111TH CONGRESS 1ST SESSION

H. R. 2569

To reauthorize surface transportation research, development, and technology transfer activities, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

May 21, 2009

Mr. Wu (for himself, Mr. Gordon of Tennessee, Ms. Eddie Bernice Johnson of Texas, Mr. Lipinski, and Mr. Carnahan) introduced the following bill; which was referred to the Committee on Science and Technology

A BILL

To reauthorize surface transportation research, development, and technology transfer activities, 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. FINDINGS.
- 4 Congress finds the following:
- 5 (1) A comprehensive and coordinated research
- 6 agenda is required to guide all Department of
- 7 Transportation research, development, and tech-
- 8 nology transfer programs on the focus areas of liv-
- 9 ability, sustainability, and performance for the sur-

- face transportation system. The Department currently lacks a research, development, and technology transfer strategic plan with quantifiable goals, expected outcomes, implementation strategies, and performance measures.
 - (2) The surface transportation sector contributes 28 percent of the total United States carbon emissions. To mitigate the impact of the surface transportation sector on the climate, the Department's Office of Climate Change and Environment should increase research efforts on effective strategies to reduce emissions from surface transportation infrastructure.
 - (3) Coordinated research and technology transfer on pavement and paving practices is essential to developing roads that are more durable, consume less energy in construction and maintenance, and are less disruptive to the environment.
 - (4) Technology transfer is an integral part of research and engineering. Additional efforts are required to ensure that successful research results are deployed to the field.
 - (5) The University Transportation Center (UTC) program conducts important research and trains future transportation professionals. However,

- 1 the system could be better integrated into the De-
- 2 partment of Transportation research and develop-
- 3 ment activities.

4 SEC. 2. STRATEGIC PLAN.

- 5 (a) IN GENERAL.—The Administrator shall develop
- 6 annually a comprehensive strategic plan to guide surface
- 7 transportation research, development, and technology
- 8 transfer activities within and funded by the Department
- 9 for the 3-year period beginning with the upcoming fiscal
- 10 year. Such strategic plan shall include—
- 11 (1) the focus areas of national importance that
- such activities will address, including community liv-
- ability, sustainability, and performance measures for
- 14 transportation systems;
- 15 (2) quantifiable goals, expected outcomes, im-
- plementation strategies, timetables, and performance
- 17 measures for each such focus area;
- 18 (3) the identification of stakeholders and their
- 19 role in identifying research needs and priorities; and
- 20 (4) specific activities for technology transfer
- and the application and utilization of research re-
- sults.
- 23 (b) Submission.—Beginning with the first submis-
- 24 sion after the date of enactment of this Act of the Presi-
- 25 dent's annual budget request to Congress, and annually

- 1 thereafter, the Administrator shall submit to the appro-
- 2 priate congressional committees the strategic plan devel-
- 3 oped under subsection (a) and shall make such plan avail-
- 4 able to the public on the Administration's Web site.

5 SEC. 3. UTC PROGRAM MANAGEMENT.

6 (a) Review Process.—

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- 7 (1) IN GENERAL.—The Administrator shall de-8 velop and execute a review process to assess the per-9 formance of each UTC.
 - (2) REVIEW CRITERIA.—Not later than 1 year after the date of enactment of this Act, the Administrator shall develop and make available to UTCs and the public the criteria that will be used in the review process under paragraph (1). Such criteria shall, at a minimum, be consistent with the performance measures identified in the strategic plan under section 2.
 - (3) TIMING.—The Administrator shall develop and execute the review process under paragraph (1) in such a manner that all UTCs are reviewed during a 3-year period with the number of UTCs being reviewed dispersed evenly throughout such period.
- 23 (4) Transparency.—The Administrator shall 24 make results of the review process for each UTC

1	available to the public on the Administration's Web
2	site.
3	(b) Internship Grant Program.—To carry out
4	the objective of expanding the transportation-related sci-
5	entific and technical workforce, the Administrator may es-
6	tablish a grant program to fund internships for students
7	participating in the UTC program at State departments
8	of transportation, metropolitan planning organizations,
9	and other appropriate organizations as identified by the
10	Administrator.
11	(c) Reports.—
12	(1) Annual.—The Administrator shall submit
13	to the appropriate congressional committees and
14	make available to the public on the Administration's
15	Web site an annual report on the UTC program, de-
16	tailing—
17	(A) the activities of the UTCs during the
18	previous year and how such activities reflect the
19	priorities in the strategic plan;
20	(B) the results of the reviews conducted
21	during the previous year;
22	(C) the progress of UTCs toward meeting
23	the goals and performance measures identified
24	in the strategic plan developed under section 2;
25	and

1	(D) information about any grants awarded
2	under subsection (b).
3	(2) Matching fund recommendation.—
4	Within 6 months after the date of enactment of this
5	Act, the Administrator shall submit a report to the
6	appropriate congressional committees with rec-
7	ommendations concerning the appropriate require-
8	ment under section 5506(j) of title 49, United
9	States Code, for the Federal share of costs for ac-
10	tivities carried out using a grant awarded under sec-
11	tion 5506 of such title.
12	(3) Extension centers.—
13	(A) In General.—Within 6 months after
14	the date of enactment of this Act, the Adminis-
15	trator, in consultation with the Director of the
16	National Institute of Standards and Tech-
17	nology, shall submit a report to Congress on
18	how best to strengthen facilitation of transpor-
19	tation-related technology transfer, including
20	through the potential establishment of transpor-
21	tation technology extension centers at UTCs.
22	(B) Contents.—In such report, the Ad-
23	ministrator shall—
24	(i) assess the role of UTCs to enable
25	workforce education in their regional

1	transportation communities and to pro-
2	mote the deployment and transfer of new
3	transportation technology, tools, tech-
4	niques, and methods; and
5	(ii) include an operational plan, iden-
6	tify the recipients of technical assistance
7	provided by UTCs, and identify the needs
8	of those recipients.
9	SEC. 4. VISITING COMMITTEE ON TRANSPORTATION RE-
10	SEARCH.
11	(a) In General.—The Secretary shall establish a
12	visiting committee on surface transportation research (in
13	this Act referred to as the "Committee"), which shall re-
14	view and make recommendations regarding the quality of
15	the surface transportation research, development, and
16	technology transfer activities being carried out by the De-
17	partment, including the development and execution of the
18	strategic plan under section 2 and the coordination of such
19	activities by the Administrator.
20	(b) Membership.—The Committee shall be com-
21	posed of 15 members appointed by the Secretary. In mak-
22	ing such appointments, the Secretary shall—
23	(1) consider recommendations submitted by the
24	National Academies, professional societies, business

1	associations, labor associations, and other appro-
2	priate organizations;
3	(2) to the extent practicable, ensure that mem-
4	bers do not have any conflicts of interest;
5	(3) not appoint employees of the Federal Gov-
6	ernment;
7	(4) ensure that members are eminent in rel-
8	evant fields, such as transportation research, trans-
9	portation engineering, product development, labor
10	education, transportation consulting, environment
11	or State or local government; and
12	(5) select members to provide adequate rep-
13	resentation of a cross-section of—
14	(A) surface transportation researchers, de-
15	cisionmakers at the State and local levels of
16	government, transportation practitioners, and
17	others in the transportation research, develop-
18	ment, and technology user community; and
19	(B) expertise in the focus areas of national
20	importance.
21	(c) Terms.—
22	(1) In General.—Each member of the Com-
23	mittee shall be appointed for a term of 3 years, ex-
24	cept as provided in paragraphs (2) and (3).

1	(2) Terms of initial appointees.—As des-
2	ignated by the Secretary at the time of appointment,
3	of the members first appointed—
4	(A) 5 members shall be appointed for a
5	term of 1 year;
6	(B) 5 members shall be appointed for a
7	term of 2 years; and
8	(C) 5 members shall be appointed for a
9	term of 3 years.
10	(3) Vacancies.—Any member appointed to fill
11	a vacancy occurring before the expiration of the
12	term for which the member's predecessor was ap-
13	pointed shall be appointed only for the remainder of
14	such term.
15	(4) ROTATION.—Any person who has completed
16	2 consecutive full terms of service on the Committee
17	shall thereafter be ineligible for appointment during
18	the 1-year period following the expiration of the sec-
19	ond such term.
20	(d) Meetings.—
21	(1) In General.—The Committee shall meet
22	at least twice each year at the call of the Chair-
23	person and, in addition, whenever one-third of the

members of the Committee so request in writing.

- 1 (2) NOTICE.—Each member of the Committee 2 shall be given appropriate notice of the call of such 3 meeting not less than 15 days prior to any meeting, 4 whenever possible.
- 5 (3) VIRTUAL MEETINGS; TELECONFERENCES.—
 6 The Committee may conduct meetings using elec7 tronic methods if each member may fully participate
 8 in the deliberations of the Committee in realtime.
- 9 (e) QUORUM.—A majority of the members of the 10 Committee shall constitute a quorum.
- 11 (f) RATES OF PAY; TRAVEL EXPENSES.—Each mem-12 ber shall serve without pay, except that each member shall 13 receive travel expenses, including per diem in lieu of sub-14 sistence, in accordance with applicable provisions under 15 subchapter I of chapter 57 of title 5, United States Code.

16 (g) Subcommittees.—

- 17 (1) EXECUTIVE COMMITTEE.—The Committee
 18 shall have an executive committee and may delegate
 19 to it or to the Secretary such of the powers and
 20 functions granted to the Committee by this Act as
 21 it determines appropriate.
- 22 (2) ADDITIONAL COMMITTEES.—The Committee is authorized to appoint from among its members such other committees as it determines necessary and to assign to committees so appointed

1 such survey and advisory functions as the Com-2 mittee deems appropriate to assist it in exercising its 3 powers and functions under this Act. 4 (h) Chairperson.— (1) Election.—The election of the Chair-6 person and Vice Chairperson of the Committee shall 7 take place at each annual meeting occurring in an 8 even-numbered year. 9 (2)Substitution.—The Vice Chairperson 10 shall perform the duties of the Chairperson in the 11 absence of the Chairperson. (3) VACANCY.—In case a vacancy occurs in the 12 13 chairpersonship or vice chairpersonship, the Com-14 mittee shall elect a member to fill such vacancy. 15 (i) Report.— (1) Annual.— 16 17 (A) IN GENERAL.—Not later than 30 days 18 after the submittal to Congress of the Presi-19 dent's annual budget request in each year, the 20 Committee shall transmit an annual report to 21 the Secretary for submission to the appropriate 22 congressional committees.

(B) Contents.—Such report shall deal

essentially, though not necessarily exclusively,

with policy issues or matters which affect the

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1	surface transportation research, development
2	and technology transfer activities at the De-
3	partment. Each such report shall comment on
4	the strategic plan developed under section 2
5	Each such report shall also identify future
6	areas of priority surface transportation research
7	for the Department.
8	(2) Additional.—The Committee shall trans-
9	mit to the Secretary and the appropriate congres-
10	sional committees such additional reports on specific
11	policy matters as it determines appropriate.
12	SEC. 5. OFFICE OF CLIMATE CHANGE AND ENVIRONMENT
13	Section 102(g) of title 49, United States Code, is
14	amended—
15	(1) in paragraph (1) in the matter preceding
16	subparagraph (A), by striking "Department" and in-
16 17	subparagraph (A), by striking "Department" and in- serting "Research and Innovative Technology Ad-
17	serting "Research and Innovative Technology Ad-
17 18	serting "Research and Innovative Technology Administration in the Department";
17 18 19	serting "Research and Innovative Technology Administration in the Department"; (2) by redesignating paragraph (2) as para-
17 18 19 20	serting "Research and Innovative Technology Administration in the Department"; (2) by redesignating paragraph (2) as paragraph (7);
17 18 19 20 21	serting "Research and Innovative Technology Administration in the Department"; (2) by redesignating paragraph (2) as paragraph (7); (3) by inserting after paragraph (1) the following the service of t

1	"(A) IN GENERAL.—The Office established
2	under paragraph (1) shall fund or coordinate
3	research, development, and technology transfer
4	activities focused on—
5	"(i) reducing vehicle miles traveled;
6	"(ii) reducing congestion;
7	"(iii) reducing construction and main-
8	tenance-related emissions and energy con-
9	sumption; and
10	"(iv) in coordination with the Envi-
11	ronmental Protection Agency and the De-
12	partment of Energy, assessing consumer
13	acceptance of and infrastructure needs for
14	alternative fuels and improved vehicle tech-
15	nology and other strategies to reduce
16	greenhouse gas emissions and conserve en-
17	ergy arising from surface transportation
18	infrastructure, operation, and use.
19	"(B) ACTIVITIES.—Research activities
20	shall include the following:
21	"(i) Assessments of the impact, cost-
22	effectiveness, and collateral benefits of
23	emissions and energy reduction strategies.
24	"(ii) The development of technologies,
25	tools, and techniques to reduce emissions

1	and energy consumption throughout the
2	life-cycle of transportation infrastructure.
3	"(iii) Congestion reduction and speed
4	management strategies.
5	"(iv) Assessments of the impact of
6	land use change on surface emissions and
7	other factors, such as congestion, mobility,
8	and accessibility, and barriers to land use
9	change.
10	"(v) Infrastructure requirements for
11	alternative fuels and vehicles.
12	"(vi) Traveler behaviors with respect
13	to mode-choice, response to transportation
14	pricing scheme, nonmotorized travel, and
15	other emissions reducing strategies.
16	"(vii) Emissions and energy reduction
17	strategies for freight transportation, in-
18	cluding mode shifts, freight infrastructure
19	projects, and the effects of land use on
20	freight movement.
21	"(3) Adaptation.—The Office shall fund or
22	coordinate research on the impacts of climate change
23	on surface transportation infrastructure to under-
24	stand and assess how climate change and variability

1	may affect transportation operation and infrastruc-
2	ture.
3	"(4) Assessment.—
4	"(A) IN GENERAL.—The Office shall as-
5	sess current and historical surface transpor-
6	tation infrastructure and fuel demand manage-
7	ment strategies that have been implemented at
8	the local, State, and national levels for their so-
9	cial, economic, and environmental costs and
10	benefits.
11	"(B) Public accessibility.—The results
12	of such assessments shall be made publicly
13	available through the Administration's Web
14	site.
15	"(5) Modeling.—The Office, in consultation
16	with the Environmental Protection Agency and other
17	Federal agencies, shall support the development of
18	more accurate tools and models for quantifying mo-
19	bile emissions and evaluating surface transportation
20	emissions reductions strategies. The tools and mod-
21	els shall incorporate such factors as—
22	"(A) vehicle speed;
23	"(B) traffic flow;
24	"(C) land use;
25	"(D) nonmotorized travel;

1	"(E) transit use;
2	"(F) traveler behavior; and
3	"(G) commercial traffic and freight move-
4	ment.
5	"(6) Public accessibility.—The results of
6	the research and development carried out under this
7	subsection shall be made publicly available to na-
8	tional, State, and local transportation planners and
9	decisionmakers.".
10	SEC. 6. REGIONAL GREEN TRANSPORTATION RESEARCH
11	CENTERS.
12	(a) Establishment.—Subchapter I of chapter 55 of
12 13	(a) ESTABLISHMENT.—Subchapter 1 of chapter 55 of title 49, United States Code, is amended by inserting after
13 14	title 49, United States Code, is amended by inserting after
13	title 49, United States Code, is amended by inserting after section 5505 the following new section:
13 14 15 16	title 49, United States Code, is amended by inserting after section 5505 the following new section: "SEC. 5505A. REGIONAL GREEN TRANSPORTATION RE
13 14 15 16	title 49, United States Code, is amended by inserting after section 5505 the following new section: "SEC. 5505A. REGIONAL GREEN TRANSPORTATION RESEARCH CENTERS.
13 14 15 16	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
13 14 15 16 17 18	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 Administration of the content of t
13 14 15 16 17 18	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 shall make grants to institutions of higher educations.
13 14 15 16 17 18 19 20	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 shall make grants to institutions of higher education or consortia thereof to establish and operate universation.
13 14 15 16 17 18 19 20 21	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 shall make grants to institutions of higher education or consortia thereof to establish and operate university transportation centers to carry out research, develop-
13 14 15 16 17 18 19 20 21	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 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

- "(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 infrastructure 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

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1	10 United States Government regions that comprise
2	the Standard Federal Regional Boundary System.
3	"(3) Selection criteria.—Except as other-
4	wise provided by this section, the Administrator
5	shall select each recipient of a grant under this sec-
6	tion through a merit-reviewed competitive process on
7	the basis of the following:
8	"(A) Demonstrated expertise in transpor-
9	tation research and environmental impacts of
10	transportation infrastructure.
11	"(B) Demonstrated research capacity and
12	technology transfer resources.
13	"(C) Existing or proposed partnerships
14	with State and local governments and private
15	industry involved in transportation-related con-
16	struction, environmental impact mitigation, or
17	other areas related to green transportation in-
18	frastructure research.
19	"(D) Capability to provide leadership in
20	developing national best management practices,
21	regional best management practices, or both in
22	the field of green transportation infrastructure.
23	"(E) Expertise in specific regional climate
24	characteristics which impact the effectiveness of

1	green transportation infrastructure technologies
2	and practices.
3	"(F) Demonstrated ability to disseminate
4	results of research and education programs
5	through a statewide or regionwide continuing
6	education program.
7	"(G) The strategic plan the recipient pro-
8	poses to carry out under the grant.
9	"(d) Activities.—The types of activities the Sec-
10	retary may support under this section include the fol-
11	lowing:
12	"(1) Research and development of innovative
13	technologies, construction techniques, or best man-
14	agement processes that mitigate the environmental
15	impact of transportation infrastructure, including—
16	"(A) assessments of the life-cycle environ-
17	mental impact of local existing or planned
18	transportation infrastructure;
19	"(B) integration of green transportation
20	infrastructure elements into existing transpor-
21	tation or waste management systems; and
22	"(C) research, development, testing, and
23	evaluation of new technologies or best manage-
24	ment practices.

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- "(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.

- 1 "(f) Definition.—In this section, the term 'green
- 2 transportation infrastructure' includes infrastructure
- 3 that—
- 4 "(1) preserves and restores natural processes,
- 5 landforms (such as flood plains), natural vegetated
- 6 streamside buffers, wetlands, or other topographical
- 7 features that can slow, filter, and naturally store
- 8 stormwater runoff and floodwaters for future water
- 9 supply and recharge of natural aquifers;
- "(2) utilizes natural design techniques that in-
- filtrate, filter, store, evaporate, and detain water
- 12 close to its source;
- 13 "(3) minimizes the use of impervious surfaces
- in order to slow or infiltrate precipitation;
- 15 "(4) minimizes life-cycle energy consumption,
- including during construction, maintenance, use by
- vehicles, and destruction and recycling; and
- "(5) minimizes life-cycle air pollution.".
- 19 (b) Conforming Amendment.—The table of sec-
- 20 tions for such subchapter is amended by inserting after
- 21 the item relating to section 5505 the following new item: "5505A. Regional Green Transportation Research Centers.".
- 22 SEC. 7. NATIONAL RESEARCH COUNCIL REVIEW.
- The Administrator shall contract with the National
- 24 Research Council to conduct a review of the surface trans-
- 25 portation research, development, and technology transfer

- 1 activities at the Turner Fairbank Highway Research facil-
- 2 ity. Such review shall assess the technical merit of re-
- 3 search activities at such facility and the degree to which
- 4 such activities achieve stated objectives and desired impact
- 5 and make recommendations on how to improve the quality
- 6 and efficiency of such activities.

7 SEC. 8. PAVEMENT RESEARCH, TECHNOLOGY TRANSFER,

- 8 AND EDUCATION PROGRAM.
- 9 (a) Establishment.—The Administrator shall, in
- 10 consultation with appropriate Department modal agencies,
- 11 establish a pavement research, deployment, and education
- 12 program (in this section referred to as the "Program").
- 13 (b) Purpose.—The purpose of the Program shall be
- 14 to—
- 15 (1) address the need to advance pavement re-
- search; and
- 17 (2) coordinate technology transfer efforts re-
- 18 lated to paving materials.
- 19 (c) Function.—The Program, in coordination with
- 20 Department modal agencies, shall provide funding to
- 21 UTCs and other institutions of higher education to con-
- 22 duct research, development, and technology transfer ac-
- 23 tivities about paving materials and practices.
- 24 (d) ACTIVITIES.—Activities carried out by the Pro-
- 25 gram shall include—

1	(1) research and development of innovative
2	technologies and techniques to reduce the cost and
3	environmental impact of paving materials and prac-
4	tices, including research on—
5	(A) paving materials with improved dura-
6	bility;
7	(B) methods that decrease the energy use
8	in, and emissions resulting from, paving prac-
9	tices;
10	(C) paving materials that decrease environ-
11	mental impact;
12	(D) methods to decrease the overall life-
13	cycle cost of paving materials and practices;
14	(E) construction techniques to increase
15	safety and reduce construction time and traffic
16	disruption and congestion;
17	(F) pavement evaluation technologies and
18	techniques; and
19	(G) paving materials utilizing more recy-
20	cled and locally available natural material;
21	(2) effective technology transfer, including ef-
22	forts on—
23	(A) identifying and addressing barriers to
24	implementation for developed paving materials
25	and practices; and

1	(B) addressing the data needs of stake-
2	holders by developing independent studies and
3	assessments on topics, including—
4	(i) durability of paving technologies;
5	(ii) emissions from construction prac-
6	tices;
7	(iii) life-cycle cost-effectiveness of pav-
8	ing materials and strategies; and
9	(iv) environmental impact of paving
10	technologies; and
11	(3) establishing grants to institutions of higher
12	education to develop training and education pro-
13	grams for workforce professionals in the areas of
14	paving materials and practices.
15	(e) Report.—Not later than 6 months after the date
16	of enactment of this Act, the Administrator shall submit
17	a report to the appropriate congressional committees on
18	the results of the long-term pavement performance pro-
19	gram and how the Department intends to organize, main-
20	tain, and utilize the database.
21	SEC. 9. DEFINITIONS.
22	For purposes of this Act, the following definitions
23	apply:
24	(1) Administration.—The term "Administra-
25	tion" means the Research and Innovative Tech-

- nology Administration in the Department of Trans portation.
- 3 (2) ADMINISTRATOR.—The term "Adminis-4 trator" means the Administrator of the Research 5 and Innovative Technology Administration.
- 6 (3) APPROPRIATE CONGRESSIONAL COMMIT7 TEES.—The term "appropriate congressional com8 mittees" means the Committee on Science and Tech9 nology and the Committee on Transportation and
 10 Infrastructure of the House of Representatives and
 11 the Committee on Commerce, Science, and Trans12 portation of the Senate.
- (4) DEPARTMENT.—The term "Department"
 means the Department of Transportation.
- (5) SECRETARY.—The term "Secretary" means
 the Secretary of Transportation.
- 17 (6) UTC.—The term "UTC" means a univer-18 sity transportation center established under section 19 5506 of title 49, United States Code.

20 SEC. 10. AUTHORIZATION.

- 21 (a) Surface Transportation Research, Devel-
- 22 OPMENT, AND TECHNOLOGY PROGRAM.—To carry out
- 23 surface transportation research, development, and tech-
- 24 nology activities, such sums as are necessary shall be
- 25 available.

- 1 (b) University Transportation Research.—To
- 2 carry out section 5505 and section 5506 of title 49, United
- 3 States Code, such sums as are necessary shall be available.

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