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Part 1

# SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT ACT OF 2004

SEPTEMBER 7, 2004.—Ordered to be printed

Mr. BOEHLERT, from the Committee on Science, submitted the following

# R E P O R T

[To accompany H.R. 3551]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, to whom was referred the bill (H.R. 3551) to authorize appropriations to the Department of Transportation for surface transportation research and development, and for other purposes, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

CONTENTS



29–006

## I. AMENDMENT

The amendment is as follows:

Strike all after the enacting clause and insert the following:

**SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

(a) SHORT TITLE.—This Act may be cited as the "Surface Transportation Research and Development Act of 2004".

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:



**SEC. 2. FINDINGS.**

The Congress finds the following:

(1) Research and development are critical to developing and maintaining a transportation system that meets the goals of safety, mobility, economic vitality, efficiency, equity, and environmental protection.

(2) Federally sponsored surface transportation research and development has produced many successes. The development of rumble strips has increased safety; research on materials has increased the lifespan of pavements, saving money and reducing the disruption caused by construction; and Geographic Information Systems have improved the management and efficiency of transit fleets.

(3) Despite these important successes, the Federal surface transportation research and development investment represents less than one percent of overall government spending on surface transportation.

(4) While Congress increased funding for overall transportation programs by about 40 percent in the Transportation Equity Act for the 21st Century, funding for transportation research and development remained relatively flat.

(5) The Federal investment in research and development should be balanced between short-term applied and long-term fundamental research and development. The investment should also cover a wide range of research areas, including research on materials and construction, research on operations, research on transportation trends and human factors, and research addressing the institutional barriers to deployment of new technologies.

(6) Therefore, Congress finds that it is in the United States interest to increase the Federal investment in transportation research and development, and to conduct research in critical research gaps, in order to ensure that the transportation system meets the goals of safety, mobility, economic vitality, efficiency, equity, and environmental protection.

# TITLE I—SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT

**SEC. 101. AUTHORIZATION OF APPROPRIATIONS.**

(a) IN GENERAL.—There are authorized to be appropriated for each of fiscal years 2004 through 2009, to carry out this title and the amendments made by this title

(other than sections 108 and 109) and other programs described in subsection (b), the greater of—

(1) 1.08 percent of the amounts made available in each fiscal year from the Highway Trust Fund; or

(2) $500,000,000.

(b) PROGRAMS.—Of the amount authorized to be appropriated under subsection (a)—

(1) 50 percent shall be for carrying out sections 502, 503, 506, 507, 508, and 510 of title 23, United States Code, section 5113(b) of the Transportation Equity Act for the 21st Century, and section 104(d) of this Act, for each of fiscal years 2004 through 2009, of which—

(A) not less than $20,000,000 shall be for the Surface Transportation Environment and Planning Cooperative Research Program under section 507 of title 23, United States Code, for each of those fiscal years;

(B) not less than $10,000,000 shall be for advanced exploratory research under section 502(d) of title 23, United States Code, for each of those fiscal years; and

(C) not less than $5,000,000 shall be for the National Multimodal Trends Policy Research Program under section 104(d) of this Act for each of those fiscal years;

(2) 6.5 percent shall be for carrying out section 504 of title 23, United States Code, for each of fiscal years 2004 through 2009;

(3) 7.5 percent shall be for carrying out section 111 of title 49, United States Code, for each of fiscal years 2004 through 2009, of which not less than $5,000,000 shall be for research and development grants under subsection (i)(2) of such section for each of fiscal years 2004 through 2009;

(4) 11.5 percent shall be for carrying out section 5505 of title 49, United States Code, for each of fiscal years 2004 through 2009; and

(5) 24.5 percent shall be for carrying out the Intelligent Transportation Systems Act of 2004 for each of fiscal years 2004 through 2009.

**SEC. 102. GOALS, PRINCIPLES, AND PROCESSES.**

(a) GOALS.—The Federal Government shall support surface transportation research and development to help achieve the goals established for the surface transportation system as set forth in the Transportation Equity Act for the 21st Century, including supporting economic vitality, improving safety and security, increasing mobility, protecting and enhancing the environment, improving integration between modes of transportation, promoting efficiency, and emphasizing the preservation of the existing transportation system.

(b) BASIC PRINCIPLES GOVERNING RESEARCH AND DEVELOPMENT.—

(1) COVERAGE.—Surface transportation research and development shall include all activities leading to technology development and transfer, as well as the introduction of new and innovative ideas, practices, and approaches, through such mechanisms as field applications, education and training, and technical support.

(2) FEDERAL RESPONSIBILITY.—The Federal Government shall fund and conduct surface transportation research and development and technology transfer activities that—

(A) are of national significance;

(B) support research and development in which there is a clear public benefit, and private sector investment is less than optimal due to market failure;

(C) support research and development that the Secretary determines is critical that is not otherwise being conducted by the public or private sector; or

(D) support a Federal stewardship role in ensuring that State and local governments use national resources efficiently.

(3) ROLE.—Consistent with these Federal responsibilities, the Secretary of Transportation shall—

(A) conduct research and development;

(B) support and facilitate research and development and technology transfer activities by State highway agencies, metropolitan planning organizations, and local governments;

(C) share results of completed research and development; and

(D) support and facilitate technology and innovation deployment.

(4) PROGRAM CONTENT.—The surface transportation research and development program shall include—

(A) fundamental, long-term research;

(B) research and development aimed at significant research gaps, and emerging issues with national implications; and

(C) research related to policy and planning.

(c) PROCESSES.—

(1) STAKEHOLDER INPUT.—Federal surface transportation research and development activities shall address the needs of stakeholders. Stakeholders include States, metropolitan planning organizations, local governments, the private sector, researchers, research sponsors, and other affected parties, including public interest groups.

(2) COMPETITION AND PEER REVIEW.—Except as otherwise provided in this Act, the Secretary shall award all grants, contracts, and cooperative agreements for research and development under this Act based on open competition and peer review of proposals.

(3) PERFORMANCE REVIEW AND EVALUATION.—To the maximum extent practicable, all surface transportation research and development projects shall include a component of performance measurement and evaluation. Performance measures shall be established during the proposal stage of a research and development project and shall, to the maximum extent possible, be outcome-based. All evaluations shall be made readily available to the public.

**SEC. 103. TRANSPORTATION RESEARCH AND DEVELOPMENT STRATEGIC PLANNING.**

(a) AMENDMENT.—Section 508 of title 23, United States Code, is amended to read as follows:

**"§ 508. Transportation research and development strategic planning**

"(a) IN GENERAL.—

"(1) DEVELOPMENT.—Not later than 1 year after the date of enactment of the Surface Transportation Research and Development Act of 2004, the Secretary shall develop a 5-year transportation research and development strategic plan to guide Federal transportation research and development activities. This plan shall be consistent with section 306 of title 5, sections 1115 and 1116 of title 31, and any other research and development plan within the Department of Transportation.

"(2) CONTENTS.—The strategic plan developed under paragraph (1) shall—

"(A) describe the primary purposes of the transportation research and development program, which shall include, at a minimum—

"(i) reducing congestion and improving mobility;

"(ii) promoting safety;

"(iii) promoting security;

"(iv) protecting and enhancing the environment;

"(v) preserving the existing transportation system; and

"(vi) improving the durability and extending the life of transportation infrastructure;

"(B) for each purpose, list the primary research and development topics that the Department intends to pursue to accomplish that purpose, which may include the fundamental research in the physical and natural sciences, applied research, technology development, and social science research intended for each topic; and

"(C) for each research and development topic, describe—

"(i) the anticipated annual funding levels for the period covered by the strategic plan; and

"(ii) the additional information the Department expects to gain at the end of the period covered by the strategic plan as a result of the research and development in that topic area.

"(3) CONSIDERATIONS.—In developing the strategic plan, the Secretary shall ensure that the plan—

"(A) reflects input from a wide range of stakeholders;

"(B) includes and integrates the research and development programs of all the Department's operating administrations, including aviation, transit, rail, and maritime; and

"(C) takes into account how research and development by other Federal, State, private sector, and not-for-profit institutions contributes to the achievement of the purposes identified under paragraph (2)(A), and avoids unnecessary duplication with these efforts.

"(4) PERFORMANCE PLANS AND REPORTS.—In reports submitted under sections 1115 and 1116 of title 31, the Secretary shall include—

"(A) a summary of the Federal transportation research and development activities for the previous fiscal year in each topic area;

"(B) the amount of funding spent in each topic area;

"(C) a description of the extent to which the research and development is meeting the expectations set forth in paragraph (2)(C)(ii); and

"(D) any amendments to the strategic plan.

"(b) ANNUAL REPORT.—The Secretary shall submit to Congress an annual report, along with the President's annual budget request, describing the amount spent in the last completed fiscal year on transportation research and development and the amount proposed in the current budget for transportation research and development.

"(c) NATIONAL RESEARCH COUNCIL REVIEW.—The Secretary shall enter into an agreement for the review by the National Research Council of the details of each—

"(1) strategic plan under section 508;

"(2) performance plan required under section 1115 of title 31; and

"(3) program performance report required under section 1116 of title 31,

with respect to transportation research and development.".

(b) CONFORMING AMENDMENT.—The analysis for chapter 5 of title 23, United States Code, is amended by striking the item related to section 508 and inserting the following:

"508. Transportation research and development strategic planning.".

**SEC. 104. SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT.**

(a) SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT.—Section 502 of title 23, United States Code, is amended—

(1) in subsection (a)—

(A) in paragraph (1), by striking "may" and inserting "shall"; and

(B) by striking subparagraphs (B) and (C) of paragraph (1) and inserting the following:

"(B) all phases of transportation planning and development (including construction, transportation system management and operation, modernization, development, design, maintenance, safety, data collection, performance analysis, multimodal assessment, financing, demand forecasting, and traffic conditions);

"(C) institutional arrangements and support; and

"(D) the effect of State laws on the activities described in subparagraphs (A), (B), and (C).";

(2) by amending subsection (c) to read as follows:

"(c) CONTENTS OF RESEARCH AND DEVELOPMENT PROGRAM.—The Secretary shall include in surface transportation research, development, and technology transfer programs carried out under this title coordinated activities in the following areas:

"(1) Research and development on materials and structures to improve the durability of surface transportation infrastructure and extend the life of pavements and bridges, including, as appropriate—

"(A) development of nondestructive evaluation equipment for use with existing infrastructure facilities and with next-generation infrastructure facilities that use advanced materials;

"(B) standardized estimates, developed in conjunction with the National Institute of Standards and Technology and other appropriate organizations, of useful life under various conditions for advanced materials of use in surface transportation;

"(C) research on the effects of climate conditions (such as freezing, thawing, and precipitation) on highway construction materials, and development of materials that can withstand climatic conditions; and

"(D) economic highway geometrics, structures, and desirable weight and size standards for vehicles using the public highways and the feasibility of uniformity in State regulations with respect to such standards.

"(2) Research and development on the operation and management of the surface transportation system to improve efficiency, productivity, and safety, including, as appropriate—

"(A) technologies and practices that reduce costs and minimize disruptions associated with the construction, rehabilitation, and maintenance of surface transportation systems, including responses to natural disasters;

"(B) research and system analysis to facilitate and integrate bicycle and pedestrian travel in the transportation system, including within National Parks and in areas adjacent to National Park land;

"(C) development of dynamic simulation models of surface transportation systems for—

"(i) predicting capacity, safety, and infrastructure durability problems;

"(ii) evaluating the extent to which projects are likely to achieve their stated objectives; and

"(iii) testing the strengths and weaknesses of proposed revisions to surface transportation operations and management programs;

"(D) improvement of life cycle cost analysis, including—

"(i) establishing the appropriate analysis period and discount rates;

"(ii) learning how to value and properly consider use costs;

"(iii) determining tradeoffs between reconstruction and rehabilitation; and

"(iv) establishing methodologies for balancing higher initial costs of new technologies and improved or advanced materials against lower maintenance costs;

"(E) research on the effects of climatic conditions (such as freezing, thawing, and precipitation) on the costs of highway construction materials and maintenance;

"(F) research, development, and technology transfer related to asset management; and

"(G) evaluation of traffic calming measures that promote community preservation, transportation mode choice, and safety.

"(3) Research, development, and technology transfer to improve safety.

"(4) Research and development to support the evaluation of how the surface transportation system and individual surface transportation projects meet the goals of the surface transportation system stated in section 102(a) of the Surface Transportation Research and Development Act of 2004, including, as appropriate—

"(A) development, use, and dissemination of indicators, including appropriate computer programs for collecting and analyzing data on the status of infrastructure facilities, to measure the performance of the surface transportation systems of the United States, including productivity, efficiency, energy use, air quality, congestion, safety, maintenance, and other factors that reflect system performance; and

"(B) research on, and dissemination of recommendations and best practices aimed at addressing, nontechnical barriers to technology deployment (such as fragmented local authority, rigid procurement rules, and privacy and liability considerations).

"(5) To assess how the surface transportation system affects and is affected by social systems, including, as appropriate—

"(A) research aimed at understanding how emerging trends (including demographic, economic, and social trends) will affect surface transportation usage and needs;

"(B) research on how land use affects and is affected by surface transportation investments; and

"(C) telecommuting and the linkages between transportation, information technology, and community development, and the impact of technological change and economic restructuring on travel demand.

"(6) Environmental research and development, including research described in the Transportation Research Board Special Report 268, entitled 'Surface Transportation Environmental Research: A Long-Term Strategy' published in 2002.

"(7) Exploratory advanced research in any of the preceding areas.

"(8) Any other surface transportation research and development topics that the Secretary determines, in accordance with the strategic planning process under section 508, to be critical.";

(3) in subsection (d)—

(A) in paragraph (1), by inserting "exploratory" after "shall establish an"; and

(B) by striking paragraph (2) and inserting the following new paragraphs:

"(2) PURPOSE.—The purpose of the research program under this subsection shall be to achieve breakthroughs in transportation research. Exploratory advanced research should have a broader objective, longer time frame, multidisciplinary nature, and have both a higher risk and a higher potential payoff than for problem-solving research.

"(3) WORKSHOP.—The Secretary shall convene a workshop with appropriate researchers and policymakers from Federal and State agencies, as well as academic researchers. The purpose of the workshop shall be to determine priority areas of exploratory advanced research and to identify the best way to accomplish this research (such as through federally funded research and development centers or academic researchers). The workshop shall include a diverse group of stakeholders. The Secretary shall make the results of the workshop widely available to the public. The workshop shall be held within 6 months after the date of the enactment of this paragraph.

"(4) GRANT PROGRAM.—The Secretary may administer a competitive, peer-reviewed grant program to support exploratory advanced research.

"(5) REPORT.—The President's annual budget request to the Congress shall indicate the amount of funding used in the previous fiscal year, and proposed for the next fiscal year, to support exploratory advanced research under this subsection, including the amount used to support extramural research grants in exploratory advanced research under this subsection.";

(4) in subsection (e)(1), by striking "(105 Stat." and all that follows through "performance program" and inserting "and the Transportation Equity Act for the 21st Century";

(5) by redesignating subsections (f) and (g) as subsections (g) and (h), respectively, and by inserting after subsection (e) the following new subsection:

"(f) LONG-TERM BRIDGE PERFORMANCE PROGRAM.—

"(1) AUTHORITY.—The Secretary shall establish a 20-year, long-term bridge performance program.

"(2) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—Under the program, the Secretary shall make grants and enter into cooperative agreements and contracts to—

"(A) monitor, material-test, and evaluate test bridges;

"(B) analyze the data obtained in carrying out subparagraph (A); and

"(C) prepare products to fulfill program objectives and meet future bridge technology needs.";

(6) in subsection (h), as so redesignated by paragraph (5) of this subsection—

(A) in paragraph (1), by striking "January 31, 1999" and inserting "July 31, 2004"; and

(B) in paragraph (2), by striking "biannual reports" and all that follows through "21st Century" and inserting "previous reports under this subsection"; and

(7) by adding at the end the following new subsection:

"(i) TURNER-FAIRBANK HIGHWAY RESEARCH CENTER.—

"(1) IN GENERAL.—The Secretary shall operate in the Federal Highway Administration a Turner-Fairbank Highway Research Center.

"(2) USES OF THE CENTER.—The Turner-Fairbank Highway Research Center shall support the—

"(A) conduct of highway research and development related to new highway technology;

"(B) development of understandings, tools, and techniques that provide solutions to complex technical problems through the development of economical and environmentally sensitive designs, efficient and quality controlled construction practices, and durable materials; and

"(C) development of innovative highway products and practices.".

(b) GEOSPATIAL INFORMATION SYSTEMS.—Section 5113 of the Transportation Equity Act for the 21st Century (23 U.S.C. 502 note) is amended by amending subsection (b) to read as follows:

"(b) PROGRAM.—

"(1) NATIONAL POLICY.—The Secretary shall establish and maintain a national policy for the use of commercial remote sensing products and geospatial information technologies in national transportation infrastructure development and construction.

"(2) POLICY IMPLEMENTATION.—The Secretary shall develop new applications of commercial remote sensing products and geospatial information technologies for the implementation of the national policy established and maintained under paragraph (1).".

(c) ENVIRONMENT AND PLANNING.—

(1) AMENDMENT.—Section 507 of title 23, United States Code, is amended to read as follows:

**"§ 507. Surface Transportation Environment and Planning Cooperative Research Program**

"(a) IN GENERAL.—

"(1) ESTABLISHMENT.—The Secretary shall establish and support a collaborative, public-private, multimodal surface transportation environment and planning cooperative research and development program.

"(2) PROGRAM.—The program established under paragraph (1) shall solely carry out research and development called for in the Transportation Research Board Special Report 268, entitled 'Surface Transportation Environmental Research: A Long-Term Strategy', published in 2002, which included the following research and development areas:

"(A) Human Health.

"(B) Ecology and Natural Systems.
"(C) Environmental and Social Justice.
"(D) Emerging Technologies.
"(E) Land Use.
"(F) Planning and Performance Measures.

"(b) ADMINISTRATION.—

"(1) AGREEMENT.—The Secretary shall enter into an arrangement with the National Research Council, or another nonprofit research organization, such as the Health Effects Institute, to administer the program established under subsection (a)(1).

"(2) DISSEMINATION OF RESEARCH AND DEVELOPMENT FINDINGS.—The organization described in paragraph (1) and the Department of Transportation shall proactively disseminate research and development findings under this section to researchers, practitioners, and decisionmakers.

"(c) ADVISORY BOARD.—

"(1) ESTABLISHMENT.—The organization described in subsection (b)(1) shall establish an advisory board.

"(2) MEMBERSHIP.—The advisory board shall be balanced, and shall include—
"(A) representatives from pubic interest groups representing the environment;
"(B) representatives of State, regional, and local transportation agencies, including metropolitan planning organizations and transit agencies;
"(C) representatives of State environmental agencies;
"(D) transportation and environmental scientists and engineers; and
"(E) representatives of Federal agencies, including the Department of Transportation, the Environmental Protection Agency, and the National Science Foundation.

"(3) RESPONSIBILITIES.—The advisory board shall—
"(A) develop an annual research and development agenda to carry out research and development activities described in subsection (a)(2);
"(B) solicit research proposals to carry out the research and development agenda, and oversee peer review of proposals;
"(C) develop project selection criteria through an open and public consultation process with stakeholders; and
"(D) select projects for funding.

"(4) CRITERIA.—In developing criteria, the advisory board shall give priority to proposals that—
"(A) are designed to develop fundamental knowledge;
"(B) are interdisciplinary and involve partnerships; and
"(C) include significant matching funds.

"(d) PROJECT FUNDING.—In addition to using funds authorized for this section, the organization described in subsection (b)(1) is encouraged to seek and accept additional funding sources from public and private entities.

"(e) ANNUAL REPORT.—The organization described in subsection (b)(1) shall prepare and transmit to the Secretary and the Congress an annual report that includes a project summary for every project funded under this section. Each summary shall describe the project, summarize its status and funding levels, and identify sources of funding.".

(2) CONFORMING AMENDMENT.—The analysis for chapter 5 of title 23, United States Code, is amended by striking the item related to section 507 and inserting the following:

"507. Surface transportation environment and planning cooperative research program.".

(d) NATIONAL MULTIMODAL TRENDS POLICY RESEARCH AND DEVELOPMENT PROGRAM.—

(1) IN GENERAL.—The Secretary shall carry out a National Multimodal Trends Policy Research and Development Program that systematically addresses critical short-term, medium-term, and long-term social science issues affecting and affected by the transportation system.

(2) CONTENTS.—The program to be carried out under this subsection shall include research and development on—

(A) how, and the extent to which, the overall transportation system is meeting the goals set forth in the Transportation Equity Act for the 21st Century, and how to improve evaluation methodologies and performance measures;

(B) the development of policy analysis tools and methods for use by decisionmakers;

(C) the critical factors and major trends affecting the success and performance of the Nation's transportation system, as well as how such information can be incorporated into national, State, and local decisionmaking;

(D) economic, demographic, and social trends that are affecting and are affected by the transportation system, including such topics as—

(i) economic trends, including international trade and its effects on the transportation of people and goods, rapidly changing information technology, the changing nature of metropolitan economies, diversification of employment sites, and innovations in goods movement;

(ii) demographic trends, changing residential patterns, and the aging of the population; and

(iii) social trends, including income disparity, access of underserved populations to jobs, services and health care, including the needs of low-income, minority, and transit-dependent populations in urban and rural areas, the needs of rural populations, and the effects of new technologies on driver behavior;

(E) how institutional factors affect the development and successful deployment of new technologies; and

(F) other critical issues identified by the Advisory Board established under paragraph (4).

(3) ESTABLISHMENT.—The Secretary shall enter into an arrangement with the National Research Council to establish the advisory board under paragraph (4) and to administer the program.

(4) ADVISORY BOARD.—

(A) MEMBERSHIP.—A majority of members of the advisory board shall be experts in a broad array of social science fields. Additional members of the advisory board shall be balanced among representatives of Federal, State, and local transportation agencies, other agencies with appropriate expertise, metropolitan planning organizations, transit operating agencies, and environmental and other nonprofit organizations, including representatives of community-based orgainzations.

(B) RESPONSIBILITIES.—The advisory board shall—

(i) develop a detailed research and development agenda, which shall serve as the basis of the annual project solicitation;

(ii) annually solicit project proposals, through open competition and peer review of research and development proposals; and

(iii) develop project selection criteria, through an open and public consultation process with stakeholders.

(5) DISSEMINATION OF RESEARCH AND DEVELOPMENT FINDINGS.—The National Research Council and the Department of Transportation shall disseminate research and development findings under this subsection to researchers, practitioners, and decisionmakers.

(e) ROAD WEATHER RESEARCH AND DEVELOPMENT PROGRAM.—

(1) ESTABLISHMENT.—The Secretary shall establish a road weather research and development program to—

(A) maximize use of available road weather information and technologies;

(B) expand road weather research and development efforts to enhance roadway safety, capacity, and efficiency while minimizing environmental impacts; and

(C) promote technology transfer of effective road weather scientific and technological advances.

(2) STAKEHOLDER INPUT.—In carrying out this subsection, the Secretary shall consult with the National Oceanic and Atmospheric Administration, the National Science Foundation, the American Association of State Highway and Transportation Officials, nonprofit organizations, and the private sector.

(3) CONTENTS.— The program established under this subsection shall solely carry out research and development called for in the National Research Council's report entitled "A Research Agenda for Improving Road Weather Services". Such research and development includes—

(A) integrating existing observational networks and data management systems for road weather applications;

(B) improving weather modeling capabilities and forecast tools, such as the road surface and atmospheric interface;

(C) enhancing mechanisms for communicating road weather information to users, such as transportation officials and the public; and

(D) integrating road weather technologies into an information infrastructure.

(4) ACTIVITIES.— In carrying out this subsection, the Secretary shall—

(A) enable efficient technology transfer;

(B) improve education and training of road weather information users, such as State and local transportation officials and private sector transportation contractors; and

(C) coordinate with transportation weather research programs in other modes, such as aviation.

(5) FUNDING.—In awarding funds under this subsection, the Secretary shall give preference to applications with significant matching funds from non-Federal sources. From the amounts authorized to be appropriated under section 101(b)(1), there shall be available $5,000,000 for carrying out this subsection for each of fiscal years 2004 through 2009.

**SEC. 105. TECHNOLOGY DEPLOYMENT.**

(a) TECHNOLOGY DEPLOYMENT PROGRAM.—Section 503(a) of title 23, United States Code, is amended—

(1) in the subsection heading, by striking "INITIATIVES AND PARTNERSHIPS";

(2) by striking paragraph (1) and inserting the following:

"(1) ESTABLISHMENT.—The Secretary shall develop and administer a national technology deployment program.";

(3) by striking paragraph (7) and inserting the following:

"(7) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—

"(A) IN GENERAL.—Under the program, the Secretary shall make grants to, and enter into cooperative agreements and contracts with, States, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations to pay the Federal share of the cost of research, development, and technology transfer concerning innovative materials.

"(B) APPLICATIONS.—To receive a grant under this subsection, an entity described in subparagraph (A) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications based on open competition and peer review, and on whether the project that is the subject of the grant serves the purpose of the program described in paragraph (2).";

(4) by striking paragraph (8);

(5) by redesignating paragraph (9) as paragraph (10); and

(6) by inserting after paragraph (7) the following:

"(8) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall ensure that the information and technology resulting from research and development conducted under paragraph (3) is made available to State and local transportation departments and other interested parties as specified by the Secretary.

"(9) FEDERAL SHARE.—The Federal share of the cost of a project under this section shall be determined by the Secretary.".

(b) INNOVATIVE BRIDGE RESEARCH AND DEPLOYMENT PROGRAM.—

(1) IN GENERAL.—Section 503(b) of title 23, United States Code, is amended by striking paragraph (1) and inserting:

"(1) IN GENERAL.—The Secretary shall establish and carry out a program to promote, demonstrate, evaluate, and document the application of innovative designs, materials and construction methods in the construction, repair, and rehabilitation of bridges and other highway structures.".

(2) GOALS.—Section 503(b) of such title is amended by striking paragraph (2) and inserting:

"(2) GOALS.—The goals of the program shall include—

"(A) the development of new, cost-effective, innovative highway bridge applications;

"(B) the development of construction techniques to increase safety and reduce construction time and traffic congestion;

"(C) the development of engineering design criteria for innovative products, materials, and structural systems for use in highway bridges and structures;

"(D) the reduction of maintenance costs and life-cycle costs of bridges, including the costs of new construction, replacement, or rehabilitation of deficient bridges;

"(E) the development of highway bridges and structures that will withstand natural disasters and terrorist attacks;

"(F) the documentation and wide dissemination of objective evaluations of the performance and benefits of these innovative designs, materials, and construction methods; and

"(G) the effective transfer of resulting information and technology.".

(c) INNOVATIVE PAVEMENT RESEARCH AND DEPLOYMENT PROGRAM.—Section 503 of title 23, United States Code, is amended by adding after subsection (b) the following:

"(c) INNOVATIVE PAVEMENT RESEARCH AND DEPLOYMENT PROGRAM.—

"(1) IN GENERAL.—The Secretary shall establish and implement a program to promote, demonstrate, support, and document the application of innovative pavement technologies, practices, performance, and benefits.

"(2) GOALS.—The goals of the innovative pavement research and deployment program shall include—

"(A) the deployment of new, cost-effective innovative designs, materials, and practices to extend pavement life and performance and to improve customer satisfaction;

"(B) the reduction of initial costs and life-cycle costs of pavements, including the costs of new construction, replacement, maintenance, and rehabilitation;

"(C) the deployment of accelerated construction techniques, including innovative pavement materials, to increase safety and reduce construction time and traffic disruption and congestion;

"(D) the deployment of engineering design criteria and specifications for innovative practices, products, and materials for use in highway pavements;

"(E) the deployment of new nondestructive and real time pavement evaluation technologies and techniques;

"(F) evaluation, refinement, and documentation of the performance and benefits of innovative technologies deployed to improve life, performance, cost effectiveness, safety, and customer satisfaction;

"(G) effective technology transfer and information dissemination to accelerate implementation of innovative technologies and to improve life, performance, cost effectiveness, safety, and customer satisfaction; and

"(H) the development of designs and materials to reduce storm water runoff.

"(3) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—

"(A) IN GENERAL.—Under the program, the Secretary shall make grants to, and enter into cooperative agreements and contracts with States, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations for research, development, and technology transfer for innovative safety technologies.

"(B) APPLICATIONS.—To receive a grant under this subsection, an entity described in subparagraph (A) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications based on open competition and peer review, and on whether the project that is the subject of the grant meets the goals of the program described in paragraph (2).

"(4) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall take such action as is necessary to ensure that the information and technology resulting from research conducted under paragraph (3) is made available to State and local transportation departments and other interested parties as specified by the Secretary.".

(d) SAFETY INNOVATION DEPLOYMENT PROGRAM.—Section 503 of title 23, United States Code, as amended by this Act, is further amended by adding the following:

"(d) SAFETY INNOVATION DEPLOYMENT PROGRAM.—

"(1) IN GENERAL.—The Secretary shall establish and implement a program to demonstrate the application of innovative technologies in highway safety.

"(2) GOALS.—The goals of the program shall include—

"(A) the deployment and evaluation of safety technologies and innovations at state and local levels; and

"(B) the deployment of best practices in training, management, design, and planning.

"(3) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—

"(A) IN GENERAL.—Under the program, the Secretary shall make grants to, and enter into cooperative agreements and contracts with States, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations for research, development, and technology transfer for innovative safety technologies.

"(B) APPLICATIONS.—To receive a grant under this subsection, an entity described in subparagraph (A) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications based on open competition and peer review, and on whether the project that is the subject of the grant meets the goals of the program described in paragraph (2).

"(4) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall take such action as is necessary to ensure that the information and technology re-

sulting from research conducted under paragraph (3) is made available to State and local transportation departments and other interested parties as specified by the Secretary.".

**SEC. 106. TRAINING AND EDUCATION.**

(a) NATIONAL HIGHWAY INSTITUTE.—Section 504(a) of title 23, United States Code, is amended by striking paragraph (3) and inserting the following:

"(3) COURSES.—

"(A) IN GENERAL.—The Institute shall develop or update courses in the subject areas of asset management, application of emerging technologies, including intelligent transportation systems, techniques, methods, regulations, information technology, general management, environmental stewardship, acquisition of rights-of-way, relocation assistance, engineering, safety, transportation system management and operations, construction, maintenance, contract administration, inspection, and finance.

"(B) ADDITIONAL COURSES.—In addition to the courses in the subject matter areas described in subparagraph (A), the Institute, in consultation with State transportation departments and the American Association of State Highway and Transportation Officials, may develop other courses as it considers necessary.

"(C) REVISION OF COURSES OFFERED.—The Institute shall periodically—

"(i) review the course inventory of the Institute; and

"(ii) revise or cease to offer courses based on course content, applicability, and need.".

(b) LOCAL TECHNICAL ASSISTANCE PROGRAM.—Section 504(b) of title 23, United States Code, is amended by adding at the end the following:

"(3) FEDERAL SHARE.—

"(A) GRANTS.—The grant funds authorized to carry out this subsection may be used to cover up to 50 percent of the program costs relating to local technical assistance. Funds available for technology transfer and training purposes under this title and title 49 may be used to cover the remaining 50 percent of the program costs.

"(B) TRIBAL TECHNICAL ASSISTANCE CENTERS.—The Federal share of the cost of activities carried out by the tribal technical assistance centers under paragraph (2)(D)(ii) of this subsection shall be 100 percent.".

(c) SURFACE TRANSPORTATION WORKFORCE DEVELOPMENT, TRAINING, AND EDUCATION.—Section 504 of title 23, United States Code, is amended by adding at the end the following:

"(d) SURFACE TRANSPORTATION WORKFORCE DEVELOPMENT, TRAINING, AND EDUCATION.—

"(1) FUNDING.—Subject to project approval by the Secretary, a State may obligate funds apportioned to it under sections 104(b)(1), (3), and (4) and 144(e) of this title for surface transportation workforce development, training and education, including—

"(A) tuition and direct educational expenses, excluding salaries, in connection with the education and training of employees of State and local transportation agencies;

"(B) employee professional development;

"(C) student internships; or

"(D) education outreach activities to develop interest and promote participation in surface transportation careers.

"(2) FEDERAL SHARE.—The Federal share of the cost of activities carried out in accordance with this subsection shall be 100 percent.".

(d) DEFINITIONS AND DECLARATION OF POLICY.—Section 101(a) of title 23, United States Code, is amended—

(1) in paragraph (3), by—

(A) striking "and" after subparagraph (G);

(B) striking the period after subparagraph (H) and inserting "; and"; and

(C) adding after subparagraph (H) the following:

"(I) surface transportation workforce development, training, and education.";

(2) by redesignating paragraphs (34) through (37) as paragraphs (35) through (38) respectively; and

(3) by adding after paragraph (33), as redesignated by this Act, the following:

"(34) SURFACE TRANSPORTATION WORKFORCE DEVELOPMENT, TRAINING, AND EDUCATION.—The term 'surface transportation workforce development, training, and education' means activities associated with surface transportation career awareness, student transportation career preparation, and training and profes-

sional development for surface transportation workers, including activities for women and minorities.".

(e) GARRETT A. MORGAN TECHNOLOGY AND TRANSPORTATION EDUCATION PROGRAM.—Section 504 of title 23, United States Code, as amended by this section, is further amended by adding at the end the following new subsection:

"(e) GARRETT A. MORGAN TECHNOLOGY AND TRANSPORTATION EDUCATION PROGRAM.—

"(1) IN GENERAL.—The Secretary shall establish the Garrett A. Morgan Technology and Transportation Education Program to improve the preparation of students, particularly women and minorities, in science, technology, engineering, and mathematics through curriculum development and other activities related to transportation.

"(2) AUTHORIZED ACTIVITIES.—The Secretary shall award grants under this subsection on the basis of competitive, peer review. Grants awarded under this subsection may be used for enhancing science, technology, engineering, and mathematics at the elementary and secondary school level through such means as—

"(A) internships that offer students experience in the transportation field;

"(B) programs that allow students to spend time observing scientists and engineers in the transportation field; and

"(C) developing relevant curriculum that uses examples and problems related to transportation.

"(3) APPLICATION AND REVIEW PROCEDURES.—

"(A) IN GENERAL.—An entity described in subparagraph (C) seeking funding under this subsection shall submit an application to the Secretary at such time, in such manner, and containing such information as the Secretary may require. Such application, at a minimum, shall include a description of how the funds will be used and a description of how the funds will be used to serve the purposes described in paragraph (2).

"(B) PRIORITY.—In making awards under this subsection, the Secretary shall give priority to applicants that will encourage the participation of women and minorities.

"(C) ELIGIBILITY.—Local education agencies and State education agencies, which may partner with institutions of higher education, businesses, or other entities, shall be eligible to apply for grants under this subsection.

"(4) DEFINITIONS.—For purposes of this subsection—

"(A) the term 'institution of higher education' has the meaning given that term in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001);

"(B) the term 'local educational agency' has the meaning given that term in section 9101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801); and

"(C) the term 'State educational agency' has the meaning given that term in section 9101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801).

"(5) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary of Transportation to carry out this subsection $500,000 for fiscal year 2005 and such sums as may be necessary thereafter.".

**SEC. 107. BUREAU OF TRANSPORTATION STATISTICS.**

Section 111 of title 49, United States Code, is amended to read as follows:

**"§ 111. Bureau of Transportation Statistics**

"(a) ESTABLISHMENT.—There is established in the Department of Transportation a Bureau of Transportation Statistics.

"(b) DIRECTOR.—

"(1) APPOINTMENT.—The Bureau shall be headed by a Director who shall be appointed by the President, by and with the advice and consent of the Senate.

"(2) QUALIFICATIONS.—The Director shall be appointed from among individuals who are qualified to serve as the Director by virtue of their training and experience in the collection, analysis, and use of transportation statistics.

"(3) REPORTING.—The Director shall report directly to the Secretary.

"(4) TERM.—The term of the Director shall be 5 years. The Director may continue to serve after the expiration of the term until a successor is appointed and confirmed.

"(c) RESPONSIBILITIES.—The Director of the Bureau shall serve as the Secretary's senior advisor on data and statistics, and shall be responsible for carrying out the following duties:

"(1) PROVIDING DATA, STATISTICS, AND ANALYSIS TO TRANSPORTATION DECISIONMAKERS.—Ensuring that the statistics compiled under paragraph (5) are designed to support transportation decisionmaking by the Federal Government,

State and local governments, metropolitan planning organizations, transportation-related associations, the private sector (including the freight community), and the public.

"(2) COORDINATING COLLECTION OF INFORMATION.—Working with the operating administrations of the Department to establish and implement the Bureau's data programs and to improve the coordination of information collection efforts with other Federal agencies.

"(3) DATA MODERNIZATION.—Continually improving surveys and data collection methods to improve the accuracy and utility of transportation statistics.

"(4) ENCOURAGING DATA STANDARDIZATION.—Encouraging the standardization of data, data collection methods, and data management and storage technologies for data collected by the Bureau, the operating administrations of the Department of Transportation, States, local governments, metropolitan planning organizations, and private sector entities.

"(5) COMPILING TRANSPORTATION STATISTICS.—Compiling, analyzing, and publishing a comprehensive set of transportation statistics on the performance and impacts of the national transportation system, including statistics on—

"(A) productivity in various parts of the transportation sector;

"(B) traffic flows for all modes of transportation;

"(C) other elements of the Intermodal Transportation Database established under subsection (g);

"(D) travel times and measures of congestion;

"(E) vehicle weights and other vehicle characteristics;

"(F) demographic, economic, and other variables influencing traveling behavior, including choice of transportation mode, and goods movement;

"(G) transportation costs for passenger travel and goods movement;

"(H) availability and use of mass transit (including the number of passengers served by each mass transit authority) and other forms of for-hire passenger travel;

"(I) frequency of vehicle and transportation facility repairs and other interruptions of transportation service;

"(J) safety and security for travelers, vehicles, and transportation systems;

"(K) consequences of transportation for the human and natural environment;

"(L) the extent, connectivity, and condition of the transportation system, building on the National Transportation Atlas Database developed under subsection (g); and

"(M) transportation-related variables that influence the domestic economy and global competitiveness.

"(6) NATIONAL SPATIAL DATA INFRASTRUCTURE.—Building and disseminating the transportation layer of the National Spatial Data Infrastructure, including coordinating the development of transportation geospatial data standards, compiling intermodal geospatial data, and collecting geospatial data that is not being collected by others.

"(7) ISSUING GUIDELINES.—Issuing guidelines for the collection of information by the Department of Transportation required for statistics to be compiled under paragraph (5) in order to ensure that such information is accurate, reliable, relevant, and in a form that permits systematic analysis. The Bureau shall review and report to the Secretary of Transportation on the sources and reliability of the statistics proposed by the heads of the operating administrations of the Department to measure outputs and outcomes as required by the Government Performance and Results Act of 1993, and the amendments made by such Act, and shall carry out such other reviews of the sources and reliability of other data collected or statistical information published by the heads of the operating administrations of the Department as shall be requested by the Secretary.

"(8) MAKING STATISTICS ACCESSIBLE.—Making the statistics published under this subsection readily accessible.

"(d) INFORMATION NEEDS ASSESSMENT.—

"(1) IN GENERAL.—Within 60 days after the date of the enactment of the Surface Transportation Research and Development Act of 2004, the Secretary shall enter into an arrangement with the National Research Council to develop and publish a National Transportation Information Needs Assessment. The Assessment shall be transmitted to the Secretary and the Congress not later than 24 months after such arrangement is entered into.

"(2) CONTENT.—The Assessment shall—

"(A) identify, in priority order, transportation data that is not being collected by the Bureau, Department of Transportation operating administra-

tions, or other Federal, State, or local entities, but is needed to improve transportation decisionmaking at the Federal, State, and local level and to fulfill the requirements of subsection (c)(5);

"(B) recommend whether the data identified in subparagraph (A) should be collected by the Bureau, other parts of the Department, or by other Federal, State, or local entities, and whether any data is a higher priority than data currently being collected;

"(C) identify any data the Bureau or other Federal, State, and local entities is collecting that is not needed;

"(D) describe new data collection methods (including changes in surveys) and other changes the Bureau or other Federal, State, and local entities should implement to improve the standardization, accuracy, and utility of transportation data and statistics; and

"(E) estimate the cost of implementing any recommendations.

"(3) CONSULTATION.—In developing the Assessment, the National Research Council shall consult with the Department's Advisory Council on Transportation Statistics and a representative cross-section of transportation community stakeholders as well as other Federal agencies, including the Environmental Protection Agency, the Department of Energy, and the Department of Housing and Urban Development.

"(4) REPORT TO CONGRESS.—Not later than 6 months after the National Research Council transmits the Needs Assessment under paragraph (1), the Secretary shall transmit a report to the Committee on Science and the Committee on Transportation and Infrastructure of the House of Representatives, and to the Committee on Environment and Public Works of the Senate, that describes—

"(A) how the Department plans to fill the data gaps identified under paragraph (2)(A);

"(B) how the Department plans to stop collecting data identified under paragraph (2)(C);

"(C) how the Department plans to implement improved data collection methods and other changes identified under paragraph (2)(D);

"(D) the expected costs of implementing subparagraphs (A), (B), and (C) of this paragraph;

"(E) any findings of the Needs Assessment under paragraph (1) with which the Secretary disagrees, and why; and

"(F) any proposed statutory changes needed to implement the findings if the Needs Assessment under paragraph (1).

"(e) INTERMODAL TRANSPORTATION DATA BASE.—

"(1) IN GENERAL.—In consultation with the Under Secretary for Policy, the Assistant Secretaries, and the heads of the operating administrations of the Department of Transportation, the Director shall establish and maintain a transportation data base for all modes of transportation.

"(2) USE.—The data base shall be suitable for analyses carried out by the Federal Government, the States, and metropolitan planning organizations.

"(3) CONTENTS.—The data base shall include—

"(A) information on the volumes and patterns of movement of goods, including local, interregional, and international movement, by all modes of transportation and intermodal combinations, and by relevant classification;

"(B) information on the volumes and patterns of movement of people, including local, interregional, and international movements, by all modes of transportation (including bicycle and pedestrian modes) and intermodal combinations, and by relevant classification;

"(C) information on the location and connectivity of transportation facilities and services; and

"(D) a national accounting of expenditures and capital stocks on each mode of transportation and intermodal combination.

"(f) NATIONAL TRANSPORTATION LIBRARY.—

"(1) IN GENERAL.—The Director shall establish and maintain a National Transportation Library, which shall contain a collection of statistical and other information needed for transportation decisionmaking at the Federal, State, and local levels.

"(2) ACCESS.—The Director shall facilitate and promote access to the Library, with the goal of improving the ability of the transportation community to share information and the ability of the Director to make statistics readily accessible under subsection (c)(8).

"(3) COORDINATION.—The Director shall work with other transportation libraries and other transportation information providers, both public and private, to achieve the goal specified in paragraph (2).

"(g) NATIONAL TRANSPORTATION ATLAS DATA BASE.—

"(1) IN GENERAL.—The Director shall develop and maintain geospatial data bases that depict—

"(A) transportation networks;

"(B) flows of people, goods, vehicles, and craft over the networks; and

"(C) social, economic, and environmental conditions that affect or are affected by the networks.

"(2) INTERMODAL NETWORK ANALYSIS.—The data bases shall be able to support intermodal network analysis.

"(h) MANDATORY RESPONSE AUTHORITY FOR FREIGHT DATA COLLECTION.—Whoever, being the owner, official, agent, person in charge, or assistant to the person in charge, of any corporation, company, business, institution, establishment, or organization of any nature whatsoever, neglects or refuses, when requested by the Director or other authorized officer, employee or contractor of the Bureau, to answer completely and correctly to the best of his/her knowledge all questions relating to the corporation, company, business, institution, establishment, or other organization, or to records or statistics in his/her official custody, contained in a data collection request prepared and submitted as part of the collection of freight data, shall be fined not more than $500; and if the individual willfully gives a false answer to a question, shall be fined not more than $10,000.

"(i) RESEARCH AND DEVELOPMENT GRANTS.—The Secretary may make grants to, or enter into cooperative agreements or contracts with, public and nonprofit private entities (including State transportation departments, metropolitan planning organizations, and institutions of higher education) for—

"(1) investigation of the subjects specified in subsection (c)(5) and research and development of new methods of data collection, standardization, management, integration, dissemination, interpretation, and analysis;

"(2) demonstration programs by States, local governments, and metropolitan planning organizations to harmonize data collection, reporting, management, storage, and archiving to simplify data comparisons across jurisdictions;

"(3) development of electronic clearinghouses of transportation data and related information, as part of the National Transportation Library under subsection (f); and

"(4) development and improvement of methods for sharing geographic data, in support of the national transportation atlas data base under subsection (g) and the National Spatial Data Infrastructure developed under Executive Order No. 12906.

"(j) LIMITATIONS ON STATUTORY CONSTRUCTION.—Nothing in this section shall be construed—

"(1) to authorize the Bureau to require any other department or agency to collect data; or

"(2) to reduce the authority of any other officer of the Department of Transportation to collect and disseminate data independently.

"(k) PROHIBITION ON CERTAIN DISCLOSURES.—

"(1) IN GENERAL.—An officer or employee of the Bureau may not—

"(A) make any disclosure in which the data provided by an individual or organization under subsection (c) can be identified;

"(B) use the information provided under subsection (c) for a nonstatistical purpose; or

"(C) permit anyone other than an individual authorized by the Director to examine any individual report provided under subsection (c).

"(2) PROHIBITION ON REQUESTS FOR CERTAIN DATA.—

"(A) GOVERNMENT AGENCIES.—No department, bureau, agency, officer, or employee of the United States (except the Director in carrying out this section) may require, for any reason, a copy of any report that has been filed under subsection (c) with the Bureau or retained by an individual respondent.

"(B) COURTS.—Any copy of a report described in subparagraph (A) that has been retained by an individual respondent or filed with the Bureau or any of its employees, contractors, or agents—

"(i) shall be immune from legal process; and

"(ii) shall not, without the consent of the individual concerned, be admitted as evidence or used for any purpose in any action, suit, or other judicial or administrative proceeding.

"(C) APPLICABILITY.—This paragraph shall apply only to reports that permit information concerning an individual or organization to be reasonably inferred by direct or indirect means.

"(3) DATA COLLECTED FOR NONSTATISTICAL PURPOSES.—In a case in which the Bureau is authorized by statute to collect data or information for a nonstatis-

tical purpose, the Director shall clearly distinguish the collection of the data or information, by rule and on the collection instrument, so as to inform a respondent that is requested or required to supply the data or information of the nonstatistical purpose.

"(l) TRANSPORTATION STATISTICS ANNUAL REPORT.—The Director shall transmit to the President and Congress a Transportation Statistics Annual Report which shall include information on items referred to in subsection (c)(5), documentation of methods used to obtain and ensure the quality of the statistics presented in the report, and recommendations for improving transportation statistical information.

"(m) PROCEEDS OF DATA PRODUCT SALES.—Notwithstanding section 3302 of title 31, funds received by the Bureau from the sale of data products, for necessary expenses incurred, may be credited to the Highway Trust Fund (other than the Mass Transit Account) for the purpose of reimbursing the Bureau for the expenses.

"(n) ADVISORY COUNCIL ON TRANSPORTATION STATISTICS.—

"(1) ESTABLISHMENT.—The Director of the Bureau of Transportation Statistics shall establish an Advisory Council on Transportation Statistics.

"(2) FUNCTION.—It shall be the function of the Advisory Council established under this subsection to—

"(A) advise the Director of the Bureau of Transportation Statistics on the quality, reliability, consistency, objectivity, and relevance of transportation statistics and analyses collected, supported, or disseminated by the Bureau of Transportation Statistics and the Department of Transportation;

"(B) provide input to and review the report to Congress under subsection (d)(4); and

"(C) advise the Director on methods to encourage harmonization and interoperability of transportation data collected by the Bureau, the operating administrations of the Department of Transportation, States, local governments, metropolitan planning organizations, and private sector entities.

"(3) MEMBERSHIP.—The Advisory Council established under this subsection shall be composed of not fewer than 15 members appointed by the Director, who are not officers or employees of the United States, including—

"(A) 2 members with specific expertise in economics;

"(B) 3 members with expertise in statistics; and

"(C) additional members with expertise in transportation statistics, analysis, or policy.

Members shall include representatives of a cross-section of transportation community stakeholders.

"(4) TERMS OF APPOINTMENT.—(A) Except as provided in subparagraph (B), members shall be appointed to staggered terms not to exceed 3 years. A member may be renominated for one additional 3-year term.

"(B) Members serving on the Advisory Council on Transportation Statistics as of the date of enactment of the Surface Transportation Research and Development Act of 2004 shall serve until the end of their appointed terms.

"(5) APPLICABILITY OF FEDERAL ADVISORY COMMITTEE ACT.—The Federal Advisory Committee Act shall apply to the Advisory Council established under this subsection, except that section 14 of the Federal Advisory Committee Act shall not apply to such Advisory Council.".

**SEC. 108. STATE PLANNING AND RESEARCH.**

Section 505 of title 23, United States Code, is amended to read as follows:

**"§ 505. State planning and research**

"(a) IN GENERAL.—Two and a half percent of the sums apportioned to a State for fiscal year 2004 and each fiscal year thereafter under section 104 (other than subsections (f) and (h)) and under sections 105 and 144 shall be available for expenditure by the State, in consultation with the Secretary, only for the following purposes:

"(1) Engineering and economic surveys and investigations.

"(2) The planning of future highway programs and local public transportation systems, the planning of the financing of such programs and systems, including metropolitan and Statewide planning under sections 134 and 135, freight planning, safety planning, transportation systems management and operations planning, transportation-related land use planning, and transportation-related growth management activities within these planning processes, and planning capacity building activities.

"(3) Development and implementation of infrastructure management and traffic monitoring systems, and for asset management.

"(4) Studies of the economy, safety, and convenience of highway, local public transportation, bicycle, and pedestrian systems and the desirable regulation and equitable taxation of their use.

"(5) Research, development, and technology transfer activities necessary in connection with the planning, design, construction, management, maintenance, regulation, and taxation of the use of highway, local public transportation, and intermodal transportation systems, including innovative techniques for ensuring representative public input (e.g. deliberative polling).

"(6) Research on the effects of design standards on intermodal coordination, such as the highway-rail interface, and on safe pedestrian access to transit on arterial roads and urban highways.

"(7) Study, research and development, and training on the engineering standards and construction materials, including accreditation of inspection and testing, for highway, local public transportation, bicycle, pedestrian, and intermodal transportation systems.

"(b) MINIMUM EXPENDITURES ON RESEARCH, DEVELOPMENT, AND TECHNOLOGY TRANSFER ACTIVITIES.—

"(1) IN GENERAL.—Subject to paragraph (2), not less than 25 percent of the funds appropriated pursuant to subsection (a) to a State for a fiscal year shall be expended by the State for research, development, and technology transfer activities described in subsection (a), relating to highway, public transportation, bicycle, pedestrian, and intermodal transportation systems.

"(2) WAIVERS.—The Secretary may waive the application of paragraph (1) with respect to a State for a fiscal year if the State certifies to the Secretary for the fiscal year that the funds described in paragraph (1) are not needed for research, development, and technology transfer and the Secretary accepts such certification.

"(3) NONAPPLICABILITY OF ASSESSMENT.—Funds expended under paragraph (1) shall not be considered to be part of the extramural budget of the agency for the purpose of section 9 of the Small Business Act (15 U.S.C. 638).

"(c) MINIMUM EXPENDITURES FOR IMPROVING THE QUALITY OF COLLECTION AND REPORTING OF STRATEGIC SURFACE TRANSPORTATION DATA.—

"(1) IN GENERAL.—Subject to paragraph (2), not less than 10 percent of the funds appropriated pursuant to subsection (a) for a fiscal year to a State shall be expended by the State to improve the collection and reporting of strategic surface transportation data to provide critical information about the extent, condition, use, performance, and financing of the Nation's surface transportation system (including intermodal connectors) for passenger and freight movement.

"(2) WAIVERS.—The Secretary may waive the application of paragraph (1) with respect to a State for a fiscal year if the State certifies to the Secretary for the fiscal year that the State is collecting and reporting strategic data consistent with quality assurance guidelines developed cooperatively with the States and the Secretary approves such certification.

"(d) FEDERAL SHARE.—The Federal share of the cost of a project carried out using funds subject to subsection (a) shall be matched in accordance with section 120(b) unless the Secretary determines that the interests of the surface transportation program would be best served without such matching.".

**SEC. 109. FUTURE STRATEGIC HIGHWAY RESEARCH PROGRAM.**

(a) AMENDMENT.—Chapter 5 of title 23, United States Code, is amended by adding at the end the following new section:

**"§ 509. Future Strategic Highway Research Program**

"(a) ESTABLISHMENT.—The Secretary, in consultation with the American Association of State Highway and Transportation Officials, shall establish and support a grant program to be known as the Future Strategic Highway Research Program.

"(b) PROGRAM.—The program established under this section shall implement the Transportation Research Board Special Report 260, entitled 'Strategic Highway Research: Saving Lives, Reducing Congestion, Improving Quality of Life', which included the following research areas:

"(1) Accelerating the renewal of America's highways.

"(2) Making a significant improvement in highway safety.

"(3) Providing a highway system with reliable travel times.

"(4) Providing highway capacity in support of the Nation's economic, environmental, multi-modal transportation, and social goals.

"(c) ADMINISTRATION.—The Secretary shall enter into an arrangement with the National Research Council to administer the program established under subsection (a).

"(d) PERIOD OF AVAILABILITY.—Funds set aside to carry out this section shall remain available for the fiscal year for which such funds are made available and the three succeeding fiscal years.

"(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary of Transportation from the Highway Trust Fund, for each of fiscal years 2004 through 2009, $75,000,000 to carry out this section.

"(f) PROGRAM ADMINISTRATION.—In carrying out the program under this section, the Secretary, through the agreement with the National Research Council, shall ensure that the selection of awards shall be based on open competition and peer review, and that a balanced group of stakeholders is represented on all committees and panels established to implement the program. Proposals that involve partnerships and include significant matching funds shall be encouraged, although no matching funds are required.

"(g) PROGRAMMATIC EVALUATIONS.—Within 3 years after the first research and development project grants, cooperative agreements, or contracts are awarded under this section, the Comptroller General shall review the program under this section, and recommend improvements. The review shall assess the degree to which projects funded under this section have addressed the research and development topics identified in the Transportation Research Board Special Report 260, including identifying those topics which have not yet been addressed.

"(h) ANNUAL PROGRESS AND PERFORMANCE REPORT.—The National Research Council shall produce an annual progress and performance report for the program under this section. The report shall summarize the status, funding, and sponsors of all funded projects by the research and development areas specified in subsection (b). The report shall be submitted to the Secretary, to the Committee on Transportation and Infrastructure and the Committee on Science of the House of Representatives, and to the Committee on Environment and Public Works of the Senate.".

(b) CONFORMING AMENDMENT.—The analysis of chapter 5 of title 23, United States Code, is amended by adding at the end the following new item:

"509. Future strategic highway research program.".

**SEC. 110. UNIVERSITY TRANSPORTATION RESEARCH.**

Section 5505 of title 49, United States Code, is amended to read as follows:

**"§ 5505. University transportation research**

"(a) REGIONAL CENTERS.—The Secretary of Transportation shall make grants to nonprofit institutions of higher learning to establish and operate 1 university transportation center in each of the 10 United States Government regions that comprise the Standard Federal Regional Boundary System.

"(b) OTHER CENTERS.—The Secretary shall make 16 grants to nonprofit institutions of higher learning, in addition to grants made under subsection (a), to establish and operate university transportation centers.

"(c) ROLE OF CENTERS.—The role of each center shall be to address transportation management and research and development matters, with special attention to increasing the number of highly skilled individuals entering the field of transportation.

"(d) SELECTION OF GRANT RECIPIENTS.—

"(1) APPLICATIONS.—In order to be eligible to receive a grant under this section, a nonprofit institution of higher learning shall submit to the Secretary an application that is in such form and contains such information as the Secretary may require.

"(2) SELECTION CRITERIA.—Except as otherwise provided by this section, the Secretary shall select each recipient of a grant under this section through an open competition, peer-reviewed process on the basis of the following:

"(A) The capability of the recipient to provide leadership in making national and regional contributions to the solution of immediate and long-range transportation problems.

"(B) The recipient's establishment of a surface transportation program by the date of the award, which encompasses several modes of transportation.

"(C) The recipient's demonstrated ability to disseminate results of transportation research and education programs through a statewide or regionwide continuing education program.

"(D) The strategic plan the recipient proposes to carry out under the grant.

"(e) OBJECTIVES.—The Secretary shall ensure that each university transportation center receiving a grant under this section shall conduct the following programs and activities:

"(1) Basic and applied research and development that supports the Department's research and development agenda consistent with section 508 of title 23.

"(2) An education program that includes multidisciplinary course work, faculty and student participation in research and development, and an opportunity for practical experience.

"(3) An ongoing program of technology transfer that makes research and development results available to potential users in a form that can be implemented, utilized, or otherwise applied.

"(f) MAINTENANCE OF EFFORT.—To be eligible to receive a grant under this section, an applicant shall—

"(1) enter into an agreement with the Secretary to ensure that the applicant will maintain total expenditures from all other sources to establish and operate a university transportation center and related educational and research and development activities at a level that is at least equal to the average level of those expenditures during the 2 fiscal years before the date on which the grant is provided;

"(2) submit to the Secretary an annual report on the projects and activities of the university transportation center for which funds are made available for the fiscal year covered by the report, a description of—

"(A) the educational activities carried out by the center (including a detailed summary of the budget for those educational activities);

"(B) each research and development project carried out by the center, including—

"(i) the identity of the principal investigator working on a research and development project; and

"(ii) the overall funding amount for each research and development project (including the amounts expended for the project as of the date of the report); and

"(C) overall technology transfer and implementation efforts of the center; and

"(3) make use of National Research Council, Transportation Research Board, and Transportation Research Information Services online databases for—

"(A) program development and strategic planning;

"(B) reporting of activities funded under this section; and

"(C) input and dissemination of results and reports from completed research and development.

"(g) FEDERAL SHARE.—The Federal share of the costs of activities carried out using a grant made under subsection (a) is 80 percent of costs, and under subsection (b) is 50 percent of costs. The non-Federal share may include funds provided to a recipient under section 503, 504(b), or 505 of title 23, United States Code.

"(h) PROGRAM COORDINATION.—

"(1) COORDINATION.—The Secretary shall coordinate the research and development, education, training, and technology transfer activities that grant recipients carry out under this section.

"(2) ANNUAL REVIEW AND EVALUATION.—At least annually and consistent with the plan developed by the recipient under subsection (f)(2), the Secretary shall review and evaluate programs the grant recipients carry out.

"(3) FUNDING LIMITATION.—The Secretary may use not more than 1 percent of amounts made available from Government sources to carry out this subsection.

"(i) LIMITATION ON AVAILABILITY OF FUNDS.—Funds made available to carry out this program shall remain available for obligation for a period of 2 years after the last day of the fiscal year for which such funds are authorized.

"(j) TRANSPORTATION EDUCATION DEVELOPMENT PILOT PROGRAM.—

"(1) ESTABLISHMENT.—The Secretary shall establish a program to make grants to institutions of higher education that in partnership with industry or State Departments of Transportation will develop, test, and revise new curricula and education programs to train individuals at all levels of the transportation workforce.

"(2) SELECTION OF GRANT RECIPIENTS.—In selecting applications for awards under this subsection, the Secretary shall consider—

"(A) the degree to which the new curricula or education program meets the specific needs of a segment of the transportation industry, States, or regions;

"(B) providing for practical experience and on-the-job training;

"(C) proposals oriented toward practitioners in the field rather than the support and growth of the research community;

"(D) the degree to which the new curricula or program will provide training in areas other than engineering, such as business administration, economics, information technology, environmental science, and law;

"(E) programs or curricula in nontraditional departments which train professionals for work in the transportation field, such as materials, information technology, environmental science, urban planning, and industrial technology; and

"(F) industry or a State's Department of Transportation commitment to the program.

"(3) AUTHORIZATION OF APPROPRIATIONS.—From amounts authorized under section 101(b)(4) of the Surface Transportation Research and Development Act of 2004 for carrying out this section, for each of fiscal years 2004, 2005, 2006, 2007, 2008, and 2009, there shall be available for carrying out this subsection $4,500,000.

"(4) LIMITATIONS.—No individual grant under this subsection shall exceed $750,000 per year. After a recipient has received 3 years of Federal funding under this subsection, Federal funding may equal no more than 75 percent of a grantee's program costs.

"(k) NATIONAL TRANSPORTATION SECURITY CENTERS.—

"(1) ESTABLISHMENT.—The Secretary shall establish not more than 4 National Transportation Security Centers at institutions of higher education to conduct research, education, and professional training on all aspects of surface transportation security, with emphasis on utilization of intelligent transportation systems, technologies, and architectures.

"(2) SELECTION CRITERIA.—The Secretary shall make grants using a competitive peer-reviewed procedure that gives priority to—

"(A) institutions with a commitment to transportation security issues;

"(B) proposals that include partnerships with other institutions of higher education, federally funded research and development centers, or other nonprofit laboratories;

"(C) proposals to conduct both practical and theoretical research and technical systems analysis; and

"(D) proposals to develop professional training programs.".

**SEC. 111. INTELLIGENT TRANSPORTATION SYSTEMS.**

(a) AMENDMENT.—Subtitle C of title V of the Transportation Equity Act for the 21st Century is amended to read as follows:

# "Subtitle C—Intelligent Transportation Systems

**"SEC. 5201. SHORT TITLE.**

"This subtitle may be cited as the 'Intelligent Transportation Systems Act of 2004'.

**"SEC. 5202. 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 the enhancement of safe operation of motor vehicles and nonmotorized vehicles, 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 vehicles, passenger vehicles, motorcycles, and bicycles, and including pedestrians and individuals with disabilities; and

"(5) improvement of the Nation's ability to respond to security related or other man-made emergencies and natural disasters, and enhancement of national defense mobility.

"(b) PURPOSES.—The Secretary shall implement activities under the intelligent transportation system program to, at a minimum—

"(1) develop and test emerging technologies to meet the goals described in subsection (a);

"(2) expedite deployment and ensure integration and interoperability of proven intelligent transportation systems;

"(3) analyze the likelihood of utilization of intelligent transportation system technologies by the intended user community;

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

"(5) improve regional cooperation and operations planning for effective intelligent transportation system deployment;

"(6) promote the innovative use of private resources;

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

"(8) evaluate costs and benefits of intelligent transportation systems projects.

**"SEC. 5203. GENERAL AUTHORITIES AND REQUIREMENTS.**

"(a) SCOPE.—Subject to the provisions of this subtitle, the Secretary shall conduct an ongoing intelligent transportation system program to research, develop, and operationally test intelligent transportation systems and advance nationwide deployment of proven systems through research on barriers to deployment as a component of the surface transportation systems of the United States.

"(b) POLICY.—Intelligent transportation system research, development, operational tests, and deployment projects funded pursuant to this subtitle shall encourage and not displace public-private partnerships or private sector investment in such research and development 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 United States private sector, federally funded research and development centers, and colleges and universities, 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, as appropriate, may consult with the Secretary of Commerce, the Secretary of the Treasury, the Secretary of Homeland Security, the Administrator of the Environmental Protection Agency, the Director of the National Science Foundation, and the heads of other Federal departments and agencies.

"(e) TECHNICAL ASSISTANCE, TRAINING, AND INFORMATION.—The Secretary shall 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 system management and operations 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 subtitle; and

"(B) make that information (except for proprietary information and data) readily available to all users of the repository.

"(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 delegates responsibility under subparagraph (A), the entity to which the responsibility is delegated shall be eligible for Federal financial assistance under this section.

"(h) ADVISORY COMMITTEE.—

"(1) IN GENERAL.—The Secretary shall establish an Advisory Committee to advise the Secretary on carrying out this subtitle.

"(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 not-for-profit 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, 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 of title 23, United States Code.

"(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 Surface Transportation Research and Development Act of 2004, the Secretary shall transmit to the Committee on Science and the Committee on Transportation and Infrastructure of the House of Representatives, and to the Committee on Environment and Public Works of the Senate, a report including—

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

"(B) an explanation of how 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) EVALUATIONS.—

"(1) GUIDELINES AND REQUIREMENTS.—

"(A) IN GENERAL.—The Secretary shall issue guidelines and requirements for the evaluation of operational tests and model deployment projects carried out under this subtitle.

"(B) CONTENT.—Such evaluations shall include specific, quantitative measures to determine whether a technology is meeting its intended goal. To the maximum extent practicable, these measures shall evaluate the outcome of the technology (such as accidents avoided or decreased travel times or travel time variability).

"(C) OBJECTIVITY AND INDEPENDENCE.—The guidelines and requirements issued under subparagraph (A) shall include provisions to ensure the objectivity and independence of the evaluator 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 subtitle.

"(D) FUNDING.—The guidelines and requirements issued under subparagraph (A) shall establish evaluation funding levels, based on the size and scope of each test or project, that ensure adequate evaluation of the results of the test or project.

"(E) DISSEMINATION.—The Secretary shall make readily available through the Internet all information collected through evaluations carried out under this subsection.

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

**"SEC. 5204. USING INFORMATION FROM INTELLIGENT TRANSPORTATION SYSTEMS.**

"(a) REPORT.—The Secretary shall prepare a report assessing the value of current and anticipated data collected from intelligent transportation system technologies to determine whether and how that data should be used for real-time traffic management, planning, performance monitoring, program assessment, and policy applications.

"(b) ASSESSMENT.—In preparing the report under subsection (a), the Secretary should assess—

"(1) the extent to which data should be centralized nationally in support of national planning and goals, what information should be aggregated regionally, and what information should be kept locally;

"(2) the need for data standards;

"(3) public and private data sources other than intelligent transportation system data sources (such as roadway characteristics inventories and incident information) that, combined with intelligent transportation system data, would enhance the utility of intelligent transportation system data to decisionmakers, and how these data sources can be merged; and

"(4) how to make data accessible to users.

"(c) CONSULTATION.—In developing the strategy under this section, the Secretary shall consult with the Bureau of Transportation Statistics and the advisory committee established under section 5203(h).

"(d) REPORT TO CONGRESS.—Not later than 2 years after the date of the enactment of this subsection, the Secretary shall transmit to the Committee on Science and the Committee on Transportation and Infrastructure of the House of Representatives, and to the Committee on Environment and Public Works of the Senate, the report developed under this section.

**"SEC. 5205. NATIONAL ARCHITECTURE AND STANDARDS.**

"(a) IN GENERAL.—

"(1) DEVELOPMENT, IMPLEMENTATION, AND MAINTENANCE.—Consistent with section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note; 110 Stat. 783), the Secretary shall develop, implement, and maintain a national architecture and supporting standards and protocols to promote the widespread use and evaluation of intelligent transportation system technology as a component of the surface transportation systems of the United States.

"(2) GOAL.—The goal of the national architecture and standards shall be to ensure, whenever it is appropriate, interoperability among, and efficiency of, intelligent transportation system technologies implemented throughout the United States.

"(3) USE OF STANDARDS DEVELOPMENT ORGANIZATIONS.—In carrying out this section, the Secretary may use the services of such standards development organizations as the Secretary determines to be appropriate.

"(4) STANDARD VALIDATION.—The Secretary shall ensure that new standards promulgated for intelligent transportation system technologies that are funded by the Department are tested and validated, whenever it is appropriate, and shall ensure that the results of such testing and validation are made publicly available.

"(b) 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 identified in subsection (a)(1) and (2), the Secretary may establish a provisional standard after consultation with affected parties, and using, to the 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.

"(c) CONFORMITY WITH NATIONAL ARCHITECTURE.—

"(1) IN GENERAL.—Except as provided in paragraphs (2) and (3), the Secretary shall ensure that intelligent transportation system projects carried out using funds made available from the Highway Trust Fund, including funds made available to deploy intelligent transportation system technologies, conform to the national architecture, applicable standards or provisional standards, and protocols developed under subsection (a).

"(2) SECRETARY'S DISCRETION.—The Secretary may authorize exceptions to paragraph (1) for—

"(A) projects designed to achieve specific research and development objectives outlined in the National ITS Program Plan or the Surface Transportation Research and Development Strategic Plan developed under section 508 of title 23, United States Code; or

"(B) the upgrade or expansion of an intelligent transportation system in existence on the date of enactment of the Transportation Equity Act for the 21st Century, if the Secretary determines that the upgrade or expansion—

"(i) would not adversely affect the goals or purposes of this subtitle;

"(ii) is carried out before the end of the useful life of such system; and

"(iii) is cost-effective as compared to alternatives that would meet the conformity requirement of paragraph (1).

"(3) EXCEPTIONS.—Paragraph (1) shall not apply to funds used for operation or maintenance of an intelligent transportation system in existence on the date of enactment of the Transportation Equity Act for the 21st Century.

**"SEC. 5206. RESEARCH AND DEVELOPMENT.**

"(a) IN GENERAL.—The Secretary shall carry out a comprehensive program of research, development, and operational tests of intelligent vehicles and intelligent infrastructure systems, as well as research into barriers to their deployment, and other similar activities that are necessary to carry out this subtitle.

"(b) PRIORITY AREAS.—Under the program, the Secretary shall give higher priority to funding projects that—

"(1) are aimed at reducing congestion and improving mobility and efficiency;

"(2) are aimed at improving safety;

"(3) are aimed at improving security by focusing on responding to security-related emergencies, and preventing such emergencies;

"(4) incorporate human factors research, including the science of the driving process;

"(5) develop methods to address nontechnical barriers to the deployment of intelligent transportation system technologies, and the best ways to develop partnerships to successfully deploy intelligent transportation system technologies;

"(6) facilitate the integration of intelligent infrastructure, vehicle, and control technologies;

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

"(8) utilize interdisciplinary approaches to develop traffic management strategies and tools to address multiple impacts of congestion concurrently;

"(9) are aimed at improving the efficiency of goods movement, such as through real-time tracking and management; or

"(10) facilitate high-performance transportation systems, through methods such as congestion pricing, real-time facility management, rapid emergency response, and just-in-time transit.

"(c) OPERATIONAL TESTS.—Operational tests shall be used to evaluate promising technologies that have not yet been demonstrated. Operational tests conducted under this section shall be designed for the collection of data to permit objective evaluation of the results of the tests, derivation of cost-benefit information that is useful to others contemplating deployment of similar systems, and development and implementation of standards.

"(d) FEDERAL SHARE.—The Federal share of the cost of operational tests and demonstrations under subsection (a) shall not exceed 80 percent.

**"SEC. 5207. USE OF FUNDS.**

"(a) CONGESTION REDUCTION.—At least ⅓ of funds made available under section 5206 for intelligent transportation systems research and development shall be used to research, develop, and operationally test technologies whose primary purpose is to reduce congestion.

"(b) OUTREACH AND PUBLIC RELATIONS LIMITATION.—

"(1) IN GENERAL.—For each fiscal year, not more than $5,000,000 of the funds made available to carry out this subtitle shall be used for intelligent transportation system outreach, public relations, displays, scholarships, tours, and brochures.

"(2) APPLICABILITY.—Paragraph (1) shall not apply to intelligent transportation system training or the publication or distribution of research findings, technical guidance, or similar documents.

"(c) INFRASTRUCTURE DEVELOPMENT.—Funds made available to carry out this subtitle for operational tests—

"(1) shall be used primarily for the development of intelligent transportation system infrastructure; and

"(2) to the maximum extent practicable, shall not be used for the construction of physical highway and transit infrastructure unless the construction is incidental and critically necessary to the implementation of an intelligent transportation system project.

**"SEC. 5208. DEFINITIONS.**

"In this subtitle, the following definitions apply:

"(1) INTELLIGENT TRANSPORTATION INFRASTRUCTURE.—The term 'intelligent transportation infrastructure' means fully integrated public sector intelligent transportation system components, as defined by the Secretary.

"(2) INTELLIGENT TRANSPORTATION SYSTEM.—The term 'intelligent transportation system' means electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.

"(3) NATIONAL ARCHITECTURE.—The term 'national architecture' means the common framework for interoperability adopted by the Secretary that defines—

"(A) the functions associated with intelligent transportation system user services;

"(B) the physical entities or subsystems within which the functions reside;

"(C) the data interfaces and information flows between physical subsystems; and

"(D) the communications requirements associated with the information flows.

"(4) STANDARD.—The term 'standard' means a document that—

"(A) contains technical specifications or other precise criteria for intelligent transportation systems that are to be used consistently as rules, guidelines, or definitions of characteristics so as to ensure that materials, products, processes, and services are fit for their purposes; and

"(B) may support the national architecture and promote—

"(i) the widespread use and adoption of intelligent transportation system technology as a component of the surface transportation systems of the United States; and

"(ii) interoperability among intelligent transportation system technologies implemented throughout the States.

"(5) STATE.—The term 'State' has the meaning given the term under section 101 of title 23, United States Code.".

(b) TABLE OF CONTENTS AMENDMENT.—The items relating to subtitle C of title V in the table of contents of the Transportation Equity Act for the 21st Century are amended to read as follows:

"Subtitle C—Intelligent Transportation Systems

"Sec. 5201. Short title.
"Sec. 5202. Goals and purposes.
"Sec. 5203. General authorities and requirements.
"Sec. 5204. Using information from intelligent transportation systems.
"Sec. 5205. National architecture and standards.
"Sec. 5206. Research and development.
"Sec. 5207. Use of funds.
"Sec. 5208. Definitions.".

# TITLE II—MISCELLANEOUS

**SEC. 201. AUTHORIZATION OF APPROPRIATIONS.**

(a) TRANSIT RESEARCH AND DEVELOPMENT.—There are authorized to be appropriated from the Highway Trust Fund to the Secretary of Transportation to carry out sections 5312, 5313, 5314, 5315, and 5322 of title 49, United States Code, and section 202 of this Act, relating to research and development, such sums as may be necessary for each of the fiscal years 2004 through 2009.

(b) HIGHWAY SAFETY RESEARCH AND DEVELOPMENT.—There are authorized to be appropriated from the Highway Trust Fund to the Secretary of Transportation to carry out section 403 of title 23, United States Code, relating to research and development, such sums as may be necessary for each of the fiscal years 2004 through 2009.

(c) MOTOR CARRIER RESEARCH AND DEVELOPMENT.—There are authorized to be appropriated from the Highway Trust Fund to the Secretary of Transportation to carry out section 31108 of title 49, United States Code, relating to research and development, such sums as may be necessary for each of the fiscal years 2004 through 2009.

**SEC. 202. INNOVATIVE PRACTICES AND TECHNOLOGIES DEMONSTRATION AND DEPLOYMENT PROGRAM.**

(a) ESTABLISHMENT.—The Secretary of Transportation shall establish an Innovative Practices and Technologies Demonstration and Deployment Program.

(b) PROGRAM GOALS.—The goals of the program are to—

(1) demonstrate promising new transit practices and technologies, including new business models for managing and operating transit systems, that may increase ridership, increase accessibility, reduce cost, improve customer satisfaction, and improve safety;

(2) evaluate, refine, and document the performance, benefits, and costs of innovative transit practices and technologies; and

(3) effectively disseminate information to accelerate deployment of innovative transit practices and technologies.

(c) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—The Secretary may make grants to, or enter into cooperative agreements or contracts with, transit agencies, States, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations to pay the Federal share of the cost of demonstration and deployment projects concerning innovative practices and technologies.

(d) APPLICATIONS.—To receive a grant, cooperative agreement, or contract under this section, an entity described in subsection (c) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications through an open competition based on the following criteria:

(1) Whether the project meets the goals of the program.

(2) Peer review of the proposal.

(3) The likelihood that the project will result in more widespread deployment of the practice or technology being proposed.

(4) Preference shall be given to an application that represents a public-private partnership.

(e) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall ensure that information about innovative practices and technologies supported under this section is made available to transit agencies, State and local transportation departments, and other interested parties. Information disseminated under this subsection shall include both the costs and benefits of deploying an innovative practice or technology, and shall document—

(1) best practices for adopting successful practices or technologies; and

(2) the transferability of these practices and technologies.

(f) FEDERAL SHARE.—The Federal share of the cost of a project under this section shall be determined by the Secretary.

**SEC. 203. NATIONAL TRANSIT INSTITUTE.**

Section 5315 of title 49, United States Code, is amended—

(1) in subsection (a)—

(A) by striking "public mass transportation" and inserting "public transportation";

(B) by striking "mass" after "Government-aid" and inserting "public"; and

(C) in paragraphs (1), (6), (7), and (10) by striking "mass" each place it appears before "transportation" and inserting "public"; and

(2) in subsection (d) by striking "mass" each place it appears.

**SEC. 204. HUMAN RESOURCE PROGRAMS.**

(a) IN GENERAL.—Section 5322 of title 49, United States Code, is amended—

(1) by inserting "(a) IN GENERAL.—" before the beginning of the first sentence of the section; and

(2) by adding the following at the end:

"(b) GRANTS TO HIGHER LEARNING INSTITUTIONS.—

"(1) The Secretary (or the Secretary of Housing and Urban Development when required by section 5334(i) of this title) may make grants to nonprofit institutions of higher learning—

"(A) to conduct competent research and development and investigations into the theoretical or practical problems of urban transportation; and

"(B) to train individuals to conduct further research and development or obtain employment in an organization that plans, builds, operates, or manages an urban transportation system.

"(2) Research and investigations under this subsection include—

"(A) the design and use of urban public transportation systems and urban roads and highways;

"(B) the interrelationship between various modes of urban and interurban transportation;

"(C) the role of transportation planning in overall urban planning;

"(D) public preferences in transportation;

"(E) the economic allocation of transportation resources; and

"(F) the legal, financial, engineering, and esthetic aspects of urban transportation.

"(3) When making a grant under this subsection, the Secretary shall give preference to an institution that brings together knowledge and expertise in the various social science and technical disciplines related to urban transportation problems.

"(c) FELLOWSHIPS.—

"(1) The Secretary may make grants to States, local governmental authorities, and operators of public transportation systems to provide fellowships to train personnel employed in managerial, technical, and professional positions in the mass transportation field.

"(2) A fellowship under this subsection may be for not more than one year of training in an institution that offers a program applicable to the public transportation industry. The recipient of the grant shall select an individual on the basis of demonstrated ability and for the contribution the individual reasonably can be expected to make to an efficient public transportation operation. A grant for a fellowship may not be more than the lesser of $65,000 or 75 percent of—

"(A) tuition and other charges to the fellowship recipient;

"(B) additional costs incurred by the training institution and billed to the grant recipient; and

"(C) the regular salary of the fellowship recipient for the period of the fellowship to the extent the salary is actually paid or reimbursed by the grant recipient.

"(d) OTHER GRANTS.—The Secretary may make grants to State and local governmental authorities for projects that will use innovative techniques and methods in managing and providing public transportation.".

**SEC. 205. HIGHWAY SAFETY RESEARCH AND DEVELOPMENT.**

Section 403(a) (Authority of the Secretary) of title 23, United States Code, is amended by adding the following paragraphs at the end:

"(4) EMERGENCY MEDICAL SERVICES.—In addition to the authority provided under this subsection, the Secretary is authorized to use funds appropriated to carry out this section to enhance coordination among Federal agencies involved with State, local, tribal, and community-based emergency medical services. In exercising this authority, the Secretary may coordinate with State and local governments, the Bureau of Indian Affairs on behalf of Indian tribes, private industry, and other interested parties; collect and exchange emergency medical services data and information; examine emergency medical services needs, best practices, and related technology; and develop emergency medical services standards and guidelines, and plans for the assessment of emergency medical services systems.

"(5) INTERNATIONAL COOPERATION.—In addition to the authority provided under this subsection, the Secretary is authorized to use funds appropriated to carry out this section to participate and cooperate in international activities to enhance highway safety by such means as exchanging safety information; conducting safety research and development; and examining safety needs, best practices, and new technology.

"(6) NATIONAL MOTOR VEHICLE CRASH CAUSATION SURVEY.—In addition to the authority provided under this subsection, the Secretary is authorized to use funds appropriated to carry out this section to develop and conduct a nationally representative survey to collect on-scene motor vehicle crash causation data.".

**SEC. 206. MOTOR CARRIER RESEARCH AND DEVELOPMENT PROGRAM.**

(a) IN GENERAL.—Title 49, United States Code, is amended by repealing section 31108 and inserting the following new section, to read as follows:

**"§ 31108. Motor carrier research and development program**

"(a) RESEARCH, DEVELOPMENT, AND TECHNOLOGY TRANSFER ACTIVITIES.—

"(1) The Secretary of Transportation shall establish and carry out a motor carrier research and development program. The Secretary may carry out research, development, technology, and technology transfer activities with respect to—

"(A) the causes of accidents, injuries and fatalities involving commercial motor vehicles; and

"(B) means of reducing the number and severity of accidents, injuries and fatalities involving commercial motor vehicles.

"(2) The Secretary may test, develop, or assist in testing and developing any material, invention, patented article, or process related to the research and development program.

"(3) The Secretary may use the funds appropriated to carry out this section for training or education of commercial motor vehicle safety personnel, including, but not limited to, training in accident reconstruction and detection of controlled substances or other contraband, and stolen cargo or vehicles.

"(4) The Secretary may carry out this section—

"(A) independently;

"(B) in cooperation with other Federal departments, agencies, and instrumentalities and federally funded research and development centers; or

"(C) by making grants to, or entering into contracts or cooperative agreements with, any federally funded research and development center, State agency, authority, association, institution, for-profit or non-profit corporation, organization, foreign country, or person.

"(5) The Secretary shall use funds made available to carry out this section to develop, administer, communicate, and promote the use of products of research, technology, and technology transfer programs under this section.

"(b) COLLABORATIVE RESEARCH AND DEVELOPMENT.—

"(1) To advance innovative solutions to problems involving commercial motor vehicle and motor carrier safety, security, and efficiency, and to stimulate the deployment of emerging technology, the Secretary may carry out, on a cost-shared basis, collaborative research and development with—

"(A) non-Federal entities, including State and local governments, foreign governments, colleges and universities, corporations, institutions, partnerships, and sole proprietorships that are incorporated or established under the laws of any State; and

"(B) federally funded research and development centers.

"(2) In carrying out this subsection, the Secretary may enter into cooperative research and development agreements (as defined in section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a)).

"(3)(A) The Federal share of the cost of activities carried out under a cooperative research and development agreement entered into under this subsection shall not exceed 50 percent, except that if there is substantial public interest or benefit, the Secretary may approve a greater Federal share.

"(B) All costs directly incurred by the non-Federal partners, including personnel, travel, and hardware or software development costs, shall be credited toward the non-Federal share of the cost of the activities described in subparagraph (A).

"(4) The research, development, or use of a technology under a cooperative research and development agreement entered into under this subsection, including the terms under which the technology may be licensed and the resulting royalties may be distributed, shall be subject to the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3701 et seq.).

"(5) Section 3705 of title 41, United States Code, shall not apply to a contract or agreement entered into under this section.".

(b) CONFORMING AMENDMENT.—The table of sections at the beginning of chapter 311 of title 49, United States Code, is amended by revising the item relating to section 31108 to read as follows:

"31108. Motor carrier research and development program.".

**SEC. 207. TRANSPORTATION, ENERGY, AND ENVIRONMENT.**

(a) IN GENERAL.—As part of the National Climate Change Technology Initiative and the Climate Change Research Initiative, the Secretary shall establish and carry out a multimodal energy and climate change program to study the relationship of transportation, energy, and climate change.

(b) CONTENTS.—The program to be carried out under this section shall include, but not be limited to, research and development designed to—

(1) identify, develop and evaluate strategies to improve energy efficiency and reduce greenhouse gas emissions from transportation sources; and

(2) identify and evaluate the potential effects of climate changes on the Nation's transportation systems, and strategies to address these effects.

(c) PROJECT SELECTION.—Activities to be undertaken in this program will be determined by an internal steering committee established by the Secretary of Transportation. This intermodal committee shall include representatives from the Office of the Secretary and operating administrations within the Department of Transportation as designated by the Secretary.

(d) GRANTS, COOPERATIVE AGREEMENTS AND CONTRACTS.—The Secretary may carry out this program independently or by making grants to, or entering into con-

tracts and cooperative agreements with, a Federal agency, State agency, local agency, authority, association, nonprofit or for-profit corporation, or institution of higher education.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section, from the Highway Trust Fund and the Airport and Airway Trust Fund, such sums as may be necessary for each of fiscal years 2004 through 2009.

**SEC. 208. NATIONAL COOPERATIVE FREIGHT TRANSPORTATION RESEARCH AND DEVELOPMENT PROGRAM.**

(a) IN GENERAL.—Chapter 5 of title 23, United States Code, is amended by adding at the end the following:

**"§ 510. National cooperative freight transportation research and development program**

"(a) ESTABLISHMENT.—The Secretary shall establish and support a national cooperative freight transportation research and development program. The program shall focus on all forms of freight transportation, including trucking and rail.

"(b) AGREEMENT.—The Secretary shall enter into an arrangement with the National Research Council to support and carry out administrative and management activities relating to the governance of the national cooperative freight transportation research and development program.

"(c) ADVISORY COMMITTEE.—The National Research Council shall select an advisory committee consisting of a representative cross-section of freight stakeholders, including the Department of Transportation, other Federal agencies, State transportation departments, local governments, the American Association of State Highway and Transportation Officials and other nonprofit entities (including environmental groups), academia, and the private sector.

"(d) GOVERNANCE.—The national cooperative freight transportation research and development program established under this section shall include the following administrative and management elements:

"(1) NATIONAL RESEARCH AND DEVELOPMENT AGENDA.—The advisory committee, in consultation with stakeholders, shall recommend a national research and development agenda for the national cooperative freight transportation research and development program. The national research and development agenda shall include a multi-year strategic plan.

"(2) STAKEHOLDER INVOLVEMENT.—Stakeholders may—

"(A) submit research and development proposals to the advisory committee;

"(B) participate in merit reviews of research and development proposals and peer reviews of research and development products; and

"(C) receive research and development results.

"(3) OPEN COMPETITION AND PEER REVIEW OF RESEARCH AND DEVELOPMENT PROPOSALS.—The National Research Council shall award research and development contracts and grants through open competition and peer review conducted on a regular basis.

"(4) EVALUATION OF RESEARCH.—

"(A) PEER REVIEW.—Research and development contracts and grants shall allow peer review of the research and development results.

"(B) PROGRAMMATIC EVALUATIONS.—The National Research Council may conduct periodic programmatic evaluations on a regular basis.

"(5) DISSEMINATION OF RESEARCH FINDINGS.—The National Research Council shall disseminate research and development findings to researchers, practitioners, and decisionmakers.

"(e) CONTENTS.—The national research and development agenda for the national cooperative freight transportation research and development program required under subsection (d)(1) may include research and development in the following areas:

"(1) Techniques for estimating and quantifying public benefits derived from freight transportation projects.

"(2) Alternative approaches to calculating the contribution of truck traffic to congestion on specific highway segments.

"(3) The feasibility of freight villages as a means of consolidating origins and destinations for freight movement.

"(4) Methods for incorporating estimates of international trade into landside transportation planning.

"(5) The use of technology applications to increase capacity of highway lanes dedicated to truck-only traffic.

"(6) Development of physical and policy alternatives for separating car and truck traffic.

"(7) Ways to synchronize infrastructure improvements with freight transportation demand.

"(8) Additional priorities to identify and address the emerging and future research and development needs related to freight transportation.

"(f) FUNDING.—

"(1) FEDERAL SHARE.—The Federal share of the cost of an activity carried out using such funds shall be up to 100 percent, and such funds shall remain available until expended.

"(2) USE OF NON-FEDERAL FUNDS.—In addition to using funds authorized for this section, the National Research Council may seek and accept additional funding sources from public and private entities capable of accepting funding from the United States Department of Transportation (Federal Highway Administration, Federal Transit Administration, Federal Railroad Administration, Research and Special Programs Administration, and the National Highway Traffic Safety Administration), states, local governments, nonprofit foundations, and the private sector.".

(b) CONFORMING AMENDMENT.—The analysis for chapter 5 of title 23, United States Code, is amended by adding at the end the following new item:

"510. National cooperative freight transportation research and development program.".

**SEC. 209. NEXT GENERATION NATIONAL TRANSPORTATION POLICY STUDY COMMISSION.**

(a) ESTABLISHMENT OF COMMISSION.—(1) The President shall established a Commission to be known as the Next Generation National Transportation Policy Study Commission, in this section referred to as the "Commission".

(2) The Commission shall make a full and complete investigation and study of the transportation needs and of the resources, requirements, and policies of the United States to meet such expected needs. It shall take into consideration all reports on national transportation policy which have been submitted to Congress in the last decade, including all reports referenced in the Intermodal Surface Transportation Efficiency Act of 1991 and the Transportation Equity Act for the 21st Century. It shall also take into consideration the changes in global trade and its impact on the Nation's economy. It shall evaluate the relative merits of all modes of transportation in meeting our Nation's transportation needs. It shall take into account the link between transportation and the natural environment. Based on such study, it shall recommend changes to existing policies and any new policies that are most likely to ensure that adequate multimodal transportation systems are in place which will meet the needs for a safe and efficient movement of people and goods and also support and grow the national economy.

(b) MEMBERSHIP.—The Commission shall be comprised of 16 members appointed by the President from among individuals who are knowledgeable in transportation activities, including individuals representing State and local governments, metropolitan planning organizations, transportation-related industries, academic and technical institutions, and public interest organizations involved with scientific, regulatory, economic, and environmental transportation activities. The membership of the Commission shall be balanced geographically to the extent consistent with maintaining the highest level of expertise on the Commission. Members shall be appointed for the life of the Commission as follows:

(1) 4 shall be appointed from a list of 8 individuals who shall be recommended by the majority leader of the Senate in consultation with the Chairman of the Committee on Environment and Public Works, and the Chairman of the Committee on Commerce, Science and Transportation, and the Chairman of the Committee on Banking, Housing and Urban Affairs of the Senate.

(2) 4 shall be appointed from a list of 8 individuals who shall be recommended by the minority leader of the Senate in consultation with the ranking member of the Committee on Environment and Public Works, the ranking member of the Committee on Commerce, Science and Transportation, and the ranking member of the Committee on Banking, Housing and Urban Affairs of the Senate.

(3) 4 shall be appointed from a list of 8 individuals who shall be recommended by the Speaker of the House of Representatives in consultation with the Chairman of the Committee on Transportation and Infrastructure, the Chairman of the Committee on Energy and Commerce, and the Chairman of the Committee on Science of the House of Representatives.

(4) 4 shall be appointed from a list of 8 individuals who shall be recommended by the minority leader of the House of Representatives in consultation with the ranking member of the Committee on Transportation and Infrastructure, the ranking member of the Committee on Energy and Commerce, and the ranking member of the Committee on Science of the House of Representatives.

(5) Any vacancy which may occur on the Commission shall not affect its powers or functions but shall be filled in the same manner in which the original appointment was made.

(c) FINAL REPORT.—The Commission shall not later than December 31, 2005, submit to the President and Congress its final report including its findings and recommendations. The Commission shall cease to exist six months after submission of such report. All records and papers of the Commission shall thereupon be delivered to the Archivist of the United States for deposit in the Archives of the United States.

(d) FINDINGS AND RECOMMENDATIONS.—The final report shall include the Commission's findings and recommendations with respect to the following:

(1) The Nation's transportation needs, both national and regional, through the year 2025.

(2) The ability of our current transportation systems to meet the projected needs.

(3) The proper mix of transportation modes and necessary linkages between modes to meet anticipated needs.

(4) Necessary measures and policies to ensure enhancement and protection of the natural environment in transportation decisionmaking.

(5) Short-term, medium-term, and long-term research, development, and deployment to meet expected needs.

(6) The roles of the public and private sectors relative to each mode and the balance between public and private investment.

(7) The existing policies and programs of the Federal Government which affect the development of our national transportation system.

(8) The new policies required to develop a balanced national transportation system which meets projected needs, accommodates international trade and supports the national economy.

(9) The adequacy of existing methods to finance transportation and alternative new methods of financing.

(e) SPECIFIC FACTORS TO CONSIDER.—In developing its findings and recommendations, the Commission shall address the following specific factors:

(1) The role of transportation as a critical link to the global economy and trade.

(2) A balance between the transportation of people and goods.

(3) Improving operations and management of the transportation system to improve efficiency, including asset and information management.

(4) The need to address aging infrastructure.

(5) The need to address the enhancement and protection of the natural environment.

(6) The need to address congestion in all modes.

(7) The need to improve environmental decisionmaking.

(8) A balance between the demand for transportation reliability with new threats to security.

(9) Ways to eliminate barriers to transportation investment created by the current modal structure of transportation funding.

(10) Existing barriers to private investment in transportation facilities including tax inequities between modes.

(11) The adequacy of the Federal transportation trust funds to finance future transportation needs.

(12) Appropriate measures of transportation need.

(13) The adequacy of integration among Federal programs affecting transportation.

(14) The relationship between land use and transportation infrastructure investment.

(15) The role that transportation plays in promoting economic growth, improving the environment and sustaining the quality of life.

(f) RECOMMENDATIONS ON THE ROLES OF GOVERNMENT.—The Commission shall also make recommendations on the roles of the Federal and State governments in—

(1) environmental review of transportation projects;

(2) the provision of intercity passenger rail services;

(3) financing transportation at international border crossings;

(4) facilitating international goods movement to, from and within the United States;

(5) ensuring consistency in data and communications links for and between all modes;

(6) financing for each mode of transportation; and

(7) effectively using transportation networks to enhance the quality of life, protect natural resources and promote sustainable economic growth.

(g) PARTICIPATION IN COMMISSION ACTIVITIES.—

(1) PARTICIPATION OF FEDERAL AGENCIES.—The Chairman of the Commission shall request the head of each Federal department or agency with an interest in or a responsibility for national transportation policy to appoint a liaison who shall work closely with the Committee and its staff. Such departments and agencies shall include, but not be limited to, the Department of Transportation, and each of its modal administrations, Office of Management and Budget, Department of Energy, Department of Homeland Security, Environmental Protection Agency, Department of Health and Human Services, Department of Commerce, Department of the Treasury, Department of Defense, Department of Agriculture, National Transportation Safety Board, Surface Transportation Board, and Army Corps of Engineers.

(2) ADVICE FROM PUBLIC AND PRIVATE ORGANIZATIONS.—In carrying out its duties, the Commission shall seek the advice of various groups interested in national transportation policy including State and local governments, public and private organizations in the fields of transportation and safety, business, education, environment and labor, and the public.

(h) HEARINGS.—The Commission or, on the authorization of the Commission, any Committee of two or more members may, for the purpose of carrying out the provisions of this section, hold such hearings at such times and places as the Commission or such authorized committee may deem advisable.

(i) COMPENSATION.—Members of Congress or other governmental employees shall serve without compensation, but shall be reimbursed for travel, per diem in accordance of the rules of the House of Representatives and Senate, accordingly, or subsistence and other necessary expenses incurred in the performance of the duties vested in the Commission.

(j) COMMISSION STAFF.—The Commission is authorized to appoint and fix the compensation of a staff director and such additional personnel as may be necessary to enable it to carry out its functions.

(k) CONTRACTS.—The Commission is authorized to enter into contracts or agreements for studies and surveys with public and private organizations and, if necessary, to transfer funds to Federal agencies from sums appropriated pursuant to this section to carry out such of its duties as the Commission determines can best be carried our in the that manner.

(l) AUTHORIZATION OF APPROPRIATIONS.—(1) There are authorized to be appropriated from the Highway Trust Fund to carry out this section such sums as may be necessary for each of fiscal years 2004 and 2005.

(2) Funds authorized by this subsection shall remain available until expended.

**SEC. 210. REAL-TIME SYSTEM MANAGEMENT INFORMATION PROGRAM.**

(a) GOALS AND PURPOSES.—

(1) GOALS.—The goals of the real-time system management information program are to provide the nationwide capability to monitor, in real-time, the traffic and travel conditions of our Nation's major highways and to widely share that information to improve the security of the surface transportation system, address congestion problems, support improved response to weather events, and facilitate national and regional traveler information.

(2) PURPOSES.—The purposes of the real-time system management information program are to—

(A) establish a nationwide system of basic real-time information for managing and operating our surface transportation system;

(B) identify longer range real-time highway and transit monitoring needs and develop plans and strategies for meeting those needs; and

(C) provide the capability and means to share that data with state and local governments, and the traveling public.

(b) DATA EXCHANGE FORMATS.—Within one year of enactment of this Act, the Secretary shall establish data exchange formats to ensure that the data provided by highway and transit monitoring systems, including statewide incident reporting systems can readily be exchanged across jurisdictional boundaries, facilitating nationwide availability of information.

(c) STATEWIDE INCIDENT REPORTING SYSTEM.—Within 2 years of enactment of this legislation, each State shall establish a statewide incident reporting system.

(d) REGIONAL INTELLIGENT TRANSPORTATION SYSTEM ARCHITECTURE.—

(1) As State and local governments develop or update their regional ITS architectures, as specified in section 940.9 of title 23, Code of Federal Regulations (Regional ITS Architecture), they shall explicitly address their real-time highway and transit information needs and the systems needed to meet those needs. This specific incorporation of information needs should address coverage, moni-

toring systems, data fusion and archiving, and methods of exchanging or sharing this information.

(2) States are encouraged to incorporate the data exchange formats developed by the Secretary to ensure that the data provided by highway and transit monitoring systems can readily be exchanged across state and local governments, and with the traveling public.

(e) DEFINITION.—In this section, the term "statewide incident reporting system" means a statewide system for facilitating the real-time electronic reporting of incidents to a central location for use in monitoring the event, providing accurate traveler information, and responding to the incident as appropriate.

(f) ELIGIBILITY.—Subject to approval by the Secretary, a State may obligate funds apportioned to it under sections 104(b)(1) and (3) and 505 of title 23, United States Code, for activities relating to the planning of real-time monitoring elements.

**SEC. 211. PLANNING CAPACITY BUILDING INITIATIVE.**

Section 104 of title 23, United States Code, is amended by inserting after subsection (l) the following:

"(m) PLANNING CAPACITY BUILDING INITIATIVE.—

"(1) IN GENERAL.—The Secretary shall establish a planning capacity building initiative to support enhancements in transportation planning, in order to—

"(A) strengthen metropolitan and statewide transportation planning under sections 134 and 135, and under sections 5303 through 5305 of title 49;

"(B) enhance tribal capacity to conduct joint transportation planning under chapter 2 of this title; and

"(C) participate in the metropolitan and statewide transportation planning programs under chapter 52 of title 49.

"(2) PRIORITY.—The Secretary shall give priority to planning practices and processes that support homeland security planning, performance based planning, safety planning, operations planning, freight planning, and integration of environment and planning.

"(3) USE OF FUNDS.—Funds authorized for this program may be used for research, program development, information collection and dissemination, and technical assistance. The Secretary may use these funds independently or make grants to, or enter into contracts and cooperative agreements with, a Federal agency, State agency, local agency, federally recognized Indian tribal government or tribal consortium, authority, association, nonprofit or for-profit corporation, or institution of higher education, to carry out the purposes of this subsection.

"(4) FEDERAL SHARE.—The Federal share of the cost of an activity carried out using such funds shall be up to 100 percent, and such funds shall remain available until expended.

"(5) ADMINISTRATION.—This initiative shall be administered by the Federal Highway Administration in cooperation with the Federal Transit Administration.

"(6) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated from the Highway Trust Fund such sums as may be necessary to carry out this section for each of fiscal years 2004 through 2009.".

## II. PURPOSE OF THE BILL

The purpose of the bill is to authorize appropriations to the Department of Transportation for surface transportation research and development.

## III. BACKGROUND AND NEED FOR THE LEGISLATION

The U.S. transportation system faces tremendous challenges. Tens of thousands of lives are lost each year on the Nation's highways. More drivers are driving more miles, causing severe congestion. An aging infrastructure is putting a strain on State and local transportation budgets. Constructing and using transportation infrastructure can damage air and water quality and strain natural resources. Changing patterns of where people live and work demand an innovative response to ensure that we meet future needs and limit environmental impacts.

Fundamental improvements to the entire transportation system depend on solid research. Research on pavements can lead to materials that are more durable and last significantly longer than current materials. Research on operations can lead to the design of better road configurations to avoid dangerous intersections or highway merges. Research on information technologies, specifically Intelligent Transportation Systems (ITS), can lead to the development of technologies to manage the transportation system in real time, making it possible to respond to incidents and alter traffic signals instantaneously. Research on the linkages between transportation and the environment can help discover ways to increase mobility while minimizing the impact on the environment and human health. Finally, research in the social sciences, such as on transportation trends, is vital to planners who must make informed decisions to ensure that we meet future transportation needs.

Since passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991 (P.L. 102–240), research and development (R&D) has had a prominent place in the surface transportation authorization bill. Both ISTEA and the subsequent Transportation Equity Act for the 21st Century (TEA–21), which was passed in 1998 (P.L. 105–178), contained significant funding for surface transportation research and development. The Science Committee has jurisdiction over surface transportation R&D, and in the 105th Congress the Science Committee reported out the Surface Transportation Research and Development Act, H.R. 860. This year, in the 108th Congress, the Science Committee passed H.R. 3551, intended to be a blue print for surface transportation R&D in the larger authorization bill, H.R. 3550, the Transportation Equity Act: A Legacy for Users (TEA–LU).

Over the six-year life of TEA–21 (1998–2003), the Federal government invested approximately $2.9 billion (or about $500 million per year) in surface transportation R&D (primarily highway R&D) under Title V. The funding for these activities came from gas tax receipts deposited in the Highway Trust Fund. Although this is a significant R&D investment, the Federal transportation R&D investment under TEA–21 represented less than 1 percent of Federal spending on surface transportation. Many experts see this level of investment as too low. By comparison, the Federal government invests approximately 10 percent of total health care spending on R&D. While Congress increased funding for overall transportation programs by about 40 percent in TEA–21, funding for transportation R&D remained relatively flat.

In addition, transportation R&D is highly decentralized, with the Federal government, States, universities, the National Academy of Sciences, and the private sector each playing an important role. In TEA–21, Congress further decentralized R&D by increasing the proportion of R&D funds that went directly to States, while decreasing the Federal share of R&D dollars. This decentralization, coupled with inadequate investment, has created significant gaps in the R&D agenda.

H.R. 3551 takes specific steps to increase surface transportation research spending, tie research spending to overall transportation spending, and fill many critical gaps. These gaps include environmental R&D, long-term fundamental research, policy research (addressing such things as changing demographic, economic and social

trends), performance measurement and evaluation R&D, and research addressing institutional barriers to deployment (particularly for ITS technologies).

H.R. 3551 authorizes programs to fill these gaps. These include: authorizing the Surface Transportation Environment Cooperative Research Program (STECRP) and ensuring that the program carries out the agenda developed by the Transportation Research Board; authorizing the Future Strategic Highway Research Program (also laid out in a report by the Transportation Research Board) to address renewal, safety, reliability and capacity; authorizing greater funding for exploratory advanced research; authorizing a trends research program to look at the impact of changing demographics and a changing economy on the surface transportation system; and authorizing research into the institutional barriers to the deployment of intelligent transportation systems.

H.R. 3551 also strives to ensure the highest quality research by requiring that all research and development grants, contracts and cooperative agreements be peer reviewed and awarded on a competitive basis. It also requires that all research and development activities include a component of performance evaluation to ensure that our dollars are well spent. Finally, H.R. 3551 strengthens the strategic planning requirements to ensure that research is focused on helping to achieve the overall goals of the surface transportation system, such as reducing congestion and increasing safety.

## IV. Summary of Hearings

On April 10, 2003, the Subcommittee on Environment, Technology, and Standards of the House Science Committee held a hearing on research and development priorities for the reauthorization of the Transportation Equity Act for the 21st Century. The hearing examined the state of current R&D programs, how well they are meeting the goals laid out in TEA–21, and significant gaps in the R&D programs. In addition, the hearing investigated how the Department of Transportation (DOT) could improve the quality of the R&D it funds and measure the success of individual R&D projects, R&D programs, and the transportation system as a whole.

The Committee heard testimony from: (1) Mr. Emil Frankel, Assistant Secretary for Transportation Policy, U.S. Department of Transportation; (2) Mr. Eric Harm, Deputy Director, Division of Highways, Illinois Department of Transportation; (3) Dr. Michael Walton, Ernest H. Cockrell Centennial Chair, University of Texas at Austin Department of Civil Engineering; (4) Ms. Kate Siggerud, Acting Director, Physical Infrastructure Team, General Accounting Office; (5) Ms. Anne Canby, President, Surface Transportation Policy Project and (6) Dr. Michael Meyer, Professor, Georgia Institute of Technology School of Civil and Environmental Engineering.

Mr. Frankel opened the hearing with a summary of the achievements of the Department of Transportation's R&D programs under the Intermodal Surface Transportation Efficiency Act (ISTEA) and TEA–21, including Intelligent Transportation Systems (ITS), pavement improvements and safety-related behavioral research. He stated that the development of new technologies is a key to developing a safer, simpler, smarter transportation system and alleviating many of the problems facing the transportation system. He stated that while most of DOT's R&D is short-term, it is important

to use some of today's scarce resources to search for long-term solutions.

Mr. Harm began by discussing the enormous challenges that the State of Illinois faces in its transportation system. Illinois will have to figure out how to move more people and more freight on aging facilities that are already near or at capacity, while taking into account environmental, social, and economic impacts. He said that only with a strong Federal R&D program can Illinois accomplish this. He stressed the importance of long-term research that will provide results in a 10- to 20-year timeframe, and stated that this is a Federal responsibility, as States do not have the incentive to do this research. He also pointed to the need for R&D to look at alternative ways of moving people and goods. He stated that we can't build our way out of congestion and need to research how to increase intermodal efficiency.

Dr. Walton discussed the Future Strategic Highway Research Program (F–SHRP), and the need for this focused, time-limited R&D program that will address renewal of our highways, safety, reliability of travel times, and providing capacity. He stated that his Transportation Research Board (TRB) committee recommended that advanced research (the results of which usually take several years to reach an implementable stage) should become a stronger part of the Federal research program. He asserted that the Federal R&D program should be more responsive to major stakeholders. To advance deployment of ITS technologies, Dr. Walton recommended a study to address the non-technical barriers to technology deployment. Finally, he suggested that Congress should consider the creation of a national strategic plan for transportation R&D.

Ms. Siggerud discussed a General Accounting Office (GAO) report that evaluated the Federal Highway Administration's (FHWA's) implementation of research management practices issued in 2002. The report recommended that FHWA increase stakeholder participation by consulting with external parties when developing R&D agendas, thereby ensuring that funded R&D is relevant to those who will implement the results. The report also called on FHWA to use a systematic approach to evaluate ongoing and completed R&D to ensure that FHWA is selecting the research projects with the greatest value.

Ms. Canby stated that one of the challenges in transportation is targeting the R&D efforts to help deliver what the public wants—more trip choices, a balanced investment in the transportation system, and greater responsiveness to community, public health, and environmental concerns. She said that the basic principles outlined in ISTEA including intermodalism, economic efficiency and environmental quality should guide the research agenda, and be used to set performance measures to track progress in achieving these goals. In terms of specific needs, she pointed to data deficits at the Bureau of Transportation Statistics (BTS), particularly in bicycle and pedestrian data; the need to expand the knowledge on key issues such as social equity, public health and the environment; and the need to look at key trends that will affect the transportation system such as an aging population and the growing costs of transportation. In addition, she called for funding the Surface Transportation Environment Cooperative Research Program created in TEA–21.

Dr. Meyer outlined several demographic and social trends that will affect the transportation system. These trends include the concentration of people within metropolitan areas, greater utilization of public transportation and non-peak travel by an aging population, and globalization. He stated that research is necessary to plan for these emerging trends, and outlined a potential trends research program that would be implemented by the Transportation Research Board. He also identified criteria for evaluating research programs. Finally, he recommended that BTS look carefully at the goals established in ISTEA and TEA–21 and identify measures to determine the effectiveness of the transportation system in meeting those goals.

Chairman Ehlers asked a series of specific questions to the panel: Do we invest enough in surface transportation R&D? Should we increase R&D funding relative to total transportation funding? Is the current funding balanced between different areas of R&D?

All of the witnesses, with the exception of Mr. Frankel, stated that R&D is under-funded and that R&D funding should increase proportionately to the total transportation funding pool. Ms. Canby and Dr. Meyer stressed that the efficiencies and products that result from the program pay for themselves.

As to the question of balance, the witnesses agreed that improvements could be made. Dr. Meyer, Ms. Canby and Dr. Harm all stressed the need for more funding for policy, intermodal and human factors research. Mr. Harm said that while transportation R&D has been very good at developing new materials, he would like to see more multidisciplinary research in order to develop more innovative transportation policies. Dr. Walton and Mr. Frankel stated that DOT needed a more strategic vision for research and that out of that vision, a better balance in R&D funding would emerge.

## V. Committee Actions

On April 10, 2003 the Subcommittee on Environment, Technology, and Standards of the House Science Committee held a hearing on Research and Development (R&D) priorities for the reauthorization of the Transportation Equity Act for the 21st Century (TEA–21).

On November 20, 2003, Mr. Ehlers introduced H.R. 3551, the Surface Transportation Research and Development Act of 2003.

On January 28, 2004, the Subcommittee on Environment, Technology, and Standards of the House Science Committee met to consider H.R. 3551, and considered the following amendments:

1. Mr. Ehlers offered an amendment in the nature of a substitute that removed funding levels from the bill. The amendment was agreed to by a voice vote.

2. Mr. Udall offered an amendment that would add bicycle and pedestrian research (including within National Parks) to the contents of the research program under section 502(c) of title 23 of the United States Code. The amendment was agreed to by a voice vote.

3. Mr. Miller offered an amendment to add to the list of priority research and development areas in the Intelligent Transportation Systems Program the development of interdisciplinary strategies and tools to address the multiple impacts of congestion concurrently. The amendment was agreed to by a voice vote.

4. Ms. Lofgren offered an amendment to create four National Transportation Security Centers at universities to conduct research on transportation security. The amendment was agreed to by a voice vote.

The Subcommittee favorably reported the bill by a voice vote.

On February 4, 2004, the Full Science Committee met to consider H.R. 3551, and considered the following amendments:

1. Mr. Ehlers offered an amendment in the nature of a substitute. The amendment created a new funding mechanism for surface transportation research, which set research spending at the higher of 1.08 percent of total surface transportation spending or $500,000,000 per year. The amendment made several drafting changes to clarify and focus the contents of each program to better align with the overall strategic plan. The amendment also reduced the number of reports and reviews required by the bill. The amendment was adopted by a voice vote.

2. Mr. Ehlers offered an en bloc amendment to the amendment in the nature of a substitute. The amendment authorized a road weather research and development program and the Garrett Morgan Technology and Transportation Program, and made several other technical changes. The amendment was adopted by a voice vote.

The legislation was agreed to by a voice vote. Mr. Gordon moved that the Committee favorably report the bill, H.R. 3551, as amended, to the House with the recommendation that the bill as amended do pass, and that the staff be instructed to make technical and conforming changes to the bill as amended and prepare the legislative report and that the Chairman take all necessary steps to bring the bill before the House for consideration. With a quorum present, the motion was agreed to by a voice vote.

## VI. Summary of Major Provisions of the Bill

### TITLE I: SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT

- Section 101 authorizes appropriations for the surface transportation research and development (R&D) activities included in title I of the bill and in chapter 5 of title 23 of the United States Code. It authorizes the greater of 1.08 percent of the amounts made available from the Highway Trust Fund, or $500,000,000 for each of fiscal years 2004–2009.
- Section 102 lays out the goals, principles and processes for surface transportation research and development, including stakeholder input, competition and peer review, and performance review and evaluation.
- Section 103 reauthorizes and streamlines strategic planning requirements, and ties research planning to the goals of the surface transportation system.
- Section 104 reauthorizes the surface transportation research program. It adds R&D areas to the contents section to fill R&D gaps, such as policy research. It requires exploratory advanced research, research on geospatial information systems, environmental research (as laid out in the Transportation Research Board's Special Report 268, the Surface Transportation-Environment Cooperative Research Program), trends policy research, and road weather

research. It also reauthorizes the Long-Term Pavement Program, and authorizes the Long-Term Bridge Performance Program.

• Section 105 reauthorizes the technology deployment program, and authorizes new programs for innovative pavement research and deployment and safety innovation deployment.

• Section 106 reauthorizes the training and education program and authorizes the Garrett A. Morgan Technology and Transportation Education program to improve transportation education.

• Section 107 reauthorizes the Bureau of Transportation Statistics and authorizes the development of a needs assessment to ensure that the statistics that are collected are most useful to users.

• Section 108 reauthorizes the State Planning and Research (SPR) Program, and requires that 25 percent of SPR funds be used for research, and 10 percent be used for data collection.

• Section 109 authorizes the Future Strategic Highway Research Program (F–SHRP), to be carried out by the Transportation Research Board, to fund R&D on renewal, safety, reliability and capacity.

• Section 110 reauthorizes the University Transportation Research Program, and authorizes two new programs. The first is the Transportation Education Development Pilot Program to revise transportation curricula. The second is the National Transportation Security Centers to conduct R&D on the links between transportation and security.

• Section 111 reauthorizes Intelligent Transportation Systems R&D. It adds new R&D areas in addressing non-technical barriers to deployment, human factors research, weather research, and efficiency in goods movement, and requires a report on using data collected by intelligent transportation systems.

TITLE II: MISCELLANEOUS

• Sections 201, 203, 204, 205 and 206 authorize, and authorize appropriations for, transit, highway safety, and motor carrier safety R&D.

• Section 202 authorizes a new innovative transit practices and technologies demonstration and deployment program. Section 207 authorizes a transportation, energy and environment R&D program. Section 208 authorizes a freight R&D program.

• Section 209 authorizes a commission to study transportation policy. Section 210 authorizes a real-time system management information program. Section 211 authorizes a planning capacity building initiative.

## VII. SECTION-BY-SECTION ANALYSIS (BY TITLE AND SECTION)

*Section 1. Short title*

"Surface Transportation Research and Development Act of 2004."

*Section 2. Findings*

Finds that research and development (R&D) is critical to developing and maintaining an effective transportation system, and that Federal R&D has produced a number of successes, but is underfunded. Finds that the Federal investment in R&D should be properly balanced between short-term applied R&D and long-term fundamental research, and should cover a wide range of R&D areas

including materials and structures, operations, and human factors and policy.

TITLE I: SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT

*Section 101. Authorization of appropriations*

Authorizes for core surface transportation R&D programs the greater of 1.08 percent of funds made available in each fiscal year from the Highway Trust Fund or $500 million for each of fiscal years 2004–2009. Of these sums:

- 50 percent is for Surface Transportation Research, Development and Technology Deployment, including funds for strategic planning, outreach, the "Surface Transportation Environment and Planning Cooperative Research Program" (Section 104(c) of this Act), the "National Multimodal Trends Research Program" (Section 104(d) of this Act), "Exploratory Advanced Research," (Section 104(f) of this Act), and the "National Freight Cooperative Research Program" (Section 208 of this Act);
- 6.5 percent is for Training and Education (Section 106 of this Act);
- 7.5 percent is for the Bureau of Transportation Statistics, including at least $5 million each year for R&D grants to State and local governments and metropolitan planning organizations to promote the harmonization of data collection and management (Section 107(i)(2) of this Act);
- 11.5 percent is for University Transportation Centers (Section 110 of this Act); and
- 24.5 percent is for Intelligent Transportation Systems R&D (Section 111 of this Act).

*Section 102. Goals, principles and processes*

Sets out goals, principles and processes to guide transportation R&D. The bill explicitly links the R&D goals to the overall goals of the surface transportation system set out in the Transportation Equity Act for the 21st Century (TEA–21), such as improving safety and promoting efficiency. It sets forth principles to guide the Federal role in surface transportation R&D. It also establishes requirements for stakeholder involvement, competition and peer review, and performance review and evaluation for transportation R&D.

*Section 103. Strategic planning*

Reauthorizes and amends the Department of Transportation's (DOT) R&D strategic planning requirements. The bill requires a five-year strategic plan that includes and integrates R&D programs across the Department's operating administrations and ensures consistency with other plans. It strengthens the contents of the plan by: (1) requiring the Department to link the plan to the goals of TEA–21; and (2) requiring the plan to specify the Department's key R&D priorities, anticipated funding levels, and the expected outcomes of the R&D. The bill also increases accountability by requiring input from a range of interests in the transportation community, and requiring an annual report as part of the President's

annual budget request that describes previous and proposed fiscal year funding levels for R&D.

*Section 104. Surface transportation research and development*

Reauthorizes and amends the R&D program carried out by the Federal Highway Administration (FHWA). The bill largely maintains the existing R&D program requirements of Section 502 of Title 23 of the U.S. Code, but fills a variety of research gaps and clarifies the legislative language. The section sets out the overall contents of the surface transportation R&D program, including R&D on structures and materials, operations and management, safety, performance analysis, the links between social systems and transportation, and the links between transportation and the environment. The bill includes authorizations for a Long-Term Bridge Performance Program, a Long-Term Pavement Performance Program, and a Geospatial Information Systems program.

Authorizes a new Exploratory Advanced Research program to address recommendations of the Transportation Research Board (TRB) and others who say that the Federal investment in highway R&D should contain advanced, long-term research that may result in breakthroughs. The bill requires the Secretary of Transportation (henceforth referred to as the Secretary) to hold a workshop to gather input into the areas of advanced R&D that should be funded. To ensure accountability, the bill requires the Secretary to report annually on the amount of funding spent on exploratory advanced research.

Reauthorizes the "Surface Transportation Environment and Planning Cooperative Research Program" (STECRP) and requires implementation of the recommendations contained in the TRB Special Report 268, a report that Congress requested in TEA–21. The report calls for six areas of research: (1) human health; (2) ecology and natural systems; (3) environmental and social justice; (4) emerging technologies; (5) land use; and (6) planning and performance measures. The bill requires the Secretary to contract with either the National Research Council or another non-profit research organization, such as the Health Effects Institute, to administer the program and to fulfill annual reporting requirements. The selected organization must create an independent advisory board that would have broad interest group membership and be open to stakeholder input. The Advisory Board would develop an annual research agenda, solicit project proposals through open competition, and submit an annual report.

Creates a new national multimodal research program on demographic, economic and social trends that affect, and are affected by, the transportation system. This program fills a gap in current research. It requires the Secretary to establish the program through the National Research Council, and describes, in general terms, the economic, demographic, social, and other issues to be addressed by the program. It specifically requires the Council to create an independent advisory committee drawn from social science experts and key stakeholder groups, to develop a research agenda and review and evaluate project proposals.

*Section 105. Technology deployment*

Reauthorizes FHWA's technology deployment program, including the Innovative Bridge Research and Construction Program (authorized in TEA–21). Adds two new technology deployment programs, the Innovative Pavement Research and Deployment Program, and the Safety Innovation Deployment Program. The goals of these programs include the deployment of new, cost-effective designs, materials and practices to extend pavement life and performance; the reduction of maintenance costs and life-cycle costs of bridges; and the deployment and evaluation of safety technologies and innovations at the State and local level.

The legislation establishes new requirements for the Secretary to ensure that the information and technology resulting from R&D conducted in this program is made available to State and local transportation departments, metropolitan planning organizations and other interested parties.

*Section 106. Training and education*

Increases the number of Federal funding sources from which States may draw for surface transportation workforce development, training and education. The section eliminates the matching requirement, allowing states to use Federal sources to pay for 100 percent of these activities. These changes should provide States an additional incentive to fund these programs. The section also allows for the development of new courses at the National Highway Institute to better address challenges faced by today's transportation professionals, and requires the National Highway Institute to review, revise, and terminate courses periodically.

Authorizes $500,000 per year for the Garrett A. Morgan Technology and Transportation Education program in DOT to improve K–12 math and science education through the use of transportation topics. The program should focus on female and minority students.

*Section 107. Bureau of Transportation statistics*

Increases the responsiveness of the Bureau of Transportation Statistics (BTS) to the needs of the transportation community by: (1) clarifying that BTS is to serve decision makers in the transportation community at large in addition to the Secretary; (2) expanding membership of the Director's Advisory Committee on Statistics to make it more representative of the transportation community; (3) requiring a national transportation statistics needs assessment to be carried out by the National Research Council within two years of enactment (in consultation with key constituencies and the DOT's Advisory Committee on Statistics); and (4) requiring the Secretary to report to Congress within six months of receiving the assessment on how the Department plans to address the recommendations in the assessment. The Director is encouraged to harmonize data collection and management, through demonstration grants to States, local governments, and metropolitan planning organizations. The section also reauthorizes a variety of programs in Section 111 of Title 49 of the U.S. Code, including the National Transportation Library.

*Section 108. State planning and research*

Authorizes for State Planning and Research (SPR) 2.5 percent of funds apportioned to States for each of fiscal years 2004–2009. This 0.5 percent increase recognizes a growing need to ensure adequate funding for planning and research. The bill maintains the current requirement that 25 percent of SPR funds be spent on research, development and technology transfer activities. It adds a new provision requiring that 10 percent of SPR funds be used to improve the collection and reporting of strategic surface transportation data on the extent, condition, use, performance and financing of the surface transportation system. The section clarifies that studies, research and training on engineering standards and construction materials should be multimodal, and that research should also focus on design standards for intermodal coordination.

*Section 109. Future Strategic Highway Research Program (F–SHRP)*

Authorizes $75 million for each of fiscal years 2004–2009 from the Highway Trust Fund for the Future Strategic Highway Research Program (F–SHRP) to be carried out by the National Research Council in consultation with the American Association of State Highway Transportation Officials and other stakeholders. The program would implement the recommendations of the TRB Special Report 260, a report called for by Congress in TEA–21. Congress asked the TRB to develop a research program that cuts across disciplines and addresses short- to medium-term R&D gaps. F-SHRP addresses R&D gaps in four areas: (1) renewal, which will focus on R&D to minimize disruptions as we renovate existing highway infrastructure; (2) safety, which will focus on reducing crashes; (3) reliability, which will focus on R&D to improve the reliability of travel times by reducing the frequency and effects of events that cause delay; and (4) capacity, which will look holistically at the relationship between highways, the economy, communities and the environment. It also includes requirements that: projects be selected through open competition and peer review; stakeholders be involved in the committees and panels set up to implement the program; the National Research Council publish annual progress and performance reports; and the Comptroller General review the program within three years of the start of research to assess the degree to which the program is addressing the research topics identified in Special Report 260.

*Section 110. University transportation research*

Authorizes the Secretary to make grants to nonprofit institutions of higher learning to establish and operate 10 regional transportation centers, and 16 other university transportation centers. All centers shall be selected through a competitive, peer-reviewed process and the Federal share of the costs of activities for the regional centers shall increase from the current level of 50 percent to 80 percent, while the Federal share for all other university transportation centers shall remain 50 percent. This section creates two new grant programs. One allows universities, in partnerships with State DOTs, to develop new transportation-related curricula. The other would establish no more than four National Transportation

Security Centers at universities. The National Transportation Security Centers shall be chosen based on an open competition.

*Section 111. Intelligent transportation systems*

Reauthorizes the Intelligent Transportation Systems (ITS) Research Program. The bill creates an advisory committee with broad representation from the transportation community, and charges it to advise DOT on whether areas of ITS R&D are likely to lead to technologies that will be deployed and on the appropriate roles for government and the private sector in ITS R&D. It requires the development of an assessment, with input from the Bureau of Transportation Statistics, of how data collected from current and anticipated ITS technologies can and should be used for real-time system management, planning and assessment. It also requires testing and validation of ITS standards whenever appropriate.

The bill authorizes the ITS program to focus on technologies to improve transportation security, and to develop traffic management strategies and tools that concurrently address multiple impacts of congestion. In addition, research is authorized into the non-technical barriers to the deployment of ITS technologies. Experts have identified non-technical barriers as more significant than technical ones in the deployment of innovative technologies. The bill also requires that at least one-third of ITS R&D funding be used for projects that aim to reduce congestion.

TITLE II: MISCELLANEOUS

*Section 201. Authorization of appropriations*

Authorizes appropriation of such sums as necessary from the Highway Trust Fund for transit R&D, highway safety R&D, and motor carrier safety R&D for each of fiscal years 2004–2009.

*Section 202. Transit research*

Creates a new Innovative Practices and Technologies Demonstration and Deployment Program that would demonstrate promising new transit practices and technologies, evaluate and document the performance, benefits and costs of innovative technologies, and disseminate information to accelerate deployment of innovations. To this end, the Secretary is authorized to make grants to a variety of public, private and non-profit entities. The Secretary shall select projects based on: their ability to meet the goals of the program; a peer-review process; and the likelihood that a project will result in widespread deployment. The Secretary shall also ensure that innovations are made available to transit agencies and State and local transportation departments.

*Section 203. National Transit Institute*

Reauthorizes the National Transit Institute, which develops and conducts training programs for Federal, State and local public transportation officials.

*Section 204. Human resource programs*

Maintains the human resources programs at the Federal Transit Administration.

*Section 205. Highway safety research and development*

Maintains the Highway Safety R&D Program and adds new provisions addressing emergency medical services, international cooperation, and a national motor vehicle crash causation survey.

*Section 206. Motor carrier research and development program*

Authorizes a comprehensive Federal Motor Carrier Safety Adminstration R&D program to reduce accidents and injuries involving commercial motor vehicles, and to train safety personnel. Encourages cooperative research.

*Section 207. Transportation energy and environment*

Creates an energy and climate change program at DOT to study the relationships between transportation, energy and climate change.

*Section 208. National cooperative freight transportation research program*

Authorizes a cooperative freight research program, administered by the Transportation Research Board of the National Research Council. Creates an advisory committee to run the program. Requires open competition and peer review of research proposals, evaluation of research results, and dissemination of research findings.

*Section 209. Establishment of a next generation national transportation policy study commission*

Establishes a Presidential Commission to investigate and study transportation needs, and the resources, requirements and policies necessary to meet expected needs.

*Section 210. Real-time system management information program*

Requires States to establish statewide incident reporting systems, a first step in establishing a nationwide system of basic real-time information for managing and operating the surface transportation system.

*Section 211. Planning capacity building initiative*

Establishes a planning capacity building initiative at the U.S. DOT to strengthen metropolitan and statewide transportation planning, and to enhance capacity to conduct joint transportation planning.

## VIII. COMMITTEE VIEWS

It is the Committee's view that surface transportation research and development (R&D) was under-funded in the Transportation Equity Act for the 21st Century (TEA–21), and that transportation R&D spending should be tied to overall transportation spending.

It is the Committee's view that DOT should conduct more R&D in under-studied areas including environmental, human factors, and social science R&D.

*Section 101—Authorization of appropriations*

The Committee believes strongly that surface transportation R&D funding needs to be increased and should be tied to overall transportation spending. At a minimum, the programs authorized in this title should be funded at $500 million per year, but as overall transportation spending grows, so should transportation R&D spending. The Committee believes that improvements in the transportation system to meet the needs of the future depend on adequate funding for R&D.

*Section 102—Goals, principles, and processes*

It is the Committee's view that surface transportation research and development activities should be explicitly tied to the goals of the surface transportation system including improving safety and security, increasing mobility, and protecting and enhancing the environment. In addition, the Committee believes that DOT needs to do a better job of addressing the needs of stakeholders in determining in what areas research is needed. The Committee also believes strongly that DOT should be funding the highest quality research, and therefore the bill requires that all grants, contracts and cooperative agreements (except as otherwise provided in the Act) be peer reviewed and awarded on a competitive basis. It is the view of the Committee that R&D activities must be more accountable, and so the bill requires that all R&D activities include a component of performance evaluation. The Committee believes that ideally, these performance measurements would be based on specific outcomes, such as reduced travel times or accidents avoided, but recognizes that particularly with advanced research, it is difficult to link research results directly to outcomes.

*Section 103—Transportation research and development strategic planning*

The Committee is aware of shortcomings in the current transportation R&D strategic planning process whereby individual modal offices develop separate plans, which are then stapled together into a single document called the Department's R&D strategic plan. To address this problem, the Committee directs the Secretary to develop an integrated, Department-wide R&D strategic plan, and to solicit input during its development from a wide range of stakeholders.

The Committee is also concerned that present strategic planning and performance reporting does not clearly link specific R&D activities to each of the Nation's agreed upon transportation goals. Tighter linkage will focus R&D investments more effectively and help determine whether the R&D portfolio is appropriately balanced across these goals. The Committee, therefore, included provisions in this section to require the Department to make this linkage explicit.

*Section 104—Surface transportation research and development*

It is the Committee's view that there have been several important gaps in previous surface transportation R&D, and therefore the bill adds several new areas into the contents of the R&D program. These include research to support evaluation of the surface transportation system, research on trends that affect and are af-

fected by the transportation system, and research and development on the linkages between transportation and the environment.

However, the Committee also recognizes that DOT has been constrained in the past from planning strategically because of the number of required research areas. Because of this, the bill lists several critical overall research areas, with more specific research areas listed under each to be conducted as appropriate.

The Committee calls attention to several new areas of research that fill gaps. The Committee believes that the transportation research and development portfolio should include research on operation and management of the surface transportation system. This includes research on pedestrian and bicycle modes of travel. An important example of the need for this research is the National Parks, where an assessment of the need for pedestrian and bicycle paths could identify promising areas for experimenting with alternative traffic management to reduce congestion. Another important area is research on non-technical barriers to technology deployment. Often non-technical barriers (such as fragmented local authority or rigid procurement rules) are more difficult to surmount than technical barriers. A third area in which the bill fills an important research gap is in research to assess how the transportation system affects and is affected by emerging demographic, economic and social trends, as well as the relationship between land use and the transportation system. The committee has also identified a need to develop methods for evaluating the performance of transportation systems across a variety of goals, such as mobility, safety, reduced congestion, and improved air quality. The development of life cycle cost analysis tools will promote better evaluation, and help State DOTs set budget priorities and manage equipment repair and replacement decisions more effectively.

It is the Committee's view that DOT should invest significantly more funding in exploratory advanced research. This is research that may not yield practical applications in the short term, but could lead to fundamental breakthroughs in the long term. The Committee believes that this should be considered a core Federal role. The Committee also believes that DOT should consult widely with outside researchers in determining exploratory advanced research areas, and that such areas may be wide ranging and include materials research, operations research and social science research. In addition, it is the Committee's view that if this program is well funded, DOT should consider making investigator-driven grants, in the style of the National Science Foundation, to academic researchers to leverage creativity outside of the Department.

The Committee originally authored the Surface Transportation Environment and Cooperative Research Program (STECRP) in TEA–21 and has been very concerned about DOT's delay in implementing the program. The Committee directs DOT to implement STECRP expeditiously and requires management and governance provisions to help ensure the highest quality, peer reviewed, scientific research and development.

The Committee expects the Secretary to carry out the program expeditiously by implementing the comprehensive research agenda contained in TRB Special Report 268, which was completed in 2002. The Committee strongly supports this agenda because it was thoughtfully developed by a panel with diverse expertise and inter-

ests, and reflects delicate compromises among the panel members. Reopening the debate over the program's agenda would only further delay the program.

The agenda includes six critical research areas: (1) human health, (2) ecology and natural systems, (3) environmental and social justice, (4) emerging technologies, (5) land use, and (6) planning and performance measures. This broad research agenda calls for interdisciplinary research on the environmental impact of transportation, technologies to mitigate impacts, and the development of tools to improve planning, evaluate alternative project design, and consider the impact of projects on different members and groups of society.

To further encourage high quality scientific research, the bill provides the Secretary with the flexibility to choose either the National Research Council or another non-profit group, such as the Health Effects Institute (HEI), to manage the program. The Committee encourages the Secretary to utilize a group such as HEI because it is a well respected scientific organization, which has effectively balanced environmental and business interests as it has carried out high quality environmental scientific research.

The bill requires a balanced and diverse membership on the Advisory Board charged with soliciting, evaluating and recommending projects for funding under this program. Although the Committee intends for no single interest group to control the Advisory Board, the Committee also recognizes the important role of state transportation agencies. The Committee intends to encourage the development of fundamental knowledge, interdisciplinary research and partnerships by requiring the Advisory Board to give priority to projects with these attributes. The Committee recognizes that not all projects would be required meet these criteria, but the Advisory Board should encourage such proposals.

The Committee recognizes, as do many leading transportation researchers, that the billions of dollars we spend on transportation infrastructure affect and are affected by important economic, demographic and social trends in our society. The Committee is also aware that this area of research receives little funding, despite the fact that knowledge of these trends is critical for investing transportation funds wisely and maintaining strong local communities. For these reasons, the Committee creates a new "National Multimodal Research and Development Program."

This new, modestly funded, competitive, research program would be housed at the Transportation Research Board and managed by an advisory board. The Committee believes strongly that members of the Advisory Board should be appointed from a wide array of social science fields, many of which have not been traditionally connected with transportation research, and should include members with expertise in socioeconomic factors that influence transportation needs, including researchers familiar with issues related to racial and economic equity. To ensure high quality research, the Committee expects the Advisory Board to use a transparent, stakeholder driven process for developing the research agenda and project selection criteria. The Committee also expects the Advisory Board, the TRB and DOT to make every effort to disseminate research findings widely.

*Section 105—Technology deployment*

The Committee believes that while States, localities and the Federal government fund a large number of technology deployments, there is little information about the performance of these deployments. Thus, it is difficult to determine whether such deployments meet their stated goals or are cost-effective. It is the Committee's view that technology deployment projects funded by this bill should incorporate performance measurements, and that this performance information should be made widely available. This would enable state and local governments to better evaluate the utility of a particular technique or technology for their use.

The bill lists many important areas of research and development relating to the deployment of pavement, bridge and safety technologies. One area is the development of innovative pavement materials (such as rapid-set pavement) to increase safety and reduce construction time and related congestion.

*Section 106—Training and education*

As noted in TRB's Special Report 275, "The Workforce Challenge," and in many discussions with State and local officials, training and education are the key to a competent workforce. However, when states reduce their budgets, one of the first activities to be cut is training. Therefore, the Committee expands the number of Federal funding categories from which States can draw to fund the Local Technical Assistance Program (LTAP) and allows 100 percent of the cost to be covered by Federal dollars. While the Committee did not place in statute the specific levels of funding for the National Highway Institute, the Local Technical Assistance Program, or the Eisenhower Fellowship program, the Committee expects that LTAP will receive at least 50 percent of the total for Training and Education under Sec. 101.

The Committee urges the National Highway Institutes to make their course materials available to universities so this information can be incorporated into undergraduate and graduate curricula.

The Committee continues to be concerned about K–12 math and science education. The purpose of the Garrett A. Morgan Technology and Transportation Education Program is to improve the preparation of students, particularly women and minorities, in science, technology, engineering, and mathematics through curriculum development, and other activities related to transportation. The Committee expects DOT to work with organizations that have experience in education grant programs, such as the American Association of State Highway and Transit Operators and its Transportation and Civil Engineering (TRAC) Program, to ensure that the goals of the program are met.

*Section 107—Bureau of Transportation statistics*

Although BTS has accomplished a great deal, the Committee, like many people in the transportation community and in DOT, believes that BTS has not lived up to its potential. The Committee believes it is critical to redouble efforts to strengthen BTS. For these reasons, the Committee included a variety of provisions in Section 107 to revitalize the Bureau over the next few years.

The Committee intends to strengthen the independence of the director by extending his term of appointment to five years. The

Committee also recognizes that a vibrant BTS can exist only if it also is viewed as serving the needs of both the Secretary of Transportation and transportation decision-makers throughout the public and private sectors.

It is the Committee's view that the best way to strengthen BTS is to create a consensus on BTS's priorities, ensure that those priorities are implemented, and secure adequate funding to meet those agreed upon goals. The Committee, therefore, requires BTS to enter an arrangement with the National Research Council (NRC) to conduct an "information needs assessment" to identify data gaps and unneeded data, suggest changes in data collection methods and surveys to improve standardization and accuracy of data, and identify needed resources. The NRC should ensure that the views of a representative cross-section of the transportation community are incorporated into the final assessment. The Committee believes that the assessment would be jeopardized if any single constituency group is viewed as controlling the process.

The bill also directs the Secretary to report to Congress no later than six months after completion of the assessment on the Department's plans for filling the gaps, stopping the collection of unneeded data, and estimating expected implementation costs, and on any needed statutory changes to implement the needs assessment.

One of the weaknesses in current transportation statistics is the lack of standardization across federal, state and local governments for the collection and management of transportation data. The Committee believes that BTS should serve as a national leader to encourage data standardization inside and outside the department. To enable states, local governments and Metropolitan Planning Organizations to participate in such efforts, the Committee authorizes $5 million annually for Research and Development demonstration grants.

The Committee recognizes the importance of BTS's Advisory Council on Transportation Statistics, and explicitly calls for it to provide input to, and review the Report to Congress called for in subsection (d)(4). The Committee also broadens the expertise on the Advisory Committee by increasing membership from six to no fewer than 15 members. Although the Committee wants to ensure that a majority of members continue to have expertise in economics and statistics (including transportation statistics), the Committee recognizes a need for bringing other transportation community expertise to ensure that the Advisory Committee's work is grounded in the needs of the broader transportation community.

It is also the Committee's view that BTS should maintain and support the National Transportation Library.

*Section 108—State planning and research*

The Committee recognizes the importance of planning and research by increasing funding for this section from 2 percent to 2.5 percent of sums apportioned to the states. The Committee clarifies that planning funds may be used to plan for freight, land use, transportation-related growth management, as well as to support capacity building for planning. The committee maintains the current share (25 percent) of these funds that must be set aside for research, which would increase the total funds available to the

states for research. It also calls for research into all modes of transportation, including bicycle and pedestrian travel, as well as into standards for intermodal coordination. The committee also believes that research should address innovative technologies (such as deliberative polling) for improving public input early in the planning process, which may reduce project delays and cost overruns.

The bill also requires States to spend a minimum of 10 percent of their SPR funds on improving the quality of data. This new provision reflects the Committee's recognition that there are significant gaps in the data available to characterize the extent, condition, use, performance and financing of the transportation system for passenger and freight movement. These data are critical to more effective planning and decision-making.

*Section 109—Future strategic highway research program*

The Committee recognizes the importance of carrying out the research called for the Transportation Research Board Report 260, "Strategic Highway Research: Saving Lives, Reducing Congestion, Improving the Quality of Life." It also recognizes that Congress is turning over management of the program, which is authorized at nearly $400 million dollars over six years, to the National Research Council (NRC).

Because of this unusual arrangement and the unprecedented funding levels involved, the bill requires that NRC implement the report as written. In particular, the Committee's view is that research conducted on highway capacity in support of the Nation's economic, environmental and multi-modal transportation and social goals be balanced equally between the development of new capacity and squeezing more capacity out of our existing transportation infrastructure.

To enhance the credibility of the research results, the Committee believes strongly that all NRC committees and panels established to implement the program include a balanced group of transportation stakeholders, with no one interest group having a controlling majority of votes.

The bill also calls for a mid-term evaluation of the program by the Government Accounting Office to (1) ensure that the projects funded have addressed the R&D topics in the TRB report, and (2) identify research topics that have not yet been addressed.

*Section 110—University transportation research*

The Committee understands the import role served by universities in transportation research and workforce development. However, the Committee is concerned that there was a lack of competition for most of the University Transportation Centers designations in TEA–21. Therefore, the bill requires that all 26 centers (the 10 regional and 16 other centers) be designated through an open competition, peer-reviewed process. The Committee seeks to ensure that University Transportation Centers are competed fairly and openly and that new applicants are not disadvantaged in the competition. The Committee also expects greater oversight by DOT to ensure that the research carried out by the centers is aligned with DOT's strategic plans.

The Nation's transportation systems are evolving in ways that require new skills for workers at all levels. The Committee creates

a Transportation Education Development Pilot Program for universities to partner with State Departments of Transportation or industry to develop, test, and revise new curricula and education programs to meet these new challenges.

The Committee also recognizes a need for research and development focused on identifying and addressing security issues related to transportation. The bill authorizes funding for up to four university transportation centers that will focus on transportation security needs.

*Section 111—Intelligent transportation systems*

It is the Committee's view that R&D investments in intelligent transportation systems (ITS) must be made deliberatively, and that DOT should consider, before investing, the likely market for a new system or technology, as well as the appropriate funding roles for the Federal government and the private sector. For this reason, the bill establishes an ITS Advisory Committee that is broadly representative of transportation stakeholders, and charges it with evaluating new ITS technologies.

The Committee also believes that ITS technologies must be evaluated based on outcomes. ITS technologies should have clear and measurable goals, such as reducing congestion or improving safety. Demonstration projects should be designed with outcome-based performance measurement in mind.

It is the Committee's view that there may be great value in using information collected by current and future ITS technologies in real-time traffic management, planning, performance monitoring, program assessment, and policy applications. However, the Committee believes that DOT needs to assess the potential use of this data before investing in a new information infrastructure. The assessment should ensure that the infrastructure will be developed in a deliberative fashion, including assessing the need for new standards, and that the infrastructure will provide real value in reaching our transportation goals, and will be cost-effective.

The Committee believes that greater focus must be put on interoperability of ITS systems, and that interoperability should be a fundamental goal of the national architecture. In addition, the Committee has heard that it is often difficult for States and other entities to implement new standards because these standards have not been validated. Therefore, the Committee requires that DOT validate new standards whenever it is appropriate.

The Committee believes that there are many new areas in which ITS R&D should be conducted. Experts in the ITS community have identified non-technical barriers as more critical than technical barriers in slowing the deployment of ITS technologies. Therefore, it is the Committee's view that DOT should fund R&D aimed at finding ways to overcome these non-technical barriers. The Committee also believes that ITS technologies can be utilized to develop integrated traffic management strategies and tools to reduce the multiple impacts of congestion (such as travel delays, vehicle emissions, safety concerns and fuel consumption) concurrently. These projects should be multi-disciplinary, and should incorporate stakeholders and end-use communities into the design and planning phases. ITS technologies should also be used to promote efficiency in goods movement through use of real-time tracking and manage-

ment. Another important area of research is in-vehicle crash protection technologies to promote safety. This research should be done in a way that links the design of automotive technologies with realistic situations of vehicle use. Finally, research on the use of photonic and optic technologies to improve nighttime visibility, and increase the effectiveness of message signs and in-vehicle displays, should be conducted.

It is the Committee's view that the ITS program should have a greater focus on congestion reduction. ITS technologies should be aimed at getting greater capacity out of the existing transportation system. For this reason, the bill calls for at least one-third of ITS R&D funds to be used to develop technologies aimed at reducing congestion.

*Section 208—National cooperative freight transportation research*

The Committee recognizes the economic importance of freight movement throughout the transportation system. The increases in freight and passenger traffic in some areas has led to congestion and travel delays. The disparity in size and weight of trucks and passenger vehicles creates safety concerns along heavily traveled routes. The Committee believes that this cooperative research program should include research on alternative means of freight movement including railroads and freight pipelines.

## IX. Cost Estimate

A cost estimate and comparison prepared by the Director of the Congressional Budget Office under section 402 of the Congressional Budget Act of 1974 has timely submitted to the Committee on Science prior to the filing of this report and is included in Section X of this report pursuant to House Rule XIII, clause 3(c)(3).

H.R. 3551 does not contain new budget authority, credit authority, or changes in revenues or tax expenditures. Assuming that the sums authorized under the bill are appropriated, H.R. 3551 does authorize additional discretionary spending, as described in the Congressional Budget Office report on the bill, which is contained in Section X of this report.

## X. Congressional Budget Office Cost Estimate

U.S. Congress,
Congressional Budget Office,
*Washington, DC, August 18, 2004.*

Hon. Sherwood L. Boehlert,
*Chairman, Committee on Science,*
*House of Representatives, Washington, DC.*

Dear Mr. Chairman: The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 3551, the Surface Transportation Research and Development Act of 2004.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Rachel Milberg.

Sincerely,

Elizabeth Robinson
(For Douglas Holtz-Eakin, Director).

Enclosure.

*H.R. 3551—Surface Transportation Research and Development Act of 2004*

Summary: CBO estimates that implementing H.R. 3551 would cost $2.7 billion over the 2005–2009 period and about $1 billion after 2009. Enacting the legislation would not affect direct spending or revenues.

H.R. 3551 would extend the authority for transportation research programs administered by the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the National Highway Traffic Safety Administration (NHTSA), and the Federal Motor Carrier Safety Administration (FMCSA). For those programs, CBO estimates that the bill would authorize the appropriation of $2.8 billion and provide $865 million in contract authority (the authority to incur obligations in advance of appropriations) over the 2005–2009 period.

Consistent with the Balanced Budget and Emergency Deficit Control Act, CBO assumes that the contract authority for those research programs would continue at the same rate provided immediately before the authority for the programs would expire in 2010. Hence, this estimate includes an additional $177 million in contract authority in each year over the 2010–2014 period.

H.R. 3551 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA). As conditions for receiving federal assistance, state and local governments would have to provide matching funds and comply with various planning and reporting requirements.

Estimated cost to the Federal Government: The estimated budgetary impact is shown in Table 1. The costs of this legislation fall within budget function 400 (transportation).

TABLE 1.—SUMMARY OF ESTIMATED BUDGETARY EFFECTS OF H.R. 3551

| | By fiscal year, in millions of dollars— | | | | |
|---|---|---|---|---|---|
| | 2005 | 2006 | 2007 | 2008 | 2009 |
| CHANGES IN SPENDING SUBJECT TO APPROPRIATION | | | | | |
| Ongoing Highway Programs: | | | | | |
| Authorization Level | 500 | 500 | 500 | 500 | 500 |
| Estimated Outlays | 75 | 300 | 450 | 500 | 500 |
| New Highway Grant Program [1]: | | | | | |
| Authorization Level | 0 | 0 | 0 | 0 | 0 |
| Estimated Outlays | 11 | 45 | 68 | 75 | 75 |
| Transit Programs: | | | | | |
| Estimated Authorization Level | 54 | 55 | 56 | 57 | 58 |
| Estimated Outlays | 8 | 33 | 49 | 55 | 56 |
| Highway Safety Programs [1] | | | | | |
| Estimated Authorization Level | 0 | 0 | 0 | 0 | 0 |
| Estimated | 13 | 57 | 86 | 97 | 99 |
| Motor Carrier Safety Programs: | | | | | |
| Estimated Authorization Level | 10 | 10 | 10 | 11 | 11 |
| Estimated Outlays | 2 | 6 | 9 | 10 | 10 |
| Commission on National Transportation Needs: | | | | | |
| Estimated Authorization Level | 2 | 0 | 0 | 0 | 0 |
| Estimated Outlays | 1 | 1 | 0 | 0 | 0 |
| Total Proposed Changes: | | | | | |
| Estimated Authorization Level | 566 | 565 | 566 | 567 | 569 |
| Estimated Outlays | 110 | 442 | 662 | 737 | 741 |
| CHANGES IN DIRECT SPENDING [1] | | | | | |
| New Highway Grant and Highway Safety Programs: | | | | | |
| Estimated Budget Authority | 97 | 99 | 101 | 103 | 105 |

TABLE 1.—SUMMARY OF ESTIMATED BUDGETARY EFFECTS OF H.R. 3551—Continued

| | By fiscal year, in millions of dollars— | | | | |
|---|---|---|---|---|---|
| | 2005 | 2006 | 2007 | 2008 | 2009 |
| Estimated Outlays | 0 | 0 | 0 | 0 | 0 |

[1] Spending for these programs would be controlled by appropriation actions. Thus, while the budget authority would be a form of direct spending, outlays are shown in the discretionary spending category.

Basis of estimate: For this estimate, CBO assumes that H.R. 3551 will be enacted near the end of 2004. Estimates of outlays are based on historical spending patterns of transportation research programs. CBO estimates that implementing H.R. 3551 would cost $2.7 billion over the 2005–2009 period. Enacting the bill would not affect revenues or outlays from direct spending; however, CBO estimates that enacting H.R. 3551 would increase contract authority by $505 million over the 2005–2009 period and by over $1 billion over the 2005–2014 period in comparison to CBO's baselines levels.

*Spending subject to appropriation*

Highway Programs. H.R. 3551 would extend the authorization for research programs administered by FHWA. Some of those programs include conducting research and developing technology to improve highways, operating the Bureau of Transportation Statistics, and grants to universities to conduct transportation-related research. To conduct those activities in each year over the 2004–2009 period, the bill would authorize the appropriation of either 1.08 percent of amounts made available from the Highway Trust Fund or $500 million, whichever is greater. Because CBO cannot anticipate the amounts that will be made available from the trust fund over this period, CBO assumes the appropriation of $500 million in each year over the 2005–2009 period. CBO estimates that implementing those provisions would cost about $1.8 billion over the 2005–2009 period and another $675 million after 2009.

In addition to extending the authority to continue FHWA's ongoing research programs, H.R. 3551 would establish a new grant program that would fund research into improving highways. For this program, the bill would provide $75 million of contract authority each year over the 2004–2009 period. Under current law, spending from contract authority provided for highway research programs is considered discretionary because it is controlled by annual limitations on obligations set in appropriation acts. For this estimate, CBO assumes that appropriation actions will limit spending on the new grant program. CBO estimates that implementing the new program would cost $274 million over the 2005–2009 period and another $101 million after 2009.

Transit Programs. H.R. 3551 would authorize the appropriation of such sums as may be necessary over the 2004–2009 period for FTA to conduct research on public transportation. These activities received $53 million for the current fiscal year. For this estimate, CBO adjusted that figure for anticipated inflation over the 2005–2009 period. We estimate that implementing this provision would cost $201 million over the 2005–2009 period and another $79 million after 2009.

High Safety Programs. H.R. 3551 would provide an indefinite amount of contract authority over the 2004–2009 period for NHTSA to conduct research on highway safety. CBO's current

baseline assumes $360 million of contract authority for highway safety research over the 2004–2009 period; however, based on information from the agency, CBO estimates that NHTSA would require an additional $130 million over the 2005–2009 period to conduct that research. Under current law, spending from contract authority provided for highway safety programs is considered discretionary because it is controlled by annual limitation on obligations set in appropriation acts. For this estimate, CBO assumes that appropriation actions will continue to limit spending on those programs. We estimate that implementing this provision would cost $352 million over the 2004–2009 period and another $138 million after 2009.

Motor Carrier Safety Programs. H.R. 3551 would authorize the appropriation of such sums as may be necessary over the 2004–2009 period for FMCSA to conduct research and develop technology for improving truck safety. The Administration's budget request for fiscal year 2005 includes about $10 million for those activities. For this estimate, CBO assumes appropriation of $10 million in 2005 and adjusts this figure for anticipated inflation over the 2006–2009 period. We estimate that implementing that provision would cost $38 million over the 2005–2009 period and another $14 million after 2009.

Commission on National Transportation Needs. H.R. 3551 would establish a commission to study transportation needs in the United States, recommend changes to current policy that would help meet those needs, and issue a report before the end of 2005. For that commission, the bill would authorize the appropriation of such sums as necessary for fiscal years 2004 and 2005. Based on historical spending patterns of similar organizations and information from the Department of Transportation, CBO estimates that implementing this provision would cost $2 million over the 2005–2006 period.

*Contract authority (direct spending)*

Enacting the bill would not affect outlays from direct spending but would increase contact authority (a form of direct spending). Those effects are detailed in Table 2.

TABLE 2.—ESTIMATED EFFECTS ON CONTRACT AUTHORITY UNDER H.R. 3551

| | By fiscal year, in millions of dollars— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Baseline Contract Authority for Highway Safety Programs | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| Proposed Changes: | | | | | | | | | | | |
| Highway Grant Program | 0 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Highway Safety Program | 0 | 22 | 24 | 26 | 28 | 30 | 30 | 30 | 30 | 30 | 30 |
| Total Changes | 0 | 97 | 99 | 101 | 103 | 105 | 105 | 105 | 105 | 105 | 105 |
| Contract Authority for Highway Safety Programs and Highway Grant Program Under H.R. 3551 | 72 | 169 | 171 | 173 | 175 | 177 | 177 | 177 | 177 | 177 | 177 |

Highway Programs. H.R. 3551 would provide $75 million of contract authority each year over the 2004–2009 period for a new grant program to fund highway-related research. The Balanced Budget and Emergency Deficit Control Act specifies that an expiring mandatory program with current-year outlays in excess of $50

million be assumed to continue at the program level in place when it is scheduled to expire. Following that rule, under H.R. 3551, CBO projects $75 milllion in additional contract authority for the new grant program beginning in 2010.

CBO assumes that spending on highway research programs would continue to be controlled by annual limitations on obligations in appropriation acts and that the outlays would therefore be discretionary.

Highway Safety Programs. For research in highway safety, H.R. 3551 would provide an indefinite amount of contract authority over the 2004–2009 period. CBO estimates that NHTSA would require $490 million over the 2005–2009 period to conduct that research, and CBO projects another $102 million for that program each year beginning in 2010. CBO assumes, however, that spending on research on highway safety would continue to be controlled by annual limitations on obligations in appropriation acts and would therefore be discretionary.

CBO's current baseline projects an annual level of contract authority for research on highway safety of $72 million and a total level of contract authority for this program of $360 million over the 2005–2009 period. Thus, for that research, H.R. 3551 would provide $280 million in contract authority above the baseline level over the 2005–2014 period.

Intergovernmental and Private-Sector Impact: H.R. 3551 contains no intergovernmental or private-sector mandates as defined in UMRA. As conditions for receiving federal assistance, state and local governments would have to provide matching funds and comply with various planning and reporting requirements.

Estimate prepared by: Federal Costs: Rachel Milberg; Impact on State, Local, and Tribal Governments: Gregory Waring; and Impact on the Private Sector: Jean Talarico.

Estimate approved by: Peter H. Fontaine, Deputy Assistant Director for Budget Analysis.

## XI. Compliance With Public Law 104–4

H.R. 3551 contains no unfunded mandates.

## XII. Committee Oversight Findings and Recommendations

The Committee on Science's oversight findings and recommendations are reflected in the body of this report.

## XIII. Statement on General Performance Goals and Objectives

Pursuant to rule XIII, clause 3(c)(4) of the House of Representatives, the general performance goals and objectives of H.R. 3970 are to authorize appropriations to the Department of Transportation for surface transportation research and development.

## XIV. Constitutional Authority Statement

Article I, section 8 of the Constitution of the United States grants Congress the authority to enact H.R. 3551.

## XV. Federal Advisory Committee Statement

The functions of the advisory committee reauthorized in H.R. 3551 are not currently being nor could they be performed by one or more agencies or by enlarging the mandate of another existing advisory committee.

## XVI. Congressional Accountability Act

The Committee finds that H.R. 3551 does relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the Congressional Accountability Act (Public Law 104–1).

## XVII. Statement on Preemption of State, Local, or Tribal Law

This bill is not intended to preempt any state, local, or tribal law.

## XVIII. Changes in Existing Law Made by the Bill, As Reported

In compliance with clause 3(e) of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

### TITLE 23, UNITED STATES CODE

* * * * * * *

### CHAPTER 1—FEDERAL-AID HIGHWAYS

* * * * * * *

### SUBCHAPTER I—GENERAL PROVISIONS

* * * * * * *

**§ 101. Definitions and declaration of policy**

(a) Definitions.—In this title, the following definitions apply:

(1) * * *

* * * * * * *

(3) Construction.—The term "construction" means the supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a highway, including bond costs and other costs relating to the issuance in accordance with section 122 of bonds or other debt financing instruments and costs incurred by the State in performing Federal-aid project related audits that directly benefit the Federal-aid highway program. Such term includes—

(A) * * *

* * * * * * *

(G) improvements that directly facilitate and control traffic flow, such as grade separation of intersections, wid-

ening of lanes, channelization of traffic, traffic control systems, and passenger loading and unloading areas; [and]

(H) capital improvements that directly facilitate an effective vehicle weight enforcement program, such as scales (fixed and portable), scale pits, scale installation, and scale houses[.]*; and*

*(I) surface transportation workforce development, training, and education.*

* * * * * * *

*(34) SURFACE TRANSPORTATION WORKFORCE DEVELOPMENT, TRAINING, AND EDUCATION.—The term "surface transportation workforce development, training, and education" means activities associated with surface transportation career awareness, student transportation career preparation, and training and professional development for surface transportation workers, including activities for women and minorities.*

[(34)] *(35)* STATE TRANSPORTATION DEPARTMENT.—The term "State transportation department" means that department, commission, board, or official of any State charged by its laws with the responsibility for highway construction.

[(35)] *(36)* TRANSPORTATION ENHANCEMENT ACTIVITIES.—The term "transportation enhancement activities" means, with respect to any project or the area to be served by the project, any of the following activities if such activity relates to surface transportation: provision of facilities for pedestrians and bicycles, provision of safety and educational activities for pedestrians and bicyclists, acquisition of scenic easements and scenic or historic sites, scenic or historic highway programs (including the provision of tourist and welcome center facilities), landscaping and other scenic beautification, historic preservation, rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals), preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian or bicycle trails), control and removal of outdoor advertising, archaeological planning and research, environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity, and establishment of transportation museums.

[(36)] *(37)* URBAN AREA.—The term "urban area" means an urbanized area or, in the case of an urbanized area encompassing more than one State, that part of the urbanized area in each such State, or urban place as designated by the Bureau of the Census having a population of 5,000 or more and not within any urbanized area, within boundaries to be fixed by responsible State and local officials in cooperation with each other, subject to approval by the Secretary. Such boundaries shall encompass, at a minimum, the entire urban place designated by the Bureau of the Census, except in the case of cities in the State of Maine and in the State of New Hampshire.

[(37)] *(38)* URBANIZED AREA.—The term "urbanized area" means an area with a population of 50,000 or more designated by the Bureau of the Census, within boundaries to be fixed by responsible State and local officials in cooperation with each other, subject to approval by the Secretary. Such boundaries

shall encompass, at a minimum, the entire urbanized area within a State as designated by the Bureau of the Census.

* * * * * * *

**§ 104. Apportionment**

(a) * * *

* * * * * * *

*(m) PLANNING CAPACITY BUILDING INITIATIVE.—*

*(1) IN GENERAL.—The Secretary shall establish a planning capacity building initiative to support enhancements in transportation planning, in order to—*

*(A) strengthen metropolitan and statewide transportation planning under sections 134 and 135, and under sections 5303 through 5305 of title 49;*

*(B) enhance tribal capacity to conduct joint transportation planning under chapter 2 of this title; and*

*(C) participate in the metropolitan and statewide transportation planning programs under chapter 52 of title 49.*

*(2) PRIORITY.—The Secretary shall give priority to planning practices and processes that support homeland security planning, performance based planning, safety planning, operations planning, freight planning, and integration of environment and planning.*

*(3) USE OF FUNDS.—Funds authorized for this program may be used for research, program development, information collection and dissemination, and technical assistance. The Secretary may use these funds independently or make grants to, or enter into contracts and cooperative agreements with, a Federal agency, State agency, local agency, federally recognized Indian tribal government or tribal consortium, authority, association, nonprofit or for-profit corporation, or institution of higher education, to carry out the purposes of this subsection.*

*(4) FEDERAL SHARE.—The Federal share of the cost of an activity carried out using such funds shall be up to 100 percent, and such funds shall remain available until expended.*

*(5) ADMINISTRATION.—This initiative shall be administered by the Federal Highway Administration in cooperation with the Federal Transit Administration.*

*(6) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated from the Highway Trust Fund such sums as may be necessary to carry out this section for each of fiscal years 2004 through 2009.*

* * * * * * *

## Chapter 4.—HIGHWAY SAFETY

* * * * * * *

**§ 403. Highway safety research and development**

(a) AUTHORITY OF THE SECRETARY.—

(1) * * *

* * * * * * *

*(4) EMERGENCY MEDICAL SERVICES.—In addition to the authority provided under this subsection, the Secretary is author-*

*ized to use funds appropriated to carry out this section to enhance coordination among Federal agencies involved with State, local, tribal, and community-based emergency medical services. In exercising this authority, the Secretary may coordinate with State and local governments, the Bureau of Indian Affairs on behalf of Indian tribes, private industry, and other interested parties; collect and exchange emergency medical services data and information; examine emergency medical services needs, best practices, and related technology; and develop emergency medical services standards and guidelines, and plans for the assessment of emergency medical services systems.*

*(5) INTERNATIONAL COOPERATION.—In addition to the authority provided under this subsection, the Secretary is authorized to use funds appropriated to carry out this section to participate and cooperate in international activities to enhance highway safety by such means as exchanging safety information; conducting safety research and development; and examining safety needs, best practices, and new technology.*

*(6) NATIONAL MOTOR VEHICLE CRASH CAUSATION SURVEY.—In addition to the authority provided under this subsection, the Secretary is authorized to use funds appropriated to carry out this section to develop and conduct a nationally representative survey to collect on-scene motor vehicle crash causation data.*

* * * * * * *

## CHAPTER 5—RESEARCH AND TECHNOLOGY



* * * * * * *

### § 502. Surface transportation research

(a) GENERAL AUTHORITY.—

(1) RESEARCH, DEVELOPMENT, AND TECHNOLOGY TRANSFER ACTIVITIES.—The Secretary [may] *shall* carry out research, development, and technology transfer activities with respect to—

(A) motor carrier transportation;

[(B) all phases of transportation planning and development (including construction, operation, modernization, development, design, maintenance, safety, financing, and traffic conditions); and

[(C) the effect of State laws on the activities described in subparagraphs (A) and (B).]

*(B) all phases of transportation planning and development (including construction, transportation system management and operation, modernization, development, design, maintenance, safety, data collection, performance*

*analysis, multimodal assessment, financing, demand forecasting, and traffic conditions);*

*(C) institutional arrangements and support; and*

*(D) the effect of State laws on the activities described in subparagraphs (A), (B), and (C).*

* * * * * * *

[(c) CONTENTS OF RESEARCH PROGRAM.—The Secretary shall include in surface transportation research, technology development, and technology transfer programs carried out under this title coordinated activities in the following areas:

[(1) Development, use, and dissemination of indicators, including appropriate computer programs for collecting and analyzing data on the status of infrastructure facilities, to measure the performance of the surface transportation systems of the United States, including productivity, efficiency, energy use, air quality, congestion, safety, maintenance, and other factors that reflect system performance.

[(2) Methods, materials, and testing to improve the durability of surface transportation infrastructure facilities and extend the life of bridge structures, including—

[(A) new and innovative technologies to reduce corrosion;

[(B) tests simulating seismic activity, vibration, and weather; and

[(C) the use of innovative recycled materials.

[(3) Technologies and practices that reduce costs and minimize disruptions associated with the construction, rehabilitation, and maintenance of surface transportation systems, including responses to natural disasters.

[(4) Development of nondestructive evaluation equipment for use with existing infrastructure facilities and with next-generation infrastructure facilities that use advanced materials.

[(5) Dynamic simulation models of surface transportation systems for—

[(A) predicting capacity, safety, and infrastructure durability problems;

[(B) evaluating planned research projects; and

[(C) testing the strengths and weaknesses of proposed revisions to surface transportation operations programs.

[(6) Economic highway geometrics, structures, and desirable weight and size standards for vehicles using the public highways and the feasibility of uniformity in State regulations with respect to such standards.

[(7) Telecommuting and the linkages between transportation, information technology, and community development and the impact of technological change and economic restructuring on travel demand.

[(8) Expansion of knowledge of implementing life cycle cost analysis, including—

[(A) establishing the appropriate analysis period and discount rates;

[(B) learning how to value and properly consider use costs;

[(C) determining tradeoffs between reconstruction and rehabilitation; and

[(D) establishing methodologies for balancing higher initial costs of new technologies and improved or advanced materials against lower maintenance costs.

[(9) Standardized estimates, to be developed in conjunction with the National Institute of Standards and Technology and other appropriate organizations, of useful life under various conditions for advanced materials of use in surface transportation.

[(10) Evaluation of traffic calming measures that promote community preservation, transportation mode choice, and safety.

[(11) Development and implementation of safety-enhancing equipment, including unobtrusive eyetracking technology.]

*(c) CONTENTS OF RESEARCH AND DEVELOPMENT PROGRAM.—The Secretary shall include in surface transportation research, development, and technology transfer programs carried out under this title coordinated activities in the following areas:*

*(1) Research and development on materials and structures to improve the durability of surface transportation infrastructure and extend the life of pavements and bridges, including, as appropriate—*

*(A) development of nondestructive evaluation equipment for use with existing infrastructure facilities and with next-generation infrastructure facilities that use advanced materials;*

*(B) standardized estimates, developed in conjunction with the National Institute of Standards and Technology and other appropriate organizations, of useful life under various conditions for advanced materials of use in surface transportation;*

*(C) research on the effects of climate conditions (such as freezing, thawing, and precipitation) on highway construction materials, and development of materials that can withstand climatic conditions; and*

*(D) economic highway geometrics, structures, and desirable weight and size standards for vehicles using the public highways and the feasibility of uniformity in State regulations with respect to such standards.*

*(2) Research and development on the operation and management of the surface transportation system to improve efficiency, productivity, and safety, including, as appropriate—*

*(A) technologies and practices that reduce costs and minimize disruptions associated with the construction, rehabilitation, and maintenance of surface transportation systems, including responses to natural disasters;*

*(B) research and system analysis to facilitate and integrate bicycle and pedestrian travel in the transportation system, including within National Parks and in areas adjacent to National Park land;*

*(C) development of dynamic simulation models of surface transportation systems for—*

*(i) predicting capacity, safety, and infrastructure durability problems;*

*(ii) evaluating the extent to which projects are likely to achieve their stated objectives; and*

*(iii) testing the strengths and weaknesses of proposed revisions to surface transportation operations and management programs;*

*(D) improvement of life cycle cost analysis, including—*

*(i) establishing the appropriate analysis period and discount rates;*

*(ii) learning how to value and properly consider use costs;*

*(iii) determining tradeoffs between reconstruction and rehabilitation; and*

*(iv) establishing methodologies for balancing higher initial costs of new technologies and improved or advanced materials against lower maintenance costs;*

*(E) research on the effects of climatic conditions (such as freezing, thawing, and precipitation) on the costs of highway construction materials and maintenance;*

*(F) research, development, and technology transfer related to asset management; and*

*(G) evaluation of traffic calming measures that promote community preservation, transportation mode choice, and safety.*

*(3) Research, development, and technology transfer to improve safety.*

*(4) Research and development to support the evaluation of how the surface transportation system and individual surface transportation projects meet the goals of the surface transportation system stated in section 102(a) of the Surface Transportation Research and Development Act of 2004, including, as appropriate—*

*(A) development, use, and dissemination of indicators, including appropriate computer programs for collecting and analyzing data on the status of infrastructure facilities, to measure the performance of the surface transportation systems of the United States, including productivity, efficiency, energy use, air quality, congestion, safety, maintenance, and other factors that reflect system performance; and*

*(B) research on, and dissemination of recommendations and best practices aimed at addressing, nontechnical barriers to technology deployment (such as fragmented local authority, rigid procurement rules, and privacy and liability considerations).*

*(5) To assess how the surface transportation system affects and is affected by social systems, including, as appropriate—*

*(A) research aimed at understanding how emerging trends (including demographic, economic, and social trends) will affect surface transportation usage and needs;*

*(B) research on how land use affects and is affected by surface transportation investments; and*

*(C) telecommuting and the linkages between transportation, information technology, and community development, and the impact of technological change and economic restructuring on travel demand.*

*(6) Environmental research and development, including research described in the Transportation Research Board Special*

*Report 268, entitled "Surface Transportation Environmental Research: A Long-Term Strategy" published in 2002.*

*(7) Exploratory advanced research in any of the preceding areas.*

*(8) Any other surface transportation research and development topics that the Secretary determines, in accordance with the strategic planning process under section 508, to be critical.*

(d) ADVANCED RESEARCH.—

(1) IN GENERAL.—The Secretary shall establish an *exploratory* advanced research program, consistent with the surface transportation research and technology development strategic plan developed under section 508, that addresses longer-term, higher-risk research that shows potential benefits for improving the durability, efficiency, environmental impact, productivity, and safety (including bicycle and pedestrian safety) of highway and intermodal transportation systems. In carrying out the program, the Secretary shall strive to develop partnerships with the public and private sectors.

[(2) RESEARCH AREAS.—In carrying out the program, the Secretary may make grants and enter into cooperative agreements and contracts in such areas as the Secretary determines appropriate, including the following:

[(A) Characterization of materials used in highway infrastructure, including analytical techniques, microstructure modeling, and the deterioration processes.

[(B) Diagnostics for evaluation of the condition of bridge and pavement structures to enable the assessment of risks of failure, including from seismic activity, vibration, and weather.

[(C) Design and construction details for composite structures.

[(D) Safety technology-based problems in the areas of pedestrian and bicycle safety, roadside hazards, and composite materials for roadside safety hardware.

[(E) Environmental research, including particulate matter source apportionment and model development.

[(F) Data acquisition techniques for system condition and performance monitoring.

[(G) Human factors, including prediction of the response of travelers to new technologies.]

*(2) PURPOSE.—The purpose of the research program under this subsection shall be to achieve breakthroughs in transportation research. Exploratory advanced research should have a broader objective, longer time frame, multidisciplinary nature, and have both a higher risk and a higher potential payoff than for problem-solving research.*

*(3) WORKSHOP.—The Secretary shall convene a workshop with appropriate researchers and policymakers from Federal and State agencies, as well as academic researchers. The purpose of the workshop shall be to determine priority areas of exploratory advanced research and to identify the best way to accomplish this research (such as through federally funded research and development centers or academic researchers). The workshop shall include a diverse group of stakeholders. The Secretary shall make the results of the workshop widely avail-*

*able to the public. The workshop shall be held within 6 months after the date of the enactment of this paragraph.*

*(4) GRANT PROGRAM.—The Secretary may administer a competitive, peer-reviewed grant program to support exploratory advanced research.*

*(5) REPORT.—The President's annual budget request to the Congress shall indicate the amount of funding used in the previous fiscal year, and proposed for the next fiscal year, to support exploratory advanced research under this subsection, including the amount used to support extramural research grants in exploratory advanced research under this subsection.*

(e) LONG-TERM PAVEMENT PERFORMANCE PROGRAM.—

(1) AUTHORITY.—The Secretary shall complete the long-term pavement performance program tests initiated under the strategic highway research program established under section 307(d) (as in effect on the day before the date of enactment of this section) and continued by the Intermodal Surface Transportation Efficiency Act of 1991 [(105 Stat. 1914 et seq.) through the midpoint of a planned 20-year life of the long-term pavement performance program] *and the Transportation Equity Act for the 21st Century*.

* * * * * * *

*(f) LONG-TERM BRIDGE PERFORMANCE PROGRAM.—*

*(1) AUTHORITY.—The Secretary shall establish a 20-year, long-term bridge performance program.*

*(2) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—Under the program, the Secretary shall make grants and enter into cooperative agreements and contracts to—*

*(A) monitor, material-test, and evaluate test bridges;*

*(B) analyze the data obtained in carrying out subparagraph (A); and*

*(C) prepare products to fulfill program objectives and meet future bridge technology needs.*

[(f)] *(g)* SEISMIC RESEARCH PROGRAM.—

(1) * * *

* * * * * * *

[(g)] *(h)* INFRASTRUCTURE INVESTMENT NEEDS REPORT.—

(1) IN GENERAL.—Not later than [January 31, 1999] *July 31, 2004*, and January 31 of every second year thereafter, the Secretary shall report to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives on—

(A) * * *

* * * * * * *

(2) COMPARISON WITH PRIOR REPORTS.—Each report under paragraph (1) shall provide the means, including all necessary information, to relate and compare the conditions and service measures used in the 3 [biannual reports published prior to the date of enactment of the Transportation Equity Act for the 21st Century] *previous reports under this subsection*.

*(i) TURNER-FAIRBANK HIGHWAY RESEARCH CENTER.—*

*(1) IN GENERAL.—The Secretary shall operate in the Federal Highway Administration a Turner-Fairbank Highway Research Center.*

*(2) USES OF THE CENTER.—The Turner-Fairbank Highway Research Center shall support the—*

*(A) conduct of highway research and development related to new highway technology;*

*(B) development of understandings, tools, and techniques that provide solutions to complex technical problems through the development of economical and environmentally sensitive designs, efficient and quality controlled construction practices, and durable materials; and*

*(C) development of innovative highway products and practices.*

**§ 503. Technology deployment**

(a) TECHNOLOGY DEPLOYMENT [INITIATIVES AND PARTNERSHIPS] PROGRAM.—

[(1) ESTABLISHMENT.—The Secretary shall develop and administer a national technology deployment initiatives and partnerships program.]

*(1) ESTABLISHMENT.—The Secretary shall develop and administer a national technology deployment program.*

* * * * * * *

[(7) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—Under the program, the Secretary may make grants and enter into cooperative agreements and contracts to foster alliances and support efforts to stimulate advances in transportation technology, including—

[(A) the testing and evaluation of products of the strategic highway research program;

[(B) the further development and implementation of technology in areas such as the Superpave system and the use of lithium salts and other alternatives to prevent and mitigate alkali silica reactivity;

[(C) the provision of support for long-term pavement performance product implementation and technology access; and

[(D) other activities to achieve the goals established under paragraph (3).

[(8) REPORTS.—Not later than 18 months after the date of enactment of this section, and biennially thereafter, the Secretary 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 on the progress and results of activities carried out under this section.]

*(7) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—*

*(A) IN GENERAL.—Under the program, the Secretary shall make grants to, and enter into cooperative agreements and contracts with, States, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations to pay the Federal share of the cost of research, development, and technology transfer concerning innovative materials.*

*(B) APPLICATIONS.—To receive a grant under this subsection, an entity described in subparagraph (A) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications based on open competition and peer review, and on whether the project that is the subject of the grant serves the purpose of the program described in paragraph (2).*

*(8) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall ensure that the information and technology resulting from research and development conducted under paragraph (3) is made available to State and local transportation departments and other interested parties as specified by the Secretary.*

*(9) FEDERAL SHARE.—The Federal share of the cost of a project under this section shall be determined by the Secretary.*

**[**(9)**]** *(10)* ALLOCATION.—To the extent appropriate to achieve the goals established under paragraph (3), the Secretary may further allocate funds made available to carry out this section to States for their use.

(b) INNOVATIVE BRIDGE RESEARCH AND CONSTRUCTION PROGRAM.—

**[**(1) IN GENERAL.—The Secretary shall establish and carry out a program to demonstrate the application of innovative material technology in the construction of bridges and other structures.

**[**(2) GOALS.—The goals of the program shall include—

**[**(A) the development of new, cost-effective innovative material highway bridge applications;

**[**(B) the reduction of maintenance costs and life-cycle costs of bridges, including the costs of new construction, replacement, or rehabilitation of deficient bridges;

**[**(C) the development of construction techniques to increase safety and reduce construction time and traffic congestion;

**[**(D) the development of engineering design criteria for innovative products and materials for use in highway bridges and structures;

**[**(E) the development of cost-effective and innovative techniques to separate vehicle and pedestrian traffic from railroad traffic;

**[**(F) the development of highway bridges and structures that will withstand natural disasters, including alternative processes for the seismic retrofit of bridges; and

**[**(G) the development of new nondestructive bridge evaluation technologies and techniques.**]**

*(1) IN GENERAL.—The Secretary shall establish and carry out a program to promote, demonstrate, evaluate, and document the application of innovative designs, materials and construction methods in the construction, repair, and rehabilitation of bridges and other highway structures.*

*(2) GOALS.—The goals of the program shall include—*

*(A) the development of new, cost-effective, innovative highway bridge applications;*

*(B) the development of construction techniques to increase safety and reduce construction time and traffic congestion;*

*(C) the development of engineering design criteria for innovative products, materials, and structural systems for use in highway bridges and structures;*

*(D) the reduction of maintenance costs and life-cycle costs of bridges, including the costs of new construction, replacement, or rehabilitation of deficient bridges;*

*(E) the development of highway bridges and structures that will withstand natural disasters and terrorist attacks;*

*(F) the documentation and wide dissemination of objective evaluations of the performance and benefits of these innovative designs, materials, and construction methods; and*

*(G) the effective transfer of resulting information and technology.*

*(c) INNOVATIVE PAVEMENT RESEARCH AND DEPLOYMENT PROGRAM.—*

*(1) IN GENERAL.—The Secretary shall establish and implement a program to promote, demonstrate, support, and document the application of innovative pavement technologies, practices, performance, and benefits.*

*(2) GOALS.—The goals of the innovative pavement research and deployment program shall include—*

*(A) the deployment of new, cost-effective innovative designs, materials, and practices to extend pavement life and performance and to improve customer satisfaction;*

*(B) the reduction of initial costs and life-cycle costs of pavements, including the costs of new construction, replacement, maintenance, and rehabilitation;*

*(C) the deployment of accelerated construction techniques, including innovative pavement materials, to increase safety and reduce construction time and traffic disruption and congestion;*

*(D) the deployment of engineering design criteria and specifications for innovative practices, products, and materials for use in highway pavements;*

*(E) the deployment of new nondestructive and real time pavement evaluation technologies and techniques;*

*(F) evaluation, refinement, and documentation of the performance and benefits of innovative technologies deployed to improve life, performance, cost effectiveness, safety, and customer satisfaction;*

*(G) effective technology transfer and information dissemination to accelerate implementation of innovative technologies and to improve life, performance, cost effectiveness, safety, and customer satisfaction; and*

*(H) the development of designs and materials to reduce storm water runoff.*

*(3) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—*

*(A) IN GENERAL.—Under the program, the Secretary shall make grants to, and enter into cooperative agreements and contracts with States, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations for research, development, and technology transfer for innovative safety technologies.*

*(B) APPLICATIONS.—To receive a grant under this subsection, an entity described in subparagraph (A) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications based on open competition and peer review, and on whether the project that is the subject of the grant meets the goals of the program described in paragraph (2).*

*(4) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall take such action as is necessary to ensure that the information and technology resulting from research conducted under paragraph (3) is made available to State and local transportation departments and other interested parties as specified by the Secretary.*

*(d) SAFETY INNOVATION DEPLOYMENT PROGRAM.—*

*(1) IN GENERAL.—The Secretary shall establish and implement a program to demonstrate the application of innovative technologies in highway safety.*

*(2) GOALS.—The goals of the program shall include—*

*(A) the deployment and evaluation of safety technologies and innovations at state and local levels; and*

*(B) the deployment of best practices in training, management, design, and planning.*

*(3) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—*

*(A) IN GENERAL.—Under the program, the Secretary shall make grants to, and enter into cooperative agreements and contracts with States, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations for research, development, and technology transfer for innovative safety technologies.*

*(B) APPLICATIONS.—To receive a grant under this subsection, an entity described in subparagraph (A) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications based on open competition and peer review, and on whether the project that is the subject of the grant meets the goals of the program described in paragraph (2).*

*(4) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall take such action as is necessary to ensure that the information and technology resulting from research conducted under paragraph (3) is made available to State and local transportation departments and other interested parties as specified by the Secretary.*

* * * * * * *

**§ 504. Training and education**

(a) NATIONAL HIGHWAY INSTITUTE.—

(1) * * *

* * * * * * *

[(3) COURSES.—The Institute may develop and administer courses in modern developments, techniques, methods, regula-

tions, management, and procedures relating to surface transportation, environmental mitigation and compliance, acquisition of rights-of-way, relocation assistance, engineering, safety, construction, maintenance and operations, contract administration, motor carrier safety activities, inspection, and highway finance.]

*(3) COURSES.—*

*(A) IN GENERAL.—The Institute shall develop or update courses in the subject areas of asset management, application of emerging technologies, including intelligent transportation systems, techniques, methods, regulations, information technology, general management, environmental stewardship, acquisition of rights-of-way, relocation assistance, engineering, safety, transportation system management and operations, construction, maintenance, contract administration, inspection, and finance.*

*(B) ADDITIONAL COURSES.—In addition to the courses in the subject matter areas described in subparagraph (A), the Institute, in consultation with State transportation departments and the American Association of State Highway and Transportation Officials, may develop other courses as it considers necessary.*

*(C) REVISION OF COURSES OFFERED.—The Institute shall periodically—*

*(i) review the course inventory of the Institute; and*

*(ii) revise or cease to offer courses based on course content, applicability, and need.*

(b) LOCAL TECHNICAL ASSISTANCE PROGRAM.—

(1) * * *

* * * * * * *

*(3) FEDERAL SHARE.—*

*(A) GRANTS.—The grant funds authorized to carry out this subsection may be used to cover up to 50 percent of the program costs relating to local technical assistance. Funds available for technology transfer and training purposes under this title and title 49 may be used to cover the remaining 50 percent of the program costs.*

*(B) TRIBAL TECHNICAL ASSISTANCE CENTERS.—The Federal share of the cost of activities carried out by the tribal technical assistance centers under paragraph (2)(D)(ii) of this subsection shall be 100 percent.*

* * * * * * *

*(d) SURFACE TRANSPORTATION WORKFORCE DEVELOPMENT, TRAINING, AND EDUCATION.—*

*(1) FUNDING.—Subject to project approval by the Secretary, a State may obligate funds apportioned to it under sections 104(b)(1), (3), and (4) and 144(e) of this title for surface transportation workforce development, training and education, including—*

*(A) tuition and direct educational expenses, excluding salaries, in connection with the education and training of employees of State and local transportation agencies;*

*(B) employee professional development;*

*(C) student internships; or*

*(D) education outreach activities to develop interest and promote participation in surface transportation careers.*

*(2) FEDERAL SHARE.—The Federal share of the cost of activities carried out in accordance with this subsection shall be 100 percent.*

*(e) GARRETT A. MORGAN TECHNOLOGY AND TRANSPORTATION EDUCATION PROGRAM.—*

*(1) IN GENERAL.—The Secretary shall establish the Garrett A. Morgan Technology and Transportation Education Program to improve the preparation of students, particularly women and minorities, in science, technology, engineering, and mathematics through curriculum development and other activities related to transportation.*

*(2) AUTHORIZED ACTIVITIES.—The Secretary shall award grants under this subsection on the basis of competitive, peer review. Grants awarded under this subsection may be used for enhancing science, technology, engineering, and mathematics at the elementary and secondary school level through such means as—*

*(A) internships that offer students experience in the transportation field;*

*(B) programs that allow students to spend time observing scientists and engineers in the transportation field; and*

*(C) developing relevant curriculum that uses examples and problems related to transportation.*

*(3) APPLICATION AND REVIEW PROCEDURES.—*

*(A) IN GENERAL.—An entity described in subparagraph (C) seeking funding under this subsection shall submit an application to the Secretary at such time, in such manner, and containing such information as the Secretary may require. Such application, at a minimum, shall include a description of how the funds will be used and a description of how the funds will be used to serve the purposes described in paragraph (2).*

*(B) PRIORITY.—In making awards under this subsection, the Secretary shall give priority to applicants that will encourage the participation of women and minorities.*

*(C) ELIGIBILITY.—Local education agencies and State education agencies, which may partner with institutions of higher education, businesses, or other entities, shall be eligible to apply for grants under this subsection.*

*(4) DEFINITIONS.—For purposes of this subsection—*

*(A) the term "institution of higher education" has the meaning given that term in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001);*

*(B) the term "local educational agency" has the meaning given that term in section 9101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801); and*

*(C) the term "State educational agency" has the meaning given that term in section 9101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801).*

*(5) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary of Transportation to carry out this subsection $500,000 for fiscal year 2005 and such sums as may be necessary thereafter.*

**[§ 505. State planning and research**

[(a) GENERAL RULE.—Two percent of the sums apportioned to a State for fiscal year 1998 and each fiscal year thereafter under section 104 (other than sections 104(f) and 104(h)) and under section 144 shall be available for expenditure by the State, in consultation with the Secretary, only for the following purposes:

[(1) Engineering and economic surveys and investigations.

[(2) The planning of future highway programs and local public transportation systems and the planning of the financing of such programs and systems, including metropolitan and statewide planning under sections 134 and 135.

[(3) Development and implementation of management systems under section 303.

[(4) Studies of the economy, safety, and convenience of surface transportation systems and the desirable regulation and equitable taxation of such systems.

[(5) Research, development, and technology transfer activities necessary in connection with the planning, design, construction, management, and maintenance of highway, public transportation, and intermodal transportation systems.

[(6) Study, research, and training on the engineering standards and construction materials for transportation systems described in paragraph (5), including the evaluation and accreditation of inspection and testing and the regulation and taxation of their use.

[(b) MINIMUM EXPENDITURES ON RESEARCH, DEVELOPMENT, AND TECHNOLOGY TRANSFER ACTIVITIES.—

[(1) IN GENERAL.—Subject to paragraph (2), not less than 25 percent of the funds subject to subsection (a) that are apportioned to a State for a fiscal year shall be expended by the State for research, development, and technology transfer activities described in subsection (a), relating to highway, public transportation, and intermodal transportation systems.

[(2) WAIVERS.—The Secretary may waive the application of paragraph (1) with respect to a State for a fiscal year if the State certifies to the Secretary for the fiscal year that total expenditures by the State for transportation planning under sections 134 and 135 will exceed 75 percent of the funds described in paragraph (1) and the Secretary accepts such certification.

[(3) NONAPPLICABILITY OF ASSESSMENT.—Funds expended under paragraph (1) shall not be considered to be part of the extramural budget of the agency for the purpose of section 9 of the Small Business Act (15 U.S.C. 638).

[(c) FEDERAL SHARE.—The Federal share of the cost of a project carried out using funds subject to subsection (a) shall be 80 percent unless the Secretary determines that the interests of the Federal-aid highway program would be best served by decreasing or eliminating the non-Federal share.

[(d) ADMINISTRATION OF SUMS.—Funds subject to subsection (a) shall be combined and administered by the Secretary as a single fund and shall be available for obligation for the same period as funds apportioned under section 104(b)(1).]

***§ 505. State planning and research***

*(a) IN GENERAL.—Two and a half percent of the sums apportioned to a State for fiscal year 2004 and each fiscal year thereafter under section 104 (other than subsections (f) and (h)) and under sections 105 and 144 shall be available for expenditure by the State, in consultation with the Secretary, only for the following purposes:*

*(1) Engineering and economic surveys and investigations.*

*(2) The planning of future highway programs and local public transportation systems, the planning of the financing of such programs and systems, including metropolitan and Statewide planning under sections 134 and 135, freight planning, safety planning, transportation systems management and operations planning, transportation-related land use planning, and transportation-related growth management activities within these planning processes, and planning capacity building activities.*

*(3) Development and implementation of infrastructure management and traffic monitoring systems, and for asset management.*

*(4) Studies of the economy, safety, and convenience of highway, local public transportation, bicycle, and pedestrian systems and the desirable regulation and equitable taxation of their use.*

*(5) Research, development, and technology transfer activities necessary in connection with the planning, design, construction, management, maintenance, regulation, and taxation of the use of highway, local public transportation, and intermodal transportation systems, including innovative techniques for ensuring representative public input (e.g. deliberative polling).*

*(6) Research on the effects of design standards on intermodal coordination, such as the highway-rail interface, and on safe pedestrian access to transit on arterial roads and urban highways.*

*(7) Study, research and development, and training on the engineering standards and construction materials, including accreditation of inspection and testing, for highway, local public transportation, bicycle, pedestrian, and intermodal transportation systems.*

*(b) MINIMUM EXPENDITURES ON RESEARCH, DEVELOPMENT, AND TECHNOLOGY TRANSFER ACTIVITIES.—*

*(1) IN GENERAL.—Subject to paragraph (2), not less than 25 percent of the funds appropriated pursuant to subsection (a) to a State for a fiscal year shall be expended by the State for research, development, and technology transfer activities described in subsection (a), relating to highway, public transportation, bicycle, pedestrian, and intermodal transportation systems.*

*(2) WAIVERS.—The Secretary may waive the application of paragraph (1) with respect to a State for a fiscal year if the State certifies to the Secretary for the fiscal year that the funds described in paragraph (1) are not needed for research, development, and technology transfer and the Secretary accepts such certification.*

*(3) NONAPPLICABILITY OF ASSESSMENT.—Funds expended under paragraph (1) shall not be considered to be part of the*

*extramural budget of the agency for the purpose of section 9 of the Small Business Act (15 U.S.C. 638).*

*(c) MINIMUM EXPENDITURES FOR IMPROVING THE QUALITY OF COLLECTION AND REPORTING OF STRATEGIC SURFACE TRANSPORTATION DATA.—*

*(1) IN GENERAL.—Subject to paragraph (2), not less than 10 percent of the funds appropriated pursuant to subsection (a) for a fiscal year to a State shall be expended by the State to improve the collection and reporting of strategic surface transportation data to provide critical information about the extent, condition, use, performance, and financing of the Nation's surface transportation system (including intermodal connectors) for passenger and freight movement.*

*(2) WAIVERS.—The Secretary may waive the application of paragraph (1) with respect to a State for a fiscal year if the State certifies to the Secretary for the fiscal year that the State is collecting and reporting strategic data consistent with quality assurance guidelines developed cooperatively with the States and the Secretary approves such certification.*

*(d) FEDERAL SHARE.—The Federal share of the cost of a project carried out using funds subject to subsection (a) shall be matched in accordance with section 120(b) unless the Secretary determines that the interests of the surface transportation program would be best served without such matching.*

* * * * * * *

**[§ 507. Surface transportation-environment cooperative research program**

[(a) IN GENERAL.—The Secretary shall establish and carry out a surface transportation-environment cooperative research program.

[(b) CONTENTS.—The program to be carried out under this section shall include research designed—

[(1) to develop more accurate models for evaluating transportation control measures and transportation system designs that are appropriate for use by State and local governments, including metropolitan planning organizations, in designing implementation plans to meet Federal, State, and local environmental requirements;

[(2) to improve understanding of the factors that contribute to the demand for transportation, including transportation system design, demographic change, land use planning, and communications and other information technologies;

[(3) to develop indicators of economic, social, and environmental performance of transportation systems to facilitate analysis of potential alternatives;

[(4) to study the relationship between highway density and ecosystem integrity, including the impacts of highway density on habitat integrity and overall ecosystem health, and develop a rapid assessment methodology for use by transportation and regulatory agencies in determining the relationship between highway density and ecosystem integrity; and

[(5) to meet additional priorities as determined by the advisory board established under subsection (c), including recommendations of the National Research Council in the report entitled "Environmental Research Needs in Transportation".

[(c) ADVISORY BOARD.—

[(1) ESTABLISHMENT.—In consultation with the Secretary of Energy, the Administrator of the Environmental Protection Agency, and the heads of other appropriate Federal departments and agencies, the Secretary shall establish an advisory board to recommend environmental and energy conservation research, technology, and technology transfer activities related to surface transportation.

[(2) MEMBERSHIP.—The advisory board shall include—

[(A) representatives of State transportation and environmental agencies;

[(B) transportation and environmental scientists and engineers; and

[(C) representatives of metropolitan planning organizations, transit operating agencies, and environmental organizations.

[(d) NATIONAL ACADEMY OF SCIENCES.—The Secretary may make grants to, and enter into cooperative agreements with, the National Academy of Sciences to carry out such activities relating to the research, technology, and technology transfer activities described in subsection (b) as the Secretary determines appropriate.

**[§ 508. Surface transportation research strategic planning**

[(a) IN GENERAL.—The Secretary shall—

[(1) establish a strategic planning process, consistent with section 306 of title 5 for the Department of Transportation to determine national transportation research and technology development priorities related to surface transportation;

[(2) coordinate Federal surface transportation research and technology development activities;

[(3) measure the results of those activities and how they impact the performance of the surface transportation systems of the United States; and

[(4) ensure that planning and reporting activities carried out under this section are coordinated with all other surface transportation planning and reporting requirements.

[(b) IMPLEMENTATION.—The Secretary shall—

[(1) provide for the integrated planning, coordination, and consultation among the operating administrations of the Department of Transportation, all other Federal agencies with responsibility for surface transportation research and technology development, State and local governments, institutions of higher education, industry, and other private and public sector organizations engaged in surface transportation-related research and development activities;

[(2) ensure that the surface transportation research and technology development programs of the Department do not duplicate other Federal, State, or private sector research and development programs; and

[(3) provide for independent validation of the scientific and technical assumptions underlying the surface transportation research and technology development programs of the Department.

[(c) SURFACE TRANSPORTATION RESEARCH AND TECHNOLOGY DEVELOPMENT STRATEGIC PLAN.—

[(1) DEVELOPMENT.—The Secretary shall develop an integrated surface transportation research and technology development strategic plan.

[(2) CONTENTS.—The plan shall include—

[(A) an identification of the general goals and objectives of the Department of Transportation for surface transportation research and development;

[(B) a description of the roles of the Department and other Federal agencies in achieving the goals identified under subparagraph (A), in order to avoid unnecessary duplication of effort;

[(C) a description of the overall strategy of the Department, and the role of each of the operating administrations of the Department, in carrying out the plan over the next 5 years, including a description of procedures for coordination of the efforts of the Secretary with the efforts of the operating administrations of the Department and other Federal agencies;

[(D) an assessment of how State and local research and technology development activities are contributing to the achievement of the goals identified under subparagraph (A);

[(E) details of the surface transportation research and technology development programs of the Department, including performance goals, resources needed to achieve those goals, and performance indicators as described in section 1115(a) of title 31, United States Code, for the next 5 years for each area of research and technology development;

[(F) significant comments on the plan obtained from outside sources; and

[(G) responses to significant comments obtained from the National Research Council and other advisory bodies, and a description of any corrective actions taken pursuant to such comments.

[(3) NATIONAL RESEARCH COUNCIL REVIEW.—The Secretary shall enter into an agreement for the review by the National Research Council of the details of each—

[(A) strategic plan or revision required under section 306 of title 5;

[(B) performance plan required under section 1115 of title 31; and

[(C) program performance report required under section 1116,

with respect to surface transportation research and technology development.

[(4) PERFORMANCE PLANS AND REPORTS.—In reports submitted under sections 1115 and 1116 of title 31, the Secretary shall include—

[(A) a summary of the results for the previous fiscal year of surface transportation research and technology development programs to which the Department of Transportation contributes, along with—

[(i) an analysis of the relationship between those results and the goals identified under paragraph (2)(A); and

[(ii) a description of the methodology used for assessing the results; and

[(B) a description of significant surface transportation research and technology development initiatives, if any, undertaken during the previous fiscal year that were not in the plan developed under paragraph (1), and any significant changes in the plan from the previous year's plan.

[(d) MERIT REVIEW AND PERFORMANCE MEASUREMENT.—Not later than 1 year after the date of enactment of this section, the Secretary shall transmit to Congress a report describing competitive merit review procedures for use in selecting grantees and contractors in the programs covered by the plan developed under subsection (c) and performance measurement procedures for evaluating the programs.

[(e) PROCUREMENT PROCEDURES.—The Secretary shall—

[(1) develop model procurement procedures that encourage the use of advanced technologies; and

[(2) develop model transactions for carrying out and coordinating Federal and State surface transportation research and technology development activities.

[(f) CONSISTENCY WITH GOVERNMENT PERFORMANCE AND RESULTS ACT OF 1993.—The plans and reports developed under this section shall be consistent with and incorporated as part of the plans developed under section 306 of title 5 and sections 1115 and 1116 of title 31.]

### *§ 507. Surface Transportation Environment and Planning Cooperative Research Program*

*(a) IN GENERAL.—*

*(1) ESTABLISHMENT.—The Secretary shall establish and support a collaborative, public-private, multimodal surface transportation environment and planning cooperative research and development program.*

*(2) PROGRAM.—The program established under paragraph (1) shall solely carry out research and development called for in the Transportation Research Board Special Report 268, entitled "Surface Transportation Environmental Research: A Long-Term Strategy", published in 2002, which included the following research and development areas:*

*(A) Human Health.*

*(B) Ecology and Natural Systems.*

*(C) Environmental and Social Justice.*

*(D) Emerging Technologies.*

*(E) Land Use.*

*(F) Planning and Performance Measures.*

*(b) ADMINISTRATION.—*

*(1) AGREEMENT.—The Secretary shall enter into an arrangement with the National Research Council, or another nonprofit research organization, such as the Health Effects Institute, to administer the program established under subsection (a)(1).*

*(2) DISSEMINATION OF RESEARCH AND DEVELOPMENT FINDINGS.—The organization described in paragraph (1) and the De-*

*partment of Transportation shall proactively disseminate research and development findings under this section to researchers, practitioners, and decisionmakers.*

*(c) ADVISORY BOARD.—*

*(1) ESTABLISHMENT.—The organization described in subsection (b)(1) shall establish an advisory board.*

*(2) MEMBERSHIP.—The advisory board shall be balanced, and shall include—*

*(A) representatives from pubic interest groups representing the environment;*

*(B) representatives of State, regional, and local transportation agencies, including metropolitan planning organizations and transit agencies;*

*(C) representatives of State environmental agencies;*

*(D) transportation and environmental scientists and engineers; and*

*(E) representatives of Federal agencies, including the Department of Transportation, the Environmental Protection Agency, and the National Science Foundation.*

*(3) RESPONSIBILITIES.—The advisory board shall—*

*(A) develop an annual research and development agenda to carry out research and development activities described in subsection (a)(2);*

*(B) solicit research proposals to carry out the research and development agenda, and oversee peer review of proposals;*

*(C) develop project selection criteria through an open and public consultation process with stakeholders; and*

*(D) select projects for funding.*

*(4) CRITERIA.—In developing criteria, the advisory board shall give priority to proposals that—*

*(A) are designed to develop fundamental knowledge;*

*(B) are interdisciplinary and involve partnerships; and*

*(C) include significant matching funds.*

*(d) PROJECT FUNDING.—In addition to using funds authorized for this section, the organization described in subsection (b)(1) is encouraged to seek and accept additional funding sources from public and private entities.*

*(e) ANNUAL REPORT.—The organization described in subsection (b)(1) shall prepare and transmit to the Secretary and the Congress an annual report that includes a project summary for every project funded under this section. Each summary shall describe the project, summarize its status and funding levels, and identify sources of funding.*

### *§ 508. Transportation research and development strategic planning*

*(a) IN GENERAL.—*

*(1) DEVELOPMENT.—Not later than 1 year after the date of enactment of the Surface Transportation Research and Development Act of 2004, the Secretary shall develop a 5-year transportation research and development strategic plan to guide Federal transportation research and development activities. This plan shall be consistent with section 306 of title 5, sections 1115 and*

*1116 of title 31, and any other research and development plan within the Department of Transportation.*

*(2) CONTENTS.—The strategic plan developed under paragraph (1) shall—*

*(A) describe the primary purposes of the transportation research and development program, which shall include, at a minimum—*

*(i) reducing congestion and improving mobility;*

*(ii) promoting safety;*

*(iii) promoting security;*

*(iv) protecting and enhancing the environment;*

*(v) preserving the existing transportation system; and*

*(vi) improving the durability and extending the life of transportation infrastructure;*

*(B) for each purpose, list the primary research and development topics that the Department intends to pursue to accomplish that purpose, which may include the fundamental research in the physical and natural sciences, applied research, technology development, and social science research intended for each topic; and*

*(C) for each research and development topic, describe—*

*(i) the anticipated annual funding levels for the period covered by the strategic plan; and*

*(ii) the additional information the Department expects to gain at the end of the period covered by the strategic plan as a result of the research and development in that topic area.*

*(3) CONSIDERATIONS.—In developing the strategic plan, the Secretary shall ensure that the plan—*

*(A) reflects input from a wide range of stakeholders;*

*(B) includes and integrates the research and development programs of all the Department's operating administrations, including aviation, transit, rail, and maritime; and*

*(C) takes into account how research and development by other Federal, State, private sector, and not-for-profit institutions contributes to the achievement of the purposes identified under paragraph (2)(A), and avoids unnecessary duplication with these efforts.*

*(4) PERFORMANCE PLANS AND REPORTS.—In reports submitted under sections 1115 and 1116 of title 31, the Secretary shall include—*

*(A) a summary of the Federal transportation research and development activities for the previous fiscal year in each topic area;*

*(B) the amount of funding spent in each topic area;*

*(C) a description of the extent to which the research and development is meeting the expectations set forth in paragraph (2)(C)(ii); and*

*(D) any amendments to the strategic plan.*

*(b) ANNUAL REPORT.—The Secretary shall submit to Congress an annual report, along with the President's annual budget request, describing the amount spent in the last completed fiscal year on transportation research and development and the amount proposed in the current budget for transportation research and development.*

*(c) NATIONAL RESEARCH COUNCIL REVIEW.—The Secretary shall enter into an agreement for the review by the National Research Council of the details of each—*

*(1) strategic plan under section 508;*

*(2) performance plan required under section 1115 of title 31; and*

*(3) program performance report required under section 1116 of title 31,*

*with respect to transportation research and development.*

***§ 509. Future Strategic Highway Research Program***

*(a) ESTABLISHMENT.—The Secretary, in consultation with the American Association of State Highway and Transportation Officials, shall establish and support a grant program to be known as the Future Strategic Highway Research Program.*

*(b) PROGRAM.—The program established under this section shall implement the Transportation Research Board Special Report 260, entitled "Strategic Highway Research: Saving Lives, Reducing Congestion, Improving Quality of Life", which included the following research areas:*

*(1) Accelerating the renewal of America's highways.*

*(2) Making a significant improvement in highway safety.*

*(3) Providing a highway system with reliable travel times.*

*(4) Providing highway capacity in support of the Nation's economic, environmental, multi-modal transportation, and social goals.*

*(c) ADMINISTRATION.—The Secretary shall enter into an arrangement with the National Research Council to administer the program established under subsection (a).*

*(d) PERIOD OF AVAILABILITY.—Funds set aside to carry out this section shall remain available for the fiscal year for which such funds are made available and the three succeeding fiscal years.*

*(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary of Transportation from the Highway Trust Fund, for each of fiscal years 2004 through 2009, $75,000,000 to carry out this section.*

*(f) PROGRAM ADMINISTRATION.—In carrying out the program under this section, the Secretary, through the agreement with the National Research Council, shall ensure that the selection of awards shall be based on open competition and peer review, and that a balanced group of stakeholders is represented on all committees and panels established to implement the program. Proposals that involve partnerships and include significant matching funds shall be encouraged, although no matching funds are required.*

*(g) PROGRAMMATIC EVALUATIONS.—Within 3 years after the first research and development project grants, cooperative agreements, or contracts are awarded under this section, the Comptroller General shall review the program under this section, and recommend improvements. The review shall assess the degree to which projects funded under this section have addressed the research and development topics identified in the Transportation Research Board Special Report 260, including identifying those topics which have not yet been addressed.*

*(h) ANNUAL PROGRESS AND PERFORMANCE REPORT.—The National Research Council shall produce an annual progress and per-*

*formance report for the program under this section. The report shall summarize the status, funding, and sponsors of all funded projects by the research and development areas specified in subsection (b). The report shall be submitted to the Secretary, to the Committee on Transportation and Infrastructure and the Committee on Science of the House of Representatives, and to the Committee on Environment and Public Works of the Senate.*

### *§ 510. National cooperative freight transportation research and development program*

*(a) ESTABLISHMENT.—The Secretary shall establish and support a national cooperative freight transportation research and development program. The program shall focus on all forms of freight transportation, including trucking and rail.*

*(b) AGREEMENT.—The Secretary shall enter into an arrangement with the National Research Council to support and carry out administrative and management activities relating to the governance of the national cooperative freight transportation research and development program.*

*(c) ADVISORY COMMITTEE.—The National Research Council shall select an advisory committee consisting of a representative cross-section of freight stakeholders, including the Department of Transportation, other Federal agencies, State transportation departments, local governments, the American Association of State Highway and Transportation Officials and other nonprofit entities (including environmental groups), academia, and the private sector.*

*(d) GOVERNANCE.—The national cooperative freight transportation research and development program established under this section shall include the following administrative and management elements:*

*(1) NATIONAL RESEARCH AND DEVELOPMENT AGENDA.—The advisory committee, in consultation with stakeholders, shall recommend a national research and development agenda for the national cooperative freight transportation research and development program. The national research and development agenda shall include a multi-year strategic plan.*

*(2) STAKEHOLDER INVOLVEMENT.—Stakeholders may—*

*(A) submit research and development proposals to the advisory committee;*

*(B) participate in merit reviews of research and development proposals and peer reviews of research and development products; and*

*(C) receive research and development results.*

*(3) OPEN COMPETITION AND PEER REVIEW OF RESEARCH AND DEVELOPMENT PROPOSALS.—The National Research Council shall award research and development contracts and grants through open competition and peer review conducted on a regular basis.*

*(4) EVALUATION OF RESEARCH.—*

*(A) PEER REVIEW.—Research and development contracts and grants shall allow peer review of the research and development results.*

*(B) PROGRAMMATIC EVALUATIONS.—The National Research Council may conduct periodic programmatic evaluations on a regular basis.*

*(5) DISSEMINATION OF RESEARCH FINDINGS.—The National Research Council shall disseminate research and development findings to researchers, practitioners, and decisionmakers.*

*(e) CONTENTS.—The national research and development agenda for the national cooperative freight transportation research and development program required under subsection (d)(1) may include research and development in the following areas:*

*(1) Techniques for estimating and quantifying public benefits derived from freight transportation projects.*

*(2) Alternative approaches to calculating the contribution of truck traffic to congestion on specific highway segments.*

*(3) The feasibility of freight villages as a means of consolidating origins and destinations for freight movement.*

*(4) Methods for incorporating estimates of international trade into landside transportation planning.*

*(5) The use of technology applications to increase capacity of highway lanes dedicated to truck-only traffic.*

*(6) Development of physical and policy alternatives for separating car and truck traffic.*

*(7) Ways to synchronize infrastructure improvements with freight transportation demand.*

*(8) Additional priorities to identify and address the emerging and future research and development needs related to freight transportation.*

*(f) FUNDING.—*

*(1) FEDERAL SHARE.—The Federal share of the cost of an activity carried out using such funds shall be up to 100 percent, and such funds shall remain available until expended.*

*(2) USE OF NON-FEDERAL FUNDS.—In addition to using funds authorized for this section, the National Research Council may seek and accept additional funding sources from public and private entities capable of accepting funding from the United States Department of Transportation (Federal Highway Administration, Federal Transit Administration, Federal Railroad Administration, Research and Special Programs Administration, and the National Highway Traffic Safety Administration), states, local governments, nonprofit foundations, and the private sector.*

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## TRANSPORTATION EQUITY ACT FOR THE 21st CENTURY

**SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

(a) * * *

(b) TABLE OF CONTENTS.—The table of contents of this Act is as follows:

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# TITLE V—TRANSPORTATION RESEARCH

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## Subtitle B—Research and Technology

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**SEC. 5113. COMMERCIAL REMOTE SENSING PRODUCTS AND SPATIAL INFORMATION TECHNOLOGIES.**

(a) * * *

[(b) PROGRAM STAGES.—

[(1) FIRST STAGE.—Not later than 18 months after the date of enactment of this Act, the Secretary shall establish a national policy for the use of commercial remote sensing products and spatial information technologies in national transportation infrastructure development and construction.

[(2) SECOND STAGE.—After establishment of the national policy under paragraph (1), the Secretary shall develop new applications of commercial remote sensing products and spatial information technologies for the implementation of the national policy.]

*(b) PROGRAM.—*

*(1) NATIONAL POLICY.—The Secretary shall establish and maintain a national policy for the use of commercial remote sensing products and geospatial information technologies in national transportation infrastructure development and construction.*

*(2) POLICY IMPLEMENTATION.—The Secretary shall develop new applications of commercial remote sensing products and geospatial information technologies for the implementation of the national policy established and maintained under paragraph (1).*

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# [Subtitle C—Intelligent Transportation Systems

**[SEC. 5201. SHORT TITLE.**

[This subtitle may be cited as the "Intelligent Transportation Systems Act of 1998".

**[SEC. 5202. FINDINGS.**

[Congress finds that—

[(1) investments authorized by the Intermodal Surface Transportation Efficiency Act of 1991 (105 Stat. 1914 et seq.) have demonstrated that intelligent transportation systems can mitigate surface transportation problems in a cost-effective manner; and

[(2) continued investment in architecture and standards development, research, and systems integration is needed to accelerate the rate at which intelligent transportation systems are incorporated into the national surface transportation network, thereby improving transportation safety and efficiency and reducing costs and negative impacts on communities and the environment.

**[SEC. 5203. 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 the enhancement of safe operation of motor vehicles and nonmotorized vehicles, 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 vehicles, passenger vehicles, and motorcycles, and including individuals with disabilities; and

[(5) improvement of the Nation's ability to respond to emergencies and natural disasters and enhancement of national defense mobility.

[(b) PURPOSES.—The Secretary shall implement activities under the intelligent system transportation program to, at a minimum—

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

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

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

[(4) promote the innovative use of private resources;

[(5) develop a workforce capable of developing, operating, and maintaining intelligent transportation systems; and

[(6) complete deployment of Commercial Vehicle Information Systems and Networks in a majority of States by September 30, 2003.

**[SEC. 5204. GENERAL AUTHORITIES AND REQUIREMENTS.**

[(a) SCOPE.—Subject to the provisions of this subtitle, the Secretary shall conduct an ongoing intelligent transportation system program to research, develop, and operationally test intelligent transportation systems and advance nationwide deployment of such systems as a component of the surface transportation systems of the United States.

[(b) POLICY.—Intelligent transportation system operational tests and deployment projects funded pursuant to this subtitle shall encourage and not displace public-private partnerships or private sector investment in such 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 United States private sector, the Federal laboratories, and colleges and universities, 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, as appropriate, shall consult with the Secretary of Commerce, the Secretary of the Treasury, the Administrator of the Environmental Protection Agency, the Director of the National Science Foundation, and the heads of other Federal departments and agencies.

[(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 system 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 subtitle; and

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

[(2) DELEGATION OF AUTHORITY.—

[(A) IN GENERAL.—The Secretary may delegate the responsibility of the Secretary under this subsection, with continuing oversight by the Secretary, to an appropriate entity not within the Department of Transportation.

[(B) FEDERAL ASSISTANCE.—If the Secretary delegates the responsibility, the entity to which the responsibility is delegated shall be eligible for Federal assistance under this section.

[(h) ADVISORY COMMITTEES.—

[(1) IN GENERAL.—In carrying out this subtitle, the Secretary may use 1 or more advisory committees.

[(2) APPLICABILITY OF FEDERAL ADVISORY COMMITTEE ACT.—Any advisory committee so used shall be subject to the Federal Advisory Committee Act (5 U.S.C. App.).

[(i) PROCUREMENT METHODS.—

[(1) TECHNICAL ASSISTANCE.—The Secretary shall develop appropriate technical assistance and guidance to assist State and local agencies in evaluating and selecting appropriate methods of procurement for intelligent transportation system projects carried out using funds made available from the Highway Trust Fund, including innovative and nontraditional methods such as the Information Technology Omnibus Procurement.

[(2) INTELLIGENT TRANSPORTATION SYSTEM SOFTWARE.—To the maximum extent practicable, contracting officials shall use as a critical evaluation criterion the Software Engineering Institute's Capability Maturity Model, or another similar recognized standard risk assessment methodology, to reduce the cost, schedule, and performance risks associated with the development, management, and integration of intelligent transportation system software.

[(j) EVALUATIONS.—

[(1) GUIDELINES AND REQUIREMENTS.—

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

[(B) OBJECTIVITY AND INDEPENDENCE.—The guidelines and requirements issued under subparagraph (A) shall include provisions to ensure the objectivity and independence of the evaluator 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 subtitle.

[(C) FUNDING.—The guidelines and requirements issued under subparagraph (A) shall establish evaluation funding levels based on the size and scope of each test or project that ensure adequate evaluation 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 evaluation of any test, deployment project, or program assessment activity under this subtitle shall not be subject to chapter 35 of title 44.

[(k) USE OF RIGHTS-OF-WAY.—Intelligent transportation system projects specified in section 5117(b)(3) and 5117(b)(6) and involving privately owned intelligent transportation system components that is carried out using funds made available from the Highway Trust Fund shall not be subject to any law or regulation of a State or political subdivision of a State prohibiting or regulating commercial

activities in the rights-of-way of a highway for which Federal-aid highway funds have been utilized for planning, design, construction, or maintenance, if the Secretary of Transportation determines that such use is in the public interest. Nothing in this subsection shall affect the authority of a State or political subdivision of a State to regulate highway safety.

**[SEC. 5205. NATIONAL ITS PROGRAM PLAN.**

[(a) IN GENERAL.—

[(1) UPDATES.—The Secretary shall maintain and update, as necessary, the National ITS Program Plan developed by the Department of Transportation and the Intelligent Transportation Society of America.

[(2) SCOPE.—The National ITS Program Plan shall—

[(A) specify the goals, objectives, and milestones for the research and deployment of intelligent transportation systems in the context of major metropolitan areas, smaller metropolitan and rural areas, and commercial vehicle operations;

[(B) specify how specific programs and projects will achieve the goals, objectives, and milestones referred to in subparagraph (A), including consideration of the 5- and 10-year timeframes for the goals and objectives;

[(C) identify activities that provide for the dynamic development of standards and protocols to promote and ensure interoperability in the implementation of intelligent transportation system technologies, including actions taken to establish critical standards; and

[(D) establish a cooperative process with State and local governments for determining desired surface transportation system performance levels and developing plans for incorporation of specific intelligent transportation system capabilities into surface transportation systems.

[(b) REPORTING.—The plan described in subsection (a) shall be transmitted and updated as part of the Surface Transportation Research and Development Strategic Plan developed under section 508 of title 23, United States Code.

**[SEC. 5206. NATIONAL ARCHITECTURE AND STANDARDS.**

[(a) IN GENERAL.—

[(1) DEVELOPMENT, IMPLEMENTATION, AND MAINTENANCE.—Consistent with section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note; 110 Stat. 783), the Secretary shall develop, implement, and maintain a national architecture and supporting standards and protocols to promote the widespread use and evaluation of intelligent transportation system technology as a component of the surface transportation systems of the United States.

[(2) INTEROPERABILITY AND EFFICIENCY.—To the maximum extent practicable, the national architecture shall promote interoperability among, and efficiency of, intelligent transportation system technologies implemented throughout the United States.

[(3) USE OF STANDARDS DEVELOPMENT ORGANIZATIONS.—In carrying out this section, the Secretary may use the services of

such standards development organizations as the Secretary determines to be appropriate.

[(b) REPORT ON CRITICAL STANDARDS.—Not later than June 1, 1999, the Secretary shall submit a report to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure and the Committee on Science of the House of Representatives identifying which standards are critical to ensuring national interoperability or critical to the development of other standards and specifying the status of the development of each standard identified.

[(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 identified in subsection (a), the Secretary may establish a provisional standard after consultation with affected parties, and using, to the extent practicable, the work product of appropriate standards development organizations.

[(2) CRITICAL STANDARDS.—If a standard identified as critical in the report under subsection (b) is not adopted and published by the appropriate standards development organization by January 1, 2001, the Secretary shall establish a provisional standard after consultation with affected parties, and using, to the extent practicable, the work product of appropriate standards development organizations.

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

[(d) WAIVER OF REQUIREMENT TO ESTABLISH PROVISIONAL STANDARD.—

[(1) IN GENERAL.—The Secretary may waive the requirement under subsection (c)(2) to establish a provisional standard if the Secretary determines that additional time would be productive or that establishment of a provisional standard would be counterproductive to achieving the timely achievement of the objectives identified in subsection (a).

[(2) NOTICE.—The Secretary shall publish in the Federal Register a notice describing each standard for which a waiver of the provisional standard requirement has been granted, the reasons for and effects of granting the waiver, and an estimate as to when the standard is expected to be adopted through a process consistent with section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note; 110 Stat. 783).

[(3) WITHDRAWAL OF WAIVER.—At any time the Secretary may withdraw a waiver granted under paragraph (1). Upon such withdrawal, the Secretary shall publish in the Federal Register a notice describing each standard for which a waiver has been withdrawn and the reasons for withdrawing the waiver.

[(e) CONFORMITY WITH NATIONAL ARCHITECTURE.—

[(1) IN GENERAL.—Except as provided in paragraphs (2) and (3), the Secretary shall ensure that intelligent transportation

system projects carried out using funds made available from the Highway Trust Fund, including funds made available under this subtitle to deploy intelligent transportation system technologies, conform to the national architecture, applicable standards or provisional standards, and protocols developed under subsection (a).

[(2) SECRETARY'S DISCRETION.—The Secretary may authorize exceptions to paragraph (1) for—

[(A) projects designed to achieve specific research objectives outlined in the National ITS Program Plan under section 5205 or the Surface Transportation Research and Development Strategic Plan developed under section 508 of title 23, United States Code; or

[(B) the upgrade or expansion of an intelligent transportation system in existence on the date of enactment of this subtitle, if the Secretary determines that the upgrade or expansion—

[(i) would not adversely affect the goals or purposes of this subtitle;

[(ii) is carried out before the end of the useful life of such system; and

[(iii) is cost-effective as compared to alternatives that would meet the conformity requirement of paragraph (1).

[(3) EXCEPTIONS.—Paragraph (1) shall not apply to funds used for operation or maintenance of an intelligent transportation system in existence on the date of enactment of this subtitle.

[(f) SPECTRUM.—The Federal Communications Commission shall consider, in consultation with the Secretary, spectrum needs for the operation of intelligent transportation systems, including spectrum for the dedicated short-range vehicle-to-wayside wireless standard. Not later than January 1, 2000, the Federal Communications Commission shall have completed a rulemaking considering the allocation of spectrum for intelligent transportation systems.

**[SEC. 5207. RESEARCH AND DEVELOPMENT.**

[(a) IN GENERAL.—The Secretary shall carry out a comprehensive program of intelligent transportation system research, development and operational tests of intelligent vehicles and intelligent infrastructure systems, and other similar activities that are necessary to carry out this subtitle.

[(b) PRIORITY AREAS.—Under the program, the Secretary shall give higher priority to funding projects that—

[(1) address traffic management, incident management, transit management, toll collection, traveler information, or highway operations systems;

[(2) focus on crash-avoidance and integration of in-vehicle crash protection technologies with other on-board safety systems, including the interaction of air bags and safety belts;

[(3) incorporate human factors research, including the science of the driving process;

[(4) facilitate the integration of intelligent infrastructure, vehicle, and control technologies, including magnetic guidance control systems or other materials or magnetics research; or

[(5) incorporate research on the impact of environmental, weather, and natural conditions on intelligent transportation systems, including the effects of cold climates.

[(c) OPERATIONAL TESTS.—Operational tests conducted under this section shall be designed for the collection of data to permit objective evaluation of the results of the tests, derivation of cost-benefit information that is useful to others contemplating deployment of similar systems, and development and implementation of standards.

[(d) FEDERAL SHARE.—The Federal share of the cost of operational tests and demonstrations under subsection (a) shall not exceed 80 percent.

**[SEC. 5208. INTELLIGENT TRANSPORTATION SYSTEM INTEGRATION PROGRAM.**

[(a) IN GENERAL.—The Secretary shall conduct a comprehensive program to accelerate the integration and interoperability of intelligent transportation systems in metropolitan and rural areas. Under the program, the Secretary shall select for funding, through competitive solicitation, projects that will serve as models to improve transportation efficiency, promote safety (including safe freight movement), increase traffic flow (including the flow of intermodal travel at ports of entry), reduce emissions of air pollutants, improve traveler information, enhance alternative transportation modes, build on existing intelligent transportation system projects, or promote tourism.

[(b) SELECTION OF PROJECTS.—Under the program, the Secretary shall give priority to funding projects that—

[(1) contribute to national deployment goals and objectives outlined in the National ITS Program Plan under section 5205;

[(2) demonstrate a strong commitment to cooperation among agencies, jurisdictions, and the private sector, as evidenced by signed memoranda of understanding that clearly define the responsibilities and relations of all parties to a partnership arrangement, including institutional relationships and financial agreements needed to support deployment;

[(3) encourage private sector involvement and financial commitment, to the maximum extent practicable, through innovative financial arrangements, especially public-private partnerships, including arrangements that generate revenue to offset public investment costs;

[(4) demonstrate commitment to a comprehensive plan of fully integrated intelligent transportation system deployment in accordance with the national architecture and standards and protocols established under section 5206;

[(5) are part of approved plans and programs developed under applicable statewide and metropolitan transportation planning processes and applicable State air quality implementation plans, as appropriate, at the time at which Federal funds are sought;

[(6) minimize the relative percentage and amount of Federal contributions under this section to total project costs;

[(7) ensure continued, long-term operations and maintenance without continued reliance on Federal funding under this subtitle, as evidenced by documented evidence of fiscal ca-

pacity and commitment from anticipated public and private sources;

[(8) demonstrate technical capacity for effective operations and maintenance or commitment to acquiring necessary skills;

[(9) mitigate any adverse impacts on bicycle and pedestrian transportation and safety; or

[(10) in the case of a rural area, meet other safety, mobility, geographic and regional diversity, or economic development criteria as determined by the Secretary.

[(c) FISCAL YEAR LIMITATIONS.—Of the amounts made available to carry out this section for a fiscal year—

[(1) not more that $15,000,000 may be used for projects in a single metropolitan area;

[(2) not more than $2,000,000 may be used for projects in a single rural area; and

[(3) not more than $35,000,000 may be used for projects in a State.

[(d) FUNDING LIMITATIONS.—

[(1) PROJECTS IN METROPOLITAN AREAS.—Funding under this section for intelligent transportation infrastructure projects in metropolitan areas shall be used primarily for activities necessary to integrate intelligent transportation infrastructure elements that are either deployed or to be deployed with other sources of funds.

[(2) OTHER PROJECTS.—For projects outside metropolitan areas, funding provided under this subtitle may also be used for installation of intelligent transportation infrastructure elements.

[(e) FUNDING FOR RURAL AREAS.—The Secretary shall allocate not less than 10 percent of funds authorized by section 5001(c)(4)(A) in rural areas for intelligent transportation infrastructure deployment activities funded under this section to carry out intelligent transportation infrastructure deployment activities in rural areas.

[(f) FEDERAL SHARE.—

[(1) FUNDS MADE AVAILABLE UNDER THIS SECTION.—The Federal share of the cost of a project payable from funds made available under this section shall not exceed 50 percent.

[(2) FUNDS MADE AVAILABLE FROM ALL FEDERAL SOURCES.—The total Federal share of the cost of a project payable from all eligible sources (including this section) shall not exceed 80 percent.

[(g) CORRIDOR DEVELOPMENT AND COORDINATION.—

[(1) IN GENERAL.—The Secretary shall encourage multistate cooperative agreements, coalitions, or other arrangements intended to promote regional cooperation, planning, and shared project implementation for intelligent transportation system projects.

[(2) GREAT LAKES ITS IMPLEMENTATION.—

[(A) IN GENERAL.—The Secretary shall make grants under this subsection to the State of Wisconsin to continue ITS activities in the corridor serving the Greater Milwaukee, Wisconsin, Chicago, Illinois, and Gary, Indiana, areas initiated under the Intermodal Surface Transportation Efficiency Act of 1991 and other areas of the State.

[(B) FUNDING.—Of the amounts made available for each of fiscal years 1998 through 2003 under section 5001(c)(4)(A) of this Act, $2,000,000 per fiscal year shall be available to carry out this paragraph.

[(3) NORTHEAST ITS IMPLEMENTATION.—

[(A) IN GENERAL.—The Secretary shall make grants under this subsection to the States to continue ITS activities in the Interstate Route I–95 corridor in the northeastern United States initiated under the Intermodal Surface Transportation Efficiency Act of 1991.

[(B) FUNDING.—Of the amounts made available for each of fiscal years 1998 through 2003 under section 5001(c)(4)(A) of this Act, $5,000,000 per fiscal year shall be available to carry out this paragraph.

**[SEC. 5209. COMMERCIAL VEHICLE INTELLIGENT TRANSPORTATION SYSTEM INFRASTRUCTURE DEPLOYMENT.**

[(a) IN GENERAL.—The Secretary shall carry out a comprehensive program to deploy intelligent transportation systems that—

[(1) improve the safety and productivity of commercial vehicles and drivers; and

[(2) reduce costs associated with commercial vehicle operations and Federal and State commercial vehicle regulatory requirements.

[(b) PURPOSE.—The program shall advance the technological capability and promote the deployment of intelligent transportation system applications to commercial vehicle operations, including commercial vehicle, commercial driver, and carrier-specific information systems and networks.

[(c) PRIORITY AREAS.—In carrying out the program, the Secretary shall give priority to projects that—

[(1) encourage multistate cooperation and corridor development;

[(2)(A) improve the safety of commercial vehicle operations; and

[(B) increase the efficiency of regulatory inspection processes to reduce administrative burdens by advancing technology to facilitate inspections and generally increase the effectiveness of enforcement efforts;

[(3)(A) advance electronic processing of registration information, driver licensing information, fuel tax information, inspection and crash data, and other safety information; and

[(B) promote communication of the information among the States; or

[(4) enhance the safe passage of commercial vehicles across the United States and across international borders.

[(d) LEVERAGING OF FEDERAL FUNDS.—Federal funds used to carry out the program shall, to the maximum extent practicable—

[(1) be leveraged with non-Federal funds; and

[(2) be used for activities not carried out through the use of private funds.

[(e) FEDERAL SHARE.—The Federal share of the cost of the project payable from funds made available to carry out this section shall not exceed 50 percent. The total Federal share of the cost of the project payable from all eligible sources shall not exceed 80 percent.

**[SEC. 5210. USE OF FUNDS.**

[(a) OUTREACH AND PUBLIC RELATIONS LIMITATION.—

[(1) IN GENERAL.—For each fiscal year, not more than $5,000,000 of the funds made available to carry out this subtitle shall be used for intelligent transportation system outreach, public relations, displays, scholarships, tours, and brochures.

[(2) APPLICABILITY.—Paragraph (1) shall not apply to intelligent transportation system training or the publication or distribution of research findings, technical guidance, or similar documents.

[(b) INFRASTRUCTURE DEVELOPMENT.—Funds made available to carry out this subtitle for operational tests and deployment projects—

[(1) shall be used primarily for the development of intelligent transportation system infrastructure; and

[(2) to the maximum extent practicable, shall not be used for the construction of physical highway and transit infrastructure unless the construction is incidental and critically necessary to the implementation of an intelligent transportation system project.

[(c) LIFE CYCLE COST ANALYSIS AND FINANCING AND OPERATIONS PLAN.—The Secretary shall require an applicant for funds made available under sections 5208 and 5209 to submit to the Secretary—

[(1) an analysis of the life-cycle costs of operation and maintenance of intelligent transportation system elements, if the total initial capital costs of the elements exceed $3,000,000; and

[(2) a multiyear financing and operations plan that describes how the project will be cost-effectively operated and maintained.

[(d) USE OF INNOVATIVE FINANCING.—

[(1) IN GENERAL.—The Secretary may use up to 25 percent of the funds made available to carry out this subtitle to make available loans, lines of credit, and loan guarantees for projects that are eligible for assistance under this subtitle and that have significant intelligent transportation system elements.

[(2) CONSISTENCY WITH OTHER LAW.—Credit assistance described in paragraph (1) shall be made available in a manner consistent with the Transportation Infrastructure Finance and Innovation Act of 1998.

**[SEC. 5211. DEFINITIONS.**

[In this subtitle, the following definitions apply:

[(1) COMMERCIAL VEHICLE INFORMATION SYSTEMS AND NETWORKS.—The term "Commercial Vehicle Information Systems and Networks" means the information systems and communications networks that support commercial vehicle operations.

[(2) COMMERCIAL VEHICLE OPERATIONS.—The term "commercial vehicle operations"—

[(A) means motor carrier operations and motor vehicle regulatory activities associated with the commercial movement of goods, including hazardous materials, and passengers; and

[(B) with respect to the public sector, includes the issuance of operating credentials, the administration of motor vehicle and fuel taxes, and roadside safety and border crossing inspection and regulatory compliance operations.

[(3) CORRIDOR.—The term "corridor" means any major transportation route that includes parallel limited access highways, major arterials, or transit lines.

[(4) INTELLIGENT TRANSPORTATION INFRASTRUCTURE.—The term "intelligent transportation infrastructure" means fully integrated public sector intelligent transportation system components, as defined by the Secretary.

[(5) INTELLIGENT TRANSPORTATION SYSTEM.—The term "intelligent transportation system" means electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.

[(6) NATIONAL ARCHITECTURE.—The term "national architecture" means the common framework for interoperability adopted by the Secretary that defines—

[(A) the functions associated with intelligent transportation system user services;

[(B) the physical entities or subsystems within which the functions reside;

[(C) the data interfaces and information flows between physical subsystems; and

[(D) the communications requirements associated with the information flows.

[(7) STANDARD.—The term "standard" means a document that—

[(A) contains technical specifications or other precise criteria for intelligent transportation systems that are to be used consistently as rules, guidelines, or definitions of characteristics so as to ensure that materials, products, processes, and services are fit for their purposes; and

[(B) may support the national architecture and promote—

[(i) the widespread use and adoption of intelligent transportation system technology as a component of the surface transportation systems of the United States; and

[(ii) interoperability among intelligent transportation system technologies implemented throughout the States.

[(8) STATE.—The term "State" has the meaning given the term under section 101 of title 23, United States Code.

**[SEC. 5212. PROJECT FUNDING.**

[(a) USE OF HAZARDOUS MATERIALS MONITORING SYSTEMS.—

[(1) IN GENERAL.—The Secretary shall conduct research on improved methods of deploying and integrating existing ITS projects to include hazardous materials monitoring systems across various modes of transportation.

[(2) FUNDING.—Of the amounts made available for each of fiscal years 1998 through 2003 by section 5001(a)(6) of this Act,

$1,500,000 per fiscal year shall be available to carry out this paragraph.

[(b) OUTREACH AND TECHNOLOGY TRANSFER ACTIVITIES.—

[(1) IN GENERAL.—The Secretary shall continue to support the Urban Consortium's ITS outreach and technology transfer activities.

[(2) FUNDING.—Of the amounts made available for each of fiscal years 1998 through 2003 by section 5001(a)(5) of this Act, $500,000 per fiscal year shall be available to carry out this paragraph.

[(c) TRANSLINK.—

[(1) IN GENERAL.—The Secretary shall make grants to the Texas Transportation Institute to continue the Translink Research program.

[(2) FUNDING.—Of the amounts allocated for each of fiscal years 1999 through 2001 by section 5001(a)(6) of this Act, $1,300,000 per fiscal year shall be available to carry out this paragraph.]

## *Subtitle C—Intelligent Transportation Systems*

***SEC. 5201. SHORT TITLE.***

*This subtitle may be cited as the "Intelligent Transportation Systems Act of 2004".*

***SEC. 5202. 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 the enhancement of safe operation of motor vehicles and nonmotorized vehicles, 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 vehicles, passenger vehicles, motorcycles, and bicycles, and including pedestrians and individuals with disabilities; and*

*(5) improvement of the Nation's ability to respond to security related or other man-made emergencies and natural disasters, and enhancement of national defense mobility.*

*(b) PURPOSES.—The Secretary shall implement activities under the intelligent transportation system program to, at a minimum—*

*(1) develop and test emerging technologies to meet the goals described in subsection (a);*

*(2) expedite deployment and ensure integration and interoperability of proven intelligent transportation systems;*

*(3) analyze the likelihood of utilization of intelligent transportation system technologies by the intended user community;*

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

*(5) improve regional cooperation and operations planning for effective intelligent transportation system deployment;*

*(6) promote the innovative use of private resources;*

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

*(8) evaluate costs and benefits of intelligent transportation systems projects.*

***SEC. 5203. GENERAL AUTHORITIES AND REQUIREMENTS.***

*(a) SCOPE.—Subject to the provisions of this subtitle, the Secretary shall conduct an ongoing intelligent transportation system program to research, develop, and operationally test intelligent transportation systems and advance nationwide deployment of proven systems through research on barriers to deployment as a component of the surface transportation systems of the United States.*

*(b) POLICY.—Intelligent transportation system research, development, operational tests, and deployment projects funded pursuant to this subtitle shall encourage and not displace public-private partnerships or private sector investment in such research and development 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 United States private sector, federally funded research and development centers, and colleges and universities, 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, as appropriate, may consult with the Secretary of Commerce, the Secretary of the Treasury, the Secretary of Homeland Security, the Administrator of the Environmental Protection Agency, the Director of the National Science Foundation, and the heads of other Federal departments and agencies.*

*(e) TECHNICAL ASSISTANCE, TRAINING, AND INFORMATION.—The Secretary shall 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 system management and operations 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 subtitle; and*

*(B) make that information (except for proprietary information and data) readily available to all users of the repository.*

*(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 delegates responsibility under subparagraph (A), the entity to which the responsibility is delegated shall be eligible for Federal financial assistance under this section.*

*(h) ADVISORY COMMITTEE.—*

*(1) IN GENERAL.—The Secretary shall establish an Advisory Committee to advise the Secretary on carrying out this subtitle.*

*(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 not-for-profit 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, 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 of title 23, United States Code.*

*(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 Surface Transportation Research and Development Act of 2004, the Secretary shall transmit to the Committee on Science and the Committee on Transportation and Infrastructure of the House of Representatives, and to the Committee on Environment and Public Works of the Senate, a report including—*

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

*(B) an explanation of how 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) EVALUATIONS.—*

*(1) GUIDELINES AND REQUIREMENTS.—*

*(A) IN GENERAL.—The Secretary shall issue guidelines and requirements for the evaluation of operational tests and model deployment projects carried out under this subtitle.*

*(B) CONTENT.—Such evaluations shall include specific, quantitative measures to determine whether a technology is meeting its intended goal. To the maximum extent practicable, these measures shall evaluate the outcome of the technology (such as accidents avoided or decreased travel times or travel time variability).*

*(C) OBJECTIVITY AND INDEPENDENCE.—The guidelines and requirements issued under subparagraph (A) shall include provisions to ensure the objectivity and independence of the evaluator 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 subtitle.*

*(D) FUNDING.—The guidelines and requirements issued under subparagraph (A) shall establish evaluation funding levels, based on the size and scope of each test or project, that ensure adequate evaluation of the results of the test or project.*

*(E) DISSEMINATION.—The Secretary shall make readily available through the Internet all information collected through evaluations carried out under this subsection.*

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

***SEC. 5204. USING INFORMATION FROM INTELLIGENT TRANSPORTATION SYSTEMS.***

*(a) REPORT.—The Secretary shall prepare a report assessing the value of current and anticipated data collected from intelligent transportation system technologies to determine whether and how that data should be used for real-time traffic management, planning, performance monitoring, program assessment, and policy applications.*

*(b) ASSESSMENT.—In preparing the report under subsection (a), the Secretary should assess—*

*(1) the extent to which data should be centralized nationally in support of national planning and goals, what information should be aggregated regionally, and what information should be kept locally;*

*(2) the need for data standards;*

*(3) public and private data sources other than intelligent transportation system data sources (such as roadway characteristics inventories and incident information) that, combined with intelligent transportation system data, would enhance the utility of intelligent transportation system data to decisionmakers, and how these data sources can be merged; and*

*(4) how to make data accessible to users.*

*(c) CONSULTATION.—In developing the strategy under this section, the Secretary shall consult with the Bureau of Transportation Statistics and the advisory committee established under section 5203(h).*

*(d) REPORT TO CONGRESS.—Not later than 2 years after the date of the enactment of this subsection, the Secretary shall transmit to the Committee on Science and the Committee on Transportation and Infrastructure of the House of Representatives, and to the Committee on Environment and Public Works of the Senate, the report developed under this section.*

***SEC. 5205. NATIONAL ARCHITECTURE AND STANDARDS.***

*(a) IN GENERAL.—*

*(1) DEVELOPMENT, IMPLEMENTATION, AND MAINTENANCE.—Consistent with section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note; 110 Stat. 783), the Secretary shall develop, implement, and maintain a national architecture and supporting standards and protocols to promote the widespread use and evaluation of intelligent transportation system technology as a component of the surface transportation systems of the United States.*

*(2) GOAL.—The goal of the national architecture and standards shall be to ensure, whenever it is appropriate, interoperability among, and efficiency of, intelligent transportation system technologies implemented throughout the United States.*

*(3) USE OF STANDARDS DEVELOPMENT ORGANIZATIONS.—In carrying out this section, the Secretary may use the services of such standards development organizations as the Secretary determines to be appropriate.*

*(4) STANDARD VALIDATION.—The Secretary shall ensure that new standards promulgated for intelligent transportation system technologies that are funded by the Department are tested and validated, whenever it is appropriate, and shall ensure that*

*the results of such testing and validation are made publicly available.*

*(b) 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 identified in subsection (a)(1) and (2), the Secretary may establish a provisional standard after consultation with affected parties, and using, to the 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.*

*(c) CONFORMITY WITH NATIONAL ARCHITECTURE.—*

*(1) IN GENERAL.—Except as provided in paragraphs (2) and (3), the Secretary shall ensure that intelligent transportation system projects carried out using funds made available from the Highway Trust Fund, including funds made available to deploy intelligent transportation system technologies, conform to the national architecture, applicable standards or provisional standards, and protocols developed under subsection (a).*

*(2) SECRETARY'S DISCRETION.—The Secretary may authorize exceptions to paragraph (1) for—*

*(A) projects designed to achieve specific research and development objectives outlined in the National ITS Program Plan or the Surface Transportation Research and Development Strategic Plan developed under section 508 of title 23, United States Code; or*

*(B) the upgrade or expansion of an intelligent transportation system in existence on the date of enactment of the Transportation Equity Act for the 21st Century, if the Secretary determines that the upgrade or expansion—*

*(i) would not adversely affect the goals or purposes of this subtitle;*

*(ii) is carried out before the end of the useful life of such system; and*

*(iii) is cost-effective as compared to alternatives that would meet the conformity requirement of paragraph (1).*

*(3) EXCEPTIONS.—Paragraph (1) shall not apply to funds used for operation or maintenance of an intelligent transportation system in existence on the date of enactment of the Transportation Equity Act for the 21st Century.*

***SEC. 5206. RESEARCH AND DEVELOPMENT.***

*(a) IN GENERAL.—The Secretary shall carry out a comprehensive program of research, development, and operational tests of intelligent vehicles and intelligent infrastructure systems, as well as research into barriers to their deployment, and other similar activities that are necessary to carry out this subtitle.*

*(b) PRIORITY AREAS.—Under the program, the Secretary shall give higher priority to funding projects that—*

*(1) are aimed at reducing congestion and improving mobility and efficiency;*

*(2) are aimed at improving safety;*

*(3) are aimed at improving security by focusing on responding to security-related emergencies, and preventing such emergencies;*

*(4) incorporate human factors research, including the science of the driving process;*

*(5) develop methods to address nontechnical barriers to the deployment of intelligent transportation system technologies, and the best ways to develop partnerships to successfully deploy intelligent transportation system technologies;*

*(6) facilitate the integration of intelligent infrastructure, vehicle, and control technologies;*

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

*(8) utilize interdisciplinary approaches to develop traffic management strategies and tools to address multiple impacts of congestion concurrently;*

*(9) are aimed at improving the efficiency of goods movement, such as through real-time tracking and management; or*

*(10) facilitate high-performance transportation systems, through methods such as congestion pricing, real-time facility management, rapid emergency response, and just-in-time transit.*

*(c) OPERATIONAL TESTS.—Operational tests shall be used to evaluate promising technologies that have not yet been demonstrated. Operational tests conducted under this section shall be designed for the collection of data to permit objective evaluation of the results of the tests, derivation of cost-benefit information that is useful to others contemplating deployment of similar systems, and development and implementation of standards.*

*(d) FEDERAL SHARE.—The Federal share of the cost of operational tests and demonstrations under subsection (a) shall not exceed 80 percent.*

***SEC. 5207. USE OF FUNDS.***

*(a) CONGESTION REDUCTION.—At least 1/3 of funds made available under section 5206 for intelligent transportation systems research and development shall be used to research, develop, and operationally test technologies whose primary purpose is to reduce congestion.*

*(b) OUTREACH AND PUBLIC RELATIONS LIMITATION.—*

*(1) IN GENERAL.—For each fiscal year, not more than $5,000,000 of the funds made available to carry out this subtitle shall be used for intelligent transportation system outreach, public relations, displays, scholarships, tours, and brochures.*

*(2) APPLICABILITY.—Paragraph (1) shall not apply to intelligent transportation system training or the publication or distribution of research findings, technical guidance, or similar documents.*

*(c) INFRASTRUCTURE DEVELOPMENT.—Funds made available to carry out this subtitle for operational tests—*

*(1) shall be used primarily for the development of intelligent transportation system infrastructure; and*

*(2) to the maximum extent practicable, shall not be used for the construction of physical highway and transit infrastructure unless the construction is incidental and critically necessary to*

*the implementation of an intelligent transportation system project.*

***SEC. 5208. DEFINITIONS.***

*In this subtitle, the following definitions apply:*

*(1) INTELLIGENT TRANSPORTATION INFRASTRUCTURE.—The term "intelligent transportation infrastructure" means fully integrated public sector intelligent transportation system components, as defined by the Secretary.*

*(2) INTELLIGENT TRANSPORTATION SYSTEM.—The term "intelligent transportation system" means electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.*

*(3) NATIONAL ARCHITECTURE.—The term "national architecture" means the common framework for interoperability adopted by the Secretary that defines—*

*(A) the functions associated with intelligent transportation system user services;*

*(B) the physical entities or subsystems within which the functions reside;*

*(C) the data interfaces and information flows between physical subsystems; and*

*(D) the communications requirements associated with the information flows.*

*(4) STANDARD.—The term "standard" means a document that—*

*(A) contains technical specifications or other precise criteria for intelligent transportation systems that are to be used consistently as rules, guidelines, or definitions of characteristics so as to ensure that materials, products, processes, and services are fit for their purposes; and*

*(B) may support the national architecture and promote—*

*(i) the widespread use and adoption of intelligent transportation system technology as a component of the surface transportation systems of the United States; and*

*(ii) interoperability among intelligent transportation system technologies implemented throughout the States.*

*(5) STATE.—The term "State" has the meaning given the term under section 101 of title 23, United States Code.*

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**TITLE 49, UNITED STATES CODE**

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## SUBTITLE I—DEPARTMENT OF TRANSPORTATION

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## CHAPTER 1—ORGANIZATION

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### [§ 111. Bureau of Transportation Statistics

[(a) ESTABLISHMENT.—There is established in the Department of Transportation a Bureau of Transportation Statistics.

[(b) DIRECTOR.—

[(1) APPOINTMENT.—The Bureau shall be headed by a Director who shall be appointed by the President, by and with the advice and consent of the Senate.

[(2) QUALIFICATIONS.—The Director shall be appointed from among individuals who are qualified to serve as the Director by virtue of their training and experience in the compilation and analysis of transportation statistics.

[(3) REPORTING.—The Director shall report directly to the Secretary.

[(4) TERM.—The term of the Director shall be 4 years. The Director may continue to serve after the expiration of the term until a successor is appointed and confirmed.

[(c) RESPONSIBILITIES.—The Director of the Bureau shall be responsible for carrying out the following duties:

[(1) COMPILING TRANSPORTATION STATISTICS.—Compiling, analyzing, and publishing a comprehensive set of transportation statistics to provide timely summaries and totals (including industrywide aggregates and multiyear averages) of transportation-related information. Such statistics shall be suitable for conducting cost-benefit studies (including comparisons among individual transportation modes and intermodal transport systems) and shall include information on—

[(A) productivity in various parts of the transportation sector;

[(B) traffic flows;

[(C) travel times;

[(D) vehicle weights;

[(E) variables influencing traveling behavior, including choice of transportation mode;

[(F) travel costs of intracity commuting and intercity trips;

[(G) availability of mass transit and the number of passengers served by each mass transit authority;

[(H) frequency of vehicle and transportation facility repairs and other interruptions of transportation service;

[(I) accidents;

[(J) collateral damage to the human and natural environment;

[(K) the condition of the transportation system; and

[(L) transportation-related variables that influence global competitiveness.

[(2) IMPLEMENTING LONG-TERM DATA COLLECTION PROGRAM.—Establishing and implementing, in cooperation with the modal administrators, the States, and other Federal officials a comprehensive, long-term program for the collection and analysis of data relating to the performance of the transportation systems of the United States. Such program shall—

[(A) be coordinated with efforts to measure outputs and outcomes of the Department of Transportation and the transportation systems of the United States under the Government Performance and Results Act of 1993 (107 Stat. 285 et seq.) and the amendments made by such Act;

[(B) ensure that data is collected under this subsection in a manner which will maximize the ability to compare data from different regions and for different time periods; and

[(C) ensure that data collected under this subsection is controlled for accuracy, made relevant to the States and metropolitan planning organizations, and disseminated to the States and other interested parties.

[(3) ISSUING GUIDELINES.—Issuing guidelines for the collection of information by the Department of Transportation required for statistics to be compiled under paragraph (1) in order to ensure that such information is accurate, reliable, relevant, and in a form that permits systematic analysis. The Bureau shall review and report to the Secretary of Transportation on the sources and reliability of the statistics proposed by the heads of the operating administrations of the Department to measure outputs and outcomes as required by the Government Performance and Results Act of 1993, and the amendments made by such Act, and shall carry out such other reviews of the sources and reliability of other data collected by the heads of the operating administrations of the Department as shall be requested by the Secretary.

[(4) COORDINATING COLLECTION OF INFORMATION.—Coordinating the collection of information by the Department of Transportation required for statistics to be compiled under paragraph (1) with related information-gathering activities conducted by other Federal departments and agencies and collecting appropriate data not elsewhere gathered.

[(5) MAKING STATISTICS ACCESSIBLE.—Making the statistics published under this subsection readily accessible.

[(6) IDENTIFYING INFORMATION NEEDS.—Identifying information that is needed under paragraph (1) but which is not being collected, reviewing such needs at least annually with the Advisory Council on Transportation Statistics, and making recommendations to appropriate Department of Transportation research officials concerning extramural and intramural research programs to provide such information.

[(7) SUPPORTING TRANSPORTATION DECISIONMAKING.—Ensuring that the statistics compiled under paragraph (1) are relevant for transportation decisionmaking by the Federal Government, State and local governments, transportation-related associations, private businesses, and consumers.

[(d) INTERMODAL TRANSPORTATION DATA BASE.—

[(1) IN GENERAL.—In consultation with the Associate Deputy Secretary, the Assistant Secretaries, and the heads of the operating administrations of the Department of Transportation, the Director shall establish and maintain a transportation data base for all modes of transportation.

[(2) USE.—The data base shall be suitable for analyses carried out by the Federal Government, the States, and metropolitan planning organizations.

[(3) CONTENTS.—The data base shall include—

[(A) information on the volumes and patterns of movement of goods, including local, interregional, and international movement, by all modes of transportation and intermodal combinations, and by relevant classification;

[(B) information on the volumes and patterns of movement of people, including local, interregional, and international movements, by all modes of transportation (including bicycle and pedestrian modes) and intermodal combinations, and by relevant classification;

[(C) information on the location and connectivity of transportation facilities and services; and

[(D) a national accounting of expenditures and capital stocks on each mode of transportation and intermodal combination.

[(e) NATIONAL TRANSPORTATION LIBRARY.—

[(1) IN GENERAL.—The Director shall establish and maintain a National Transportation Library, which shall contain a collection of statistical and other information needed for transportation decisionmaking at the Federal, State, and local levels.

[(2) ACCESS.—The Director shall facilitate and promote access to the Library, with the goal of improving the ability of the transportation community to share information and the ability of the Director to make statistics readily accessible under subsection (c)(5).

[(3) COORDINATION.—The Director shall work with other transportation libraries and other transportation information providers, both public and private, to achieve the goal specified in paragraph (2).

[(f) NATIONAL TRANSPORTATION ATLAS DATA BASE.—

[(1) IN GENERAL.—The Director shall develop and maintain geospatial data bases that depict—

[(A) transportation networks;

[(B) flows of people, goods, vehicles, and craft over the networks; and

[(C) social, economic, and environmental conditions that affect or are affected by the networks.

[(2) INTERMODAL NETWORK ANALYSIS.—The data bases shall be able to support intermodal network analysis.

[(g) RESEARCH AND DEVELOPMENT GRANTS.—

[(1) IN GENERAL.—The Secretary may make grants to, or enter into cooperative agreements or contracts with, public and nonprofit private entities (including State transportation departments, metropolitan planning organizations, and institutions of higher education) for—

[(A) investigation of the subjects specified in subsection (c)(1) and research and development of new methods of data collection, management, integration, dissemination, interpretation, and analysis;

[(B) development of electronic clearinghouses of transportation data and related information, as part of the National Transportation Library under subsection (e); and

[(C) development and improvement of methods for sharing geographic data, in support of the national transportation atlas data base under subsection (f) and the National Spatial Data Infrastructure developed under Executive Order No. 12906.

[(2) LIMITATION.—Not more than $500,000 of the amounts made available to carry out this section in a fiscal year may be used to carry out this subsection.

[(h) LIMITATIONS ON STATUTORY CONSTRUCTION.—Nothing in this section shall be construed—

[(1) to authorize the Bureau to require any other department or agency to collect data; or

[(2) to reduce the authority of any other officer of the Department of Transportation to collect and disseminate data independently.

[(i) PROHIBITION ON CERTAIN DISCLOSURES.—

[(1) IN GENERAL.—An officer or employee of the Bureau may not—

[(A) make any disclosure in which the data provided by an individual or organization under subsection (c)(2) can be identified;

[(B) use the information provided under subsection (c)(2) for a nonstatistical purpose; or

[(C) permit anyone other than an individual authorized by the Director to examine any individual report provided under subsection (c)(2).

[(2) PROHIBITION ON REQUESTS FOR CERTAIN DATA.—

[(A) GOVERNMENT AGENCIES.—No department, bureau, agency, officer, or employee of the United States (except the Director in carrying out this section) may require, for any reason, a copy of any report that has been filed under subsection (c)(2) with the Bureau or retained by an individual respondent.

[(B) COURTS.—Any copy of a report described in subparagraph (A) that has been retained by an individual respondent or filed with the Bureau or any of its employees, contractors, or agents—

[(i) shall be immune from legal process; and

[(ii) shall not, without the consent of the individual concerned, be admitted as evidence or used for any purpose in any action, suit, or other judicial or administrative proceeding.

[(C) APPLICABILITY.—This paragraph shall apply only to reports that permit information concerning an individual or organization to be reasonably inferred by direct or indirect means.

[(3) DATA COLLECTED FOR NONSTATISTICAL PURPOSES.—In a case in which the Bureau is authorized by statute to collect data or information for a nonstatistical purpose, the Director shall clearly distinguish the collection of the data or information, by rule and on the collection instrument, so as to inform a respondent that is requested or required to supply the data or information of the nonstatistical purpose.

[(j) TRANSPORTATION STATISTICS ANNUAL REPORT.—The Director shall transmit to the President and Congress a Transportation Sta-

tistics Annual Report which shall include information on items referred to in subsection (c)(1), documentation of methods used to obtain and ensure the quality of the statistics presented in the report, and recommendations for improving transportation statistical information.

[(k) PROCEEDS OF DATA PRODUCT SALES.—Notwithstanding section 3302 of title 31, United States Code, funds received by the Bureau from the sale of data products, for necessary expenses incurred, may be credited to the Highway Trust Fund (other than the Mass Transit Account) for the purpose of reimbursing the Bureau for the expenses.]

### *§ 111. Bureau of Transportation Statistics*

*(a) ESTABLISHMENT.—There is established in the Department of Transportation a Bureau of Transportation Statistics.*

*(b) DIRECTOR.—*

*(1) APPOINTMENT.—The Bureau shall be headed by a Director who shall be appointed by the President, by and with the advice and consent of the Senate.*

*(2) QUALIFICATIONS.—The Director shall be appointed from among individuals who are qualified to serve as the Director by virtue of their training and experience in the collection, analysis, and use of transportation statistics.*

*(3) REPORTING.—The Director shall report directly to the Secretary.*

*(4) TERM.—The term of the Director shall be 5 years. The Director may continue to serve after the expiration of the term until a successor is appointed and confirmed.*

*(c) RESPONSIBILITIES.—The Director of the Bureau shall serve as the Secretary's senior advisor on data and statistics, and shall be responsible for carrying out the following duties:*

*(1) PROVIDING DATA, STATISTICS, AND ANALYSIS TO TRANSPORTATION DECISIONMAKERS.—Ensuring that the statistics compiled under paragraph (5) are designed to support transportation decisionmaking by the Federal Government, State and local governments, metropolitan planning organizations, transportation-related associations, the private sector (including the freight community), and the public.*

*(2) COORDINATING COLLECTION OF INFORMATION.—Working with the operating administrations of the Department to establish and implement the Bureau's data programs and to improve the coordination of information collection efforts with other Federal agencies.*

*(3) DATA MODERNIZATION.—Continually improving surveys and data collection methods to improve the accuracy and utility of transportation statistics.*

*(4) ENCOURAGING DATA STANDARDIZATION.—Encouraging the standardization of data, data collection methods, and data management and storage technologies for data collected by the Bureau, the operating administrations of the Department of Transportation, States, local governments, metropolitan planning organizations, and private sector entities.*

*(5) COMPILING TRANSPORTATION STATISTICS.—Compiling, analyzing, and publishing a comprehensive set of transpor-*

*tation statistics on the performance and impacts of the national transportation system, including statistics on—*

*(A) productivity in various parts of the transportation sector;*

*(B) traffic flows for all modes of transportation;*

*(C) other elements of the Intermodal Transportation Database established under subsection (g);*

*(D) travel times and measures of congestion;*

*(E) vehicle weights and other vehicle characteristics;*

*(F) demographic, economic, and other variables influencing traveling behavior, including choice of transportation mode, and goods movement;*

*(G) transportation costs for passenger travel and goods movement;*

*(H) availability and use of mass transit (including the number of passengers served by each mass transit authority) and other forms of for-hire passenger travel;*

*(I) frequency of vehicle and transportation facility repairs and other interruptions of transportation service;*

*(J) safety and security for travelers, vehicles, and transportation systems;*

*(K) consequences of transportation for the human and natural environment;*

*(L) the extent, connectivity, and condition of the transportation system, building on the National Transportation Atlas Database developed under subsection (g); and*

*(M) transportation-related variables that influence the domestic economy and global competitiveness.*

*(6) NATIONAL SPATIAL DATA INFRASTRUCTURE.—Building and disseminating the transportation layer of the National Spatial Data Infrastructure, including coordinating the development of transportation geospatial data standards, compiling intermodal geospatial data, and collecting geospatial data that is not being collected by others.*

*(7) ISSUING GUIDELINES.—Issuing guidelines for the collection of information by the Department of Transportation required for statistics to be compiled under paragraph (5) in order to ensure that such information is accurate, reliable, relevant, and in a form that permits systematic analysis. The Bureau shall review and report to the Secretary of Transportation on the sources and reliability of the statistics proposed by the heads of the operating administrations of the Department to measure outputs and outcomes as required by the Government Performance and Results Act of 1993, and the amendments made by such Act, and shall carry out such other reviews of the sources and reliability of other data collected or statistical information published by the heads of the operating administrations of the Department as shall be requested by the Secretary.*

*(8) MAKING STATISTICS ACCESSIBLE.—Making the statistics published under this subsection readily accessible.*

*(d) INFORMATION NEEDS ASSESSMENT.—*

*(1) IN GENERAL.—Within 60 days after the date of the enactment of the Surface Transportation Research and Development Act of 2004, the Secretary shall enter into an arrangement with the National Research Council to develop and publish a Na-*

*tional Transportation Information Needs Assessment. The Assessment shall be transmitted to the Secretary and the Congress not later than 24 months after such arrangement is entered into.*

*(2) CONTENT.—The Assessment shall—*

*(A) identify, in priority order, transportation data that is not being collected by the Bureau, Department of Transportation operating administrations, or other Federal, State, or local entities, but is needed to improve transportation decisionmaking at the Federal, State, and local level and to fulfill the requirements of subsection (c)(5);*

*(B) recommend whether the data identified in subparagraph (A) should be collected by the Bureau, other parts of the Department, or by other Federal, State, or local entities, and whether any data is a higher priority than data currently being collected;*

*(C) identify any data the Bureau or other Federal, State, and local entities is collecting that is not needed;*

*(D) describe new data collection methods (including changes in surveys) and other changes the Bureau or other Federal, State, and local entities should implement to improve the standardization, accuracy, and utility of transportation data and statistics; and*

*(E) estimate the cost of implementing any recommendations.*

*(3) CONSULTATION.—In developing the Assessment, the National Research Council shall consult with the Department's Advisory Council on Transportation Statistics and a representative cross-section of transportation community stakeholders as well as other Federal agencies, including the Environmental Protection Agency, the Department of Energy, and the Department of Housing and Urban Development.*

*(4) REPORT TO CONGRESS.—Not later than 6 months after the National Research Council transmits the Needs Assessment under paragraph (1), the Secretary shall transmit a report to the Committee on Science and the Committee on Transportation and Infrastructure of the House of Representatives, and to the Committee on Environment and Public Works of the Senate, that describes—*

*(A) how the Department plans to fill the data gaps identified under paragraph (2)(A);*

*(B) how the Department plans to stop collecting data identified under paragraph (2)(C);*

*(C) how the Department plans to implement improved data collection methods and other changes identified under paragraph (2)(D);*

*(D) the expected costs of implementing subparagraphs (A), (B), and (C) of this paragraph;*

*(E) any findings of the Needs Assessment under paragraph (1) with which the Secretary disagrees, and why; and*

*(F) any proposed statutory changes needed to implement the findings if the Needs Assessment under paragraph (1).*

*(e) INTERMODAL TRANSPORTATION DATA BASE.—*

*(1) IN GENERAL.—In consultation with the Under Secretary for Policy, the Assistant Secretaries, and the heads of the operating administrations of the Department of Transportation, the Director shall establish and maintain a transportation data base for all modes of transportation.*

*(2) USE.—The data base shall be suitable for analyses carried out by the Federal Government, the States, and metropolitan planning organizations.*

*(3) CONTENTS.—The data base shall include—*

*(A) information on the volumes and patterns of movement of goods, including local, interregional, and international movement, by all modes of transportation and intermodal combinations, and by relevant classification;*

*(B) information on the volumes and patterns of movement of people, including local, interregional, and international movements, by all modes of transportation (including bicycle and pedestrian modes) and intermodal combinations, and by relevant classification;*

*(C) information on the location and connectivity of transportation facilities and services; and*

*(D) a national accounting of expenditures and capital stocks on each mode of transportation and intermodal combination.*

*(f) NATIONAL TRANSPORTATION LIBRARY.—*

*(1) IN GENERAL.—The Director shall establish and maintain a National Transportation Library, which shall contain a collection of statistical and other information needed for transportation decisionmaking at the Federal, State, and local levels.*

*(2) ACCESS.—The Director shall facilitate and promote access to the Library, with the goal of improving the ability of the transportation community to share information and the ability of the Director to make statistics readily accessible under subsection (c)(8).*

*(3) COORDINATION.—The Director shall work with other transportation libraries and other transportation information providers, both public and private, to achieve the goal specified in paragraph (2).*

*(g) NATIONAL TRANSPORTATION ATLAS DATA BASE.—*

*(1) IN GENERAL.—The Director shall develop and maintain geospatial data bases that depict—*

*(A) transportation networks;*

*(B) flows of people, goods, vehicles, and craft over the networks; and*

*(C) social, economic, and environmental conditions that affect or are affected by the networks.*

*(2) INTERMODAL NETWORK ANALYSIS.—The data bases shall be able to support intermodal network analysis.*

*(h) MANDATORY RESPONSE AUTHORITY FOR FREIGHT DATA COLLECTION.—Whoever, being the owner, official, agent, person in charge, or assistant to the person in charge, of any corporation, company, business, institution, establishment, or organization of any nature whatsoever, neglects or refuses, when requested by the Director or other authorized officer, employee or contractor of the Bureau, to answer completely and correctly to the best of his/her knowledge all questions relating to the corporation, company, busi-*

*ness, institution, establishment, or other organization, or to records or statistics in his/her official custody, contained in a data collection request prepared and submitted as part of the collection of freight data, shall be fined not more than $500; and if the individual willfully gives a false answer to a question, shall be fined not more than $10,000.*

*(i) RESEARCH AND DEVELOPMENT GRANTS.—The Secretary may make grants to, or enter into cooperative agreements or contracts with, public and nonprofit private entities (including State transportation departments, metropolitan planning organizations, and institutions of higher education) for—*

*(1) investigation of the subjects specified in subsection (c)(5) and research and development of new methods of data collection, standardization, management, integration, dissemination, interpretation, and analysis;*

*(2) demonstration programs by States, local governments, and metropolitan planning organizations to harmonize data collection, reporting, management, storage, and archiving to simplify data comparisons across jurisdictions;*

*(3) development of electronic clearinghouses of transportation data and related information, as part of the National Transportation Library under subsection (f); and*

*(4) development and improvement of methods for sharing geographic data, in support of the national transportation atlas data base under subsection (g) and the National Spatial Data Infrastructure developed under Executive Order No. 12906.*

*(j) LIMITATIONS ON STATUTORY CONSTRUCTION.—Nothing in this section shall be construed—*

*(1) to authorize the Bureau to require any other department or agency to collect data; or*

*(2) to reduce the authority of any other officer of the Department of Transportation to collect and disseminate data independently.*

*(k) PROHIBITION ON CERTAIN DISCLOSURES.—*

*(1) IN GENERAL.—An officer or employee of the Bureau may not—*

*(A) make any disclosure in which the data provided by an individual or organization under subsection (c) can be identified;*

*(B) use the information provided under subsection (c) for a nonstatistical purpose; or*

*(C) permit anyone other than an individual authorized by the Director to examine any individual report provided under subsection (c).*

*(2) PROHIBITION ON REQUESTS FOR CERTAIN DATA.—*

*(A) GOVERNMENT AGENCIES.—No department, bureau, agency, officer, or employee of the United States (except the Director in carrying out this section) may require, for any reason, a copy of any report that has been filed under subsection (c) with the Bureau or retained by an individual respondent.*

*(B) COURTS.—Any copy of a report described in subparagraph (A) that has been retained by an individual respondent or filed with the Bureau or any of its employees, contractors, or agents—*

*(i) shall be immune from legal process; and*

*(ii) shall not, without the consent of the individual concerned, be admitted as evidence or used for any purpose in any action, suit, or other judicial or administrative proceeding.*

*(C) APPLICABILITY.—This paragraph shall apply only to reports that permit information concerning an individual or organization to be reasonably inferred by direct or indirect means.*

*(3) DATA COLLECTED FOR NONSTATISTICAL PURPOSES.—In a case in which the Bureau is authorized by statute to collect data or information for a nonstatistical purpose, the Director shall clearly distinguish the collection of the data or information, by rule and on the collection instrument, so as to inform a respondent that is requested or required to supply the data or information of the nonstatistical purpose.*

*(l) TRANSPORTATION STATISTICS ANNUAL REPORT.—The Director shall transmit to the President and Congress a Transportation Statistics Annual Report which shall include information on items referred to in subsection (c)(5), documentation of methods used to obtain and ensure the quality of the statistics presented in the report, and recommendations for improving transportation statistical information.*

*(m) PROCEEDS OF DATA PRODUCT SALES.—Notwithstanding section 3302 of title 31, funds received by the Bureau from the sale of data products, for necessary expenses incurred, may be credited to the Highway Trust Fund (other than the Mass Transit Account) for the purpose of reimbursing the Bureau for the expenses.*

*(n) ADVISORY COUNCIL ON TRANSPORTATION STATISTICS.—*

*(1) ESTABLISHMENT.—The Director of the Bureau of Transportation Statistics shall establish an Advisory Council on Transportation Statistics.*

*(2) FUNCTION.—It shall be the function of the Advisory Council established under this subsection to—*

*(A) advise the Director of the Bureau of Transportation Statistics on the quality, reliability, consistency, objectivity, and relevance of transportation statistics and analyses collected, supported, or disseminated by the Bureau of Transportation Statistics and the Department of Transportation;*

*(B) provide input to and review the report to Congress under subsection (d)(4); and*

*(C) advise the Director on methods to encourage harmonization and interoperability of transportation data collected by the Bureau, the operating administrations of the Department of Transportation, States, local governments, metropolitan planning organizations, and private sector entities.*

*(3) MEMBERSHIP.—The Advisory Council established under this subsection shall be composed of not fewer than 15 members appointed by the Director, who are not officers or employees of the United States, including—*

*(A) 2 members with specific expertise in economics;*

*(B) 3 members with expertise in statistics; and*

*(C) additional members with expertise in transportation statistics, analysis, or policy.*

*Members shall include representatives of a cross-section of transportation community stakeholders.*

*(4) TERMS OF APPOINTMENT.—(A) Except as provided in subparagraph (B), members shall be appointed to staggered terms not to exceed 3 years. A member may be renominated for one additional 3-year term.*

*(B) Members serving on the Advisory Council on Transportation Statistics as of the date of enactment of the Surface Transportation Research and Development Act of 2004 shall serve until the end of their appointed terms.*

*(5) APPLICABILITY OF FEDERAL ADVISORY COMMITTEE ACT.—The Federal Advisory Committee Act shall apply to the Advisory Council established under this subsection, except that section 14 of the Federal Advisory Committee Act shall not apply to such Advisory Council.*

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# SUBTITLE III—GENERAL AND INTERMODAL PROGRAMS

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## CHAPTER 53—MASS TRANSPORTATION

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### § 5315. National transit institute

(a) ESTABLISHMENT AND DUTIES.—The Secretary of Transportation shall make grants to Rutgers University to establish a national transit institute. In cooperation with the Federal Transit Administration, State transportation departments, public [mass] transportation authorities, and national and international entities, the institute shall develop and conduct training programs of instruction for United States Government, State, and local transportation employees, United States citizens, and foreign nationals engaged or to be engaged in Government-aid [mass] *public* transportation work. The programs may include courses in recent developments, techniques, and procedures related to—

(1) [mass] *public* transportation planning;

* * * * * * *

(6) procurement strategies for [mass] *public* transportation systems;

(7) turnkey approaches to delivering [mass] *public* transportation systems;

* * * * * * *

(10) ways to make [mass] *public* transportation accessible to individuals with disabilities;

* * * * * * *

(d) AVAILABILITY OF AMOUNTS.—Not more than .5 percent of the amounts made available for a fiscal year beginning after September 30, 1991, to a State or public [mass] transportation authority in the State to carry out sections 5307 and 5309 of this title is available for expenditure by the State and public [mass] transpor-

tation authorities in the State, with the approval of the Secretary, to pay not more than 80 percent of the cost of tuition and direct educational expenses related to educating and training State and local transportation employees under this section.

* * * * * * *

**§ 5322. Human resource programs**

*(a) IN GENERAL.*—The Secretary of Transportation may undertake, or make grants and contracts for, programs that address human resource needs as they apply to mass transportation activities. A program may include—

(1) * * *

* * * * * * *

*(b) GRANTS TO HIGHER LEARNING INSTITUTIONS.—*

*(1) The Secretary (or the Secretary of Housing and Urban Development when required by section 5334(i) of this title) may make grants to nonprofit institutions of higher learning—*

*(A) to conduct competent research and development and investigations into the theoretical or practical problems of urban transportation; and*

*(B) to train individuals to conduct further research and development or obtain employment in an organization that plans, builds, operates, or manages an urban transportation system.*

*(2) Research and investigations under this subsection include—*

*(A) the design and use of urban public transportation systems and urban roads and highways;*

*(B) the interrelationship between various modes of urban and interurban transportation;*

*(C) the role of transportation planning in overall urban planning;*

*(D) public preferences in transportation;*

*(E) the economic allocation of transportation resources; and*

*(F) the legal, financial, engineering, and esthetic aspects of urban transportation.*

*(3) When making a grant under this subsection, the Secretary shall give preference to an institution that brings together knowledge and expertise in the various social science and technical disciplines related to urban transportation problems.*

*(c) FELLOWSHIPS.—*

*(1) The Secretary may make grants to States, local governmental authorities, and operators of public transportation systems to provide fellowships to train personnel employed in managerial, technical, and professional positions in the mass transportation field.*

*(2) A fellowship under this subsection may be for not more than one year of training in an institution that offers a program applicable to the public transportation industry. The recipient of the grant shall select an individual on the basis of demonstrated ability and for the contribution the individual reasonably can be expected to make to an efficient public trans-*

*portation operation. A grant for a fellowship may not be more than the lesser of $65,000 or 75 percent of—*

*(A) tuition and other charges to the fellowship recipient;*

*(B) additional costs incurred by the training institution and billed to the grant recipient; and*

*(C) the regular salary of the fellowship recipient for the period of the fellowship to the extent the salary is actually paid or reimbursed by the grant recipient.*

*(d) OTHER GRANTS.—The Secretary may make grants to State and local governmental authorities for projects that will use innovative techniques and methods in managing and providing public transportation.*

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## CHAPTER 55—INTERMODAL TRANSPORTATION

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### SUBCHAPTER I—GENERAL

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**[§ 5505. University transportation research**

[(a) REGIONAL CENTERS.—The Secretary of Transportation shall make grants to nonprofit institutions of higher learning to establish and operate 1 university transportation center in each of the 10 United States Government regions that comprise the Standard Federal Regional Boundary System.

[(b) OTHER CENTERS.—The Secretary shall make grants to nonprofit institutions of higher learning to establish and operate university transportation centers, in addition to the centers receiving grants under subsection (a), to address transportation management and research and development matters, with special attention to increasing the number of highly skilled individuals entering the field of transportation.

[(c) SELECTION OF GRANT RECIPIENTS.—

[(1) APPLICATIONS.—In order to be eligible to receive a grant under this section, a nonprofit institution of higher learning shall submit to the Secretary an application that is in such form and contains such information as the Secretary may require.

[(2) SELECTION CRITERIA.—Except as otherwise provided by this section, the Secretary shall select each recipient of a grant under this section through a competitive process on the basis of the following:

[(A) For regional centers, the location of the center within the Federal region to be served.

[(B) The demonstrated research and extension resources available to the recipient to carry out this section.

[(C) The capability of the recipient to provide leadership in making national and regional contributions to the solution of immediate and long-range transportation problems.

[(D) The recipient's establishment of a surface transportation program encompassing several modes of transportation.

[(E) The recipient's demonstrated commitment of at least $200,000 in regularly budgeted institutional amounts each year to support ongoing transportation research and education programs.

[(F) The recipient's demonstrated ability to disseminate results of transportation research and education programs through a statewide or regionwide continuing education program.

[(G) The strategic plan the recipient proposes to carry out under the grant.

[(d) OBJECTIVES.—Each university transportation center receiving a grant under this section shall conduct the following programs and activities:

[(1) Basic and applied research, the products of which are judged by peers or other experts in the field to advance the body of knowledge in transportation.

[(2) An education program that includes multidisciplinary course work and participation in research.

[(3) An ongoing program of technology transfer that makes research results available to potential users in a form that can be implemented, utilized, or otherwise applied.

[(e) MAINTENANCE OF EFFORT.—In order to be eligible to receive a grant under this section, a recipient shall enter into an agreement with the Secretary to ensure that the recipient will maintain total expenditures from all other sources to establish and operate a university transportation center and related research activities at a level at least equal to the average level of such expenditures in its 2 fiscal years prior to award of a grant under this section.

[(f) FEDERAL SHARE.—The Federal share of the costs of activities carried out using a grant made under this section is 50 percent of costs. The non-Federal share may include funds provided to a recipient under section 503, 504(b), or 505 of title 23, United States Code.

[(g) PROGRAM COORDINATION.—

[(1) COORDINATION.—The Secretary shall coordinate the research, education, training, and technology transfer activities that grant recipients carry out under this section, disseminate the results of the research, and establish and operate a clearinghouse.

[(2) ANNUAL REVIEW AND EVALUATION.—At least annually and consistent with the plan developed under section 508 of title 23, United States Code, the Secretary shall review and evaluate programs the grant recipients carry out.

[(3) FUNDING LIMITATION.—The Secretary may use not more than 1 percent of amounts made available from Government sources to carry out this subsection.

[(h) LIMITATION ON AVAILABILITY OF FUNDS.—Funds made available to carry out this program shall remain available for obligation for a period of 2 years after the last day of the fiscal year for which such funds are authorized.

[(i) NUMBER AND AMOUNT OF GRANTS.—Subject to section 5338(e):

[(1) FISCAL YEARS 1998 AND 1999.—For each of fiscal years 1998 and 1999, the Secretary shall make the following grants under this section:

[(A) GROUP A.—The Secretary shall make a grant in the amount of $1,000,000 to each of the institutions or groups of institutions in group A.

[(B) GROUP B.—The Secretary shall make a grant in the amount of $300,000 to each of the institutions or groups of institutions in group B.

[(C) GROUP C.—The Secretary shall make a grant in the amount of $750,000 to each of the institutions or groups of institutions in group C.

[(D) GROUP D.—The Secretary shall make a grant in the amount of $2,000,000 to each of the institutions or groups of institutions in group D.

[(2) FISCAL YEARS 2000 AND 2001.—For each of fiscal years 2000 and 2001, the Secretary shall make the following grants under this section:

[(A) GROUP A.—The Secretary shall make a grant in the amount of $1,000,000 to each of the institutions or groups of institutions in group A.

[(B) GROUP B.—The Secretary shall make a grant in the amount of $500,000 to 8 of the institutions or groups of institutions in group B.

[(C) GROUP C.—The Secretary shall make a grant in the amount of $750,000 to each of the institutions or groups of institutions in group C.

[(D) GROUP D.—The Secretary shall make a grant in the amount of $2,000,000 to each of the institutions or groups of institutions in group D.

[(3) FISCAL YEARS 2002 AND 2003.—For each of fiscal years 2002 and 2003, the Secretary shall make the following grants under this section:

[(A) GROUP A.—The Secretary shall make a grant in the amount of $1,000,000 to each of the institutions or groups of institutions in group A.

[(B) GROUPS B AND C.—The Secretary shall make a grant in the amount of $1,000,000 to 10 of the institutions or groups of institutions in groups B and C that received grants under this section in fiscal years 2000 and 2001.

[(C) GROUP D.—The Secretary shall make a grant in the amount of $2,000,000 to each of the institutions or groups of institutions in group D.

[(j) IDENTIFICATION OF GROUPS.—For the purpose of making grants under this section, the following groups are identified:

[(1) GROUP A.—Group A shall consist of the 10 regional centers selected under subsection (a).

[(2) GROUP B.—Group B shall consist of the following:

[(A) The University of Denver and Mississippi State University.

[(B) The University of Central Florida.

[(C) University of Southern California and California State University at Long Beach.

[(D) Rutgers University.

[(E) University of Missouri at Rolla.

[(F) South Carolina State University.

[(G) Joseph P. Kennedy Science and Technology Center, Assumption College, Massachusetts.

[(H) Purdue University.

[(3) GROUP C.—Group C shall consist of the following:

[(A) University of Arkansas.

[(B) New Jersey Institute of Technology.

[(C) University of Idaho.

[(D) The University of Alabama.

[(E) Morgan State University.

[(F) North Carolina State University.

[(G) San Jose State University.

[(H) University of South Florida.

[(I) North Carolina A. and T. State University.

[(4) GROUP D.—Group D shall consist of the following:

[(A) University of Minnesota.

[(B) Marshall University, West Virginia, on behalf of a consortium which may also include West Virginia University Institute of Technology, the College of West Virginia, and Bluefield State College.

[(C) George Mason University, along with the University of Virginia and Virginia Tech University.

[(D) Western Transportation Institute.

[(E) Rhode Island Transportation Research Center.

[(F) Northwestern University.]

***§ 5505. University transportation research***

*(a) REGIONAL CENTERS.—The Secretary of Transportation shall make grants to nonprofit institutions of higher learning to establish and operate 1 university transportation center in each of the 10 United States Government regions that comprise the Standard Federal Regional Boundary System.*

*(b) OTHER CENTERS.—The Secretary shall make 16 grants to nonprofit institutions of higher learning, in addition to grants made under subsection (a), to establish and operate university transportation centers.*

*(c) ROLE OF CENTERS.—The role of each center shall be to address transportation management and research and development matters, with special attention to increasing the number of highly skilled individuals entering the field of transportation.*

*(d) SELECTION OF GRANT RECIPIENTS.—*

*(1) APPLICATIONS.—In order to be eligible to receive a grant under this section, a nonprofit institution of higher learning shall submit to the Secretary an application that is in such form and contains such information as the Secretary may require.*

*(2) SELECTION CRITERIA.—Except as otherwise provided by this section, the Secretary shall select each recipient of a grant under this section through an open competition, peer-reviewed process on the basis of the following:*

*(A) The capability of the recipient to provide leadership in making national and regional contributions to the solution of immediate and long-range transportation problems.*

*(B) The recipient's establishment of a surface transportation program by the date of the award, which encompasses several modes of transportation.*

*(C) The recipient's demonstrated ability to disseminate results of transportation research and education programs*

*through a statewide or regionwide continuing education program.*

*(D) The strategic plan the recipient proposes to carry out under the grant.*

*(e) OBJECTIVES.—The Secretary shall ensure that each university transportation center receiving a grant under this section shall conduct the following programs and activities:*

*(1) Basic and applied research and development that supports the Department's research and development agenda consistent with section 508 of title 23.*

*(2) An education program that includes multidisciplinary course work, faculty and student participation in research and development, and an opportunity for practical experience.*

*(3) An ongoing program of technology transfer that makes research and development results available to potential users in a form that can be implemented, utilized, or otherwise applied.*

*(f) MAINTENANCE OF EFFORT.—To be eligible to receive a grant under this section, an applicant shall—*

*(1) enter into an agreement with the Secretary to ensure that the applicant will maintain total expenditures from all other sources to establish and operate a university transportation center and related educational and research and development activities at a level that is at least equal to the average level of those expenditures during the 2 fiscal years before the date on which the grant is provided;*

*(2) submit to the Secretary an annual report on the projects and activities of the university transportation center for which funds are made available for the fiscal year covered by the report, a description of—*

*(A) the educational activities carried out by the center (including a detailed summary of the budget for those educational activities);*

*(B) each research and development project carried out by the center, including—*

*(i) the identity of the principal investigator working on a research and development project; and*

*(ii) the overall funding amount for each research and development project (including the amounts expended for the project as of the date of the report); and*

*(C) overall technology transfer and implementation efforts of the center; and*

*(3) make use of National Research Council, Transportation Research Board, and Transportation Research Information Services online databases for—*

*(A) program development and strategic planning;*

*(B) reporting of activities funded under this section; and*

*(C) input and dissemination of results and reports from completed research and development.*

*(g) FEDERAL SHARE.—The Federal share of the costs of activities carried out using a grant made under subsection (a) is 80 percent of costs, and under subsection (b) is 50 percent of costs. The non-Federal share may include funds provided to a recipient under section 503, 504(b), or 505 of title 23, United States Code.*

*(h) PROGRAM COORDINATION.—*

*(1) COORDINATION.—The Secretary shall coordinate the research and development, education, training, and technology transfer activities that grant recipients carry out under this section.*

*(2) ANNUAL REVIEW AND EVALUATION.—At least annually and consistent with the plan developed by the recipient under subsection (f)(2), the Secretary shall review and evaluate programs the grant recipients carry out.*

*(3) FUNDING LIMITATION.—The Secretary may use not more than 1 percent of amounts made available from Government sources to carry out this subsection.*

*(i) LIMITATION ON AVAILABILITY OF FUNDS.—Funds made available to carry out this program shall remain available for obligation for a period of 2 years after the last day of the fiscal year for which such funds are authorized.*

*(j) TRANSPORTATION EDUCATION DEVELOPMENT PILOT PROGRAM.—*

*(1) ESTABLISHMENT.—The Secretary shall establish a program to make grants to institutions of higher education that in partnership with industry or State Departments of Transportation will develop, test, and revise new curricula and education programs to train individuals at all levels of the transportation workforce.*

*(2) SELECTION OF GRANT RECIPIENTS.—In selecting applications for awards under this subsection, the Secretary shall consider—*

*(A) the degree to which the new curricula or education program meets the specific needs of a segment of the transportation industry, States, or regions;*

*(B) providing for practical experience and on-the-job training;*

*(C) proposals oriented toward practitioners in the field rather than the support and growth of the research community;*

*(D) the degree to which the new curricula or program will provide training in areas other than engineering, such as business administration, economics, information technology, environmental science, and law;*

*(E) programs or curricula in nontraditional departments which train professionals for work in the transportation field, such as materials, information technology, environmental science, urban planning, and industrial technology; and*

*(F) industry or a State's Department of Transportation commitment to the program.*

*(3) AUTHORIZATION OF APPROPRIATIONS.—From amounts authorized under section 101(b)(4) of the Surface Transportation Research and Development Act of 2004 for carrying out this section, for each of fiscal years 2004, 2005, 2006, 2007, 2008, and 2009, there shall be available for carrying out this subsection $4,500,000.*

*(4) LIMITATIONS.—No individual grant under this subsection shall exceed $750,000 per year. After a recipient has received 3 years of Federal funding under this subsection, Federal funding*

*may equal no more than 75 percent of a grantee's program costs.*

*(k) NATIONAL TRANSPORTATION SECURITY CENTERS.—*

*(1) ESTABLISHMENT.—The Secretary shall establish not more than 4 National Transportation Security Centers at institutions of higher education to conduct research, education, and professional training on all aspects of surface transportation security, with emphasis on utilization of intelligent transportation systems, technologies, and architectures.*

*(2) SELECTION CRITERIA.—The Secretary shall make grants using a competitive peer-reviewed procedure that gives priority to—*

*(A) institutions with a commitment to transportation security issues;*

*(B) proposals that include partnerships with other institutions of higher education, federally funded research and development centers, or other nonprofit laboratories;*

*(C) proposals to conduct both practical and theoretical research and technical systems analysis; and*

*(D) proposals to develop professional training programs.*

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# SUBTITLE VI—MOTOR VEHICLE AND DRIVER PROGRAMS

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## PART B—COMMERCIAL

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### CHAPTER 311—COMMERCIAL MOTOR VEHICLE SAFETY

SUBCHAPTER I—STATE GRANTS AND OTHER COMMERCIAL MOTOR VEHICLE PROGRAMS



## SUBCHAPTER I—STATE GRANTS AND OTHER COMMERCIAL MOTOR VEHICLE PROGRAMS

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### [§ 31108. Authorization of appropriations

[Not more than $————— may be appropriated to the Secretary of Transportation for the fiscal year ending September 30, 19—, to carry out the safety duties and powers of the Federal Highway Administration.]

### *§ 31108. Motor carrier research and development program*

*(a) RESEARCH, DEVELOPMENT, AND TECHNOLOGY TRANSFER ACTIVITIES.—*

*(1) The Secretary of Transportation shall establish and carry out a motor carrier research and development program. The Secretary may carry out research, development, technology, and technology transfer activities with respect to—*

*(A) the causes of accidents, injuries and fatalities involving commercial motor vehicles; and*

*(B) means of reducing the number and severity of accidents, injuries and fatalities involving commercial motor vehicles.*

*(2) The Secretary may test, develop, or assist in testing and developing any material, invention, patented article, or process related to the research and development program.*

*(3) The Secretary may use the funds appropriated to carry out this section for training or education of commercial motor vehicle safety personnel, including, but not limited to, training in accident reconstruction and detection of controlled substances or other contraband, and stolen cargo or vehicles.*

*(4) The Secretary may carry out this section—*

*(A) independently;*

*(B) in cooperation with other Federal departments, agencies, and instrumentalities and federally funded research and development centers; or*

*(C) by making grants to, or entering into contracts or cooperative agreements with, any federally funded research and development center, State agency, authority, association, institution, for-profit or non-profit corporation, organization, foreign country, or person.*

*(5) The Secretary shall use funds made available to carry out this section to develop, administer, communicate, and promote the use of products of research, technology, and technology transfer programs under this section.*

*(b) COLLABORATIVE RESEARCH AND DEVELOPMENT.—*

*(1) To advance innovative solutions to problems involving commercial motor vehicle and motor carrier safety, security, and efficiency, and to stimulate the deployment of emerging technology, the Secretary may carry out, on a cost-shared basis, collaborative research and development with—*

*(A) non-Federal entities, including State and local governments, foreign governments, colleges and universities, corporations, institutions, partnerships, and sole proprietorships that are incorporated or established under the laws of any State; and*

*(B) federally funded research and development centers.*

*(2) In carrying out this subsection, the Secretary may enter into cooperative research and development agreements (as defined in section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a)).*

*(3)(A) The Federal share of the cost of activities carried out under a cooperative research and development agreement entered into under this subsection shall not exceed 50 percent, except that if there is substantial public interest or benefit, the Secretary may approve a greater Federal share.*

*(B) All costs directly incurred by the non-Federal partners, including personnel, travel, and hardware or software develop-*

*ment costs, shall be credited toward the non-Federal share of the cost of the activities described in subparagraph (A).*

*(4) The research, development, or use of a technology under a cooperative research and development agreement entered into under this subsection, including the terms under which the technology may be licensed and the resulting royalties may be distributed, shall be subject to the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3701 et seq.).*

*(5) Section 3705 of title 41, United States Code, shall not apply to a contract or agreement entered into under this section.*

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## XIX. COMMITTEE RECOMMENDATIONS

On February 4, 2004, a quorum being present, the Committee on Science favorably reported the Surface Transportation Research and Development Act of 2004, by a voice vote, and recommended its enactment.

# XX: PROCEEDINGS OF THE MARKUP BY THE SUBCOMMITTEE ON ENVIRONMENT, TECHNOLOGY, AND STANDARDS ON H.R. 3551, SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT ACT OF 2004

**WEDNESDAY, JANUARY 28, 2004**

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENVIRONMENT, TECHNOLOGY, AND STANDARDS,
COMMITTEE ON SCIENCE,
*Washington, DC.*

The Subcommittee met, pursuant to call, at 10:05 a.m., in Room 2318 of the Rayburn House Office Building, Hon. Vernon J. Ehlers [Chairman of the Subcommittee] presiding.

Mr. EHLERS. Good morning. It is my pleasure to call the Subcommittee to order. Pursuant to notice, the Subcommittee on Environment, Technology, and Standards is meeting today to consider the following measure: H.R. 3551, the *Surface Transportation Research Act of 2003.* I ask unanimous consent for the authority to recess the Subcommittee at any point, and without objection, it is so ordered.

I will proceed with my opening statement. I will simply preface it by saying that I thank the staff for all of their very hard work on this bill over the past year. What has made it especially difficult is coordinating this not only with the minority on our committee, which we always try to do, but also the Transportation and Infrastructure Committee, which has jurisdiction over the new transportation bill. This will be part of that bill eventually. It will be wrapped into it. But we tried very, very hard to make certain that we were meeting our obligations on this subcommittee and in the Science Committee with regards to this matter. And we are determined to have the research done by the Department of Transportation be good research, and so we have put a lot of effort into this bill, and we appreciate the efforts of the Transportation and Infrastructure Committee to work with us, and we hope they will accept this without too many changes.

I will proceed with my opening statement. Our nation's transportation system faces tremendous challenges. We have more drivers who are driving more miles, causing severe congestion. An aging infrastructure is putting a strain on State and local transportation budgets, which are tied up in maintaining our existing system with little, if any, money left for improving the system and planning for

the future. The public demands safer, less congested road, and more public transit options. Considering that we won't have the ability to simply build more roads to address these challenges, especially in urban areas, we must look at new ways to improve the overall system, to make it safer and more efficient, and to ensure that the system meets future needs.

Fundamental improvements to the entire transportation system depend on high-quality surface transportation research. More importantly, research saves lives and saves money. Research extends the life of pavements, provides increased safety measures on roads and in cars, and develops the technologies to increase the efficiency and reduce the cost of transit systems.

The Subcommittee on Environment, Technology, and Standards, which shares jurisdiction over surface transportation research with the Transportation and Infrastructure Committee, held a hearing last year to hear from experts on the state of the Federal Government's current surface transportation research program. In addition, we heard from a wide array of interests on how to improve and reform the research program, and the levels at which research should be funded. Based on this input, we developed the Surface Transportation Research and Development Act of 2003.

This legislation has three overarching goals: to increase stakeholder input to ensure that the folks who must implement and use the research agree that it is worthwhile and transferable into practice; to create the highest quality research through increased competition and peer-review of all project proposals; and to ensure greater accountability so that our research actually supports the goals of our surface transportation system. I believe this approach will go a long way to help solve the many challenges facing our nation's transportation system.

I will be offering a manager's amendment, which I will explain later, and I know there may be a few other amendments that Members may offer. I urge my colleagues to support this bill and pass the legislation on to the Full Committee.

[The prepared statement of Mr. Ehlers follows:]

PREPARED STATEMENT OF CHAIRMAN VERNON J. EHLERS

Our nation's transportation system faces tremendous challenges. We have more drivers who are driving more miles causing severe congestion. An aging infrastructure is putting a strain on State and local transportation budgets, which are tied up in maintaining our existing system, with little, if any, money left for improving the system and planning for the future. The public demands safer, less congested roads, and more public transit options. Considering that we won't have the ability to simply build more roads to address these challenges, especially in urban areas, we must look at new ways to improve the overall system, to make it safer and more efficient, and to ensure that the system meets future needs.

Fundamental improvements to the entire transportation system depend on high quality surface transportation research. More importantly, research saves lives and saves money. Research extends the life of pavements, provides increased safety measures on roads and in cars, and develops the technologies to increase the efficiency and reduce the cost of transit systems.

The Subcommittee on Environment, Technology, and Standards, which shares jurisdiction over surface transportation research with the Transportation and Infrastructure Committee, held a hearing last year to hear from experts on the state of the Federal Government's current surface transportation research program. In addition, we heard from a wide array of interests on how to improve and reform the research program, and the levels at which research should be funded. Based on this

input, we developed the *Surface Transportation Research and Development Act of 2003.*

This legislation has three overarching goals: to increase stakeholder input to ensure that the folks who must implement and use the research agree that it is worthwhile and transferable into practice; to create the highest quality research through increased competition and peer-review of all project proposals; and to ensure greater accountability so that our research actually supports the goals of our surface transportation system. I believe this approach will go a long way to help solve the many challenges facing our nation's transportation system.

I will be offering a manager's amendment, which I will explain later, and I know there may be a few other amendments that Members may offer. I urge my colleagues to support this bill and pass the legislation on to the Full Committee.

Mr. EHLERS. I now recognize Mr. Udall for five minutes to present his opening remarks.

Mr. UDALL. Good morning. Thank you, Mr. Chairman, in particular for bringing this bill forward for consideration by the Subcommittee.

Transportation is an essential function of our daily lives and our economy. Each day, thousands of people, goods, and services move throughout the country and throughout the world, although not always as efficiently and effectively as we would like. My constituents in Colorado are not alone in their frustration with traffic congestion or in their desire to retain the quality of our environment. While infrastructure improvements are needed, we can not build our way out of all of our transportation problems. As the Chairman suggested, we need better tools to help us use our existing infrastructure more efficiently and to help us better design infrastructure improvement projects to get the most mobility for our money.

Investment in research and development is the fastest way to achieve these goals. I am very pleased that the Committee has reauthorized the diverse portfolio of transportation research. We need to continue to improve the technology and materials used in our highways and public transportation systems. However, we need more than materials and engineering.

We need to incorporate more social science into the design of our transportation system. We need to foster more public involvement in transportation project planning and to better understand the social and economic factors that influence travel demand and travel patterns. We need to expand transportation options, including expanding the ability of citizens to walk and to ride bicycles. These components should be an integral part of any transportation project, just as they should guide our research agenda.

I realize we will be making further changes in this legislation as it moves through this committee and through to the end of the legislative process. I hope we will be able to retain a balanced, diverse portfolio of transportation research as this bill proceeds.

[The prepared statement of Mr. Udall follows:]

PREPARED STATEMENT OF REPRESENTATIVE MARK UDALL

Good morning. Thank you, Mr. Chairman, for bringing this bill forward for consideration by the Subcommittee.

Transportation is an essential function in our daily lives and our economy. Each day thousands of people, goods and services move throughout the country and throughout the world—although not always as efficiently and effectively as we would like.

My constituents in Colorado are not alone in their frustration with traffic congestion or in their desire to retain the quality of our environment. While infrastructure

improvements are needed, we cannot build our way out of all of our transportation problems.

We need better tools to help us to use our existing infrastructure more efficiently and to help us to better design infrastructure improvement projects to get the most mobility for our money. Investment in research and development is the fastest way to achieve these goals.

I am very pleased that the Committee has reauthorized a diverse portfolio of transportation research. We need to continue to improve the technology and materials used in our highways and public transportation systems.

However, we need more than materials and engineering. We need to incorporate more social science into the design of our transportation system. We need to foster more public involvement in transportation project planning and to better understand the social and economic factors that influence travel demand and travel patterns.

We need to expand transportation options, including expanding the ability of citizens to walk and to ride bicycles. These components should be an integral part of any transportation project, just as they should guide our research agenda.

I realize we will be making further changes in this legislation as it moves through this committee and through to the end of the legislative process. I hope we will be able to retain a balanced, diverse portfolio of transportation research as this bill proceeds.

Mr. UDALL. With that, Mr. Chairman, I would yield back any time I have remaining.

Mr. EHLERS. The gentleman's time is expired. Without objection, all Members may place opening statements in the record at this point in time. Without objection, so ordered.

We will now consider H.R. 3551. The bill is open for discussion, and the first reading of the bill. I ask unanimous consent that—go ahead.

Ms. TESSIERI. H.R. 3551, to authorize appropriations to the Department of Transportation for surface transportation research and development and for other purposes.

Mr. EHLERS. I ask for unanimous consent that the bill is considered as read and open to amendment at any point and that the Members proceed with the amendments in the order of the roster, although I will, out of deference to Congressman Lofgren, who has to go to another markup, we will place her second in line immediately after my manager's amendment. Without objection, so ordered.

*[See Appendix for H.R. 3551.]*

Mr. EHLERS. The bill is open for amendments.

The first amendment on the roster is an amendment in the nature of a substitute offered by the Chair. I have an amendment at the desk. The Clerk will report the amendment.

Ms. TESSIERI. Amendment in the nature of a substitute to H.R. 3551 offered by Mr. Ehlers.

*[See Appendix for Amendment offered by Mr. Ehlers.]*

Mr. EHLERS. I ask unanimous consent to dispense with the reading. Without objection, so ordered. I also ask unanimous consent that the amendment in the nature of a substitute be considered original text. Without objection, so ordered.

I now recognize myself for such time as I may consume.

Let me start by addressing some confusion that has been raised regarding the funding for this bill. States, localities, the U.S. Department of Transportation, and other public and private groups all agree that surface transportation research funding must be increased. Current funding is insufficient to meet the challenges of

today's transportation system, and it is certainly not enough to meet the needs of the future.

While the Science Committee has jurisdiction over surface transportation research, we do not have jurisdiction over the Highway Trust Fund. We have worked with the Transportation Committee to determine the amount of transportation research funding, about $4 billion, that would be prudent based on the overall level of funding for the comprehensive highway bill, which is proposed to be about $375 billion. And within that level of funding, we allocated it to the programs included in H.R. 3551. This bill and this amendment say nothing about the trust funds, the gas tax, or any changes to the tax. However, since some Members have raised concerns about tying this bill to the overall funding levels in the Transportation Committee's bill, which may be reduced, my amendment removes all references to funding in H.R. 3551.

It is my intention at Full Committee to provide the funding recommendations for transportation research and specific programs. We are working on various ways to accomplish this. We may provide that a certain floor or percentage of the Highway Trust Fund be used for research. Alternatively, if an agreement is reached on the overall level of transportation spending, then we will revisit how much should be used for research and how it should be allocated. This amendment retains all of the other provisions of H.R. 3551. More specifically, it creates the Future Strategic Highway Research Program. This program will focus on reducing congestion, renewing existing roads and bridges, improving safety, and assessing future needs, including those for transit systems. It establishes a public/private cooperative environmental research program to help us understand the link between the environment and the transportation system. It creates a new research program to demonstrate promising transit technologies and practices to improve efficiency and safety, and reduce costs. It requires all research projects funded by this legislation will be competitively awarded and peer-reviewed. And it provides better training and education programs for the transportation workforce.

I urge my colleagues to support my amendment. Is there any further discussion on this amendment? The Chair recognizes Mr. Smith from Michigan.

[The prepared statement of Mr. Ehlers follows:]

PREPARED STATEMENT OF CHAIRMAN VERNON J. EHLERS

Let me start by addressing some confusion that has been raised regarding the funding for this bill. States, localities, the U.S. Department of Transportation, and other public and private groups all agree that surface transportation research funding must be increased. Current funding is insufficient to meet the challenges of today's transportation system and is certainly not enough to the meet needs of the future.

While the Science Committee has jurisdiction over surface transportation research, we do not have jurisdiction over the Highway Trust Fund. We have worked with the Transportation Committee to determine the amount of transportation research funding (about $4 billion) that would be prudent, based on the overall level of funding for the comprehensive highway bill (about $375 billion). And within that level of funding we allocated it to the programs included in H.R. 3551. This bill and this amendment say nothing about the Trust Funds, the gas tax, or any changes to the tax.

However, since some Members have raised some concerns about tying this bill to the overall funding levels in the Transportation Committee's bill, which may be reduced, my amendment removes all references to funding in H.R. 3551.

It is my intention at Full Committee to provide funding recommendations for transportation research and specific programs. We are working on various ways to accomplish this either by providing that a certain floor or percentage of the Highway Trust Fund should be used for research, or if we know what the overall level of transportation spending will be, then revisiting how much should be used for research and how it should be allocated.

This amendment retains all the other provisions of H.R. 3551; more specifically, it:

- Creates the Future Strategic Highway Research Program. This program will focus on reducing congestion, renewing existing roads and bridges, improving safety, and assessing future needs;
- Establishes a public-private cooperative environmental research program to help us understand the link between the environment and the transportation system;
- Creates a new research program to demonstrate promising transit technologies and practices to improve efficiency and safety, and reduce costs;
- Requires all research projects funded by this legislation will be competitively awarded and peer-reviewed; and
- Provides better training and education programs for the transportation workforce.

I urge my colleagues to support my amendment.

Mr. SMITH. Mr. Chairman, I need to think about what your amendment does in terms of keeping the increase in research money constant, is that what I understand that your substitute does regardless of whether or not the overall funding for the program goes down.

Mr. EHLERS. If the gentleman will yield, the amendment that I'm offering now simply removes all funding levels from the bill and leaves that as an open question to be debated at Full Committee and with the Transportation and Infrastructure Committee. It does not force any funding levels at this time.

Mr. SMITH. Thank you.

Mr. EHLERS. The gentleman's time is expired. Any further comment on the amendment? Hearing none, the vote occurs on the amendment in the nature of a substitute. All in favor say aye. Those opposed say no. The ayes have it, and the amendment in the nature of a substitute is agreed to.

Next, we will take the amendments out of order—if it is supported by the Ranking Member, we will next take the amendment offered by Congresswoman Lofgren from California so that she can proceed to her markup in another committee.

Ms. LOFGREN. Thank you, Mr. Chairman and Ranking Member Udall. This amendment, I believe, is an important——

Mr. EHLERS. Can I ask that you first offer the amendment?

Ms. LOFGREN. I have an amendment at the desk, and I ask unanimous consent——

Mr. EHLERS. The Clerk will report the amendment.

Ms. TESSIERI. Amendment offered by Ms. Lofgren to the amendment in the nature of a substitute.

*[See Appendix for Amendment offered by Ms. Lofgren.]*

Mr. EHLERS. I ask unanimous consent to dispense with the reading. Without objection, so ordered. The gentlewoman is recognized for five minutes to explain her amendment.

Ms. LOFGREN. Thank you, Mr. Chairman and Mr. Udall. The amendment, I believe, is an important one and not a controversial one. It clarifies what types of research should be done regarding surface transportation and particularly guides the kind of top quality ongoing research that we need to have from a security point of view, as the Chairman knows. I also serve on the Homeland Security Committee, and I am aware of the needs that have not yet been addressed to have best practices and analysis done to secure the response and recovery of surface transportation. This amendment calls for the creation of four university centers for research on transportation security issues. The centers would conduct best practices, case studies, developing databases of terrorist incidents, and would assist federal and State agencies by conducting research on their behalf, and will help maintain vulnerability checklists that can be used by those in authority on a need-to-know basis. These centers would help develop curriculum that will lead to the awarding of a Master's in science in security administration for those individuals who are willing to pursue this important area of study.

I want to ensure the Members that I am unaware of any similar work being done or being proposed to be done by the Department of Homeland Security at this time. This amendment does not apply to research into maritime security issues, as I believe other committees will pursue this avenue of research. And finally, I believe the adoption of this amendment will help further the integration of intelligent transportation system technologies into an overall transportation security program. The amendment suggests, also, that these—and they would be peer-reviewed—would include partnerships with other institutions of higher education, the federal labs and other nonprofit laboratories, and I believe that this amendment will advance the security of the Nation, and I thank the gentleman for allowing me to offer it, and I yield back the balance of my time.

[The prepared statement of Ms. Lofgren follows:]

PREPARED STATEMENT OF REPRESENTATIVE ZOE LOFGREN

## CREATING FOUR NATIONAL TRANSPORTATION SECURITY CENTERS

Chairman Ehlers, Ranking Member Udall, thank you for allowing me the opportunity to offer an amendment on an issue that I believe is very important as we begin to clarify what types of research should be done regarding surface transportation.

I believe it is more important than ever for the United States to conduct top quality, ongoing research of best practices for deterrence, response and recovery and to teach those best practices to transportation and security professionals to provide secure surface transportation for our nation.

My amendment calls for the creation of four university centers for research on transportation security issues. These Centers will conduct best practices case studies, develop and disseminate an online database of terrorist incidents against surface transportation systems worldwide. These Centers will be available to assist federal and State agencies by conducting research on their behalf and will help maintain vulnerability checklists that can be used by those in authority on a need to know basis. These Centers will help develop curriculum that will lead to the awarding of a "Master in Science in Security Administration for those individuals who are willing to pursue this important area of study.

I want to assure my fellow Subcommittee Members that I am unaware of any similar work being done or being proposed to be done by the Department of Home-

land Security at this time. This amendment does not apply to research into maritime security issues as I believe other committees will pursue this avenue of research. And finally, Chairman Ehlers and Ranking Member Udall, I believe that the adoption of this amendment will help further the integration of intelligent transportation system technologies into an overall transportation security program.

Thank you for allowing me to offer this amendment and I look forward to its adoption.

Mr. EHLERS. The Chair recognizes himself for a question. I simply want to clarify, Congresswoman Lofgren, that your amendment refers strictly to surface transportation security, including cars, trucks, buses, trains, light rail and so forth, and it will not get into issues of port or even aviation?

Ms. LOFGREN. That is correct, Mr. Chairman.

Mr. EHLERS. Thank you. I just wanted to clarify that for the record. Is there further discussion on the amendment? Being none, the vote occurs on the amendment. All in favor, say aye. Those opposed, no. The ayes have it, and the amendment is agreed to.

The next amendment on the roster is amendment number two, offered by the Ranking Member, Mr. Udall of Colorado. Are you ready to proceed?

Mr. UDALL. Mr. Chairman, I have an amendment at the desk.

Mr. EHLERS. The Clerk will read.

Ms. TESSIERI. Amendment offered by Mr. Udall of Colorado to the amendment in the nature of a substitute.

*[See Appendix for Amendment offered by Mr. Udall.]*

Mr. EHLERS. I ask unanimous consent to dispense with the reading. Without objection, so ordered. And the gentleman is recognized for five minutes to explain his amendment.

Mr. UDALL. Thank you, Mr. Chairman. The amendment that I am offering emphasizes the importance of doing more research on bicycle and pedestrian transportation. It particularly provides language to authorize research into the needs and benefits of bicycle and pedestrian transportation modes in the National Park system and the areas adjacent to those parks.

Recent studies indicate that in many communities across the country, people, especially children, are walking and bicycling less than they have in the past. Walking and bicycling, I think we all would agree, are important modes of travel for everyone, particularly for children. These modes of exercise and travel not only provide excellent opportunities to get out and about, but they are essential for connecting with friends and they enable children to participate in community and after-school activities.

The loss of these travel modes places additional time constraints on parents who then must drive their children to all destinations. A significant amount of the growth in vehicle miles traveled, so called VMTs, is attributable to the growth in these personal trips. We need to better understand the barriers to walking and biking and redesign our communities and our transportation system to facilitate pedestrian and bicycle travel.

This is also true in the case of our national parks. The good news is that the numbers of visitors to our national parks has increased markedly in recent decades, nearly 300 million visitors enjoy our parks every year. But along with these increased numbers, we are seeing increasing damage being done to our parks through air and water pollution, noise intrusion, and other inappropriate uses.

Traffic congestion is increasing in the parks, diminishing the visitor experience and adversely affecting the resource values that the parks were established to protect in the first place.

One way to alleviate this burden on the parks is through alternative transportation modes such as bicycle and pedestrian travel. My amendment would authorize the Department of Transportation to conduct research to assess the benefits, opportunities, and infrastructure needs associated with bicycle and pedestrian modes of travel in the National Park system and in areas adjacent to the parks.

I want to thank the Chairman for his willingness to accept the amendment. If I could add just one other comment, Mr. Chairman, I think that the ripple effect of this research could be significant in our communities across the country. And I think if we can understand better how to make National Parks more livable environments and environments that are more friendly towards walkers and bicyclers, then that knowledge would be helpful in our other communities. So I want to thank you for your support of the amendment and ask that the Committee accept it.

[The prepared statement of Mr. Udall follows:]

PREPARED STATEMENT OF REPRESENTATIVE MARK UDALL

Mr. Chairman, I have an amendment at the desk.

The amendment I'm offering today emphasizes the importance of doing more research on bicycle and pedestrian transportation. My amendment also provides language to authorize research into the needs and benefits of bicycle and pedestrian transportation modes in the National Park System and the areas adjacent to them.

Recent studies indicate that in many communities across the country, people—especially children—are walking and bicycling less than they have in the past. Walking and bicycling are important modes of travel for everyone, especially for children. These modes not only provide excellent opportunities for exercise—they are also essential for connecting with friends, and they enable children to participate in community and after-school activities.

The loss of these travel modes places additional time constraints on parents who then must drive their children to all destinations. A significant amount of the growth in vehicle miles traveled is attributable to the growth in these personal trips. We need to better understand the barriers to walking and biking and redesign our communities and our transportation system to facilitate pedestrian and bicycle travel.

This is also true in the case of our national parks. The numbers of visitors to our national parks has increased markedly in recent decades. Nearly 300 million visitors enjoy our parks every year.

But along with their increased numbers, we are seeing increasing damage being done to our parks through air and water pollution, noise intrusion, and inappropriate use. Traffic congestion is increasing in the parks, diminishing the visitor experience and adversely affecting the resource values that the parks were established to protect in the first place.

One way to alleviate this burden on the parks is through alternative transportation modes, such as bicycle and pedestrian travel. My amendment would authorize the Department of Transportation to conduct research to assess the benefits, opportunities, and infrastructure needs associated with bicycle and pedestrian modes of travel in the National Park System and in areas adjacent to the parks.

I'm pleased that the Chairman will accept my amendment.

Mr. EHLERS. Is there any further discussion on the amendment? Hearing none, the vote occurs on the amendment. All in favor, say aye. Those opposed, say no. The ayes have it, and the amendment is agreed to.

The next amendment on the roster is offered by Mr. Miller who is snowbound in North Carolina. Mr. Ranking Member, are you prepared to proceed with his amendment?

Mr. UDALL. I am, Mr. Chairman. I think there's an amendment at the desk that Mr. Miller has offered.

Mr. EHLERS. The Clerk will read.

Ms. TESSIERI. Amendment offered by Mr. Miller of North Carolina to the amendment in the nature of a substitute.

*[See Appendix for Amendment offered by Mr. Miller.]*

Mr. EHLERS. I ask unanimous consent to dispense with the reading. Without objection, so ordered. The gentleman is recognized for five minutes to explain Mr. Miller's amendment.

Mr. UDALL. Mr. Chairman, as you mentioned, Mr. Miller has been detained in North Carolina due to the winter storms up and down the East Coast. He wanted to be here to offer amendment number three, and I will offer it on his behalf.

I would ask unanimous consent that Mr. Miller be allowed to insert in the record at this point a statement for the record.

Mr. EHLERS. Without objection, so ordered.

[The prepared statement of Mr. Miller follows:]

PREPARED STATEMENT OF REPRESENTATIVE BRAD MILLER

**ADDING A NEW AREA TO THE LIST OF RESEARCH AND DEVELOPMENT AREA IN THE INTELLIGENT TRANSPORTATION SYSTEMS PROGRAM**

Mr. Chairman, my amendment to H.R. 3551 focuses much-needed attention on improving traffic management strategies to address the multiple impacts of congestion. These impacts include environmental quality in terms of vehicle emissions, fuel consumption, travel delays, safety concerns and so on.

One of the broad goals of the transportation reauthorization legislation is to improve our nation's ability to move its citizens from one place to another. That is becoming increasingly more difficult as more vehicles are on the road due to increased commuting distances, and as overall traffic patterns change.

In my own State of North Carolina, I have seen congestion problems rise dramatically over the past few years, even in areas where traffic had never been an issue. It seems that everyone wants to live in North Carolina—and drive! This situation is not unique to North Carolina. It is developing across the country and we need to take steps to mitigate, if not solve, this problem. Improving our traffic management strategies, at the local, regional and State levels will have enormous benefits to our society. Our air will be cleaner; we will burn less fuel and reduce our dependence on foreign oil; our roads will be safer; and people's access to jobs will be improved.

I would note that the most effective way to accomplish these goals is through a multi-disciplinary approach; one that brings together not only the expert researchers, but - most importantly—brings together the transportation planners, local, regional and State government officials and all of the end users who would actually implement these improved traffic management strategies. In my State, the North Carolina Transportation Consortium, which is comprised of some of the best and brightest transportation policy experts in the country, is designed to do just that. I am convinced that, working with all of the various stakeholders, the NCTC will be able to develop solutions to these difficult problems that could be replicated in jurisdictions across the Nation. I hope that the Department of Transportation will recognize the benefit of drawing on NCTC's expertise when they are looking for the best people to conduct this type of research.

I urge your support for this amendment.

Mr. UDALL. Thank you, Mr. Chairman. One of the broad goals of the transportation reauthorization legislation is to improve our nation's ability to move its citizens from one place to another. One way to accomplish this goal is through a multi-disciplinary approach, one that brings together not only the expert researchers but most importantly brings together the transportation planners,

local, regional, and State government officials, and all of the end users who would actually implement these improved traffic management strategies.

I believe this amendment would help accomplish the same, and I want to thank the Chairman for his intention to accept the amendment, and I also want to thank you on behalf of Representative Miller and myself for your support, Mr. Chairman.

And with that, I would yield back.

Mr. EHLERS. The gentleman's time has expired. Does anyone else seek time to discuss the amendment? Being no request, the vote occurs on the amendment. All in favor, say aye. Those opposed, say no. The ayes have it, and the amendment is agreed to.

Are there any further amendments? Hearing none, the question is on the bill, H.R. 3551, the Surface Transportation Research Act as amended. All those in favor will say aye.

Mr. Smith is recognized.

Mr. SMITH. Can you briefly—and I apologize for not being aware of this. Briefly give me the major changes between the existing law and these changes?

Mr. EHLERS. If the gentleman will yield——

Mr. SMITH. Certainly.

Mr. EHLERS.—I will make a few comments and let me call on staff members, too.

Since we have removed the funding issue, that is not an issue, but clearly this bill was underfunded in the last go around. I should say the research was underfunded in the last go around. Everyone fails to recognize that no matter what their interests are in transportation that there are great opportunities to reduce costs and improve performance of our transit systems with appropriate research, whether it be types of concrete or the durability of the asphalt and recognizing that this may be different for every State or even every area of the Union.

In addition, research on traffic flows, how we can relieve traffic flows through mass transit or bicycles, et cetera. These are a host of issues that must be addressed, and everyone agrees it was underfunded before. However, we will debate the funding at the Full Committee.

Mr. SMITH. Mr. Chairman, if I may reclaim my time. But I was just looking, is there—are there major differences? I understand the amendments that we have discussed. Are there major differences from the existing law?

Mr. EHLERS. I see one major difference. It is that we are insisting on peer-reviewed grants. This part of the transportation bill has traditionally been pork heaven with lots of earmarks made by individual Members for research to be done in their particular area by their own university. And we have tried to, in this bill, ensure that all of the research would be adequately peer-reviewed and will be granted on a merit basis.

I will refer to the staff for any further comments on major differences.

The STAFF. Thank you, Mr. Chairman. This bill makes a number of changes to existing law, most of them with the goal of integrating and coordinating research between the Federal Government, the State governments, universities, and the Transportation

Research Board, ensuring that strategic planning is integrated across the modes: rail, aviation, highways, and trying to fund some of the things that were identified to the Committee in the hearing as research gaps. This includes the Future Strategic Highway Research Program that Chairman Ehlers spoke about in his opening statement looking at renewing existing highways, improving safety, reducing congestion, and increasing capacity, as well as a program recommended by the National Academies, looking at the link between environment and transportation.

Mr. EHLERS. Mr. Smith?

Mr. SMITH. As a senior Member of the Transportation Committee, Mr. Chairman, would you be comfortable in giving us your guess, your prognosis of the future of the full transportation bill?

Mr. EHLERS. Well, yes. That is not really appropriate here, but if the gentleman will yield, I will simply comment. The main issue that the Congress will have to deal with has nothing specifically to do with the transportation issues in the bill, although they will be in play. The big issue is going to be the level of funding. And the Congress, at this moment, appears not to be willing to fund the bill at the level that the Chairman of the Transportation and Infrastructure desires to fund it. And until that issue is resolved, I suspect there probably will not be too much progress on the entire bill. But we are hoping for an agreement on that score some time in the next few months.

Mr. SMITH. Is there a possibility that some of the research provisions might be incorporated in a continuation language?

Mr. EHLERS. If the gentleman would yield, I would certainly welcome that, but I would not be optimistic about it, because it is basically a continuing status, and committees, in general, do not want to raise any issues as they discuss whether to continue another five months or six months on a law that is on the books.

Mr. SMITH. Thank you.

Mr. EHLERS. The gentleman's time has expired. The question before us is the passage of H.R. 3551. All of those in favor will say aye. All of those opposed will say no. In the opinion of the Chair, the ayes have it.

I will now recognize Mr. Udall to offer a motion.

Mr. UDALL. Mr. Chairman, I would move that the Subcommittee favorably report the bill H.R. 3551, as amended, to the Full Committee with the recommendation that it be in order for the bill, as amended by the Subcommittee, to be incorporated into an amendment in the nature of a substitute for consideration as an original bill for the purpose of amendment under the five-minute rule at Full Committee. Further, I ask unanimous consent that the staff be instructed to make all necessary technical and conforming changes to the bill, as amended, in accordance with the recommendations of the Subcommittee.

Mr. EHLERS. The question is on this motion to report the bill favorably. Those in favor of the motion will signify by saying aye. Those opposed, no. The ayes have it. And the resolution is favorably reported.

Without objection, the motion to reconsider is laid upon the table. I move, pursuant to Clause 1 of Rule 22 of the Rules of the House of Representatives that the Subcommittee authorize the Chairman

to offer such motions as may be necessary in the House to adopt and pass H.R. 3551. Without objection, so ordered.

This concludes our subcommittee markup. I thank you very much for your participation and the rapidity with which we were able to complete this task, and we can all get on to our other work. Thank you very much. This concludes the markup hearing. The meeting is adjourned.

[Whereupon, at 10:35 a.m., the Subcommittee was adjourned.]

# Appendix 1:

## ROSTER, AMENDMENTS, H.R. 3551, SECTION-BY-SECTION ANALYSIS OF H.R. 3551

**SUBCOMMITTEE ON ENVIRONMENT, TECHNOLOGY, AND STANDARDS**

**MARKUP**
**January 28, 2004 - 10:00 a.m. - 2318 RHOB**

**AMENDMENT ROSTER**

H.R. 3551, Surface Transportation Research and Development Act of 2003
--Motion to adopt the bill, as amended: adopted by a voice vote.
--Motion to report the bill, as amended: adopted by a voice vote.

| No. | Sponsor | Description | Results |
|---|---|---|---|
| 1. | Mr. Ehlers | Amendment in the Nature of a Substitute. Removes funding levels from the bill. | --Adopted as original text by a voice vote.<br><br>--Note: Short title changed to: HR 3551, Surface Transportation Research and Development Act of 2004. |
| 2. | Ms. Lofgren | Creates four National Transportation Security centers at universities to conduct research on transportation security. | --Adopted by a voice vote. |
| 3. | Mr. Udall | Adds bicycle and pedestrian research (including within National Parks) to the contents of the research program under 502 (c) of title 23. | --Adopted by a voice vote. |
| 4. | Mr. Miller (Amendment offered by Mr. Udall on behalf of Mr. Miller.) | Adds a new area to the list of priority research and development areas in the Intelligent Transportation Systems Program. This provision would call for the development of interdisciplinary strategies and tools to address the multiple impacts of congestion concurrently. | --Adopted by a voice vote. |
| | | | |

**AMENDMENT IN THE NATURE OF A SUBSTITUTE**

**TO H.R. 3551**

**OFFERED BY MR. EHLERS**

Strike all after the enacting clause and insert the following:

**SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

(a) SHORT TITLE.—This Act may be cited as the "Surface Transportation Research and Development Act of 2004".

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

**SEC. 2. FINDINGS.**

The Congress finds the following:

(1) Research and development is critical to developing and maintaining a transportation system that meets the goals of safety, mobility, economic vitality, efficiency, equity, and environmental protection.

(2) Federally sponsored surface transportation research and development has produced many successes. The development of rumble strips has increased safety; research on materials has increased the lifespan of pavements, saving money and reducing the disruption caused by construction; and Geographic Information Systems have improved the management and efficiency of transit fleets.

(3) Despite these important successes, the Federal surface transportation research and development investment represents only about 0.5 percent of overall government spending on surface transportation.

(4) While Congress increased funding for overall transportation programs by about 40 percent in

the Transportation Equity Act for the 21st Century, funding for transportation research and development remained relatively flat.

(5) The Federal investment in research and development should be balanced between short-term applied and long-term fundamental research and development. The investment should also cover a wide range of research areas, including research on materials and construction, research on operations, research on transportation trends and human factors, and research addressing the institutional barriers to deployment of new technologies.

(6) Therefore, Congress finds that it is in the United States interest to increase the Federal investment in transportation research and development, and to conduct research in critical research gaps, in order to ensure that the transportation system meets the goals of safety, mobility, economic vitality, efficiency, equity, and environmental protection.

# TITLE I—SURFACE TRANSPORTATION RESEARCH

**SEC. 101. AUTHORIZATION OF APPROPRIATIONS.**

There are authorized to be appropriated to the Secretary of Transportation such sums as are necessary to carry out this title and the amendments made by this title.

**SEC. 102. GOALS, PRINCIPLES, AND PROCESSES.**

(a) GOALS.—The Federal Government shall support surface transportation research in order to support the goals established for the surface transportation system as set forth in the Transportation Equity Act for the 21st Century, including supporting economic vitality, improving safety and security, increasing mobility, protecting and enhancing the environment, improving integration between modes of transportation, promoting efficiency, and emphasizing the preservation of the existing transportation system.

(b) BASIC PRINCIPLES GOVERNING RESEARCH AND DEVELOPMENT.—

(1) FEDERAL RESPONSIBILITY.—Funding and conducting surface transportation research and development and technology transfer activities shall be the responsibility of the Federal Government when—

(A) the work is of national significance;

(B) it supports research in which there is a clear public benefit, and private sector investment is less than optimal due to market failure;

(C) it supports critical research that is not otherwise being conducted by the public or private sector;

(D) it supports a Federal stewardship role in ensuring that State and local governments use national resources efficiently; or

(E) it presents the best means to support Federal policy goals compared to other policy alternatives.

(2) ROLE.—Consistent with these Federal responsibilities, the Secretary of Transportation shall—

(A) conduct research,

(B) support and facilitate research and development and technology transfer activities by State highway agencies, metropolitan planning organizations, and local governments;

(C) share results of completed research; and

(D) support and facilitate technology and innovation deployment.

(3) PROGRAM CONTENT.—The surface transportation research and development program shall include—

(A) fundamental, long-term research;

(B) research aimed at significant research gaps, and emerging issues with national implications; and

(C) research related to policy and planning.

(c) PROCESSES.—

(1) STAKEHOLDER INPUT.—Federally sponsored surface transportation research and development activities shall address the needs of partners and stakeholders. Stakeholders include users of research (such as States, metropolitan planning organizations, local governments, and the private sector), researchers, research sponsors, and other affected parties, including public interest groups. Stakeholders shall be included at every level of research including strategic planning, agenda setting, and program evaluation. The Secretary shall expand the range and diversity of stakeholders engaged in the process.

(2) COMPETITION AND PEER REVIEW.—All parties entering into contracts or cooperative agree-

ments with the Secretary, or receiving grants, to perform research and development activities or provide technical assistance under this Act shall be selected on a competitive basis, and on the basis of the results of peer review of proposals submitted to the Secretary.

(3) PERFORMANCE REVIEW AND EVALUATION.—All surface transportation research and development projects shall include a component of performance measurement and evaluation. Performance measures shall be established during the proposal stage of a research project and shall, to the maximum extent possible, be outcome-based. All evaluations shall be made readily available to the public. The results of all surface transportation research and development funded under this Act shall be peer reviewed.

**SEC. 103. TRANSPORTATION RESEARCH AND DEVELOPMENT STRATEGIC PLANNING AND ANNUAL REPORTING.**

(a) AMENDMENT.—Section 508 of title 23, United States Code, is amended to read as follows:

**"§ 508. Transportation research and development strategic planning and annual reporting**

"(a) IN GENERAL.—The Secretary shall—

"(1) establish a strategic planning process, consistent with section 306 of title 5 for the Department of Transportation to determine national transportation research and development priorities;

"(2) set national transportation strategic goals and research and development priorities;

"(3) coordinate Federal transportation research and development activities;

"(4) measure the results of those activities and how they impact the performance of the transportation systems of the United States; and

"(5) ensure that planning and reporting activities carried out under this section are coordinated with all other transportation planning and reporting requirements.

"(b) IMPLEMENTATION.—The Secretary shall—

"(1) provide for the integrated planning, coordination, and consultation among the operating administrations of the Department of Transportation, including the aviation, transit, and rail operating administrations, all other Federal agencies with responsibility for surface transportation research and technology development, State and local governments, institutions of higher education, industry, and other private and public sector organizations en-

gaged in surface transportation-related research and development activities;

"(2) ensure that the transportation research and development programs of the Department do not duplicate other Federal, State, or private sector research and development programs; and

"(3) provide for independent validation of the scientific and technical assumptions underlying the transportation research and development programs of the Department.

"(c) TRANSPORTATION RESEARCH AND DEVELOPMENT STRATEGIC PLAN.—

"(1) DEVELOPMENT.—Not later than 1 year after the date of enactment of the Surface Transportation Research and Development Act of 2004 the Secretary shall develop an integrated transportation research and development strategic plan. The Secretary shall periodically revise such plan.

"(2) CONTENTS.—The plan shall—

"(A) include the general goals and principles of the Department of Transportation for transportation research and development program set forth in section 102 of the Surface Transportation Research and Development Act of 2004;

"(B) define the roles of the Department and other Federal agencies in achieving the goals and principles identified under subparagraph (A), in order to avoid unnecessary duplication of effort;

"(C) define the Department's overall strategy and research and development priorities, and for each research area specified in section 502, set out—

"(i) specific research strategies;

"(ii) research objectives and priorities;

"(iii) projects to be carried out;

"(iv) recommended technology transfer activities to promote the deployment of research results; and

"(v) short-term, medium-term, and long-term technology development and deployment activities;

"(D) define the role of each of the operating administrations of the Department in carrying out the plan over the next 5 years, including a description of procedures for coordination of the efforts of the Secretary with the efforts of the operating administrations of the Department and other Federal agencies;

"(E) assess how State and local research and development activities are contributing to the achievement of the goals identified under subparagraph (A) and priorities identified under subparagraph (C);

"(F) provide details of the transportation research and development programs of the Department, including performance goals, resources needed to achieve those goals, and performance indicators as described in section 1115(a) of title 31 for the next 5 years for each area of research and development;

"(G) incorporate input from a wide range of interests in the transportation community, including State transportation officials, metropolitan planning organizations, local governments, business, environmental and community organizations, academia, and other relevant Federal agencies, and summarize significant comments on the plan obtained from these interests; and

"(H) incorporate the input of the National Academy of Sciences and include responses to significant comments obtained from the Academy and other advisory bodies, and describe

any corrective actions taken pursuant to such comments.

"(3) NATIONAL ACADEMY OF SCIENCES REVIEW.—The Secretary shall enter into an agreement for the review by the National Academy of Sciences of the details of each—

"(A) strategic plan or revision required under section 306 of title 5;

"(B) performance plan required under section 1115 of title 31; and

"(C) program performance report required under section 1116 of title 31—

with respect to transportation research and development.

"(4) PERFORMANCE PLANS AND REPORTS.—In reports submitted under sections 1115 and 1116 of title 31, the Secretary shall include—

"(A) a summary of the results for the previous fiscal year of transportation research and development programs to which the Department of Transportation contributes, along with—

"(i) an analysis of the relationship between those results and the goals identified under paragraph (2)(A); and

"(ii) a description of the methodology used for assessing the results; and

"(B) a description of significant transportation research and development initiatives, if any, undertaken during the previous fiscal year that were not in the plan developed under paragraph (1), and any significant changes in the plan from the previous year's plan.

"(d) MERIT REVIEW AND PERFORMANCE MEASUREMENT.—Not later than 1 year after the date of enactment of the Surface Transportation Research and Development Act of 2004, the Secretary shall transmit to Congress a report describing competitive merit review procedures for use in selecting grantees and contractors in the programs covered by the plan developed under subsection (c) and performance measurement procedures for evaluating the programs.

"(e) PROCUREMENT PROCEDURES.—The Secretary shall—

"(1) develop model procurement procedures that encourage the use of advanced technologies; and

"(2) develop model transactions for carrying out and coordinating Federal and State transportation research and development activities.

"(f) ANNUAL PROJECT REPORTS.—The Secretary shall publish and make publicly available an annual report documenting all transportation research and development activities of the Department. The report shall include detailed accounting of how Federal funds were expended.

"(g) CONSISTENCY WITH GOVERNMENT PERFORMANCE AND RESULTS ACT OF 1993.—The plans and reports developed under this section shall be consistent with and incorporated as part of the plans developed under section 306 of title 5 and sections 1115 and 1116 of title 31.".

(b) CONFORMING AMENDMENT.—The analysis for chapter 5 of title 23, United States Code, is amended by striking the item related to section 508 and inserting the following:

"508. Transportation research and development strategic planning and annual reporting.".

**SEC. 104. SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT.**

(a) SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT.—Section 502 of title 23, United States Code, is amended—

(1) in subsection (a)—

(A) by striking subparagraphs (B) and (C) of paragraph (1) and inserting the following:

"(B) all phases of transportation planning and development (including construction, transportation system management and operation, modernization, development, design, maintenance, safety, data collection, performance analysis, multimodal assessment, financing, demand forecasting, and traffic conditions);

"(C) institutional arrangements and support; and

"(D) the effect of State laws on the activities described in subparagraphs (A), (B), and (C).''; and

(B) in paragraph (3)(C), by inserting "academic researcher," after "association, institution,";

(2) in subsection (c)—

(A) in paragraph (1), by inserting "accessibility, connectivity," after "United States, including";

(B) by redesignating paragraphs (4) through (11) as paragraphs (5) through (12), respectively;

(C) by inserting after paragraph (3) the following new paragraph:

"(4) Methods and testing to determine the impacts, both positive and negative, to communities from major transportation investments.";

(D) in paragraph (6), as so redesignated by subparagraph (B) of this paragraph—

(i) by striking "research project" and inserting "improvements against policy objectives" in subparagraph (B); and

(ii) by inserting "and management" after "transportation operations" in subparagraph (C);

(E) in paragraph (12), as so redesignated by subparagraph (B) of this paragraph, by striking ", including unobtrusive eyetracking technology"; and

(F) by adding at the end the following new paragraphs:

"(13) Environmental research, including research described in the Transportation Research Board Special Report 268, entitled 'Surface Transportation Environmental Research: A Long-Term Strategy', published in 2002.

"(14) Assessment of planning strategies that link land use and transportation in metropolitan areas.

"(15) Exploratory advanced research under subsection (d).

"(16) Research aimed at understanding how emerging trends (including demographic, economic, and social trends) will affect and are affected by surface transportation usage and needs.

"(17) Research on the link between transportation and health (including asthma and obesity).

"(18) Research on, and dissemination of recommendations and best practices aimed at addressing, nontechnical barriers to technology deployment (which include fragmented local authority, rigid procurement rules, and privacy and liability considerations).

"(19) Research on the effects of climate conditions (such as freezing, thawing, and precipitation) on highway construction and maintenance, including research to reduce or repair damage caused by climatic conditions, development of materials that can withstand climatic conditions, and research on the effects of climatic conditions on the costs of highway construction and maintenance.

"(20) Research to improve the infrastructure investment needs report under subsection (g) through new methods of collecting better quality

data, monitoring in a system-wide manner, the determination of critical metrics to assess condition and performance, and new methods of statistical analysis and computer models to improve the prediction of future needs.

"(21) Research, development, and technology transfer related to asset management.

"(22) Any other surface transportation research topics that the Secretary determines, in accordance with the strategic planning process under section 508, to be critical.";

(3) in subsection (d)—

(A) in paragraph (1)—

(i) by inserting "exploratory" after "shall establish an"; and

(ii) by inserting "fundamental" after "508, that addresses"; and

(B) by striking paragraph (2) and inserting the following new paragraphs:

"(2) GOAL.—The goal of the research program under this subsection shall be to achieve breakthroughs in understanding transportation phenomena. Exploratory advanced research should have a broader objective, longer time frame, multidisciplinary nature, and have both a higher risk and a

higher potential payoff than for problem-solving research.

"(3) AGENDA.—Not later than 15 months after that date of enactment of this paragraph, the Secretary shall develop an agenda for exploratory advanced research. The agenda shall outline key questions to be addressed and proposed areas of research to address these questions. The agenda shall also document the best way to accomplish this research (such as through Federal laboratories or academic researchers). Upon completion, the agenda shall be transmitted to the Committee on Transportation and Infrastructure and the Committee on Science of the House of Representatives, and the Committee on Environment and Public Works of the Senate, and made available to the general public.

"(4) CONSULTATION.—The Secretary shall consult with the National Science Foundation in reviewing fundamental research proposals, and to obtain advice on peer review protocols.

"(5) WORKSHOP.—In order to develop the agenda for exploratory advanced research under paragraph (3), the Secretary shall convene a workshop with appropriate researchers and policymakers from Federal and State agencies, as well as aca-

demic researchers, to gather recommendations. The goal of the workshop shall be to determine priority areas of exploratory advanced research for Federal investment. Emphasis shall be placed on hearing from a diverse group of stakeholders. The Secretary shall make the results of the workshop widely available to the public. The workshop shall be held within 9 months after the date of the enactment of this paragraph.

"(6) USE OF FUNDS.—In any fiscal year with respect to which $5,000,000 or more is appropriated for carrying out this subsection, at least ½ of the funds in excess of $5,000,000 shall be used to carry out the grant program described in paragraph (7). Funds appropriated for carrying out this subsection not used for the grant program described in paragraph (7) shall be used to carry out the agenda developed under paragraph (3). All exploratory advanced research proposals and results under this subsection shall be peer reviewed.

"(7) GRANT PROGRAM.—If funds are available under paragraph (6), the Secretary shall administer a competitive, merit-reviewed and peer-reviewed grant program to support fundamental research outside of the Federal Government. Eligible applicants

include academic researchers, and for-profit and not-for-profit research institutions. Under this grant program, research solicitations shall be open and broad in order to spur creativity and innovation. Funds may be used under this paragraph to support research in a range of topics, including materials, operations, and social science. Proposals with the greatest merit shall be funded, and projects may receive funding for multiple years.";

(4) in subsection (e), by striking "(105 Stat." and all that follows through "performance program" and inserting "and the Transportation Equity Act for the 21st Century";

(5) by amending subsection (f) to read as follows:

"(f) LONG-TERM BRIDGE PERFORMANCE PROGRAM.—

"(1) AUTHORITY.—The Secretary shall establish a 20 year long-term bridge performance program.

"(2) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—Under the program, the Secretary shall make grants and enter into cooperative agreements and contracts to—

"(A) monitor, material-test, and evaluate test bridges;

"(B) analyze the data obtained in carrying out subparagraph (A); and

"(C) prepare products to fulfill program objectives and meet future bridge technology needs.";

(6) in subsection (g)—

(A) in paragraph (1)—

(i) by striking "1999" and inserting "2005"; and

(ii) by striking "highway and bridge" each place it appears and inserting "surface transportation"; and

(B) in paragraph (2), by striking "biannual reports" and all that follows through "21st Century" and inserting "previous reports under this subsection"; and

(7) by adding at the end the following new subsection:

"(h) TURNER-FAIRBANK HIGHWAY RESEARCH CENTER.—

"(1) IN GENERAL.—The Secretary shall operate in the Federal Highway Administration a Turner-Fairbank Highway Research Center.

"(2) USES OF THE CENTER.—The Turner-Fairbank Highway Research Center shall support the—

"(A) conduct of highway research and development related to new highway technology;

"(B) development of understandings, tools, and techniques that provide solutions to complex technical problems through the development of economical and environmentally sensitive designs, efficient and quality controlled construction practices, and durable materials; and

"(C) development of innovative highway products and practices.".

(b) GEOSPATIAL INFORMATION SYSTEMS.—Section 5113 of the Transportation Equity Act of the 21st Century (23 U.S.C. 502 note) is amended by revising subsection (b) to read as follows:

"(b) PROGRAM.—

"(1) NATIONAL POLICY.—The Secretary shall establish and maintain a national policy for the use of commercial remote sensing products and geospatial information technologies in national transportation infrastructure development and construction.

"(2) POLICY IMPLEMENTATION.—The Secretary shall develop new applications of commercial remote sensing products and geospatial information technologies for the implementation of the national policy established and maintained under (b)(1) of this section.".

(c) ENVIRONMENT AND PLANNING.—

(1) AMENDMENT.—Section 507 of title 23, United States Code, is amended to read as follows:

**"§507. Surface Transportation Environment and Planning Cooperative Research Program–**

"(a) ESTABLISHMENT.—The Secretary shall establish and support a collaborative, public-private, multimodal surface transportation environment and planning cooperative research program.

"(b) AGREEMENT.—The Secretary shall make grants to or enter into cooperative agreements with the National Academy of Sciences, or another nonprofit research organization established for this purpose, to support, administer, and manage the surface transportation environment and planning cooperative research program.

"(c) ADVISORY BOARD.—

"(1) ESTABLISHMENT.—The organization described in subsection (b) shall establish an inde-

pendent advisory board drawn from core partners that represent environment, transportation, scientific, and other interests, including the Department of Transportation, the Environmental Protection Agency, the National Science Foundation, other Federal agencies, the States, regional and local governments, nonprofit organizations, academia, foundations, and the private sector.

"(2) RESPONSIBILITIES.—The Advisory Board shall have the responsibility for—

"(A) development of a research agenda, which shall be published annually, shall serve as the basis of the annual project solicitation, and shall be based on the multiyear strategy described in subsection (c), as revised under subparagraph (D) of this paragraph;

"(B) annual solicitation of project proposals, including open competition and peer review of research proposals;

"(C) development of project selection criteria, through an open and public consultation process with stakeholders, that emphasize—

"(i) the development of fundamental knowledge; and

"(ii) collaborative research and funding; and

"(D) revision of the contents of the multiyear strategy described in subsection (e), through an open and public consultation process, with the first revision to be completed 3 years after the first grants are awarded under this section and subsequent revisions biennially thereafter.

"(d) DISSEMINATION OF RESEARCH FINDINGS.—The organization described in subsection (b) and the Department of Transportation shall proactively disseminate research findings under this section to researchers, practitioners, and decisionmakers, through conferences and seminars, field demonstrations, workshops, training programs, presentations, testimony to government officials, the Internet, and publications for the general public.

"(e) CONTENTS.—The national research agenda for the surface transportation environment and planning cooperative research program required under subsection (c)(2)(C) shall be based on Transportation Research Board Special Report 268, entitled 'Surface Transportation Environmental Research: A Long-Term Strategy', published in 2002, which included the following research areas:

"(1) Human Health.

"(2) Ecology and Natural Systems.

"(3) Environmental and Social Justice.

"(4) Emerging Technologies.

"(5) Land Use.

"(6) Planning and Performance Measures.

"(f) PROJECT FUNDING.—

"(1) MULTIYEAR FUNDING.—Projects may receive funding for multiple years under this section.

"(2) JOINT PROJECT FUNDING.—In addition to using funds authorized for this section, the organization that administers this program may seek and accept additional funding sources from public and private entities capable of attracting and accepting funding from Federal agencies, States, local governments, nonprofit foundations, and the private sector.

"(g) PROGRAMMATIC EVALUATIONS.—(1) Not later than 2 years after the first research project grants or contracts are awarded under this section, the Secretary shall enter into an arrangement with the National Academy of Public Administration to review the program under this section, and recommend improvements.

"(2) The National Academy of Public Administration review shall—

"(A) assess the degree to which the projects funded under this section have addressed the research topics identified in the strategy established in the Transportation Research Board Special Report 268, including identifying those topics which have not yet been addressed;

"(B) assess the peer review process for project proposals, and assess research project results; and

"(C) assess the extent of stakeholder involvement in all facets of the program.

"(h) ANNUAL REPORT.—The organization described in subsection (b) shall prepare and transmit to the Secretary an annual report that includes a project summary for every project funded under this section. Each summary shall characterize the project, summarize its status, and identify sponsors.".

(2) CONFORMING AMENDMENT.—The analysis for chapter 5 of title 23, United States Code, is amended by striking the item related to section 507 and inserting the following:

"507. Surface transportation environment and planning cooperative research program.".

**SEC. 105. TECHNOLOGY DEPLOYMENT.**

Section 503 of title 23, United States Code, is amended—

(1) in subsection (a)—

(A) by amending paragraph (7) to read as follows:

"(7) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—

"(A) IN GENERAL.—Under the program, the Secretary may make grants and enter into cooperative agreements and contracts with States, metropolitan planning organizations, local governments, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations to foster alliances and support efforts to stimulate advances in transportation technology, and to pay the Federal share of the costs of research, development, and technology transfer concerning innovative technologies.

"(B) APPLICATIONS.—To receive a grant, cooperative agreement, or contract, under this paragraph, an entity described in subparagraph (A) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications based on the applications' merit and on whether the project that is

the subject of the grant, cooperative agreement, or contract meets the goals of the program described in paragraph (3).";

(B) in paragraph (8), by inserting "and the Committee on Science" after "Transportation and Infrastructure";

(C) by redesignating paragraph (9) as paragraph (11); and

(D) by inserting after paragraph (8) the following new paragraphs:

"(9) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall ensure that the information and technology resulting from research conducted under this subsection is made available to State and local transportation departments, metropolitan planning organizations, and other interested parties.

"(10) FEDERAL SHARE.—The Federal share of the cost of a project under this subsection shall be determined by the Secretary."; and

(2) in subsection (b)—

(A) by striking "Bridge Research and Construction" and inserting "Research and Deployment" in the subsection heading;

(B) by amending paragraphs (1) and (2) to read as follows:

"(1) IN GENERAL.—The Secretary shall establish and carry out a program to demonstrate the application of innovative technology in surface transportation infrastructure construction (such as bridges, pavements, and other structures) and safety.

"(2) GOALS.—The goals of the program shall include—

"(A) the development of new, cost-effective innovative material for surface transportation infrastructure applications;

"(B) the deployment and evaluation of safety technologies and innovations at the State and local levels, and the deployment of best practices in training, management, design, and planning;

"(C) the reduction of life-cycle costs of surface transportation infrastructure, including the costs of new construction, replacement, maintenance, and rehabilitation of deficient highway infrastructure;

"(D) the development and deployment of construction techniques to increase safety and reduce construction time and traffic congestion;

"(E) the development of engineering design criteria for innovative products and materials for use in surface transportation infrastructure;

"(F) the development of cost-effective and innovative techniques to separate vehicle and pedestrian traffic from railroad traffic;

"(G) the evaluation and documentation of the performance and benefits of innovative technologies deployed to improve life, performance, cost effectiveness, safety, and customer satisfaction;

"(H) the refinement of innovative technologies based on the evaluation described in subparagraph (G);

"(I) the wide dissemination of information developed under subparagraph (G);

"(J) the development of surface transportation infrastructure, including alternative processes for the seismic retrofit of bridges, that will withstand natural disasters and terrorist attacks;

"(K) for pavements, the development of designs and materials to reduce impacts of storm water runoff;

"(L) the development of new nondestructive infrastructure evaluation technologies and techniques; and

"(M) effective technology transfer and information dissemination to accelerate implementation of innovative technologies.";

(C) in paragraph (5), by striking "section" and inserting "subsection"; and

(D) by adding at the end the following new subsection:

"(e) RESEARCH ON THE NONTECHNICAL BARRIERS TO TECHNOLOGY DEPLOYMENT.—In order to support the deployment goals established under subsection (a)(3), the Secretary shall carry out a research program addressing the nontechnical barriers to technology deployment, including fragmented authority at the local and regional level and rigid procurement rules. The goal of this research shall be to generate proposals for how to overcome these nontechnical barriers.".

**SEC. 106. TRAINING AND EDUCATION.**

(a) NATIONAL HIGHWAY INSTITUTE.—Section 504(a) of title 23, United States Code, is amended by striking paragraph (3) and inserting the following:

"(3) COURSES.—

"(A) IN GENERAL.—The Institute shall develop or update existing courses in asset management, application of emerging technologies, including intelligent transportation systems, and in techniques, methods, regulations, information technology, general management, environmental stewardship, engineering, safety, transportation system management and operations, construction, maintenance, contract administration, inspection, and finance.

"(B) ADDITIONAL COURSES.—In addition to the courses developed under subparagraph (A), the Institute, in consultation with State transportation departments and the American Association of State Highway and Transportation Officials, may develop other courses as it considers necessary.

"(C) REVISION OF COURSES OFFERED.—The Institute shall periodically—

"(i) review the course inventory of the Institute; and

"(ii) revise or cease to offer courses based on course content, applicability, and need.".

(b) FEDERAL SHARE.—Section 504(b) of title 23, United States Code, is amended by adding at the end the following:

"(3) FEDERAL SHARE.—

"(A) GRANTS.—The grant funds authorized to carry out this subsection may be used to cover up to 50 percent of the program costs relating to local technical assistance. Funds available for technology transfer and training purposes under this title and title 49 may be used to cover the remaining 50 percent of the program costs.

"(B) TRIBAL TECHNICAL ASSISTANCE CENTERS.—The Federal share of the cost of activities carried out by the tribal technical assistance centers under paragraph (2)(D)(ii) of this subsection shall be 100 percent.".

(c) DEFINITIONS AND DECLARATION OF POLICY.—Section 101(a) of title 23, United States Code, is amended—

(1) in paragraph (3), by—

(A) striking "and" at the end of subparagraph (G);

(B) striking the period at the end of subparagraph (H) and inserting "; and"; and

(C) adding after subparagraph (H) the following:

"(I) surface transportation workforce development, training, and education.";

(2) by redesignating paragraphs (35) through (37) as paragraphs (36) through (38) respectively; and

(3) by adding after paragraph (34) the following:

"(35) SURFACE TRANSPORTATION WORKFORCE DEVELOPMENT, TRAINING, AND EDUCATION.—The term 'surface transportation workforce development, training, and education' means activities associated with surface transportation career awareness, student transportation career preparation, and training and professional development for surface transportation workers.".

**SEC. 107. BUREAU OF TRANSPORTATION STATISTICS.**

Section 111 of title 49, United States Code, is amended to read as follows:

**"§ 111. Bureau of Transportation Statistics**

"(a) ESTABLISHMENT.—There is established in the Department of Transportation a Bureau of Transportation Statistics to provide information to public decision-makers, private industry, research organizations, and the public on the extent, use, condition, performance, and consequences of the Nation's transportation system.

"(b) DIRECTOR.—

"(1) APPOINTMENT.—The Bureau shall be headed by a Director who shall be appointed by the President, by and with the advice and consent of the Senate.

"(2) QUALIFICATIONS.—The Director shall be appointed from among individuals who are qualified to serve as the Director by virtue of their training and experience in the collection, analysis, and use of transportation statistics.

"(3) REPORTING.—The Director shall report directly to the Secretary.

"(4) TERM.—The term of the Director shall be 5 years. The Director may continue to serve after the expiration of the term until a successor is appointed and confirmed.

"(c) RESPONSIBILITIES.—The Director of the Bureau shall be responsible for carrying out the following duties:

"(1) SECRETARY'S SENIOR ADVISOR.—Serving as the Secretary's senior advisor on data and statistics.

"(2) PROVIDING DATA, STATISTICS, AND ANALYSIS TO TRANSPORTATION DECISIONMAKERS.—Ensuring that the statistics compiled under paragraph (6) support transportation decisionmaking by the Federal Government, State and local governments, metropolitan planning organizations, transportation-related associations, private businesses (including the freight community), and consumers.

"(3) COORDINATING COLLECTION OF INFORMATION.—Coordinating the collection of information by the Department of Transportation required for statistics to be compiled under paragraph (6) with related information gathering activities conducted by other Federal departments and agencies and collecting appropriate data not elsewhere gathered.

"(4) DATA MODERNIZATION.—Implement a data modernization program to improve surveys and data collection methods to ensure that nationally collected data accurately characterize all modes of transportation and transportation users and are useful for decisionmakers throughout the transportation community.

"(5) ENCOURAGING DATA STANDARDIZATION.—Encouraging standardization of data, data collection methods, and data management and storage technologies for data collected by the Bureau, the operating administrations of the Department of Transportation, States, local governments, metropolitan planning organizations, and private sector entities.

"(6) COMPILING TRANSPORTATION STATISTICS.—Compiling, analyzing, and publishing a comprehensive set of transportation statistics on—

"(A) productivity in various parts of the transportation sector;

"(B) traffic flows for all modes of transportation;

"(C) other elements of the Intermodal Transportation Database established under subsection (g);

"(D) travel times and measures of congestion;

"(E) vehicle weights and other vehicle characteristics;

"(F) demographic, economic, and other variables influencing—

"(i) travel;

"(ii) traveling behavior, including choice of transportation mode; and

"(iii) goods movement;

"(G) transportation costs for passenger travel and goods movement;

"(H) performance and impacts of the national transportation system;

"(I) availability and use of mass transit (including the number of passengers served by each mass transit authority) and other forms of for-hire passenger travel;

"(J) frequency of vehicle and transportation facility repairs and other interruptions of transportation service;

"(K) safety and security for travelers, vehicles, and transportation systems;

"(L) consequences of transportation for the human and natural environment;

"(M) the extent, connectivity, and condition of the transportation system, including elements of the National Transportation Atlas Database developed under subsection (i); and

"(N) transportation-related variables that influence the domestic economy and global competitiveness.

"(7) NATIONAL SPATIAL DATA INFRASTRUCTURE.—Building and disseminating the transportation layer of the National Spatial Data Infrastructure, including coordinating the development of transportation geospatial data standards, compiling intermodal geospatial data, and collecting geospatial data that is not being collected by others.

"(8) IMPLEMENTING LONG-TERM DATA COLLECTION PROGRAM.—Establishing and implementing, in cooperation with the heads of the operating administrations of the Department of Transportation, the States, metropolitan planning organizations, the national statistical organizations of the United States, and other Federal officials, a comprehensive, long-term program for the collection and analysis of data to support the statistics compiled, analyzed, and published under paragraph (6) and other data on the performance of the transportation systems of the United States. Such program shall—

"(A) be coordinated with efforts to measure outputs and outcomes of the Department of Transportation and the transportation systems of the United States under the Government Performance and Results Act of 1993 (107

Stat. 285 et seq.) and the amendments made by such Act;

"(B) ensure that data is collected under this subsection in a manner which will maximize the ability to compare data from different regions and for different time periods; and

"(C) ensure that data collected under this subsection is controlled for accuracy, made relevant to the States and metropolitan planning organizations, and disseminated to the States and other interested parties.

"(9) ISSUING GUIDELINES.—Issuing guidelines for the collection and publication of information by the Department of Transportation required for statistics to be compiled under paragraph (6) in order to ensure that such information is accurate, reliable, relevant, and in a form that permits systematic analysis. The Bureau shall review and report to the Secretary of Transportation on the sources and reliability of the statistics proposed by the heads of the operating administrations of the Department to measure outputs and outcomes as required by the Government Performance and Results Act of 1993, and the amendments made by such Act, and shall carry out such other reviews of the sources and reli-

ability of other data collected or statistical information published by the heads of the operating administrations of the Department as shall be requested by the Secretary.

"(10) MAKING STATISTICS ACCESSIBLE.—Making the statistics published under this subsection readily accessible.

"(d) INFORMATION NEEDS ASSESSMENT.—

"(1) IN GENERAL.—Within 60 days after the date of the enactment of the Surface Transportation Research and Development Act of 2004, the Secretary shall enter into an arrangement with the National Academy of Sciences to develop and publish a National Transportation Information Needs Assessment. The Assessment shall be published not later than 24 months after such arrangement is entered into.

"(2) CONTENT.—The Assessment shall—

"(A) identify the major data needs of the transportation community, including all levels of government, the private and nonprofit sectors, and academia, through a statistically valid needs survey, the results of which shall be published;

"(B) identify critical gaps, shortcomings, and lack of standardization in existing data collection and survey methods;

"(C) identify data collection required under subsection (e)(6) that is not currently being carried out; and

"(D) recommend data modernization goals, specific improvements, and the estimated funding levels needed to accomplish those improvements.

"(3) CONSULTATION.—In developing the Assessment, the National Academy of Sciences shall consult with the Department's Advisory Council on Transportation Statistics and a representative cross-section of the transportation community, including business, the freight community, State and local governments, metropolitan planning organizations, transit, environmental, and community organizations, academia, and other Federal agencies, including the Environmental Protection Agency, the Department of Energy, and the Department of Housing and Urban Development.

"(e) STRATEGIC PLAN.—

"(1) DEVELOPMENT AND REVISION.—The Director shall develop an integrated, multimodal data

strategic plan within 3 years after the date of the enactment of the Surface Transportation Research and Development Act of 2004, and revise it every 3 years thereafter.

"(2) CONTENT.—The strategic plan shall include—

"(A) national goals for developing high quality national, State, local, and metropolitan transportation data;

"(B) national goals for encouraging improvements in non-Federal transportation data collection and management to improve quality, reliability, and comparability;

"(C) detailed strategies for—

"(i) addressing the needs and gaps identified in the Assessment conducted under subsection (d);

"(ii) integrating federally collected transportation data collection and systems, and coordinating data collection; and

"(iii) encouraging improvements in data collected by entities other than the Federal Government;

"(D) a plan to strengthen the Intermodal Transportation Data Base required under sub-

section (g) and the National Transportation Library under subsection (h);

"(E) an assessment of how data collection by entities other than the Federal Government is contributing to the achievement of the goals of this section;

"(F) responses to significant comments received through the consultation required under subsection (d)(2);

"(G) provision for the integrated planning, coordination, and consultation among the operating administrations of the Department of Transportation, all other Federal agencies with responsibilities related to transportation data, State and local governments, metropolitan planning organizations, institutions of higher education, industry, and other private and public sector organizations engaged in transportation-related data activities and decisionmaking; and

"(H) details of the Department of Transportation's data programs, including performance goals, resources needed to achieve those goals, and performance indicators as described in section 1115(a) of title 31, United States

Code, for the next 5 years for each area data collection and management.

"(3) CONSULTATION.—In developing the strategic plan, the Director shall consult with the National Academy of Sciences, the Advisory Council on Transportation Statistics, the Department's operating administrations, other Federal agencies, State and local governments, metropolitan planning organizations, business, and the public.

"(f) REVIEW.—The Comptroller General shall assess the Department's progress addressing the gaps identified in the Assessment required under subsection (d) and in preparing and implementing the strategic plan required under subsection (c). The assessment under this subsection shall be completed not later than 4 years after the date of the enactment of the Surface Transportation Research and Development Act of 2004.

"(g) INTERMODAL TRANSPORTATION DATA BASE.—

"(1) IN GENERAL.—In consultation with the Associate Deputy Secretary, the Assistant Secretaries, and the heads of the operating administrations of the Department of Transportation, the Director shall establish and maintain a transportation data base for all modes of transportation.

"(2) USE.—The data base shall be suitable for analyses carried out by the Federal Government, the States, and metropolitan planning organizations.

"(3) CONTENTS.—The data base shall include—

"(A) information on the volumes and patterns of movement of goods, including local, interregional, and international movement, by all modes of transportation and intermodal combinations, and by relevant classification;

"(B) information on the volumes and patterns of movement of people, including local, interregional, and international movements, by all modes of transportation (including bicycle and pedestrian modes) and intermodal combinations, and by relevant classification;

"(C) information on the location and connectivity of transportation facilities and services; and

"(D) a national accounting of expenditures and capital stocks on each mode of transportation and intermodal combination.

"(h) NATIONAL TRANSPORTATION LIBRARY.—

"(1) IN GENERAL.—The Director shall establish and maintain a National Transportation Library,

which shall contain a collection of statistical and other information needed for transportation decision-making at the Federal, State, and local levels.

"(2) ACCESS.—The Director shall facilitate and promote access to the Library, with the goal of improving the ability of the transportation community to share information and the ability of the Director to make statistics readily accessible under subsection (c)(10).

"(3) COORDINATION.—The Director shall work with other transportation libraries and other transportation information providers, both public and private, to achieve the goal specified in paragraph (2).

"(i) NATIONAL TRANSPORTATION ATLAS DATA BASE.—

"(1) IN GENERAL.—The Director shall develop and maintain geospatial data bases that depict—

"(A) transportation networks;

"(B) flows of people, goods, vehicles, and craft over the networks; and

"(C) social, economic, and environmental conditions that affect or are affected by the networks.

"(2) INTERMODAL NETWORK ANALYSIS.—The data bases shall be able to support intermodal network analysis.

"(j) MANDATORY RESPONSE AUTHORITY FOR FREIGHT DATA COLLECTION.—Whoever, being the owner, official, agent, person in charge, or assistant to the person in charge, of any corporation, company, business, institution, establishment, or organization of any nature whatsoever, neglects or refuses, when requested by the Director or other authorized officer, employee or contractor of the Bureau, to answer completely and correctly to the best of his/her knowledge all questions relating to the corporation, company, business, institution, establishment, or other organization, or to records or statistics in his/her official custody, contained in a data collection request prepared and submitted under the authority of subsection (c)(6), shall be fined not more than $500; and if the individual willfully gives a false answer to a question, shall be fined not more than $10,000.

"(k) RESEARCH AND DEVELOPMENT GRANTS.—The Secretary may make grants to, or enter into cooperative agreements or contracts with, public and nonprofit private entities (including State transportation departments, metropolitan planning organizations, and institutions of higher education) for—

"(1) investigation of the subjects specified in subsection (c)(6) and research and development of new methods of data collection, standardization, management, integration, dissemination, interpretation, and analysis;

"(2) demonstration programs by States, local governments, and metropolitan planning organizations to harmonize data collection, reporting, management, storage, and archiving to simplify data comparisons across jurisdictions;

"(3) development of electronic clearinghouses of transportation data and related information, as part of the National Transportation Library under subsection (h); and

"(4) development and improvement of methods for sharing geographic data, in support of the national transportation atlas data base under subsection (i) and the National Spatial Data Infrastructure developed under Executive Order No. 12906.

"(l) RESEARCH AND GUIDELINES ON STATISTICAL METHODS.—The Secretary shall conduct or support research relating to methods of gathering or analyzing transportation statistics and issuing guidelines for the collection of information by the Department in order to ensure that such information is accurate, relevant, com-

parable, accessible, and in a form that permits systematic analysis.

"(m) LIMITATIONS ON STATUTORY CONSTRUCTION.—Nothing in this section shall be construed—

"(1) to authorize the Bureau to require any other department or agency to collect data; or

"(2) to reduce the authority of any other officer of the Department of Transportation to collect and disseminate data independently.

"(n) PROHIBITION ON CERTAIN DISCLOSURES.—

"(1) IN GENERAL.—An officer or employee of the Bureau may not—

"(A) make any disclosure in which the data provided by an individual or organization under subsection (c)(8) can be identified;

"(B) use the information provided under subsection (c)(8) for a nonstatistical purpose; or

"(C) permit anyone other than an individual authorized by the Director to examine any individual report provided under subsection (c)(8).

"(2) PROHIBITION ON REQUESTS FOR CERTAIN DATA.—

"(A) GOVERNMENT AGENCIES.—No department, bureau, agency, officer, or employee of the United States (except the Director in carrying out this section) may require, for any reason, a copy of any report that has been filed under subsection (e)(8) with the Bureau or retained by an individual respondent.

"(B) COURTS.—Any copy of a report described in subparagraph (A) that has been retained by an individual respondent or filed with the Bureau or any of its employees, contractors, or agents—

"(i) shall be immune from legal process; and

"(ii) shall not, without the consent of the individual concerned, be admitted as evidence or used for any purpose in any action, suit, or other judicial or administrative proceeding.

"(C) APPLICABILITY.—This paragraph shall apply only to reports that permit information concerning an individual or organization to be reasonably inferred by direct or indirect means.

"(3) DATA COLLECTED FOR NONSTATISTICAL PURPOSES.—In a case in which the Bureau is authorized by statute to collect data or information for a nonstatistical purpose, the Director shall clearly distinguish the collection of the data or information, by rule and on the collection instrument, so as to inform a respondent that is requested or required to supply the data or information of the nonstatistical purpose.

"(o) TRANSPORTATION STATISTICS ANNUAL REPORT.—The Director shall transmit to the President and Congress a Transportation Statistics Annual Report which shall include information on items referred to in subsection (c)(6), documentation of methods used to obtain and ensure the quality of the statistics presented in the report, and recommendations for improving transportation statistical information.

"(p) IMPLEMENTATION ANNUAL REPORT.—The Secretary shall prepare an annual report summarizing the Department's progress in implementing the requirements of this section. The reports shall be submitted to Secretary of Transportation, to the Committee on Transportation and Infrastructure and the Committee on Science of the House of Representatives, and to Committee on Environment and Public Works of the Senate.

"(q) PROCEEDS OF DATA PRODUCT SALES.—Notwithstanding section 3302 of title 31, United States Code, funds received by the Bureau from the sale of data products, for necessary expenses incurred, may be credited to the Highway Trust Fund (other than the Mass Transit Account) for the purpose of reimbursing the Bureau for the expenses.

"(r) ADVISORY COUNCIL ON TRANSPORTATION STATISTICS.—

"(1) ESTABLISHMENT.—The Director of the Bureau of Transportation Statistics shall establish an Advisory Council on Transportation Statistics.

"(2) FUNCTION.—It shall be the function of the Advisory Council established under this subsection to—

"(A) advise the Director of the Bureau of Transportation Statistics on the quality, reliability, consistency, objectiveness, and relevance of transportation statistics and analyses collected, supported, or disseminated by the Bureau of Transportation Statistics and the Department of Transportation;

"(B) provide input to and review the Department's Assessment under subsection (d)

and annual data strategic plan required under subsection (e); and

"(C) advise the Director on methods to encourage harmonization and interoperability of transportation data collected by the Bureau, the operating administrations of the Department of Transportation, States, local governments, metropolitan planning organizations, and private sector entities.

"(3) MEMBERSHIP.—The Advisory Council established under this subsection shall be composed of not less than 15 members appointed by the Director, who are not officers or employees of the United States, including—

"(A) 2 members with specific expertise in economics;

"(B) 3 members with expertise in statistics; and

"(C) additional members with expertise in transportation statistics, analysis, and policy.

Members shall include representatives of a cross-section of the transportation community, including business, the freight community, State and local governments, metropolitan planning organizations,

transit, environmental, and community organizations, and academia.

"(4) TERMS OF APPOINTMENT.—Members shall be appointed to staggered terms not to exceed 3 years. A member may be renominated for one additional 3-year term.

"(5) APPLICABILITY OF FEDERAL ADVISORY COMMITTEE ACT.—The Federal Advisory Committee Act shall apply to the Advisory Council established under this subsection, except that section 14 of the Federal Advisory Committee Act shall not apply to such Advisory Council.".

**SEC. 108. STATE PLANNING AND RESEARCH.**

Section 505 of title 23, United States Code, is amended to read as follows:

**"§ 505. State planning and research**

"(a) IN GENERAL.—There are authorized to be appropriated such sums as are necessary to States for each fiscal year for expenditure by the States, in consultation with the Secretary, only for the following purposes:

"(1) Engineering and economic surveys and investigations.

"(2) The planning of future highway programs and local public transportation systems, the planning of the financing of such programs and systems, in-

cluding metropolitan and Statewide planning under sections 134 and 135, freight planning, safety planning, transportation systems management and operations planning, transportation-related land use planning, and transportation-related growth management activities within these planning processes, and planning capacity building activities.

"(3) Studies of the economy, safety, and convenience of highway, local public transportation, bicycle, and pedestrian systems and the desirable regulation and equitable taxation of their use.

"(4) Research, development, and technology transfer activities necessary in connection with the planning, design, construction, management, maintenance, regulation, and taxation of the use of highway, local public transportation, and intermodal transportation systems.

"(5) Research on the effects of design standards on intermodal coordination, such as the highway-rail interface, and on safe pedestrian access to transit on arterial roads and urban highways.

"(6) Study, research, and training on the engineering standards and construction materials, including accreditation of inspection and testing, for

highway, local public transportation, bicycle, pedestrian, and intermodal transportation systems.

"(b) MINIMUM EXPENDITURES ON RESEARCH, DEVELOPMENT, AND TECHNOLOGY TRANSFER ACTIVITIES.—

"(1) IN GENERAL.—Subject to paragraph (2), not less than 25 percent of the funds appropriated pursuant to subsection (a) to a State for a fiscal year shall be expended by the State for research, development, and technology transfer activities described in subsection (a), relating to highway, public transportation, bicycle, pedestrian, and intermodal transportation systems.

"(2) WAIVERS.—The Secretary may waive the application of paragraph (1) with respect to a State for a fiscal year if the State certifies to the Secretary for the fiscal year that the funds described in paragraph (1) are not needed for research, development, and technology transfer and the Secretary accepts such certification.

"(3) NONAPPLICABILITY OF ASSESSMENT.—Funds expended under paragraph (1) shall not be considered to be part of the extramural budget of the agency for the purpose of section 9 of the Small Business Act (15 U.S.C. 638).

"(c) MINIMUM EXPENDITURES FOR IMPROVING THE QUALITY OF COLLECTION AND REPORTING OF STRATEGIC SURFACE TRANSPORTATION DATA.—

"(1) IN GENERAL.—Subject to paragraph (2), not less than 10 percent of the funds appropriated pursuant to subsection (a) for a fiscal year to a State shall be expended by the State to improve the collection and reporting of strategic surface transportation data to provide critical information about the extent, condition, use, performance, and financing of the Nation's surface transportation system (including intermodal connectors) for passenger and freight movement.

"(2) WAIVERS.—The Secretary may waive the application of paragraph (1) with respect to a State for a fiscal year if the State certifies to the Secretary for the fiscal year that the State is collecting and reporting strategic data consistent with quality assurance guidelines developed cooperatively with the States and the Secretary approves such certification.

"(d) FEDERAL SHARE.—The Federal share of the cost of a project carried out using funds subject to subsection (a) shall be matched in accordance with section 120(b) unless the Secretary determines that the interests

of the surface transportation program would be best served without such matching.".

**SEC. 109. FUTURE STRATEGIC HIGHWAY RESEARCH PROGRAM.**

(a) AMENDMENT.—Chapter 5 of title 23, United States Code, is amended by adding at the end the following new section:

**"§ 509. Future Strategic Highway Research Program**

"(a) ESTABLISHMENT.—The Secretary, in consultation with the American Association of State Highway and Transportation Officials, shall enter into an arrangement with the National Academy of Sciences for the establishment of a Future Strategic Highway Research Program.

"(b) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—The Secretary may make grants to, and enter into cooperative agreements and contracts with, the American Association of State Highway and Transportation Officials and the National Academy of Sciences to carry out activities under this section. Advance payments may be made as necessary to carry out the program under this section. Although no matching funds are required for this program, collaborative research projects with multiple sources of funding shall be encouraged.

"(c) PERIOD OF AVAILABILITY.—Funds set aside to carry out this section shall remain available for the fiscal

year for which such funds are made available and the three succeeding fiscal years.

"(d) SET ASIDE.—There are authorized to be appropriated to the Secretary of Transportation for each of fiscal years 2004 through 2009, to carry out this section, such sums as are necessary.

"(e) PROGRAM ADMINISTRATION.—In carrying out the program under this section, the National Academy of Sciences shall ensure that—

"(1) the selection of projects and researchers shall be based on the open solicitation of proposals and be reviewed by panels of appropriate experts; and

"(2) State transportation officials and other stakeholders, including business, local governments, metropolitan planning organizations, environmental and community organizations, academia, other relevant Federal agencies, and other members of the transportation community are involved in the governance of the program at the executive, the overall program, and the technical levels, through the use of expert panels and committees.

"(f) CONTENTS.—The program established under this section shall be based on Transportation Research Board Special Report 260, entitled 'Strategic Highway

"Research: Saving Lives, Reducing Congestion, Improving Quality of Life'. It shall include the following research areas:

"(1) Accelerating the renewal of America's highways.

"(2) Making a significant improvement in highway safety.

"(3) Providing a highway system with reliable travel times.

"(4) Providing highway capacity in support of the Nation's economic, environmental, multi-modal transportation, and social goals.

"(g) PROJECT EVALUATION.—The products of all research grants, cooperative agreements, and contracts awarded under this section shall be subject to peer review.

"(h) PROGRAMMATIC EVALUATIONS.—Within 2 years after the first research project grants, cooperative agreements, or contracts are awarded under this section, the Secretary shall enter into an arrangement with the National Academy of Public Administration to review the program under this section, and to recommend improvements. The review shall—

"(1) assess the degree to which projects funded under this section have addressed the research topics identified in the research agenda established in

Transportation Research Board Special Report 260, including identifying those topics which have not yet been addressed;

"(2) assess the merit and peer review process for project proposals, and assess research project results; and

"(3) assess the extent of stakeholder involvement in all facets of the program.

"(i) ANNUAL PROGRESS AND PERFORMANCE REPORT.—The National Academy of Sciences shall produce an annual progress and performance report for the program under this section. The report shall summarize the status, funding, and sponsors of all funded projects by the research areas specified in subsection (f). It shall document the progress of each project relative to milestones included in the project proposal. The report shall identify research areas and projects remaining unfunded, and anticipated funding needs for completing that research. The report shall be submitted to the Secretary, to the Committee on Transportation and Infrastructure and the Committee on Science of the House of Representatives, and to the Committee on Environment and Public Works of the Senate.".

(b) CONFORMING AMENDMENT.—The analysis of chapter 5 of title 23, United States Code, is amended by adding at the end the following new item:

"509. Future strategic highway research program."

**SEC. 110. UNIVERSITY TRANSPORTATION CENTERS.**

Section 5505 of title 49, United States Code, is amended to read as follows:

**"§ 5505. University transportation research**

"(a) REGIONAL CENTERS.—The Secretary of Transportation shall make grants to nonprofit institutions of higher learning to establish and operate 1 university transportation center in each of the 10 United States Government regions that comprise the Standard Federal Regional Boundary System.

"(b) OTHER CENTERS.—The Secretary shall make grants to nonprofit institutions of higher learning to establish and operate university transportation centers, in addition to the centers receiving grants under subsection (a), to address transportation management and research and development matters, with special attention to increasing the number of highly skilled individuals entering the field of transportation.

"(c) SELECTION OF GRANT RECIPIENTS.—

"(1) APPLICATIONS.—In order to be eligible to receive a grant under this section, a nonprofit institution of higher learning shall submit to the Sec-

retary an application that is in such form and contains such information as the Secretary may require.

"(2) SELECTION CRITERIA.—Except as otherwise provided by this section, the Secretary shall select each recipient of a grant under this section through a competitive, peer-reviewed process on the basis of the following:

"(A) For regional centers, the location of the center within the Federal region to be served.

"(B) The demonstrated research and extension resources available to the recipient to carry out this section.

"(C) The capability of the recipient to provide leadership in making national and regional contributions to the solution of immediate and long-range transportation problems.

"(D) The recipient's establishment of a surface transportation program encompassing several modes of transportation.

"(E) The recipient's demonstrated commitment of at least $200,000 in regularly budgeted institutional amounts each year to support ongoing transportation research and education programs.

"(F) The recipient's demonstrated ability to disseminate results of transportation research and education programs through a statewide or regionwide continuing education program.

"(G) The strategic plan the recipient proposes to carry out under the grant.

"(d) OBJECTIVES.—Each university transportation center receiving a grant under this section shall conduct the following programs and activities:

"(1) Basic and applied research that supports the Department's research agenda consistent with section 508 of title 23, the products of which are peer-reviewed by other experts in the field to advance the body of knowledge in transportation.

"(2) An education program that includes multidisciplinary course work, faculty and student participation in research, and an opportunity for practical experience.

"(3) An ongoing program of technology transfer that makes research results available to potential users in a form that can be implemented, utilized, or otherwise applied.

"(e) MAINTENANCE OF EFFORT.—To be eligible to receive a grant under this section, an applicant shall—

"(1) enter into an agreement with the Secretary to ensure that the applicant will maintain total expenditures from all other sources to establish and operate a university transportation center and related educational and research activities at a level that is at least equal to the average level of those expenditures during the 2 fiscal years before the date on which the grant is provided;

"(2) provide the annual institutional contribution required under subsection (c)(2);

"(3) submit to the Secretary, in a timely manner, for use by the Secretary in the preparation of the annual research report under section 508(c)(5) of title 23, an annual report on the projects and activities of the university transportation center for which funds are made available for the fiscal year covered by the report, a description of—

"(A) the goals of the center;

"(B) the educational activities carried out by the center (including a detailed summary of the budget for those educational activities);

"(C) teaching activities of faculty at the center;

"(D) each research project carried out by the center, including—

"(i) the identity and location of each investigator working on a research project;

"(ii) the overall funding amount for each research project (including the amounts expended for the project as of the date of the report);

"(iii) the current schedule for each research project; and

"(iv) the results of each research project through the date of submission of the report, with particular emphasis on results for the fiscal year covered by the report; and

"(E) overall technology transfer and implementation efforts of the center;

"(4) make use of National Research Council, Transportation Research Board, and Transportation Research Information Services online databases for—

"(A) program development and strategic planning;

"(B) reporting of activities funded under this section; and

"(C) input and dissemination of results and reports from completed research; and

"(5) recommend a representative to serve as liaison to the Transportation Research Board.

"(f) FEDERAL SHARE.—The Federal share of the costs of activities carried out using a grant made under subsection (a) is 80 percent of costs, and under subsection (b) is 50 percent of costs. The non-Federal share may include funds provided to a recipient under section 503, 504(b), or 505 of title 23, United States Code.

"(g) PROGRAM COORDINATION.—

"(1) COORDINATION.—The Secretary shall coordinate the research, education, training, and technology transfer activities that grant recipients carry out under this section, disseminate the results of the research, and establish and operate a clearinghouse.

"(2) ANNUAL REVIEW AND EVALUATION.—At least annually and consistent with the plan developed under section 508 of title 23, United States Code, the Secretary shall review and evaluate programs the grant recipients carry out.

"(3) FUNDING LIMITATION.—The Secretary may use not more than 1 percent of amounts made available from Government sources to carry out this subsection.

"(h) LIMITATION ON AVAILABILITY OF FUNDS.—Funds made available to carry out this program shall re-

main available for obligation for a period of 2 years after the last day of the fiscal year for which such funds are authorized.

"(i) TRANSPORTATION EDUCATION DEVELOPMENT PILOT PROGRAM.—

"(1) ESTABLISHMENT.—The Secretary shall establish a program to make grants to State Departments of Transportation, who in conjunction with nonprofit institutions of higher education, will develop and test new curricula to educate the transportation workforce.

"(2) SELECTION OF GRANT RECIPIENTS.—In selecting applications for awards under this subsection, the Secretary shall consider—

"(A) the degree to which the new curricula will address the specific workforce needs of the State, evaluated on the basis of a State's development of a strategic human resources plan and how the new curricula will help fulfill the plan;

"(B) the degree to which the new curricula will provide expertise in areas other than engineering, such as business administration, economics, information technology, environmental

science, and law, as determined necessary by the State; and

"(C) a State's commitment to continuing the program beyond the pilot effort.".

**SEC. 111. INTELLIGENT TRANSPORTATION SYSTEMS.**

(a) AMENDMENT.—Subtitle C of title V of the Transportation Equity Act for the 21st Century is amended to read as follows:

## "Subtitle C—Intelligent Transportation Systems

**"SEC. 5201. SHORT TITLE.**

"This subtitle may be cited as the 'Intelligent Transportation Systems Act of 2003'.

**"SEC. 5202. 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 the enhancement of safe operation of motor vehicles and nonmotorized vehicles, 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 vehicles, passenger vehicles, motorcycles, and bicycles, and including pedestrians and individuals with disabilities; and

"(5) improvement of the Nation's ability to respond to security related or other man made emergencies and natural disasters, and enhancement of national defense mobility.

"(b) PURPOSES.—The Secretary shall implement activities under the intelligent transportation system program to, at a minimum—

"(1) develop and test new and emerging technologies to meet the goals described in subsection (a);

"(2) expedite deployment, in both metropolitan and rural areas, and ensure integration and interoperability of proven intelligent transportation systems;

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

"(4) improve regional cooperation and operations planning for effective intelligent transportation system deployment;

"(5) promote the innovative use of private resources;

"(6) develop a workforce capable of developing, operating, and maintaining intelligent transportation systems; and

"(7) evaluate costs and benefits of intelligent transportation systems projects.

**"SEC. 5203. GENERAL AUTHORITIES AND REQUIREMENTS.**

"(a) SCOPE.—Subject to the provisions of this subtitle, the Secretary shall conduct an ongoing intelligent transportation system program to research, develop, and operationally test intelligent transportation systems and advance nationwide deployment of proven systems through

research on barriers to deployment as a component of the surface transportation systems of the United States.

"(b) POLICY.—Intelligent transportation system research, development, operational tests, and deployment projects funded pursuant to this subtitle shall encourage and not displace public-private partnerships or private sector investment in such research and development 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 United States private sector, the Federal laboratories, and colleges and universities, 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, as appropriate, shall consult with the Secretary of Commerce, the Secretary of the Treasury, the Secretary of Homeland Security, the Administrator of the Environmental Protection Agency, the Director of the National Science Foundation, and the heads of other Federal departments and agencies.

"(e) TECHNICAL ASSISTANCE, TRAINING, AND INFORMATION.—The Secretary shall 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 system 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 subtitle; and

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

"(2) DELEGATION OF AUTHORITY.—

"(A) IN GENERAL.—The Secretary may delegate the responsibility of the Secretary under this subsection, with continuing oversight

by the Secretary, to an appropriate entity not within the Department of Transportation.

"(B) FEDERAL ASSISTANCE.—If the Secretary delegates the responsibility, the entity to which the responsibility is delegated shall be eligible for Federal assistance under this section.

"(h) ADVISORY COMMITTEE.—

"(1) IN GENERAL.—The Secretary shall establish an Advisory Committee to advise the Secretary on carrying out this subtitle.

"(2) MEMBERSHIP.—The Advisory Committee shall have no more than 20 members and include, at a minimum—

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

"(B) a representative from a local highway department;

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

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

"(E) a private sector vendor of intelligent transportation system technologies;

"(F) a private sector user of intelligent transportation system technologies;

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

"(H) an academic researcher who is a social scientist;

"(I) a representative from the Intelligent Transportation Society of America;

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

"(K) a representative from a public interest group concerned with community development; and

"(L) members with expertise in planning, safety, and operations.

"(3) DUTIES.—The Advisory Committee shall, at a minimum, perform the following duties—

"(A) Provide input into the development of the National ITS Program Plan, and the Intelligent Transportation System portion of each strategic plan under section 508 of title 23, United States Code.

"(B) Review the National ITS Program Plan and the Intelligent Transportation System portion of each strategic plan under section 508 of title 23, United States Code, and transmit

the Advisory Committee's views on the plans to Congress.

"(C) Analyze intelligent transportation systems technologies, for which a plan or budget proposal has recommended funding for research and development activities or operational tests, to advise the Department on—

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

"(ii) the appropriate roles for government and the private sector in investing in specific intelligent transportation system technologies; and

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

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

"(i) PROCUREMENT METHODS.—

"(1) TECHNICAL ASSISTANCE.—The Secretary shall develop appropriate technical assistance and guidance to assist State and local agencies in evaluating and selecting appropriate methods of procurement for intelligent transportation system projects carried out using funds made available from the Highway Trust Fund, including innovative and non-traditional methods such as the Information Technology Omnibus Procurement.

"(2) INTELLIGENT TRANSPORTATION SYSTEM SOFTWARE.—To the maximum extent practicable, contracting officials shall use as a critical evaluation criterion the Software Engineering Institute's Capability Maturity Model, or another similar recognized software design and development methodology, to reduce the cost, schedule, and performance risks associated with the development, management, and integration of intelligent transportation system software.

"(j) EVALUATIONS.—

"(1) GUIDELINES AND REQUIREMENTS.—

"(A) IN GENERAL.—The Secretary shall issue guidelines and requirements for the evaluation of operational tests and model deployment projects carried out under this subtitle.

"(B) CONTENT.—Such evaluations shall include specific, quantitative measures to determine whether a technology is meeting its intended goal. To the maximum extent practicable, these measures shall evaluate the outcome of the technology (such as accidents avoided or decreased travel times or travel time variability).

"(C) OBJECTIVITY AND INDEPENDENCE.—The guidelines and requirements issued under subparagraph (A) shall include provisions to ensure the objectivity and independence of the evaluator 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 subtitle.

"(D) FUNDING.—The guidelines and requirements issued under subparagraph (A) shall establish evaluation funding levels, based on the size and scope of each test or project, that ensure adequate evaluation of the results of the test or project.

"(E) DISSEMINATION.—The Secretary shall make readily available through the Inter-

net all information collected through evaluations carried out under this subtitle.

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

"(k) USE OF RIGHTS-OF-WAY.—Intelligent transportation system projects specified in section 5117(b)(3) and 5117(b)(6) and involving privately owned intelligent transportation system components that are carried out using funds made available from the Highway Trust Fund shall not be subject to any law or regulation of a State or political subdivision of a State prohibiting or regulating commercial activities in the rights-of-way of a highway for which Federal-aid highway funds have been utilized for planning, design, construction, or maintenance, if the Secretary of Transportation determines that such use is in the public interest. Nothing in this subsection shall affect the authority of a State or political subdivision of a State to regulate highway safety.

**"SEC. 5204. NATIONAL ITS PROGRAM PLAN.**

"(a) IN GENERAL.—

"(1) UPDATES.—The Secretary shall publish an update of the 'National Intelligent Transportation Systems Program Plan Five-Year Horizon', published in August, 2000. The Secretary shall consult with the Advisory Committee established under section 5203(h) in carrying out this section.

"(2) SCOPE.—The National ITS Program Plan update shall—

"(A) specify the goals, objectives, and milestones for the research and deployment of intelligent transportation systems in the context of major metropolitan areas, smaller metropolitan and rural areas, and commercial vehicle operations;

"(B) evaluate how the intelligent transportation systems program has progressed in achieving the goals, objectives, and milestones referred to in subparagraph (A);

"(C) compare actual outcomes of the intelligent transportation systems program over the last 5 years to projections from the 2000 Plan referred to in paragraph (1);

"(D) for each goal, objective, milestone, or projection found under subparagraph (B) or

(C) not to have been achieved, document the barriers to achievement;

"(E) specify how specific programs and projects will achieve the goals, objectives, and milestones referred to in subparagraph (A), in the next 5 years;

"(F) specify necessary and realistically achievable timeframes and funding levels to conduct the programs and projects referred to in subparagraph (E) in order to achieve the goals, objectives, and milestones referred to in subparagraph (A);

"(G) develop a plan for addressing barriers documented under subparagraph (D);

"(H) identify activities that provide for the dynamic development of standards and protocols to promote and ensure interoperability in the implementation of intelligent transportation system technologies, including actions taken to establish critical standards; and

"(I) establish a cooperative process with State and local governments for determining desired surface transportation system performance levels and developing plans for incorpora-

tion of specific intelligent transportation system capabilities into surface transportation systems.

"(b) REPORTING.—The National ITS Program Plan shall be transmitted to the Congress not later than August 31, 2005.

"(c) ADVISORY COMMITTEE REVIEW.—The Advisory Committee established under section 5203(h) shall review the National ITS Program Plan that is transmitted to Congress under this section, and shall transmit the Advisory Committee's views on the Plan to Congress.

**"SEC. 5205. INFORMATION STRATEGY.**

"(a) DEVELOPMENT AND IMPLEMENTATION.—The Secretary shall develop and implement a strategy to use information collected from intelligent transportation system technologies (including technologies used in roadway, transit, and in-vehicle applications) for traffic management and for planning, performance monitoring, program assessment, and policy applications. The Secretary shall ensure that the Bureau of Transportation Statistics plays a significant role in the development of the strategy under this section.

"(b) CONSIDERATIONS.—The strategy developed under this section shall—

"(1) consider current data sources and propose future data sources, as well as proposing strategies for both real-time use and archived use of data;

"(2) determine what data should be centralized nationally in support of national planning and goals, what information should be aggregated regionally, and what information should be kept locally, and for nationally centralized data, identify how to ensure that data is collected and reported consistently;

"(3) assess the need for data standards;

"(4) outline how transportation decision processes can make best use of real-time data;

"(5) outline a vision for the future linkages between intelligent transportation system technologies and data;

"(6) identify public and private data sources other than intelligent transportation system data sources (such as roadway characteristics inventories and incident information) that, combined with intelligent transportation system data, would enhance the utility of intelligent transportation system data to decisionmakers, and how these data sources can be merged;

"(7) identify how to make data most accessible and useful to users; and

"(8) identify what information would be useful to stakeholders at the local, State, regional, and national levels.

"(c) STAKEHOLDER INVOLVEMENT.—In developing the strategy under this section, the Secretary shall involve developers and users of intelligent transportation system technologies, including State and local highway departments, metropolitan planning organizations, transit agencies, travelers, the private sector, not-for-profit organizations, and representatives from the planning, safety, operations, and research communities.

"(d) INCORPORATION INTO NATIONAL ARCHITECTURE.—The strategy developed under this section shall, to the extent practicable, be incorporated into the national architecture.

"(e) REPORT TO CONGRESS.—Not later than 1 year after the date of the enactment of this subsection, the Secretary shall transmit to the Congress a report outlining the strategy developed under this section.

**"SEC. 5206. NATIONAL ARCHITECTURE AND STANDARDS.**

"(a) IN GENERAL.—

"(1) DEVELOPMENT, IMPLEMENTATION, AND MAINTENANCE.—Consistent with section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note; 110 Stat. 783),

the Secretary shall develop, implement, and maintain a national architecture and supporting standards and protocols to promote the widespread use and evaluation of intelligent transportation system technology as a component of the surface transportation systems of the United States.

"(2) GOAL.—The goal of the national architecture and standards shall be to ensure interoperability among, and efficiency of, intelligent transportation system technologies implemented throughout the United States.

"(3) USE OF STANDARDS DEVELOPMENT ORGANIZATIONS.—In carrying out this section, the Secretary may use the services of such standards development organizations as the Secretary determines to be appropriate.

"(4) STANDARD VALIDATION.—The Secretary shall ensure that new standards promulgated for intelligent transportation system technologies are tested and validated, and shall ensure that the results of such testing and validation are made publicly available.

"(b) PROVISIONAL STANDARDS.—

"(1) IN GENERAL.—If the Secretary finds that the development or balloting of an intelligent trans-

portation system standard jeopardizes the timely achievement of the objectives identified in subsection (a)(1) and (2), the Secretary may establish a provisional standard after consultation with affected parties, and using, to the 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.

"(c) CONFORMITY WITH NATIONAL ARCHITECTURE.—

"(1) IN GENERAL.—Except as provided in paragraphs (2) and (3), the Secretary shall ensure that intelligent transportation system projects carried out using funds made available from the Highway Trust Fund, including funds made available to deploy intelligent transportation system technologies, conform to the national architecture, applicable standards or provisional standards, and protocols developed under subsection (a).

"(2) SECRETARY'S DISCRETION.—The Secretary may authorize exceptions to paragraph (1) for—

"(A) projects designed to achieve specific research objectives outlined in the National ITS Program Plan under section 5204 or the Surface Transportation Research and Development Strategic Plan developed under section 508 of title 23, United States Code; or

"(B) the upgrade or expansion of an intelligent transportation system in existence on the date of enactment of the Transportation Equity Act for the 21st Century, if the Secretary determines that the upgrade or expansion—

"(i) would not adversely affect the goals or purposes of this subtitle;

"(ii) is carried out before the end of the useful life of such system; and

"(iii) is cost-effective as compared to alternatives that would meet the conformity requirement of paragraph (1).

"(3) EXCEPTIONS.—Paragraph (1) shall not apply to funds used for operation or maintenance of an intelligent transportation system in existence on

the date of enactment of the Transportation Equity Act for the 21st Century.

**"SEC. 5207. RESEARCH AND DEVELOPMENT.**

"(a) IN GENERAL.—The Secretary shall carry out a comprehensive program of research, development, and operational tests of intelligent vehicles and intelligent infrastructure systems, as well as research into barriers to their deployment, and other similar activities that are necessary to carry out this subtitle.

"(b) PRIORITY AREAS.—Under the program, the Secretary shall give higher priority to funding projects that—

"(1) reduce congestion in metropolitan regions;

"(2) improve mobility and efficiency by addressing traffic management, incident management, transit management, toll collection, traveler information, or highway operations systems;

"(3) improve safety by focusing on crash-avoidance and integration of in-vehicle crash protection technologies with other onboard safety systems, including the interaction of air bags and safety belts;

"(4) improve security by focusing on responding to security-related emergencies, and preventing such emergencies, through tracking the movement of goods;

"(5) incorporate human factors research, including the science of the driving process;

"(6) improve deployment of proven technologies by addressing nontechnical barriers to the deployment of intelligent transportation system technologies, including institutional barriers such as fragmented authority at the local level, privacy considerations, and rigid procurement rules, and the best ways to develop partnerships to successfully deploy intelligent transportation system technologies;

"(7) facilitate the integration of intelligent infrastructure, vehicle, and control technologies, including magnetic guidance control systems or other materials or magnetics research;

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

"(9) facilitate high-performance transportation systems, through methods such as congestion pricing, real-time facility management, rapid emergency response, and just-in-time transit.

"(c) OPERATIONAL TESTS.—Operational tests shall be used to evaluate promising technologies that have not yet been demonstrated. Operational tests conducted under

this section shall be designed for the collection of data to permit objective evaluation of the results of the tests, derivation of cost-benefit information that is useful to others contemplating deployment of similar systems, and development and implementation of standards.

"(d) FEDERAL SHARE.—The Federal share of the cost of operational tests and demonstrations under subsection (a) shall not exceed 80 percent.

**"SEC. 5208. USE OF FUNDS.**

"(a) CONGESTION REDUCTION.—At least ½ of funds spent under section 5207 for intelligent transportation systems research and development shall be used to research, develop, and operationally test technologies whose primary purpose is to reduce congestion.

"(b) OUTREACH AND PUBLIC RELATIONS LIMITATION.—

"(1) IN GENERAL.—For each fiscal year, not more than $5,000,000 of the funds made available to carry out this subtitle shall be used for intelligent transportation system outreach, public relations, displays, scholarships, tours, and brochures.

"(2) APPLICABILITY.—Paragraph (1) shall not apply to intelligent transportation system training or the publication or distribution of research findings, technical guidance, or similar documents.

"(c) INFRASTRUCTURE DEVELOPMENT.—Funds made available to carry out this subtitle for operational tests—

"(1) shall be used primarily for the development of intelligent transportation system infrastructure; and

"(2) to the maximum extent practicable, shall not be used for the construction of physical highway and transit infrastructure unless the construction is incidental and critically necessary to the implementation of an intelligent transportation system project.

"(d) USE OF INNOVATIVE FINANCING.—

"(1) IN GENERAL.—The Secretary may use up to 25 percent of the funds made available to carry out this subtitle to make available loans, lines of credit, and loan guarantees for projects that are eligible for assistance under this subtitle and that have significant intelligent transportation system elements.

"(2) CONSISTENCY WITH OTHER LAW.—Credit assistance described in paragraph (1) shall be made available in a manner consistent with the Transportation Infrastructure Finance and Innovation Act of 1998.

**"SEC. 5209. PROGRAM EVALUATION.**

"The Secretary shall enter into an arrangement with the National Academy of Sciences, or another independent institution, to evaluate the Department of Transportation's intelligent transportation system program. The evaluation shall assess, at a minimum—

"(1) how well the intelligent transportation system program has achieved its goals as set forth in the 2000 5-year plan referred to in section 5204(a)(1), including—

"(A) expediting integrated intelligent transportation system deployment in metropolitan and rural areas for both passenger and freight transportation;

"(B) ensuring that Federal, State, and local transportation officials consider intelligent transportation systems in the transportation planning process and have adequate knowledge to do so;

"(C) improving regional cooperation and operations planning for effective intelligent transportation system deployment;

"(D) promoting the innovative use of private resources; and

"(E) developing a workforce capable of deploying, operating, and maintaining intelligent transportation systems; and

"(2) in areas where the intelligent transportation system program has not met its goals, assess the barriers to meeting those goals, and make recommendations for how those barriers may be overcome.

**"SEC. 5210. DEFINITIONS.**

"In this subtitle, the following definitions apply:

"(1) INTELLIGENT TRANSPORTATION INFRASTRUCTURE.—The term 'intelligent transportation infrastructure' means fully integrated public sector intelligent transportation system components, as defined by the Secretary.

"(2) INTELLIGENT TRANSPORTATION SYSTEM.—The term 'intelligent transportation system' means electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.

"(3) NATIONAL ARCHITECTURE.—The term 'national architecture' means the common framework for interoperability adopted by the Secretary that defines—

"(A) the functions associated with intelligent transportation system user services;

"(B) the physical entities or subsystems within which the functions reside;

"(C) the data interfaces and information flows between physical subsystems; and

"(D) the communications requirements associated with the information flows.

"(4) NATIONAL ITS PROGRAM PLAN.—The term 'National ITS Program Plan' means the plan update required under section 5204(a).

"(5) STANDARD.—The term 'standard' means a document that—

"(A) contains technical specifications or other precise criteria for intelligent transportation systems that are to be used consistently as rules, guidelines, or definitions of characteristics so as to ensure that materials, products, processes, and services are fit for their purposes; and

"(B) may support the national architecture and promote—

"(i) the widespread use and adoption of intelligent transportation system technology as a component of the surface

transportation systems of the United States; and

"(ii) interoperability among intelligent transportation system technologies implemented throughout the States.

"(6) STATE.—The term 'State' has the meaning given the term under section 101 of title 23, United States Code.".

(b) TABLE OF CONTENTS AMENDMENT.—The items relating to subtitle C of title V in the table of contents of the Transportation Equity Act for the 21st Century are amended to read as follows:



(c) REPEAL.—The Intermodal Surface Transportation Efficiency Act of 1991 is amended by striking part B of title VI (23 U.S.C. 307 note; 105 Stat. 2189).

**SEC. 112. NATIONAL MULTIMODAL TRENDS POLICY RESEARCH PROGRAM.**

(a) IN GENERAL.—The Secretary shall establish and carry out a National Multimodal Trends Policy Research

Program that systematically addresses critical short-term, medium-term, and long-term social science issues affecting and affected by the transportation system.

(b) CONTENTS.—The program to be carried out under this section shall include—

(1) research on—

(A) the critical factors and major trends affecting the success and performance of the Nation's transportation system, as well as how such information can be incorporated into national, State, and local decisionmaking;

(B) the short-term, medium-term, and especially long-term economic, demographic, and social trends that are affecting and are affected by the transportation system, including topics such as—

(i) economic trends, including globalization and it effects on the transportation of people and goods, rapidly changing information technology, the growing importance of metropolitan economies, diversification of employment sites, innovations in goods movement, and larger capacity and faster goods movement;

(ii) demographic trends, including population growth, increasing minority populations, increasing urbanization, and the aging of the population; and

(iii) social trends and issues, including increasing income disparity and its implication for mobility and access to jobs, services and health care, the unique needs of rural populations, and the link between human factors and driver behavior;

(C) improvements in evaluation methodologies and performance measures, and the evaluation of project and transportation system performance relative to the goals set forth in section 102;

(D) how institutional factors within and among the public and private sectors affect the development and successful deployment of new technologies;

(E) links between public health and the transportation system; and

(F) other critical issues identified by the Advisory Board established under subsection (e); and

(2) research on and the development of policy analysis tools and methods.

(c) ESTABLISHMENT.—Not later than 120 days after the date of enactment of this Act, the Secretary shall enter into an arrangement with the National Academy of Sciences to establish an advisory board under subsection (e) and, except as provided in subsection (e), to support, administer, and manage the program.

(d) STRATEGIC PLAN.—Not later than 2 years after entering into the arrangement under subsection (c) and upon each update thereafter, the National Academy of Sciences shall transmit the strategic plan developed by the advisory board under subsection (e) to the Secretary, to the Committee on Transportation and Infrastructure and the Committee on Science of the House of Representatives, and to the Committee on Environment and Public Works of the Senate.

(e) ADVISORY BOARD.—

(1) ESTABLISHMENT.—The National Academy of Sciences shall establish an independent advisory board.

(2) MEMBERSHIP.—

(A) IN GENERAL.—A majority of members of the advisory board shall be experts in—

(i) transportation social science research; or

(ii) other social science fields with important or potentially important relationships to transportation, selected after consultation with the Consortium of Social Science Associations.

Members selected under this subparagraph shall, to the extent practicable, be evenly divided between experts described in clause (i) and experts described in clause (ii).

(B) ADDITIONAL MEMBERS.—Additional members of the advisory board shall be evenly balanced among representatives of Federal, State, and local transportation agencies, other agencies with appropriate expertise, metropolitan planning organizations, transit operating agencies, and environmental and other nonprofit organizations.

(3) RESPONSIBILITIES.—The advisory board shall be responsible for—

(A) the development of a strategic plan which shall specify at a minimum the goals, research priorities, and fiscal needs of the program, and which shall be updated periodically;

(B) overseeing the awarding of grants and contracts to carry out the research strategy;

(C) the development of the annual request for proposals and the solicitation of proposals through open competition with peer review; and

(D) the development of project selection criteria, through an open and public consultation process with stakeholders.

(4) EVALUATION OF RESEARCH.—Research contracts and grants under this section shall require peer review of the research results.

(5) ELIGIBLE RESEARCH.—At least 75 percent of funds made available for research under this section shall support research directed to the priorities in the strategic plan, and up to 25 percent of such funds may support appropriate sponsor directed research.

(f) DISSEMINATION OF RESEARCH FINDINGS.—The National Academy of Sciences and the Department of Transportation shall disseminate research findings under this section to researchers, practitioners, and decision-makers, through conferences and seminars, field demonstrations, workshops, training programs, presentations, testimony to government officials, the Internet, and publications for the general public.

# TITLE II—MISCELLANEOUS

**SEC. 201. AUTHORIZATION OF APPROPRIATIONS.**

There are authorized to be appropriated to the Secretary of Transportation such sums as are necessary to carry out this title and the amendments made by this title

**SEC. 202. TRANSIT RESEARCH.**

(a) AMENDMENT.—Chapter 5 of title 23, United States Code, as amended by this Act, is further amended by adding at the end the following new section:

**"§ 510. Innovative Practices and Technologies Demonstration and Deployment Program**

"(a) ESTABLISHMENT.—The Secretary shall establish an Innovative Practices and Technologies Demonstration and Deployment Program.

"(b) PROGRAM GOALS.—The goals of the program are to—

"(1) demonstrate promising new transit practices and technologies, including new business models for managing and operating transit systems, that may increase ridership, increase accessibility, reduce cost, improve customer satisfaction, and improve safety;

"(2) evaluate, refine, and document the performance, benefits, and costs of innovative practices and technologies; and

"(3) effectively disseminate information to accelerate deployment of innovative practices and technologies.

"(c) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—The Secretary may make grants to, or enter into cooperative agreements or contracts with, transit agencies, States, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations to pay the Federal share of the cost of demonstration and deployment projects concerning innovative practices and technologies.

"(d) APPLICATIONS.—To receive a grant, cooperative agreement, or contract under this section, an entity described in subsection (c) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications based on the following criteria:

"(1) Whether the project meets the goals of the program.

"(2) Merit review.

"(3) The likelihood that the project will result in more widespread deployment of the practice or technology being proposed.

"(4) Preference shall be given to an application that represents a public-private partnership.

"(e) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall ensure that information about innovative practices and technologies supported under this section is made available to transit agencies, State and local transportation departments, and other interested parties. Information disseminated under this subsection shall include both the costs and benefits of deploying an innovative practice or technology, and shall document—

"(1) best practices for adopting successful practices or technologies; and

"(2) the transferability of these practices and technologies.

"(f) FEDERAL SHARE.—The Federal share of the cost of a project under this section shall be determined by the Secretary.".

(b) CONFORMING AMENDMENT.—The analysis of chapter 5 of title 23, United States Code, as amended by this Act, is further amended by adding at the end the following new item:

"510. Innovative Practices and Technologies Demonstration and Deployment Program.".

**SEC. 203. NATIONAL TRANSIT INSTITUTE.**

Section 5315 is amended—

(1) in subsection (a)—

(A) by striking "public mass transportation" and inserting "public transportation" each place it appears;

(B) by striking "mass" after "Government-aid" and inserting "public"; and

(C) in paragraphs (1), (6), (7), and (10) by striking "mass" each place it appears before "transportation" and inserting "public"; and

(2) in subsection (d) by striking "mass" each place it appears.

**SEC. 204. HUMAN RESOURCE PROGRAMS.**

(a) IN GENERAL.—Section 5322 is amended—

(1) by inserting "(a) In General.—" before the beginning of the first sentence of the section; and

(2) by adding the following at the end:

"(b) GRANTS TO HIGHER LEARNING INSTITUTIONS.—

"(1) The Secretary (or the Secretary of Housing and Urban Development when required by section 5334(i) of this title) may make grants to nonprofit institutions of higher learning—

"(A) to conduct competent research and investigations into the theoretical or practical problems of urban transportation; and

"(B) to train individuals to conduct further research or obtain employment in an organization that plans, builds, operates, or manages an urban transportation system.

"(2) Research and investigations under this subsection include—

"(A) the design and use of urban public transportation systems and urban roads and highways;

"(B) the interrelationship between various modes of urban and interurban transportation;

"(C) the role of transportation planning in overall urban planning;

"(D) public preferences in transportation;

"(E) the economic allocation of transportation resources; and

"(F) the legal, financial, engineering, and esthetic aspects of urban transportation.

"(3) When making a grant under this subsection, the Secretary shall give preference to an institution that brings together knowledge and expertise in the various social science and technical disciplines related to urban transportation problems.

"(e) FELLOWSHIPS.—

"(1) The Secretary may make grants to States, local governmental authorities, and operators of public transportation systems to provide fellowships to train personnel employed in managerial, technical, and professional positions in the mass transportation field.

"(2) A fellowship under this subsection may be for not more than one year of training in an institution that offers a program applicable to the public transportation industry. The recipient of the grant shall select an individual on the basis of demonstrated ability and for the contribution the individual reasonably can be expected to make to an efficient public transportation operation. A grant for a fellowship may not be more than the lesser of $65,000 or 75 percent of—

"(A) tuition and other charges to the fellowship recipient;

"(B) additional costs incurred by the training institution and billed to the grant recipient; and

"(C) the regular salary of the fellowship recipient for the period of the fellowship to the extent the salary is actually paid or reimbursed by the grant recipient.

"(d) OTHER GRANTS.—The Secretary may make grants to State and local governmental authorities for projects that will use innovative techniques and methods in managing and providing public transportation.".

**SEC. 205. HIGHWAY SAFETY RESEARCH AND DEVELOPMENT.**

Section 403(a) (Authority of the Secretary) of title 23, United States Code, is amended by adding the following paragraphs at the end:

"(4) EMERGENCY MEDICAL SERVICES.—In addition to the authority provided under this subsection, the Secretary is authorized to use funds appropriated to carry out this section to enhance coordination among Federal agencies involved with State, local, tribal, and community-based emergency medical services. In exercising this authority, the Secretary may coordinate with State and local governments, the Bureau of Indian Affairs on behalf of Indian tribes, private industry, and other interested parties; collect and exchange emergency medical services data and information; examine emergency medical services needs, best practices, and related technology; and develop emergency medical services standards and guidelines, and plans for the assessment of emergency medical services systems.

"(5) INTERNATIONAL COOPERATION.—In addition to the authority provided under this subsection, the Secretary is authorized to use funds appropriated to carry out this section to participate and cooperate in international activities to enhance highway safety by such means as exchanging safety information; conducting safety research; and examining safety needs, best practices, and new technology.

"(6) NATIONAL MOTOR VEHICLE CRASH CAUSATION SURVEY.—In addition to the authority provided under this subsection, the Secretary is authorized to use funds appropriated to carry out this section to develop and conduct a nationally representative survey to collect on-scene motor vehicle crash causation data.".

**SEC. 206. MOTOR CARRIER RESEARCH AND TECHNOLOGY PROGRAM.**

(a) IN GENERAL.—Title 49, United States Code, is amended by repealing section 31108 and inserting the following new section, to read as follows:

**"§ 31108. Motor carrier research and technology program**

"(a) RESEARCH, TECHNOLOGY AND TECHNOLOGY TRANSFER ACTIVITIES.—

"(1) The Secretary of Transportation shall establish and carry out a motor carrier research and technology program. The Secretary may carry out research, development, technology, and technology transfer activities with respect to—

"(A) the causes of accidents, injuries and fatalities involving commercial motor vehicles; and

"(B) means of reducing the number and severity of accidents, injuries and fatalities involving commercial motor vehicles.

"(2) The Secretary may test, develop, or assist in testing and developing any material, invention, patented article, or process related to the research and technology program.

"(3) The Secretary may use the funds appropriated to carry out this section for training or education of commercial motor vehicle safety personnel, including, but not limited to, training in accident reconstruction and detection of controlled substances or other contraband, and stolen cargo or vehicles.

"(4) The Secretary may carry out this section—

"(A) independently;

"(B) in cooperation with other Federal departments, agencies, and instrumentalities and Federal laboratories; or

"(C) by making grants to, or entering into contracts or cooperative agreements with, any Federal laboratory, State agency, authority, association, institution, for-profit or non-profit corporation, organization, foreign country, or person.

"(5) The Secretary shall use funds made available to carry out this section to develop, administer, communicate, and promote the use of products of research, technology, and technology transfer programs under this section.

"(b) COLLABORATIVE RESEARCH AND DEVELOPMENT.—

"(1) To advance innovative solutions to problems involving commercial motor vehicle and motor carrier safety, security, and efficiency, and to stimulate the deployment of emerging technology, the Secretary may carry out, on a cost-shared basis, collaborative research and development with—

"(A) non-Federal entities, including State and local governments, foreign governments, colleges and universities, corporations, institu-

tions, partnerships, and sole proprietorships that are incorporated or established under the laws of any State; and

"(B) Federal laboratories.

"(2) In carrying out this subsection, the Secretary may enter into cooperative research and development agreements (as defined in section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a)).

"(3)(A) The Federal share of the cost of activities carried out under a cooperative research and development agreement entered into under this subsection shall not exceed 50 percent, except that if there is substantial public interest or benefit, the Secretary may approve a greater Federal share.

"(B) All costs directly incurred by the non-Federal partners, including personnel, travel, and hardware or software development costs, shall be credited toward the non-Federal share of the cost of the activities described in subparagraph (A).

"(4) The research, development, or use of a technology under a cooperative research and development agreement entered into under this subsection, including the terms under which the technology may be licensed and the resulting royalties may be dis-

tributed, shall be subject to the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3701 et seq.).

"(5) Section 3705 of title 41, United States Code, shall not apply to a contract or agreement entered into under this section.".

(b) CONFORMING AMENDMENT.—The table of sections at the beginning of chapter 311 of title 49, United States Code, is amended by revising the item relating to section 31108 to read as follows:

"31108. Motor carrier research and technology program.".

**SEC. 207. TRANSPORTATION, ENERGY, AND ENVIRONMENT.**

(a) IN GENERAL.—As part of the National Climate Change Technology Initiative and the Climate Change Research Initiative, the Secretary shall establish and carry out a multimodal energy and climate change program to study the relationship of transportation, energy, and climate change.

(b) CONTENTS.—The program to be carried out under this section shall include, but not be limited to, research designed to—

(1) identify, develop and evaluate strategies to improve energy efficiency and reduce greenhouse gas emissions from transportation sources; and

(2) identify and evaluate the potential effects of climate changes on the Nation's transportation systems, and strategies to address these effects.

(c) PROJECT SELECTION.—Activities to be undertaken in this program will be determined by an internal steering committee established by the Secretary of Transportation. This intermodal committee shall include representatives from the Office of the Secretary and operating administrations within the Department of Transportation as designated by the Secretary.

(d) GRANTS, COOPERATIVE AGREEMENTS AND CONTRACTS.—The Secretary may carry out this program independently or by making grants to, or entering into contracts and cooperative agreements with, a Federal agency, State agency, local agency, authority, association, nonprofit or for-profit corporation, or institution of higher education.

**SEC. 208. NATIONAL COOPERATIVE FREIGHT TRANSPORTATION RESEARCH PROGRAM.**

(a) AUTHORIZATION.—To carry out a national cooperative freight transportation research program, there are authorized to be appropriated such sums as may be necessary.

(b) IN GENERAL.—Chapter 5 of title 23, United States Code, is amended by adding at the end the following:

**"§ 509. National Cooperative Freight Transportation Research Program**

"(a) ESTABLISHMENT.—The Secretary shall establish and support a national cooperative freight transportation research program.

"(b) AGREEMENT.—The Secretary shall enter into an agreement with the National Academy of Sciences to support and carry out administrative and management activities relating to the governance of the national cooperative freight transportation research program.

"(c) ADVISORY COMMITTEE.—The National Academy of Sciences shall select an advisory committee consisting of a representative cross-section of freight stakeholders, including the Department of Transportation, other Federal agencies, State transportation departments, local governments, the American Association of State Highway and Transportation Officials and other nonprofit entities (including environmental groups), academia, and the private sector.

"(d) GOVERNANCE.—The national cooperative freight transportation research program established under

this section shall include the following administrative and management elements:

"(1) NATIONAL RESEARCH AGENDA.—The advisory committee, in consultation with stakeholders, shall recommend a national research agenda for the national cooperative freight transportation research program. The national research agenda shall include a multi-year strategic plan.

"(2) STAKEHOLDER INVOLVEMENT.—Stakeholders may—

"(A) submit research proposals to the advisory committee;

"(B) participate in merit reviews of research proposals and peer reviews of research products; and

"(C) receive research results.

"(3) OPEN COMPETITION AND PEER REVIEW OF RESEARCH PROPOSALS.—The National Academy of Sciences shall award research contracts and grants through open competition and merit review conducted on a regular basis.

"(4) EVALUATION OF RESEARCH.—

"(A) PEER REVIEW.—Research contracts and grants shall allow peer review of the research results.

"(B) PROGRAMMATIC EVALUATIONS.—The National Academy of Sciences may conduct periodic programmatic evaluations on a regular basis.

"(5) DISSEMINATION OF RESEARCH FINDINGS.—The National Academy of Sciences shall disseminate research findings to researchers, practitioners, and decision-makers, through conferences and seminars, field demonstrations, workshops, training programs, presentations, testimony to government officials, world wide web, publications for the general public, and other appropriate means.

"(c) CONTENTS.—The national research agenda for the national cooperative freight transportation research program required under subsection (d)(1) shall include research in the following areas:

"(1) Techniques for estimating and quantifying public benefits derived from freight transportation projects.

"(2) Alternative approaches to calculating the contribution of truck traffic to congestion on specific highway segments.

"(3) The feasibility of freight villages as a means of consolidating origins and destinations for freight movement.

"(4) Methods for incorporating estimates of international trade into landside transportation planning.

"(5) The use of technology applications to increase capacity of highway lanes dedicated to truck-only traffic.

"(6) Development of physical and policy alternatives for separating car and truck traffic.

"(7) Ways to synchronize infrastructure improvements with freight transportation demand.

"(8) The effect of changing patterns of freight movement on transportation planning decisions relating to rest areas.

"(9) Additional priorities to identify and address the emerging and future research needs related to freight transportation.

"(f) FUNDING.—

"(1) FEDERAL SHARE.—The Federal share of the cost of an activity carried out using such funds shall be up to 100 percent, and such funds shall remain available until expended.

"(2) USE OF NON-FEDERAL FUNDS.—In addition to using funds authorized for this section, the National Academy of Sciences may seek and accept additional funding sources from public and private

entities capable of accepting funding from the United States Department of Transportation (Federal Highway Administration, Federal Transit Administration, Federal Railroad Administration, Research and Special Programs Administration, and the National Highway Traffic Safety Administration), states, local governments, nonprofit foundations, and the private sector.".

(c) CONFORMING AMENDMENT.—The analysis for chapter 5 of title 23, United States Code, is amended by redesignating section 509 as follows:

"509. National cooperative freight transportation research program.".

**SEC. 209. NEXT GENERATION NATIONAL TRANSPORTATION POLICY STUDY COMMISSION.**

(a) ESTABLISHMENT OF COMMISSION.—(1) The President shall established a Commission to be known as the Next Generation National Transportation Policy Study Commission, in this section referred to as the "Commission".

(2) The Commission shall make a full and complete investigation and study of the transportation needs and of the resources, requirements, and policies of the United States to meet such expected needs. It shall take into consideration all reports on national transportation policy which have been submitted to Congress in the last decade, including all reports referenced in the Intermodal Surface

Transportation Efficiency Act of 1991 and the Transportation Equity Act of the 21st Century. It shall also take into consideration the changes in global trade and its impact on the Nation's economy. It shall evaluate the relative merits of all modes of transportation in meeting our Nation's transportation needs. It shall take into account the link between transportation and the natural environment. Based on such study, it shall recommend changes to existing policies and any new policies that are most likely to ensure that adequate multimodal transportation systems are in place which will meet the needs for a safe and efficient movement of people and goods and also support and grow the national economy.

(b) MEMBERSHIP.—The Commission shall be comprised of 16 members appointed by the President from among individuals who are knowledgeable in transportation activities, including individuals representing State and local governments, metropolitan planning organizations, transportation-related industries, academic and technical institutions, and public interest organizations involved with scientific, regulatory, economic, and environmental transportation activities. The membership of the Commission shall be balanced geographically to the extent consistent with maintaining the highest level of expertise

on the Commission. Members shall be appointed for the life of the Commission as follows:

(1) 4 shall be appointed from a list of 8 individuals who shall be recommended by the majority leader of the Senate in consultation with the Chairman of the Committee on Environment and Public Works, and the Chairman of the Committee on Commerce, Science and Transportation, and the Chairman of the Committee on Banking, Housing and Urban Affairs of the Senate.

(2) 4 shall be appointed from a list of 8 individuals who shall be recommended by the minority leader of the Senate in consultation with the ranking member of the Committee on Environment and Public Works, the ranking member of the Committee on Commerce, Science and Transportation, and the ranking member of the Committee on Banking, Housing and Urban Affairs of the Senate.

(3) 4 shall be appointed from a list of 8 individuals who shall be recommended by the Speaker of the House of Representatives in consultation with the Chairman of the Committee on Transportation and Infrastructure, the Chairman of the Committee on Energy and Commerce, and the Chairman of the

Committee on Science of the House of Representatives.

(4) 4 shall be appointed from a list of 8 individuals who shall be recommended by the minority leader of the House of Representatives in consultation with the ranking member of the Committee on Transportation and Infrastructure, the ranking member of the Committee on Energy and Commerce, and the ranking member of the Committee on Science of the House of Representatives.

(5) Any vacancy which may occur on the Commission shall not affect its powers or functions but shall be filled in the same manner in which the original appointment was made.

(c) FINAL REPORT.—The Commission shall not later than December 31, 2005, submit to the President and Congress its final report including its findings and recommendations. The Commission shall cease to exist six months after submission of such report. All records and papers of the Commission shall thereupon be delivered to the Administrator of General Services for deposit in the Archives of the United States.

(d) FINDINGS AND RECOMMENDATIONS.—The final report shall include the Commission's findings and recommendations with respect to the following:

(1) The Nation's transportation needs, both national and regional, through the year 2025.

(2) The ability of our current transportation systems to meet the projected needs.

(3) The proper mix of transportation modes and necessary linkages between modes to meet anticipated needs.

(4) Necessary measures and policies to ensure enhancement and protection of the natural environment in transportation decisionmaking.

(5) Short-term, medium-term, and long-term research, development, and deployment to meet expected needs.

(6) The roles of the public and private sectors relative to each mode and the balance between public and private investment.

(7) The existing policies and programs of the Federal Government which affect the development of our national transportation system.

(8) The new policies required to develop a balanced national transportation system which meets projected needs, accommodates international trade and supports the national economy.

(9) The adequacy of existing methods to finance transportation and alternative new methods of financing.

(c) SPECIFIC FACTORS TO CONSIDER.—In developing its findings and recommendations, the Commission shall address the following specific factors:

(1) The role of transportation as a critical link to the global economy and trade.

(2) A balance between the transportation of people and goods.

(3) Improving operations and management of the transportation system to improve efficiency, including asset and information management.

(4) The need to address aging infrastructure.

(5) The need to address the enhancement and protection of the natural environment.

(6) The need to address congestion in all modes.

(7) The need to improve environmental decisionmaking.

(8) A balance between the demand for transportation reliability with new threats to security.

(9) Ways to eliminate barriers to transportation investment created by the current modal structure of transportation funding.

(10) Existing barriers to private investment in transportation facilities including tax inequities between modes.

(11) The adequacy of the Federal transportation trust funds to finance future transportation needs.

(12) Appropriate measures of transportation need.

(13) The adequacy of integration among Federal programs affecting transportation.

(14) The relationship between land use and transportation infrastructure investment.

(15) The role that transportation plays in promoting economic growth, improving the environment and sustaining the quality of life.

(f) RECOMMENDATIONS ON THE ROLES OF GOVERNMENT.—The Commission shall also make recommendations on the roles of the Federal and State governments in—

(1) environmental review of transportation projects;

(2) the provision of intercity passenger rail services;

(3) financing transportation at international border crossings;

(4) facilitating international goods movement to, from and within the United States;

(5) ensuring consistency in data and communications links for and between all modes;

(6) financing for each mode of transportation; and

(7) effectively using transportation networks to enhance the quality of life, protect natural resources and promote sustainable economic growth.

(g) PARTICIPATION IN COMMISSION ACTIVITIES.—

(1) PARTICIPATION OF FEDERAL AGENCIES.—The Chairman of the Commission shall request the head of each Federal department or agency with an interest in or a responsibility for national transportation policy to appoint a liaison who shall work closely with the Committee and its staff. Such departments and agencies shall include, but not be limited to, the Department of Transportation, and each of its modal administrations, Office of Management and Budget, Department of Energy, Department of Homeland Security, Environmental Protection Agency, Department of Health and Human Services, Department of Commerce, Department of the Treasury, Department of Defense, Department of Agriculture, National Transportation Safety Board, Sur-

face Transportation Board, and Army Corps of Engineers.

(2) ADVICE FROM PUBLIC AND PRIVATE ORGANIZATIONS.—In carrying out its duties, the Commission shall seek the advice of various groups interested in national transportation policy including State and local governments, public and private organizations in the fields of transportation and safety, business, education, environment and labor, and the public.

(h) HEARINGS.—The Commission or, on the authorization of the Commission, any Committee of two or more members may, for the purpose of carrying out the provisions of this section, hold such hearings at such times and places as the Commission or such authorized committee may deem advisable.

(i) COMPENSATION.—Members of Congress or other governmental employees shall serve without compensation, but shall be reimbursed for travel, per diem in accordance of the rules of the House of Representatives and Senate, accordingly, or subsistence and other necessary expenses incurred in the performance of the duties vested in the Commission.

(j) COMMISSION STAFF.—The Commission is authorized to appoint and fix the compensation of a staff director

and such additional personnel as may be necessary to enable it to carry out its functions.

(k) CONTRACTS.—The Commission is authorized to enter into contracts or agreements for studies and surveys with public and private organizations and, if necessary, to transfer funds to Federal agencies from sums appropriated pursuant to this section to carry out such of its duties as the Commission determines can best be carried our in the that manner.

(l) AUTHORIZATION OF APPROPRIATIONS.—(1) There are authorized to be appropriated to carry out this section such sums as may be necessary.

(2) Funds authorized by this subsection shall remain available until expended.

**SEC. 210. REAL-TIME SYSTEM MANAGEMENT INFORMATION PROGRAM.**

(a) GOALS AND PURPOSES.—

(1) GOALS.—The goals of the real-time system management information program are to provide the nationwide capability to monitor, in real-time, the traffic and travel conditions of our Nation's major highways and to widely share that information to improve the security of the surface transportation system, address congestion problems, support im-

proved response to weather events, and facilitate national and regional traveler information.

(2) PURPOSES.—The purposes of the real-time system management information program are to—

(A) establish a nationwide system of basic real-time information for managing and operating our surface transportation system;

(B) identify longer range real-time highway and transit monitoring needs and develop plans and strategies for meeting those needs; and

(C) provide the capability and means to share that data with state and local governments, and the traveling public.

(b) DATA EXCHANGE FORMATS.—Within one year of enactment of this Act, the Secretary shall establish data exchange formats to ensure that the data provided by highway and transit monitoring systems, including statewide incident reporting systems can readily be exchanged across jurisdictional boundaries, facilitating nationwide availability of information.

(c) STATEWIDE INCIDENT REPORTING SYSTEM.—Within 2 years of enactment of this legislation, each State shall establish a statewide incident reporting system.

(d) REGIONAL INTELLIGENT TRANSPORTATION SYSTEM ARCHITECTURE.—

(1) As State and local governments develop or update their regional ITS architectures, as specified in section 940.9 of title 23, Code of Federal Regulations (Regional ITS Architecture), they shall explicitly address their real-time highway and transit information needs and the systems needed to meet those needs. This specific incorporation of information needs should address coverage, monitoring systems, data fusion and archiving, and methods of exchanging or sharing this information.

(2) States are encouraged to incorporate the data exchange formats developed by the Secretary to ensure that the data provided by highway and transit monitoring systems can readily be exchanged across state and local governments, and with the traveling public.

(c) DEFINITION.—In this section, the term "statewide incident reporting system" means a statewide system for facilitating the real-time electronic reporting of incidents to a central location for use in monitoring the event, providing accurate traveler information, and responding to the incident as appropriate.

**SEC. 211. PLANNING CAPACITY BUILDING INITIATIVE.**

Section 104 of title 23, United States Code, is amended by inserting after subsection (i), as added by this Act, the following:

"(j) PLANNING CAPACITY BUILDING INITIATIVE.—

"(1) IN GENERAL.—The Secretary shall establish a planning capacity building initiative to support enhancements in transportation planning, in order to—

"(A) strengthen metropolitan and statewide transportation planning under chapter 52 of title 49;

"(B) enhance tribal capacity to conduct joint transportation planning under Chapter 2 of this title; and

"(C) participate in the metropolitan and statewide transportation planning programs under chapter 52 of title 49.

"(2) PRIORITY.—The Secretary shall give priority to planning practices and processes that support homeland security planning, performance based planning, safety planning, operations planning, freight planning, and integration of environment and planning.

"(3) USE OF FUNDS.—Funds authorized for this program may be used for research, program de-

velopment, information collection and dissemination, and technical assistance. The Secretary may use these funds independently or make grants to, or enter into contracts and cooperative agreements with, a Federal agency, State agency, local agency, federally recognized Indian tribal government or tribal consortium, authority, association, nonprofit or for-profit corporation, or institution of higher education, to carry out the purposes of this subsection.

"(4) FEDERAL SHARE.—The Federal share of the cost of an activity carried out using such funds shall be up to 100 percent, and such funds shall remain available until expended.

"(5) ADMINISTRATION.—This initiative shall be administered by the Federal Highway Administration in cooperation with the Federal Transit Administration.".

**AMENDMENT OFFERED BY MS. LOFGREN TO THE AMENDMENT IN THE NATURE OF A SUBSTITUTE**

Page 72, after line 4, insert the following new subsection:

"(h) NATIONAL TRANSPORTATION SECURITY CENTERS.—

"(1) ESTABLISHMENT.—The Secretary shall establish not more than 4 National Transportation Security Centers at institutions of higher education to conduct research, education, and professional training on all aspects of surface transportation security, with emphasis on utilization of intelligent transportation systems, technologies, and architectures.

"(2) SELECTION CRITERIA.—The Secretary shall make grants using a competitive peer-reviewed procedure that gives priority to—

"(A) institutions with a commitment to transportation security issues;

"(B) proposals that include partnerships with other institutions of higher education, Federal laboratories, or other nonprofit laboratories;

"(C) proposals to conduct both practical and theoretical research and technical systems analysis; and

"(D) proposals to develop professional training programs.".

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**AMENDMENT OFFERED BY MR. UDALL OF COLORADO**

**TO THE AMENDMENT IN THE NATURE OF A SUBSTITUTE**

Page 18, line 8, redesignate paragraph (22) as paragraph (23).

Page 18, after line 7, insert the following new paragraph:

"(22) Research and system analysis to facilitate and integrate bicycle and pedestrian travel in the transportation system, including within the National Parks and in areas adjacent to National Park land.

**AMENDMENT OFFERED BY MR. MILLER OF NORTH CAROLINA TO THE AMENDMENT IN THE NATURE OF A SUBSTITUTE**

Page 92, lines 15 and 19, redesignate paragraphs (8) and (9) as paragraphs (9) and (10), respectively.

Page 92, after line 14, insert the following new paragraph:

"(8) utilize interdisciplinary approaches to develop traffic management strategies and tools to address multiple impacts of congestion concurrently;

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108TH CONGRESS
1ST SESSION

# H. R. 3551

To authorize appropriations to the Department of Transportation for surface transportation research and development, and for other purposes.

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IN THE HOUSE OF REPRESENTATIVES

NOVEMBER 20, 2003

Mr. EHLERS introduced the following bill; which was referred to the Committee on Science, and in addition to the Committee on Transportation and Infrastructure, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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# A BILL

To authorize appropriations to the Department of Transportation for surface transportation research and development, and for other purposes.

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

**SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

(a) SHORT TITLE.—This Act may be cited as the ''Surface Transportation Research and Development Act of 2003''.

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

**SEC. 2. FINDINGS.**

The Congress finds the following:

(1) Research and development is critical to developing and maintaining a transportation system that meets the goals of safety, mobility, economic vitality, efficiency, equity, and environmental protection.

(2) Federally sponsored surface transportation research and development has produced many successes. The development of rumble strips has increased safety; research on materials has increased

the lifespan of pavements, saving money and reducing the disruption caused by construction; and Geographic Information Systems have improved the management and efficiency of transit fleets.

(3) Despite these important successes, the Federal surface transportation research and development investment represents only about 0.5 percent of overall government spending on surface transportation.

(4) While Congress increased funding for overall transportation programs by about 40 percent in the Transportation Equity Act for the 21st Century, funding for transportation research and development remained relatively flat.

(5) The Federal investment in research and development should be balanced between short-term applied and long-term fundamental research and development. The investment should also cover a wide range of research areas, including research on materials and construction, research on operations, research on transportation trends and human factors, and research addressing the institutional barriers to deployment of new technologies.

(6) Therefore, Congress finds that it is in the United States interest to increase the Federal in-

vestment in transportation research and development, and to conduct research in critical research gaps, in order to ensure that the transportation system meets the goals of safety, mobility, economic vitality, efficiency, equity, and environmental protection.

# TITLE I—SURFACE TRANSPORTATION RESEARCH

**SEC. 101. AUTHORIZATION OF APPROPRIATIONS.**

(a) IN GENERAL.—

(1) SURFACE TRANSPORTATION RESEARCH, DEVELOPMENT, AND DEPLOYMENT.—To carry out sections 502, 503, 506, 507, and 509 of title 23, United States Code, and section 112 of this Act, relating to research and development, there are authorized to be appropriated to the Secretary of Transportation the following:

(A) $228,000,000 for fiscal year 2004, of which—

(i) $15,000,000 shall be set aside to carry out the Surface Transportation Environment and Planning Cooperative Research Program under section 507 of title 23, United States Code;

(ii) $7,000,000 shall be set aside to carry out advanced exploratory research under section 502(d) of title 23, United States Code; and

(iii) $5,000,000 shall be set aside to carry out the National Multimodal Trends Research Progam under section 112 of this Act.

(B) $272,000,000 for fiscal year 2005, of which—

(i) $15,000,000 shall be set aside to carry out the Surface Transportation Environment and Planning Cooperative Research Program under section 507 of title 23, United States Code;

(ii) $10,000,000 shall be set aside to carry out research under section 502(d) of title 23, United States Code; and

(iii) $5,000,000 shall be set aside to carry out research under section 112 of this Act.

(C) $316,000,000 for fiscal year 2006, of which—

(i) $20,000,000 shall be set aside to carry out the Surface Transportation Envi-

ronment and Planning Cooperative Research Program under section 507 of title 23, United States Code;

(ii) $15,000,000 shall be set aside to carry out research under section 502(d) of title 23, United States Code; and

(iii) $5,000,000 shall be set aside to carry out research under section 112 of this Act.

(D) $367,000,000 for fiscal year 2007, of which—

(i) $20,000,000 shall be set aside to carry out the Surface Transportation Environment and Planning Cooperative Research Program under section 507 of title 23, United States Code;

(ii) $15,000,000 shall be set aside to carry out research under section 502(d) of title 23, United States Code; and

(iii) $5,000,000 shall be set aside to carry out research under section 112 of this Act.

(E) $423,000,000 for fiscal year 2008, of which—

(i) $30,000,000 shall be set aside to carry out the Surface Transportation Environment and Planning Cooperative Research Program under section 507 of title 23, United States Code;

(ii) $15,000,000 shall be set aside to carry out research under section 502(d) of title 23, United States Code; and

(iii) $5,000,000 shall be set aside to carry out research under section 112 of this Act.

(F) $490,000,000 for fiscal year 2009, of which—

(i) $30,000,000 shall be set aside to carry out the Surface Transportation Environment and Planning Cooperative Research Program under section 507 of title 23, United States Code;

(ii) $15,000,000 shall be set aside to carry out research under section 502(d) of title 23, United States Code; and

(iii) $5,000,000 shall be set aside to carry out research under section 112 of this Act.

(2) TRAINING AND EDUCATION.—To carry out section 504 of title 23, United States Code, there are authorized to be appropriated to the Secretary of Transportation the following:

(A) $50,000,000 for fiscal year 2004.

(B) $60,000,000 for fiscal year 2005.

(C) $70,000,000 for fiscal year 2006.

(D) $70,000,000 for fiscal year 2007.

(E) $75,000,000 for fiscal year 2008.

(F) $75,000,000 for fiscal year 2009.

(3) BUREAU OF TRANSPORTATION STATISTICS.—For the Bureau of Transportation Statistics to carry out section 111 of title 49, United States Code, there are authorized to be appropriated to the Secretary of Transportation the following:

(A) $36,000,000 for fiscal year 2004, of which $5,000,000 shall be set aside for research and development grants under subsection (k)(1)(B) of such section.

(B) $37,000,000 for fiscal year 2005, of which $5,000,000 shall be set aside for research and development grants under subsection (k)(1)(B) of such section.

(C) $38,000,000 for fiscal year 2006, of which $5,000,000 shall be set aside for research

and development grants under subsection (k)(1)(B) of such section.

(D) $43,000,000 for fiscal year 2007, of which $5,000,000 shall be set aside for research and development grants under subsection (k)(1)(B) of such section.

(E) $47,000,000 for fiscal year 2008, of which $5,000,000 shall be set aside for research and development grants under subsection (k)(1)(B) of such section.

(F) $50,000,000 for fiscal year 2009, of which $5,000,000 shall be set aside for research and development grants under subsection (k)(1)(B) of such section.

(4) UNIVERSITY TRANSPORTATION RESEARCH.—For carrying out section 5505 of title 49, United States Code, there are authorized to be appropriated to the Secretary of Transportation the following:

(A) $56,000,000 for fiscal year 2004.

(B) $66,000,000 for fiscal year 2005.

(C) $76,000,000 for fiscal year 2006.

(D) $90,000,000 for fiscal year 2007.

(E) $90,000,000 for fiscal year 2008.

(F) $90,000,000 for fiscal year 2009.

(5) INTELLIGENT TRANSPORTATION SYSTEMS RESEARCH.—For carrying out the Intelligent Transportation Systems Act of 2003, there are authorized to be appropriated to the Secretary of Transportation the following:

(A) $130,000,000 for fiscal year 2004.

(B) $135,000,000 for fiscal year 2005.

(C) $140,000,000 for fiscal year 2006.

(D) $140,000,000 for fiscal year 2007.

(E) $145,000,000 for fiscal year 2008.

(F) $145,000,000 for fiscal year 2009.

(b) COLLABORATIVE RESEARCH AND DEVELOPMENT.—Section 502(b) of title 23, United States Code, is amended—

(1) by striking paragraph (3); and

(2) by redesignating paragraphs (4) and (5) as paragraphs (3) and (4), respectively.

**SEC. 102. GOALS, PRINCIPLES, AND PROCESSES.**

(a) GOALS.—The Federal Government shall support surface transportation research in order to support the goals established for the surface transportation system as set forth in the Transportation Equity Act for the 21st Century, including supporting economic vitality, improving safety and security, increasing mobility, protecting and enhancing the environment, improving integration between

modes of transportation, promoting efficiency, and emphasizing the preservation of the existing transportation system.

(b) BASIC PRINCIPLES GOVERNING RESEARCH AND DEVELOPMENT.—

(1) FEDERAL RESPONSIBILITY.—Funding and conducting surface transportation research and development and technology transfer activities shall be the responsibility of the Federal Government when—

(A) the work is of national significance;

(B) it supports research in which there is a clear public benefit, and private sector investment is less than optimal due to market failure;

(C) it supports critical research that is not otherwise being conducted by the public or private sector;

(D) it supports a Federal stewardship role in ensuring that State and local governments use national resources efficiently; or

(E) it presents the best means to support Federal policy goals compared to other policy alternatives.

(2) ROLE.—Consistent with these Federal responsibilities, the Secretary of Transportation shall—

(A) conduct research;

(B) support and facilitate research and development and technology transfer activities by State highway agencies, metropolitan planning organizations, and local governments;

(C) share results of completed research; and

(D) support and facilitate technology and innovation deployment.

(3) PROGRAM CONTENT.—The surface transportation research and development program shall include—

(A) fundamental, long-term research;

(B) research aimed at significant research gaps, and emerging issues with national implications; and

(C) research related to policy and planning.

(c) PROCESSES.—

(1) STAKEHOLDER INPUT.—Federally sponsored surface transportation research and development activities shall address the needs of partners and stakeholders. Stakeholders include users of research (such as States, metropolitan planning organizations, local governments, and the private sector),

researchers, research sponsors, and other affected parties, including public interest groups. Stakeholders shall be included at every level of research including strategic planning, agenda setting, and program evaluation. The Secretary shall expand the range and diversity of stakeholders engaged in the process.

(2) COMPETITION AND PEER REVIEW.—All parties entering into contracts or cooperative agreements with the Secretary, or receiving grants, to perform research and development activities or provide technical assistance under this Act shall be selected on a competitive basis, and on the basis of the results of peer review of proposals submitted to the Secretary.

(3) PERFORMANCE REVIEW AND EVALUATION.—All surface transportation research and development projects shall include a component of performance measurement and evaluation. Performance measures shall be established during the proposal stage of a research project and shall, to the maximum extent possible, be outcome-based. All evaluations shall be made readily available to the public. The results of all surface transportation research

and development funded under this Act shall be peer reviewed.

**SEC. 103. TRANSPORTATION RESEARCH AND DEVELOPMENT STRATEGIC PLANNING AND ANNUAL REPORTING.**

(a) AMENDMENT.—Section 508 of title 23, United States Code, is amended to read as follows:

**"§ 508. Transportation research and development strategic planning and annual reporting**

''(a) IN GENERAL.—The Secretary shall—

''(1) establish a strategic planning process, consistent with section 306 of title 5 for the Department of Transportation to determine national transportation research and development priorities;

''(2) set national transportation strategic goals and research and development priorities;

''(3) coordinate Federal transportation research and development activities;

''(4) measure the results of those activities and how they impact the performance of the transportation systems of the United States; and

''(5) ensure that planning and reporting activities carried out under this section are coordinated with all other transportation planning and reporting requirements.

''(b) IMPLEMENTATION.—The Secretary shall—

''(1) provide for the integrated planning, coordination, and consultation among the operating administrations of the Department of Transportation, including the aviation, transit, and rail operating administrations, all other Federal agencies with responsibility for surface transportation research and technology development, State and local governments, institutions of higher education, industry, and other private and public sector organizations engaged in surface transportation-related research and development activities;

''(2) ensure that the transportation research and development programs of the Department do not duplicate other Federal, State, or private sector research and development programs; and

''(3) provide for independent validation of the scientific and technical assumptions underlying the transportation research and development programs of the Department.

''(c) TRANSPORTATION RESEARCH AND DEVELOPMENT STRATEGIC PLAN.—

''(1) DEVELOPMENT.—Not later than 1 year after the date of enactment of the Surface Transportation Research and Development Act of 2003 the

Secretary shall develop an integrated transportation research and development strategic plan. The Secretary shall periodically revise such plan.

''(2) CONTENTS.—The plan shall—

''(A) include the general goals and principles of the Department of Transportation for transportation research and development program set forth in section 102 of the Surface Transportation Research and Development Act of 2003;

''(B) define the roles of the Department and other Federal agencies in achieving the goals and principles identified under subparagraph (A), in order to avoid unnecessary duplication of effort;

''(C) define the Department's overall strategy and research and development priorities, and for each research area specified in section 502, set out—

''(i) specific research strategies;

''(ii) research objectives and priorities;

''(iii) projects to be carried out;

''(iv) recommended technology transfer activities to promote the deployment of research results; and

''(v) short-term, medium-term, and long-term technology development and deployment activities;

''(D) define the role of each of the operating administrations of the Department in carrying out the plan over the next 5 years, including a description of procedures for coordination of the efforts of the Secretary with the efforts of the operating administrations of the Department and other Federal agencies;

''(E) assess how State and local research and development activities are contributing to the achievement of the goals identified under subparagraph (A) and priorities identified under subparagraph (C);

''(F) provide details of the transportation research and development programs of the Department, including performance goals, resources needed to achieve those goals, and performance indicators as described in section 1115(a) of title 31 for the next 5 years for each area of research and development;

''(G) incorporate input from a wide range of interests in the transportation community, including State transportation officials, metro-

politan planning organizations, local governments, business, environmental and community organizations, academia, and other relevant Federal agencies, and summarize significant comments on the plan obtained from these interests; and

''(H) incorporate the input of the National Academy of Sciences and include responses to significant comments obtained from the Academy and other advisory bodies, and describe any corrective actions taken pursuant to such comments.

''(3) NATIONAL ACADEMY OF SCIENCES REVIEW.—The Secretary shall enter into an agreement for the review by the National Academy of Sciences of the details of each—

''(A) strategic plan or revision required under section 306 of title 5;

''(B) performance plan required under section 1115 of title 31; and

''(C) program performance report required under section 1116 of title 31—

with respect to transportation research and development.

''(4) PERFORMANCE PLANS AND REPORTS.—In reports submitted under sections 1115 and 1116 of title 31, the Secretary shall include—

''(A) a summary of the results for the previous fiscal year of transportation research and development programs to which the Department of Transportation contributes, along with—

''(i) an analysis of the relationship between those results and the goals identified under paragraph (2)(A); and

''(ii) a description of the methodology used for assessing the results; and

''(B) a description of significant transportation research and development initiatives, if any, undertaken during the previous fiscal year that were not in the plan developed under paragraph (1), and any significant changes in the plan from the previous year's plan.

''(d) MERIT REVIEW AND PERFORMANCE MEASUREMENT.—Not later than 1 year after the date of enactment of the Surface Transportation Research and Development Act of 2003, the Secretary shall transmit to Congress a report describing competitive merit review procedures for use in selecting grantees and contractors in the programs covered by the plan developed under subsection (c) and

performance measurement procedures for evaluating the programs.

''(e) PROCUREMENT PROCEDURES.—The Secretary shall—

''(1) develop model procurement procedures that encourage the use of advanced technologies; and

''(2) develop model transactions for carrying out and coordinating Federal and State transportation research and development activities.

''(f) ANNUAL PROJECT REPORTS.—The Secretary shall publish and make publicly available an annual report documenting all transportation research and development activities of the Department. The report shall include detailed accounting of how Federal funds were expended.

''(g) CONSISTENCY WITH GOVERNMENT PERFORMANCE AND RESULTS ACT OF 1993.—The plans and reports developed under this section shall be consistent with and incorporated as part of the plans developed under section 306 of title 5 and sections 1115 and 1116 of title 31.''.

(b) CONFORMING AMENDMENT.—The analysis for chapter 5 of title 23, United States Code, is amended by striking the item related to section 508 and inserting the following:

''508. Transportation research and development strategic planning and annual reporting.''.

**SEC. 104. SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT.**

(a) SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT.—Section 502 of title 23, United States Code, is amended—

(1) in subsection (a)—

(A) by striking subparagraphs (B) and (C) of paragraph (1) and inserting the following:

''(B) all phases of transportation planning and development (including construction, transportation system management and operation, modernization, development, design, maintenance, safety, data collection, performance analysis, multimodal assessment, financing, demand forecasting, and traffic conditions);

''(C) institutional arrangements and support; and

''(D) the effect of State laws on the activities described in subparagraphs (A), (B), and (C).''; and

(B) in paragraph (3)(C), by inserting ''academic researcher,'' after ''association, institution,'';

(2) in subsection (c)—

(A) in paragraph (1), by inserting ''accessibility, connectivity,'' after ''United States, including'';

(B) by redesignating paragraphs (4) through (11) as paragraphs (5) through (12), respectively;

(C) by inserting after paragraph (3) the following new paragraph:

''(4) Methods and testing to determine the impacts, both positive and negative, to communities from major transportation investments.'';

(D) in paragraph (6), as so redesignated by subparagraph (B) of this paragraph—

(i) by striking ''research project'' and inserting ''improvements against policy objectives'' in subparagraph (B); and

(ii) by inserting ''and management'' after ''transportation operations'' in subparagraph (C);

(E) in paragraph (12), as so redesignated by subparagraph (B) of this paragraph, by striking '', including unobtrusive eyetracking technology''; and

(F) by adding at the end the following new paragraphs:

''(13) Environmental research, including research described in the Transportation Research Board Special Report 268, entitled 'Surface Transportation Environmental Research: A Long-Term Strategy', published in 2002.

''(14) Assessment of planning strategies that link land use and transportation in metropolitan areas.

''(15) Exploratory advanced research under subsection (d).

''(16) Research aimed at understanding how emerging trends (including demographic, economic, and social trends) will affect and are affected by surface transportation usage and needs.

''(17) Research on the link between transportation and health (including asthma and obesity).

''(18) Research on, and dissemination of recommendations and best practices aimed at addressing, nontechnical barriers to technology deployment (which include fragmented local authority, rigid procurement rules, and privacy and liability considerations).

''(19) Research on the effects of climate conditions (such as freezing, thawing, and precipitation) on highway construction and maintenance, including

research to reduce or repair damage caused by climatic conditions, development of materials that can withstand climatic conditions, and research on the effects of climatic conditions on the costs of highway construction and maintenance.

''(20) Research to improve the infrastructure investment needs report under subsection (g) through new methods of collecting better quality data, monitoring in a system-wide manner, the determination of critical metrics to assess condition and performance, and new methods of statistical analysis and computer models to improve the prediction of future needs.

''(21) Research, development, and technology transfer related to asset management.

''(22) Any other surface transportation research topics that the Secretary determines, in accordance with the strategic planning process under section 508, to be critical.'';

(3) in subsection (d)—

(A) in paragraph (1)—

(i) by inserting ''exploratory'' after ''shall establish an''; and

(ii) by inserting ''fundamental'' after ''508, that addresses''; and

(B) by striking paragraph (2) and inserting the following new paragraphs:

''(2) GOAL.—The goal of the research program under this subsection shall be to achieve breakthroughs in understanding transportation phenomena. Exploratory advanced research should have a broader objective, longer time frame, multidisciplinary nature, and have both a higher risk and a higher potential payoff than for problem-solving research.

''(3) AGENDA.—Not later than 15 months after that date of enactment of this paragraph, the Secretary shall develop an agenda for exploratory advanced research. The agenda shall outline key questions to be addressed and proposed areas of research to address these questions. The agenda shall also document the best way to accomplish this research (such as through Federal laboratories or academic researchers). Upon completion, the agenda shall be transmitted to the Committee on Transportation and Infrastructure and the Committee on Science of the House of Representatives, and the Committee on Environment and Public Works of the Senate, and made available to the general public.

''(4) CONSULTATION.—The Secretary shall consult with the National Science Foundation in reviewing fundamental research proposals, and to obtain advice on peer review protocols.

''(5) WORKSHOP.—In order to develop the agenda for exploratory advanced research under paragraph (3), the Secretary shall convene a workshop with appropriate researchers and policymakers from Federal and State agencies, as well as academic researchers, to gather recommendations. The goal of the workshop shall be to determine priority areas of exploratory advanced research for Federal investment. Emphasis shall be placed on hearing from a diverse group of stakeholders. The Secretary shall make the results of the workshop widely available to the public. The workshop shall be held within 9 months after the date of the enactment of this paragraph.

''(6) USE OF FUNDS.—In any fiscal year with respect to which $5,000,000 or more is appropriated for carrying out this subsection, at least ½ of the funds in excess of $5,000,000 shall be used to carry out the grant program described in paragraph (7). Funds appropriated for carrying out this subsection not used for the grant program described in para-

graph (7) shall be used to carry out the agenda developed under paragraph (3). All exploratory advanced research proposals and results under this subsection shall be peer reviewed.

''(7) GRANT PROGRAM.—If funds are available under paragraph (6), the Secretary shall administer a competitive, merit-reviewed and peer-reviewed grant program to support fundamental research outside of the Federal Government. Eligible applicants include academic researchers, and for-profit and not-for-profit research institutions. Under this grant program, research solicitations shall be open and broad in order to spur creativity and innovation. Funds may be used under this paragraph to support research in a range of topics, including materials, operations, and social science. Proposals with the greatest merit shall be funded, and projects may receive funding for multiple years.'';

(4) in subsection (e), by striking ''(105 Stat.'' and all that follows through ''performance program'' and inserting ''and the Transportation Equity Act for the 21st Century'';

(5) by amending subsection (f) to read as follows:

''(f) LONG-TERM BRIDGE PERFORMANCE PROGRAM.—

''(1) AUTHORITY.—The Secretary shall establish a 20 year long-term bridge performance program.

''(2) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—Under the program, the Secretary shall make grants and enter into cooperative agreements and contracts to—

''(A) monitor, material-test, and evaluate test bridges;

''(B) analyze the data obtained in carrying out subparagraph (A); and

''(C) prepare products to fulfill program objectives and meet future bridge technology needs.'';

(6) in subsection (g)—

(A) in paragraph (1)—

(i) by striking ''1999'' and inserting ''2005''; and

(ii) by striking ''highway and bridge'' each place it appears and inserting ''surface transportation''; and

(B) in paragraph (2), by striking ''biannual reports'' and all that follows through

"21st Century" and inserting "previous reports under this subsection"; and

(7) by adding at the end the following new subsection:

"(h) TURNER-FAIRBANK HIGHWAY RESEARCH CENTER.—

"(1) IN GENERAL.—The Secretary shall operate in the Federal Highway Administration a Turner-Fairbank Highway Research Center.

"(2) USES OF THE CENTER.—The Turner-Fairbank Highway Research Center shall support the—

"(A) conduct of highway research and development related to new highway technology;

"(B) development of understandings, tools, and techniques that provide solutions to complex technical problems through the development of economical and environmentally sensitive designs, efficient and quality controlled construction practices, and durable materials; and

"(C) development of innovative highway products and practices.".

(b) GEOSPATIAL INFORMATION SYSTEMS.—Section 5113 of the Transportation Equity Act of the 21st Cen-

tury (23 U.S.C. 502 note) is amended by revising subsection (b) to read as follows:

''(b) PROGRAM.—

''(1) NATIONAL POLICY.—The Secretary shall establish and maintain a national policy for the use of commercial remote sensing products and geospatial information technologies in national transportation infrastructure development and construction.

''(2) POLICY IMPLEMENTATION.—The Secretary shall develop new applications of commercial remote sensing products and geospatial information technologies for the implementation of the national policy established and maintained under (b)(1) of this section.''.

(c) ENVIRONMENT AND PLANNING.—

(1) AMENDMENT.—Section 507 of title 23, United States Code, is amended to read as follows:

**''§ 507. Surface transportation environment and planning cooperative research program–**

''(a) ESTABLISHMENT.—The Secretary shall establish and support a collaborative, public-private, multimodal surface transportation environment and planning cooperative research program.

''(b) AGREEMENT.—The Secretary shall make grants to or enter into cooperative agreements with the National Academy of Sciences, or another nonprofit research organization established for this purpose, to support, administer, and manage the surface transportation environment and planning cooperative research program.

''(c) ADVISORY BOARD.—

''(1) ESTABLISHMENT.—The organization described in subsection (b) shall establish an independent advisory board drawn from core partners that represent environment, transportation, scientific, and other interests, including the Department of Transportation, the Environmental Protection Agency, the National Science Foundation, other Federal agencies, the States, regional and local governments, nonprofit organizations, academia, foundations, and the private sector.

''(2) RESPONSIBILITIES.—The Advisory Board shall have the responsibility for—

''(A) development of a research agenda, which shall be published annually, shall serve as the basis of the annual project solicitation, and shall be based on the multiyear strategy described in subsection (e), as revised under subparagraph (D) of this paragraph;

''(B) annual solicitation of project proposals, including open competition and peer review of research proposals;

''(C) development of project selection criteria, through an open and public consultation process with stakeholders, that emphasize—

''(i) the development of fundamental knowledge; and

''(ii) collaborative research and funding; and

''(D) revision of the contents of the multiyear strategy described in subsection (e), through an open and public consultation process, with the first revision to be completed 3 years after the first grants are awarded under this section and subsequent revisions biennially thereafter.

''(d) DISSEMINATION OF RESEARCH FINDINGS.—The organization described in subsection (b) and the Department of Transportation shall proactively disseminate research findings under this section to researchers, practitioners, and decisionmakers, through conferences and seminars, field demonstrations, workshops, training programs, presentations, testimony to government officials, the Internet, and publications for the general public.

''(e) CONTENTS.—The national research agenda for the surface transportation environment and planning cooperative research program required under subsection (c)(2)(C) shall be based on Transportation Research Board Special Report 268, entitled 'Surface Transportation Environmental Research: A Long-Term Strategy', published in 2002, which included the following research areas:

''(1) Human Health.

''(2) Ecology and Natural Systems.

''(3) Environmental and Social Justice.

''(4) Emerging Technologies.

''(5) Land Use.

''(6) Planning and Performance Measures.

''(f) PROJECT FUNDING.—

''(1) MULTIYEAR FUNDING.—Projects may receive funding for multiple years under this section.

''(2) JOINT PROJECT FUNDING.—In addition to using funds authorized for this section, the organization that administers this program may seek and accept additional funding sources from public and private entities capable of attracting and accepting funding from Federal agencies, States, local governments, nonprofit foundations, and the private sector.

''(g) PROGRAMMATIC EVALUATIONS.—(1) Not later than 2 years after the first research project grants or contracts are awarded under this section, the Secretary shall enter into an arrangement with the National Academy of Public Administration to review the program under this section, and recommend improvements.

''(2) The National Academy of Public Administration review shall—

''(A) assess the degree to which the projects funded under this section have addressed the research topics identified in the strategy established in the Transportation Research Board Special Report 268, including identifying those topics which have not yet been addressed;

''(B) assess the peer review process for project proposals, and assess research project results; and

''(C) assess the extent of stakeholder involvement in all facets of the program.

''(h) ANNUAL REPORT.—The organization described in subsection (b) shall prepare and transmit to the Secretary an annual report that includes a project summary for every project funded under this section. Each summary shall characterize the project, summarize its status, and identify sponsors.''.

(2) CONFORMING AMENDMENT.—The analysis for chapter 5 of title 23, United States Code, is amended by striking the item related to section 507 and inserting the following:

"507. Surface transportation environment and planning cooperative research program.".

**SEC. 105. TECHNOLOGY DEPLOYMENT.**

Section 503 of title 23, United States Code, is amended—

(1) in subsection (a)—

(A) by amending paragraph (7) to read as follows:

"(7) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—

"(A) IN GENERAL.—Under the program, the Secretary may make grants and enter into cooperative agreements and contracts with States, metropolitan planning organizations, local governments, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations to foster alliances and support efforts to stimulate advances in transportation technology, and to pay the Federal share of the costs of research, development, and technology transfer concerning innovative technologies.

''(B) APPLICATIONS.—To receive a grant, cooperative agreement, or contract, under this paragraph, an entity described in subparagraph (A) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications based on the applications' merit and on whether the project that is the subject of the grant, cooperative agreement, or contract meets the goals of the program described in paragraph (3).'';

(B) in paragraph (8), by inserting ''and the Committee on Science'' after ''Transportation and Infrastructure'';

(C) by redesignating paragraph (9) as paragraph (11); and

(D) by inserting after paragraph (8) the following new paragraphs:

''(9) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall ensure that the information and technology resulting from research conducted under this subsection is made available to State and local transportation departments, metro-

politan planning organizations, and other interested parties.

''(10) FEDERAL SHARE.—The Federal share of the cost of a project under this subsection shall be determined by the Secretary.''; and

(2) in subsection (b)—

(A) by striking ''BRIDGE RESEARCH AND CONSTRUCTION'' and inserting ''RESEARCH AND DEPLOYMENT'' in the subsection heading;

(B) by amending paragraphs (1) and (2) to read as follows:

''(1) IN GENERAL.—The Secretary shall establish and carry out a program to demonstrate the application of innovative technology in surface transportation infrastructure construction (such as bridges, pavements, and other structures) and safety.

''(2) GOALS.—The goals of the program shall include—

''(A) the development of new, cost-effective innovative material for surface transportation infrastructure applications;

''(B) the deployment and evaluation of safety technologies and innovations at the State and local levels, and the deployment of best

practices in training, management, design, and planning;

''(C) the reduction of life-cycle costs of surface transportation infrastructure, including the costs of new construction, replacement, maintenance, and rehabilitation of deficient highway infrastructure;

''(D) the development and deployment of construction techniques to increase safety and reduce construction time and traffic congestion;

''(E) the development of engineering design criteria for innovative products and materials for use in surface transportation infrastructure;

''(F) the development of cost-effective and innovative techniques to separate vehicle and pedestrian traffic from railroad traffic;

''(G) the evaluation and documentation of the performance and benefits of innovative technologies deployed to improve life, performance, cost effectiveness, safety, and customer satisfaction;

''(H) the refinement of innovative technologies based on the evaluation described in subparagraph (G);

''(I) the wide dissemination of information developed under subparagraph (G);

''(J) the development of surface transportation infrastructure, including alternative processes for the seismic retrofit of bridges, that will withstand natural disasters and terrorist attacks;

''(K) for pavements, the development of designs and materials to reduce impacts of storm water runoff;

''(L) the development of new nondestructive infrastructure evaluation technologies and techniques; and

''(M) effective technology transfer and information dissemination to accelerate implementation of innovative technologies.'';

(C) in paragraph (5), by striking ''section'' and inserting ''subsection''; and

(D) by adding at the end the following new subsection:

''(c) RESEARCH ON THE NONTECHNICAL BARRIERS TO TECHNOLOGY DEPLOYMENT.—In order to support the deployment goals established under subsection (a)(3), the Secretary shall carry out a research program addressing the nontechnical barriers to technology deployment, in-

cluding fragmented authority at the local and regional level and rigid procurement rules. The goal of this research shall be to generate proposals for how to overcome these nontechnical barriers.

**SEC. 106. TRAINING AND EDUCATION.**

(a) NATIONAL HIGHWAY INSTITUTE.—Section 504(a) of title 23, United States Code, is amended by striking paragraph (3) and inserting the following:

''(3) COURSES.—

''(A) IN GENERAL.—The Institute shall develop or update existing courses in asset management, application of emerging technologies, including intelligent transportation systems, and in techniques, methods, regulations, information technology, general management, environmental stewardship, engineering, safety, transportation system management and operations, construction, maintenance, contract administration, inspection, and finance.

''(B) ADDITIONAL COURSES.—In addition to the courses developed under subparagraph (A), the Institute, in consultation with State transportation departments and the American Association of State Highway and Transpor-

tation Officials, may develop other courses as it considers necessary.

''(C) REVISION OF COURSES OFFERED.—The Institute shall periodically—

''(i) review the course inventory of the Institute; and

''(ii) revise or cease to offer courses based on course content, applicability, and need.''.

(b) FEDERAL SHARE.—Section 504(b) of title 23, United States Code, is amended by adding at the end the following:

''(3) FEDERAL SHARE.—

''(A) GRANTS.—The grant funds authorized to carry out this subsection may be used to cover up to 50 percent of the program costs relating to local technical assistance. Funds available for technology transfer and training purposes under this title and title 49 may be used to cover the remaining 50 percent of the program costs.

''(B) TRIBAL TECHNICAL ASSISTANCE CENTERS.—The Federal share of the cost of activities carried out by the tribal technical assist-

ance centers under paragraph (2)(D)(ii) of this subsection shall be 100 percent.''.

(c) DEFINITIONS AND DECLARATION OF POLICY.—Section 101(a) of title 23, United States Code, is amended—

(1) in paragraph (3), by—

(A) striking ''and'' at the end of subparagraph (G);

(B) striking the period at the end of subparagraph (H) and inserting ''; and''; and

(C) adding after subparagraph (H) the following:

''(I) surface transportation workforce development, training, and education.'';

(2) by redesignating paragraphs (35) through (37) as paragraphs (36) through (38) respectively; and

(3) by adding after paragraph (34) the following:

''(35) SURFACE TRANSPORTATION WORKFORCE DEVELOPMENT, TRAINING, AND EDUCATION.—The term 'surface transportation workforce development, training, and education' means activities associated with surface transportation career awareness, student transportation career preparation, and training

and professional development for surface transportation workers.''.

**SEC. 107. BUREAU OF TRANSPORTATION STATISTICS.**

Section 111 of title 49, United States Code, is amended to read as follows:

**''§ 111. Bureau of Transportation Statistics**

''(a) ESTABLISHMENT.—There is established in the Department of Transportation a Bureau of Transportation Statistics to provide information to public decisionmakers, private industry, research organizations, and the public on the extent, use, condition, performance, and consequences of the Nation's transportation system.

''(b) DIRECTOR.—

''(1) APPOINTMENT.—The Bureau shall be headed by a Director who shall be appointed by the President, by and with the advice and consent of the Senate.

''(2) QUALIFICATIONS.—The Director shall be appointed from among individuals who are qualified to serve as the Director by virtue of their training and experience in the collection, analysis, and use of transportation statistics.

''(3) REPORTING.—The Director shall report directly to the Secretary.

''(4) TERM.—The term of the Director shall be 5 years. The Director may continue to serve after the expiration of the term until a successor is appointed and confirmed.

''(c) RESPONSIBILITIES.—The Director of the Bureau shall be responsible for carrying out the following duties:

''(1) SECRETARY'S SENIOR ADVISOR.—Serving as the Secretary's senior advisor on data and statistics.

''(2) PROVIDING DATA, STATISTICS, AND ANALYSIS TO TRANSPORTATION DECISIONMAKERS.—Ensuring that the statistics compiled under paragraph (6) support transportation decisionmaking by the Federal Government, State and local governments, metropolitan planning organizations, transportation-related associations, private businesses (including the freight community), and consumers.

''(3) COORDINATING COLLECTION OF INFORMATION.—Coordinating the collection of information by the Department of Transportation required for statistics to be compiled under paragraph (6) with related information gathering activities conducted by other Federal departments and agencies and collecting appropriate data not elsewhere gathered.

''(4) DATA MODERNIZATION.—Implement a data modernization program to improve surveys and data collection methods to ensure that nationally collected data accurately characterize all modes of transportation and transportation users and are useful for decisionmakers throughout the transportation community.

''(5) ENCOURAGING DATA STANDARDIZATION.—Encouraging standardization of data, data collection methods, and data management and storage technologies for data collected by the Bureau, the operating administrations of the Department of Transportation, States, local governments, metropolitan planning organizations, and private sector entities.

''(6) COMPILING TRANSPORTATION STATISTICS.—Compiling, analyzing, and publishing a comprehensive set of transportation statistics on—

''(A) productivity in various parts of the transportation sector;

''(B) traffic flows for all modes of transportation;

''(C) other elements of the Intermodal Transportation Database established under subsection (g);

''(D) travel times and measures of congestion;

''(E) vehicle weights and other vehicle characteristics;

''(F) demographic, economic, and other variables influencing—

''(i) travel;

''(ii) traveling behavior, including choice of transportation mode; and

''(iii) goods movement;

''(G) transportation costs for passenger travel and goods movement;

''(H) performance and impacts of the national transportation system;

''(I) availability and use of mass transit (including the number of passengers served by each mass transit authority) and other forms of for-hire passenger travel;

''(J) frequency of vehicle and transportation facility repairs and other interruptions of transportation service;

''(K) safety and security for travelers, vehicles, and transportation systems;

''(L) consequences of transportation for the human and natural environment;

''(M) the extent, connectivity, and condition of the transportation system, including elements of the National Transportation Atlas Database developed under subsection (i); and

''(N) transportation-related variables that influence the domestic economy and global competitiveness.

''(7) NATIONAL SPATIAL DATA INFRASTRUCTURE.—Building and disseminating the transportation layer of the National Spatial Data Infrastructure, including coordinating the development of transportation geospatial data standards, compiling intermodal geospatial data, and collecting geospatial data that is not being collected by others.

''(8) IMPLEMENTING LONG-TERM DATA COLLECTION PROGRAM.—Establishing and implementing, in cooperation with the heads of the operating administrations of the Department of Transportation, the States, metropolitan planning organizations, the national statistical organizations of the United States, and other Federal officials, a comprehensive, long-term program for the collection and analysis of data to support the statistics compiled, analyzed, and published under paragraph (6) and

other data on the performance of the transportation systems of the United States. Such program shall—

''(A) be coordinated with efforts to measure outputs and outcomes of the Department of Transportation and the transportation systems of the United States under the Government Performance and Results Act of 1993 (107 Stat. 285 et seq.) and the amendments made by such Act;

''(B) ensure that data is collected under this subsection in a manner which will maximize the ability to compare data from different regions and for different time periods; and

''(C) ensure that data collected under this subsection is controlled for accuracy, made relevant to the States and metropolitan planning organizations, and disseminated to the States and other interested parties.

''(9) ISSUING GUIDELINES.—Issuing guidelines for the collection and publication of information by the Department of Transportation required for statistics to be compiled under paragraph (6) in order to ensure that such information is accurate, reliable, relevant, and in a form that permits systematic analysis. The Bureau shall review and report to the Sec-

retary of Transportation on the sources and reliability of the statistics proposed by the heads of the operating administrations of the Department to measure outputs and outcomes as required by the Government Performance and Results Act of 1993, and the amendments made by such Act, and shall carry out such other reviews of the sources and reliability of other data collected or statistical information published by the heads of the operating administrations of the Department as shall be requested by the Secretary.

''(10) MAKING STATISTICS ACCESSIBLE.—Making the statistics published under this subsection readily accessible.

''(d) INFORMATION NEEDS ASSESSMENT.—

''(1) IN GENERAL.—Within 60 days after the date of the enactment of the Surface Transportation Research and Development Act of 2003, the Secretary shall enter into an arrangement with the National Academy of Sciences to develop and publish a National Transportation Information Needs Assessment. The Assessment shall be published not later than 24 months after such arrangement is entered into.

''(2) CONTENT.—The Assessment shall—

''(A) identify the major data needs of the transportation community, including all levels of government, the private and nonprofit sectors, and academia, through a statistically valid needs survey, the results of which shall be published;

''(B) identify critical gaps, shortcomings, and lack of standardization in existing data collection and survey methods;

''(C) identify data collection required under subsection (c)(6) that is not currently being carried out; and

''(D) recommend data modernization goals, specific improvements, and the estimated funding levels needed to accomplish those improvements.

''(3) CONSULTATION.—In developing the Assessment, the National Academy of Sciences shall consult with the Department's Advisory Council on Transportation Statistics and a representative cross-section of the transportation community, including business, the freight community, State and local governments, metropolitan planning organizations, transit, environmental, and community organizations, academia, and other Federal agencies, includ-

ing the Environmental Protection Agency, the Department of Energy, and the Department of Housing and Urban Development.

''(e) STRATEGIC PLAN.—

''(1) DEVELOPMENT AND REVISION.—The Director shall develop an integrated, multimodal data strategic plan within 3 years after the date of the enactment of the Surface Transportation Research and Development Act of 2003, and revise it every 3 years thereafter.

''(2) CONTENT.—The strategic plan shall include—

''(A) national goals for developing high quality national, State, local, and metropolitan transportation data;

''(B) national goals for encouraging improvements in non-Federal transportation data collection and management to improve quality, reliability, and comparability;

''(C) detailed strategies for—

''(i) addressing the needs and gaps identified in the Assessment conducted under subsection (d);

"(ii) integrating federally collected transportation data collection and systems, and coordinating data collection; and

"(iii) encouraging improvements in data collected by entities other than the Federal Government;

"(D) a plan to strengthen the Intermodal Transportation Data Base required under subsection (g) and the National Transportation Library under subsection (h);

"(E) an assessment of how data collection by entities other than the Federal Government is contributing to the achievement of the goals of this section;

"(F) responses to significant comments received through the consultation required under subsection (d)(2);

"(G) provision for the integrated planning, coordination, and consultation among the operating administrations of the Department of Transportation, all other Federal agencies with responsibilities related to transportation data, State and local governments, metropolitan planning organizations, institutions of higher education, industry, and other private and public

sector organizations engaged in transportation-related data activities and decisionmaking; and

''(H) details of the Department of Transportation's data programs, including performance goals, resources needed to achieve those goals, and performance indicators as described in section 1115(a) of title 31, United States Code, for the next 5 years for each area data collection and management.

''(3) CONSULTATION.—In developing the strategic plan, the Director shall consult with the National Academy of Sciences, the Advisory Council on Transportation Statistics, the Department's operating administrations, other Federal agencies, State and local governments, metropolitan planning organizations, business, and the public.

''(f) REVIEW.—The Comptroller General shall assess the Department's progress addressing the gaps identified in the Assessment required under subsection (d) and in preparing and implementing the strategic plan required under subsection (e). The assessment under this subsection shall be completed not later than 4 years after the date of the enactment of the Surface Transportation Research and Development Act of 2003.

''(g) INTERMODAL TRANSPORTATION DATA BASE.—

''(1) IN GENERAL.—In consultation with the Associate Deputy Secretary, the Assistant Secretaries, and the heads of the operating administrations of the Department of Transportation, the Director shall establish and maintain a transportation data base for all modes of transportation.

''(2) USE.—The data base shall be suitable for analyses carried out by the Federal Government, the States, and metropolitan planning organizations.

''(3) CONTENTS.—The data base shall include—

''(A) information on the volumes and patterns of movement of goods, including local, interregional, and international movement, by all modes of transportation and intermodal combinations, and by relevant classification;

''(B) information on the volumes and patterns of movement of people, including local, interregional, and international movements, by all modes of transportation (including bicycle and pedestrian modes) and intermodal combinations, and by relevant classification;

''(C) information on the location and connectivity of transportation facilities and services; and

''(D) a national accounting of expenditures and capital stocks on each mode of transportation and intermodal combination.

''(h) NATIONAL TRANSPORTATION LIBRARY.—

''(1) IN GENERAL.—The Director shall establish and maintain a National Transportation Library, which shall contain a collection of statistical and other information needed for transportation decision-making at the Federal, State, and local levels.

''(2) ACCESS.—The Director shall facilitate and promote access to the Library, with the goal of improving the ability of the transportation community to share information and the ability of the Director to make statistics readily accessible under subsection (c)(10).

''(3) COORDINATION.—The Director shall work with other transportation libraries and other transportation information providers, both public and private, to achieve the goal specified in paragraph (2).

''(i) NATIONAL TRANSPORTATION ATLAS DATA BASE.—

''(1) IN GENERAL.—The Director shall develop and maintain geospatial data bases that depict—

''(A) transportation networks;

''(B) flows of people, goods, vehicles, and craft over the networks; and

''(C) social, economic, and environmental conditions that affect or are affected by the networks.

''(2) INTERMODAL NETWORK ANALYSIS.—The data bases shall be able to support intermodal network analysis.

''(j) MANDATORY RESPONSE AUTHORITY FOR FREIGHT DATA COLLECTION.—Whoever, being the owner, official, agent, person in charge, or assistant to the person in charge, of any corporation, company, business, institution, establishment, or organization of any nature whatsoever, neglects or refuses, when requested by the Director or other authorized officer, employee or contractor of the Bureau, to answer completely and correctly to the best of his/her knowledge all questions relating to the corporation, company, business, institution, establishment, or other organization, or to records or statistics in his/her official custody, contained in a data collection request prepared and submitted under the authority of subsection (c)(6), shall be fined not more than $500; and if the individual willfully gives a false answer to a question, shall be fined not more than $10,000.

''(k) RESEARCH AND DEVELOPMENT GRANTS.—The Secretary may make grants to, or enter into cooperative agreements or contracts with, public and nonprofit private entities (including State transportation departments, metropolitan planning organizations, and institutions of higher education) for—

''(1) investigation of the subjects specified in subsection (c)(6) and research and development of new methods of data collection, standardization, management, integration, dissemination, interpretation, and analysis;

''(2) demonstration programs by States, local governments, and metropolitan planning organizations to harmonize data collection, reporting, management, storage, and archiving to simplify data comparisons across jurisdictions;

''(3) development of electronic clearinghouses of transportation data and related information, as part of the National Transportation Library under subsection (h); and

''(4) development and improvement of methods for sharing geographic data, in support of the national transportation atlas data base under subsection (i) and the National Spatial Data Infrastructure developed under Executive Order No. 12906.

''(l) RESEARCH AND GUIDELINES ON STATISTICAL METHODS.—The Secretary shall conduct or support research relating to methods of gathering or analyzing transportation statistics and issuing guidelines for the collection of information by the Department in order to ensure that such information is accurate, relevant, comparable, accessible, and in a form that permits systematic analysis.

''(m) LIMITATIONS ON STATUTORY CONSTRUCTION.—Nothing in this section shall be construed—

''(1) to authorize the Bureau to require any other department or agency to collect data; or

''(2) to reduce the authority of any other officer of the Department of Transportation to collect and disseminate data independently.

''(n) PROHIBITION ON CERTAIN DISCLOSURES.—

''(1) IN GENERAL.—An officer or employee of the Bureau may not—

''(A) make any disclosure in which the data provided by an individual or organization under subsection (c)(8) can be identified;

''(B) use the information provided under subsection (c)(8) for a nonstatistical purpose; or

"(C) permit anyone other than an individual authorized by the Director to examine any individual report provided under subsection (c)(8).

"(2) PROHIBITION ON REQUESTS FOR CERTAIN DATA.—

"(A) GOVERNMENT AGENCIES.—No department, bureau, agency, officer, or employee of the United States (except the Director in carrying out this section) may require, for any reason, a copy of any report that has been filed under subsection (c)(8) with the Bureau or retained by an individual respondent.

"(B) COURTS.—Any copy of a report described in subparagraph (A) that has been retained by an individual respondent or filed with the Bureau or any of its employees, contractors, or agents—

"(i) shall be immune from legal process; and

"(ii) shall not, without the consent of the individual concerned, be admitted as evidence or used for any purpose in any action, suit, or other judicial or administrative proceeding.

''(C) APPLICABILITY.—This paragraph shall apply only to reports that permit information concerning an individual or organization to be reasonably inferred by direct or indirect means.

''(3) DATA COLLECTED FOR NONSTATISTICAL PURPOSES.—In a case in which the Bureau is authorized by statute to collect data or information for a nonstatistical purpose, the Director shall clearly distinguish the collection of the data or information, by rule and on the collection instrument, so as to inform a respondent that is requested or required to supply the data or information of the nonstatistical purpose.

''(o) TRANSPORTATION STATISTICS ANNUAL REPORT.—The Director shall transmit to the President and Congress a Transportation Statistics Annual Report which shall include information on items referred to in subsection (c)(6), documentation of methods used to obtain and ensure the quality of the statistics presented in the report, and recommendations for improving transportation statistical information.

''(p) IMPLEMENTATION ANNUAL REPORT.—The Secretary shall prepare an annual report summarizing the Department's progress in implementing the requirements

of this section. The reports shall be submitted to Secretary of Transportation, to the Committee on Transportation and Infrastructure and the Committee on Science of the House of Representatives, and to Committee on Environment and Public Works of the Senate.

''(q) PROCEEDS OF DATA PRODUCT SALES.—Notwithstanding section 3302 of title 31, United States Code, funds received by the Bureau from the sale of data products, for necessary expenses incurred, may be credited to the Highway Trust Fund (other than the Mass Transit Account) for the purpose of reimbursing the Bureau for the expenses.

''(r) ADVISORY COUNCIL ON TRANSPORTATION STATISTICS.—

''(1) ESTABLISHMENT.—The Director of the Bureau of Transportation Statistics shall establish an Advisory Council on Transportation Statistics.

''(2) FUNCTION.—It shall be the function of the Advisory Council established under this subsection to—

''(A) advise the Director of the Bureau of Transportation Statistics on the quality, reliability, consistency, objectiveness, and relevance of transportation statistics and analyses collected, supported, or disseminated by the Bu-

reau of Transportation Statistics and the Department of Transportation;

''(B) provide input to and review the Department's Assessment under subsection (d) and annual data strategic plan required under subsection (e); and

''(C) advise the Director on methods to encourage harmonization and interoperability of transportation data collected by the Bureau, the operating administrations of the Department of Transportation, States, local governments, metropolitan planning organizations, and private sector entities.

''(3) MEMBERSHIP.—The Advisory Council established under this subsection shall be composed of not less than 15 members appointed by the Director, who are not officers or employees of the United States, including—

''(A) 2 members with specific expertise in economics;

''(B) 3 members with expertise in statistics; and

''(C) additional members with expertise in transportation statistics, analysis, and policy.

Members shall include representatives of a cross-section of the transportation community, including business, the freight community, State and local governments, metropolitan planning organizations, transit, environmental, and community organizations, and academia.

''(4) TERMS OF APPOINTMENT.—Members shall be appointed to staggered terms not to exceed 3 years. A member may be renominated for one additional 3-year term.

''(5) APPLICABILITY OF FEDERAL ADVISORY COMMITTEE ACT.—The Federal Advisory Committee Act shall apply to the Advisory Council established under this subsection, except that section 14 of the Federal Advisory Committee Act shall not apply to such Advisory Council.''.

**SEC. 108. STATE PLANNING AND RESEARCH.**

Section 505 of title 23, United States Code, is amended to read as follows:

**''§ 505. State planning and research**

''(a) IN GENERAL.—There are authorized to be appropriated $1,073,000,000 to States for each fiscal year for expenditure by the States, in consultation with the Secretary, only for the following purposes:

''(1) Engineering and economic surveys and investigations.

''(2) The planning of future highway programs and local public transportation systems, the planning of the financing of such programs and systems, including metropolitan and Statewide planning under sections 134 and 135, freight planning, safety planning, transportation systems management and operations planning, transportation-related land use planning, and transportation-related growth management activities within these planning processes, and planning capacity building activities.

''(3) Studies of the economy, safety, and convenience of highway, local public transportation, bicycle, and pedestrian systems and the desirable regulation and equitable taxation of their use.

''(4) Research, development, and technology transfer activities necessary in connection with the planning, design, construction, management, maintenance, regulation, and taxation of the use of highway, local public transportation, and intermodal transportation systems.

''(5) Research on the effects of design standards on intermodal coordination, such as the high-

way-rail interface, and on safe pedestrian access to transit on arterial roads and urban highways.

''(6) Study, research, and training on the engineering standards and construction materials, including accreditation of inspection and testing, for highway, local public transportation, bicycle, pedestrian, and intermodal transportation systems.

''(b) MINIMUM EXPENDITURES ON RESEARCH, DEVELOPMENT, AND TECHNOLOGY TRANSFER ACTIVITIES.—

''(1) IN GENERAL.—Subject to paragraph (2), not less than 25 percent of the funds appropriated pursuant to subsection (a) to a State for a fiscal year shall be expended by the State for research, development, and technology transfer activities described in subsection (a), relating to highway, public transportation, bicycle, pedestrian, and intermodal transportation systems.

''(2) WAIVERS.—The Secretary may waive the application of paragraph (1) with respect to a State for a fiscal year if the State certifies to the Secretary for the fiscal year that the funds described in paragraph (1) are not needed for research, development, and technology transfer and the Secretary accepts such certification.

''(3) NONAPPLICABILITY OF ASSESSMENT.—Funds expended under paragraph (1) shall not be considered to be part of the extramural budget of the agency for the purpose of section 9 of the Small Business Act (15 U.S.C. 638).

''(c) MINIMUM EXPENDITURES FOR IMPROVING THE QUALITY OF COLLECTION AND REPORTING OF STRATEGIC SURFACE TRANSPORTATION DATA.—

''(1) IN GENERAL.—Subject to paragraph (2), not less than 10 percent of the funds appropriated pursuant to subsection (a) for a fiscal year to a State shall be expended by the State to improve the collection and reporting of strategic surface transportation data to provide critical information about the extent, condition, use, performance, and financing of the Nation's surface transportation system (including intermodal connectors) for passenger and freight movement.

''(2) WAIVERS.—The Secretary may waive the application of paragraph (1) with respect to a State for a fiscal year if the State certifies to the Secretary for the fiscal year that the State is collecting and reporting strategic data consistent with quality assurance guidelines developed cooperatively with the States and the Secretary approves such certification.

''(d) FEDERAL SHARE.—The Federal share of the cost of a project carried out using funds subject to subsection (a) shall be matched in accordance with section 120(b) unless the Secretary determines that the interests of the surface transportation program would be best served without such matching.''.

**SEC. 109. FUTURE STRATEGIC HIGHWAY RESEARCH PROGRAM.**

(a) AMENDMENT.—Chapter 5 of title 23, United States Code, is amended by adding at the end the following new section:

**''§ 509. Future strategic highway research program**

''(a) ESTABLISHMENT.—The Secretary, in consultation with the American Association of State Highway and Transportation Officials, shall enter into an arrangement with the National Academy of Sciences for the establishment of a Future Strategic Highway Research Program.

''(b) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—The Secretary may make grants to, and enter into cooperative agreements and contracts with, the American Association of State Highway and Transportation Officials and the National Academy of Sciences to carry out activities under this section. Advance payments may be made as necessary to carry out the program under this section. Although no matching funds are required for

this program, collaborative research projects with multiple sources of funding shall be encouraged.

''(c) PERIOD OF AVAILABILITY.—Funds set aside to carry out this section shall remain available for the fiscal year for which such funds are made available and the three succeeding fiscal years.

''(d) SET ASIDE.—There are authorized to be appropriated to the Secretary of Transportation for each of fiscal years 2004 through 2009, to carry out this section, $75,000,000.

''(e) PROGRAM ADMINISTRATION.—In carrying out the program under this section, the National Academy of Sciences shall ensure that—

''(1) the selection of projects and researchers shall be based on the open solicitation of proposals and be reviewed by panels of appropriate experts; and

''(2) State transportation officials and other stakeholders, including business, local governments, metropolitan planning organizations, environmental and community organizations, academia, other relevant Federal agencies, and other members of the transportation community are involved in the governance of the program at the executive, the overall

program, and the technical levels, through the use of expert panels and committees.

''(f) CONTENTS.—The program established under this section shall be based on Transportation Research Board Special Report 260, entitled 'Strategic Highway Research: Saving Lives, Reducing Congestion, Improving Quality of Life'. It shall include the following research areas:

''(1) Accelerating the renewal of America's highways.

''(2) Making a significant improvement in highway safety.

''(3) Providing a highway system with reliable travel times.

''(4) Providing highway capacity in support of the Nation's economic, environmental, multi-modal transportation, and social goals.

''(g) PROJECT EVALUATION.—The products of all research grants, cooperative agreements, and contracts awarded under this section shall be subject to peer review.

''(h) PROGRAMMATIC EVALUATIONS.—Within 2 years after the first research project grants, cooperative agreements, or contracts are awarded under this section, the Secretary shall enter into an arrangement with the National Academy of Public Administration to review the

program under this section, and to recommend improvements. The review shall—

''(1) assess the degree to which projects funded under this section have addressed the research topics identified in the research agenda established in Transportation Research Board Special Report 260, including identifying those topics which have not yet been addressed;

''(2) assess the merit and peer review process for project proposals, and assess research project results; and

''(3) assess the extent of stakeholder involvement in all facets of the program.

''(i) ANNUAL PROGRESS AND PERFORMANCE REPORT.—The National Academy of Sciences shall produce an annual progress and performance report for the program under this section. The report shall summarize the status, funding, and sponsors of all funded projects by the research areas specified in subsection (f). It shall document the progress of each project relative to milestones included in the project proposal. The report shall identify research areas and projects remaining unfunded, and anticipated funding needs for completing that research. The report shall be submitted to the Secretary, to the Committee on Transportation and Infrastructure and the

Committee on Science of the House of Representatives, and to the Committee on Environment and Public Works of the Senate.''.

(b) CONFORMING AMENDMENT.—The analysis of chapter 5 of title 23, United States Code, is amended by adding at the end the following new item:

''509. Future strategic highway research program.''.

**SEC. 110. UNIVERSITY TRANSPORTATION CENTERS.**

Section 5505 of title 49, United States Code, is amended to read as follows:

**''§ 5505. University transportation research**

''(a) REGIONAL CENTERS.—The Secretary of Transportation shall make grants to nonprofit institutions of higher learning to establish and operate 1 university transportation center in each of the 10 United States Government regions that comprise the Standard Federal Regional Boundary System.

''(b) OTHER CENTERS.—The Secretary shall make grants to nonprofit institutions of higher learning to establish and operate university transportation centers, in addition to the centers receiving grants under subsection (a), to address transportation management and research and development matters, with special attention to increasing the number of highly skilled individuals entering the field of transportation.

''(c) SELECTION OF GRANT RECIPIENTS.—

''(1) APPLICATIONS.—In order to be eligible to receive a grant under this section, a nonprofit institution of higher learning shall submit to the Secretary an application that is in such form and contains such information as the Secretary may require.

''(2) SELECTION CRITERIA.—Except as otherwise provided by this section, the Secretary shall select each recipient of a grant under this section through a competitive, peer-reviewed process on the basis of the following:

''(A) For regional centers, the location of the center within the Federal region to be served.

''(B) The demonstrated research and extension resources available to the recipient to carry out this section.

''(C) The capability of the recipient to provide leadership in making national and regional contributions to the solution of immediate and long-range transportation problems.

''(D) The recipient's establishment of a surface transportation program encompassing several modes of transportation.

''(E) The recipient's demonstrated commitment of at least $200,000 in regularly budgeted

institutional amounts each year to support ongoing transportation research and education programs.

''(F) The recipient's demonstrated ability to disseminate results of transportation research and education programs through a statewide or regionwide continuing education program.

''(G) The strategic plan the recipient proposes to carry out under the grant.

''(d) OBJECTIVES.—Each university transportation center receiving a grant under this section shall conduct the following programs and activities:

''(1) Basic and applied research that supports the Department's research agenda consistent with section 508 of title 23, the products of which are peer-reviewed by other experts in the field to advance the body of knowledge in transportation.

''(2) An education program that includes multidisciplinary course work, faculty and student participation in research, and an opportunity for practical experience.

''(3) An ongoing program of technology transfer that makes research results available to potential

users in a form that can be implemented, utilized, or otherwise applied.

''(e) MAINTENANCE OF EFFORT.—To be eligible to receive a grant under this section, an applicant shall—

''(1) enter into an agreement with the Secretary to ensure that the applicant will maintain total expenditures from all other sources to establish and operate a university transportation center and related educational and research activities at a level that is at least equal to the average level of those expenditures during the 2 fiscal years before the date on which the grant is provided;

''(2) provide the annual institutional contribution required under subsection (c)(2);

''(3) submit to the Secretary, in a timely manner, for use by the Secretary in the preparation of the annual research report under section 508(c)(5) of title 23, an annual report on the projects and activities of the university transportation center for which funds are made available for the fiscal year covered by the report, a description of—

''(A) the goals of the center;

''(B) the educational activities carried out by the center (including a detailed summary of the budget for those educational activities);

''(C) teaching activities of faculty at the center;

''(D) each research project carried out by the center, including—

''(i) the identity and location of each investigator working on a research project;

''(ii) the overall funding amount for each research project (including the amounts expended for the project as of the date of the report);

''(iii) the current schedule for each research project; and

''(iv) the results of each research project through the date of submission of the report, with particular emphasis on results for the fiscal year covered by the report; and

''(E) overall technology transfer and implementation efforts of the center;

''(4) make use of National Research Council, Transportation Research Board, and Transportation Research Information Services online databases for—

''(A) program development and strategic planning;

''(B) reporting of activities funded under this section; and

''(C) input and dissemination of results and reports from completed research; and

''(5) recommend a representative to serve as liaison to the Transportation Research Board.

''(f) FEDERAL SHARE.—The Federal share of the costs of activities carried out using a grant made under subsection (a) is 80 percent of costs, and under subsection (b) is 50 percent of costs. The non-Federal share may include funds provided to a recipient under section 503, 504(b), or 505 of title 23, United States Code.

''(g) PROGRAM COORDINATION.—

''(1) COORDINATION.—The Secretary shall coordinate the research, education, training, and technology transfer activities that grant recipients carry out under this section, disseminate the results of the research, and establish and operate a clearinghouse.

''(2) ANNUAL REVIEW AND EVALUATION.—At least annually and consistent with the plan developed under section 508 of title 23, United States Code, the Secretary shall review and evaluate programs the grant recipients carry out.

''(3) FUNDING LIMITATION.—The Secretary may use not more than 1 percent of amounts made

available from Government sources to carry out this subsection.

''(h) LIMITATION ON AVAILABILITY OF FUNDS.—Funds made available to carry out this program shall remain available for obligation for a period of 2 years after the last day of the fiscal year for which such funds are authorized.

''(i) GRANTS.—The Secretary may make grants under this section as follows:

''(1) For grants under subsection (a)—

''(A) $2,000,000 for fiscal year 2004;

''(B) $3,000,000 for fiscal year 2005;

''(C) $4,000,000 for fiscal year 2006;

''(D) $4,000,000 for fiscal year 2007;

''(E) $4,000,000 for fiscal year 2008; and

''(F) $4,000,000 for fiscal year 2009.

''(2) For grants under subsection (b) to centers that received funding for fiscal years 2002 and 2003 under this section—

''(A) $2,000,000 for fiscal year 2004;

''(B) $2,000,000 for fiscal year 2005; and

''(C) $2,000,000 for fiscal year 2006.

''(3) For 6 additional grants under subsection (b)—

''(A) $2,000,000 for fiscal year 2004;

''(B) $2,000,000 for fiscal year 2005; and

''(C) $2,000,000 for fiscal year 2006.

''(4) For 16 grants under subsection (b), which may include grants to centers described in paragraph (2)—

''(A) $3,000,000 for fiscal year 2007;

''(B) $3,000,000 for fiscal year 2008; and

''(C) $3,000,000 for fiscal year 2009.

''(j) TRANSPORTATION EDUCATION DEVELOPMENT PILOT PROGRAM.—

''(1) ESTABLISHMENT.—The Secretary shall establish a program to make grants to State Departments of Transportation, who in conjunction with nonprofit institutions of higher education, will develop and test new curricula to educate the transportation workforce.

''(2) SELECTION OF GRANT RECIPIENTS.—In selecting applications for awards under this subsection, the Secretary shall consider—

''(A) the degree to which the new curricula will address the specific workforce needs of the State, evaluated on the basis of a State's development of a strategic human resources plan and how the new curricula will help fulfill the plan;

''(B) the degree to which the new curricula will provide expertise in areas other than engineering, such as business administration, economics, information technology, environmental science, and law, as determined necessary by the State; and

''(C) a State's commitment to continuing the program beyond the pilot effort.

''(3) NUMBER AND AMOUNT OF GRANTS.—For fiscal years 2004, 2005, and 2006, the Secretary shall make 4 grants under this subsection, each in the amount of $1,000,000. For fiscal years 2007, 2008, and 2009, the Secretary shall make 4 grants under this subsection, each in the amount of $500,000.''.

**SEC. 111. INTELLIGENT TRANSPORTATION SYSTEMS.**

(a) AMENDMENT.—Subtitle C of title V of the Transportation Equity Act for the 21st Century is amended to read as follows:

# ''Subtitle C—Intelligent Transportation Systems

**''SEC. 5201. SHORT TITLE.**

''This subtitle may be cited as the 'Intelligent Transportation Systems Act of 2003'.

**"SEC. 5202. 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 the enhancement of safe operation of motor vehicles and nonmotorized vehicles, 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 vehicles, passenger vehicles, motorcycles, and bicycles, and including pedestrians and individuals with disabilities; and

''(5) improvement of the Nation's ability to respond to security related or other man made emergencies and natural disasters, and enhancement of national defense mobility.

''(b) PURPOSES.—The Secretary shall implement activities under the intelligent transportation system program to, at a minimum—

''(1) develop and test new and emerging technologies to meet the goals described in subsection (a);

''(2) expedite deployment, in both metropolitan and rural areas, and ensure integration and interoperability of proven intelligent transportation systems;

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

''(4) improve regional cooperation and operations planning for effective intelligent transportation system deployment;

''(5) promote the innovative use of private resources;

''(6) develop a workforce capable of developing, operating, and maintaining intelligent transportation systems; and

''(7) evaluate costs and benefits of intelligent transportation systems projects.

**''SEC. 5203. GENERAL AUTHORITIES AND REQUIREMENTS.**

''(a) SCOPE.—Subject to the provisions of this subtitle, the Secretary shall conduct an ongoing intelligent transportation system program to research, develop, and operationally test intelligent transportation systems and advance nationwide deployment of proven systems through research on barriers to deployment as a component of the surface transportation systems of the United States.

''(b) POLICY.—Intelligent transportation system research, development, operational tests, and deployment projects funded pursuant to this subtitle shall encourage and not displace public-private partnerships or private sector investment in such research and development 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 United States private sector, the Federal laboratories, and colleges and universities, includ-

ing 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, as appropriate, shall consult with the Secretary of Commerce, the Secretary of the Treasury, the Secretary of Homeland Security, the Administrator of the Environmental Protection Agency, the Director of the National Science Foundation, and the heads of other Federal departments and agencies.

''(e) TECHNICAL ASSISTANCE, TRAINING, AND INFORMATION.—The Secretary shall 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 system 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 subtitle; and

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

''(2) DELEGATION OF AUTHORITY.—

''(A) IN GENERAL.—The Secretary may delegate the responsibility of the Secretary under this subsection, with continuing oversight by the Secretary, to an appropriate entity not within the Department of Transportation.

''(B) FEDERAL ASSISTANCE.—If the Secretary delegates the responsibility, the entity to which the responsibility is delegated shall be eligible for Federal assistance under this section.

''(h) ADVISORY COMMITTEE.—

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

''(2) MEMBERSHIP.—The Advisory Committee shall have no more than 20 members and include, at a minimum—

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

"(B) a representative from a local highway department;

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

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

"(E) a private sector vendor of intelligent transportation system technologies;

"(F) a private sector user of intelligent transportation system technologies;

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

"(H) an academic researcher who is a social scientist;

"(I) a representative from the Intelligent Transportation Society of America;

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

"(K) a representative from a public interest group concerned with community development; and

"(L) members with expertise in planning, safety, and operations.

"(3) DUTIES.—The Advisory Committee shall, at a minimum, perform the following duties—

''(A) Provide input into the development of the National ITS Program Plan, and the Intelligent Transportation System portion of each strategic plan under section 508 of title 23, United States Code.

''(B) Review the National ITS Program Plan and the Intelligent Transportation System portion of each strategic plan under section 508 of title 23, United States Code, and transmit the Advisory Committee's views on the plans to Congress.

''(C) Analyze intelligent transportation systems technologies, for which a plan or budget proposal has recommended funding for research and development activities or operational tests, to advise the Department on—

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

''(ii) the appropriate roles for government and the private sector in investing in specific intelligent transportation system technologies; and

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

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

''(i) PROCUREMENT METHODS.—

''(1) TECHNICAL ASSISTANCE.—The Secretary shall develop appropriate technical assistance and guidance to assist State and local agencies in evaluating and selecting appropriate methods of procurement for intelligent transportation system projects carried out using funds made available from the Highway Trust Fund, including innovative and non-traditional methods such as the Information Technology Omnibus Procurement.

''(2) INTELLIGENT TRANSPORTATION SYSTEM SOFTWARE.—To the maximum extent practicable, contracting officials shall use as a critical evaluation criterion the Software Engineering Institute's Capability Maturity Model, or another similar recognized software design and development methodology, to reduce the cost, schedule, and performance risks asso-

ciated with the development, management, and integration of intelligent transportation system software.

''(j) EVALUATIONS.—

''(1) GUIDELINES AND REQUIREMENTS.—

''(A) IN GENERAL.—The Secretary shall issue guidelines and requirements for the evaluation of operational tests and model deployment projects carried out under this subtitle.

''(B) CONTENT.—Such evaluations shall include specific, quantitative measures to determine whether a technology is meeting its intended goal. To the maximum extent practicable, these measures shall evaluate the outcome of the technology (such as accidents avoided or decreased travel times or travel time variability).

''(C) OBJECTIVITY AND INDEPENDENCE.—The guidelines and requirements issued under subparagraph (A) shall include provisions to ensure the objectivity and independence of the evaluator 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 subtitle.

''(D) FUNDING.—The guidelines and requirements issued under subparagraph (A) shall establish evaluation funding levels, based on the size and scope of each test or project, that ensure adequate evaluation of the results of the test or project.

''(E) DISSEMINATION.—The Secretary shall make readily available through the Internet all information collected through evaluations carried out under this subtitle.

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

''(k) USE OF RIGHTS-OF-WAY.—Intelligent transportation system projects specified in section 5117(b)(3) and 5117(b)(6) and involving privately owned intelligent transportation system components that are carried out using funds made available from the Highway Trust Fund shall not be subject to any law or regulation of a State or political subdivision of a State prohibiting or regulating commercial activities in the rights-of-way of a highway for which Federal-aid highway funds have been utilized for

planning, design, construction, or maintenance, if the Secretary of Transportation determines that such use is in the public interest. Nothing in this subsection shall affect the authority of a State or political subdivision of a State to regulate highway safety.

**"SEC. 5204. NATIONAL ITS PROGRAM PLAN.**

''(a) IN GENERAL.—

''(1) UPDATES.—The Secretary shall publish an update of the 'National Intelligent Transportation Systems Program Plan Five-Year Horizon', published in August, 2000. The Secretary shall consult with the Advisory Committee established under section 5203(h) in carrying out this section.

''(2) SCOPE.—The National ITS Program Plan update shall—

''(A) specify the goals, objectives, and milestones for the research and deployment of intelligent transportation systems in the context of major metropolitan areas, smaller metropolitan and rural areas, and commercial vehicle operations;

''(B) evaluate how the intelligent transportation systems program has progressed in achieving the goals, objectives, and milestones referred to in subparagraph (A);

''(C) compare actual outcomes of the intelligent transportation systems program over the last 5 years to projections from the 2000 Plan referred to in paragraph (1);

''(D) for each goal, objective, milestone, or projection found under subparagraph (B) or (C) not to have been achieved, document the barriers to achievement;

''(E) specify how specific programs and projects will achieve the goals, objectives, and milestones referred to in subparagraph (A), in the next 5 years;

''(F) specify necessary and realistically achievable timeframes and funding levels to conduct the programs and projects referred to in subparagraph (E) in order to achieve the goals, objectives, and milestones referred to in subparagraph (A);

''(G) develop a plan for addressing barriers documented under subparagraph (D);

''(H) identify activities that provide for the dynamic development of standards and protocols to promote and ensure interoperability in the implementation of intelligent transportation

system technologies, including actions taken to establish critical standards; and

''(I) establish a cooperative process with State and local governments for determining desired surface transportation system performance levels and developing plans for incorporation of specific intelligent transportation system capabilities into surface transportation systems.

''(b) REPORTING.—The National ITS Program Plan shall be transmitted to the Congress not later than August 31, 2005.

''(c) ADVISORY COMMITTEE REVIEW.—The Advisory Committee established under section 5203(h) shall review the National ITS Program Plan that is transmitted to Congress under this section, and shall transmit the Advisory Committee's views on the Plan to Congress.

**''SEC. 5205. INFORMATION STRATEGY.**

''(a) DEVELOPMENT AND IMPLEMENTATION.—The Secretary shall develop and implement a strategy to use information collected from intelligent transportation system technologies (including technologies used in roadway, transit, and in-vehicle applications) for traffic management and for planning, performance monitoring, program assessment, and policy applications. The Secretary shall ensure that the Bureau of Transportation Statistics plays

a significant role in the development of the strategy under this section.

''(b) CONSIDERATIONS.—The strategy developed under this section shall—

''(1) consider current data sources and propose future data sources, as well as proposing strategies for both real-time use and archived use of data;

''(2) determine what data should be centralized nationally in support of national planning and goals, what information should be aggregated regionally, and what information should be kept locally, and for nationally centralized data, identify how to ensure that data is collected and reported consistently;

''(3) assess the need for data standards;

''(4) outline how transportation decision processes can make best use of real-time data;

''(5) outline a vision for the future linkages between intelligent transportation system technologies and data;

''(6) identify public and private data sources other than intelligent transportation system data sources (such as roadway characteristics inventories and incident information) that, combined with intelligent transportation system data, would enhance the utility of intelligent transportation system data to

decisionmakers, and how these data sources can be merged;

''(7) identify how to make data most accessible and useful to users; and

''(8) identify what information would be useful to stakeholders at the local, State, regional, and national levels.

''(c) STAKEHOLDER INVOLVEMENT.—In developing the strategy under this section, the Secretary shall involve developers and users of intelligent transportation system technologies, including State and local highway departments, metropolitan planning organizations, transit agencies, travelers, the private sector, not-for-profit organizations, and representatives from the planning, safety, operations, and research communities.

''(d) INCORPORATION INTO NATIONAL ARCHITECTURE.—The strategy developed under this section shall, to the extent practicable, be incorporated into the national architecture.

''(e) REPORT TO CONGRESS.—Not later than 1 year after the date of the enactment of this subsection, the Secretary shall transmit to the Congress a report outlining the strategy developed under this section.

**''SEC. 5206. NATIONAL ARCHITECTURE AND STANDARDS.**

''(a) IN GENERAL.—

''(1) DEVELOPMENT, IMPLEMENTATION, AND MAINTENANCE.—Consistent with section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note; 110 Stat. 783), the Secretary shall develop, implement, and maintain a national architecture and supporting standards and protocols to promote the widespread use and evaluation of intelligent transportation system technology as a component of the surface transportation systems of the United States.

''(2) GOAL.—The goal of the national architecture and standards shall be to ensure interoperability among, and efficiency of, intelligent transportation system technologies implemented throughout the United States.

''(3) USE OF STANDARDS DEVELOPMENT ORGANIZATIONS.—In carrying out this section, the Secretary may use the services of such standards development organizations as the Secretary determines to be appropriate.

''(4) STANDARD VALIDATION.—The Secretary shall ensure that new standards promulgated for intelligent transportation system technologies are tested and validated, and shall ensure that the results

of such testing and validation are made publicly available.

''(b) 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 identified in subsection (a)(1) and (2), the Secretary may establish a provisional standard after consultation with affected parties, and using, to the 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.

''(c) CONFORMITY WITH NATIONAL ARCHITECTURE.—

''(1) IN GENERAL.—Except as provided in paragraphs (2) and (3), the Secretary shall ensure that intelligent transportation system projects carried out using funds made available from the Highway Trust Fund, including funds made available to deploy in-

telligent transportation system technologies, conform to the national architecture, applicable standards or provisional standards, and protocols developed under subsection (a).

''(2) SECRETARY'S DISCRETION.—The Secretary may authorize exceptions to paragraph (1) for—

''(A) projects designed to achieve specific research objectives outlined in the National ITS Program Plan under section 5204 or the Surface Transportation Research and Development Strategic Plan developed under section 508 of title 23, United States Code; or

''(B) the upgrade or expansion of an intelligent transportation system in existence on the date of enactment of the Transportation Equity Act for the 21st Century, if the Secretary determines that the upgrade or expansion—

''(i) would not adversely affect the goals or purposes of this subtitle;

''(ii) is carried out before the end of the useful life of such system; and

''(iii) is cost-effective as compared to alternatives that would meet the conformity requirement of paragraph (1).

''(3) EXCEPTIONS.—Paragraph (1) shall not apply to funds used for operation or maintenance of an intelligent transportation system in existence on the date of enactment of the Transportation Equity Act for the 21st Century.

**''SEC. 5207. RESEARCH AND DEVELOPMENT.**

''(a) IN GENERAL.—The Secretary shall carry out a comprehensive program of research, development, and operational tests of intelligent vehicles and intelligent infrastructure systems, as well as research into barriers to their deployment, and other similar activities that are necessary to carry out this subtitle.

''(b) PRIORITY AREAS.—Under the program, the Secretary shall give higher priority to funding projects that—

''(1) reduce congestion in metropolitan regions;

''(2) improve mobility and efficiency by addressing traffic management, incident management, transit management, toll collection, traveler information, or highway operations systems;

''(3) improve safety by focusing on crash-avoidance and integration of in-vehicle crash protection technologies with other onboard safety systems, including the interaction of air bags and safety belts;

''(4) improve security by focusing on responding to security-related emergencies, and preventing such

emergencies, through tracking the movement of goods;

''(5) incorporate human factors research, including the science of the driving process;

''(6) improve deployment of proven technologies by addressing nontechnical barriers to the deployment of intelligent transportation system technologies, including institutional barriers such as fragmented authority at the local level, privacy considerations, and rigid procurement rules, and the best ways to develop partnerships to successfully deploy intelligent transportation system technologies;

''(7) facilitate the integration of intelligent infrastructure, vehicle, and control technologies, including magnetic guidance control systems or other materials or magnetics research;

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

''(9) facilitate high-performance transportation systems, through methods such as congestion pricing, real-time facility management, rapid emergency response, and just-in-time transit.

''(c) OPERATIONAL TESTS.—Operational tests shall be used to evaluate promising technologies that have not yet been demonstrated. Operational tests conducted under this section shall be designed for the collection of data to permit objective evaluation of the results of the tests, derivation of cost-benefit information that is useful to others contemplating deployment of similar systems, and development and implementation of standards.

''(d) FEDERAL SHARE.—The Federal share of the cost of operational tests and demonstrations under subsection (a) shall not exceed 80 percent.

**''SEC. 5208. USE OF FUNDS.**

''(a) CONGESTION REDUCTION.—At least ⅓ of funds spent under section 5207 for intelligent transportation systems research and development shall be used to research, develop, and operationally test technologies whose primary purpose is to reduce congestion.

''(b) OUTREACH AND PUBLIC RELATIONS LIMITATION.—

''(1) IN GENERAL.—For each fiscal year, not more than $5,000,000 of the funds made available to carry out this subtitle shall be used for intelligent transportation system outreach, public relations, displays, scholarships, tours, and brochures.

''(2) APPLICABILITY.—Paragraph (1) shall not apply to intelligent transportation system training or the publication or distribution of research findings, technical guidance, or similar documents.

''(c) INFRASTRUCTURE DEVELOPMENT.—Funds made available to carry out this subtitle for operational tests—

''(1) shall be used primarily for the development of intelligent transportation system infrastructure; and

''(2) to the maximum extent practicable, shall not be used for the construction of physical highway and transit infrastructure unless the construction is incidental and critically necessary to the implementation of an intelligent transportation system project.

''(d) USE OF INNOVATIVE FINANCING.—

''(1) IN GENERAL.—The Secretary may use up to 25 percent of the funds made available to carry out this subtitle to make available loans, lines of credit, and loan guarantees for projects that are eligible for assistance under this subtitle and that have significant intelligent transportation system elements.

''(2) CONSISTENCY WITH OTHER LAW.—Credit assistance described in paragraph (1) shall be made available in a manner consistent with the Transportation Infrastructure Finance and Innovation Act of 1998.

**''SEC. 5209. PROGRAM EVALUATION.**

''The Secretary shall enter into an arrangement with the National Academy of Sciences, or another independent institution, to evaluate the Department of Transportation's intelligent transportation system program. The evaluation shall assess, at a minimum—

''(1) how well the intelligent transportation system program has achieved its goals as set forth in the 2000 5-year plan referred to in section 5204(a)(1), including—

''(A) expediting integrated intelligent transportation system deployment in metropolitan and rural areas for both passenger and freight transportation;

''(B) ensuring that Federal, State, and local transportation officials consider intelligent transportation systems in the transportation planning process and have adequate knowledge to do so;

''(C) improving regional cooperation and operations planning for effective intelligent transportation system deployment;

''(D) promoting the innovative use of private resources; and

''(E) developing a workforce capable of deploying, operating, and maintaining intelligent transportation systems; and

''(2) in areas where the intelligent transportation system program has not met its goals, assess the barriers to meeting those goals, and make recommendations for how those barriers may be overcome.

**''SEC. 5210. DEFINITIONS.**

''In this subtitle, the following definitions apply:

''(1) INTELLIGENT TRANSPORTATION INFRASTRUCTURE.—The term 'intelligent transportation infrastructure' means fully integrated public sector intelligent transportation system components, as defined by the Secretary.

''(2) INTELLIGENT TRANSPORTATION SYSTEM.—The term 'intelligent transportation system' means electronics, communications, or information processing used singly or in combination to improve

the efficiency or safety of a surface transportation system.

''(3) NATIONAL ARCHITECTURE.—The term 'national architecture' means the common framework for interoperability adopted by the Secretary that defines—

''(A) the functions associated with intelligent transportation system user services;

''(B) the physical entities or subsystems within which the functions reside;

''(C) the data interfaces and information flows between physical subsystems; and

''(D) the communications requirements associated with the information flows.

''(4) NATIONAL ITS PROGRAM PLAN.—The term 'National ITS Program Plan' means the plan update required under section 5204(a).

''(5) STANDARD.—The term 'standard' means a document that—

''(A) contains technical specifications or other precise criteria for intelligent transportation systems that are to be used consistently as rules, guidelines, or definitions of characteristics so as to ensure that materials, products,

processes, and services are fit for their purposes; and

''(B) may support the national architecture and promote—

''(i) the widespread use and adoption of intelligent transportation system technology as a component of the surface transportation systems of the United States; and

''(ii) interoperability among intelligent transportation system technologies implemented throughout the States.

''(6) STATE.—The term 'State' has the meaning given the term under section 101 of title 23, United States Code.''.

(b) TABLE OF CONTENTS AMENDMENT.—The items relating to subtitle C of title V in the table of contents of the Transportation Equity Act for the 21st Century are amended to read as follows:

''Subtitle C—Intelligent Transportation Systems

(c) REPEAL.—The Intermodal Surface Transportation Efficiency Act of 1991 is amended by striking part B of title VI (23 U.S.C. 307 note; 105 Stat. 2189).

**SEC. 112. NATIONAL MULTIMODAL TRENDS POLICY RESEARCH PROGRAM.**

(a) IN GENERAL.—The Secretary shall establish and carry out a National Multimodal Trends Policy Research Program that systematically addresses critical short-term, medium-term, and long-term social science issues affecting and affected by the transportation system.

(b) CONTENTS.—The program to be carried out under this section shall include—

(1) research on—

(A) the critical factors and major trends affecting the success and performance of the Nation's transportation system, as well as how such information can be incorporated into national, State, and local decisionmaking;

(B) the short-term, medium-term, and especially long-term economic, demographic, and social trends that are affecting and are affected by the transportation system, including topics such as—

(i) economic trends, including globalization and it effects on the transpor-

tation of people and goods, rapidly changing information technology, the growing importance of metropolitan economies, diversification of employment sites, innovations in goods movement, and larger capacity and faster goods movement;

(ii) demographic trends, including population growth, increasing minority populations, increasing urbanization, and the aging of the population; and

(iii) social trends and issues, including increasing income disparity and its implication for mobility and access to jobs, services and health care, the unique needs of rural populations, and the link between human factors and driver behavior;

(C) improvements in evaluation methodologies and performance measures, and the evaluation of project and transportation system performance relative to the goals set forth in section 102;

(D) how institutional factors within and among the public and private sectors affect the development and successful deployment of new technologies;

(E) links between public health and the transportation system; and

(F) other critical issues identified by the Advisory Board established under subsection (e); and

(2) research on and the development of policy analysis tools and methods.

(c) ESTABLISHMENT.—Not later than 120 days after the date of enactment of this Act, the Secretary shall enter into an arrangement with the National Academy of Sciences to establish an advisory board under subsection (e) and, except as provided in subsection (e), to support, administer, and manage the program.

(d) STRATEGIC PLAN.—Not later than 2 years after entering into the arrangement under subsection (c) and upon each update thereafter, the National Academy of Sciences shall transmit the strategic plan developed by the advisory board under subsection (e) to the Secretary, to the Committee on Transportation and Infrastructure and the Committee on Science of the House of Representatives, and to the Committee on Environment and Public Works of the Senate.

(e) ADVISORY BOARD.—

(1) ESTABLISHMENT.—The National Academy of Sciences shall establish an independent advisory board.

(2) MEMBERSHIP.—

(A) IN GENERAL.—A majority of members of the advisory board shall be experts in—

(i) transportation social science research; or

(ii) other social science fields with important or potentially important relationships to transportation, selected after consultation with the Consortium of Social Science Associations.

Members selected under this subparagraph shall, to the extent practicable, be evenly divided between experts described in clause (i) and experts described in clause (ii).

(B) ADDITIONAL MEMBERS.—Additional members of the advisory board shall be evenly balanced among representatives of Federal, State, and local transportation agencies, other agencies with appropriate expertise, metropolitan planning organizations, transit operating agencies, and environmental and other nonprofit organizations.

(3) RESPONSIBILITIES.—The advisory board shall be responsible for—

(A) the development of a strategic plan which shall specify at a minimum the goals, research priorities, and fiscal needs of the program, and which shall be updated periodically;

(B) overseeing the awarding of grants and contracts to carry out the research strategy;

(C) the development of the annual request for proposals and the solicitation of proposals through open competition with peer review; and

(D) the development of project selection criteria, through an open and public consultation process with stakeholders.

(4) EVALUATION OF RESEARCH.—Research contracts and grants under this section shall require peer review of the research results.

(5) ELIGIBLE RESEARCH.—At least 75 percent of funds made available for research under this section shall support research directed to the priorities in the strategic plan, and up to 25 percent of such funds may support appropriate sponsor directed research.

(f) DISSEMINATION OF RESEARCH FINDINGS.—The National Academy of Sciences and the Department of

Transportation shall disseminate research findings under this section to researchers, practitioners, and decision-makers, through conferences and seminars, field demonstrations, workshops, training programs, presentations, testimony to government officials, the Internet, and publications for the general public.

# TITLE II—MISCELLANEOUS

**SEC. 201. AUTHORIZATION OF APPROPRIATIONS.**

(a) TRANSIT RESEARCH AND DEVELOPMENT.—There are authorized to be appropriated to the Secretary of Transportation to carry out sections 5312, 5313, 5314, 5315, and 5322 of title 49, United States Code, and section 202 of this Act, relating to research and development, $75,000,000 for each of the fiscal years 2004 through 2009.

(b) HIGHWAY SAFETY RESEARCH AND DEVELOPMENT.—There are authorized to be appropriated to the Secretary of Transportation to carry out section 403 of title 23, United States Code, relating to research and development, such sums as may be necessary for each of the fiscal years 2004 through 2009.

(c) MOTOR CARRIER RESEARCH AND DEVELOPMENT.—There are authorized to be appropriated to the Secretary of Transportation to carry out section 31108 of title 49, United States Code, relating to research and

development, such sums as may be necessary for each of the fiscal years 2004 through 2009.

**SEC. 202. TRANSIT RESEARCH.**

(a) AMENDMENT.—Chapter 5 of title 23, United States Code, as amended by this Act, is further amended by adding at the end the following new section:

**"§ 510. Innovative Practices and Technologies Demonstration and Deployment Program**

''(a) ESTABLISHMENT.—The Secretary shall establish an Innovative Practices and Technologies Demonstration and Deployment Program.

''(b) PROGRAM GOALS.—The goals of the program are to—

''(1) demonstrate promising new transit practices and technologies, including new business models for managing and operating transit systems, that may increase ridership, increase accessibility, reduce cost, improve customer satisfaction, and improve safety;

''(2) evaluate, refine, and document the performance, benefits, and costs of innovative practices and technologies; and

''(3) effectively disseminate information to accelerate deployment of innovative practices and technologies.

''(c) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—The Secretary may make grants to, or enter into cooperative agreements or contracts with, transit agencies, States, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations to pay the Federal share of the cost of demonstration and deployment projects concerning innovative practices and technologies.

''(d) APPLICATIONS.—To receive a grant, cooperative agreement, or contract under this section, an entity described in subsection (c) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications based on the following criteria:

''(1) Whether the project meets the goals of the program.

''(2) Merit review.

''(3) The likelihood that the project will result in more widespread deployment of the practice or technology being proposed.

''(4) Preference shall be given to an application that represents a public-private partnership.

''(e) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall ensure that information about innova-

tive practices and technologies supported under this section is made available to transit agencies, State and local transportation departments, and other interested parties. Information disseminated under this subsection shall include both the costs and benefits of deploying an innovative practice or technology, and shall document—

''(1) best practices for adopting successful practices or technologies; and

''(2) the transferability of these practices and technologies.

''(f) FEDERAL SHARE.—The Federal share of the cost of a project under this section shall be determined by the Secretary.''.

(b) CONFORMING AMENDMENT.—The analysis of chapter 5 of title 23, United States Code, as amended by this Act, is further amended by adding at the end the following new item:

''510. Innovative Practices and Technologies Demonstration and Deployment Program.''.

**SEC. 203. NATIONAL TRANSIT INSTITUTE.**

Section 5315 is amended—

(1) in subsection (a)—

(A) by striking ''public mass transportation'' and inserting ''public transportation'' each place it appears;

(B) by striking ''mass'' after ''Government-aid'' and inserting ''public''; and

(C) in paragraphs (1), (6), (7), and (10) by striking ''mass'' each place it appears before ''transportation'' and inserting ''public''; and

(2) in subsection (d) by striking ''mass'' each place it appears.

**SEC. 204. HUMAN RESOURCE PROGRAMS.**

(a) IN GENERAL.—Section 5322 is amended—

(1) by inserting ''(a) IN GENERAL.—'' before the beginning of the first sentence of the section; and

(2) by adding the following at the end:

''(b) GRANTS TO HIGHER LEARNING INSTITUTIONS.—

''(1) The Secretary (or the Secretary of Housing and Urban Development when required by section 5334(i) of this title) may make grants to nonprofit institutions of higher learning—

''(A) to conduct competent research and investigations into the theoretical or practical problems of urban transportation; and

''(B) to train individuals to conduct further research or obtain employment in an orga-

nization that plans, builds, operates, or manages an urban transportation system.

''(2) Research and investigations under this subsection include—

''(A) the design and use of urban public transportation systems and urban roads and highways;

''(B) the interrelationship between various modes of urban and interurban transportation;

''(C) the role of transportation planning in overall urban planning;

''(D) public preferences in transportation;

''(E) the economic allocation of transportation resources; and

''(F) the legal, financial, engineering, and esthetic aspects of urban transportation.

''(3) When making a grant under this subsection, the Secretary shall give preference to an institution that brings together knowledge and expertise in the various social science and technical disciplines related to urban transportation problems.

''(c) FELLOWSHIPS.—

''(1) The Secretary may make grants to States, local governmental authorities, and operators of public transportation systems to provide fellowships to

train personnel employed in managerial, technical, and professional positions in the mass transportation field.

''(2) A fellowship under this subsection may be for not more than one year of training in an institution that offers a program applicable to the public transportation industry. The recipient of the grant shall select an individual on the basis of demonstrated ability and for the contribution the individual reasonably can be expected to make to an efficient public transportation operation. A grant for a fellowship may not be more than the lesser of $65,000 or 75 percent of—

''(A) tuition and other charges to the fellowship recipient;

''(B) additional costs incurred by the training institution and billed to the grant recipient; and

''(C) the regular salary of the fellowship recipient for the period of the fellowship to the extent the salary is actually paid or reimbursed by the grant recipient.

''(d) OTHER GRANTS.—The Secretary may make grants to State and local governmental authorities for

projects that will use innovative techniques and methods in managing and providing public transportation.''.

**SEC. 205. HIGHWAY SAFETY RESEARCH AND DEVELOPMENT.**

Section 403(a) (Authority of the Secretary) of title 23, United States Code, is amended by adding the following paragraphs at the end:

''(4) EMERGENCY MEDICAL SERVICES.—In addition to the authority provided under this subsection, the Secretary is authorized to use funds appropriated to carry out this section to enhance coordination among Federal agencies involved with State, local, tribal, and community-based emergency medical services. In exercising this authority, the Secretary may coordinate with State and local governments, the Bureau of Indian Affairs on behalf of Indian tribes, private industry, and other interested parties; collect and exchange emergency medical services data and information; examine emergency medical services needs, best practices, and related technology; and develop emergency medical services standards and guidelines, and plans for the assessment of emergency medical services systems.

''(5) INTERNATIONAL COOPERATION.—In addition to the authority provided under this subsection,

the Secretary is authorized to use funds appropriated to carry out this section to participate and cooperate in international activities to enhance highway safety by such means as exchanging safety information; conducting safety research; and examining safety needs, best practices, and new technology.

''(6) NATIONAL MOTOR VEHICLE CRASH CAUSATION SURVEY.—In addition to the authority provided under this subsection, the Secretary is authorized to use funds appropriated to carry out this section to develop and conduct a nationally representative survey to collect on-scene motor vehicle crash causation data.''.

**SEC. 206. MOTOR CARRIER RESEARCH AND TECHNOLOGY PROGRAM.**

(a) IN GENERAL.—Title 49, United States Code, is amended by repealing section 31108 and inserting the following new section, to read as follows:

**''§ 31108. Motor carrier research and technology program**

''(a) RESEARCH, TECHNOLOGY AND TECHNOLOGY TRANSFER ACTIVITIES.—

''(1) The Secretary of Transportation shall establish and carry out a motor carrier research and

technology program. The Secretary may carry out research, development, technology, and technology transfer activities with respect to—

''(A) the causes of accidents, injuries and fatalities involving commercial motor vehicles; and

''(B) means of reducing the number and severity of accidents, injuries and fatalities involving commercial motor vehicles.

''(2) The Secretary may test, develop, or assist in testing and developing any material, invention, patented article, or process related to the research and technology program.

''(3) The Secretary may use the funds appropriated to carry out this section for training or education of commercial motor vehicle safety personnel, including, but not limited to, training in accident reconstruction and detection of controlled substances or other contraband, and stolen cargo or vehicles.

''(4) The Secretary may carry out this section—

''(A) independently;

''(B) in cooperation with other Federal departments, agencies, and instrumentalities and Federal laboratories; or

''(C) by making grants to, or entering into contracts or cooperative agreements with, any Federal laboratory, State agency, authority, association, institution, for-profit or non-profit corporation, organization, foreign country, or person.

''(5) The Secretary shall use funds made available to carry out this section to develop, administer, communicate, and promote the use of products of research, technology, and technology transfer programs under this section.

''(b) COLLABORATIVE RESEARCH AND DEVELOPMENT.—

''(1) To advance innovative solutions to problems involving commercial motor vehicle and motor carrier safety, security, and efficiency, and to stimulate the deployment of emerging technology, the Secretary may carry out, on a cost-shared basis, collaborative research and development with—

''(A) non-Federal entities, including State and local governments, foreign governments, colleges and universities, corporations, institutions, partnerships, and sole proprietorships that are incorporated or established under the laws of any State; and

''(B) Federal laboratories.

''(2) In carrying out this subsection, the Secretary may enter into cooperative research and development agreements (as defined in section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a)).

''(3)(A) The Federal share of the cost of activities carried out under a cooperative research and development agreement entered into under this subsection shall not exceed 50 percent, except that if there is substantial public interest or benefit, the Secretary may approve a greater Federal share.

''(B) All costs directly incurred by the non-Federal partners, including personnel, travel, and hardware or software development costs, shall be credited toward the non-Federal share of the cost of the activities described in subparagraph (A).

''(4) The research, development, or use of a technology under a cooperative research and development agreement entered into under this subsection, including the terms under which the technology may be licensed and the resulting royalties may be distributed, shall be subject to the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3701 et seq.).

''(5) Section 3705 of title 41, United States Code, shall not apply to a contract or agreement entered into under this section.''.

(b) CONFORMING AMENDMENT.—The table of sections at the beginning of chapter 311 of title 49, United States Code, is amended by revising the item relating to section 31108 to read as follows:

''31108. Motor carrier research and technology program.''.

**SEC. 207. TRANSPORTATION, ENERGY, AND ENVIRONMENT.**

(a) IN GENERAL.—As part of the National Climate Change Technology Initiative and the Climate Change Research Initiative, the Secretary shall establish and carry out a multimodal energy and climate change program to study the relationship of transportation, energy, and climate change.

(b) CONTENTS.—The program to be carried out under this section shall include, but not be limited to, research designed to—

(1) identify, develop and evaluate strategies to improve energy efficiency and reduce greenhouse gas emissions from transportation sources; and

(2) identify and evaluate the potential effects of climate changes on the nation's transportation systems, and strategies to address these effects.

(c) PROJECT SELECTION.—Activities to be undertaken in this program will be determined by an internal

steering committee established by the Secretary of Transportation. This intermodal committee shall include representatives from the Office of the Secretary and operating administrations within the Department of Transportation as designated by the Secretary.

(d) GRANTS, COOPERATIVE AGREEMENTS AND CONTRACTS.—The Secretary may carry out this program independently or by making grants to, or entering into contracts and cooperative agreements with, a Federal agency, State agency, local agency, authority, association, nonprofit or for-profit corporation, or institution of higher education.

**SEC. 208. NATIONAL COOPERATIVE FREIGHT TRANSPORTATION RESEARCH PROGRAM.**

(a) AUTHORIZATION.—To carry out a national cooperative freight transportation research program, there is authorized the following sums:

(1) $8,000,000 for each of fiscal years 2004 and 2005.

(2) $10,000,000 for each of fiscal years 2006 and 2007.

(3) $12,000,000 for each of fiscal years 2008 and 2009.

(b) IN GENERAL.—Chapter 5 of title 23, United States Code, is amended by adding at the end the following:

**"§ 509. National Cooperative Freight Transportation Research Program**

''(a) ESTABLISHMENT.—The Secretary shall establish and support a national cooperative freight transportation research program.

''(b) AGREEMENT.—The Secretary shall enter into an agreement with the National Academy of Sciences to support and carry out administrative and management activities relating to the governance of the national cooperative freight transportation research program.

''(c) ADVISORY COMMITTEE.—The National Academy of Sciences shall select an advisory committee consisting of a representative cross-section of freight stakeholders, including the Department of Transportation, other Federal agencies, State transportation departments, local governments, the American Association of State Highway and Transportation Officials and other nonprofit entities (including environmental groups), academia, and the private sector.

''(d) GOVERNANCE.—The national cooperative freight transportation research program established under

this section shall include the following administrative and management elements:

''(1) NATIONAL RESEARCH AGENDA.—The advisory committee, in consultation with stakeholders, shall recommend a national research agenda for the national cooperative freight transportation research program. The national research agenda shall include a multi-year strategic plan.

''(2) STAKEHOLDER INVOLVEMENT.—Stakeholders may—

''(A) submit research proposals to the advisory committee;

''(B) participate in merit reviews of research proposals and peer reviews of research products; and

''(C) receive research results.

''(3) OPEN COMPETITION AND PEER REVIEW OF RESEARCH PROPOSALS.—The National Academy of Sciences shall award research contracts and grants through open competition and merit review conducted on a regular basis.

''(4) EVALUATION OF RESEARCH.—

''(A) PEER REVIEW.—Research contracts and grants shall allow peer review of the research results.

"(B) PROGRAMMATIC EVALUATIONS.—The National Academy of Sciences may conduct periodic programmatic evaluations on a regular basis.

"(5) DISSEMINATION OF RESEARCH FINDINGS.—The National Academy of Sciences shall disseminate research findings to researchers, practitioners, and decision-makers, through conferences and seminars, field demonstrations, workshops, training programs, presentations, testimony to government officials, world wide web, publications for the general public, and other appropriate means.

"(e) CONTENTS.—The national research agenda for the national cooperative freight transportation research program required under subsection (d)(1) shall include research in the following areas:

"(1) Techniques for estimating and quantifying public benefits derived from freight transportation projects.

"(2) Alternative approaches to calculating the contribution of truck traffic to congestion on specific highway segments.

"(3) The feasibility of freight villages as a means of consolidating origins and destinations for freight movement.

''(4) Methods for incorporating estimates of international trade into landside transportation planning.

''(5) The use of technology applications to increase capacity of highway lanes dedicated to truck-only traffic.

''(6) Development of physical and policy alternatives for separating car and truck traffic.

''(7) Ways to synchronize infrastructure improvements with freight transportation demand.

''(8) The effect of changing patterns of freight movement on transportation planning decisions relating to rest areas.

''(9) Additional priorities to identify and address the emerging and future research needs related to freight transportation.

''(f) FUNDING.—

''(1) FEDERAL SHARE.—The Federal share of the cost of an activity carried out using such funds shall be up to 100 percent, and such funds shall remain available until expended.

''(2) USE OF NON-FEDERAL FUNDS.—In addition to using funds authorized for this section, the National Academy of Sciences may seek and accept additional funding sources from public and private

entities capable of accepting funding from the United States Department of Transportation (Federal Highway Administration, Federal Transit Administration, Federal Railroad Administration, Research and Special Programs Administration, and the National Highway Traffic Safety Administration), states, local governments, nonprofit foundations, and the private sector.''.

(c) CONFORMING AMENDMENT.—The analysis for chapter 5 of title 23, United States Code, is amended by redesignating section 509 as follows:

''509. National cooperative freight transportation research program.''.

**SEC. 209. NEXT GENERATION NATIONAL TRANSPORTATION POLICY STUDY COMMISSION.**

(a) ESTABLISHMENT OF COMMISSION.—(1) The President shall established a Commission to be known as the Next Generation National Transportation Policy Study Commission, in this section referred to as the ''Commission''.

(2) The Commission shall make a full and complete investigation and study of the transportation needs and of the resources, requirements, and policies of the United States to meet such expected needs. It shall take into consideration all reports on national transportation policy which have been submitted to Congress in the last decade, including all reports referenced in the Intermodal Surface

Transportation Efficiency Act of 1991 and the Transportation Equity Act of the 21st Century. It shall also take into consideration the changes in global trade and its impact on the Nation's economy. It shall evaluate the relative merits of all modes of transportation in meeting our Nation's transportation needs. It shall take into account the link between transportation and the natural environment. Based on such study, it shall recommend changes to existing policies and any new policies that are most likely to ensure that adequate multimodal transportation systems are in place which will meet the needs for a safe and efficient movement of people and goods and also support and grow the national economy.

(b) MEMBERSHIP.—The Commission shall be comprised of 16 members appointed by the President from among individuals who are knowledgeable in transportation activities, including individuals representing State and local governments, metropolitan planning organizations, transportation-related industries, academic and technical institutions, and public interest organizations involved with scientific, regulatory, economic, and environmental transportation activities. The membership of the Commission shall be balanced geographically to the extent consistent with maintaining the highest level of expertise

on the Commission. Members shall be appointed for the life of the Commission as follows:

(1) 4 shall be appointed from a list of 8 individuals who shall be recommended by the majority leader of the Senate in consultation with the Chairman of the Committee on Environment and Public Works, and the Chairman of the Committee on Commerce, Science and Transportation, and the Chairman of the Committee on Banking, Housing and Urban Affairs of the Senate.

(2) 4 shall be appointed from a list of 8 individuals who shall be recommended by the minority leader of the Senate in consultation with the ranking member of the Committee on Environment and Public Works, the ranking member of the Committee on Commerce, Science and Transportation, and the ranking member of the Committee on Banking, Housing and Urban Affairs of the Senate.

(3) 4 shall be appointed from a list of 8 individuals who shall be recommended by the Speaker of the House of Representatives in consultation with the Chairman of the Committee on Transportation and Infrastructure, the Chairman of the Committee on Energy and Commerce, and the Chairman of the

Committee on Science of the House of Representatives.

(4) 4 shall be appointed from a list of 8 individuals who shall be recommended by the minority leader of the House of Representatives in consultation with the ranking member of the Committee on Transportation and Infrastructure, the ranking member of the Committee on Energy and Commerce, and the ranking member of the Committee on Science of the House of Representatives.

(5) Any vacancy which may occur on the Commission shall not affect its powers or functions but shall be filled in the same manner in which the original appointment was made.

(c) FINAL REPORT.—The Commission shall not later than December 31, 2005, submit to the President and Congress its final report including its findings and recommendations. The Commission shall cease to exist six months after submission of such report. All records and papers of the Commission shall thereupon be delivered to the Administrator of General Services for deposit in the Archives of the United States.

(d) FINDINGS AND RECOMMENDATIONS.—The final report shall include the Commission's findings and recommendations with respect to the following:

(1) The Nation's transportation needs, both national and regional, through the year 2025.

(2) The ability of our current transportation systems to meet the projected needs.

(3) The proper mix of transportation modes and necessary linkages between modes to meet anticipated needs.

(4) Necessary measures and policies to ensure enhancement and protection of the natural environment in transportation decisionmaking.

(5) Short-term, medium-term, and long-term research, development, and deployment to meet expected needs.

(6) The roles of the public and private sectors relative to each mode and the balance between public and private investment.

(7) The existing policies and programs of the Federal Government which affect the development of our national transportation system.

(8) The new policies required to develop a balanced national transportation system which meets projected needs, accommodates international trade and supports the national economy.

(9) The adequacy of existing methods to finance transportation and alternative new methods of financing.

(e) SPECIFIC FACTORS TO CONSIDER.—In developing its findings and recommendations, the Commission shall address the following specific factors:

(1) The role of transportation as a critical link to the global economy and trade.

(2) A balance between the transportation of people and goods.

(3) Improving operations and management of the transportation system to improve efficiency, including asset and information management.

(4) The need to address aging infrastructure.

(5) The need to address the enhancement and protection of the natural environment.

(6) The need to address congestion in all modes.

(7) The need to improve environmental decisionmaking.

(8) A balance between the demand for transportation reliability with new threats to security.

(9) Ways to eliminate barriers to transportation investment created by the current modal structure of transportation funding.

(10) Existing barriers to private investment in transportation facilities including tax inequities between modes.

(11) The adequacy of the Federal transportation trust funds to finance future transportation needs.

(12) Appropriate measures of transportation need.

(13) The adequacy of integration among Federal programs affecting transportation.

(14) The relationship between land use and transportation infrastructure investment.

(15) The role that transportation plays in promoting economic growth, improving the environment and sustaining the quality of life.

(f) RECOMMENDATIONS ON THE ROLES OF GOVERNMENT.—The Commission shall also make recommendations on the roles of the Federal and State governments in—

(1) environmental review of transportation projects;

(2) the provision of intercity passenger rail services;

(3) financing transportation at international border crossings;

(4) facilitating international goods movement to, from and within the United States;

(5) ensuring consistency in data and communications links for and between all modes;

(6) financing for each mode of transportation; and

(7) effectively using transportation networks to enhance the quality of life, protect natural resources and promote sustainable economic growth.

(g) PARTICIPATION IN COMMISSION ACTIVITIES.—

(1) PARTICIPATION OF FEDERAL AGENCIES..— The Chairman of the Commission shall request the head of each Federal department or agency with an interest in or a responsibility for national transportation policy to appoint a liaison who shall work closely with the Committee and its staff. Such departments and agencies shall include, but not be limited to, the Department of Transportation, and each of its modal administrations, Office of Management and Budget, Department of Energy, Department of Homeland Security, Environmental Protection Agency, Department of Health and Human Services, Department of Commerce, Department of the Treasury, Department of Defense, Department of Agriculture, National Transportation Safety Board, Sur-

face Transportation Board, and Army Corps of Engineers.

(2) ADVICE FROM PUBLIC AND PRIVATE ORGANIZATIONS.—In carrying out its duties, the Commission shall seek the advice of various groups interested in national transportation policy including State and local governments, public and private organizations in the fields of transportation and safety, business, education, environment and labor, and the public.

(h) HEARINGS.—The Commission or, on the authorization of the Commission, any Committee of two or more members may, for the purpose of carrying out the provisions of this section, hold such hearings at such times and places as the Commission or such authorized committee may deem advisable.

(i) COMPENSATION.—Members of Congress or other governmental employees shall serve without compensation, but shall be reimbursed for travel, per diem in accordance of the rules of the House of Representatives and Senate, accordingly, or subsistence and other necessary expenses incurred in the performance of the duties vested in the Commission.

(j) COMMISSION STAFF.—The Commission is authorized to appoint and fix the compensation of a staff director

and such additional personnel as may be necessary to enable it to carry out its functions.

(k) CONTRACTS.—The Commission is authorized to enter into contracts or agreements for studies and surveys with public and private organizations and, if necessary, to transfer funds to Federal agencies from sums appropriated pursuant to this section to carry out such of its duties as the Commission determines can best be carried our in the that manner.

(l) AUTHORIZATION OF APPROPRIATIONS.—(1) There are authorized to be appropriated to carry out this section such sums as may be necessary.

(2) Funds authorized by this subsection shall remain available until expended.

**SEC. 210. REAL-TIME SYSTEM MANAGEMENT INFORMATION PROGRAM.**

(a) GOALS AND PURPOSES.—

(1) GOALS.—The goals of the real-time system management information program are to provide the nationwide capability to monitor, in real-time, the traffic and travel conditions of our nation's major highways and to widely share that information to improve the security of the surface transportation system, address congestion problems, support im-

proved response to weather events, and facilitate national and regional traveler information.

(2) PURPOSES.—The purposes of the real-time system management information program are to—

(A) establish a nationwide system of basic real-time information for managing and operating our surface transportation system;

(B) identify longer range real-time highway and transit monitoring needs and develop plans and strategies for meeting those needs; and

(C) provide the capability and means to share that data with state and local governments, and the traveling public.

(b) DATA EXCHANGE FORMATS.—Within one year of enactment of this Act, the Secretary shall establish data exchange formats to ensure that the data provided by highway and transit monitoring systems, including statewide incident reporting systems can readily be exchanged across jurisdictional boundaries, facilitating nationwide availability of information.

(c) STATEWIDE INCIDENT REPORTING SYSTEM.—Within 2 years of enactment of this legislation, each State shall establish a statewide incident reporting system.

(d) REGIONAL INTELLIGENT TRANSPORTATION SYSTEM ARCHITECTURE.—

(1) As State and local governments develop or update their regional ITS architectures, as specified in section 940.9 of title 23, Code of Federal Regulations (Regional ITS Architecture), they shall explicitly address their real-time highway and transit information needs and the systems needed to meet those needs. This specific incorporation of information needs should address coverage, monitoring systems, data fusion and archiving, and methods of exchanging or sharing this information.

(2) States are encouraged to incorporate the data exchange formats developed by the Secretary to ensure that the data provided by highway and transit monitoring systems can readily be exchanged across state and local governments, and with the traveling public.

(e) DEFINITION.—In this section, the term ''statewide incident reporting system'' means a statewide system for facilitating the real-time electronic reporting of incidents to a central location for use in monitoring the event, providing accurate traveler information, and responding to the incident as appropriate.

**SEC. 211. PLANNING CAPACITY BUILDING INITIATIVE.**

Section 104 of title 23, United States Code, is amended by inserting after subsection (i), as added by this Act, the following:

''(j) PLANNING CAPACITY BUILDING INITIATIVE.—

''(1) IN GENERAL.—The Secretary shall establish a planning capacity building initiative to support enhancements in transportation planning, in order to—

''(A) strengthen metropolitan and statewide transportation planning under chapter 52 of title 49;

''(B) enhance tribal capacity to conduct joint transportation planning under Chapter 2 of this title; and

''(C) participate in the metropolitan and statewide transportation planning programs under chapter 52 of title 49.

''(2) PRIORITY.—The Secretary shall give priority to planning practices and processes that support homeland security planning, performance based planning, safety planning, operations planning, freight planning, and integration of environment and planning.

''(3) USE OF FUNDS.—Funds authorized for this program may be used for research, program de-

velopment, information collection and dissemination, and technical assistance. The Secretary may use these funds independently or make grants to, or enter into contracts and cooperative agreements with, a Federal agency, State agency, local agency, federally recognized Indian tribal government or tribal consortium, authority, association, nonprofit or for-profit corporation, or institution of higher education, to carry out the purposes of this subsection.

''(4) FEDERAL SHARE.—The Federal share of the cost of an activity carried out using such funds shall be up to 100 percent, and such funds shall remain available until expended.

''(5) ADMINISTRATION.—This initiative shall be administered by the Federal Highway Administration in cooperation with the Federal Transit Administration.''.

○

SECTION-BY-SECTION ANALYSIS OF H.R. 3551,
THE SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT ACT OF 2003

**Section 1: Short Title**

"Surface Transportation Research and Development Act of 2003"

**Section 2: Findings**

Finds that Research and Development (R&D) is critical to developing and maintaining an effective transportation system, that federal R&D has produced a number of successes, but is underfunded. Finds that federal investment in R&D should be properly balanced between short-term applied research and long-term fundamental research, and should cover a wide range of research areas including materials and structures research, operations research, and human factors and policy research.

**Title I: Surface Transportation Research**

**Section 101: Authorization of Appropriations**

Authorizes a total of $4.05 billion for surface transportation research and development in fiscal years 2004 through 2009, a 57 percent increase above R&D funding in TEA–21. Funding for fiscal year 2004 is $500 million; for 2005, $570 million; for 2006, $640 million; for 2007, $710 million; for 2008, $780 million; and for 2009, $850 million. The bill sets aside funds from the Surface Transportation Research, Development and Deployment authorization for "Advanced Research, (23 USC 502 (d))," the "Surface Transportation Environment and Planning Cooperative Research Program," (Section 104 (c) of this Act) and the "Multimodal Trends Research Program" (Section 112 of this Act). The bill also sets aside $5 million in funds authorized for the Bureau of Transportation Statistics for grants to State and local governments, and metropolitan planning organizations to promote the harmonizing of data collection and management (Section 107(k)(2) of this Act).

(in millions)

| | FY 2004 | FY2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|
| Surface Transportation Research & Technology Deployment | 228 | 272 | 316 | 367 | 423 | 490 |
| Training and Education | 50 | 60 | 70 | 70 | 75 | 75 |
| ITS Research | 130 | 135 | 140 | 140 | 145 | 145 |
| University Transportation Centers | 56 | 66 | 76 | 90 | 90 | 90 |
| Bureau of Transportation Statistics | 36 | 37 | 38 | 43 | 47 | 50 |
| **Total** | **500** | **570** | **640** | **710** | **780** | **850** |

**Section 102: Goals, Principles and Processes**

Sets out for the first time goals, principles and processes to guide transportation research and development. The bill explicitly links the R&D goals to the overall goals of the surface transportation system set out in the Transportation Equity Act for the 21st Century (TEA–21). It sets forth principles to guide the federal role in surface transportation R&D. It also establishes key requirements for stakeholder involvement, competition and peer review, and performance review and evaluation for transportation R&D.

**Section 103: Strategic Planning**

Reauthorizes and amends the Department of Transportation's (DOT) R&D strategic planning requirements. The bill strengthens the planning process by making it more strategic (i.e., forward looking) and increasing accountability. Specifically, it clarifies that the strategic planning process should encourage planning across all modes. It strengthens the contents of the plans by (1) requiring the department to link the plan to the goals of TEA–21, and (2) requiring the plan to specify strategic goals, the Department's key research priorities, and the full array of authorized research instead of focusing only on process. The bill also increases accountability by (1) soliciting input from a range of interests in the transportation community and the National Academy of Sciences (before the plan is issued), and (2) requiring a detailed annual report that specifies all the research projects and the funding levels

of those projects carried out under this title (beyond the requirements of the Government Performance and Results Act).

**Section 104: Surface Transportation Research and Development**

Amends the research and development program carried out by the Federal Highway Administration (FHWA). The bill largely maintains the existing R&D program requirements of Section 502 of Title 23, but fills a variety of research gaps. The amendments ensure that the research addresses operational elements, performance analysis and multimodal assessment. In addition, the bill authorizes new research items in the "contents" section, including (1) exploratory advanced research, (2) environmental research (to implement Transportation Research Board (TRB) recommendations), (3) research on demographic, economic and social trends that affect and are affected by the transportation system, (4) research on the technical impacts and costs imposed in climates facing frequent freeze and thaw cycles, (5) research on how to improve methods of collecting information in order to improve the infrastructure investment needs report (under section (g)), and (6) R&D and technology transfer related to asset management. In addition, the bill reauthorizes the Long-Term Pavement Performance Program, and authorizes a Long-Term Bridge Performance Program, a Geospatial Information Systems program, and the Turner-Fairbanks Highway Research Center, which carries out the bulk of the FHWA's R&D.

Creates a new Exploratory Advanced Research program (Section 502(d)) to address recommendations of the TRB and others that FHWA's R&D program should focus on fundamental, long-term research. It requires the FHWA to develop an advanced research agenda in consultation with outside groups, and requires consultation with the National Science Foundation in reviewing advanced research proposals and peer review protocols. When funds appropriated for this program exceed $5 million, the bill establishes an open solicitation grant program to the research community to spur innovation.

Reauthorizes the "Surface Transportation Environment and Planning Cooperative Research Program" (STECRP) and creates a collaborative, public-private partnership to implement the recommendations contained in the TRB Special Report 268, a report that Congress requested in TEA–21. This section authorizes for the first time an implementation framework to ensure that DOT fulfills the requirements originally set out in TEA–21. The program is modeled on the Transit Cooperative Research Program, which is run collaboratively by American Public Transit Association, the Federal Transit Administration and the TRB. The amendments require the Secretary to contract with either the National Academy of Sciences or another nonprofit research organization to administer the program and to fulfill annual reporting requirements. The selected organization must create an independent advisory board that would have broad interest group membership and be open to stakeholder input, develop the research agenda, periodically modify the strategic plan (originally developed in TRB Special Report 268), solicit project proposals through open competition, and conduct peer review of research products. The National Academy of Public Administration would conduct a program review. DOT could participate in program priorities and funding decisions.

**Section 105: Technology Deployment**

Reauthorizes FHWA's technology deployment program. Expands the Innovative Bridge Research and Construction Program (authorized in TEA–21) to a more comprehensive Innovative Research and Deployment Program covering bridges, pavements and safety research and deployment. The goals of this program include the development of new, cost-effective innovative material for surface transportation infrastructure; the deployment and evaluation of safety technologies and innovations; the reduction of life-cycle costs of surface transportation infrastructure; and the development and deployment of construction techniques to increase safety and reduce construction time and traffic congestion.

The legislation establishes new requirements for the Secretary to ensure that the information and technology resulting from research conducted in this program is made available to State and local transportation departments, metropolitan planning organizations and other interested parties. The bill also establishes a new research program to address the non-technical barriers to technology deployment (such as fragmented authority at the local and regional level, and rigid procurement rules) and generate proposals for how to overcome these barriers. Experts have identified non-technical barriers as more significant than technical ones in the deployment of innovative technologies.

**Section 106: Training and Education**

Increases the number of federal funding sources from which States may draw for surface transportation workforce development, training and education. Makes federal funding for these activities available at 100 percent so no match would be required. This should provide States an additional incentive to fund these programs. It also allows for the development of new courses at the National Highway Institute to better address challenges faced by today's transportation professionals, and requires the National Highway Institute to review, revise, and cease courses periodically.

**Section 107: Bureau of Transportation Statistics**

Increases the responsiveness of the Bureau of Transportation Statistics (BTS) to the needs of the transportation community by (1) clarifying that BTS is to serve decision-makers in the transportation community at large in addition to the Secretary of DOT, (2) strengthening the role of the Director of BTS; (3) expanding membership of the Director's Advisory Committee on Statistics to make it more representative of the transportation community; (4) requiring a national transportation statistics needs assessment to be carried out by the National Academy of Sciences (in consultation with key constituencies and the DOT's Advisory Committee on Statistics), and (5) requiring BTS to create a data strategic plan based on the needs assessment, and to submit an annual report documenting its progress in implementing legislative mandates and the strategic plan. The amendments also call on the Director to implement data modernization efforts and encourage the harmonization of data collection and management, through demonstration grants to States, local governments, and metropolitan planning organizations. The section also reauthorizes a variety of programs in Section 111 of Title 49, including the National Transportation Library. Funding for BTS remains level, through fiscal year 2006, except for the additional resources to fund the State and local government demonstration grant program. Beginning in fiscal year 2007, funding is increased as BTS begins implementing the newly adopted strategic plan.

**Section 108: State Planning and Research**

Sets State Planning and Research (SPR) funding at $1.073 billion. This amount is equivalent to a 2½ percent set aside of funds authorized to be appropriated to States, if the total six-year transportation funding is $375 billion. This increase recognizes a growing need to ensure adequate funding for planning and research. The bill maintains the current requirement for 25 percent of SPR funds to be spent on research, and adds a new provision that requires 10 percent of SPR funds be spent on improving the quality of transportation data. The section clarifies that studies, research and training on engineering standards and construction materials should be multimodal, and that research should also focus on design standards for intermodal coordination.

**Section 109. Future Strategic Highway Research Program (F–SHRP)**

Authorizes the Future Strategic Highway Research Program (F–SHRP) to be carried out by the National Academy of Sciences in consultation with the American Association of State Highway Transportation Officials and other stakeholders. The program implements the recommendations of the TRB Special Report 260, a report called for by Congress in TEA–21 to develop a research program that cuts across disciplines and addresses short- to medium-term R&D gaps. F–SHRP addresses R&D gaps in four areas: (1) Renewal, which will focus on R&D to minimize disruptions as we renovate existing highway infrastructure; (2) Safety, which will focus on reducing crashes; (3) Reliability, which will focus on R&D to improve the reliability of travel times by reducing the frequency and effects of events that cause delay; and (4) Capacity, which will look holistically at the relationship between highways, the economy, communities and the environment. The section authorizes $75 million per year for fiscal years 2004 through 2009. It also includes requirements that (1) projects be selected through open solicitation, (2) research results are peer reviewed, (3) a broad array of stakeholders are involved at all levels of the program, (4) the National Academy of Sciences publish annual progress and performance reports, and (5) the National Academy of Public Administration carry out an independent review two years into the program to assess the degree to which the program is addressing the research topics identified in Special Report 260.

**Section 110: University Transportation Research**

Authorizes the Secretary to make grants to nonprofit institutions of higher learning to establish and operate 10 regional transportation centers. The Secretary shall also make 16 grants to other nonprofit institutions of higher learning to establish and operate university transportation centers in addition to the 10 regional centers.

The 10 regional centers shall be selected through a competitive, peer-reviewed process and the federal share of the costs of activities is increased from the current level of 50 percent to 80 percent. For Fiscal Years 2004, 2005 and 2006, six of the 16 grants for university transportation centers will be competitively awarded and peer-reviewed. For these years, the other 10 grants shall go to the specific universities that won the competition among groups in TEA–21 and received funding for Fiscal Year 2003. For Fiscal Years 2007, 2008 and 2009, all 16 of the grants for the university transportation centers shall be competitively awarded and peer-reviewed. The federal share of the costs for all university transportation centers shall remain 50 percent.

**Section 111: Intelligent Transportation Systems**

Reauthorizes the Intelligent Transportation Systems (ITS) Research Program. Strengthens the program by (1) creating an advisory committee with broad representation from the transportation community, and charging it to advise DOT on whether ITS technologies (for which the DOT is proposing to fund research and development) are likely to be deployed, and what the appropriate roles for government and the private sector are in investing in specific technologies; (2) requiring an update of the ITS Program Plan in 2005 (with input from the advisory committee) to assess how well the ITS program has met the goals set in the 2000 Program Plan, identify barriers to reaching these goals, and set goals, plans and funding needs for the next five years; (3) requiring the development of an information strategy, with input from the Bureau of Transportation Statistics, to both identify how data collected currently from ITS technologies can and should be used for planning and assessment, and to outline a vision for future linkages between ITS technologies, data and management; and (4) requiring testing and validation of ITS standards.

In addition, the bill authorizes the ITS program to focus on technologies to improve transportation security, and authorizes a research program on the non-technical barriers to the deployment of ITS technologies. The bill also requires the National Academy of Science to evaluate the ITS program and assess how well the program has achieved the goals laid out in the 2000 Program Plan.

**Section 112: National Multimodal Trends Research Program**

Creates a new national multimodal research program on demographic, economic and social trends that affect and are affected by the transportation system. This program fills an important gap in current research. It requires the Secretary to establish the program through the National Academy of Sciences, and specifies, in general terms, the economic, demographic, social, evaluation and other issues to be addressed by the program. It specifically requires the Academy to create an independent advisory committee drawn from social science experts and key stakeholder groups, to develop a strategic plan, and to review and evaluate project proposals. At least 75 percent of available funds shall be directed to implementing the strategic plan, while up to 25 percent of the funds shall be available to sponsor-directed projects. $5 million is set aside for this program in each of fiscal years 2004–2009.

**Title II: Miscellaneous**

**Section 201: Authorization of Appropriations**

Authorizes appropriations as follows: $75 million for each of fiscal years 2004–2009 for transit R&D; and such sums as necessary for highway safety R&D, and motor carrier safety R&D.

**Section 202: Transit Research**

Creates a new Innovative Practices and Technologies Demonstration and Deployment Program that would demonstrate promising new transit practices and technologies, evaluate and document the performance, benefits and costs of innovative technologies, and disseminate information to accelerate deployment of innovations. The Secretary is authorized to make grants to a variety of public, private and nonprofit entities. The Secretary shall select projects based on whether they meet the goals of the program, whether they pass a merit review, and the likelihood that the project will result in widespread deployment. The Secretary shall also ensure that innovations are made available to transit agencies and State and local transportation departments. The Secretary shall establish the federal share of the grant program.

**Section 203: National Transit Institute**

Maintains the National Transit Institute.

**Section 204: Human Resource Programs**

Maintains the human resources programs at the Federal Transit Authority.

**Section 205: Highway Safety Research and Development**

Maintains the Highway Safety Research and Development Program and adds new provisions addressing emergency medical services, international cooperation, and a national motor vehicle crash causation survey.

**Section 206: Motor Carrier Research and Technology Program**

Authorizes a comprehensive Federal Motor Carrier Safety Administration research and technology program.

**Section 207: Transportation Energy and Environment**

Creates an energy and climate change program at DOT to study the relationships between transportation, energy, and climate change.

**Section 208: National Cooperative Freight Transportation Research Program**

Authorizes a cooperative freight research program, administered by the National Academy of Sciences.

**Section 209: Establishment of a Next Generation National Transportation Policy Study Commission**

Establishes a Presidential Commission to investigate and study transportation needs, and the resources, requirements and policies necessary to meet expected needs.

**Section 210: Real-Time System Management Information Program**

This section encourages the deployment of systems to monitor the status of condition of key surface transportation (highway and transit) facilities.

**Section 211: Planning Capacity Building Initiative**

This section establishes a planning capacity building initiative to strengthen metropolitan and statewide transportation planning, and to enhance Tribal capacity to conduct joint transportation planning.

# XXI: PROCEEDINGS OF THE FULL COMMITTEE MARKUP ON H.R. 3551, SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT ACT OF 2004

**WEDNESDAY, FEBRUARY 4, 2004**

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE,
*Washington, DC.*

The Committee met, pursuant to call, at 10:08 a.m., in Room 2318 of the Rayburn House Office Building, Hon. Sherwood L. Boehlert [Chairman of the Committee] presiding.

Chairman BOEHLERT. Good morning. The Committee on Science will be in order. We will begin with a few brief administrative matters involving the Subcommittee assignments. I ask unanimous consent to change the ratio of the Subcommittee on Energy from ten Republican Members and eight Democrat Members to eleven Republican Members and nine Democrats. Without objection, so ordered.

I ask unanimous consent that the gentleman from Texas, the Honorable Ralph Hall, be elected to the Subcommittee on Energy and to the Subcommittee on Space and Aeronautics. Without objection, so ordered.

Let me just say this is—you will notice some adjustments in the chairs up here, in the line up. First of all, it is a pleasure for me to welcome Mr. Hall to our side of the aisle. We have come to expect wonderful things from Mr. Hall. And one of the things that I admire most about him, in addition to his wit, is his good judgment. So Mr. Hall, welcome.

And I also want to welcome my dear friend and colleague of many years, Bart Gordon, to the position as Ranking Member as leader of the Democrats. He is not leader of the opposition; he is leader of our partners in this effort. And I want to particularly note that he has been a most active Member of this committee from the beginning, from his first time here in 1985 as a freshman Member. He is a thoughtful, deliberative guy. He is a guy who pays attention to the issues and one from whom I will expect great things in the future. I would point out that he also has a minor Committee assignment. He is a Member of Energy and Commerce, but this is where he devotes his—so much time and attention to very productive results. So Mr. Gordon, welcome. Mr. Hall, welcome. We are glad to have everyone here.

And now the Chair is pleased to recognize the Ranking Member from Tennessee, Mr. Gordon.

Mr. GORDON. Mr. Chairman, I should just say amen. I don't think I can beat your kind remarks. Thank you very much. I am excited about having the opportunity to serve as the Ranking Member. And I am pleased that our friend, Mr. Hall, is going to stay and be the referee. He has set a very good example for us, as you said, in working in a bipartisan manner. We want to continue that example.

I think today is fitting that we have a full agenda, and so I want to be very brief and—so that we can move forward, but I do want to thank you for allowing Congressman Udall and Congressman Miller to have two bills today. And I hope that you will help us bring these to the Floor as promptly as you have brought them to this committee.

Thank you very much.

Chairman BOEHLERT. Mr. Hall.

Mr. HALL. Mr. Chairman, and to the Ranking Member and to the other Members, I thank you very much. I am honored to be back on the Committee.

I want to thank Mr. Gordon for his good judgment and for his kindness in keeping the team in place that we had set in place. They are good people and good folks to work with. I want to thank all of them from either side of the docket who have welcomed me here. Actually, when I decided—made the decision to switch parties, I didn't call anyone. I didn't call the President or anyone. I didn't tell anyone, including my wife, which was a mistake. I announced that I was making the switch and put it on the wire and then called and spoke to the Speaker. All I expected from him was that my seniority would be honored, and he said it would be. You have done that. And to both sides, I am the same guy I was when I came over here. I am probably the Speaker's problem now. So we will just have to wait and see how things go, but I am honored to be back with a group of men and women that I admire, respect, and look forward to working with.

Thank you, and I yield back my time.

Chairman BOEHLERT. Thank you so much.

As those who have observed the deliberations of this committee would have testified to, it really doesn't matter where you sit in this committee, because we have some very important work and partisanship doesn't rear its ugly head very often here. On occasion it does, and we are all familiar with that. But when all is said and done, we work as a team, this Science Committee, and I am very proud of that. And so no matter where they are sitting, everybody is part of the team, and I thank them for their cooperation and support and vision as we look to the future.

Pursuant to notice, the Committee on Science meets today to consider the following measures: H.R. 3551, the *Surface Transportation Research Act of 2004;* H.R. 3752, the *Commercial Space Launch Amendments Act of 2004;* H.R. 912, *Charles "Pete" Conrad Astronomy Awards Act;* H.R. 1292, *Remote Sensing Applications Act of 2003;* H.R. 3389, *To amend the Stevenson-Wydler Technology Innovation Act of 1980 to permit Malcolm Baldrige National Quality Awards to be made to nonprofit organizations;* and H.Con.Res. 189, *Celebrating the 50th anniversary of the International Geophysical Year and supporting an International Geophysical Year-2*

*in 2007–08.* I ask unanimous consent for the authority to recess the Subcommittee at any point, and without objection, it is ordered.

We will now proceed with opening statements. I want to welcome everyone here for this important markup. We want to get done by 11:00 a.m., so we will need to be brief. I am not planning to make any statements this morning other than this one, so I will discuss each of the bills right now. But first let me say that all of the bills, as usual, reflect long hours of bipartisan work on important issues. The smooth markup that we expect today is the result of countless hours of staff work on both sides of the aisle working out the kinks.

The first that we will take up is the Transportation Research and Development Act offered by Dr. Ehlers and the negotiated amendments to it. The bill ensures that we will be devoting more resources to transportation R&D and that those resources will be better targeted. The bill authorizes an organized R&D effort that will focus on questions related to safety, environment, demographics, and getting the most out of the infrastructure that is already in place. It is an eminently sensible approach, and we will work hard to see that it becomes part of the overall highway bill. I know many Members have contributed ideas to the bill and to the amendments, including, in addition to the ones I have to offer, two freshmen Members on our side of the aisle, Mr. Neugebauer and Ms. Burgess—Dr. Burgess. I thank them for their contributions.

The second measure on the roster is Mr. Rohrabacher's bill to amend the *Commercial Space Launch Act.* I want to thank Chairman Rohrabacher for bringing this important matter to our attention. We need to create a balanced and predictable regulatory regime that can help jump-start a commercial human space flight industry while protecting the public. I think that this bill does just that. I know some have concerns about the provision in the bill extending indemnification for just 3 years. I don't want to have a long debate in this now, but the argument for indemnification has always been that we need to help out an infant industry. Well, no industry can remain infant forever. Indemnification has already been extended many times. Infancy has lasted long enough. In industry's interest, we need to send the signal now that the insurance regime out to be changing in the future. It certainly would not be fair or wise to catch industry off guard.

The third bill is also offered by Chairman Rohrabacher. It would set up awards for amateur astronomers who discover near-Earth asteroids. It is one of those ideas that is so obviously good that it is amazing that it hasn't happened already.

The fourth bill is Mr. Udall's remote sensing bill. This is also a sensible bill that we passed in the last Congress. We ought to be doing more to ensure that the remote sensing data we have is actually being used. Mr. Weldon will be offering a helpful amendment on that to single out one use of the data: locating forest fires. I support that amendment.

The fifth bill would expand the Baldrige Quality Awards to include nonprofits. I helped craft the legislation creating the Baldrige Award years ago. Little did I appreciate then what a major success the award would be. I congratulate Mr. Miller on his bill to expand the award.

The sixth bill by Mr. Udall would call for another International Geophysical Year, 50 years after the first one was so successful in bringing the world together to conduct pioneering research in Antarctica, research several of us got to see firsthand last year. This is another idea that deserves this committee's support.

I congratulate all of my colleagues on their hard work on these bills, and I look forward to their prompt passage here and on the House Floor.

Let me once again restate the deep appreciation all of us have, on both sides, for the outstanding work of the very capable and hardworking professional staff. These are people who are here long after we have gone home, long after we have checked out of the airport to return to our Districts, working day and night and weekends to provide us with the support we need to do the good work we are doing.

I now recognize Mr. Gordon for five minutes to present his opening remarks.

[The prepared statement Chairman Boehlert follows:]

PREPARED STATEMENT OF CHAIRMAN SHERWOOD BOEHLERT

I want to welcome everyone here for this important markup. We want to get done by 11 a.m., so we all need to be brief. I'm not planning to make any statements this morning other than this one, so I will discuss each of the bills right now.

But first let me say that all the bills, as usual, reflect long hours of bipartisan work on important issues. The smooth markup that we expect today is a result of countless hours of staff work on both sides of the aisle working out the kinks.

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The sixth bill, by Mr. Udall, would call for another International Geophysical Year, 50 years after the first one was so successful in bringing the world together to conduct pioneering research in Antarctica—research several of us got to see first-hand last year. This is another idea that deserves this committee's support.

I congratulate all my colleagues on their hard work on these bills, and I look forward to their prompt passage here—and on the House Floor.

Mr. Gordon.

Mr. GORDON. Mr. Chairman, I am pleased to report to the Committee that the Democratic Caucus of the Science Committee has elected the Honorable Nick Lampson of Texas as the Ranking Democrat on the Subcommittee on Space and Aeronautics. Mr. Lampson has been a Member of the Committee and the Subcommittee since his election to Congress in 1996. He represents the Johnson—we will try again here. Okay. He represents the Johnson Space Center in Houston, and he has been out front in his vision for human space flight. Accordingly, I ask unanimous consent that the seniority order for the Democratic membership of the Subcommittee on Space and Aeronautics be changed to reflect the action of our Caucus, placing Mr. Lampson first in the Democratic seniority.

Chairman BOEHLERT. Without objection.

Mr. GORDON. Mr. Chairman, I ask unanimous consent for another request, and that is I am pleased to report to the Committee that the Democratic Caucus of the Science Committee has elected the Honorable John Larson of Connecticut as ranking Democrat on the Subcommittee on Energy. John has been a Member of the Committee since 1998, also serves as the Ranking Member on the House Administration Committee, and was a leader in developing many of the R&D provisions of the energy bill. Accordingly, I ask unanimous consent that the Honorable John Larson be elected to the Subcommittee on Energy and that rank in seniority is first on the Democratic membership.

Chairman BOEHLERT. Without objection.

Mr. GORDON. Mr. Chairman, respecting your interest in getting out by 11:00, I will reserve any remarks on the bills as they come forth.

Chairman BOEHLERT. Thank you very much. Without objection, all Members may place opening statements in the records at this point—in the record at this point.

[The prepared statement of Ms. Jackson Lee follows:]

PREPARED STATEMENT OF REPRESENTATIVE SHEILA JACKSON LEE

Mr. Chairman,

This is a good bill and I support it, but I have some concerns. As stated in a joint report from the Center for Community Change and the Civil Rights Project at Harvard:

> ". . .transportation policies have had inequitable effects on minority and low-income populations, often restricting their ability to access social and economic opportunities, including job opportunities, education, health care services, places of worship, and other places such as grocery stores. Transportation policies limit access to opportunities through direct effects, such as inequitable costs, and indirect effects, such as residential segregation. The indirect effects are caused, in part, by the combined effects of transportation policies and land use practices."

That is the problem I am addressing with my amendment. In the National Multimodal Trends Policy Research and Development Program section of the bill,

I add some common sense features that will ensure that our future transportation programs serve the needs of all the American people.

One change will enable us to better understand the needs of low-income minority and transit-dependent populations in urban and rural areas. Another will ensure that we get input from groups with expertise in environmental justice, and from community leaders.

I hope you will support this amendment.

Chairman BOEHLERT. We will now consider the bill H.R. 3551, the *Surface Transportation Research Act of 2004*. I now recognize Mr. Gordon for five minutes to present his opening remarks.

Mr. GORDON. Mr. Chairman, I understand you are going to be introducing a substitute amendment. And let me say to you that I want to thank you and Chairman Ehlers and their staffs for working with us in revising this bill.

Chairman BOEHLERT. Dr. Ehlers will be doing that. He will have the substitute amendment.

Mr. GORDON. And so I will address my remarks to that. This amendment takes a common sense approach to dealing with the R&D funding levels. It sets a minimum based R&D funding level that represents a modest increase over the fiscal year 2004 funding. And additionally, funding becomes available. R&D will increase to keep pace with the overall transportation funding based upon a 1.08-cent index. I think this is a common sense way to deal with this problem since we are not sure what that funding level will ultimately arrive at, so again, thank you for your cooperation.

[The prepared statement of Mr. Gordon follows:]

PREPARED STATEMENT OF REPRESENTATIVE BART GORDON

Chairman Boehlert has outlined the provisions in the amendment, so I will just make a few comments. The substitute amendment is a significant improvement over the bill as introduced. I want to thank Chairman Boehlert, Chairman Ehlers, and their staff for working with us in revising this bill.

This amendment takes a common sense approach in dealing with R&D funding levels. It sets a minimum based R&D funding level that represents a modest increase over FY04 funding. If additional funding becomes available, R&D will increase to keep pace with overall transportation funding based upon a 1.08 percent index. This approach takes the Committee out of any debate surrounding how to fund increases for overall transportation funding.

I was the Ranking Member on the Technology Subcommittee during the TEA–21 authorization. I learned that while research can help us build and maintain our transportation system, "faster, better, cheaper," it can also help us do it smarter. We can't build our way out of the congestion problems that affect almost every community. We need to better understand the interaction between our communities, the economy, and our transportation infrastructure. This amendment strengthens and funds the Surface Transportation-Environment Cooperative Research Program that originated in the Science Committee during the TEA–21 authorization process. This amendment also includes provisions to improve the assessment of community needs and of our driving population. Our transportation planning must take into account our aging population and that in many instances most driving hours are no longer due commuting to and from work.

I also want to thank the Chairman for working with me on training and education provisions in the bill and for working with other Members on their particular transportation interests.

This bill represents a good, bipartisan consensus on transportation R&D and I would urge everyone to support this bill.

Chairman BOEHLERT. I would ask unanimous consent that the bill is considered as read and open to amendment at any point and that the Members proceed with the amendments in the order of the roster. Without objection, so ordered.

I move that the first reading of the bill be dispensed with.

The first amendment on the roster is an amendment in the nature of a substitute offered by Dr. Ehlers. I ask unanimous consent that the amendment in the nature of a substitute be considered original text for purpose of amendment under the five-minute rule. Without objection, so ordered.

I have an amendment at the desk—Dr. Ehlers has—the Chair recognizes Dr. Ehlers.

Mr. EHLERS. Mr. Chairman, I have an amendment at the desk.

Chairman BOEHLERT. The Clerk shall report the amendment.

Ms. TESSIERI. Amendment in the nature of a substitute to H.R. 3551——

Chairman BOEHLERT. I ask unanimous consent to dispense with the reading. Without objection, so ordered.

*[Amendment offered by Mr. Ehlers is located in the Appendix.]*

Chairman BOEHLERT. The gentlemen from Michigan, Dr. Ehlers, is recognized for five minutes to offer his amendment.

Mr. EHLERS. Thank you, Mr. Chairman.

We have done an immense amount of work on this, particularly the staff. We are determined to have this become a major part of the new transportation bill, and the staff has done outstanding work on this.

This amendment does two major things: it reinserts the funding provisions which we removed at the Subcommittee level, and it incorporates the suggestions made by other Members of the Committee as well as the Administration, States, and other interest groups. The amendment retains all of the major programs and provisions from the bill as introduced.

Let me explain how this bill is funded. In the last reauthorization, while overall spending on transportation increased dramatically, by about 40 percent, funding for transportation research remained relatively flat. All parties that we worked with throughout this process, including the States, agreed that research needs more funding.

However, it is difficult to determine the appropriate level of funding for research without knowing what the final overall funding level will be for the larger highway bill. So what we have done is to tie research funding to overall transportation spending as a percentage. In this way, as the overall funding grows, so will the research funding. We set this percentage slightly higher than the percentage spent on these programs under TEA–21.

The increase will go to pay for new programs that focus on environment, congestion, and safety. There are also increases for university transportation centers, which will all be competed. More specifically, the bill creates the Future Strategic Highway Research Program. This program will focus on reducing congestion, renewing existing roads and bridges, improving safety, and assessing future needs. The bill also establishes a public-private cooperative environmental research program to help us understand the link between the environment and the transportation system. It also creates a new research program to demonstrate promising transit technologies and practices to improve efficiency and safety and reduce costs. It also requires all research projects funded by this legislation will be competitively awarded and peer-reviewed. And fi-

nally, it provides better training and education programs for the transportation workforce.

I urge my colleagues to support my amendment and the En Bloc amendment, which will be considered next. This bill will put us in a strong position to negotiate with the House Transportation Committee as the process moves forward.

Let me also comment, Mr. Chairman, on the funding level. It will basically be at 1.08 percent of the total transportation bill. I personally recognize this as too low, but I suspect it is the maximum we can obtain from the Transportation Committee and the Congress as a whole. But I would also point out that I don't know of any major corporation in this country or, for that matter, throughout the world which would spend such a small portion of its revenues on research. And I think we should keep this in mind in the future and because the research saves money. If we develop concrete that lasts longer, we save money. And I could give many other examples. So I hope in the future we will be able to increase this percentage and actually get more for our money out of the entire transportation bill.

I yield back the balance of my time.

[The prepared statement of Mr. Ehlers follows:]

PREPARED STATEMENT OF REPRESENTATIVE VERNON J. EHLERS

Thank you Mr. Chairman.

This amendment does two major things: It re-inserts the funding provisions, and it incorporates the suggestions made by other Members of the Committee, as well as the Administration, States, and other interest groups. The amendment retains all the major programs and provisions from the bill as introduced.

Let me explain how this bill is funded. In the last reauthorization, while overall spending on transportation increased dramatically (by about 40 percent), funding for transportation research remained relatively flat. All parties that we worked with throughout this process, including the States, agreed that research needs more funding.

However, it is difficult to determine the appropriate level of funding for research without knowing what the final overall funding level will be for the larger highway bill. So, what I have done is to tie research funding to overall transportation spending as a percentage. In this way, as the overall funding grows, so will the research funding. I set this percentage slightly higher than the percentage spent on these programs under TEA–21.

The increase will go to pay for new programs that focus on environment, congestion, and safety. There are also increases for university transportation centers, which will all be competed.

More specifically, the bill:

- Creates the Future Strategic Highway Research Program. This program will focus on reducing congestion, renewing existing roads and bridges, improving safety, and assessing future needs;
- Establishes a public-private cooperative environmental research program to help us understand the link between the environment and the transportation system;
- Creates a new research program to demonstrate promising transit technologies and practices to improve efficiency and safety, and reduce costs;
- Requires all research projects funded by this legislation will be competitively awarded and peer-reviewed; and
- Provides better training and education programs for the transportation workforce.

I urge my colleagues to support my amendment and the En Bloc amendment that will be considered next. This bill will put us in a strong position to negotiate with the House Transportation Committee as the process moves forward.

Chairman BOEHLERT. Thank you very much, Dr. Ehlers, for that fine explanation. Is there any further discussion? Ms. Johnson?

Ms. JOHNSON. Thank you, Mr. Chairman. I would like to applaud the Committee leadership for bringing the *Surface Transportation Research and Development Act of 2003* up for markup today. This is a very important piece of legislation that deserves our immediate and utmost attention.

Congestion is beginning to cripple our largest cities and primary—the primary engine of our nation's economic growth. 74 percent of Americans agree that America faces a transportation capacity crisis in 75 large metropolitan areas alone. The cost of congestion is $69.5 billion, including 3.5 billion hours of delay and 5.7 billion gallons of excess fuel consumption. The average annual delay for every person in these cities has climbed to 26 hours. While these statistics are startling, the average American family does not need them recited. They are stuck in the traffic on their way home from work, picking up the kids at day care, or running the endless errands that seem a part of today's society, and they lose what precious little time they have together.

More importantly, our nation's highways, bridges, transit systems are not as safe as they need to be, and highway death toll is unacceptably high, most especially in my state. Over the past 25 years, 1.2 million have died in our—on our roads. Last year, 42,815 people died and 2.9 million more were injured on our highways. Highway fatalities remain the leading cause of death of our youth, ages 4 to 33. In addition to the personal tragedy of each of these deaths and many of the injuries, the economic cost of these accidents is more than $230 billion per year.

Finally, the Committee's proposal will provide the ailing American economy a needed economic stimulus package. The Federal Highway Administration reports that every $1 billion of federal funds invested in highway infrastructure creates 47,500 jobs and $6.2 billion in economic activity. When enacted, the Committee's introduced bill will create and sustain up to 3.6 million family-wage construction jobs, including 1.7 million new jobs. This bill would not put people back—would put people back to work, and this is just what the American economy needs. Moreover, a recent study found that the Committee's bipartisan proposal to invest $375 billion in surface transportation over the next 6 years would add $290 billion more to the Nation's gross domestic product than the Administration's proposal to invest only $247 billion.

The Committee's proposal would also lead to an additional $129 billion of household disposable income and an additional $98 billion in consumer spending. Millions of new, good paying jobs, billions of jobs—dollars of new consumer spending, now that is the way to get the economy growing.

I applaud Representative Ehlers for introducing this bill today, and I hope to continue to work together with the Members of this committee on the journey to writing the legacy of our surface transportation future. Thank you.

[Prepared statement of Ms. Johnson follows:]

PREPARED STATEMENT OF REPRESENTATIVE EDDIE BERNICE JOHNSON

Thank you, Mr. Chairman. I would like to applaud the Committee leadership for bringing the *Surface Transportation Research and Development Act of 2004* (H.R. 3551) up for markup today. This is a very important piece of legislation that deserves our immediate and utmost attention.

Congestion is beginning to cripple our largest cities, the primary engines of our nation's economic growth. *Seventy-four percent of Americans agreed that America faces a transportation capacity crisis.* In 75 large metropolitan areas alone, the cost of congestion is $69.5 billion—including 3.5 billion hours of delay and 5.7 billion gallons of excess fuel consumption. The average annual delay for every person in these cities has climbed to 26 hours. While these statistics are startling, the average American family does not need them recited—they are stuck in traffic on their way home from work, picking up the kids at day care, or running the endless errands that seem a part of today's society, and they lose what precious little time they have together.

More importantly, our nation's highways, bridges, and transit systems are not as safe as they need to be and the highway death toll is unacceptably high. Over the past 25 years, 1.2 million have died on our roads. Last year, 42,815 people died and 2.9 million more were injured on our highways. Highway fatalities remain the leading cause of death of our youth (people ages 4 to 33). In addition to the personal tragedy of each of these deaths and many of the injuries, the economic cost of these accidents is more than $230 billion per year.

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Moreover, a recent study found that the Committee's bipartisan proposal to invest $375 billion in surface transportation over the next six years would add $290 billion *more* to the Nation's Gross Domestic Product than the Administration's proposal to invest only $247 billion. The Committee's proposal would also lead to an *additional* $129 billion of household disposable income and an *additional* $98 billion in consumer spending—millions of new, good-paying jobs, billions of dollars of new consumer spending: now that's the way to get the economy growing again!

I applaud Representative Ehlers for introducing this bill today. I hope to continue to work together with the Members of this committee on the journey of writing the legacy of our surface transportation future.

Chairman BOEHLERT. Thank you very much.

And for the benefit of our guests at this markup, I want everyone to know that even though we are dealing with a Science Committee amendment pertaining to a transportation bill, we are not railroading anything through. We are going to act with dispatch today because of a very busy schedule, but only after detailed consultation on both sides we have worked these things out together, which is the habit of this committee, and we are acting with the good advice of our parliamentarians, so we are going to follow parliamentarian procedure. We are going to try to act with dispatch, because everyone has 14 other commitments, and at 11 o'clock, we have to be completed, because the President of Spain will be our guest addressing a joint meeting of the Congress.

Is there anyone else who seeks recognition? Ms. Jackson Lee.

Ms. JACKSON LEE. Thank you very much, Mr. Chairman.

In that spirit, I just want to thank the Committee for accepting my amendment En Bloc in the surface transportation legislation, specifically dealing with the question of ensuring the input of minority communities where sometimes transportation has an inequitable effect on those communities, often restricting their ability to access social economic opportunities, including job opportunities, education, health services, places of worship, and other places such

as grocery stores. My amendment will address some of these issues by common sense features that will ensure that they will have a better opportunity to have input but also that we would have a better opportunity to understand the needs of low-income, minority, and transit-dependent populations in urban and rural areas.

And with that, I thank the Committee, and I add my support to the legislation and yield back my time.

[The prepared statement of Ms. Jackson Lee follows:]

PREPARED STATEMENT OF REPRESENTATIVE SHEILA JACKSON LEE

Mr. Chairman,

I rise in support of the Transportation Research and Development Act. I commend you and my colleague from Michigan, Congressman Ehlers for his leadership on this important issue. Transportation is one of those bread and butter issues that makes such a huge difference in the lives of our constituents. And we spend a lot of money on it. Providing for research and development to make smart transportation systems, is a smart investment.

The budget the President unveiled on Monday definitely confused the issue of how to provide for the transportation needs of this nation. I believe he is advocating under-investment in our critical transportation infrastructure, but obviously, that is a debate for another day. But that budget did throw a bit of a wrench in the progress of the Transportation Bill that the House is working on, and that confused the numbers in the bill before us today. Therefore, I am glad we have worked together in a bipartisan fashion to re-tune the authorizing levels in this bill and set some good minimums. Now, no matter what happens in other committees, programs we determine are valuable, will have a better chance of getting the funding they deserve.

One part of this bill that I am particularly pleased to see is the Garrett Morgan Technology and Transportation Education Program, that is folded into the en bloc amendment, and is the product of good work by my colleague from Texas, Congressman Neugebauer. This Program was initiated by Sec. Rodney Slater in May 1997 in response to the call to action by President Clinton at his Summit for America's Future. This education program was intended to help ensure that America's least advantaged students would have increased opportunities through exposure to mentors in a wide variety of fields.

Today, the program's goals are to "build a bridge between America's youth and the transportation community." The components of the program are: 1) Math, Science and Technology Literacy Challenge for K–12; 2) Community College Partnership; 3) Undergraduate and Graduate Opportunities; and 4) Life-long Learning.

Mr. Neugebauer is to be congratulated for authorizing this program and for now requiring the program to place a special emphasis on providing opportunities for women and minorities.

Garrett Morgan was an African American inventor who lived in Cleveland, OH. One of his most notable inventions was the traffic signal. Although technology has modernized the traffic signal since he first invented it, we are still using the same simple, but elegant solution to managing traffic flows.

This program has never had funding of its own—it has leveraged funds of other federal and State programs. Rep. Neugebauer's amendment provides $500,000 of new funding to expand the worthy activities of this program. This has been an excellent program since it was created by President Clinton, and now will become even more effective at improving diversity in our transportation industry.

I support the amendment and support the underlying bill.

Chairman BOEHLERT. Thank you for your valuable contribution.

Dr. Gingrey.

Dr. GINGREY. Thank you, Mr. Chairman.

Just a real brief inquiry. In regard to the inquiries from '03, if, on the scenario of $300 billion, which is actually less than what the Senate and the House are now proposing for the transportation bill, that would be a 17 percent increase in the amount of spending on research and development from 2003 to 2004. Now what happens in the out years if we—in this—in the 3551 if we go to this and the transportation bill ends up being about $300 billion then

we are spending $540 million on R&D? That is a 17 percent increase. What happens then to the—in the out years? How much increase do we get on top of that?

Chairman BOEHLERT. Susannah.

Ms. FOSTER. Sure. In the out years, you would see—under our scenario, you would most likely see flat-funding at that level, at that 540 level if you saw a $300 billion bill. It is linked to the amounts in the Highway Trust Fund. So if the final bill ramps up, our research funding would also ramp up. But if the final bill stayed flat, our bill would also have flat funding.

Dr. GINGREY. Right, so that if it remained flat over a six-year period of time, then basically you are talking about a three-percent increase a year over the life of the reauthorization?

Ms. FOSTER. Yes.

Dr. GINGREY. Three percent. Thank you.

Chairman BOEHLERT. Ms. Lofgren.

Ms. LOFGREN. Mr. Chairman, I, just very briefly, wanted to thank Chairman Ehlers and—for accepting my amendment relative to the establishment of research centers for safety. I serve on the Homeland Security Committee, and I think the willingness to accept that amendment is a very important one, and I appreciate it and wanted to offer my thanks and my support for the bill.

Chairman BOEHLERT. Thanks for that observation, and thanks for that input. Very valuable. Anything further?

Let us proceed. The next amendment on the roster, and we are told that we have to proceed this way by the parliamentarian, is amendment number two, an En Bloc amendment offered by Dr. Ehlers to his amendment in the nature of a substitute. Dr. Ehlers, are you ready to proceed?

Mr. EHLERS. Yes. I have an amendment at the desk.

Chairman BOEHLERT. The Clerk will report the amendment.

Ms. TESSIERI. En Bloc amendment offered by Mr. Ehlers to the amendment in the nature of a substitute.

*[En Bloc amendment offered by Dr. Ehlers appears in the Appendix.]*

Chairman BOEHLERT. The gentleman is now recognized for five minutes to explain his amendment.

Mr. EHLERS. Thank you, Mr. Chairman. And I will use far less than five minutes. I will be brief.

I am pleased to offered this En Bloc amendment, which has been worked out with both the majority and minority Members and includes amendments by Mr. Burgess to create a road weather research program, Mr. Neugebauer to create a math science education program, Ms. Biggert to clarify that all federally funded laboratories are eligible to participate in the R&D programs, Ms. Jackson Lee to ensure that low-income and minority citizens are included as a category in policy research, and Ms. Johnson to develop innovative technologies to improve public input into planning.

I am willing to yield my time to any of these Members if they wish to make a brief statement, although most of them have already spoken.

[The prepared statement of Mr. Ehlers follows:]

PREPARED STATEMENT OF REPRESENTATIVE VERNON J. EHLERS

Thank you Mr. Chairman.

I will be brief. I am pleased to offer this En Bloc amendment which has been worked out with the majority and minority Members and includes amendments by Mr. Burgess to create a road weather research program, Mr. Neugebauer to create a math science education program, Ms. Biggert to clarify that all federally funded laboratories are eligible to participate in the R&D programs, Ms. Jackson Lee to ensure that low-income and minorities citizens are included as a category in policy research, and Ms. Johnson to develop innovative technologies to improve public input into planning.

I yield my time to any of these Members if they wish to make a brief statement.

Chairman BOEHLERT. Thank you very much. If there is——

Mr. EHLERS. Mr. Burgess. I am pleased to yield two minutes to Mr. Burgess.

Mr. BURGESS. Thank you, Dr. Ehlers.

My amendment will simply create a federal road weather research program within the Department of Transportation. The concept for this program came from a report by the National Research Council, which was sponsored by the Federal Highway Administration. This program would bring together the weather and transportation research communities to maximize the use of available weather information and technologies, and especially to improve safety and efficiency. The amendment calls for the program to be funded at $5 million each year, which would come from the existing major research account for highway research.

I want to thank my Subcommittee Chairman, Dr. Ehlers, and Chairman Boehlert for supporting my amendment.

And just before I yield back my time, I just have to say how good it is to see Mr. Hall on our side of the bench. I will yield back.

Chairman BOEHLERT. Let me tell you, Mr. Burgess, it is good to see Mr. Hall any place.

Is there anything further?

Mr. EHLERS. Reclaiming my time, I now yield two minutes to Mr. Neugebauer.

Mr. NEUGEBAUER. Thank you, Mr. Chairman, and thank you, Mr. Ehlers, for working with me on this important amendment. My amendment authorizes the Garret Morgan Technology and Transportation Education Program. While that title is very long, the concept is simple. This program will help improve the preparation of students, particularly females and minorities, in science, technology, engineering, and mathematics throughout their curriculum development and other activities related to transportation.

And Mr. Chairman, I yield back the balance of my time.

Chairman BOEHLERT. Dr. Ehlers.

Mr. EHLERS. Reclaiming my time, I yield two minutes to Ms. Johnson.

Ms. JOHNSON. Thank you very much, Mr. Chairman.

I am very grateful to the Committee leadership for agreeing to include my amendment in the Surface Transportation Act, and I have always been a proponent of including public opinion in our governing process. And I believe this amendment is an effective tool to accomplish that.

Government agencies and planning organizations spend a great deal of time and money on obtaining public input into transportation planning and policies yet meaningful public input has prov-

en difficult to obtain. Forums for public discussion tend to draw sparse attendance and are often dominated by vocal and unrepresentative minorities. Conventional surveys, by contrast, measure the opinions of the whole public, but those opinions typically rest on little prior thought or information. The combination of representative, yet informed, opinions remain elusive.

Recognition of these problems has led to the widespread calls, from the Bush Administration and elsewhere, for innovation. Among the priority areas for research funding designated by the Administration's Surface Transportation Reauthorization proposal (SAFETEA) is the development of "improved methods for community involvement, collaborative planning, and conflict resolution."

Deliberative Polling is such a method. It provides public input that is both informed and representative. Thus the Center for Deliberative Democracy at Stanford University and the career—the Center for Transportation Research at the University of Texas at Austin propose conducting Deliberative Polls on transportation issues at the national, State, and local levels.

A Deliberative Poll begins by drawing and interviewing a random sample of the public then inviting them to a common site to discuss the issues. And I would like to ask unanimous consent to file the rest of that statement. And I would also like to take——

Chairman BOEHLERT. Without objection.

[The prepared statement of Ms. Johnson follows:]

PREPARED STATEMENT OF REPRESENTATIVE EDDIE BERNICE JOHNSON

Thank you, Mr. Chairman. I am very grateful to the Committee leadership for agreeing to include my amendment in the Surface Transportation Act. I have always been a proponent of including public opinion in our governing processes and I believe this amendment is an effective tool to accomplish that.

Government agencies and planning organizations spend a great deal of time and money on obtaining public input into transportation planning and policies. Yet meaningful public input has proven difficult to obtain. Forums for public discussion tend to draw sparse attendance and are often dominated by vocal, unrepresentative minorities. Conventional surveys, by contrast, measure the opinions of the whole public, but those opinions typically rest on little prior thought or information. The combination of representative yet informed opinion remains elusive.

Recognition of these problems has led to widespread calls, from the Bush Administration and elsewhere, for innovation. Among the priority areas for research funding designated by the Administration's Surface Transportation Reauthorization proposal (SAFETEA) is the development of "improved methods for community involvement, collaborative planning, and conflict resolution."

Deliberative Polling is such a method. It provides public input that is both informed and representative. Thus the Center for Deliberative Democracy at Stanford University and the Center for Transportation Research at the University of Texas at Austin propose conducting Deliberative Polls on transportation issues at the national, State, and local levels.

A Deliberative Poll begins by drawing and interviewing a random sample of the public, then inviting them to a common site to discuss the issues, usually over a weekend. The participants are sent carefully balanced briefing materials laying out the major arguments for and against a set of policy proposals. Then, during the weekend, they alternate between discussing the issues in randomly assigned small groups led by trained moderators and questioning panels of competing experts or policy-makers in plenary sessions. The 20-plus Deliberative Polls to date have covered such topics as crime policy, America's role in the world, the future of the American family, the state of the American economy, and the best ways of meeting future energy needs.

In the realm of transportation policy, Deliberative Polling could be applied to the question of how to fund future public spending on highways and public transit. Particularly at the federal level, funding has come predominantly from taxes on gaso-

line and other motor fuels, but the move toward fuel-saving technologies like hybrid engines, along with other factors, may diminish the adequacy of this revenue source.

The method could also be brought to bear on such other transportation issues as streamlining the environmental clearance process, improving highway safety, providing support for the development of alternative fuels, the appropriate level and composition of government spending on surface transportation, land use planning to moderate the growth of roadway traffic, commercial truck standards, variable toll pricing programs, high occupancy toll lanes, intermodal freight transportation facilities, and public private collaboration on transportation infrastructure. The focus could also include proposals for specific projects, for instance of building a given light rail system or of building or improving a given road.

There are two Centers with dedicated personnel that afford a unique combination of expertise. Deliberative Polling was developed by Professor James Fishkin, then at the University of Texas, now heading the Center for Deliberative Democracy at Stanford University, in collaboration with Professor Robert Luskin, then and now at the University of Texas. The Center for Transportation Research, closely linked to the University of Texas's highly ranked department of Civil Engineering and staffed by economists and planners, as well as engineers, is an eminent center for transportation research.

Again, thank you Mr. Chairman for including my amendment, and I yield back my time.

Ms. JOHNSON.—this opportunity to applaud Representative Neugebauer for introducing this very important amendment that he offered. The amendment authorized the Garrett A. Morgan Technology and Transportation Education Program, a program initially established by Secretary Rodney Slater in 1997.

As this is African American History month, it is very appropriate that we recognize Garrett Morgan, an African-American businessman and inventor whose curiosity and innovation led to the development of many useful and helpful products. A practical man of humble beginnings, Morgan devoted his life to creating things that made the lives of other people safer and more efficient. So this program is a continuation of that legacy.

Thank you very much.

[The prepared statement of Ms. Johnson follows:]

PREPARED STATEMENT OF REPRESENTATIVE EDDIE BERNICE JOHNSON

Mr. Chairman, I would like to take this opportunity to applaud Representative Neugebauer for introducing this very important amendment. The amendment authorizes the Garrett A. Morgan Technology and Transportation Education Program, a program initially established by Secretary Rodney Slater in 1997.

As this is African American History month, it is very appropriate that we recognize Garret Morgan, an African-American businessman and inventor whose curiosity and innovation led to the development of many useful and helpful products. A practical man of humble beginnings, Morgan devoted his life to creating things that made the lives of other people safer and more convenient.

This program is a continuation of his legacy. While much of the seasoned transportation work force is retiring, the demand for both traditional and new skills is expanding. The Nation's need for technologically literate transportation workers continues to grow. The Garrett A. Morgan Technology and Transportation Futures Program bridges this divide by working towards these three goals:

- To build a bridge between America's youth and the transportation community;
- To support the development of improved educational technology that provides better ways for people to acquire new skills; and
- To ensure that America's transportation work force for the 21st century is technologically literate and internationally competitive.

Unfortunately, the Program exists on too few funds. However, this amendment sets the authorization level at $500,000 in FY05 and such sums for the duration of the bill.

I would also like to personally thank Representative Neugebauer for maintaining language in his amendment that directs the Program to emphasize participation of

women and minorities, who have been significantly under-represented in the past. For these reasons, I support this amendment and as that my colleagues do the same.

Chairman BOEHLERT. Thank you. Dr. Ehlers.

Mr. EHLERS. Reclaiming my time. I do not see anyone else——

Chairman BOEHLERT. Ms. Jackson Lee——

Mr. EHLERS. I am sorry.

Chairman BOEHLERT.—wants a brief intervention.

Mr. EHLERS. I am pleased to yield two minutes to Ms. Jackson Lee.

Ms. JACKSON LEE. Dr. Ehlers, thank you very much.

Our Committee has spent its time, through several Chairpersons, including you, Mr. Chairperson and Dr. Ehlers, opening up opportunities to minorities and others. And I want to associate myself with the support of Mr. Neugebauer's amendment dealing with Garrett A. Morgan Technology and Transportation Education Program and finding the monies in this very tight budget era that we are in and particularly applaud the fact that we are joining in a bipartisan way to support Secretary Rodney Slater's initiative, along with the Clinton Administration, to ensure that this program goes forward. So I know that our young people will benefit from a program of this great excellence, and I yield back. Thank you.

Chairman BOEHLERT. Thank you. If there is no further discussion, the vote occurs on the amendment. All in favor, say aye. Those opposed, say no. The ayes have it, and the amendment is agreed to.

Are there any further amendments? Hearing none, the question is on the amendment in the nature of a substitute as amended. All in favor, say aye. Opposed, no. The ayes have it. And the amendment in the nature of a substitute, as amended, is agreed to.

The question is now on the bill H.R. 3551, the *Surface Transportation Research Act,* as amended. All of those in favor, say aye. Opposed, no. In the opinion of the Chair, the ayes have it.

I will now recognize Mr. Gordon for a motion.

Mr. GORDON. Mr. Chairman, I move the Committee favorably report H.R. 3551, as amended, to the House with the recommendation that the bill, as amended, do pass. Furthermore, I move that the staff be instructed to prepare the legislative report and make necessary technical and conforming changes, that the Chairman take all necessary steps to bring the bill before the House for consideration.

Chairman BOEHLERT. The question is on the motion to report the bill favorably. Those in favor will say aye. Opposed, no. The Clerk—the ayes appear to have it, and the resolution is favorably reported.

Without objection, the motion to reconsider is laid on the table. I move that Members have two subsequent calendar days in which to submit supplemental, minority, or additional views on the measure. I move pursuant to Clause 1 of Rule 22 of the Rules of the House of Representatives that the Committee authorize the Chairman to offer such motions as may be necessary in the House to adopt and pass H.R. 3551, as amended, and to go to conference with the Senate on H.R. 3551, or a similar Senate bill. Without objection, so ordered.

This concludes our committee markup, and I thank my colleagues for their enthusiastic participation. We are now adjourned.

[Whereupon, at 1:33 p.m., the Committee was adjourned.]

# Appendix:

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AMENDMENT ROSTER, AMENDMENTS

**COMMITTEE ON SCIENCE**
**FULL COMMITTEE MARKUP**

**FEBRUARY 4, 2004**

**AMENDMENT ROSTER**

**H.R. 3551, Surface Transportation Research and Development Act of 2004**
--Motion to adopt the bill, as amended: agreed to by a voice vote.
--Motion to report the bill, as amended: agreed to by a voice vote.

| No. | Sponsor | Description | Results |
|---|---|---|---|
| 1. | Mr. Ehlers | Amendment In the Nature of a Substitute to H.R. 3551. | --Adopted by a voice vote, as amended. |
| 2. | Mr. Ehlers | En Bloc Amendments Offered by Mr. Ehlers to the Amendment In The Nature of a Substitute | --Adopted by a voice vote. |
| | | | |

**AMENDMENT IN THE NATURE OF A SUBSTITUTE**

**TO H.R. 3551**

**OFFERED BY MR. EHLERS**

Strike all after the enacting clause and insert the following:

**SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

(a) SHORT TITLE.—This Act may be cited as the "Surface Transportation Research and Development Act of 2004".

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

**SEC. 2. FINDINGS.**

The Congress finds the following:

(1) Research and development are critical to developing and maintaining a transportation system that meets the goals of safety, mobility, economic vitality, efficiency, equity, and environmental protection.

(2) Federally sponsored surface transportation research and development has produced many successes. The development of rumble strips has increased safety; research on materials has increased the lifespan of pavements, saving money and reducing the disruption caused by construction; and Geographic Information Systems have improved the management and efficiency of transit fleets.

(3) Despite these important successes, the Federal surface transportation research and development investment represents less than one percent of overall government spending on surface transportation.

(4) While Congress increased funding for overall transportation programs by about 40 percent in

the Transportation Equity Act for the 21st Century, funding for transportation research and development remained relatively flat.

(5) The Federal investment in research and development should be balanced between short-term applied and long-term fundamental research and development. The investment should also cover a wide range of research areas, including research on materials and construction, research on operations, research on transportation trends and human factors, and research addressing the institutional barriers to deployment of new technologies.

(6) Therefore, Congress finds that it is in the United States interest to increase the Federal investment in transportation research and development, and to conduct research in critical research gaps, in order to ensure that the transportation system meets the goals of safety, mobility, economic vitality, efficiency, equity, and environmental protection.

# TITLE I—SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT

**SEC. 101. AUTHORIZATION OF APPROPRIATIONS.**

(a) IN GENERAL.—There are authorized to be appropriated for each of fiscal years 2004 through 2009, to carry out this title and the amendments made by this title (other than sections 108 and 109) and other programs described in subsection (b), the greater of—

(1) 1.08 percent of the amounts made available in each fiscal year from the Highway Trust Fund; or

(2) $500,000,000.

(b) PROGRAMS.—Of the amount authorized to be appropriated under subsection (a)—

(1) 51 percent shall be for carrying out sections 502, 503, 506, 507, 508, and 510 of title 23, United States Code, section 5113(b) of the Transportation Equity Act for the 21st Century, and section 104(d) of this Act, for each of fiscal years 2004 through 2009, of which—

(A) not less than $20,000,000 shall be for the Surface Transportation Environment and Planning Cooperative Research Program under

section 507 of title 23, United States Code, for each of those fiscal years;

(B) not less than $10,000,000 shall be for advanced exploratory research under section 502(d) of title 23, United States Code, for each of those fiscal years; and

(C) not less than $5,000,000 shall be for the National Multimodal Trends Policy Research Program under section 104(d) of this Act for each of those fiscal years;

(2) 6.5 percent shall be for carrying out section 504 of title 23, United States Code, for each of fiscal years 2004 through 2009;

(3) 6.5 percent shall be for carrying out section 111 of title 49, United States Code, for each of fiscal years 2004 through 2009, of which not less than $5,000,000 shall be for research and development grants under subsection (i)(2) of such section for each of fiscal years 2004 through 2009;

(4) 11.5 percent shall be for carrying out section 5505 of title 49, United States Code, for each of fiscal years 2004 through 2009; and

(5) 24.5 percent shall be for carrying out the Intelligent Transportation Systems Act of 2004 for each of fiscal years 2004 through 2009.

**SEC. 102. GOALS, PRINCIPLES, AND PROCESSES.**

(a) GOALS.—The Federal Government shall support surface transportation research and development to help achieve the goals established for the surface transportation system as set forth in the Transportation Equity Act for the 21st Century, including supporting economic vitality, improving safety and security, increasing mobility, protecting and enhancing the environment, improving integration between modes of transportation, promoting efficiency, and emphasizing the preservation of the existing transportation system.

(b) BASIC PRINCIPLES GOVERNING RESEARCH AND DEVELOPMENT.—

(1) COVERAGE.—Surface transportation research and development shall include all activities leading to technology development and transfer, as well as the introduction of new and innovative ideas, practices, and approaches, through such mechanisms as field applications, education and training, and technical support.

(2) FEDERAL RESPONSIBILITY.—The Federal Government shall fund and conduct surface transportation research and development and technology transfer activities that—

(A) are of national significance;

(B) support research and development in which there is a clear public benefit, and private sector investment is less than optimal due to market failure;

(C) support research and development that the Secretary determines is critical that is not otherwise being conducted by the public or private sector; or

(D) support a Federal stewardship role in ensuring that State and local governments use national resources efficiently.

(3) ROLE.—Consistent with these Federal responsibilities, the Secretary of Transportation shall—

(A) conduct research and development;

(B) support and facilitate research and development and technology transfer activities by State highway agencies, metropolitan planning organizations, and local governments;

(C) share results of completed research and development; and

(D) support and facilitate technology and innovation deployment.

(4) PROGRAM CONTENT.—The surface transportation research and development program shall include—

(A) fundamental, long-term research;

(B) research and development aimed at significant research gaps, and emerging issues with national implications; and

(C) research related to policy and planning.

(c) PROCESSES.—

(1) STAKEHOLDER INPUT.—Federal surface transportation research and development activities shall address the needs of stakeholders. Stakeholders include States, metropolitan planning organizations, local governments, the private sector, researchers, research sponsors, and other affected parties, including public interest groups.

(2) COMPETITION AND PEER REVIEW.—Except as otherwise provided in this Act, the Secretary shall award all grants, contracts, and cooperative agreements for research and development under this Act based on open competition and peer review of proposals.

(3) PERFORMANCE REVIEW AND EVALUATION.—To the maximum extent practicable, all sur-

face transportation research and development projects shall include a component of performance measurement and evaluation. Performance measures shall be established during the proposal stage of a research and development project and shall, to the maximum extent possible, be outcome-based. All evaluations shall be made readily available to the public.

**SEC. 103. TRANSPORTATION RESEARCH AND DEVELOPMENT STRATEGIC PLANNING.**

(a) AMENDMENT.—Section 508 of title 23, United States Code, is amended to read as follows:

**"§ 508. Transportation research and development strategic planning**

"(a) IN GENERAL.—

"(1) DEVELOPMENT.—Not later than 1 year after the date of enactment of the Surface Transportation Research and Development Act of 2004, the Secretary shall develop a 5-year transportation research and development strategic plan to guide Federal transportation research and development activities. This plan shall be consistent with section 306 of title 5, sections 1115 and 1116 of title 31, and any other research and development plan within the Department of Transportation.

"(2) CONTENTS.—The strategic plan developed under paragraph (1) shall—

"(A) describe the primary purposes of the transportation research and development program, which shall include, at a minimum—

"(i) reducing congestion and improving mobility;

"(ii) promoting safety;

"(iii) promoting security;

"(iv) protecting and enhancing the environment;

"(v) preserving the existing transportation system; and

"(vi) improving the durability and extending the life of transportation infrastructure;

"(B) for each purpose, list the primary research and development topics that the Department intends to pursue to accomplish that purpose, which may include the fundamental research in the physical and natural sciences, applied research, technology development, and social science research intended for each topic; and

"(C) for each research and development topic, describe—

"(i) the anticipated annual funding levels for the period covered by the strategic plan; and

"(ii) the additional information the Department expects to gain at the end of the period covered by the strategic plan as a result of the research and development in that topic area.

"(3) CONSIDERATIONS.—In developing the strategic plan, the Secretary shall ensure that the plan—

"(A) reflects input from a wide range of stakeholders;

"(B) includes and integrates the research and development programs of all the Department's operating administrations, including aviation, transit, rail, and maritime; and

"(C) takes into account how research and development by other Federal, State, private sector, and not-for-profit institutions contributes to the achievement of the purposes identified under paragraph (2)(A), and avoids unnecessary duplication with these efforts.

"(4) PERFORMANCE PLANS AND REPORTS.—In reports submitted under sections 1115 and 1116 of title 31, the Secretary shall include—

"(A) a summary of the Federal transportation research and development activities for the previous fiscal year in each topic area;

"(B) the amount of funding spent in each topic area;

"(C) a description of the extent to which the research and development is meeting the expectations set forth in paragraph (2)(C)(ii); and

"(D) any amendments to the strategic plan.

"(b) The Secretary shall submit to Congress an annual report, along with the President's annual budget request, describing the amount spent in the last completed fiscal year on transportation research and development and the amount proposed in the current budget for transportation research and development.

"(c) NATIONAL RESEARCH COUNCIL REVIEW.—The Secretary shall enter into an agreement for the review by the National Research Council of the details of each—

"(1) strategic plan under section 508;

"(2) performance plan required under section 1115 of title 31; and

"(3) program performance report required under section 1116 of title 31,

with respect to transportation research and development.".

(b) CONFORMING AMENDMENT.—The analysis for chapter 5 of title 23, United States Code, is amended by striking the item related to section 508 and inserting the following:

"508. Transportation research and development strategic planning.".

**SEC. 104. SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT.**

(a) SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT.—Section 502 of title 23, United States Code, is amended—

(1) in subsection (a)—

(A) in paragraph (1), by striking "may" and inserting "shall"; and

(B) by striking subparagraphs (B) and (C) of paragraph (1) and inserting the following:

"(B) all phases of transportation planning and development (including construction, transportation system management and operation, modernization, development, design, maintenance, safety, data collection, performance analysis, multimodal assessment, financing, demand forecasting, and traffic conditions);

"(C) institutional arrangements and support; and

"(D) the effect of State laws on the activities described in subparagraphs (A), (B), and (C).";

(2) by amending subsection (c) to read as follows:

"(c) CONTENTS OF RESEARCH AND DEVELOPMENT PROGRAM.—The Secretary shall include in surface transportation research, development, and technology transfer programs carried out under this title coordinated activities in the following areas:

"(1) Research and development on materials and structures to improve the durability of surface transportation infrastructure and extend the life of pavements and bridges, including, as appropriate—

"(A) development of nondestructive evaluation equipment for use with existing infrastructure facilities and with next-generation infrastructure facilities that use advanced materials;

"(B) standardized estimates, developed in conjunction with the National Institute of Standards and Technology and other appropriate organizations, of useful life under various

conditions for advanced materials of use in surface transportation;

"(C) research on the effects of climate conditions (such as freezing, thawing, and precipitation) on highway construction materials, and development of materials that can withstand climatic conditions; and

"(D) economic highway geometrics, structures, and desirable weight and size standards for vehicles using the public highways and the feasibility of uniformity in State regulations with respect to such standards.

"(2) Research and development on the operation and management of the surface transportation system to improve efficiency, productivity, and safety, including, as appropriate—

"(A) technologies and practices that reduce costs and minimize disruptions associated with the construction, rehabilitation, and maintenance of surface transportation systems, including responses to natural disasters;

"(B) research and system analysis to facilitate and integrate bicycle and pedestrian travel in the transportation system, including within

National Parks and in areas adjacent to National Park land;

"(C) development of dynamic simulation models of surface transportation systems for—

"(i) predicting capacity, safety, and infrastructure durability problems;

"(ii) evaluating the extent to which projects are likely to achieve their stated objectives; and

"(iii) testing the strengths and weaknesses of proposed revisions to surface transportation operations and management programs;

"(D) improvement of life cycle cost analysis, including—

"(i) establishing the appropriate analysis period and discount rates;

"(ii) learning how to value and properly consider use costs;

"(iii) determining tradeoffs between reconstruction and rehabilitation; and

"(iv) establishing methodologies for balancing higher initial costs of new technologies and improved or advanced materials against lower maintenance costs;

"(E) research on the effects of climatic conditions (such as freezing, thawing, and precipitation) on the costs of highway construction materials and maintenance;

"(F) research, development, and technology transfer related to asset management; and

"(G) evaluation of traffic calming measures that promote community preservation, transportation mode choice, and safety.

"(3) Research, development, and technology transfer to improve safety.

"(4) Research and development to support the evaluation of how the surface transportation system and individual surface transportation projects meet the goals of the surface transportation system stated in section 102(a) of the Surface Transportation Research and Development Act of 2004, including, as appropriate—

"(A) development, use, and dissemination of indicators, including appropriate computer programs for collecting and analyzing data on the status of infrastructure facilities, to measure the performance of the surface transportation systems of the United States, including

productivity, efficiency, energy use, air quality, congestion, safety, maintenance, and other factors that reflect system performance; and

"(B) research on, and dissemination of recommendations and best practices aimed at addressing, nontechnical barriers to technology deployment (such as fragmented local authority, rigid procurement rules, and privacy and liability considerations).

"(5) To assess how the surface transportation system affects and is affected by social systems, including, as appropriate—

"(A) research aimed at understanding how emerging trends (including demographic, economic, and social trends) will affect surface transportation usage and needs;

"(B) research on how land use affects and is affected by surface transportation investments; and

"(C) telecommuting and the linkages between transportation, information technology, and community development, and the impact of technological change and economic restructuring on travel demand.

"(6) Environmental research and development, including research described in the Transportation Research Board Special Report 268, entitled 'Surface Transportation Environmental Research: A Long-Term Strategy' published in 2002.

"(7) Exploratory advanced research in any of the preceding areas.

"(8) Any other surface transportation research and development topics that the Secretary determines, in accordance with the strategic planning process under section 508, to be critical.";

(3) in subsection (d)—

(A) in paragraph (1), by inserting "exploratory" after "shall establish an"; and

(B) by striking paragraph (2) and inserting the following new paragraphs:

"(2) PURPOSE.—The purpose of the research program under this subsection shall be to achieve breakthroughs in transportation research. Exploratory advanced research should have a broader objective, longer time frame, multidisciplinary nature, and have both a higher risk and a higher potential payoff than for problem-solving research.

"(3) WORKSHOP.—The Secretary shall convene a workshop with appropriate researchers and policy-

makers from Federal and State agencies, as well as academic researchers. The purpose of the workshop shall be to determine priority areas of exploratory advanced research and to identify the best way to accomplish this research (such as through Federal laboratories or academic researchers). The workshop shall include a diverse group of stakeholders. The Secretary shall make the results of the workshop widely available to the public. The workshop shall be held within 6 months after the date of the enactment of this paragraph.

"(4) GRANT PROGRAM.—The Secretary may administer a competitive, peer-reviewed grant program to support exploratory advanced research.

"(5) REPORT.—The President's annual budget request to the Congress shall indicate the amount of funding used in the previous fiscal year, and proposed for the next fiscal year, to support exploratory advanced research under this subsection, including the amount used to support extramural research grants in exploratory advanced research under this subsection.";

(4) in subsection (e), by striking "(105 Stat." and all that follows through "performance program"

and inserting "and the Transportation Equity Act for the 21st Century";

(5) by redesignating subsections (f) and (g) as subsections (g) and (h), respectively, and by inserting after subsection (e) the following new subsection:

"(f) LONG-TERM BRIDGE PERFORMANCE PROGRAM.—

"(1) AUTHORITY.—The Secretary shall establish a 20-year, long-term bridge performance program.

"(2) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—Under the program, the Secretary shall make grants and enter into cooperative agreements and contracts to—

"(A) monitor, material-test, and evaluate test bridges;

"(B) analyze the data obtained in carrying out subparagraph (A); and

"(C) prepare products to fulfill program objectives and meet future bridge technology needs.";

(6) in subsection (h), as so redesignated by paragraph (5) of this subsection—

(A) in paragraph (1), by striking "January 31, 1999" and inserting "July 31, 2004"; and

(B) in paragraph (2), by striking "biannual reports" and all that follows through "21st Century" and inserting "previous reports under this subsection"; and

(7) by adding at the end the following new subsection:

"(i) TURNER-FAIRBANK HIGHWAY RESEARCH CENTER.—

"(1) IN GENERAL.—The Secretary shall operate in the Federal Highway Administration a Turner-Fairbank Highway Research Center.

"(2) USES OF THE CENTER.—The Turner-Fairbank Highway Research Center shall support the—

"(A) conduct of highway research and development related to new highway technology;

"(B) development of understandings, tools, and techniques that provide solutions to complex technical problems through the development of economical and environmentally sensitive designs, efficient and quality controlled construction practices, and durable materials; and

"(C) development of innovative highway products and practices.".

(b) GEOSPATIAL INFORMATION SYSTEMS.—Section 5113 of the Transportation Equity Act for the 21st Century (23 U.S.C. 502 note) is amended by revising subsection (b) to read as follows:

"(b) PROGRAM.—

"(1) NATIONAL POLICY.—The Secretary shall establish and maintain a national policy for the use of commercial remote sensing products and geospatial information technologies in national transportation infrastructure development and construction.

"(2) POLICY IMPLEMENTATION.—The Secretary shall develop new applications of commercial remote sensing products and geospatial information technologies for the implementation of the national policy established and maintained under (b)(1) of this section.".

(c) ENVIRONMENT AND PLANNING.—

(1) AMENDMENT.—Section 507 of title 23, United States Code, is amended to read as follows:

**"§ 507. Surface Transportation Environment and Planning Cooperative Research Program**

"(a) IN GENERAL.—

"(1) ESTABLISHMENT.—The Secretary shall establish and support a collaborative, public-private,

multimodal surface transportation environment and planning cooperative research and development program.

"(2) PROGRAM.—The program established under paragraph (1) shall solely carry out research and development called for in the Transportation Research Board Special Report 268, entitled 'Surface Transportation Environmental Research: A Long-Term Strategy', published in 2002, which included the following research and development areas:

"(A) Human Health.

"(B) Ecology and Natural Systems.

"(C) Environmental and Social Justice.

"(D) Emerging Technologies.

"(E) Land Use.

"(F) Planning and Performance Measures.

"(b) ADMINISTRATION.—

"(1) AGREEMENT.—The Secretary shall enter into an arrangement with the National Research Council, or another nonprofit research organization, such as the Health Effects Institute, to administer the program established under subsection (a)(1).

"(2) DISSEMINATION OF RESEARCH AND DEVELOPMENT FINDINGS.—The organization described in paragraph (1) and the Department of Transpor-

tation shall proactively disseminate research and development findings under this section to researchers, practitioners, and decisionmakers.

"(c) ADVISORY BOARD.—

"(1) ESTABLISHMENT.—The organization described in subsection (b)(1) shall establish an advisory board.

"(2) MEMBERSHIP.—The advisory board shall be balanced, and shall include—

"(A) representatives from pubic interest groups representing the environment;

"(B) representatives of State, regional, and local transportation agencies, including metropolitan planning organizations and transit agencies;

"(C) representatives of State environmental agencies;

"(D) transportation and environmental scientists and engineers; and

"(E) representatives of Federal agencies, including the Department of Transportation, the Environmental Protection Agency, and the National Science Foundation.

"(3) RESPONSIBILITIES.—The advisory board shall—

"(A) develop an annual research and development agenda to carry out research and development activities described in subsection (a)(2);

"(B) solicit research proposals to carry out the research and development agenda, and oversee peer review of proposals;

"(C) develop project selection criteria through an open and public consultation process with stakeholders; and

"(D) select projects for funding.

"(4) CRITERIA.—In developing criteria, the advisory board shall give priority to proposals that—

"(A) are designed to develop fundamental knowledge;

"(B) are interdisciplinary and involve partnerships; and

"(C) include significant matching funds.

"(d) PROJECT FUNDING.—In addition to using funds authorized for this section, the organization described in subsection (b)(1) is encouraged to seek and accept additional funding sources from public and private entities.

"(e) ANNUAL REPORT.—The organization described in subsection (b)(1) shall prepare and transmit to the Secretary and the Congress an annual report that includes a project summary for every project funded under this sec-

tion. Each summary shall describe the project, summarize its status and funding levels, and identify sources of funding.".

(2) CONFORMING AMENDMENT.—The analysis for chapter 5 of title 23, United States Code, is amended by striking the item related to section 507 and inserting the following:

"507. Surface transportation environment and planning cooperative research program.".

(d) NATIONAL MULTIMODAL TRENDS POLICY RESEARCH AND DEVELOPMENT PROGRAM.—

(1) IN GENERAL.—The Secretary shall carry out a National Multimodal Trends Policy Research and Development Program that systematically addresses critical short-term, medium-term, and long-term social science issues affecting and affected by the transportation system.

(2) CONTENTS.—The program to be carried out under this subsection shall include research and development on—

(A) how, and the extent to which, the overall transportation system is meeting the goals set forth in the Transportation Equity Act for the 21st Century, and how to improve evaluation methodologies and performance measures;

(B) the development of policy analysis tools and methods for use by decisionmakers;

(C) the critical factors and major trends affecting the success and performance of the Nation's transportation system, as well as how such information can be incorporated into national, State, and local decisionmaking;

(D) economic, demographic, and social trends that are affecting and are affected by the transportation system, including such topics as—

(i) economic trends, including international trade and its effects on the transportation of people and goods, rapidly changing information technology, the changing nature of metropolitan economies, diversification of employment sites, and innovations in goods movement;

(ii) demographic trends, changing residential patterns, and the aging of the population; and

(iii) social trends, including income disparity, access of underserved populations to jobs, services and health care, the needs of rural populations, and the ef-

fects of new technologies on driver behavior;

(E) how institutional factors affect the development and successful deployment of new technologies; and

(F) other critical issues identified by the Advisory Board established under paragraph (4).

(3) ESTABLISHMENT.—The Secretary shall enter into an arrangement with the National Research Council to establish the advisory board under paragraph (4) and to administer the program.

(4) ADVISORY BOARD.—

(A) MEMBERSHIP.—A majority of members of the advisory board shall be experts in a broad array of social science fields. Additional members of the advisory board shall be balanced among representatives of Federal, State, and local transportation agencies, other agencies with appropriate expertise, metropolitan planning organizations, transit operating agencies, and environmental and other nonprofit organizations.

(B) RESPONSIBILITIES.—The advisory board shall—

(i) develop a detailed research and development agenda, which shall serve as the basis of the annual project solicitation;

(ii) annually solicit project proposals, through open competition and peer review of research and development proposals; and

(iii) develop project selection criteria, through an open and public consultation process with stakeholders.

(5) DISSEMINATION OF RESEARCH AND DEVELOPMENT FINDINGS.—The National Research Council and the Department of Transportation shall disseminate research and development findings under this subsection to researchers, practitioners, and decisionmakers.

**SEC. 105. TECHNOLOGY DEPLOYMENT.**

(a) TECHNOLOGY DEPLOYMENT PROGRAM.—Section 503(a) of title 23, United States Code, is amended—

(1) in the subsection heading, by striking "INITIATIVES AND PARTNERSHIPS";

(2) by striking paragraph (1) and inserting the following:

"(1) ESTABLISHMENT.—The Secretary shall develop and administer a national technology deployment program.";

(3) by striking paragraph (7) and inserting the following:

"(7) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—

"(A) IN GENERAL.—Under the program, the Secretary shall make grants to, and enter into cooperative agreements and contracts with, States, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations to pay the Federal share of the cost of research, development, and technology transfer concerning innovative materials.

"(B) APPLICATIONS.—To receive a grant under this subsection, an entity described in subparagraph (A) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications based on open competition and peer review, and on whether the project that is the subject of the grant

serves the purpose of the program described in paragraph (2).";

(4) by striking paragraph (8);

(5) by redesignating paragraph (9) as paragraph (10); and

(6) by inserting after paragraph (7) the following:

"(8) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall ensure that the information and technology resulting from research and development conducted under paragraph (3) is made available to State and local transportation departments and other interested parties as specified by the Secretary.

"(9) FEDERAL SHARE.—The Federal share of the cost of a project under this section shall be determined by the Secretary.".

(b) INNOVATIVE BRIDGE RESEARCH AND DEPLOYMENT PROGRAM.—

(1) IN GENERAL.—Section 503(b) of title 23, United States Code, is amended by striking paragraph (1) and inserting:

"(1) IN GENERAL.—The Secretary shall establish and carry out a program to promote, demonstrate, evaluate, and document the application of

innovative designs, materials and construction methods in the construction, repair, and rehabilitation of bridges and other highway structures.".

(2) GOALS.—Section 503(b) of such title is amended by striking paragraph (2) and inserting:

"(2) GOALS.—The goals of the program shall include—

"(A) the development of new, cost-effective, innovative highway bridge applications;

"(B) the development of construction techniques to increase safety and reduce construction time and traffic congestion;

"(C) the development of engineering design criteria for innovative products, materials, and structural systems for use in highway bridges and structures;

"(D) the reduction of maintenance costs and life-cycle costs of bridges, including the costs of new construction, replacement, or rehabilitation of deficient bridges;

"(E) the development of highway bridges and structures that will withstand natural disasters and terrorist attacks;

"(F) the documentation and wide dissemination of objective evaluations of the perform-

ance and benefits of these innovative designs, materials, and construction methods; and

"(G) the effective transfer of resulting information and technology.".

(c) INNOVATIVE PAVEMENT RESEARCH AND DEPLOYMENT PROGRAM.—Section 503 of title 23, United States Code, is amended by adding after subsection (b) the following:

"(c) INNOVATIVE PAVEMENT RESEARCH AND DEPLOYMENT PROGRAM.—

"(1) IN GENERAL.—The Secretary shall establish and implement a program to promote, demonstrate, support, and document the application of innovative pavement technologies, practices, performance, and benefits.

"(2) GOALS.—The goals of the innovative pavement research and deployment program shall include—

"(A) the deployment of new, cost-effective innovative designs, materials, and practices to extend pavement life and performance and to improve customer satisfaction;

"(B) the reduction of initial costs and lifecycle costs of pavements, including the costs of

new construction, replacement, maintenance, and rehabilitation;

"(C) the deployment of accelerated construction techniques, including innovative pavement materials, to increase safety and reduce construction time and traffic disruption and congestion;

"(D) the deployment of engineering design criteria and specifications for innovative practices, products, and materials for use in highway pavements;

"(E) the deployment of new nondestructive and real time pavement evaluation technologies and techniques;

"(F) evaluation, refinement, and documentation of the performance and benefits of innovative technologies deployed to improve life, performance, cost effectiveness, safety, and customer satisfaction;

"(G) effective technology transfer and information dissemination to accelerate implementation of innovative technologies and to improve life, performance, cost effectiveness, safety, and customer satisfaction; and

"(H) the development of designs and materials to reduce storm water runoff.

"(3) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—

"(A) IN GENERAL.—Under the program, the Secretary shall make grants to, and enter into cooperative agreements and contracts with States, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations for research, development, and technology transfer for innovative safety technologies.

"(B) APPLICATIONS.—To receive a grant under this subsection, an entity described in subparagraph (A) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications based on open competition and peer review, and on whether the project that is the subject of the grant meets the goals of the program described in paragraph (2).

"(4) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall take such action as is

necessary to ensure that the information and technology resulting from research conducted under paragraph (3) is made available to State and local transportation departments and other interested parties as specified by the Secretary.".

(d) SAFETY INNOVATION DEPLOYMENT PROGRAM.—Section 503 of title 23, United States Code, as amended by this Act, is further amended by adding the following:

"(d) SAFETY INNOVATION DEPLOYMENT PROGRAM.—

"(1) IN GENERAL.—The Secretary shall establish and implement a program to demonstrate the application of innovative technologies in highway safety.

"(2) GOALS.—The goals of the program shall include—

"(A) the deployment and evaluation of safety technologies and innovations at state and local levels; and

"(B) the deployment of best practices in training, management, design, and planning.

"(3) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—

"(A) IN GENERAL.—Under the program, the Secretary shall make grants to, and enter

into cooperative agreements and contracts with States, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations for research, development, and technology transfer for innovative safety technologies.

"(B) APPLICATIONS.—To receive a grant under this subsection, an entity described in subparagraph (A) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications based on open competition and peer review, and on whether the project that is the subject of the grant meets the goals of the program described in paragraph (2).

"(4) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall take such action as is necessary to ensure that the information and technology resulting from research conducted under paragraph (3) is made available to State and local transportation departments and other interested parties as specified by the Secretary.".

**SEC. 106. TRAINING AND EDUCATION.**

(a) NATIONAL HIGHWAY INSTITUTE.—Section 504(a) of title 23, United States Code, is amended by striking paragraph (3) and inserting the following:

"(3) COURSES.—

"(A) IN GENERAL.—The Institute shall develop or update courses in the subject areas of asset management, application of emerging technologies, including intelligent transportation systems, techniques, methods, regulations, information technology, general management, environmental stewardship, acquisition of rights-of-way, relocation assistance, engineering, safety, transportation system management and operations, construction, maintenance, contract administration, inspection, and finance.

"(B) ADDITIONAL COURSES.—In addition to the courses in the subject matter areas described in subparagraph (A), the Institute, in consultation with State transportation departments and the American Association of State Highway and Transportation Officials, may develop other courses as it considers necessary.

"(C) REVISION OF COURSES OFFERED.—The Institute shall periodically—

"(i) review the course inventory of the Institute; and

"(ii) revise or cease to offer courses based on course content, applicability, and need.".

(b) LOCAL TECHNICAL ASSISTANCE PROGRAM.—Section 504(b) of title 23, United States Code, is amended by adding at the end the following:

"(3) FEDERAL SHARE.—

"(A) GRANTS.—The grant funds authorized to carry out this subsection may be used to cover up to 50 percent of the program costs relating to local technical assistance. Funds available for technology transfer and training purposes under this title and title 49 may be used to cover the remaining 50 percent of the program costs.

"(B) TRIBAL TECHNICAL ASSISTANCE CENTERS.—The Federal share of the cost of activities carried out by the tribal technical assistance centers under paragraph (2)(D)(ii) of this subsection shall be 100 percent.".

(c) SURFACE TRANSPORTATION WORKFORCE DEVELOPMENT, TRAINING, AND EDUCATION.—Section 504

of title 23, United States Code, is amended by adding at the end the following:

"(d) SURFACE TRANSPORTATION WORKFORCE DEVELOPMENT, TRAINING, AND EDUCATION.—

"(1) FUNDING.—Subject to project approval by the Secretary, a State may obligate funds apportioned to it under sections 104(b)(1), (3), and (4) and 144(e) of this title for surface transportation workforce development, training and education, including—

"(A) tuition and direct educational expenses, excluding salaries, in connection with the education and training of employees of State and local transportation agencies;

"(B) employee professional development;

"(C) student internships; or

"(D) education outreach activities to develop interest and promote participation in surface transportation careers.

"(2) FEDERAL SHARE.—The Federal share of the cost of activities carried out in accordance with this subsection shall be 100 percent.".

(d) DEFINITIONS AND DECLARATION OF POLICY.—Section 101(a) of title 23, United States Code, is amended—

(1) in paragraph (3), by—

(A) striking "and" after subparagraph (H);

(B) striking the period after subparagraph (I) and inserting "; and"; and

(C) adding after subparagraph (I) the following:

"(J) surface transportation workforce development, training, and education.";

(2) by redesignating paragraphs (34) through (37) as paragraphs (35) through (38) respectively; and

(3) by adding after paragraph (33), as redesignated by this Act, the following:

"(34) SURFACE TRANSPORTATION WORKFORCE DEVELOPMENT, TRAINING, AND EDUCATION.—The term 'surface transportation workforce development, training, and education' means activities associated with surface transportation career awareness, student transportation career preparation, and training and professional development for surface transportation workers, including activities for women and minorities.".

**SEC. 107. BUREAU OF TRANSPORTATION STATISTICS.**

Section 111 of title 49, United States Code, is amended to read as follows:

**"§ 111. Bureau of Transportation Statistics**

"(a) ESTABLISHMENT.—There is established in the Department of Transportation a Bureau of Transportation Statistics.

"(b) DIRECTOR.—

"(1) APPOINTMENT.—The Bureau shall be headed by a Director who shall be appointed by the President, by and with the advice and consent of the Senate.

"(2) QUALIFICATIONS.—The Director shall be appointed from among individuals who are qualified to serve as the Director by virtue of their training and experience in the collection, analysis, and use of transportation statistics.

"(3) REPORTING.—The Director shall report directly to the Secretary.

"(4) TERM.—The term of the Director shall be 5 years. The Director may continue to serve after the expiration of the term until a successor is appointed and confirmed.

"(c) RESPONSIBILITIES.—The Director of the Bureau shall serve as the Secretary's senior advisor on data

and statistics, and shall be responsible for carrying out the following duties:

"(1) PROVIDING DATA, STATISTICS, AND ANALYSIS TO TRANSPORTATION DECISIONMAKERS.—Ensuring that the statistics compiled under paragraph (5) are designed to support transportation decisionmaking by the Federal Government, State and local governments, metropolitan planning organizations, transportation-related associations, the private sector (including the freight community), and the public.

"(2) COORDINATING COLLECTION OF INFORMATION.—Working with the operating administrations of the Department to establish and implement the Bureau's data programs and to improve the coordination of information collection efforts with other Federal agencies.

"(3) DATA MODERNIZATION.—Continually improving surveys and data collection methods to improve the accuracy and utility of transportation statistics.

"(4) ENCOURAGING DATA STANDARDIZATION.—Encouraging the standardization of data, data collection methods, and data management and storage technologies for data collected by the Bureau, the

operating administrations of the Department of Transportation, States, local governments, metropolitan planning organizations, and private sector entities.

"(5) COMPILING TRANSPORTATION STATISTICS.—Compiling, analyzing, and publishing a comprehensive set of transportation statistics on the performance and impacts of the national transportation system, including statistics on—

"(A) productivity in various parts of the transportation sector;

"(B) traffic flows for all modes of transportation;

"(C) other elements of the Intermodal Transportation Database established under subsection (g);

"(D) travel times and measures of congestion;

"(E) vehicle weights and other vehicle characteristics;

"(F) demographic, economic, and other variables influencing traveling behavior, including choice of transportation mode, and goods movement;

"(G) transportation costs for passenger travel and goods movement;

"(H) availability and use of mass transit (including the number of passengers served by each mass transit authority) and other forms of for-hire passenger travel;

"(I) frequency of vehicle and transportation facility repairs and other interruptions of transportation service;

"(J) safety and security for travelers, vehicles, and transportation systems;

"(K) consequences of transportation for the human and natural environment;

"(L) the extent, connectivity, and condition of the transportation system, building on the National Transportation Atlas Database developed under subsection (g); and

"(M) transportation-related variables that influence the domestic economy and global competitiveness.

"(6) NATIONAL SPATIAL DATA INFRASTRUCTURE.—Building and disseminating the transportation layer of the National Spatial Data Infrastructure, including coordinating the development of transportation geospatial data standards, compiling

intermodal geospatial data, and collecting geospatial data that is not being collected by others.

"(7) ISSUING GUIDELINES.—Issuing guidelines for the collection of information by the Department of Transportation required for statistics to be compiled under paragraph (5) in order to ensure that such information is accurate, reliable, relevant, and in a form that permits systematic analysis. The Bureau shall review and report to the Secretary of Transportation on the sources and reliability of the statistics proposed by the heads of the operating administrations of the Department to measure outputs and outcomes as required by the Government Performance and Results Act of 1993, and the amendments made by such Act, and shall carry out such other reviews of the sources and reliability of other data collected or statistical information published by the heads of the operating administrations of the Department as shall be requested by the Secretary.

"(8) MAKING STATISTICS ACCESSIBLE.—Making the statistics published under this subsection readily accessible.

"(d) INFORMATION NEEDS ASSESSMENT.—

"(1) IN GENERAL.—Within 60 days after the date of the enactment of the Surface Transportation

Research and Development Act of 2004, the Secretary shall enter into an arrangement with the National Research Council to develop and publish a National Transportation Information Needs Assessment. The Assessment shall be transmitted to the Secretary and the Congress not later than 24 months after such arrangement is entered into.

"(2) CONTENT.—The Assessment shall—

"(A) identify, in priority order, transportation data that is not being collected by the Bureau, Department of Transportation operating administrations, or other Federal, State, or local entities, but is needed to improve transportation decisionmaking at the Federal, State, and local level and to fulfill the requirements of subsection (c)(5);

"(B) recommend whether the data identified in subparagraph (A) should be collected by the Bureau, other parts of the Department, or by other Federal, State, or local entities, and whether any data is a higher priority than data currently being collected;

"(C) identify any data the Bureau or other Federal, State, and local entities is collecting that is not needed;

"(D) describe new data collection methods (including changes in surveys) and other changes the Bureau or other Federal, State, and local entities should implement to improve the standardization, accuracy, and utility of transportation data and statistics; and

"(E) estimate the cost of implementing any recommendations.

"(3) CONSULTATION.—In developing the Assessment, the National Research Council shall consult with the Department's Advisory Council on Transportation Statistics and a representative cross-section of transportation community stakeholders as well as other Federal agencies, including the Environmental Protection Agency, the Department of Energy, and the Department of Housing and Urban Development.

"(4) REPORT TO CONGRESS.—Not later than 6 months after the National Research Council transmits the Needs Assessment under paragraph (1), the Secretary shall transmit a report to the Committee on Science and the Committee on Transportation and Infrastructure of the House of Representatives, and to the Committee on Environment and Public Works of the Senate, that describes—

"(A) how the Department plans to fill the data gaps identified under paragraph (2)(A);

"(B) how the Department plans to stop collecting data identified under paragraph (2)(C);

"(C) how the Department plans to implement improved data collection methods and other changes identified under paragraph (2)(D);

"(D) the expected costs of implementing subparagraphs (A), (B), and (C) of this paragraph;

"(E) any findings of the Needs Assessment under paragraph (1) with which the Secretary disagrees, and why; and

"(F) any proposed statutory changes needed to implement the findings if the Needs Assessment under paragraph (1).

"(e) INTERMODAL TRANSPORTATION DATA BASE.—

"(1) IN GENERAL.—In consultation with the Under Secretary for Policy, the Assistant Secretaries, and the heads of the operating administrations of the Department of Transportation, the Director shall establish and maintain a transportation data base for all modes of transportation.

"(2) USE.—The data base shall be suitable for analyses carried out by the Federal Government, the States, and metropolitan planning organizations.

"(3) CONTENTS.—The data base shall include—

"(A) information on the volumes and patterns of movement of goods, including local, interregional, and international movement, by all modes of transportation and intermodal combinations, and by relevant classification;

"(B) information on the volumes and patterns of movement of people, including local, interregional, and international movements, by all modes of transportation (including bicycle and pedestrian modes) and intermodal combinations, and by relevant classification;

"(C) information on the location and connectivity of transportation facilities and services; and

"(D) a national accounting of expenditures and capital stocks on each mode of transportation and intermodal combination.

"(f) NATIONAL TRANSPORTATION LIBRARY.—

"(1) IN GENERAL.—The Director shall establish and maintain a National Transportation Library,

which shall contain a collection of statistical and other information needed for transportation decision-making at the Federal, State, and local levels.

"(2) ACCESS.—The Director shall facilitate and promote access to the Library, with the goal of improving the ability of the transportation community to share information and the ability of the Director to make statistics readily accessible under subsection (e)(8).

"(3) COORDINATION.—The Director shall work with other transportation libraries and other transportation information providers, both public and private, to achieve the goal specified in paragraph (2).

"(g) NATIONAL TRANSPORTATION ATLAS DATA BASE.—

"(1) IN GENERAL.—The Director shall develop and maintain geospatial data bases that depict—

"(A) transportation networks;

"(B) flows of people, goods, vehicles, and craft over the networks; and

"(C) social, economic, and environmental conditions that affect or are affected by the networks.

"(2) INTERMODAL NETWORK ANALYSIS.—The data bases shall be able to support intermodal network analysis.

"(h) MANDATORY RESPONSE AUTHORITY FOR FREIGHT DATA COLLECTION.—Whoever, being the owner, official, agent, person in charge, or assistant to the person in charge, of any corporation, company, business, institution, establishment, or organization of any nature whatsoever, neglects or refuses, when requested by the Director or other authorized officer, employee or contractor of the Bureau, to answer completely and correctly to the best of his/her knowledge all questions relating to the corporation, company, business, institution, establishment, or other organization, or to records or statistics in his/her official custody, contained in a data collection request prepared and submitted as part of the collection of freight data, shall be fined not more than $500; and if the individual willfully gives a false answer to a question, shall be fined not more than $10,000.

"(i) RESEARCH AND DEVELOPMENT GRANTS.—The Secretary may make grants to, or enter into cooperative agreements or contracts with, public and nonprofit private entities (including State transportation departments, metropolitan planning organizations, and institutions of higher education) for—

"(1) investigation of the subjects specified in subsection (c)(5) and research and development of new methods of data collection, standardization, management, integration, dissemination, interpretation, and analysis;

"(2) demonstration programs by States, local governments, and metropolitan planning organizations to harmonize data collection, reporting, management, storage, and archiving to simplify data comparisons across jurisdictions;

"(3) development of electronic clearinghouses of transportation data and related information, as part of the National Transportation Library under subsection (f); and

"(4) development and improvement of methods for sharing geographic data, in support of the national transportation atlas data base under subsection (g) and the National Spatial Data Infrastructure developed under Executive Order No. 12906.

"(j) LIMITATIONS ON STATUTORY CONSTRUCTION.—Nothing in this section shall be construed—

"(1) to authorize the Bureau to require any other department or agency to collect data; or

"(2) to reduce the authority of any other officer of the Department of Transportation to collect and disseminate data independently.

"(k) PROHIBITION ON CERTAIN DISCLOSURES.—

"(1) IN GENERAL.—An officer or employee of the Bureau may not—

"(A) make any disclosure in which the data provided by an individual or organization under subsection (c) can be identified;

"(B) use the information provided under subsection (c) for a nonstatistical purpose; or

"(C) permit anyone other than an individual authorized by the Director to examine any individual report provided under subsection (c).

"(2) PROHIBITION ON REQUESTS FOR CERTAIN DATA.—

"(A) GOVERNMENT AGENCIES.—No department, bureau, agency, officer, or employee of the United States (except the Director in carrying out this section) may require, for any reason, a copy of any report that has been filed under subsection (c) with the Bureau or retained by an individual respondent.

"(B) COURTS.—Any copy of a report described in subparagraph (A) that has been retained by an individual respondent or filed with the Bureau or any of its employees, contractors, or agents—

"(i) shall be immune from legal process; and

"(ii) shall not, without the consent of the individual concerned, be admitted as evidence or used for any purpose in any action, suit, or other judicial or administrative proceeding.

"(C) APPLICABILITY.—This paragraph shall apply only to reports that permit information concerning an individual or organization to be reasonably inferred by direct or indirect means.

"(3) DATA COLLECTED FOR NONSTATISTICAL PURPOSES.—In a case in which the Bureau is authorized by statute to collect data or information for a nonstatistical purpose, the Director shall clearly distinguish the collection of the data or information, by rule and on the collection instrument, so as to inform a respondent that is requested or required to

supply the data or information of the nonstatistical purpose.

"(l) TRANSPORTATION STATISTICS ANNUAL REPORT.—The Director shall transmit to the President and Congress a Transportation Statistics Annual Report which shall include information on items referred to in subsection (e)(5), documentation of methods used to obtain and ensure the quality of the statistics presented in the report, and recommendations for improving transportation statistical information.

"(m) PROCEEDS OF DATA PRODUCT SALES.—Notwithstanding section 3302 of title 31, United States Code, funds received by the Bureau from the sale of data products, for necessary expenses incurred, may be credited to the Highway Trust Fund (other than the Mass Transit Account) for the purpose of reimbursing the Bureau for the expenses.

"(n) ADVISORY COUNCIL ON TRANSPORTATION STATISTICS.—

"(1) ESTABLISHMENT.—The Director of the Bureau of Transportation Statistics shall establish an Advisory Council on Transportation Statistics.

"(2) FUNCTION.—It shall be the function of the Advisory Council established under this subsection to—

"(A) advise the Director of the Bureau of Transportation Statistics on the quality, reliability, consistency, objectivity, and relevance of transportation statistics and analyses collected, supported, or disseminated by the Bureau of Transportation Statistics and the Department of Transportation;

"(B) provide input to and review the report to Congress under subsection (d)(4); and

"(C) advise the Director on methods to encourage harmonization and interoperability of transportation data collected by the Bureau, the operating administrations of the Department of Transportation, States, local governments, metropolitan planning organizations, and private sector entities.

"(3) MEMBERSHIP.—The Advisory Council established under this subsection shall be composed of not fewer than 15 members appointed by the Director, who are not officers or employees of the United States, including—

"(A) 2 members with specific expertise in economics;

"(B) 3 members with expertise in statistics; and

"(C) additional members with expertise in transportation statistics, analysis, or policy.

Members shall include representatives of a cross-section of transportation community stakeholders.

"(4) TERMS OF APPOINTMENT.—(A) Except as provided in subparagraph (B), members shall be appointed to staggered terms not to exceed 3 years. A member may be renominated for one additional 3-year term.

"(B) Members serving on the Advisory Council on Transportation Statistics as of the date of enactment of the Surface Transportation Research and Development Act of 2004 shall serve until the end of their appointed terms.

"(5) APPLICABILITY OF FEDERAL ADVISORY COMMITTEE ACT.—The Federal Advisory Committee Act shall apply to the Advisory Council established under this subsection, except that section 14 of the Federal Advisory Committee Act shall not apply to such Advisory Council.".

**SEC. 108. STATE PLANNING AND RESEARCH.**

Section 505 of title 23, United States Code, is amended to read as follows:

**"§ 505. State planning and research**

"(a) IN GENERAL.—Two and a half percent of the sums apportioned to a State for fiscal year 2004 and each fiscal year thereafter under section 104 (other than subsections (f) and (h)) and under sections 105 and 144 shall be available for expenditure by the State, in consultation with the Secretary, only for the following purposes:

"(1) Engineering and economic surveys and investigations.

"(2) The planning of future highway programs and local public transportation systems, the planning of the financing of such programs and systems, including metropolitan and Statewide planning under sections 134 and 135, freight planning, safety planning, transportation systems management and operations planning, transportation-related land use planning, and transportation-related growth management activities within these planning processes, and planning capacity building activities.

"(3) Development and implementation of infrastructure management and traffic monitoring systems, and for asset management.

"(4) Studies of the economy, safety, and convenience of highway, local public transportation, bicycle, and pedestrian systems and the desirable regulation and equitable taxation of their use.

"(5) Research, development, and technology transfer activities necessary in connection with the planning, design, construction, management, maintenance, regulation, and taxation of the use of highway, local public transportation, and intermodal transportation systems.

"(6) Research on the effects of design standards on intermodal coordination, such as the highway-rail interface, and on safe pedestrian access to transit on arterial roads and urban highways.

"(7) Study, research and development, and training on the engineering standards and construction materials, including accreditation of inspection and testing, for highway, local public transportation, bicycle, pedestrian, and intermodal transportation systems.

"(b) MINIMUM EXPENDITURES ON RESEARCH, DEVELOPMENT, AND TECHNOLOGY TRANSFER ACTIVITIES.—

"(1) IN GENERAL.—Subject to paragraph (2), not less than 25 percent of the funds appropriated pursuant to subsection (a) to a State for a fiscal year shall be expended by the State for research, development, and technology transfer activities described in subsection (a), relating to highway, public

transportation, bicycle, pedestrian, and intermodal transportation systems.

"(2) WAIVERS.—The Secretary may waive the application of paragraph (1) with respect to a State for a fiscal year if the State certifies to the Secretary for the fiscal year that the funds described in paragraph (1) are not needed for research, development, and technology transfer and the Secretary accepts such certification.

"(3) NONAPPLICABILITY OF ASSESSMENT.—Funds expended under paragraph (1) shall not be considered to be part of the extramural budget of the agency for the purpose of section 9 of the Small Business Act (15 U.S.C. 638).

"(c) MINIMUM EXPENDITURES FOR IMPROVING THE QUALITY OF COLLECTION AND REPORTING OF STRATEGIC SURFACE TRANSPORTATION DATA.—

"(1) IN GENERAL.—Subject to paragraph (2), not less than 10 percent of the funds appropriated pursuant to subsection (a) for a fiscal year to a State shall be expended by the State to improve the collection and reporting of strategic surface transportation data to provide critical information about the extent, condition, use, performance, and financing of the Nation's surface transportation system

(including intermodal connectors) for passenger and freight movement.

"(2) WAIVERS.—The Secretary may waive the application of paragraph (1) with respect to a State for a fiscal year if the State certifies to the Secretary for the fiscal year that the State is collecting and reporting strategic data consistent with quality assurance guidelines developed cooperatively with the States and the Secretary approves such certification.

"(d) FEDERAL SHARE.—The Federal share of the cost of a project carried out using funds subject to subsection (a) shall be matched in accordance with section 120(b) unless the Secretary determines that the interests of the surface transportation program would be best served without such matching.".

**SEC. 109. FUTURE STRATEGIC HIGHWAY RESEARCH PROGRAM.**

(a) AMENDMENT.—Chapter 5 of title 23, United States Code, is amended by adding at the end the following new section:

**"§ 509. Future Strategic Highway Research Program**

"(a) ESTABLISHMENT.—The Secretary, in consultation with the American Association of State Highway and Transportation Officials, shall establish and support a

grant program to be known as the Future Strategic Highway Research Program.

"(b) PROGRAM.—The program established under this section shall implement the Transportation Research Board Special Report 260, entitled 'Strategic Highway Research: Saving Lives, Reducing Congestion, Improving Quality of Life', which included the following research areas:

"(1) Accelerating the renewal of America's highways.

"(2) Making a significant improvement in highway safety.

"(3) Providing a highway system with reliable travel times.

"(4) Providing highway capacity in support of the Nation's economic, environmental, multi-modal transportation, and social goals.

"(c) ADMINISTRATION.—The Secretary shall enter into an arrangement with the National Research Council to administer the program established under subsection (a).

"(d) PERIOD OF AVAILABILITY.—Funds set aside to carry out this section shall remain available for the fiscal year for which such funds are made available and the three succeeding fiscal years.

"(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary of Transportation from the Highway Trust Fund, for each of fiscal years 2004 through 2009, $75,000,000 to carry out this section.

"(f) PROGRAM ADMINISTRATION.—In carrying out the program under this section, the Secretary, through the agreement with the National Research Council, shall ensure that the selection of awards shall be based on open competition and peer review, and that a balanced group of stakeholders is represented on all committees and panels established to implement the program. Proposals that involve partnerships and include significant matching funds shall be encouraged, although no matching funds are required.

"(g) PROGRAMMATIC EVALUATIONS.—Within 3 years after the first research and development project grants, cooperative agreements, or contracts are awarded under this section, the Comptroller General shall review the program under this section, and recommend improvements. The review shall assess the degree to which projects funded under this section have addressed the research and development topics identified in the Transportation Research Board Special Report 260, including identifying those topics which have not yet been addressed.

"(h) ANNUAL PROGRESS AND PERFORMANCE REPORT.—The National Research Council shall produce an annual progress and performance report for the program under this section. The report shall summarize the status, funding, and sponsors of all funded projects by the research and development areas specified in subsection (b). The report shall be submitted to the Secretary, to the Committee on Transportation and Infrastructure and the Committee on Science of the House of Representatives, and to the Committee on Environment and Public Works of the Senate.".

(b) CONFORMING AMENDMENT.—The analysis of chapter 5 of title 23, United States Code, is amended by adding at the end the following new item:

"509. Future strategic highway research program.".

**SEC. 110. UNIVERSITY TRANSPORTATION RESEARCH.**

Section 5505 of title 49, United States Code, is amended to read as follows:

**"§ 5505. University transportation research**

"(a) REGIONAL CENTERS.—The Secretary of Transportation shall make grants to nonprofit institutions of higher learning to establish and operate 1 university transportation center in each of the 10 United States Government regions that comprise the Standard Federal Regional Boundary System.

"(b) OTHER CENTERS.—The Secretary shall make 16 grants to nonprofit institutions of higher learning, in addition to grants made under subsection (a), to establish and operate university transportation centers.

"(c) ROLE OF CENTERS.—The role of each center shall be to address transportation management and research and development matters, with special attention to increasing the number of highly skilled individuals entering the field of transportation.

"(d) SELECTION OF GRANT RECIPIENTS.—

"(1) APPLICATIONS.—In order to be eligible to receive a grant under this section, a nonprofit institution of higher learning shall submit to the Secretary an application that is in such form and contains such information as the Secretary may require.

"(2) SELECTION CRITERIA.—Except as otherwise provided by this section, the Secretary shall select each recipient of a grant under this section through an open competition, peer-reviewed process on the basis of the following:

"(A) The capability of the recipient to provide leadership in making national and regional contributions to the solution of immediate and long-range transportation problems.

"(B) The recipient's establishment of a surface transportation program by the date of the award, which encompasses several modes of transportation.

"(C) The recipient's demonstrated ability to disseminate results of transportation research and education programs through a statewide or regionwide continuing education program.

"(D) The strategic plan the recipient proposes to carry out under the grant.

"(e) OBJECTIVES.—The Secretary shall ensure that each university transportation center receiving a grant under this section shall conduct the following programs and activities:

"(1) Basic and applied research and development that supports the Department's research and development agenda consistent with section 508 of title 23.

"(2) An education program that includes multidisciplinary course work, faculty and student participation in research and development, and an opportunity for practical experience.

"(3) An ongoing program of technology transfer that makes research and development results avail-

able to potential users in a form that can be implemented, utilized, or otherwise applied.

"(f) MAINTENANCE OF EFFORT.—To be eligible to receive a grant under this section, an applicant shall—

"(1) enter into an agreement with the Secretary to ensure that the applicant will maintain total expenditures from all other sources to establish and operate a university transportation center and related educational and research and development activities at a level that is at least equal to the average level of those expenditures during the 2 fiscal years before the date on which the grant is provided;

"(2) submit to the Secretary an annual report on the projects and activities of the university transportation center for which funds are made available for the fiscal year covered by the report, a description of—

"(A) the educational activities carried out by the center (including a detailed summary of the budget for those educational activities);

"(B) each research and development project carried out by the center, including—

"(i) the identity of the principal investigator working on a research and development project; and

"(ii) the overall funding amount for each research and development project (including the amounts expended for the project as of the date of the report); and

"(C) overall technology transfer and implementation efforts of the center; and

"(3) make use of National Research Council, Transportation Research Board, and Transportation Research Information Services online databases for—

"(A) program development and strategic planning;

"(B) reporting of activities funded under this section; and

"(C) input and dissemination of results and reports from completed research and development.

"(g) FEDERAL SHARE.—The Federal share of the costs of activities carried out using a grant made under subsection (a) is 80 percent of costs, and under subsection (b) is 50 percent of costs. The non-Federal share may include funds provided to a recipient under section 503, 504(b), or 505 of title 23, United States Code.

"(h) PROGRAM COORDINATION.—

"(1) COORDINATION.—The Secretary shall coordinate the research and development, education, training, and technology transfer activities that grant recipients carry out under this section.

"(2) ANNUAL REVIEW AND EVALUATION.—At least annually and consistent with the plan developed by the recipient under subsection (f)(2), the Secretary shall review and evaluate programs the grant recipients carry out.

"(3) FUNDING LIMITATION.—The Secretary may use not more than 1 percent of amounts made available from Government sources to carry out this subsection.

"(i) LIMITATION ON AVAILABILITY OF FUNDS.—Funds made available to carry out this program shall remain available for obligation for a period of 2 years after the last day of the fiscal year for which such funds are authorized.

"(j) TRANSPORTATION EDUCATION DEVELOPMENT PILOT PROGRAM.—

"(1) ESTABLISHMENT.—The Secretary shall establish a program to make grants to institutions of higher education that in partnership with industry or State Departments of Transportation will develop, test, and revise new curricula and education

programs to train individuals at all levels of the transportation workforce.

"(2) SELECTION OF GRANT RECIPIENTS.—In selecting applications for awards under this subsection, the Secretary shall consider—

"(A) the degree to which the new curricula or education program meets the specific needs of a segment of the transportation industry, States, or regions;

"(B) providing for practical experience and on-the-job training;

"(C) proposals oriented toward practitioners in the field rather than the support and growth of the research community;

"(D) the degree to which the new curricula or program will provide training in areas other than engineering, such as business administration, economics, information technology, environmental science, and law;

"(E) programs or curricula in nontraditional departments which train professionals for work in the transportation field, such as materials, information technology, environmental science, urban planning, and industrial technology; and

"(F) industry or a State's Department of Transportation commitment to the program.

"(3) AUTHORIZATION OF APPROPRIATIONS.—From amounts authorized under section 101(b)(4) of the Surface Transportation Research and Development Act of 2004 for carrying out this section, for each of fiscal years 2004, 2005, 2006, 2007, 2008, and 2009, there shall be available for carrying out this subsection $4,500,000.

"(4) LIMITATIONS.—No individual grant under this subsection shall exceed $750,000 per year. After a recipient has received 3 years of Federal funding under this subsection, Federal funding may equal no more than 75 percent of a grantee's program costs.

"(k) NATIONAL TRANSPORTATION SECURITY CENTERS.—

"(1) ESTABLISHMENT.—The Secretary shall establish not more than 4 National Transportation Security Centers at institutions of higher education to conduct research, education, and professional training on all aspects of surface transportation security, with emphasis on utilization of intelligent transportation systems, technologies, and architectures.

"(2) SELECTION CRITERIA.—The Secretary shall make grants using a competitive peer-reviewed procedure that gives priority to—

"(A) institutions with a commitment to transportation security issues;

"(B) proposals that include partnerships with other institutions of higher education, Federal laboratories, or other nonprofit laboratories;

"(C) proposals to conduct both practical and theoretical research and technical systems analysis; and

"(D) proposals to develop professional training programs.".

**SEC. 111. INTELLIGENT TRANSPORTATION SYSTEMS.**

(a) AMENDMENT.—Subtitle C of title V of the Transportation Equity Act for the 21st Century is amended to read as follows:

## "Subtitle C—Intelligent Transportation Systems

**"SEC. 5201. SHORT TITLE.**

"This subtitle may be cited as the 'Intelligent Transportation Systems Act of 2004'.

**"SEC. 5202. 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 the enhancement of safe operation of motor vehicles and nonmotorized vehicles, 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 vehicles, passenger vehicles, motorcycles, and bicycles, and including pedestrians and individuals with disabilities; and

"(5) improvement of the Nation's ability to respond to security related or other man-made emergencies and natural disasters, and enhancement of national defense mobility.

"(b) PURPOSES.—The Secretary shall implement activities under the intelligent transportation system program to, at a minimum—

"(1) develop and test emerging technologies to meet the goals described in subsection (a);

"(2) expedite deployment and ensure integration and interoperability of proven intelligent transportation systems;

"(3) analyze the likelihood of utilization of intelligent transportation system technologies by the intended user community;

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

"(5) improve regional cooperation and operations planning for effective intelligent transportation system deployment;

"(6) promote the innovative use of private resources;

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

"(8) evaluate costs and benefits of intelligent transportation systems projects.

**"SEC. 5203. GENERAL AUTHORITIES AND REQUIREMENTS.**

"(a) SCOPE.—Subject to the provisions of this subtitle, the Secretary shall conduct an ongoing intelligent transportation system program to research, develop, and operationally test intelligent transportation systems and advance nationwide deployment of proven systems through research on barriers to deployment as a component of the surface transportation systems of the United States.

"(b) POLICY.—Intelligent transportation system research, development, operational tests, and deployment projects funded pursuant to this subtitle shall encourage and not displace public-private partnerships or private sector investment in such research and development 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 United States private sector, the Federal laboratories, and colleges and universities, includ-

ing 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, as appropriate, may consult with the Secretary of Commerce, the Secretary of the Treasury, the Secretary of Homeland Security, the Administrator of the Environmental Protection Agency, the Director of the National Science Foundation, and the heads of other Federal departments and agencies.

"(e) TECHNICAL ASSISTANCE, TRAINING, AND INFORMATION.—The Secretary shall 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 system management and operations 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 subtitle; and

"(B) make that information (except for proprietary information and data) readily available to all users of the repository.

"(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 delegates responsibility under subparagraph (A), the entity to which the responsibility is delegated shall be eligible for Federal financial assistance under this section.

"(h) ADVISORY COMMITTEE.—

"(1) IN GENERAL.—The Secretary shall establish an Advisory Committee to advise the Secretary on carrying out this subtitle.

"(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 not-for-profit 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, 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 of title 23, United States Code.

"(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 Surface Transportation Research and Development Act of 2004, the Secretary shall transmit to the Committee on Science and the Committee on Transportation and Infrastructure of the House of Representatives, and to the Committee on Environment and Public Works of the Senate, a report including—

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

"(B) an explanation of how 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) EVALUATIONS.—

"(1) GUIDELINES AND REQUIREMENTS.—

"(A) IN GENERAL.—The Secretary shall issue guidelines and requirements for the evaluation of operational tests and model deployment projects carried out under this subtitle.

"(B) CONTENT.—Such evaluations shall include specific, quantitative measures to determine whether a technology is meeting its intended goal. To the maximum extent practicable, these measures shall evaluate the outcome of the technology (such as accidents avoided or decreased travel times or travel time variability).

"(C) OBJECTIVITY AND INDEPENDENCE.—The guidelines and requirements issued under subparagraph (A) shall include provisions to ensure the objectivity and independence of the evaluator 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 subtitle.

"(D) FUNDING.—The guidelines and requirements issued under subparagraph (A) shall establish evaluation funding levels, based on the

size and scope of each test or project, that ensure adequate evaluation of the results of the test or project.

"(E) DISSEMINATION.—The Secretary shall make readily available through the Internet all information collected through evaluations carried out under this subsection.

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

**"SEC. 5204. USING INFORMATION FROM INTELLIGENT TRANSPORTATION SYSTEMS.**

"(a) REPORT.—The Secretary shall prepare a report assessing the value of current and anticipated data collected from intelligent transportation system technologies to determine whether and how that data should be used for real-time traffic management, planning, performance monitoring, program assessment, and policy applications.

"(b) ASSESSMENT.—In preparing the report under subsection (a), the Secretary should assess—

"(1) the extent to which data should be centralized nationally in support of national planning and

goals, what information should be aggregated regionally, and what information should be kept locally;

"(2) the need for data standards;

"(3) public and private data sources other than intelligent transportation system data sources (such as roadway characteristics inventories and incident information) that, combined with intelligent transportation system data, would enhance the utility of intelligent transportation system data to decisionmakers, and how these data sources can be merged; and

"(4) how to make data accessible to users.

"(c) CONSULTATION.—In developing the strategy under this section, the Secretary shall consult with the Bureau of Transportation Statistics and the advisory committee established under section 5203(h).

"(d) REPORT TO CONGRESS.—Not later than 2 years after the date of the enactment of this subsection, the Secretary shall transmit to the Committee on Science and the Committee on Transportation and Infrastructure of the House of Representatives, and to the Committee on Environment and Public Works of the Senate, the report developed under this section.

**"SEC. 5205. NATIONAL ARCHITECTURE AND STANDARDS.**

"(a) IN GENERAL.—

"(1) DEVELOPMENT, IMPLEMENTATION, AND MAINTENANCE.—Consistent with section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note; 110 Stat. 783), the Secretary shall develop, implement, and maintain a national architecture and supporting standards and protocols to promote the widespread use and evaluation of intelligent transportation system technology as a component of the surface transportation systems of the United States.

"(2) GOAL.—The goal of the national architecture and standards shall be to ensure, whenever it is appropriate, interoperability among, and efficiency of, intelligent transportation system technologies implemented throughout the United States.

"(3) USE OF STANDARDS DEVELOPMENT ORGANIZATIONS.—In carrying out this section, the Secretary may use the services of such standards development organizations as the Secretary determines to be appropriate.

"(4) STANDARD VALIDATION.—The Secretary shall ensure that new standards promulgated for intelligent transportation system technologies that are funded by the Department are tested and validated,

whenever it is appropriate, and shall ensure that the results of such testing and validation are made publicly available.

"(b) 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 identified in subsection (a)(1) and (2), the Secretary may establish a provisional standard after consultation with affected parties, and using, to the 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.

"(c) CONFORMITY WITH NATIONAL ARCHITECTURE.—

"(1) IN GENERAL.—Except as provided in paragraphs (2) and (3), the Secretary shall ensure that intelligent transportation system projects carried out using funds made available from the Highway Trust

Fund, including funds made available to deploy intelligent transportation system technologies, conform to the national architecture, applicable standards or provisional standards, and protocols developed under subsection (a).

"(2) SECRETARY'S DISCRETION.—The Secretary may authorize exceptions to paragraph (1) for—

"(A) projects designed to achieve specific research and development objectives outlined in the National ITS Program Plan or the Surface Transportation Research and Development Strategic Plan developed under section 508 of title 23, United States Code; or

"(B) the upgrade or expansion of an intelligent transportation system in existence on the date of enactment of the Transportation Equity Act for the 21st Century, if the Secretary determines that the upgrade or expansion—

"(i) would not adversely affect the goals or purposes of this subtitle;

"(ii) is carried out before the end of the useful life of such system; and

"(iii) is cost-effective as compared to alternatives that would meet the conformity requirement of paragraph (1).

"(3) EXCEPTIONS.—Paragraph (1) shall not apply to funds used for operation or maintenance of an intelligent transportation system in existence on the date of enactment of the Transportation Equity Act for the 21st Century.

**"SEC. 5206. RESEARCH AND DEVELOPMENT.**

"(a) IN GENERAL.—The Secretary shall carry out a comprehensive program of research, development, and operational tests of intelligent vehicles and intelligent infrastructure systems, as well as research into barriers to their deployment, and other similar activities that are necessary to carry out this subtitle.

"(b) PRIORITY AREAS.—Under the program, the Secretary shall give higher priority to funding projects that—

"(1) are aimed at reducing congestion and improving mobility and efficiency;

"(2) are aimed at improving safety;

"(3) are aimed at improving security by focusing on responding to security-related emergencies, and preventing such emergencies;

"(4) incorporate human factors research, including the science of the driving process;

"(5) develop methods to address nontechnical barriers to the deployment of intelligent transportation system technologies, and the best ways to develop partnerships to successfully deploy intelligent transportation system technologies;

"(6) facilitate the integration of intelligent infrastructure, vehicle, and control technologies;

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

"(8) utilize interdisciplinary approaches to develop traffic management strategies and tools to address multiple impacts of congestion concurrently;

"(9) are aimed at improving the efficiency of goods movement, such as through real-time tracking and management; or

"(10) facilitate high-performance transportation systems, through methods such as congestion pricing, real-time facility management, rapid emergency response, and just-in-time transit.

"(c) OPERATIONAL TESTS.—Operational tests shall be used to evaluate promising technologies that have not yet been demonstrated. Operational tests conducted under this section shall be designed for the collection of data to

permit objective evaluation of the results of the tests, derivation of cost-benefit information that is useful to others contemplating deployment of similar systems, and development and implementation of standards.

"(d) FEDERAL SHARE.—The Federal share of the cost of operational tests and demonstrations under subsection (a) shall not exceed 80 percent.

**"SEC. 5207. USE OF FUNDS.**

"(a) CONGESTION REDUCTION.—At least ⅓ of funds made available under section 5206 for intelligent transportation systems research and development shall be used to research, develop, and operationally test technologies whose primary purpose is to reduce congestion.

"(b) OUTREACH AND PUBLIC RELATIONS LIMITATION.—

"(1) IN GENERAL.—For each fiscal year, not more than $5,000,000 of the funds made available to carry out this subtitle shall be used for intelligent transportation system outreach, public relations, displays, scholarships, tours, and brochures.

"(2) APPLICABILITY.—Paragraph (1) shall not apply to intelligent transportation system training or the publication or distribution of research findings, technical guidance, or similar documents.

"(c) INFRASTRUCTURE DEVELOPMENT.—Funds made available to carry out this subtitle for operational tests—

"(1) shall be used primarily for the development of intelligent transportation system infrastructure; and

"(2) to the maximum extent practicable, shall not be used for the construction of physical highway and transit infrastructure unless the construction is incidental and critically necessary to the implementation of an intelligent transportation system project.

**"SEC. 5208. DEFINITIONS.**

"In this subtitle, the following definitions apply:

"(1) INTELLIGENT TRANSPORTATION INFRASTRUCTURE.—The term 'intelligent transportation infrastructure' means fully integrated public sector intelligent transportation system components, as defined by the Secretary.

"(2) INTELLIGENT TRANSPORTATION SYSTEM.—The term 'intelligent transportation system' means electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.

"(3) NATIONAL ARCHITECTURE.—The term 'national architecture' means the common framework for interoperability adopted by the Secretary that defines—

"(A) the functions associated with intelligent transportation system user services;

"(B) the physical entities or subsystems within which the functions reside;

"(C) the data interfaces and information flows between physical subsystems; and

"(D) the communications requirements associated with the information flows.

"(4) STANDARD.—The term 'standard' means a document that—

"(A) contains technical specifications or other precise criteria for intelligent transportation systems that are to be used consistently as rules, guidelines, or definitions of characteristics so as to ensure that materials, products, processes, and services are fit for their purposes; and

"(B) may support the national architecture and promote—

"(i) the widespread use and adoption of intelligent transportation system tech-

nology as a component of the surface transportation systems of the United States; and

"(ii) interoperability among intelligent transportation system technologies implemented throughout the States.

"(5) STATE.—The term 'State' has the meaning given the term under section 101 of title 23, United States Code.".

(b) TABLE OF CONTENTS AMENDMENT.—The items relating to subtitle C of title V in the table of contents of the Transportation Equity Act for the 21st Century are amended to read as follows:

"Subtitle C—Intelligent Transportation Systems

"5201. Short title.
"5202. Goals and purposes.
"5203. General authorities and requirements.
"5204. Using information from intelligent transportation systems.
"5205. National architecture and standards.
"5206. Research and development.
"5207. Use of funds.
"5208. Definitions.".

(c) REPEAL.—The Intermodal Surface Transportation Efficiency Act of 1991 is amended by striking part B of title VI (23 U.S.C. 307 note; 105 Stat. 2189).

# TITLE II—MISCELLANEOUS

**SEC. 201. AUTHORIZATION OF APPROPRIATIONS.**

(a) TRANSIT RESEARCH AND DEVELOPMENT.—There are authorized to be appropriated from the High-

way Trust Fund to the Secretary of Transportation to carry out sections 5312, 5313, 5314, 5315, and 5322 of title 49, United States Code, and section 202 of this Act, relating to research and development, such sums as may be necessary for each of the fiscal years 2004 through 2009.

(b) HIGHWAY SAFETY RESEARCH AND DEVELOPMENT.—There are authorized to be appropriated from the Highway Trust Fund to the Secretary of Transportation to carry out section 403 of title 23, United States Code, relating to research and development, such sums as may be necessary for each of the fiscal years 2004 through 2009.

(c) MOTOR CARRIER RESEARCH AND DEVELOPMENT.—There are authorized to be appropriated from the Highway Trust Fund to the Secretary of Transportation to carry out section 31108 of title 49, United States Code, relating to research and development, such sums as may be necessary for each of the fiscal years 2004 through 2009.

**SEC. 202. INNOVATIVE PRACTICES AND TECHNOLOGIES DEMONSTRATION AND DEPLOYMENT PROGRAM.**

(a) ESTABLISHMENT.—The Secretary of Transportation shall establish an Innovative Practices and Technologies Demonstration and Deployment Program.

(b) PROGRAM GOALS.—The goals of the program are to—

(1) demonstrate promising new transit practices and technologies, including new business models for managing and operating transit systems, that may increase ridership, increase accessibility, reduce cost, improve customer satisfaction, and improve safety;

(2) evaluate, refine, and document the performance, benefits, and costs of innovative transit practices and technologies; and

(3) effectively disseminate information to accelerate deployment of innovative transit practices and technologies.

(c) GRANTS, COOPERATIVE AGREEMENTS, AND CONTRACTS.—The Secretary may make grants to, or enter into cooperative agreements or contracts with, transit agencies, States, other Federal agencies, universities and colleges, private sector entities, and nonprofit organizations to pay the Federal share of the cost of demonstration

and deployment projects concerning innovative practices and technologies.

(d) APPLICATIONS.—To receive a grant, cooperative agreement, or contract under this section, an entity described in subsection (c) shall submit an application to the Secretary. The application shall be in such form and contain such information as the Secretary may require. The Secretary shall select and approve the applications through an open competition based on the following criteria:

(1) Whether the project meets the goals of the program.

(2) Peer review of the proposal.

(3) The likelihood that the project will result in more widespread deployment of the practice or technology being proposed.

(4) Preference shall be given to an application that represents a public-private partnership.

(e) TECHNOLOGY AND INFORMATION TRANSFER.—The Secretary shall ensure that information about innovative practices and technologies supported under this section is made available to transit agencies, State and local transportation departments, and other interested parties. Information disseminated under this subsection shall in-

clude both the costs and benefits of deploying an innovative practice or technology, and shall document—

(1) best practices for adopting successful practices or technologies; and

(2) the transferability of these practices and technologies.

(f) FEDERAL SHARE.—The Federal share of the cost of a project under this section shall be determined by the Secretary.

**SEC. 203. NATIONAL TRANSIT INSTITUTE.**

Section 5315 is amended—

(1) in subsection (a)—

(A) by striking "public mass transportation" and inserting "public transportation" each place it appears;

(B) by striking "mass" after "Government-aid" and inserting "public"; and

(C) in paragraphs (1), (6), (7), and (10) by striking "mass" each place it appears before "transportation" and inserting "public"; and

(2) in subsection (d) by striking "mass" each place it appears.

**SEC. 204. HUMAN RESOURCE PROGRAMS.**

(a) IN GENERAL.—Section 5322 is amended—

(1) by inserting "(a) In General.—" before the beginning of the first sentence of the section; and

(2) by adding the following at the end:

"(b) GRANTS TO HIGHER LEARNING INSTITUTIONS.—

"(1) The Secretary (or the Secretary of Housing and Urban Development when required by section 5334(i) of this title) may make grants to nonprofit institutions of higher learning—

"(A) to conduct competent research and development and investigations into the theoretical or practical problems of urban transportation; and

"(B) to train individuals to conduct further research and development or obtain employment in an organization that plans, builds, operates, or manages an urban transportation system.

"(2) Research and investigations under this subsection include—

"(A) the design and use of urban public transportation systems and urban roads and highways;

"(B) the interrelationship between various modes of urban and interurban transportation;

"(C) the role of transportation planning in overall urban planning;

"(D) public preferences in transportation;

"(E) the economic allocation of transportation resources; and

"(F) the legal, financial, engineering, and esthetic aspects of urban transportation.

"(3) When making a grant under this subsection, the Secretary shall give preference to an institution that brings together knowledge and expertise in the various social science and technical disciplines related to urban transportation problems.

"(c) FELLOWSHIPS.—

"(1) The Secretary may make grants to States, local governmental authorities, and operators of public transportation systems to provide fellowships to train personnel employed in managerial, technical, and professional positions in the mass transportation field.

"(2) A fellowship under this subsection may be for not more than one year of training in an institution that offers a program applicable to the public transportation industry. The recipient of the grant shall select an individual on the basis of demonstrated ability and for the contribution the indi-

vidual reasonably can be expected to make to an efficient public transportation operation. A grant for a fellowship may not be more than the lesser of $65,000 or 75 percent of—

"(A) tuition and other charges to the fellowship recipient;

"(B) additional costs incurred by the training institution and billed to the grant recipient; and

"(C) the regular salary of the fellowship recipient for the period of the fellowship to the extent the salary is actually paid or reimbursed by the grant recipient.

"(d) OTHER GRANTS.—The Secretary may make grants to State and local governmental authorities for projects that will use innovative techniques and methods in managing and providing public transportation.".

**SEC. 205. HIGHWAY SAFETY RESEARCH AND DEVELOPMENT.**

Section 403(a) (Authority of the Secretary) of title 23, United States Code, is amended by adding the following paragraphs at the end:

"(4) EMERGENCY MEDICAL SERVICES.—In addition to the authority provided under this subsection, the Secretary is authorized to use funds ap-

propriated to carry out this section to enhance coordination among Federal agencies involved with State, local, tribal, and community-based emergency medical services. In exercising this authority, the Secretary may coordinate with State and local governments, the Bureau of Indian Affairs on behalf of Indian tribes, private industry, and other interested parties; collect and exchange emergency medical services data and information; examine emergency medical services needs, best practices, and related technology; and develop emergency medical services standards and guidelines, and plans for the assessment of emergency medical services systems.

"(5) INTERNATIONAL COOPERATION.—In addition to the authority provided under this subsection, the Secretary is authorized to use funds appropriated to carry out this section to participate and cooperate in international activities to enhance highway safety by such means as exchanging safety information; conducting safety research and development; and examining safety needs, best practices, and new technology.

"(6) NATIONAL MOTOR VEHICLE CRASH CAUSATION SURVEY.—In addition to the authority provided under this subsection, the Secretary is author-

ized to use funds appropriated to carry out this section to develop and conduct a nationally representative survey to collect on-scene motor vehicle crash causation data.".

**SEC. 206. MOTOR CARRIER RESEARCH AND DEVELOPMENT PROGRAM.**

(a) IN GENERAL.—Title 49, United States Code, is amended by repealing section 31108 and inserting the following new section, to read as follows:

**"§ 31108. Motor carrier research and development program**

"(a) RESEARCH, DEVELOPMENT, AND TECHNOLOGY TRANSFER ACTIVITIES.—

"(1) The Secretary of Transportation shall establish and carry out a motor carrier research and development program. The Secretary may carry out research, development, technology, and technology transfer activities with respect to—

"(A) the causes of accidents, injuries and fatalities involving commercial motor vehicles; and

"(B) means of reducing the number and severity of accidents, injuries and fatalities involving commercial motor vehicles.

"(2) The Secretary may test, develop, or assist in testing and developing any material, invention, patented article, or process related to the research and development program.

"(3) The Secretary may use the funds appropriated to carry out this section for training or education of commercial motor vehicle safety personnel, including, but not limited to, training in accident reconstruction and detection of controlled substances or other contraband, and stolen cargo or vehicles.

"(4) The Secretary may carry out this section—

"(A) independently;

"(B) in cooperation with other Federal departments, agencies, and instrumentalities and Federal laboratories; or

"(C) by making grants to, or entering into contracts or cooperative agreements with, any Federal laboratory, State agency, authority, association, institution, for-profit or non-profit corporation, organization, foreign country, or person.

"(5) The Secretary shall use funds made available to carry out this section to develop, administer, communicate, and promote the use of products of re-

search, technology, and technology transfer programs under this section.

"(b) COLLABORATIVE RESEARCH AND DEVELOPMENT.—

"(1) To advance innovative solutions to problems involving commercial motor vehicle and motor carrier safety, security, and efficiency, and to stimulate the deployment of emerging technology, the Secretary may carry out, on a cost-shared basis, collaborative research and development with—

"(A) non-Federal entities, including State and local governments, foreign governments, colleges and universities, corporations, institutions, partnerships, and sole proprietorships that are incorporated or established under the laws of any State; and

"(B) Federal laboratories.

"(2) In carrying out this subsection, the Secretary may enter into cooperative research and development agreements (as defined in section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a)).

"(3)(A) The Federal share of the cost of activities carried out under a cooperative research and development agreement entered into under this sub-

section shall not exceed 50 percent, except that if there is substantial public interest or benefit, the Secretary may approve a greater Federal share.

"(B) All costs directly incurred by the non-Federal partners, including personnel, travel, and hardware or software development costs, shall be credited toward the non-Federal share of the cost of the activities described in subparagraph (A).

"(4) The research, development, or use of a technology under a cooperative research and development agreement entered into under this subsection, including the terms under which the technology may be licensed and the resulting royalties may be distributed, shall be subject to the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3701 et seq.).

"(5) Section 3705 of title 41, United States Code, shall not apply to a contract or agreement entered into under this section.".

(b) CONFORMING AMENDMENT.—The table of sections at the beginning of chapter 311 of title 49, United States Code, is amended by revising the item relating to section 31108 to read as follows:

"31108. Motor carrier research and development program.".

**SEC. 207. TRANSPORTATION, ENERGY, AND ENVIRONMENT.**

(a) IN GENERAL.—As part of the National Climate Change Technology Initiative and the Climate Change Research Initiative, the Secretary shall establish and carry out a multimodal energy and climate change program to study the relationship of transportation, energy, and climate change.

(b) CONTENTS.—The program to be carried out under this section shall include, but not be limited to, research and development designed to—

(1) identify, develop and evaluate strategies to improve energy efficiency and reduce greenhouse gas emissions from transportation sources; and

(2) identify and evaluate the potential effects of climate changes on the Nation's transportation systems, and strategies to address these effects.

(c) PROJECT SELECTION.—Activities to be undertaken in this program will be determined by an internal steering committee established by the Secretary of Transportation. This intermodal committee shall include representatives from the Office of the Secretary and operating administrations within the Department of Transportation as designated by the Secretary.

(d) GRANTS, COOPERATIVE AGREEMENTS AND CONTRACTS.—The Secretary may carry out this program independently or by making grants to, or entering into con-

tracts and cooperative agreements with, a Federal agency, State agency, local agency, authority, association, non-profit or for-profit corporation, or institution of higher education.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section, from the Highway Trust Fund and the Airport and Airway Trust Fund, such sums as may be necessary for each of fiscal years 2004 through 2009.

**SEC. 208. NATIONAL COOPERATIVE FREIGHT TRANSPORTATION RESEARCH AND DEVELOPMENT PROGRAM.**

(a) IN GENERAL.—Chapter 5 of title 23, United States Code, is amended by adding at the end the following:

**"§ 510. National cooperative freight transportation research and development program**

"(a) ESTABLISHMENT.—The Secretary shall establish and support a national cooperative freight transportation research and development program. The program shall focus on all forms of freight transportation, including trucking and rail.

"(b) AGREEMENT.—The Secretary shall enter into an arrangement with the National Research Council to support and carry out administrative and management activi-

ties relating to the governance of the national cooperative freight transportation research and development program.

"(c) ADVISORY COMMITTEE.—The National Research Council shall select an advisory committee consisting of a representative cross-section of freight stakeholders, including the Department of Transportation, other Federal agencies, State transportation departments, local governments, the American Association of State Highway and Transportation Officials and other nonprofit entities (including environmental groups), academia, and the private sector.

"(d) GOVERNANCE.—The national cooperative freight transportation research and development program established under this section shall include the following administrative and management elements:

"(1) NATIONAL RESEARCH AND DEVELOPMENT AGENDA.—The advisory committee, in consultation with stakeholders, shall recommend a national research and development agenda for the national cooperative freight transportation research and development program. The national research and development agenda shall include a multi-year strategic plan.

"(2) STAKEHOLDER INVOLVEMENT.—Stakeholders may—

"(A) submit research and development proposals to the advisory committee;

"(B) participate in merit reviews of research and development proposals and peer reviews of research and development products; and

"(C) receive research and development results.

"(3) OPEN COMPETITION AND PEER REVIEW OF RESEARCH AND DEVELOPMENT PROPOSALS.—The National Research Council shall award research and development contracts and grants through open competition and peer review conducted on a regular basis.

"(4) EVALUATION OF RESEARCH.—

"(A) PEER REVIEW.—Research and development contracts and grants shall allow peer review of the research and development results.

"(B) PROGRAMMATIC EVALUATIONS.—The National Research Council may conduct periodic programmatic evaluations on a regular basis.

"(5) DISSEMINATION OF RESEARCH FINDINGS.—The National Research Council shall dissemi-

nate research and development findings to researchers, practitioners, and decisionmakers.

"(e) CONTENTS.—The national research and development agenda for the national cooperative freight transportation research and development program required under subsection (d)(1) may include research and development in the following areas:

"(1) Techniques for estimating and quantifying public benefits derived from freight transportation projects.

"(2) Alternative approaches to calculating the contribution of truck traffic to congestion on specific highway segments.

"(3) The feasibility of freight villages as a means of consolidating origins and destinations for freight movement.

"(4) Methods for incorporating estimates of international trade into landside transportation planning.

"(5) The use of technology applications to increase capacity of highway lanes dedicated to truck-only traffic.

"(6) Development of physical and policy alternatives for separating car and truck traffic.

"(7) Ways to synchronize infrastructure improvements with freight transportation demand.

"(8) Additional priorities to identify and address the emerging and future research and development needs related to freight transportation.

"(f) FUNDING.—

"(1) FEDERAL SHARE.—The Federal share of the cost of an activity carried out using such funds shall be up to 100 percent, and such funds shall remain available until expended.

"(2) USE OF NON-FEDERAL FUNDS.—In addition to using funds authorized for this section, the National Research Council may seek and accept additional funding sources from public and private entities capable of accepting funding from the United States Department of Transportation (Federal Highway Administration, Federal Transit Administration, Federal Railroad Administration, Research and Special Programs Administration, and the National Highway Traffic Safety Administration), states, local governments, nonprofit foundations, and the private sector.".

(b) CONFORMING AMENDMENT.—The analysis for chapter 5 of title 23, United States Code, is amended by redesignating section 509 as follows:

"510. National cooperative freight transportation research and development program.".

**SEC. 209. NEXT GENERATION NATIONAL TRANSPORTATION POLICY STUDY COMMISSION.**

(a) ESTABLISHMENT OF COMMISSION.—(1) The President shall established a Commission to be known as the Next Generation National Transportation Policy Study Commission, in this section referred to as the "Commission".

(2) The Commission shall make a full and complete investigation and study of the transportation needs and of the resources, requirements, and policies of the United States to meet such expected needs. It shall take into consideration all reports on national transportation policy which have been submitted to Congress in the last decade, including all reports referenced in the Intermodal Surface Transportation Efficiency Act of 1991 and the Transportation Equity Act for the 21st Century. It shall also take into consideration the changes in global trade and its impact on the Nation's economy. It shall evaluate the relative merits of all modes of transportation in meeting our Nation's transportation needs. It shall take into account the link between transportation and the natural environment. Based on such study, it shall recommend changes to existing policies and any new policies that are most likely to ensure that adequate multimodal transportation systems

are in place which will meet the needs for a safe and efficient movement of people and goods and also support and grow the national economy.

(b) MEMBERSHIP.—The Commission shall be comprised of 16 members appointed by the President from among individuals who are knowledgeable in transportation activities, including individuals representing State and local governments, metropolitan planning organizations, transportation-related industries, academic and technical institutions, and public interest organizations involved with scientific, regulatory, economic, and environmental transportation activities. The membership of the Commission shall be balanced geographically to the extent consistent with maintaining the highest level of expertise on the Commission. Members shall be appointed for the life of the Commission as follows:

(1) 4 shall be appointed from a list of 8 individuals who shall be recommended by the majority leader of the Senate in consultation with the Chairman of the Committee on Environment and Public Works, and the Chairman of the Committee on Commerce, Science and Transportation, and the Chairman of the Committee on Banking, Housing and Urban Affairs of the Senate.

(2) 4 shall be appointed from a list of 8 individuals who shall be recommended by the minority leader of the Senate in consultation with the ranking member of the Committee on Environment and Public Works, the ranking member of the Committee on Commerce, Science and Transportation, and the ranking member of the Committee on Banking, Housing and Urban Affairs of the Senate.

(3) 4 shall be appointed from a list of 8 individuals who shall be recommended by the Speaker of the House of Representatives in consultation with the Chairman of the Committee on Transportation and Infrastructure, the Chairman of the Committee on Energy and Commerce, and the Chairman of the Committee on Science of the House of Representatives.

(4) 4 shall be appointed from a list of 8 individuals who shall be recommended by the minority leader of the House of Representatives in consultation with the ranking member of the Committee on Transportation and Infrastructure, the ranking member of the Committee on Energy and Commerce, and the ranking member of the Committee on Science of the House of Representatives.

(5) Any vacancy which may occur on the Commission shall not affect its powers or functions but shall be filled in the same manner in which the original appointment was made.

(c) FINAL REPORT.—The Commission shall not later than December 31, 2005, submit to the President and Congress its final report including its findings and recommendations. The Commission shall cease to exist six months after submission of such report. All records and papers of the Commission shall thereupon be delivered to the Archivist of the United States for deposit in the Archives of the United States.

(d) FINDINGS AND RECOMMENDATIONS.—The final report shall include the Commission's findings and recommendations with respect to the following:

(1) The Nation's transportation needs, both national and regional, through the year 2025.

(2) The ability of our current transportation systems to meet the projected needs.

(3) The proper mix of transportation modes and necessary linkages between modes to meet anticipated needs.

(4) Necessary measures and policies to ensure enhancement and protection of the natural environment in transportation decisionmaking.

(5) Short-term, medium-term, and long-term research, development, and deployment to meet expected needs.

(6) The roles of the public and private sectors relative to each mode and the balance between public and private investment.

(7) The existing policies and programs of the Federal Government which affect the development of our national transportation system.

(8) The new policies required to develop a balanced national transportation system which meets projected needs, accommodates international trade and supports the national economy.

(9) The adequacy of existing methods to finance transportation and alternative new methods of financing.

(e) SPECIFIC FACTORS TO CONSIDER.—In developing its findings and recommendations, the Commission shall address the following specific factors:

(1) The role of transportation as a critical link to the global economy and trade.

(2) A balance between the transportation of people and goods.

(3) Improving operations and management of the transportation system to improve efficiency, including asset and information management.

(4) The need to address aging infrastructure.

(5) The need to address the enhancement and protection of the natural environment.

(6) The need to address congestion in all modes.

(7) The need to improve environmental decisionmaking.

(8) A balance between the demand for transportation reliability with new threats to security.

(9) Ways to eliminate barriers to transportation investment created by the current modal structure of transportation funding.

(10) Existing barriers to private investment in transportation facilities including tax inequities between modes.

(11) The adequacy of the Federal transportation trust funds to finance future transportation needs.

(12) Appropriate measures of transportation need.

(13) The adequacy of integration among Federal programs affecting transportation.

(14) The relationship between land use and transportation infrastructure investment.

(15) The role that transportation plays in promoting economic growth, improving the environment and sustaining the quality of life.

(f) RECOMMENDATIONS ON THE ROLES OF GOVERNMENT.—The Commission shall also make recommendations on the roles of the Federal and State governments in—

(1) environmental review of transportation projects;

(2) the provision of intercity passenger rail services;

(3) financing transportation at international border crossings;

(4) facilitating international goods movement to, from and within the United States;

(5) ensuring consistency in data and communications links for and between all modes;

(6) financing for each mode of transportation; and

(7) effectively using transportation networks to enhance the quality of life, protect natural resources and promote sustainable economic growth.

(g) PARTICIPATION IN COMMISSION ACTIVITIES.—

(1) PARTICIPATION OF FEDERAL AGENCIES.—The Chairman of the Commission shall request the head of each Federal department or agency with an interest in or a responsibility for national transportation policy to appoint a liaison who shall work closely with the Committee and its staff. Such departments and agencies shall include, but not be limited to, the Department of Transportation, and each of its modal administrations, Office of Management and Budget, Department of Energy, Department of Homeland Security, Environmental Protection Agency, Department of Health and Human Services, Department of Commerce, Department of the Treasury, Department of Defense, Department of Agriculture, National Transportation Safety Board, Surface Transportation Board, and Army Corps of Engineers.

(2) ADVICE FROM PUBLIC AND PRIVATE ORGANIZATIONS.—In carrying out its duties, the Commission shall seek the advice of various groups interested in national transportation policy including State and local governments, public and private organizations in the fields of transportation and safety, business, education, environment and labor, and the public.

(h) HEARINGS.—The Commission or, on the authorization of the Commission, any Committee of two or more members may, for the purpose of carrying out the provisions of this section, hold such hearings at such times and places as the Commission or such authorized committee may deem advisable.

(i) COMPENSATION.—Members of Congress or other governmental employees shall serve without compensation, but shall be reimbursed for travel, per diem in accordance of the rules of the House of Representatives and Senate, accordingly, or subsistence and other necessary expenses incurred in the performance of the duties vested in the Commission.

(j) COMMISSION STAFF.—The Commission is authorized to appoint and fix the compensation of a staff director and such additional personnel as may be necessary to enable it to carry out its functions.

(k) CONTRACTS.—The Commission is authorized to enter into contracts or agreements for studies and surveys with public and private organizations and, if necessary, to transfer funds to Federal agencies from sums appropriated pursuant to this section to carry out such of its duties as the Commission determines can best be carried our in the that manner.

(l) AUTHORIZATION OF APPROPRIATIONS.—(1) There are authorized to be appropriated from the Highway Trust Fund to carry out this section such sums as may be necessary for each of fiscal years 2004 and 2005.

(2) Funds authorized by this subsection shall remain available until expended.

**SEC. 210. REAL-TIME SYSTEM MANAGEMENT INFORMATION PROGRAM.**

(a) GOALS AND PURPOSES.—

(1) GOALS.—The goals of the real-time system management information program are to provide the nationwide capability to monitor, in real-time, the traffic and travel conditions of our Nation's major highways and to widely share that information to improve the security of the surface transportation system, address congestion problems, support improved response to weather events, and facilitate national and regional traveler information.

(2) PURPOSES.—The purposes of the real-time system management information program are to—

(A) establish a nationwide system of basic real-time information for managing and operating our surface transportation system;

(B) identify longer range real-time highway and transit monitoring needs and develop

plans and strategies for meeting those needs; and

(C) provide the capability and means to share that data with state and local governments, and the traveling public.

(b) DATA EXCHANGE FORMATS.—Within one year of enactment of this Act, the Secretary shall establish data exchange formats to ensure that the data provided by highway and transit monitoring systems, including statewide incident reporting systems can readily be exchanged across jurisdictional boundaries, facilitating nationwide availability of information.

(c) STATEWIDE INCIDENT REPORTING SYSTEM.—Within 2 years of enactment of this legislation, each State shall establish a statewide incident reporting system.

(d) REGIONAL INTELLIGENT TRANSPORTATION SYSTEM ARCHITECTURE.—

(1) As State and local governments develop or update their regional ITS architectures, as specified in section 940.9 of title 23, Code of Federal Regulations (Regional ITS Architecture), they shall explicitly address their real-time highway and transit information needs and the systems needed to meet those needs. This specific incorporation of information needs should address coverage, monitoring sys-

tems, data fusion and archiving, and methods of exchanging or sharing this information.

(2) States are encouraged to incorporate the data exchange formats developed by the Secretary to ensure that the data provided by highway and transit monitoring systems can readily be exchanged across state and local governments, and with the traveling public.

(e) DEFINITION.—In this section, the term "statewide incident reporting system" means a statewide system for facilitating the real-time electronic reporting of incidents to a central location for use in monitoring the event, providing accurate traveler information, and responding to the incident as appropriate.

(f) ELIGIBILITY.—Subject to approval by the Secretary, a State may obligate funds apportioned to it under sections 104(b)(1) and (3) and 505 of title 23, United States Code, for activities relating to the planning of real-time monitoring elements.

**SEC. 211. PLANNING CAPACITY BUILDING INITIATIVE.**

Section 104 of title 23, United States Code, is amended by inserting after subsection (l) the following:

"(m) PLANNING CAPACITY BUILDING INITIATIVE.—

"(1) IN GENERAL.—The Secretary shall establish a planning capacity building initiative to support

enhancements in transportation planning, in order to—

"(A) strengthen metropolitan and statewide transportation planning under sections 134 and 135, and under sections 5303 through 5305 of title 49;

"(B) enhance tribal capacity to conduct joint transportation planning under chapter 2 of this title; and

"(C) participate in the metropolitan and statewide transportation planning programs under chapter 52 of title 49.

"(2) PRIORITY.—The Secretary shall give priority to planning practices and processes that support homeland security planning, performance based planning, safety planning, operations planning, freight planning, and integration of environment and planning.

"(3) USE OF FUNDS.—Funds authorized for this program may be used for research, program development, information collection and dissemination, and technical assistance. The Secretary may use these funds independently or make grants to, or enter into contracts and cooperative agreements with, a Federal agency, State agency, local agency,

federally recognized Indian tribal government or tribal consortium, authority, association, nonprofit or for-profit corporation, or institution of higher education, to carry out the purposes of this subsection.

"(4) FEDERAL SHARE.—The Federal share of the cost of an activity carried out using such funds shall be up to 100 percent, and such funds shall remain available until expended.

"(5) ADMINISTRATION.—This initiative shall be administered by the Federal Highway Administration in cooperation with the Federal Transit Administration.

"(6) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated from the Highway Trust Fund such sums as may be necessary to carry out this section for each of fiscal years 2004 through 2009.".

## EN BLOC AMENDMENTS OFFERED BY MR. EHLERS TO THE AMENDMENT IN THE NATURE OF A SUBSTITUTE

Page 4, line 16, strike "51" and insert "50".

Page 5, line 14, strike "6.5" and insert "7.5".

Page 20, lines 5 and 6, strike "Federal laboratories" and insert "federally funded research and development centers".

Page 28, line 24, insert ", including the needs of low-income, minority, and transit-dependent populations in urban and rural areas," after "health care".

Page 29, line 23, insert ", including representatives of community-based organizations" after "nonprofit organizations".

Page 30, after line 16, insert the following new subsection:

(e) ROAD WEATHER RESEARCH AND DEVELOPMENT PROGRAM.—

(1) ESTABLISHMENT.—The Secretary shall establish a road weather research and development program to—

(A) maximize use of available road weather information and technologies;

(B) expand road weather research and development efforts to enhance roadway safety, capacity, and efficiency while minimizing environmental impacts; and

(C) promote technology transfer of effective road weather scientific and technological advances.

(2) STAKEHOLDER INPUT.—In carrying out this subsection, the Secretary shall consult with the National Oceanic and Atmospheric Administration, the National Science Foundation, the American Association of State Highway and Transportation Officials, nonprofit organizations, and the private sector.

(3) CONTENTS.— The program established under this subsection shall solely carry out research and development called for in the National Research Council's report entitled "A Research Agenda for Improving Road Weather Services". Such research and development includes—

(A) integrating existing observational networks and data management systems for road weather applications;

(B) improving weather modeling capabilities and forecast tools, such as the road surface and atmospheric interface;

(C) enhancing mechanisms for communicating road weather information to users, such as transportation officials and the public; and

(D) integrating road weather technologies into an information infrastructure.

(4) ACTIVITIES.— In carrying out this subsection, the Secretary shall—

(A) enable efficient technology transfer;

(B) improve education and training of road weather information users, such as State and local transportation officials and private sector transportation contractors; and

(C) coordinate with transportation weather research programs in other modes, such as aviation.

(5) FUNDING.—In awarding funds under this subsection, the Secretary shall give preference to applications with significant matching funds from non-Federal sources. From the amounts authorized to be appropriated under section 101(b)(1), there shall be

available $5,000,000 for carrying out this subsection for each of fiscal years 2004 through 2009.

Page 42, after line 23, insert the following new subsection:

(e) GARRETT A. MORGAN TECHNOLOGY AND TRANSPORTATION EDUCATION PROGRAM.—Section 504 of title 23, United States Code, as amended by this section, is further amended by adding at the end the following new subsection:

"(e) GARRETT A. MORGAN TECHNOLOGY AND TRANSPORTATION EDUCATION PROGRAM.—

"(1) IN GENERAL.—The Secretary shall establish the Garrett A. Morgan Technology and Transportation Education Program to improve the preparation of students, particularly women and minorities, in science, technology, engineering, and mathematics through curriculum development and other activities related to transportation.

"(2) AUTHORIZED ACTIVITIES.—The Secretary shall award grants under this subsection on the basis of competitive, peer review. Grants awarded under this subsection may be used for enhancing science, technology, engineering, and mathematics at the elementary and secondary school level through such means as—

"(A) internships that offer students experience in the transportation field;

"(B) programs that allow students to spend time observing scientists and engineers in the transportation field; and

"(C) developing relevant curriculum that uses examples and problems related to transportation.

"(3) APPLICATION AND REVIEW PROCEDURES.—

"(A) IN GENERAL.—An entity described in subparagraph (C) seeking funding under this subsection shall submit an application to the Secretary at such time, in such manner, and containing such information as the Secretary may require. Such application, at a minimum, shall include a description of how the funds will be used and a description of how the funds will be used to serve the purposes described in paragraph (2).

"(B) PRIORITY.—In making awards under this subsection, the Secretary shall give priority to applicants that will encourage the participation of women and minorities.

"(C) ELIGIBILITY.—Local education agencies and State education agencies, which may partner with institutions of higher education, businesses, or other entities, shall be eligible to apply for grants under this subsection.

"(4) DEFINITIONS.—For purposes of this subsection—

"(A) the term 'institution of higher education' has the meaning given that term in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001);

"(B) the term 'local educational agency' has the meaning given that term in section 9101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801); and

"(C) the term 'State educational agency' has the meaning given that term in section 9101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801).

"(5) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary of Transportation to carry out this subsection $500,000 for fiscal year 2005 and such sums as may be necessary thereafter.".

Page 61, line 6, insert ", including innovative techniques for ensuring representative public input (e.g. deliberative polling)" after "intermodal transportation systems".

Page 74, lines 7 and 8, strike "Federal laboratories" and insert "federally funded research and development centers".

Page 77, line 25, strike "Federal laboratories" and insert "federally funded research and development centers".

Page 104, line 16, strike "Federal laboratories" and insert "federally funded research and development centers".

Page 104, line 19, strike "Federal laboratory" and insert "federally funded research and development center".

Page 105, line 17, strike "Federal laboratories" and insert "federally funded research and development centers".