

S.L.C.  
*Cortez Masto*

115TH CONGRESS  
1ST SESSION

**S.** \_\_\_\_\_

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.

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IN THE SENATE OF THE UNITED STATES

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

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**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           essment 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 2 or more combination of States, tribal  
18 governments, local governments, public transit agen-  
19 cies, public toll authorities, or metropolitan planning  
20 agencies, each of which is eligible to apply for a  
21 SMART grant under section 4.

22 (5) **REGIONAL PARTNERSHIP.**—The term “re-  
23 gional partnership” means a group of 2 or more ju-  
24 risdictions 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) 1 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;

1           (2) 1 SMART grant of not less than  
2           \$30,000,000 or more than \$50,000,000 to an appli-  
3           cant on behalf of a mid-sized city to carry out an  
4           eligible project; and

5           (3) 2 SMART grants, totaling not more than  
6           the greater of \$20,000,000 or 20 percent of the  
7           amount appropriated pursuant to section 6(a) for  
8           the fiscal year, to applicants on behalf of rural com-  
9           munities or regional partnerships to carry out eligi-  
10          ble projects.

11          (b) APPLICATION PROCESS.—

12           (1) IN GENERAL.—An eligible applicant may  
13           apply for a grant under this section by submitting  
14           an application to the Secretary at such time, in such  
15           manner, and containing such information as the Sec-  
16           retary may reasonably require to evaluate the merits  
17           of the proposed project in accordance with the selec-  
18           tion criteria set forth in subsection (c).

19           (2) TECHNICAL ASSISTANCE.—

20           (A) STATE DEPARTMENTS OF TRANSPOR-  
21           TATION.—Eligible rural and regional partner-  
22           ship applicants are strongly encouraged to seek  
23           technical assistance from the department of  
24           transportation in their respective States during  
25           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 1 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 lie 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

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

3 (B) CONNECTED VEHICLES.—Connected  
4 vehicles, which send and receive information  
5 about their movements in the network, use vehi-  
6 cle-to-vehicle and vehicle-to-infrastructure com-  
7 munications to provide connectivity that will en-  
8 able countless safety, mobility, and environ-  
9 mental applications.

10 (C) INTELLIGENT, SENSOR BASED INFRA-  
11 STRUCTURE.—The use of a collective intelligent  
12 infrastructure allows sensors to collect and re-  
13 port real-time data to inform every day trans-  
14 portation-related operations and performance  
15 and trends of a city, ensuring that data collec-  
16 tion and dissemination is conducted in a safe,  
17 secure manner.

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

20 (i) are governed by rules, documenta-  
21 tion, and standards;

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

24 (iii) are defined and demonstrate inte-  
25 gration 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 tegie 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 ELECTRIFICA-  
6 TION, AND ELECTRIC VEHICLES.—Strategies  
7 and initiatives that leverage the smart grid (a  
8 programmable and efficient energy transmission  
9 and distribution system) in an effort to support  
10 the adoption or expansion of roadway elec-  
11 trification, and electric vehicle deployment.  
12 Interactions between electric vehicles and intel-  
13 ligent transportation systems with the smart  
14 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 expec-  
7 tation 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.