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(Original Signature of Member)

112TH CONGRESS
1ST SESSION

H. R. _____

To promote green transportation infrastructure through research and development, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

Mr. WU introduced the following bill; which was referred to the Committee on _____

A BILL

To promote green transportation infrastructure through 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.

This Act may be cited as the ''Promoting Green Transportation Infrastructure through Research and Development Act''.

SEC. 2. OFFICE OF CLIMATE CHANGE AND ENVIRONMENT.

Section 102(g) of title 49, United States Code, is amended—

(1) in paragraph (1) in the matter preceding subparagraph (A), by striking ''Department'' and inserting ''Research and Innovative Technology Administration in the Department'';

(2) by redesignating paragraph (2) as paragraph (7);

(3) by inserting after paragraph (1) the following new paragraphs:

''(2) IMPACT REDUCTION RESEARCH ACTIVITIES.—

''(A) IN GENERAL.—The Office established under paragraph (1) shall fund or coordinate research, development, and technology transfer activities focused on—

''(i) reducing vehicle miles traveled;

''(ii) reducing congestion;

''(iii) reducing construction and maintenance-related emissions and energy consumption; and

''(iv) in coordination with the Environmental Protection Agency and the Department of Energy, assessing consumer acceptance of and infrastructure needs for alternative fuels and improved vehicle technology and other strategies to reduce

greenhouse gas emissions and conserve energy arising from surface transportation infrastructure, operation, and use.

''(B) ACTIVITIES.—Research activities shall include the following:

''(i) Assessments of the impact, cost-effectiveness, and collateral benefits of emissions and energy reduction strategies.

''(ii) The development of technologies, tools, and techniques to reduce emissions and energy consumption throughout the life-cycle of transportation infrastructure.

''(iii) Congestion reduction and speed management strategies.

''(iv) Assessments of the impact of land use change on surface emissions and other factors, such as congestion, mobility, and accessibility, and barriers to land use change.

''(v) Infrastructure requirements for alternative fuels and vehicles.

''(vi) Traveler behaviors with respect to mode-choice, response to transportation pricing scheme, nonmotorized travel, and other emissions reducing strategies.

''(vii) Emissions and energy reduction strategies for freight transportation, including mode shifts, freight infrastructure projects, and the effects of land use on freight movement.

''(3) ADAPTATION.—The Office shall fund or coordinate research on the impacts of climate change on surface transportation infrastructure to understand and assess how climate change and variability may affect transportation operation and infrastructure.

''(4) ASSESSMENT.—

''(A) IN GENERAL.—The Office shall assess current and historical surface transportation infrastructure and fuel demand management strategies that have been implemented at the local, State, and national levels for their social, economic, and environmental costs and benefits.

''(B) PUBLIC ACCESSIBILITY.—The results of such assessments shall be made publicly available through the Web site of the Research and Innovative Technology Administration in the Department.

''(5) MODELING.—The Office, in consultation with the Environmental Protection Agency and other Federal agencies, shall support the development of more accurate tools and models for quantifying mobile emissions and evaluating surface transportation emissions reductions strategies. The tools and models shall incorporate such factors as—

''(A) vehicle speed;

''(B) traffic flow;

''(C) land use;

''(D) nonmotorized travel;

''(E) transit use;

''(F) traveler behavior; and

''(G) commercial traffic and freight movement.

''(6) PUBLIC ACCESSIBILITY.—The results of the research and development carried out under this subsection shall be made publicly available to national, State, and local transportation planners and decisionmakers.''.

SEC. 3. REGIONAL GREEN TRANSPORTATION RESEARCH CENTERS.

(a) ESTABLISHMENT.—Subchapter I of chapter 55 of title 49, United States Code, is amended by inserting after section 5505 the following new section:

"SEC. 5505A. REGIONAL GREEN TRANSPORTATION RESEARCH CENTERS.

''(a) GREEN TRANSPORTATION INFRASTRUCTURE RESEARCH AND TECHNOLOGY TRANSFER.—The Administrator of the Research and Innovative Technology Administration of the Department of Transportation shall make grants to institutions of higher education or consortia thereof to establish and operate university transportation centers to carry out research, development, and technology transfer activities in the field of green transportation infrastructure.

''(b) OBJECTIVES.—The purpose of centers established pursuant to this section shall be to—

''(1) generate innovative and cost-effective approaches to mitigating environmental impacts throughout the lifecycle of transportation infrastructure;

''(2) develop holistic approaches to integrating green infrastructure into existing wastewater management systems;

''(3) promote adoption of innovative green transportation infrastructure systems by State and local governments and the private sector; and

''(4) manage technology transfer programs to disseminate information on best management practices in the area of green transportation infrastruc-

ture to State and local governments and the private sector.

''(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 or consortia thereof shall submit to the Administrator an application that is in such form and contains such information as the Administrator may require.

''(2) REGIONAL CENTERS.—To the greatest extent practicable, the Administrator shall ensure that there is at least one grant recipient from each of the 10 United States Government regions that comprise the Standard Federal Regional Boundary System.

''(3) SELECTION CRITERIA.—Except as otherwise provided by this section, the Administrator shall select each recipient of a grant under this section through a merit-reviewed competitive process on the basis of the following:

''(A) Demonstrated expertise in transportation research and environmental impacts of transportation infrastructure.

''(B) Demonstrated research capacity and technology transfer resources.

''(C) Existing or proposed partnerships with State and local governments and private industry involved in transportation-related construction, environmental impact mitigation, or other areas related to green transportation infrastructure research.

''(D) Capability to provide leadership in developing national best management practices, regional best management practices, or both in the field of green transportation infrastructure.

''(E) Expertise in specific regional climate characteristics which impact the effectiveness of green transportation infrastructure technologies and practices.

''(F) Demonstrated ability to disseminate results of 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) ACTIVITIES.—The types of activities the Administrator may support under this section include the following:

''(1) Research and development of innovative technologies, construction techniques, or best man-

agement processes that mitigate the environmental impact of transportation infrastructure, including—

''(A) assessments of the life-cycle environmental impact of local existing or planned transportation infrastructure;

''(B) integration of green transportation infrastructure elements into existing transportation or waste management systems; and

''(C) research, development, testing, and evaluation of new technologies or best management practices.

''(2) Establishment and operation of a regional technology transfer program to disseminate information on new technologies and best management practices to State and local governments, institutions of higher education, and private industry in the region.

''(3) Study of the impact of State, local, and Federal regulations on the implementation of green transportation infrastructure technologies and practices. These studies shall include collaboration with appropriate Federal agencies to evaluate the effect of and possible changes to Federal and State regulations that impede implementation of green transportation infrastructure.

''(4) Public education efforts to raise awareness of green transportation infrastructure technologies, including activities to raise awareness and foster collaboration among regional governments, private industry, and other public and private stakeholders.

''(e) ANNUAL MEETING.—The Administrator shall convene an annual meeting of the Centers established pursuant to this section in order to foster collaboration and communication among Center participants and disseminate best management practices.

''(f) DEFINITION.—In this section, the term 'green transportation infrastructure' includes infrastructure that—

''(1) preserves and restores natural processes, landforms (such as flood plains), natural vegetated streamside buffers, wetlands, or other topographical features that can slow, filter, and naturally store stormwater runoff and floodwaters for future water supply and recharge of natural aquifers;

''(2) utilizes natural design techniques that infiltrate, filter, store, evaporate, and detain water close to its source;

''(3) minimizes the use of impervious surfaces in order to slow or infiltrate precipitation;

''(4) minimizes life-cycle energy consumption, including during construction, maintenance, use by vehicles, and destruction and recycling; and

''(5) minimizes life-cycle air pollution.''.

(b) CONFORMING AMENDMENT.—The table of sections for such subchapter is amended by inserting after the item relating to section 5505 the following new item:

''5505A. Regional Green Transportation Research Centers.''.

SEC. 4. PAVEMENT RESEARCH, TECHNOLOGY TRANSFER, AND EDUCATION PROGRAM.

(a) ESTABLISHMENT.—The Administrator of the Research and Innovative Technology Administration of the Department of Transportation shall, in consultation with appropriate Department modal agencies, establish a pavement research, deployment, and education program (in this section referred to as the ''Program'').

(b) PURPOSE.—The purpose of the Program shall be to—

(1) address the need to advance pavement research; and

(2) coordinate technology transfer efforts related to paving materials.

(c) FUNCTION.—The Program, in coordination with Department modal agencies, shall provide funding to university transportation centers established under section 5506 of title 49, United States Code, and other institu-

tions of higher education to conduct research, development, and technology transfer activities about paving materials and practices.

(d) ACTIVITIES.—Activities carried out by the Program shall include—

(1) research and development of innovative technologies and techniques to reduce the cost and environmental impact of paving materials and practices, including research on—

(A) paving materials with improved durability;

(B) methods that decrease the energy use in, and emissions resulting from, paving practices;

(C) paving materials that decrease environmental impact;

(D) methods to decrease the overall lifecycle cost of paving materials and practices;

(E) construction techniques to increase safety and reduce construction time and traffic disruption and congestion;

(F) pavement evaluation technologies and techniques; and

(G) paving materials utilizing more recycled and locally available natural material;

(2) effective technology transfer, including efforts on—

(A) identifying and addressing barriers to implementation for developed paving materials and practices; and

(B) addressing the data needs of stakeholders by developing independent studies and assessments on topics, including—

(i) durability of paving technologies;

(ii) emissions from construction practices;

(iii) life-cycle cost-effectiveness of paving materials and strategies; and

(iv) environmental impact of paving technologies; and

(3) establishing grants to institutions of higher education to develop training and education programs for workforce professionals in the areas of paving materials and practices.

(e) REPORT.—Not later than 6 months after the date of enactment of this Act, the Administrator shall submit a report to the Committee on Science, Space, and Technology and the Committee on Transportation and Infrastructure of the House of Representatives and the Committee on Commerce, Science, and Transportation of the

Senate on the results of the long-term pavement performance program and how the Department intends to organize, maintain, and utilize the database.