TITLE III--INTELLIGENT TRANSPORTATION SYSTEMS RESEARCH

SEC. 53001. USE OF FUNDS FOR ITS ACTIVITIES.

Section 513 of title 23, United States Code, is amended to read as follows:

‘Sec. 513. Use of funds for ITS activities

‘(a) Definitions- In this section, the following definitions apply:

‘(1) ELIGIBLE ENTITY- The term ‘eligible entity’ means a State or local government, tribal government, transit agency, public toll authority, metropolitan planning organization, other political subdivision of a State or local government, or a multistate or multijurisdictional group applying through a single lead applicant.

‘(2) MULTIJURISDICTIONAL GROUP- The term ‘multijurisdictional group’ means a combination of State governments, local governments, metropolitan planning agencies, transit agencies, or other political subdivisions of a State that--

‘(A) have signed a written agreement to implement an activity that meets the grant criteria under this section; and

‘(B) is comprised of at least 2 members, each of whom is an eligible entity.

‘(b) Purpose- The purpose of this section is to develop, administer, communicate, and promote the use of products of research, technology, and technology transfer programs.

‘(c) ITS Deployment Incentives-

‘(1) IN GENERAL- The Secretary may--

‘(A) develop and implement incentives to accelerate the deployment of ITS technologies and services within all funding programs authorized by the Transportation Research and Innovative Technology Act of 2012; and

‘(B) for each fiscal year, use amounts made available to the Secretary to carry out intelligent transportation systems outreach, including through the use of websites, public relations, displays, tours, and brochures.
‘(2) COMPREHENSIVE PLAN- To carry out this section, the Secretary shall develop a detailed and comprehensive plan that addresses the manner in which incentives may be adopted, as appropriate, through the existing deployment activities carried out by surface transportation modal administrations.

‘(d) System Operations and ITS Deployment Grant Program-

‘(1) ESTABLISHMENT- The Secretary shall establish a competitive grant program to accelerate the deployment, operation, systems management, intermodal integration, and interoperability of the ITS program and ITS-enabled operational strategies--

‘(A) to measure and improve the performance of the surface transportation system;

‘(B) to reduce traffic congestion and the economic and environmental impacts of traffic congestion;

‘(C) to minimize fatalities and injuries;

‘(D) to enhance mobility of people and goods;

‘(E) to improve traveler information and services; and

‘(F) to optimize existing roadway capacity.

‘(2) APPLICATION- To be considered for a grant under this subsection, an eligible entity shall submit an application to the Secretary that includes--

‘(A) 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--

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

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

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

‘(iv) synchronized, adaptive, and transit preferential traffic signals;

‘(v) advanced infrastructure condition assessment technologies; and
‘(vi) other technologies to improve system operations, including ITS applications necessary for multimodal systems integration and for achieving performance goals;

‘(B) quantifiable system performance improvements, including--

‘(i) reductions in traffic-related crashes, congestion, and costs;

‘(ii) optimization of system efficiency; and

‘(iii) improvement of access to transportation services;

‘(C) quantifiable safety, mobility, and environmental benefit projections, including data driven estimates of the manner in which the project will improve the transportation system efficiency and reduce traffic congestion in the region;

‘(D) a plan for partnering with the private sector, including telecommunications industries and public service utilities, public agencies (including multimodal and multijurisdictional entities), research institutions, organizations representing transportation and technology leaders, and other transportation stakeholders;

‘(E) a plan to leverage and optimize existing local and regional ITS investments; and

‘(F) a plan to ensure interoperability of deployed technologies with other tolling, traffic management, and intelligent transportation systems.

‘(3) SELECTION-

‘(A) IN GENERAL- Not later than 1 year after the date of enactment of the Transportation Research and Innovative Technology Act of 2012, the Secretary may provide grants to eligible entities under this section.

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

‘(C) NON-FEDERAL SHARE- In awarding a grant under the section, the Secretary shall give priority to grant recipients that demonstrate an ability to contribute a significant non-Federal share to the cost of carrying out the project for which the grant is received.
(4) ELIGIBLE USES- Projects for which grants awarded under this section may be used include--

(A) the establishment and implementation of ITS and ITS-enabled operations strategies that improve performance in the areas of--

(i) traffic operations;

(ii) emergency response to surface transportation incidents;

(iii) incident management;

(iv) transit and commercial vehicle operations improvements;

(v) weather event response management by State and local authorities;

(vi) surface transportation network and facility management;

(vii) construction and work zone management;

(viii) traffic flow information;

(ix) freight management; and

(x) congestion management;

(B) carrying out activities that support the creation of networks that link metropolitan and rural surface transportation systems into an integrated data network, capable of collecting, sharing, and archiving transportation system traffic condition and performance information;

(C) the implementation of intelligent transportation systems and technologies that improve highway safety through information and communications systems linking vehicles, infrastructure, mobile devices, transportation users, and emergency responders;

(D) the provision of services necessary to ensure the efficient operation and management of ITS infrastructure, including costs associated with communications, utilities, rent, hardware, software, labor, administrative costs, training, and technical services;
‘(E) the provision of support for the establishment and maintenance of institutional relationships between transportation agencies, police, emergency medical services, private emergency operators, freight operators, shippers, public service utilities, and telecommunications providers;

‘(F) carrying out multimodal and crossjurisdictional planning and deployment of regional transportation systems operations and management approaches; and

‘(G) performing project evaluations to determine the costs, benefits, lessons learned, and future deployment strategies associated with the deployment of intelligent transportation systems.

‘(5) REPORT TO SECRETARY- For each fiscal year that an eligible entity receives a grant under this section, not later than 1 year after receiving that grant, each recipient shall submit a report to the Secretary that describes how the project has met the expectations 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 that allows 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.

‘(6) REPORT TO CONGRESS- Not later than 2 years after date on which the first grant is awarded under this section and annually thereafter for each fiscal year for which grants are awarded under this section, the Secretary shall submit to Congress a report that describes the effectiveness of the grant recipients in meeting the projected deployment plan goals, including data on how the grant program has--

‘(A) reduced traffic-related fatalities and injuries;

‘(B) reduced traffic congestion and improved travel time reliability;
‘(C) reduced transportation-related emissions;

‘(D) optimized multimodal system performance;

‘(E) improved access to transportation alternatives;

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

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

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

‘(7) ADDITIONAL GRANTS- If the Secretary determines, based on a report submitted under paragraph (5), that a grant recipient is not complying with the established grant criteria, the Secretary may--

‘(A) cease payment to the recipient of any remaining grant amounts; and

‘(B) redistribute any remaining amounts to other eligible entities under this section.

‘(8) NON-FEDERAL SHARE- The Federal share of a grant under this section shall not exceed 50 percent of the cost of the project.

‘(9) GRANT LIMITATION- The Secretary may not award more than 10 percent of the amounts provided under this section to a single grant recipient in any fiscal year.

‘(10) MULTIYEAR GRANTS- Subject to availability of amounts, the Secretary may provide an eligible entity with grant amounts for a period of multiple fiscal years.

‘(11) FUNDING- Of the funds authorized to be appropriated to carry out the intelligent transportation system program under sections 512 through 518, not less than 50 percent of such funds shall be used to carry out this subsection.’.

SEC. 53002. GOALS AND PURPOSES.

(a) In General- Chapter 5 of title 23, United States Code, is amended by adding after section 513 the following:
Sec. 514. Goals and purposes

(a) Goals- The goals of the intelligent transportation system program include--

(1) enhancement of surface transportation efficiency and facilitation of intermodalism and international trade to enable existing facilities to meet a significant portion of future transportation needs, including public access to employment, goods, and services and to reduce regulatory, financial, and other transaction costs to public agencies and system users;

(2) achievement of national transportation safety goals, including enhancement of safe operation of motor vehicles and nonmotorized vehicles and improved emergency response to collisions, with particular emphasis on decreasing the number and severity of collisions;

(3) protection and enhancement of the natural environment and communities affected by surface transportation, with particular emphasis on assisting State and local governments to achieve national environmental goals;

(4) accommodation of the needs of all users of surface transportation systems, including operators of commercial motor vehicles, passenger motor vehicles, motorcycles, bicycles, and pedestrians (including individuals with disabilities); and

(5) enhancement of national defense mobility and improvement of the ability of the United States to respond to security-related or other manmade emergencies and natural disasters.

(b) Purposes- The Secretary shall implement activities under the intelligent transportation system program, at a minimum--

(1) to expedite, in both metropolitan and rural areas, deployment and integration of intelligent transportation systems for consumers of passenger and freight transportation;

(2) to ensure that Federal, State, and local transportation officials have adequate knowledge of intelligent transportation systems for consideration in the transportation planning process;

(3) to improve regional cooperation and operations planning for effective intelligent transportation system deployment;

(4) to promote the innovative use of private resources in support of intelligent transportation system development;
‘(5) to facilitate, in cooperation with the motor vehicle industry, the introduction of vehicle-based safety enhancing systems;

‘(6) to support the application of intelligent transportation systems that increase the safety and efficiency of commercial motor vehicle operations;

‘(7) to develop a workforce capable of developing, operating, and maintaining intelligent transportation systems;

‘(8) to provide continuing support for operations and maintenance of intelligent transportation systems; and

‘(9) to ensure a systems approach that includes cooperation among vehicles, infrastructure, and users.’.

(b) Conforming Amendment- The analysis for chapter 5 of title 23, United States Code, is amended by adding after the item relating to section 513 the following:

‘514. Goals and purposes.’.

SEC. 53003. GENERAL AUTHORITIES AND REQUIREMENTS.

(a) In General- Chapter 5 of title 23, United States Code, is amended by adding after section 514 (as added by section 53002) the following:

‘Sec. 515. General authorities and requirements

‘(a) Scope- Subject to the provisions of this chapter, the Secretary shall conduct an ongoing intelligent transportation system program--

‘(1) to research, develop, and operationally test intelligent transportation systems; and

‘(2) to provide technical assistance in the nationwide application of those systems as a component of the surface transportation systems of the United States.

‘(b) Policy- Intelligent transportation system research projects and operational tests funded pursuant to this chapter shall encourage and not displace public-private partnerships or private sector investment in those tests and projects.
‘(c) Cooperation With Governmental, Private, and Educational Entities- The Secretary shall carry out the intelligent transportation system program in cooperation with State and local governments and other public entities, the private sector firms of the United States, the Federal laboratories, and institutions of higher education, including historically Black colleges and universities and other minority institutions of higher education.

‘(d) Consultation With Federal Officials- In carrying out the intelligent transportation system program, the Secretary shall consult with the heads of other Federal agencies, as appropriate.

‘(e) Technical Assistance, Training, and Information- The Secretary may provide technical assistance, training, and information to State and local governments seeking to implement, operate, maintain, or evaluate intelligent transportation system technologies and services.

‘(f) Transportation Planning- The Secretary may provide funding to support adequate consideration of transportation systems management and operations, including intelligent transportation systems, within metropolitan and statewide transportation planning processes.

‘(g) Information Clearinghouse-

‘(1) IN GENERAL- The Secretary shall--

‘(A) maintain a repository for technical and safety data collected as a result of federally sponsored projects carried out under this chapter; and

‘(B) make, on request, that information (except for proprietary information and data) readily available to all users of the repository at an appropriate cost.

‘(2) AGREEMENT-

‘(A) IN GENERAL- The Secretary may enter into an agreement with a third party for the maintenance of the repository for technical and safety data under paragraph (1)(A).

‘(B) FEDERAL FINANCIAL ASSISTANCE- If the Secretary enters into an agreement with an entity for the maintenance of the repository, the entity shall be eligible for Federal financial assistance under this section.

‘(3) AVAILABILITY OF INFORMATION- Information in the repository shall not be subject to sections 552 and 555 of title 5, United States Code.
(h) Advisory Committee-

'(1) IN GENERAL- The Secretary shall establish an Advisory Committee to advise the Secretary on carrying out this chapter.

'(2) MEMBERSHIP- The Advisory Committee shall have no more than 20 members, be balanced between metropolitan and rural interests, and include, at a minimum--

'(A) a representative from a State highway department;

'(B) a representative from a local highway department who is not from a metropolitan planning organization;

'(C) a representative from a State, local, or regional transit agency;

'(D) a representative from a metropolitan planning organization;

'(E) a private sector user of intelligent transportation system technologies;

'(F) an academic researcher with expertise in computer science or another information science field related to intelligent transportation systems, and who is not an expert on transportation issues;

'(G) an academic researcher who is a civil engineer;

'(H) an academic researcher who is a social scientist with expertise in transportation issues;

'(I) a representative from a nonprofit group representing the intelligent transportation system industry;

'(J) a representative from a public interest group concerned with safety;

'(K) a representative from a public interest group concerned with the impact of the transportation system on land use and residential patterns; and

'(L) members with expertise in planning, safety, telecommunications, utilities, and operations.

'(3) DUTIES- The Advisory Committee shall, at a minimum, perform the following duties:
(A) Provide input into the development of the intelligent transportation system aspects of the strategic plan under section 508.

(B) Review, at least annually, areas of intelligent transportation systems research being considered for funding by the Department, to determine--

(i) whether these activities are likely to advance either the state-of-the-practice or state-of-the-art in intelligent transportation systems;

(ii) whether the intelligent transportation system technologies are likely to be deployed by users, and if not, to determine the barriers to deployment; and

(iii) the appropriate roles for government and the private sector in investing in the research and technologies being considered.

(4) REPORT- Not later than February 1 of each year after the date of enactment of the Transportation Research and Innovative Technology Act of 2012, the Secretary shall submit to Congress a report that includes--

(A) all recommendations made by the Advisory Committee during the preceding calendar year;

(B) an explanation of the manner in which the Secretary has implemented those recommendations; and

(C) for recommendations not implemented, the reasons for rejecting the recommendations.

(5) APPLICABILITY OF FEDERAL ADVISORY COMMITTEE ACT- The Advisory Committee shall be subject to the Federal Advisory Committee Act (5 U.S.C. App.).

(i) Reporting-

(1) GUIDELINES AND REQUIREMENTS-

(A) IN GENERAL- The Secretary shall issue guidelines and requirements for the reporting and evaluation of operational tests and deployment projects carried out under this chapter.

(B) OBJECTIVITY AND INDEPENDENCE- The guidelines and requirements issued under subparagraph (A) shall include provisions to ensure the objectivity and independence of the
reporting entity so as to avoid any real or apparent conflict of interest or potential influence on the outcome by parties to any such test or deployment project or by any other formal evaluation carried out under this chapter.

‘(C) FUNDING- The guidelines and requirements issued under subparagraph (A) shall establish reporting funding levels based on the size and scope of each test or project that ensure adequate reporting of the results of the test or project.

‘(2) SPECIAL RULE- Any survey, questionnaire, or interview that the Secretary considers necessary to carry out the reporting of any test, deployment project, or program assessment activity under this chapter shall not be subject to chapter 35 of title 44, United States Code.’.

(b) Conforming Amendment- The analysis for chapter 5 of title 23, United States Code, is amended by adding after the item relating to section 514 (as added by section 53002) the following:

‘515. General authorities and requirements.’.

SEC. 53004. RESEARCH AND DEVELOPMENT.

(a) In General- Chapter 5 of title 23, United States Code, is amended by adding after section 515 (as added by section 53003) the following:

‘Sec. 516. Research and development

‘(a) In General- The Secretary shall carry out a comprehensive program of intelligent transportation system research and development, and operational tests of intelligent vehicles, intelligent infrastructure systems, and other similar activities that are necessary to carry out this chapter.

‘(b) Priority Areas- Under the program, the Secretary shall give higher priority to funding projects that--

‘(1) enhance mobility and productivity through improved traffic management, incident management, transit management, freight management, road weather management, toll collection, traveler information, or highway operations systems and remote sensing products;

‘(2) use interdisciplinary approaches to develop traffic management strategies and tools to address multiple impacts of congestion concurrently;
'(3) address traffic management, incident management, transit management, toll collection traveler information, or highway operations systems;

'(4) incorporate research on the impact of environmental, weather, and natural conditions on intelligent transportation systems, including the effects of cold climates;

'(5) enhance intermodal use of intelligent transportation systems for diverse groups, including for emergency and health-related services;

'(6) enhance safety through improved crash avoidance and protection, crash and other notification, commercial motor vehicle operations, and infrastructure-based or cooperative safety systems; or

'(7) facilitate the integration of intelligent infrastructure, vehicle, and control technologies.

'(c) Federal Share- The Federal share payable on account of any project or activity carried out under subsection (a) shall not exceed 80 percent.’.

(b) Conforming Amendment- The analysis for chapter 5 of title 23, United States Code, is amended by adding after the item relating to section 515 (as added by section 53004) the following:

‘516. Research and development.’.

SEC. 53005. NATIONAL ARCHITECTURE AND STANDARDS.

(a) In General- Chapter 5 of title 23, United States Code, is amended by adding after section 516 (as added by section 53004) the following:

‘Sec. 517. National architecture and standards

‘(a) In General-

‘(1) DEVELOPMENT, IMPLEMENTATION, AND MAINTENANCE- In accordance with section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note; 110 Stat. 783; 115 Stat. 1241), the Secretary shall develop and maintain a national ITS architecture and supporting ITS standards and protocols to promote the use of systems engineering methods in the widespread deployment and evaluation of intelligent transportation systems as a component of the surface transportation systems of the United States.
‘(2) INTEROPERABILITY AND EFFICIENCY- To the maximum extent practicable, the national ITS architecture and supporting ITS standards and protocols shall promote interoperability among, and efficiency of, intelligent transportation systems and technologies implemented throughout the United States.

‘(3) USE OF STANDARDS DEVELOPMENT ORGANIZATIONS- In carrying out this section, the Secretary shall support the development and maintenance of standards and protocols using the services of such standards development organizations as the Secretary determines to be necessary and whose memberships are comprised of, and represent, the surface transportation and intelligent transportation systems industries.

‘(b) Standards for National Policy Implementation- If the Secretary finds that a standard is necessary for implementation of a nationwide policy relating to user fee collection or other capability requiring nationwide uniformity, the Secretary, after consultation with stakeholders, may establish and require the use of that standard.

‘(c) Provisional Standards-

‘(1) IN GENERAL- If the Secretary finds that the development or balloting of an intelligent transportation system standard jeopardizes the timely achievement of the objectives described in subsection (a), the Secretary may establish a provisional standard, after consultation with affected parties, using, to the maximum extent practicable, the work product of appropriate standards development organizations.

‘(2) PERIOD OF EFFECTIVENESS- A provisional standard established under paragraph (1) shall be published in the Federal Register and remain in effect until the appropriate standards development organization adopts and publishes a standard.

‘(d) Conformity With National Architecture-

‘(1) IN GENERAL- Except as provided in paragraph (2), the Secretary shall ensure that intelligent transportation system projects carried out using amounts made available from the Highway Trust Fund, including amounts made available to deploy intelligent transportation systems, conform to the appropriate regional ITS architecture, applicable standards, and protocols developed under subsection (a) or (c).
‘(2) DISCRETION OF THE SECRETARY- The Secretary, at the discretion of the Secretary, may offer an exemption from paragraph (1) for projects designed to achieve specific research objectives outlined in the national intelligent transportation system program plan or the surface transportation research and development strategic plan developed under section 508.’.

(b) Conforming Amendment- The analysis for chapter 5 of title 23, United States Code, is amended by adding after the item relating to section 516 (as added by section 53004) the following:

‘517. National architecture and standards.’.

SEC. 53006. VEHICLE-TO-VEHICLE AND VEHICLE-TO-INFRASTRUCTURE COMMUNICATIONS SYSTEMS DEPLOYMENT.

(a) In General- Chapter 5 of title 23, United States Code, is amended by adding after section 517 (as added by section 53005) the following:

‘Sec. 518. Vehicle-to-vehicle and vehicle-to-infrastructure communications systems deployment

‘(a) In General- Not later than 3 years after the date of enactment of this section, the Secretary shall submit a report to the Committee on Commerce, Science, and Transportation of the Senate, the Committee on Environment and Public Works of the Senate, the Committee on Transportation and Infrastructure of the House of Representatives, and the Committee on Energy and Commerce of the House of Representatives that--

‘(1) defines a recommended implementation path for dedicated short-range communications technology and applications;

‘(2) includes guidance on the relationship of the proposed deployment of dedicated short-range communications to the National ITS Architecture and ITS Standards; and

‘(3) ensures competition by not preferencing the use of any particular frequency for vehicle to infrastructure operations.

‘(b) Report Review- The Secretary shall enter into agreements with the National Research Council and an independent third party with subject matter expertise for the review of the report described in subsection (a).’.
(b) Conforming Amendment- The analysis for chapter 5 of title 23, United States Code, is amended by adding after section 517 (as added by section 53005) the following:

‘518. Vehicle-to-vehicle and vehicle-to-infrastructure communications systems deployment.’.