

112TH CONGRESS
1ST SESSION

H. R. 2317

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

IN THE HOUSE OF REPRESENTATIVES

JUNE 23, 2011

Mr. WU (for himself and Ms. EDDIE BERNICE JOHNSON of Texas) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

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

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Promoting Green
5 Transportation Infrastructure through Research and De-
6 velopment Act”.

7 **SEC. 2. OFFICE OF CLIMATE CHANGE AND ENVIRONMENT.**

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

1 (1) in paragraph (1) in the matter preceding
2 subparagraph (A), by striking “Department” and in-
3 sserting “Research and Innovative Technology Ad-
4 ministration in the Department”;

5 (2) by redesignating paragraph (2) as para-
6 graph (7);

7 (3) by inserting after paragraph (1) the fol-
8 lowing new paragraphs:

9 “(2) IMPACT REDUCTION RESEARCH ACTIVI-
10 TIES.—

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

15 “(i) reducing vehicle miles traveled;

16 “(ii) reducing congestion;

17 “(iii) reducing construction and main-
18 tenance-related emissions and energy con-
19 sumption; and

20 “(iv) in coordination with the Envi-
21 ronmental Protection Agency and the De-
22 partment of Energy, assessing consumer
23 acceptance of and infrastructure needs for
24 alternative fuels and improved vehicle tech-
25 nology and other strategies to reduce

1 greenhouse gas emissions and conserve en-
2 ergy arising from surface transportation
3 infrastructure, operation, and use.

4 “(B) ACTIVITIES.—Research activities
5 shall include the following:

6 “(i) Assessments of the impact, cost-
7 effectiveness, and collateral benefits of
8 emissions and energy reduction strategies.

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

13 “(iii) Congestion reduction and speed
14 management strategies.

15 “(iv) Assessments of the impact of
16 land use change on surface emissions and
17 other factors, such as congestion, mobility,
18 and accessibility, and barriers to land use
19 change.

20 “(v) Infrastructure requirements for
21 alternative fuels and vehicles.

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

1 “(vii) Emissions and energy reduction
2 strategies for freight transportation, in-
3 cluding mode shifts, freight infrastructure
4 projects, and the effects of land use on
5 freight movement.

6 “(3) ADAPTATION.—The Office shall fund or
7 coordinate research on the impacts of climate change
8 on surface transportation infrastructure to under-
9 stand and assess how climate change and variability
10 may affect transportation operation and infrastruc-
11 ture.

12 “(4) ASSESSMENT.—

13 “(A) IN GENERAL.—The Office shall as-
14 sess current and historical surface transpor-
15 tation infrastructure and fuel demand manage-
16 ment strategies that have been implemented at
17 the local, State, and national levels for their so-
18 cial, economic, and environmental costs and
19 benefits.

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

1 “(5) MODELING.—The Office, in consultation
2 with the Environmental Protection Agency and other
3 Federal agencies, shall support the development of
4 more accurate tools and models for quantifying mo-
5 bile emissions and evaluating surface transportation
6 emissions reductions strategies. The tools and mod-
7 els shall incorporate such factors as—

8 “(A) vehicle speed;

9 “(B) traffic flow;

10 “(C) land use;

11 “(D) nonmotorized travel;

12 “(E) transit use;

13 “(F) traveler behavior; and

14 “(G) commercial traffic and freight move-
15 ment.

16 “(6) PUBLIC ACCESSIBILITY.—The results of
17 the research and development carried out under this
18 subsection shall be made publicly available to na-
19 tional, State, and local transportation planners and
20 decisionmakers.”.

21 **SEC. 3. REGIONAL GREEN TRANSPORTATION RESEARCH**
22 **CENTERS.**

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

1 **“SEC. 5505A. REGIONAL GREEN TRANSPORTATION RE-**
2 **SEARCH CENTERS.**

3 “(a) GREEN TRANSPORTATION INFRASTRUCTURE
4 RESEARCH AND TECHNOLOGY TRANSFER.—The Adminis-
5 trator of the Research and Innovative Technology Admin-
6 istration of the Department of Transportation shall make
7 grants to institutions of higher education or consortia
8 thereof to establish and operate university transportation
9 centers to carry out research, development, and technology
10 transfer activities in the field of green transportation in-
11 frastructure.

12 “(b) OBJECTIVES.—The purpose of centers estab-
13 lished pursuant to this section shall be to—

14 “(1) generate innovative and cost-effective ap-
15 proaches to mitigating environmental impacts
16 throughout the lifecycle of transportation infrastruc-
17 ture;

18 “(2) develop holistic approaches to integrating
19 green infrastructure into existing wastewater man-
20 agement systems;

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

24 “(4) manage technology transfer programs to
25 disseminate information on best management prac-
26 tices in the area of green transportation infrastruc-

1 ture to State and local governments and the private
2 sector.

3 “(c) SELECTION OF GRANT RECIPIENTS.—

4 “(1) APPLICATIONS.—In order to be eligible to
5 receive a grant under this section, a nonprofit insti-
6 tution of higher learning or consortia thereof shall
7 submit to the Administrator an application that is in
8 such form and contains such information as the Ad-
9 ministrator may require.

10 “(2) REGIONAL CENTERS.—To the greatest ex-
11 tent practicable, the Administrator shall ensure that
12 there is at least one grant recipient from each of the
13 10 United States Government regions that comprise
14 the Standard Federal Regional Boundary System.

15 “(3) SELECTION CRITERIA.—Except as other-
16 wise provided by this section, the Administrator
17 shall select each recipient of a grant under this sec-
18 tion through a merit-reviewed competitive process on
19 the basis of the following:

20 “(A) Demonstrated expertise in transpor-
21 tation research and environmental impacts of
22 transportation infrastructure.

23 “(B) Demonstrated research capacity and
24 technology transfer resources.

1 “(C) Existing or proposed partnerships
2 with State and local governments and private
3 industry involved in transportation-related con-
4 struction, environmental impact mitigation, or
5 other areas related to green transportation in-
6 frastructure research.

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

11 “(E) Expertise in specific regional climate
12 characteristics which impact the effectiveness of
13 green transportation infrastructure technologies
14 and practices.

15 “(F) Demonstrated ability to disseminate
16 results of research and education programs
17 through a statewide or regionwide continuing
18 education program.

19 “(G) The strategic plan the recipient pro-
20 poses to carry out under the grant.

21 “(d) ACTIVITIES.—The types of activities the Admin-
22 istrator may support under this section include the fol-
23 lowing:

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

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

3 “(A) assessments of the life-cycle environ-
4 mental impact of local existing or planned
5 transportation infrastructure;

6 “(B) integration of green transportation
7 infrastructure elements into existing transpor-
8 tation or waste management systems; and

9 “(C) research, development, testing, and
10 evaluation of new technologies or best manage-
11 ment practices.

12 “(2) Establishment and operation of a regional
13 technology transfer program to disseminate informa-
14 tion on new technologies and best management prac-
15 tices to State and local governments, institutions of
16 higher education, and private industry in the region.

17 “(3) Study of the impact of State, local, and
18 Federal regulations on the implementation of green
19 transportation infrastructure technologies and prac-
20 tices. These studies shall include collaboration with
21 appropriate Federal agencies to evaluate the effect
22 of and possible changes to Federal and State regula-
23 tions that impede implementation of green transpor-
24 tation infrastructure.

1 “(4) Public education efforts to raise awareness
2 of green transportation infrastructure technologies,
3 including activities to raise awareness and foster col-
4 laboration among regional governments, private in-
5 dustry, and other public and private stakeholders.

6 “(e) ANNUAL MEETING.—The Administrator shall
7 convene an annual meeting of the Centers established pur-
8 suant to this section in order to foster collaboration and
9 communication among Center participants and dissemi-
10 nate best management practices.

11 “(f) DEFINITION.—In this section, the term ‘green
12 transportation infrastructure’ includes infrastructure
13 that—

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

20 “(2) utilizes natural design techniques that in-
21 filtrate, filter, store, evaporate, and detain water
22 close to its source;

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

1 tions of higher education to conduct research, develop-
2 ment, and technology transfer activities about paving ma-
3 terials and practices.

4 (d) ACTIVITIES.—Activities carried out by the Pro-
5 gram shall include—

6 (1) research and development of innovative
7 technologies and techniques to reduce the cost and
8 environmental impact of paving materials and prac-
9 tices, including research on—

10 (A) paving materials with improved dura-
11 bility;

12 (B) methods that decrease the energy use
13 in, and emissions resulting from, paving prac-
14 tices;

15 (C) paving materials that decrease environ-
16 mental impact;

17 (D) methods to decrease the overall life-
18 cycle cost of paving materials and practices;

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

22 (F) pavement evaluation technologies and
23 techniques; and

24 (G) paving materials utilizing more recy-
25 cled and locally available natural material;

1 (2) effective technology transfer, including ef-
2 forts on—

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

6 (B) addressing the data needs of stake-
7 holders by developing independent studies and
8 assessments on topics, including—

9 (i) durability of paving technologies;

10 (ii) emissions from construction prac-
11 tices;

12 (iii) life-cycle cost-effectiveness of pav-
13 ing materials and strategies; and

14 (iv) environmental impact of paving
15 technologies; and

16 (3) establishing grants to institutions of higher
17 education to develop training and education pro-
18 grams for workforce professionals in the areas of
19 paving materials and practices.

20 (e) REPORT.—Not later than 6 months after the date
21 of enactment of this Act, the Administrator shall submit
22 a report to the Committee on Science, Space, and Tech-
23 nology and the Committee on Transportation and Infra-
24 structure of the House of Representatives and the Com-
25 mittee on Commerce, Science, and Transportation of the

- 1 Senate on the results of the long-term pavement perform-
- 2 ance program and how the Department intends to orga-
- 3 nize, maintain, and utilize the database.

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