

116TH CONGRESS  
1ST SESSION

# H. R. 2636

To promote the use of smart technologies and systems in communities, and  
for other purposes.

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## IN THE HOUSE OF REPRESENTATIVES

MAY 9, 2019

Ms. DELBENE (for herself and Mr. LUJÁN) introduced the following bill;  
which was referred to the Committee on Energy and Commerce, and in  
addition to the Committees on Science, Space, and Technology, Edu-  
cation and Labor, and Foreign Affairs, for a period to be subsequently  
determined by the Speaker, in each case for consideration of such provi-  
sions as fall within the jurisdiction of the committee concerned

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## A BILL

To promote the use of smart technologies and systems in  
communities, 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; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the  
5 “Smart Cities and Communities Act of 2019”.

6 (b) TABLE OF CONTENTS.—The table of contents for  
7 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Purpose.
- Sec. 3. Definitions.

TITLE I—ENHANCING FEDERAL COORDINATION AND  
INVESTMENT IN SMART CITY OR COMMUNITY PROGRAMS

- Sec. 101. Coordination of activities among Federal agencies.  
Sec. 102. Smart city and community resource guide.

TITLE II—PROVIDING ASSISTANCE TO CITIES AND COMMUNITIES

- Sec. 201. Technology demonstration grant program.  
Sec. 202. Cybersecurity Working Group.  
Sec. 203. TechHire Workforce Training and Development Program.  
Sec. 204. GAO study on innovative financing.  
Sec. 205. Technical assistance, voucher pilot program, and technologist in residence pilot program.

TITLE III—IMPROVING PERFORMANCE AND INTEROPERABILITY

- Sec. 301. Standards and interoperability framework.

TITLE IV—INTERNATIONAL COOPERATION AND BEST PRACTICES

- Sec. 401. Development of global smart city or community best practices.  
Sec. 402. Trade program.

1 **SEC. 2. PURPOSE.**

2       The purpose of this Act is to promote smart tech-  
3 nologies and systems to improve community livability,  
4 services, communication, safety, mobility, energy produc-  
5 tivity, and resilience to natural and manmade disasters,  
6 to reduce costs, traffic congestion, and air pollution, and  
7 to promote economic growth and opportunities for commu-  
8 nities of all sizes by—

9           (1) improving Federal Government coordination  
10       and outreach with respect to smart city or commu-  
11       nity technologies;

12           (2) promoting the quality and performance of  
13       smart city or community technologies while pro-  
14       tecting—

15           (A) the security of data and systems; and

- 1 (B) privacy;
- 2 (3) demonstrating the value and utility of
- 3 smart, local government-owned and -operated serv-
- 4 ices through the development and implementation of
- 5 performance standards;
- 6 (4) providing assistance to local governments
- 7 interested in implementing smart city or community
- 8 technologies;
- 9 (5) developing a workforce skilled in smart city
- 10 or community technologies; and
- 11 (6) expanding international cooperation and
- 12 trade in smart city or community technologies.

13 **SEC. 3. DEFINITIONS.**

14 In this Act:

15 (1) COUNCIL.—The term “Council” means the

16 Interagency Council on Smart Cities established

17 under section 101(a)(1)(A)(i).

18 (2) DATA.—The term “data” includes informa-

19 tion and images.

20 (3) LOCAL WORKFORCE DEVELOPMENT BOARD;

21 STATE WORKFORCE DEVELOPMENT BOARD.—The

22 terms “local workforce development board” and

23 “State workforce development board” have the

24 meanings given the terms “local board” and “State

1 board”, respectively, in section 3 of the Workforce  
2 Innovation and Opportunity Act (29 U.S.C. 3102).

3 (4) SECRETARIES.—The term “Secretaries”  
4 means the Secretary, acting in coordination with—

5 (A) the Secretary of Energy;

6 (B) the Secretary of Housing and Urban  
7 Development;

8 (C) the Secretary of Transportation;

9 (D) the Director of the National Science  
10 Foundation; and

11 (E) as the Secretary determines to be ap-  
12 propriate—

13 (i) the Secretary of Health and  
14 Human Services;

15 (ii) the Secretary of Homeland Secu-  
16 rity;

17 (iii) the Secretary of Labor; and

18 (iv) the Secretary of State.

19 (5) SECRETARY.—The term “Secretary” means  
20 the Secretary of Commerce.

21 (6) SMART CITY OR COMMUNITY.—

22 (A) IN GENERAL.—The term “smart city  
23 or community” means a community in which  
24 innovative, advanced, and trustworthy informa-

1           tion, communication, and energy technologies  
2           and related mechanisms are applied—

3                   (i) to improve the health and quality  
4                   of life of residents;

5                   (ii) to increase the efficiency and cost  
6                   effectiveness of civic operations and serv-  
7                   ices;

8                   (iii) to promote economic growth; and

9                   (iv) to create a community that is  
10                  safer and more secure, sustainable, resil-  
11                  ient, livable, and workable.

12           (B) INCLUSIONS.—The term “smart city  
13           or community” includes a local jurisdiction  
14           that—

15                   (i) gathers and incorporates data from  
16                   systems, devices, and sensors embedded in  
17                   civic systems and infrastructure to improve  
18                   the effectiveness and efficiency of civic op-  
19                   erations and services;

20                   (ii) aggregates and analyzes gathered  
21                   data;

22                   (iii) communicates the analysis and  
23                   data in a variety of formats;

1 (iv) makes corresponding improve-  
2 ments to civic systems and services based  
3 on gathered data;

4 (v) coordinates with relevant public  
5 and private sector entities (including enti-  
6 ties providing electric, water, telecommuni-  
7 cations, energy, and transportation serv-  
8 ices) to leverage the activities carried out  
9 by those entities;

10 (vi) integrates measures—

11 (I) to ensure the resilience of  
12 civic systems against cybersecurity  
13 threats and physical vulnerabilities  
14 and breaches;

15 (II) to protect the private data of  
16 residents; and

17 (III) to measure the impact of  
18 smart city or community technologies  
19 on the effectiveness and efficiency of  
20 civic operations and services; and

21 (vii) promotes regional coordination of  
22 the activities described in clauses (i)  
23 through (vi).

24 (7) STATE.—The term “State” means—

25 (A) a State;

1 (B) the District of Columbia;  
2 (C) the Commonwealth of Puerto Rico;  
3 and  
4 (D) any other territory or possession of the  
5 United States.

6 (8) WORKING GROUP.—The term “Working  
7 Group” means the Cybersecurity Working Group es-  
8 tablished under section 202(b)(1).

9 **TITLE I—ENHANCING FEDERAL**  
10 **COORDINATION AND INVEST-**  
11 **MENT IN SMART CITY OR**  
12 **COMMUNITY PROGRAMS**

13 **SEC. 101. COORDINATION OF ACTIVITIES AMONG FEDERAL**  
14 **AGENCIES.**

15 (a) COORDINATION.—

16 (1) COORDINATION OF ACTIVITIES.—

17 (A) FEDERAL COUNCIL.—

18 (i) ESTABLISHMENT.—The Secre-  
19 taries shall establish a council of Federal  
20 agencies, to be known as the “Interagency  
21 Council on Smart Cities”, to promote the  
22 coordination of the activities and funding  
23 from Federal agencies relating to smart  
24 cities or communities.

- 1                   (ii) MEMBERSHIP.—The Council  
2 shall—
- 3                   (I) be led by the Secretary; and  
4                   (II) include—
- 5                   (aa) the Secretary of En-  
6                   ergy;
- 7                   (bb) the Secretary of Hous-  
8                   ing and Urban Development;
- 9                   (cc) the Secretary of Trans-  
10                  portation;
- 11                  (dd) the Director of the Na-  
12                  tional Science Foundation;
- 13                  (ee) the heads of such other  
14                  departments and agencies as the  
15                  Secretary determines to be ap-  
16                  propriate, including—
- 17                  (AA) the Secretary of  
18                  Homeland Security;
- 19                  (BB) the Secretary of  
20                  Labor; and
- 21                  (CC) the Secretary of  
22                  State; and
- 23                  (ff) such representatives of  
24                  industry expert organizations and  
25                  local government entities as the



1 Secretary determines to be ap-  
2 propriate.

3 (B) PRIORITIZATION.—For purposes of co-  
4 ordinating Federal activities under subpara-  
5 graph (A), the Secretaries shall prioritize the  
6 conduct of Federal activities that would—

7 (i) demonstrate smart city or commu-  
8 nity technologies in repeatable ways that  
9 can rapidly be scaled;

10 (ii) encourage public, private, re-  
11 gional, national, and international sharing  
12 of data and best practices;

13 (iii) encourage private sector innova-  
14 tion by promoting industry-driven tech-  
15 nology standards, open platforms, tech-  
16 nology-neutral requirements, and inter-  
17 operability;

18 (iv) promote—

19 (I) a skilled workforce;

20 (II) an open and competitive  
21 global market for smart city or com-  
22 munity technologies;

23 (III) inclusion of all citizens, in-  
24 cluding minority or disadvantaged  
25 groups; and

1 (IV) protocols and standards that  
2 allow for the measurement and valida-  
3 tion of the cost savings and perform-  
4 ance improvements associated with  
5 the installation and use of smart city  
6 or community technologies and prac-  
7 tices;

8 (v) foster the growth of the smart city  
9 or community technology industry and  
10 workforce in the United States;

11 (vi) encourage the adoption of smart  
12 city or community technologies by commu-  
13 nities;

14 (vii) safeguard cybersecurity, includ-  
15 ing by promoting industry practices re-  
16 garding cybersecurity; and

17 (viii) safeguard privacy and, in con-  
18 sultation with cities, communities, and in-  
19 dustry entities, establish parameters and  
20 best practices for the full life cycle man-  
21 agement of all types of smart city or com-  
22 munity data, including collection, storage,  
23 ownership, and sharing of data.

24 (C) CONSIDERATIONS.—The Secretaries  
25 shall—

1 (i) ensure that the Federal activities  
2 described in subparagraph (B) related to  
3 safeguarding cybersecurity take into ac-  
4 count existing Federal, State, and local  
5 frameworks, guidelines, and best practices  
6 when considering their application to smart  
7 city technologies;

8 (ii) ensure that the Federal activities  
9 described in subparagraph (B) take into  
10 consideration software quality, especially  
11 as that quality impacts reproducibility,  
12 maintainability, reliability, and security,  
13 especially of high-confidence systems;

14 (iii) conduct privacy impact assess-  
15 ments for Federal activities that could neg-  
16 atively affect privacy; and

17 (iv) ensure the privacy of individuals  
18 through the use of technologies with inher-  
19 ent privacy and security considerations.

20 (2) STRATEGY.—

21 (A) IN GENERAL.—The Secretaries, acting  
22 through the Council, in consultation with indus-  
23 try entities, cities, and communities, shall de-  
24 velop a multiyear strategy for—

1 (i) the coordination of activities and  
2 funding under paragraph (1)(A);

3 (ii) the development of partnerships  
4 with the private sector relating to smart  
5 cities or communities; and

6 (iii) the promotion of international co-  
7 operation with respect to smart city or  
8 community technologies and standards.

9 (B) REQUIREMENT.—The Secretaries shall  
10 coordinate with the heads of any applicable  
11 Federal agencies to leverage private sector and  
12 non-Federal public investment in smart city or  
13 community technologies consistent with the  
14 strategy developed under subparagraph (A).

15 (3) ASSESSMENT.—

16 (A) IN GENERAL.—Not later than 180  
17 days after the date of enactment of this Act,  
18 the Secretary of Labor, in consultation with the  
19 heads of other applicable Federal agencies, shall  
20 coordinate with such private and public organi-  
21 zations and units of local government as the  
22 Secretary of Labor determines to be appro-  
23 priate regarding the preparation of a smart city  
24 or community technology workforce needs as-  
25 sessment.

1           (B) SUBMISSION.—On completion of the  
2           assessment prepared under subparagraph (A),  
3           the Secretary of Labor shall submit to the ap-  
4           propriate committees of Congress and the  
5           Council the completed assessment.

6           (4) COORDINATION OF FUNDS.—In promoting  
7           the coordination of Federal funding relating to  
8           smart city or community activities under paragraph  
9           (1)(A) and in accordance with the strategy developed  
10          under paragraph (2)(A), each of the Secretaries  
11          shall—

12                 (A) track, with respect to the appropriate  
13                 agency, the expenditures and planned expendi-  
14                 tures of Federal funds for smart city- or com-  
15                 munity-related activities, together with lever-  
16                 aged non-Federal matching funds; and

17                 (B) coordinate with the head of any other  
18                 applicable Federal agency that allocates funds  
19                 for smart city or community activities—

20                         (i) to achieve greater benefits from ac-  
21                         tivities using Federal funds;

22                         (ii) to produce integrated projects re-  
23                         lating to those activities; and

1 (iii) to leverage complementary invest-  
2 ments of other Federal agencies in those  
3 activities.

4 (b) SUBMISSION OF INFORMATION AND BIENNIAL  
5 REPORT.—During the 6-year period beginning on the date  
6 of enactment of this Act—

7 (1) the head of each applicable Federal agency  
8 shall submit to the Secretary information for inclu-  
9 sion in the report submitted under paragraph (2);  
10 and

11 (2) not less frequently than once every 2 years,  
12 the Secretary shall submit to the Committees on  
13 Commerce, Science, and Transportation and Energy  
14 and Natural Resources of the Senate and the Com-  
15 mittees on Energy and Commerce and Transpor-  
16 tation and Infrastructure of the House of Represent-  
17 atives a report, based on the information under  
18 paragraph (1), that includes—

19 (A) an update of the status of relevant  
20 smart city or community technology develop-  
21 ments and applications, including broadband in-  
22 frastructure;

23 (B) a description of any related program  
24 or activity that is funded by the Federal agency  
25 during the period covered by the report;

1 (C) the budget of the agency for sup-  
2 porting smart city or community activities, as  
3 described in subsection (a)(4)(A);

4 (D) any non-Federal cost-share contrib-  
5 uted for activities for which Federal assistance  
6 is provided under this section;

7 (E) a description of the applicable strategy  
8 under subsection (a)(2)(A), including a descrip-  
9 tion of how the relevant programs are pro-  
10 gressing under that strategy;

11 (F) a description of outreach activities con-  
12 ducted under section 102(d), including the  
13 amount and type of assistance required by cities  
14 and communities to overcome barriers to imple-  
15 menting smart city or community technologies,  
16 and any Federal actions that are needed to  
17 meet those needs;

18 (G) a description of projects funded under  
19 section 201, including a description of—

20 (i) project outcomes and performance;

21 and

22 (ii) the use of leveraged non-Federal  
23 funds; and

24 (H) such other information as the Sec-  
25 retary determines to be necessary.

1 **SEC. 102. SMART CITY AND COMMUNITY RESOURCE GUIDE.**

2 (a) PUBLICATION.—

3 (1) IN GENERAL.—The Secretaries, in coordina-  
4 tion with the heads of any other applicable Federal  
5 agencies, shall create, publish, and maintain, for a  
6 period of at least 6 years beginning on the date that  
7 is 1 year after the date of enactment of this Act, a  
8 resource guide designed to assist States and United  
9 States communities and cities in developing and im-  
10 plementing smart city or community programs.

11 (2) INFORMATION INCLUDED.—The Secretaries,  
12 in coordination with cities, communities, and indus-  
13 try entities, shall determine which information shall  
14 be included in the guide under paragraph (1).

15 (b) REQUIREMENTS.—The guide published under  
16 subsection (a)—

17 (1) shall be maintained electronically on a  
18 website;

19 (2) shall be provided as an electronic reference  
20 guide available to the public free of charge; and

21 (3) may include—

22 (A) a compilation of existing related pro-  
23 grams of the Federal Government available to  
24 communities, including technical assistance,  
25 education, training, research and development,  
26 analysis, and funding;



1           (B) available examples of local govern-  
2           ments engaging private sector entities in order  
3           to implement smart city or community solu-  
4           tions, including public-private partnership mod-  
5           els, such as the use of energy savings perform-  
6           ance contracts and utility energy service con-  
7           tracts or other innovative models, that could be  
8           used to leverage private sector funding to in-  
9           crease energy productivity and reduce water,  
10          transportation, and other costs to cities and  
11          communities, including the results of the study  
12          under section 204;

13          (C) available examples of proven methods  
14          for local governments and utilities to facilitate  
15          integration of smart technologies with new and  
16          existing infrastructure and systems;

17          (D) best practices and lessons learned  
18          from technology demonstrations, including re-  
19          turn on investment and performance informa-  
20          tion to help cities decide how to initiate integra-  
21          tion of smart technologies;

22          (E) Federal, State, and local best practices  
23          for safeguarding cybersecurity and ensuring ap-  
24          propriate data management and data privacy;

1 (F) technical specifications for wireless or  
2 wired broadband infrastructure to support  
3 smart city technologies; and

4 (G) such other topics as are requested by  
5 industry entities or local governments or deter-  
6 mined to be necessary by the Secretaries.

7 (c) EXISTING GUIDES.—In creating, publishing, and  
8 maintaining the guide under subsection (a), the Secre-  
9 taries shall consider Federal, State, and local guides pub-  
10 lished before, on, or after the date of enactment of this  
11 Act relating to smart city or community goals, activities,  
12 and best practices—

13 (1) to prevent duplication of efforts by the Fed-  
14 eral Government; and

15 (2) to leverage existing complementary efforts.

16 (d) OUTREACH.—The Secretaries, in coordination  
17 with the heads of any applicable Federal agencies and in  
18 consultation with applicable private sector entities, shall  
19 conduct outreach to States, cities, and communities—

20 (1) to provide interested States and cities with  
21 the guide published under subsection (a);

22 (2) to promote the consideration of smart city  
23 or community technologies and encourage States  
24 and local governments to contribute smart city or

1 community program and activity data to the guide  
2 published under subsection (a);

3 (3) to identify—

4 (A) barriers to smart city or community  
5 technology adoption;

6 (B) any research, development, and assist-  
7 ance that is needed, including in Tribal, rural,  
8 and underserved communities; and

9 (C) local government programs that could  
10 be included in the guide under subsection (a);

11 (4) to respond to requests for assistance, ad-  
12 vice, or consultation from cities; and

13 (5) for other purposes, as identified by the Sec-  
14 retaries.

15 **TITLE II—PROVIDING ASSIST-**  
16 **ANCE TO CITIES AND COMMU-**  
17 **NITIES**

18 **SEC. 201. TECHNOLOGY DEMONSTRATION GRANT PRO-**  
19 **GRAM.**

20 (a) IN GENERAL.—The Secretary shall establish a  
21 smart city or community regional demonstration grant  
22 program under which the Secretary shall conduct dem-  
23 onstration projects focused on advanced smart city or  
24 community technologies and systems in a variety of com-

1 munities, including small- and medium-sized cities and  
2 rural and Tribal communities.

3 (b) GOALS.—The goals of the program established  
4 under subsection (a) are—

5 (1) to demonstrate—

6 (A) potential benefits of concentrated in-  
7 vestments in smart city or community tech-  
8 nologies that are repeatable and scalable across  
9 cities of different sizes; and

10 (B) the efficiency, reliability, and resilience  
11 of civic infrastructure and services;

12 (2) to facilitate the adoption of advanced smart  
13 city or community technologies and collaboration be-  
14 tween small- and medium- to large-sized cities; and

15 (3) to demonstrate protocols and standards that  
16 allow for the measurement and validation of the cost  
17 savings and performance improvements associated  
18 with the installation and use of smart city or com-  
19 munity technologies and practices.

20 (c) DEMONSTRATION PROJECTS.—

21 (1) ELIGIBILITY.—Subject to paragraph (2), a  
22 unit of local government shall be eligible to receive  
23 a grant for a demonstration project under this sec-  
24 tion.

1           (2) APPLICATION; COOPERATION.—To qualify  
2 for a demonstration project under this section, a  
3 unit of local government shall—

4           (A) submit to the Secretary an application  
5 for a grant for a demonstration project at such  
6 time and containing such information as the  
7 Secretary may require; and

8           (B) agree to follow applicable best prac-  
9 tices identified by the Secretaries, in consulta-  
10 tion with industry entities and institutions of  
11 higher education, to evaluate the effectiveness  
12 of the implemented smart city or community  
13 technologies to ensure that—

14           (i) technologies and interoperability  
15 can be assessed;

16           (ii) best practices can be shared; and

17           (iii) data can be shared in a public,  
18 interoperable, and transparent format.

19           (3) FEDERAL SHARE OF COST OF TECHNOLOGY  
20 INVESTMENTS.—The Secretary—

21           (A) subject to subparagraph (B), shall pro-  
22 vide to a unit of local government selected  
23 under this section for the conduct of a dem-  
24 onstration project a grant in an amount equal  
25 to not more than 50 percent of the total cost

1 of technology investments to incorporate and  
2 assess qualifying smart city or community tech-  
3 nologies in the applicable jurisdiction; but

4 (B) may waive the cost-share requirement  
5 of subparagraph (A) as the Secretary deter-  
6 mines to be appropriate.

7 (d) REQUIREMENT.—In conducting demonstration  
8 projects under this section, the Secretary shall—

9 (1) develop competitive, technology-neutral re-  
10 quirements;

11 (2) seek to leverage ongoing or existing civic in-  
12 frastructure investments; and

13 (3) take into consideration the non-Federal cost  
14 share as a competitive criterion in applicant selec-  
15 tion in order to leverage non-Federal investment.

16 (e) PUBLIC AVAILABILITY OF DATA AND RE-  
17 PORTS.—The Secretary shall ensure that reports, public  
18 data sets, schematics, diagrams, and other works created  
19 using a grant provided under this section are—

20 (1) available on a royalty-free, non-exclusive  
21 basis; and

22 (2) open to the public to reproduce, publish, or  
23 otherwise use, without cost.

1 (f) AUTHORIZATION OF APPROPRIATIONS.—There is  
2 authorized to be appropriated to carry out subsection (c)  
3 \$100,000,000 for each of fiscal years 2020 through 2024.

4 **SEC. 202. CYBERSECURITY WORKING GROUP.**

5 (a) SENSE OF CONGRESS.—It is the sense of Con-  
6 gress that—

7 (1) the work conducted by the Internet Policy  
8 Task Force and the Digital Economy Leadership  
9 Team of the Department of Commerce to foster an  
10 enabling environment for Internet of Things tech-  
11 nology to grow and thrive, allow the private sector  
12 to lead, and promote technology-neutral standards  
13 and consensus-based multistakeholder approaches to  
14 policymaking at local, Tribal, State, Federal, and  
15 international levels on issues ranging from the secu-  
16 rity to the competitiveness of the United States is  
17 valuable and should be continued; and

18 (2) the work conducted by the Department of  
19 Commerce and the National Telecommunications  
20 and Information Administration to create resources  
21 for communities seeking to adopt smart cities or  
22 communities technology is valuable and should be  
23 continued.

24 (b) ESTABLISHMENT.—

1           (1) IN GENERAL.—The Secretary, in consulta-  
2           tion with the Council, shall convene a multistake-  
3           holder working group, to be known as the “Cyberse-  
4           curity Working Group”, to develop tools for commu-  
5           nities to use to evaluate the cybersecurity of smart  
6           city or community technologies.

7           (2) MEMBERSHIP.—

8           (A) IN GENERAL.—In appointing members  
9           to the Working Group, the Secretary shall con-  
10          sider appointing—

11                   (i) representatives of consumer  
12                   groups;

13                   (ii) representatives of small units of  
14                   local government, as determined by the  
15                   Secretary;

16                   (iii) representatives of large units of  
17                   local government, as determined by the  
18                   Secretary;

19                   (iv) manufacturers of smart city or  
20                   community devices, equipment, and soft-  
21                   ware;

22                   (v) individuals with expertise in com-  
23                   munications networks;

24                   (vi) Federal, State, and local law en-  
25                   forcement officials;



1 (vii) individuals with other expertise  
2 necessary to carry out the duties of the  
3 Working Group; and

4 (viii) such representatives of the  
5 Council as the Secretary determines to be  
6 appropriate.

7 (B) REPRESENTATION.—In appointing  
8 members to the Working Group, the Secretary  
9 shall ensure that the Working Group includes a  
10 multidisciplinary cross section of smart city or  
11 community stakeholders.

12 (3) DUTIES.—The Working Group shall—

13 (A) leverage and build on previous activi-  
14 ties carried out by the Department of Com-  
15 merce relating to Internet of Things technology;

16 (B) develop tools for communities to evalu-  
17 ate the cybersecurity of smart city or commu-  
18 nity technology being considered by the commu-  
19 nities for adoption in those communities;

20 (C) develop tools for communities to pro-  
21 tect against cybersecurity threats relevant to  
22 the technology the community has chosen to  
23 adopt;

24 (D)(i) assess—

1 (I) whether Internet of Things cyber-  
2 security standards should exist; and

3 (II) whether the standards described  
4 in subclause (I) should be voluntary or  
5 mandatory; and

6 (ii) identify which entity is appropriate to  
7 devise the standards described in clause (i)(I);  
8 and

9 (E) submit to the Council a report that de-  
10 scribes the findings of the Working Group.

11 **SEC. 203. TECHHIRE WORKFORCE TRAINING AND DEVEL-**  
12 **OPMENT PROGRAM.**

13 (a) IN GENERAL.—Not later than 18 months after  
14 the date of enactment of this Act, based on findings from  
15 the needs assessment conducted under section 101(a)(3),  
16 the Secretary of Labor, in consultation with the Secretary,  
17 shall establish a pilot program, to be known as the  
18 “TechHire Workforce Training and Development Pilot  
19 Program”, under which the Secretary of Labor, during the  
20 5-year period beginning on the date of enactment of this  
21 Act, shall provide to eligible entities, on a competitive  
22 basis, grants for technology-based job training and edu-  
23 cation programs that provide industry-recognized creden-  
24 tials.

1 (b) REQUIREMENTS.—A job training and education  
2 program that is awarded a grant under this section  
3 shall—

4 (1) provide technology-based training across  
5 two or more sectors;

6 (2) focus on smart city or community tech-  
7 nologies, systems, and infrastructure across all sec-  
8 tors of the economy;

9 (3) address privacy and cybersecurity consider-  
10 ations; and

11 (4) address smart city or community workforce  
12 needs identified by the Secretary of Labor, after  
13 consultation with other applicable Federal agencies.

14 (c) ELIGIBLE ENTITIES.—To be eligible to receive a  
15 grant under this section, an entity shall be a public organi-  
16 zation or an organization described in section 501(c) of  
17 the Internal Revenue Code of 1986 and exempt from tax-  
18 ation under section 501(a) of that Code that—

19 (1) includes an advisory board, which may be—

20 (A)(i) a local workforce development board;

21 (ii) a State workforce development board;

22 or

23 (iii) an appropriate subgroup of a local  
24 workforce development board or a State work-  
25 force development board; or

1 (B) a board of proportional participation,  
2 as determined by the Secretary of Labor, of rel-  
3 evant organizations, including—

4 (i) relevant industry organizations, in-  
5 cluding public and private employers;

6 (ii) labor organizations;

7 (iii) one or more units of local govern-  
8 ment that are actively pursuing smart city  
9 or community programs; and

10 (iv) postsecondary education organiza-  
11 tions;

12 (2) demonstrates experience in implementing  
13 and operating job training and education programs;

14 (3) demonstrates the ability to recruit and sup-  
15 port individuals who plan to work in a relevant sec-  
16 tor on the successful completion of relevant job  
17 training and education programs;

18 (4)(A) provides students who complete the  
19 training and education program with an industry-  
20 recognized credential; or

21 (B) uses a curriculum that has received exten-  
22 sive feedback from employers; and

23 (5) demonstrates successful outcomes con-  
24 necting graduates of job training and education pro-

1       grams to quality jobs relevant to the job training  
2       and education programs.

3       (d) APPLICATIONS.—An eligible entity seeking a  
4       grant under this section shall submit to the Secretary of  
5       Labor an application at such time, in such manner, and  
6       containing such information as the Secretary of Labor  
7       may require.

8       (e) PRIORITY.—In selecting eligible entities to receive  
9       grants under this section, the Secretary of Labor shall  
10      prioritize applicants that—

11           (1)(A) are a local workforce development board  
12      or State workforce development board; or

13           (B) demonstrate a strong partnership with a  
14      local workforce development board or State work-  
15      force development board;

16           (2) house the job training and education pro-  
17      gram in—

18           (A) a community college or institution of  
19      higher education that includes basic science,  
20      technology, and math education in the cur-  
21      riculum of the community college or institution  
22      of higher education; or

23           (B) an apprenticeship program registered  
24      with the Department of Labor or a State;

1           (3) work with the Secretary of Defense or vet-  
2           erans organizations to transition members of the  
3           Armed Forces and veterans to careers in a relevant  
4           sector;

5           (4) include in the application an entity that re-  
6           ceives State funding or is operated by a State agen-  
7           cy;

8           (5) include an apprenticeship program reg-  
9           istered with the Department of Labor or a State as  
10          part of the job training and education program;

11          (6) provide support services and career coach-  
12          ing;

13          (7) provide entry-level technology workforce  
14          training aimed at matching workers with well-paying  
15          jobs; or

16          (8) propose to serve—

17                 (A) young adults between the ages of 16  
18                 and 24; or

19                 (B) individuals with barriers to employ-  
20                 ment (as defined in section 3 of the Workforce  
21                 Innovation and Opportunity Act (29 U.S.C.  
22                 3102)).

23          (f) ADDITIONAL CONSIDERATION.—In making grants  
24          under this section, the Secretary of Labor shall consider  
25          regional diversity.

1           (g) LIMITATION ON APPLICATIONS.—An eligible enti-  
2 ty may not submit, either individually or as part of a joint  
3 application, more than 1 application for a grant under this  
4 section during any 1 fiscal year.

5           (h) LIMITATIONS ON AMOUNT OF GRANT.—The  
6 amount of a single grant provided under this section for  
7 any 1 year shall not exceed \$5,000,000.

8           (i) NON-FEDERAL SHARE.—The non-Federal share  
9 of the cost of a job training and education program carried  
10 out using a grant under this section shall be not less than  
11 25 percent of the total cost.

12          (j) REDUCTION OF DUPLICATION.—Before submit-  
13 ting an application for a grant under this section, each  
14 applicant shall—

15               (1) consult with the heads of appropriate Fed-  
16 eral agencies; and

17               (2) coordinate the proposed activities of the ap-  
18 plicant with existing State and local programs.

19           (k) TECHNICAL ASSISTANCE.—The Secretary of  
20 Labor, in consultation with the Secretary, may provide  
21 technical assistance to eligible entities under subsection  
22 (c) to leverage the existing job training and education pro-  
23 grams of the Department of Labor and other relevant pro-  
24 grams at appropriate Federal agencies.

1 (l) REPORT.—Not less frequently than once every 2  
2 years, the Secretary of Labor shall submit to Congress,  
3 and make publicly available on the website of the Depart-  
4 ment of Labor, a report on the program established under  
5 this section, including a description of—

6 (1) any entity that receives a grant under this  
7 section;

8 (2) any activity carried out using the grants  
9 under this section;

10 (3) best practices used to leverage the invest-  
11 ment of the Federal Government under this section;  
12 and

13 (4) an assessment of the results achieved by the  
14 program established under this section, including the  
15 rate of employment for participants after completing  
16 a job training and education program carried out  
17 using a grant under this section.

18 (m) AUTHORIZATION OF APPROPRIATIONS.—There is  
19 authorized to be appropriated to carry out this section  
20 \$100,000,000 for each of fiscal years 2020 through 2024.

21 **SEC. 204. GAO STUDY ON INNOVATIVE FINANCING.**

22 Not later than 1 year after the date of enactment  
23 of this Act, the Comptroller General of the United States  
24 shall conduct a study to identify—



1           (1) financial and procurement mechanisms cur-  
2           rently available to public and private entities to fund  
3           smart city or community activities and associated  
4           demonstration projects, including “pay for perform-  
5           ance” financing that could deliver measurable and  
6           verifiable market and non-market values to smart  
7           cities or communities;

8           (2) new, innovative financial and procurement  
9           mechanisms under development or used experi-  
10          mentally that may be available, in the near term, to  
11          public and private entities to fund smart city or  
12          community activities and associated demonstration  
13          projects;

14          (3) barriers to creative financing solutions for  
15          those activities and projects, including procurement  
16          barriers faced by State and local governments; and

17          (4) ways to leverage private sector investments  
18          in smart cities and communities.

19 **SEC. 205. TECHNICAL ASSISTANCE, VOUCHER PILOT PRO-**  
20 **GRAM, AND TECHNOLOGIST IN RESIDENCE**  
21 **PILOT PROGRAM.**

22          (a) **TECHNICAL ASSISTANCE PROGRAM.**—The Sec-  
23          retary of Energy shall establish a program to provide tech-  
24          nical assistance to cities seeking to incorporate smart city  
25          technologies.

1 (b) SMART CITY VOUCHER PILOT PROGRAM.—

2 (1) IN GENERAL.—The Secretary of Energy  
3 shall develop and implement a pilot program to im-  
4 prove the access of cities to the expertise, com-  
5 petencies, and infrastructure of National Labora-  
6 tories for the purposes of promoting smart city tech-  
7 nologies.

8 (2) PARTNERSHIPS.—In carrying out the pro-  
9 gram under this subsection, the Secretary of Energy  
10 shall provide to a city that has partnered with a  
11 small business concern access to the expertise of Na-  
12 tional Laboratories.

13 (c) TECHNOLOGIST IN RESIDENCE PILOT PRO-  
14 GRAM.—

15 (1) IN GENERAL.—The Secretary of Energy  
16 shall expand the Technologist in Residence pilot pro-  
17 gram of the Department of Energy to include part-  
18 nerships between National Laboratories and cities  
19 with respect to research and development relating to  
20 smart cities.

21 (2) REQUIREMENTS.—For purposes of the part-  
22 nerships entered into under paragraph (1), tech-  
23 nologists in residence shall work with an assigned  
24 city to develop an assessment of smart city tech-

1 nologies available and appropriate to meet the smart  
2 city objectives of the city.

3 (d) GUIDANCE.—The Secretary of Energy, in con-  
4 sultation with the Secretary, shall issue guidance with re-  
5 spect to—

6 (1) the scope of the programs established under  
7 subsections (a) through (c); and

8 (2) requests for proposals from cities interested  
9 in participating in those programs.

10 (e) CONSIDERATIONS.—In establishing the programs  
11 under subsections (a) through (c), the Secretary of Energy  
12 shall seek to address the needs of small- and medium-sized  
13 cities.

14 (f) AUTHORIZATION OF APPROPRIATIONS.—There is  
15 authorized to be appropriated to carry out this section  
16 \$20,000,000 for each of fiscal years 2020 through 2024.

17 **TITLE III—IMPROVING PER-**  
18 **FORMANCE AND INTEROPER-**  
19 **ABILITY**

20 **SEC. 301. STANDARDS AND INTEROPERABILITY FRAME-**  
21 **WORK.**

22 (a) PARTICIPATION.—To strengthen the public-pri-  
23 vate partnership approach to smart city-related or commu-  
24 nity-related standards development and interoperability,  
25 the Secretary, acting through the Director of the National

1 Institute of Standards and Technology, shall strongly en-  
2 courage and support participation by Federal Government  
3 experts in private sector-led, standards-related activities  
4 that convene smart city or community stakeholders, in-  
5 cluding representatives of applicable Federal agencies.

6 (b) ACTIVITIES.—To promote innovation and eco-  
7 nomic competitiveness and to achieve interoperability of  
8 smart city or community devices and systems, while  
9 strengthening the United States approach to private sec-  
10 tor-led standardization activities and the participation of  
11 Federal representatives under subsection (a), the Sec-  
12 retary, in consultation with private and public sector  
13 stakeholders, shall—

14 (1) survey and review domestic and inter-  
15 national smart city or community performance  
16 standards, existing architectures, applications, and  
17 deployments, and interoperability standards;

18 (2) make consensus-based recommendations—

19 (A) to identify gaps in the smart city or  
20 community performance standards and inter-  
21 operability standards under paragraph (1);

22 (B) to harmonize existing standards and  
23 deployment efforts and enable greater inter-  
24 operability across smart city or community  
25 technologies;

1           (C) to coordinate domestic and inter-  
2           national performance standards and interoper-  
3           ability standards to promote uniform perform-  
4           ance standards and interoperability standards  
5           worldwide, including with respect to the need  
6           for testing and demonstration; and

7           (D) for guidelines to enable interoperability  
8           in the collection, storage, ownership, and shar-  
9           ing of data;

10          (3) based on the recommendations under para-  
11          graph (2), develop a consensus-based framework  
12          that includes protocols and model standards for the  
13          management and exchange of information, including  
14          existing guidelines, best practices, and industry con-  
15          sensus standards;

16          (4) ensure that cybersecurity and privacy are  
17          core elements of the recommended performance  
18          standards and interoperability standards; and

19          (5) lead international coordination efforts to de-  
20          velop industry-led, technology-neutral, voluntary,  
21          consensus-based global smart city or community per-  
22          formance standards and interoperability standards.

1 **TITLE IV—INTERNATIONAL CO-**  
2 **OPERATION AND BEST PRAC-**  
3 **TICES**

4 **SEC. 401. DEVELOPMENT OF GLOBAL SMART CITY OR COM-**  
5 **MUNITY BEST PRACTICES.**

6 (a) IN GENERAL.—The Secretaries may carry out ac-  
7 tivities—

8 (1) to enable cities and communities in the  
9 United States and other countries to work together  
10 toward shared smart city- or community-related  
11 goals;

12 (2) to promote smart city or community solu-  
13 tions that provide measurable benefits to local gov-  
14 ernments and residents;

15 (3) to enable an open, global marketplace for  
16 smart city or community technologies based on vol-  
17 untary, consensus-based, and technology-neutral  
18 standards; and

19 (4) to connect innovators from industry and  
20 academia to local governments to catalyze the emer-  
21 gence of open and advanced technologies that—

22 (A) meet community needs; and

23 (B) advance innovation and open competi-  
24 tion.

1 (b) ELIGIBLE ACTIVITIES.—The activities referred to  
2 in subsection (a) may include grants, contracts, chal-  
3 lenges, prize competitions, public-private partnerships,  
4 and other innovative mechanisms.

5 (c) AUTHORIZATION OF APPROPRIATIONS.—

6 (1) IN GENERAL.—There is authorized to be  
7 appropriated to the Secretaries to carry out this sec-  
8 tion \$20,000,000 for each of fiscal years 2020  
9 through 2024.

10 (2) LIMITATION ON USE OF FUNDS.—Funds  
11 made available under paragraph (1) may not be used  
12 to provide assistance to—

13 (A) a foreign country; or

14 (B) a foreign company (excluding any  
15 United States subsidiary of a foreign holding  
16 company).

17 **SEC. 402. TRADE PROGRAM.**

18 The Secretary, in consultation with the Secretary of  
19 State, such other members of the Council as the Secretary  
20 determines to be appropriate, and private stakeholders,  
21 shall establish a strategic international smart cities and  
22 communities trade program, which shall include trade mis-  
23 sions—

24 (1) to promote the export of United States  
25 smart cities or communities technologies;

1           (2) to stimulate job growth in the United  
2 States;

3           (3) to identify potential partners and strategies  
4 for United States companies in target foreign mar-  
5 ket sectors;

6           (4) to organize events with local governments,  
7 businesses, associations, academia, and other stake-  
8 holders to promote smart city or community partner-  
9 ships;

10          (5) to assist in the development of competitive  
11 strategies and foreign market access for United  
12 States smart city or community technology business  
13 interests;

14          (6) to assist in developing appropriate United  
15 States policy regarding United States business and  
16 international smart cities or communities business  
17 interests;

18          (7) to assist in achieving United Nations  
19 Framework Convention on Climate Change commit-  
20 ments;

21          (8) to assist in lowering the cost to consumers  
22 of smart cities or communities technologies;

23          (9) to leverage expertise in infrastructure to de-  
24 liver solutions that can help make communities more  
25 efficient, livable, and sustainable; and



1           (10) to work with the United States Agency for  
2           International Development, the Overseas Private In-  
3           vestment Corporation, and the Export-Import Bank  
4           of the United States to identify opportunities to fi-  
5           nance international investment in United States  
6           smart cities or communities technology companies.

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