—

(1) to reduce costs and improve return on investments, including through the enhanced utilization of existing transportation capacity;

(2) to deliver environmental benefits and reduce energy consumption by alleviating congestion and streamlining traffic flow;

(3) to measure and improve the operational performance of its transportation network;

(4) to reduce the number and severity of traffic collisions and increase driver, passenger, and pedestrian safety;

(5) to collect, disseminate, and utilize real-time traffic, transit, parking, and other transportation-related information to improve mobility, reduce congestion, and provide for more efficient and accessible transportation alternatives;

(6) to monitor transportation assets to improve infrastructure management, reduce maintenance costs, prioritize investment decisions, and ensure a state of good repair; and

(7) to deliver economic benefits by reducing delays, improving system performance, and providing

for the efficient and reliable movement of goods and services.

(b) REQUEST FOR APPLICATIONS.—Not later than 6 months after the date of enactment of this Act, the Secretary shall request applications in accordance with section 5 for participation in the Smart Communities Technology Initiative.

SEC. 5. GRANT PROGRAM.

(a) GRANT APPLICATION.—To be considered for a grant under this Act, an eligible entity shall submit an application to the Secretary that includes the following:

(1) DEPLOYMENT PLAN.—A plan to deploy and provide for the long-term operation and maintenance of intelligent transportation systems to improve safety, efficiency, system performance, and return on investment, such as—

(A) real-time integrated traffic, transit, and multimodal transportation information;

(B) advanced traffic, freight, parking, and incident management systems;

(C) collision avoidance systems;

(D) advanced technologies to improve transit and commercial vehicle operations;

(E) synchronized, adaptive, and transit preferential traffic signals;

(F) advanced infrastructure condition assessment technologies; and

(G) other technologies to improve system operations, including ITS applications necessary for multimodal systems integration and for achieving performance goals.

(2) OBJECTIVES.—Quantifiable system performance improvements, including reducing traffic-related crashes, congestion, and costs, optimizing system efficiency, and improving access to transportation services.

(3) RESULTS.—Quantifiable safety, mobility, and environmental benefit projections including data driven estimates of how the project will improve the region's transportation system efficiency and reduce traffic congestion.

(4) PARTNERSHIPS.—A plan for partnering with the private sector, public agencies including multimodal and multijurisdictional entities, research institutions, organizations representing transportation and technology leaders, and other transportation stakeholders.

(5) LEVERAGING.—A plan to leverage and optimize existing local and regional ITS investments.

(6) INTEROPERABILITY.—A plan to ensure interoperability of deployed technologies with other tolling, traffic management, and intelligent transportation systems.

(b) GRANT SELECTION.—

(1) GRANT AWARDS.—Not later than 1 year after the date of enactment of this Act, the Secretary shall award a grant to not more than 6 eligible entities with funds available for up to 5 fiscal years.

(2) GEOGRAPHIC DIVERSITY.—In awarding a grant under this section, the Secretary shall ensure, to the extent practicable, that grant recipients represent diverse geographic areas of the United States, including urban, suburban, and rural areas.

SEC. 6. USES OF FUNDS.

A grant recipient may use funds authorized in this Act to deploy, operate, and maintain ITS and ITS-enabled operational strategies, including—

(1) advanced traveler information systems;

(2) advanced transportation management technologies;

(3) infrastructure maintenance, monitoring, and condition assessment;

(4) advanced public transportation systems;

(5) transportation system performance data collection, analysis, and dissemination systems;

(6) advanced safety systems, including vehicle-to-vehicle and vehicle-to-infrastructure communications and other collision avoidance technologies;

(7) integration of intelligent transportation systems with the Smart Grid and other energy distribution and charging systems;

(8) electronic pricing and tolling systems; and

(9) advanced mobility and access technologies, such as dynamic ridesharing and information systems to support human services for elderly and disabled Americans.

SEC. 7. REPORTS.

(a) REPORT TO SECRETARY.—Not later than 1 year after an eligible entity receives a grant award under this Act and each year thereafter, each grant recipient shall submit a report to the Secretary that describes—

(1) deployment and operational cost compared to the benefits and savings from the pilot program and compared to other alternative approaches; and

(2) how the project has met the original expectation as projected in the deployment plan submitted with the application, including—

(A) data on how the program has helped reduce traffic crashes, congestion, costs, and other benefits of the deployed systems;

(B) data on the effect of measuring and improving transportation system performance through the deployment of advanced technologies;

(C) the effectiveness of providing real-time integrated traffic, transit, and multimodal transportation information to the public to make informed travel decisions; and

(D) lessons learned and recommendations for future deployment strategies to optimize transportation efficiency and multimodal system performance.

(b) REPORT TO CONGRESS.—Not later than 2 years after grants have been allocated and each year thereafter, the Secretary shall submit a report to Congress that describes the effectiveness of grant recipients in meeting their projected deployment plan, including data on how the program has—

(1) reduced traffic-related fatalities and injuries;

(2) reduced traffic congestion and improved travel time reliability;

(3) reduced transportation-related emissions;

(4) optimized multimodal system performance;

(5) improved access to transportation alternatives;

(6) provided the public with access to real-time integrated traffic, transit, and multimodal transportation information to make informed travel decisions;

(7) provided cost savings to transportation agencies, businesses, and the traveling public; and

(8) provided other benefits to transportation users and the general public.

(c) ADDITIONAL GRANTS.—If the Secretary determines from a grant recipient's reports that the recipient is not carrying out the requirements of the grant, the Secretary may cease to provide any additional grant funds to the recipient. The Secretary shall have the authority to redistribute remaining funds to select additional eligible entities for pilot programs under this Act.

SEC. 8. AUTHORIZATION OF APPROPRIATIONS.

(a) FUNDING.—

(1) IN GENERAL.—There are authorized to be appropriated out of the Highway Trust Fund to carry out this Act—

(A) $100,000,000 for fiscal year 2012;

(B) $300,000,000 for fiscal year 2013;

(C) $200,000,000 for fiscal year 2014;

(D) $200,000,000 for fiscal year 2015;

(E) $200,000,000 for fiscal year 2016; and

(F) $200,000,000 for fiscal year 2017.

(2) CONTRACT AUTHORITY.—Funds authorized under this subsection shall be available for obligation in the same manner as if the funds were apportioned under chapter 1 of title 23, United States Code, except that such funds shall not be transferable, the obligation limitations shall not apply to such funds, and shall remain available until expended.

(b) GRANT LIMITATION.—The Secretary may not award more than 25 percent of the amount appropriated under this Act to a single grant recipient.

(c) EXPENSES FOR GRANT RECIPIENTS.—A grant recipient under this Act may use not more than 5 percent of the grant award each fiscal year to carry out planning and reporting requirements.

(d) EXPENSES FOR SECRETARY.—Before awarding grant funds under this Act, the Secretary may set aside $3,000,000 each fiscal year for program reporting, evaluation, and administrative costs.

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