

115TH CONGRESS
1ST SESSION

S. 1809

To direct the Secretary of Transportation to establish the Strengthening Mobility and Revolutionizing Transportation (SMART) Challenge Grant Program to promote technological innovation in our Nation's cities.

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 14, 2017

Ms. CORTEZ MASTO (for herself and Mr. BURR) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To direct the Secretary of Transportation to establish the Strengthening Mobility and Revolutionizing Transportation (SMART) Challenge Grant Program to promote technological innovation in our Nation's cities.

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 “Moving and Fostering
5 Innovation to Revolutionize Smarter Transportation Act”
6 or the “Moving FIRST Act”.

7 **SEC. 2. FINDINGS.**

8 Congress makes the following findings:

1 (1) Beyond Traffic 2045, a comprehensive as-
2 sessment of the national transportation system re-
3 cently published by the Department of Transpor-
4 tation, identified transportation trends that need to
5 be proactively addressed, including—

6 (A) the population of the United States
7 will increase by 70,000,000 during the 30-year
8 period ending in 2045;

9 (B) emerging megaregions could absorb 75
10 percent of the United States population by
11 2050;

12 (C) freight volume will increase by more
13 than 40 percent by 2045;

14 (D) Americans are currently stuck in traf-
15 fic for more than 42 hours each year, on aver-
16 age;

17 (E) the current annual cost of congestion
18 in delays and lost fuel amounts to
19 \$160,000,000,000;

20 (F) 96 people die in motor vehicle crashes
21 in the United States every day, on average, and
22 nearly 6,700 are injured per day; and

23 (G) connected vehicles and new crash
24 avoidance technology could potentially address

1 81 percent of crashes involving unimpaired
2 drivers.

3 (2) According to the Department of Transpor-
4 tation, in 2015—

5 (A) traffic crash-related deaths increased
6 by more than 7 percent compared to 2014;

7 (B) pedestrian fatalities increased by more
8 than 9 percent compared to 2014; and

9 (C) pedalcyclist fatalities increased by
10 more than 12 percent compared to 2014.

11 (3) In 2015, the Secretary of Transportation
12 created the Smart City Challenge to assist cities in
13 addressing the challenges facing our Nation’s trans-
14 portation system through innovative and creative
15 means, utilizing both the public and the private sec-
16 tors.

17 (4) By asking American cities to use emerging
18 transportation technologies to address their most
19 pressing problems, the Smart City Challenge aimed
20 to spark and spread innovation through a mixture of
21 collaboration, competition, and experimentation.

22 (5) The following outcomes were expected from
23 the original Smart City Challenge and are expected
24 to result from the SMART grants awarded under
25 this Act:

1 (A) Improved safety from the use of ad-
2 vanced technologies, including connected vehicle
3 technologies, to reduce the number of collisions,
4 fatalities, and injuries for vehicle occupants and
5 nonvehicle occupants.

6 (B) Enhanced mobility by providing
7 realtime traveler information and emerging mo-
8 bility services to improve personal mobility for
9 all citizens including people with lower incomes,
10 people with disabilities, and older adults.

11 (C) Enhanced ladders of opportunity by—

12 (i) providing access to advanced tech-
13 nology and its benefits for underserved
14 areas and residents;

15 (ii) increasing connectivity to employ-
16 ment, education, and other services; and

17 (iii) contributing to revitalization by
18 incentivized reinvestment in underserved
19 communities.

20 (D) Reduction in pollution by imple-
21 menting advanced technologies and policies that
22 support a more sustainable and cost-effective
23 relationship between transportation and the en-
24 vironment through more efficient fuel use and
25 emissions reductions.

1 **SEC. 3. DEFINITIONS.**

2 In this Act:

3 (1) **ELIGIBLE APPLICANT.**—The term “eligible
4 applicant” means a large city, a mid-sized city, a
5 rural community, or a regional partnership.

6 (2) **LARGE CITY.**—The term “large city” means
7 a beneficiary city with a population between 400,000
8 and 1,000,000, according to the Census Bureau’s
9 most recent annual estimates of resident population.

10 (3) **MID-SIZED CITY.**—The term “mid-sized
11 city” means a beneficiary city with a population be-
12 tween 75,000 and 400,000, according to the Census
13 Bureau’s most recent annual estimates of resident
14 population.

15 (4) **MULTI-JURISDICTIONAL GROUP.**—The term
16 “multi-jurisdictional group” means a beneficiary
17 composed of two or more combination of States,
18 tribal governments, local governments, public transit
19 agencies, public toll authorities, or metropolitan
20 planning agencies, each of which is eligible to apply
21 for a SMART grant under section 4.

22 (5) **REGIONAL PARTNERSHIP.**—The term “re-
23 gional partnership” means a group of two or more
24 jurisdictions with a combined population between
25 10,000 and 75,000, according to the Census Bu-
26 reau’s most recent annual estimates of resident pop-

1 ulation, which have entered into a partnership to
2 apply for a SMART grant under section 4.

3 (6) RURAL COMMUNITY.—The term “rural
4 community” means a beneficiary jurisdiction with a
5 population between 10,000 and 75,000 people, not
6 located within an urbanized area or cluster, accord-
7 ing to the Census Bureau’s most recent annual esti-
8 mates of resident population.

9 (7) SECRETARY.—The term “Secretary” means
10 the Secretary of Transportation.

11 (8) STRENGTHENING MOBILITY AND REVOLU-
12 TIONIZING TRANSPORTATION GRANT; SMART
13 GRANT.—The terms “Strengthening Mobility and
14 Revolutionizing Transportation grant” and
15 “SMART grant” means a grant awarded to an eligi-
16 ble applicant under section 4.

17 **SEC. 4. SMART GRANT PROGRAM.**

18 (a) GRANTS AUTHORIZED.—During each of the fiscal
19 years 2019 through 2023, the Secretary is authorized to
20 award—

21 (1) one SMART grant of not less than
22 \$30,000,000 or more than \$50,000,000 to an appli-
23 cant on behalf of a large city to carry out an eligible
24 project;

(2) one SMART grant of not less than \$30,000,000 or more than \$50,000,000 to an applicant on behalf of a mid-sized city to carry out an eligible project; and

(3) two SMART grants, totaling not more than the greater of \$20,000,000 or 20 percent of the amount appropriated pursuant to section 6(a) for the fiscal year, to applicants on behalf of rural communities or regional partnerships to carry out eligible projects.

(b) APPLICATION PROCESS.—

(1) IN GENERAL.—An eligible applicant may apply for a grant under this section by submitting an application to the Secretary at such time, in such manner, and containing such information as the Secretary may reasonably require to evaluate the merits of the proposed project in accordance with the selection criteria set forth in subsection (c).

(2) TECHNICAL ASSISTANCE.—

(A) STATE DEPARTMENTS OF TRANSPORTATION.—Eligible rural and regional partnership applicants are strongly encouraged to seek technical assistance from the department of transportation in their respective States during the application process and during the imple-

1 mentation of a project that is awarded a
2 SMART grant, as applicable.

3 (B) FEDERAL DEPARTMENT OF TRANS-
4 PORTATION.—The Secretary, after reviewing all
5 of the applications for SMART grants sub-
6 mitted in a fiscal year under paragraphs (1),
7 (2), and (3) of subsection (a), shall—

8 (i) provide not fewer than 2 applicants
9 from each of the 3 groups of applicants
10 that submitted applications deemed supe-
11 rior by the Secretary with limited technical
12 assistance to improve their respective ap-
13 plications; and

14 (ii) allow such applicants to resubmit
15 their improved applications before deter-
16 mining which applicants will receive a
17 SMART grant in such fiscal year.

18 (3) MULTIPLE GRANTS.—An eligible applicant
19 may not be awarded more than one SMART grant
20 during the duration of the SMART Grant Program.

21 (c) SELECTION CRITERIA.—

22 (1) IN GENERAL.—A panel of experts from the
23 Department of Transportation, including representa-
24 tives from the applicable subagencies within the De-
25 partment, shall evaluate applications for SMART

1 grants based on the applicable criteria described in
2 paragraphs (2) through (4).

3 (2) APPLICANT READINESS.—The panel re-
4 ferred to in paragraph (1) shall determine the extent
5 to which the applicant or beneficiary city—

6 (A) has a dense urban population typical
7 for a large or mid-sized American city;

8 (B) represents more than 15 percent of the
9 population of the census-designated place in
10 which it is located, according to the Census Bu-
11 reau’s most recent annual estimates of resident
12 population;

13 (C) has a public transportation system or
14 other transit options committed to integrating
15 with the sharing economy, and is considering
16 options to reduce the frequency of single occu-
17 pancy vehicles;

18 (D) has an environment that is conducive
19 to demonstrating proposed strategies;

20 (E) has continuity of committed leadership
21 and capacity to carry out the proposed project;

22 (F) is committed to making open, ma-
23 chine-readable data accessible, discoverable, and
24 usable by the public, in a secure fashion, to fuel
25 entrepreneurship and innovation; and

1 (G) is likely to successfully implement the
2 project, including technical and financial com-
3 mitments from public and private sectors, and
4 its functional capability to perform.

5 (3) EFFECTIVE USE OF TECHNOLOGY AND
6 PROJECT BENEFITS.—The panel shall determine the
7 extent to which the proposed project will use ad-
8 vanced data and intelligent transportation systems
9 technologies and applications to provide significant
10 benefits to a local area, a State, a region, or the
11 United States, including the extent to which the
12 project will—

13 (A) reduce congestion and delays for com-
14 merce and the traveling public;

15 (B) improve the safety of transportation
16 facilities and systems for pedestrians and the
17 traveling public;

18 (C) provide access to jobs, education, and
19 essential services, including health care;

20 (D) connect underserved populations and
21 reduce their transportation costs;

22 (E) contribute to medium- and long-term
23 economic competitiveness;

24 (F) improve the condition of existing
25 transportation facilities and systems;

1 (G) promote connectivity between the pub-
 2 lic and transportation systems;

3 (H) use innovative strategies or tech-
 4 nologies to pursue any of the primary selection
 5 criteria;

6 (I) demonstrate strong collaboration
 7 among a broad range of participants, including
 8 the private sector, or the integration of trans-
 9 portation with other public service efforts;

10 (J) improve the environment, improve en-
 11 ergy efficiency, reduce dependence on oil, or re-
 12 duce pollution; and

13 (K) address issues identified by the De-
 14 partment of Transportation in the Beyond
 15 Traffic 2045 report.

16 (d) USE OF GRANT FUNDS.—

17 (1) VISION ELEMENTS.—A SMART grant may
 18 be used for a project that demonstrates a sound, in-
 19 novative, integrated, and holistic approach and in-
 20 corporates many aspects of the applicable vision ele-
 21 ments set forth in this paragraph.

22 (A) COORDINATED AUTOMATION.—The use
 23 of automated transportation and autonomous
 24 vehicles, which offer tremendous possibilities for

enhancing safety, mobility, accessibility, equity,
and the environment.

(B) CONNECTED VEHICLES.—Connected vehicles, which send and receive information about their movements in the network, use vehicle-to-vehicle and vehicle-to-infrastructure communications to provide connectivity that will enable countless safety, mobility, and environmental applications.

(C) INTELLIGENT, SENSOR BASED INFRASTRUCTURE.—The use of a collective intelligent infrastructure allows sensors to collect and report real-time data to inform every day transportation-related operations and performance and trends of a city, ensuring that data collection and dissemination is conducted in a safe, secure manner.

(D) ARCHITECTURE AND STANDARDS.—The explicit use of architectures, which—

(i) are governed by rules, documentation, and standards;

(ii) may be extended to a nationwide or broader deployment;

(iii) are defined and demonstrate integration of intelligent transportation sys-

1 tems with other systems which comprise a
2 smart city; and

3 (iv) include a description of the re-
4 quired interfaces to other systems that uti-
5 lize existing networking or other standards,
6 if available, and any new standards that
7 may be needed.

8 (E) LOW COST, EFFICIENT, SECURE, AND
9 RESILIENT INFORMATION AND COMMUNICA-
10 TIONS TECHNOLOGY.—Strategies and practices
11 that advance information and communications
12 technology that is affordable, adaptable, effi-
13 cient, secure and resilient, including integrated
14 telecommunications platforms, enterprise soft-
15 ware, storage, and visualization systems.

16 (F) SMART LAND USE.—Strategies and
17 practices that ensure land use is efficiently opti-
18 mized through a combination of planning and
19 innovation deployments, altogether designed to
20 lead to a better connected community that ex-
21 pands the range of transportation choices and
22 access to employment, housing, education and
23 health services.

24 (G) COMPREHENSIVE ANALYTICS.—The
25 development of platforms for understanding and

1 analyzing data to address complex challenges,
2 including personal safety and mobility, network
3 efficiency, and environmental sustainability, and
4 measuring the performance of a transportation
5 network.

6 (H) USER-FOCUSED MOBILITY SERVICES
7 AND CHOICES.—Strategies, initiatives, and serv-
8 ices that increase transportation choices and
9 options by supporting and improving mobility
10 for all travelers, including aging Americans and
11 persons with disabilities and advanced traveler
12 information systems that provide real-time traf-
13 fic, transit, parking, and other transportation-
14 related information to travelers.

15 (I) COMMERCE DELIVERY AND LOGIS-
16 TICS.—Innovative solutions supporting efficient
17 goods movement in ways that use data or de-
18 ploy technology to create opportunities for a
19 more efficient supply chain approach that deliv-
20 ers safer logistics management, improved on-
21 time pickups and delivery, improved travel time
22 reliability, reduced fuel consumption, and re-
23 duced labor and vehicle maintenance costs.

24 (J) STRATEGIC BUSINESS MODELS AND
25 PARTNERING OPPORTUNITIES.—Creative stra-

1 tegic partnerships that draw in stakeholders, in-
2 cluding private sector, nonprofit, foundation,
3 philanthropic, academia, and other public agen-
4 cies, to advance SMART grant solutions.

5 (K) SMART GRID, ROADWAY ELEC-
6 TRIFICATION, AND ELECTRIC VEHICLES.—
7 Strategies and initiatives that leverage the
8 smart grid (a programmable and efficient en-
9 ergy transmission and distribution system) in
10 an effort to support the adoption or expansion
11 of roadway electrification, and electric vehicle
12 deployment. Interactions between electric vehi-
13 cles and intelligent transportation systems with
14 the smart grid should be explored and utilized.

15 (L) SYNCHRONIZATION OF TECH-
16 NOLOGY.—Strategies and initiatives that utilize
17 technology to enhance public interaction with
18 transportation systems and increase intermodal
19 efficiency, such as broadband or Wi-Fi access.

20 (M) CONNECTED, INVOLVED CITIZENS.—
21 Strategies, local campaigns, and processes to
22 proactively engage and inform citizens at the
23 individual level by deploying hardware, soft-
24 ware, and open data platforms in an effort to
25 increase personal mobility.

1 (2) ELIGIBLE PROJECT COSTS.—A SMART
2 grant may be used for—

3 (A) development phase activities, including
4 a reasonable amount of funding, as determined
5 by the Secretary, for—

6 (i) planning;

7 (ii) feasibility analysis;

8 (iii) revenue forecasting;

9 (iv) environmental review;

10 (v) permitting;

11 (vi) preliminary engineering and de-
12 sign work;

13 (vii) systems development or informa-
14 tion technology work; and

15 (viii) other preconstruction activities;

16 and

17 (B) construction phase activities, includ-
18 ing—

19 (i) construction;

20 (ii) reconstruction;

21 (iii) rehabilitation;

22 (iv) replacement;

23 (v) acquisition of real property (in-
24 cluding land related to the eligible project
25 and improvements to land);

- 1 (vi) environmental mitigation;
- 2 (vii) construction contingencies; and
- 3 (viii) acquisition of equipment, includ-
- 4 ing vehicles.

5 (3) PROHIBITED USE OF GRANT FUNDS.—
 6 SMART grants may not be used—

7 (A) to reimburse any pre-award costs or
 8 application preparation costs under the pro-
 9 posed project application; or

10 (B) for traffic or parking enforcement ac-
 11 tivities.

12 (e) TRANSPARENCY.—

13 (1) IN GENERAL.—The Secretary shall include,
 14 in any notice of funding availability, a full descrip-
 15 tion of how applications will be evaluated against the
 16 criteria set forth in subsection (c).

17 (2) CONSULTATIONS ON DECISIONS.—After all
 18 SMART grants have been awarded for a fiscal year,
 19 the Secretary (or the Secretary’s designee) shall be
 20 available to meet with any unsuccessful applicant, at
 21 a time and place that is mutually acceptable to the
 22 Secretary and the applicant, to review the applica-
 23 tion of the applicant.

24 (f) SUBMISSION OF APPLICATION FOR OTHER FED-
 25 ERAL TRANSPORTATION FUNDING PROGRAMS TO CARRY

1 OUT PROPOSED SMART GRANT PROJECTS.—Notwith-
 2 standing any other provision of law, an eligible applicant
 3 for a SMART grant under this section may submit an ap-
 4 plication for projects outlined in the applicant’s SMART
 5 grant application to seek Federal financial assistance for
 6 the proposed transportation project through—

7 (1) the Transportation Investment Generating
 8 Economic Recovery grant program (commonly
 9 known as “TIGER”);

10 (2) the Infrastructure for Rebuilding America
 11 grant program (commonly known as “INFRA”);

12 (3) the Transportation Infrastructure Finance
 13 and Innovation program established under chapter 6
 14 of title 23, United States Code (commonly known as
 15 “TIFIA”); or

16 (4) the Advanced Transportation and Conges-
 17 tion Management Technologies Deployment Program
 18 established under section 503(c)(4) of title 23,
 19 United States Code (commonly known as
 20 “ATCMTD”).

21 **SEC. 5. REPORTING REQUIREMENTS.**

22 (a) REPORT TO SECRETARY.—Not later than 2 years
 23 after the date on which a SMART grant recipient receives
 24 a grant under section 4, and annually thereafter until such

1 grant is expended, the recipient shall submit an implemen-
2 tation report to the Secretary that describes—

3 (1) the deployment and operational costs com-
4 pared to the benefits and savings from the project;
5 and

6 (2) how the project has met the original expect-
7 ation as projected in the deployment plan submitted
8 with the application, including—

9 (A) data on how the program—

10 (i) has helped reduce traffic crashes,
11 congestion, and costs;

12 (ii) has improved access to jobs, edu-
13 cation, or essential services; and

14 (iii) has provided other benefits
15 through deployed systems;

16 (B) data on the effect of measuring and
17 improving transportation system performance
18 through the deployment of advanced tech-
19 nologies;

20 (C) the effectiveness of providing real-time
21 integrated traffic, transit, and multimodal
22 transportation information to the public to
23 make informed travel decisions; and

24 (D) lessons learned and recommendations
25 for future deployment strategies to optimize

1 transportation efficiency and multimodal system
2 performance.

3 (b) GAO BIENNIAL REVIEWS.—Not later than 2
4 years after the date of the enactment of this Act, and bien-
5 nially thereafter, the Comptroller General of the United
6 States shall conduct a review of the SMART grant selec-
7 tion process and submit a report containing the results
8 of such review to the Committee on Commerce, Science,
9 and Transportation of the Senate, the Committee on En-
10 ergy and Commerce of the House of Representatives, and
11 the Committee on Transportation and Infrastructure of
12 the House of Representatives.

13 (c) REPORT TO CONGRESS.—Not later than 1 year
14 after the annual awarding of grants under section 4, the
15 Secretary shall submit a report to the Committee on Com-
16 merce, Science, and Transportation of the Senate, the
17 Committee on Energy and Commerce of the House of
18 Representatives, and the Committee on Transportation
19 and Infrastructure of the House of Representatives that
20 describes the effectiveness of SMART grant recipients in
21 meeting their projected deployment plan, including data
22 on how the projects funded by such grants or by other
23 Department of Transportation financial assistance de-
24 scribed in section 4(f) have—

- 1 (1) reduced traffic-related fatalities and inju-
2 ries;
- 3 (2) reduced traffic congestion and improved
4 travel time reliability;
- 5 (3) reduced transportation-related emissions;
- 6 (4) optimized multimodal system performance;
- 7 (5) improved access to transportation alter-
8 natives;
- 9 (6) implemented technological innovation to in-
10 crease efficiency with regards to intermodal commu-
11 nication, energy consumption, information and com-
12 munications technology, and personal mobility;
- 13 (7) provided the public with access to real-time
14 integrated traffic, transit, and multimodal transpor-
15 tation information to make informed travel deci-
16 sions;
- 17 (8) provided cost savings to transportation
18 agencies, businesses, and the traveling public;
- 19 (9) provided other benefits to transportation
20 users and the general public;
- 21 (10) reduced barriers to various essential serv-
22 ices; and
- 23 (11) utilized partnerships with the private sec-
24 tor.

1 **SEC. 6. AUTHORIZATION OF APPROPRIATIONS.**

2 (a) IN GENERAL.—There are authorized to be appro-
3 priated to the Department of Transportation
4 \$100,000,000 for each of the fiscal years 2019 through
5 2023 to carry out this Act, of which—

6 (1) 80 percent shall be used for SMART grants
7 to large cities and mid-sized cities under paragraphs
8 (1) and (2) of section 4(a); and

9 (2) 20 percent shall be used for SMART grants
10 to rural communities or regional partnerships under
11 section 4(a)(3).

12 (b) AVAILABILITY.—Amounts appropriated for a fis-
13 cal year pursuant to this section shall be available for obli-
14 gation during the 2-year period beginning on the first day
15 of the fiscal year for which they were appropriated.

○