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

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, Education and Labor, and Foreign Affairs, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

A BILL

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

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

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

(b) TABLE OF CONTENTS.—The table of contents for 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. 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.

SEC. 2. PURPOSE.

The purpose of this Act is to promote smart technologies and systems to improve community livability, services, communication, safety, mobility, energy productivity, and resilience to natural and manmade disasters, to reduce costs, traffic congestion, and air pollution, and to promote economic growth and opportunities for communities of all sizes by—

(1) improving Federal Government coordination and outreach with respect to smart city or community technologies;

(2) promoting the quality and performance of smart city or community technologies while protecting—

(A) the security of data and systems; and
(B) privacy;

(3) demonstrating the value and utility of smart, local government-owned and -operated services through the development and implementation of performance standards;

(4) providing assistance to local governments interested in implementing smart city or community technologies;

(5) developing a workforce skilled in smart city or community technologies; and

(6) expanding international cooperation and trade in smart city or community technologies.

SEC. 3. DEFINITIONS.

In this Act:

(1) COUNCIL.—The term “Council” means the Interagency Council on Smart Cities established under section 101(a)(1)(A)(i).

(2) DATA.—The term “data” includes information and images.

(3) LOCAL WORKFORCE DEVELOPMENT BOARD; STATE WORKFORCE DEVELOPMENT BOARD.—The terms “local workforce development board” and “State workforce development board” have the meanings given the terms “local board” and “State
board”, respectively, in section 3 of the Workforce Innovation and Opportunity Act (29 U.S.C. 3102).

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

(A) the Secretary of Energy;

(B) the Secretary of Housing and Urban Development;

(C) the Secretary of Transportation;

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

(E) as the Secretary determines to be appropriate—

(i) the Secretary of Health and Human Services;

(ii) the Secretary of Homeland Security;

(iii) the Secretary of Labor; and

(iv) the Secretary of State.

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

(6) SMART CITY OR COMMUNITY.—

(A) IN GENERAL.—The term “smart city or community” means a community in which innovative, advanced, and trustworthy informa-
tion, communication, and energy technologies
and related mechanisms are applied—

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

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

(iii) to promote economic growth; and

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

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

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

(ii) aggregates and analyzes gathered
data;

(iii) communicates the analysis and
data in a variety of formats;
(iv) makes corresponding improvements to civic systems and services based on gathered data;

(v) coordinates with relevant public and private sector entities (including entities providing electric, water, telecommunications, energy, and transportation services) to leverage the activities carried out by those entities;

(vi) integrates measures—

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

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

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

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

(7) STATE.—The term “State” means—

(A) a State;
(B) the District of Columbia;

(C) the Commonwealth of Puerto Rico;

and

(D) any other territory or possession of the United States.

(8) WORKING GROUP.—The term “Working Group” means the Cybersecurity Working Group established under section 202(b)(1).

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

SEC. 101. COORDINATION OF ACTIVITIES AMONG FEDERAL AGENCIES.

(a) COORDINATION.—

(1) COORDINATION OF ACTIVITIES.—

(A) FEDERAL COUNCIL.—

(i) ESTABLISHMENT.—The Secretaries shall establish a council of Federal agencies, to be known as the “Interagency Council on Smart Cities”, to promote the coordination of the activities and funding from Federal agencies relating to smart cities or communities.
(ii) Membership.—The Council shall—

(I) be led by the Secretary; and

(II) include—

(aa) the Secretary of Energy;

(bb) the Secretary of Housing and Urban Development;

(cc) the Secretary of Transportation;

(dd) the Director of the National Science Foundation;

(ee) the heads of such other departments and agencies as the Secretary determines to be appropriate, including—

(AA) the Secretary of Homeland Security;

(BB) the Secretary of Labor; and

(CC) the Secretary of State; and

(ff) such representatives of industry expert organizations and local government entities as the
Secretary determines to be appropriate.

(B) PRIORITIZATION.—For purposes of coordinating Federal activities under subparagraph (A), the Secretaries shall prioritize the conduct of Federal activities that would—

(i) demonstrate smart city or community technologies in repeatable ways that can rapidly be scaled;

(ii) encourage public, private, regional, national, and international sharing of data and best practices;

(iii) encourage private sector innovation by promoting industry-driven technology standards, open platforms, technology-neutral requirements, and interoperability;

(iv) promote—

(I) a skilled workforce;

(II) an open and competitive global market for smart city or community technologies;

(III) inclusion of all citizens, including minority or disadvantaged groups; and
(IV) protocols and standards that allow for the measurement and validation of the cost savings and performance improvements associated with the installation and use of smart city or community technologies and practices;

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

(vi) encourage the adoption of smart city or community technologies by communities;

(vii) safeguard cybersecurity, including by promoting industry practices regarding cybersecurity; and

(viii) safeguard privacy and, in consultation with cities, communities, and industry entities, establish parameters and best practices for the full life cycle management of all types of smart city or community data, including collection, storage, ownership, and sharing of data.

(C) CONSIDERATIONS.—The Secretaries shall—
(i) ensure that the Federal activities described in subparagraph (B) related to safeguarding cybersecurity take into account existing Federal, State, and local frameworks, guidelines, and best practices when considering their application to smart city technologies;

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

(iii) conduct privacy impact assessments for Federal activities that could negatively affect privacy; and

(iv) ensure the privacy of individuals through the use of technologies with inherent privacy and security considerations.

(2) Strategy.—

(A) In general.—The Secretaries, acting through the Council, in consultation with industry entities, cities, and communities, shall develop a multiyear strategy for—
(i) the coordination of activities and funding under paragraph (1)(A);

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

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

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

(3) ASSESSMENT.—

(A) IN GENERAL.—Not later than 180 days after the date of enactment of this Act, the Secretary of Labor, in consultation with the heads of other applicable Federal agencies, shall coordinate with such private and public organizations and units of local government as the Secretary of Labor determines to be appropriate regarding the preparation of a smart city or community technology workforce needs assessment.
(B) Submission.—On completion of the assessment prepared under subparagraph (A), the Secretary of Labor shall submit to the appropriate committees of Congress and the Council the completed assessment.

(4) Coordination of Funds.—In promoting the coordination of Federal funding relating to smart city or community activities under paragraph (1)(A) and in accordance with the strategy developed under paragraph (2)(A), each of the Secretaries shall—

(A) track, with respect to the appropriate agency, the expenditures and planned expenditures of Federal funds for smart city- or community-related activities, together with leveraged non-Federal matching funds; and

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

(i) to achieve greater benefits from activities using Federal funds;

(ii) to produce integrated projects relating to those activities; and
(iii) to leverage complementary investments of other Federal agencies in those activities.

(b) Submission of Information and Biennial Report.—During the 6-year period beginning on the date of enactment of this Act—

(1) the head of each applicable Federal agency shall submit to the Secretary information for inclusion in the report submitted under paragraph (2); and

(2) not less frequently than once every 2 years, the Secretary shall submit to the Committees on Commerce, Science, and Transportation and Energy and Natural Resources of the Senate and the Committees on Energy and Commerce and Transportation and Infrastructure of the House of Representatives a report, based on the information under paragraph (1), that includes—

(A) an update of the status of relevant smart city or community technology developments and applications, including broadband infrastructure;

(B) a description of any related program or activity that is funded by the Federal agency during the period covered by the report;
(C) the budget of the agency for supporting smart city or community activities, as described in subsection (a)(4)(A);

(D) any non-Federal cost-share contributed for activities for which Federal assistance is provided under this section;

(E) a description of the applicable strategy under subsection (a)(2)(A), including a description of how the relevant programs are progressing under that strategy;

(F) a description of outreach activities conducted under section 102(d), including the amount and type of assistance required by cities and communities to overcome barriers to implementing smart city or community technologies, and any Federal actions that are needed to meet those needs;

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

   (i) project outcomes and performance;

   and

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

   (H) such other information as the Secretary determines to be necessary.
SEC. 102. SMART CITY AND COMMUNITY RESOURCE GUIDE.

(a) Publication.—

(1) In general.—The Secretaries, in coordination with the heads of any other applicable Federal agencies, shall create, publish, and maintain, for a period of at least 6 years beginning on the date that is 1 year after the date of enactment of this Act, a resource guide designed to assist States and United States communities and cities in developing and implementing smart city or community programs.

(2) Information included.—The Secretaries, in coordination with cities, communities, and industry entities, shall determine which information shall be included in the guide under paragraph (1).

(b) Requirements.—The guide published under subsection (a)—

(1) shall be maintained electronically on a website;

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

(3) may include—

(A) a compilation of existing related programs of the Federal Government available to communities, including technical assistance, education, training, research and development, analysis, and funding;
(B) available examples of local governments engaging private sector entities in order to implement smart city or community solutions, including public-private partnership models, such as the use of energy savings performance contracts and utility energy service contracts or other innovative models, that could be used to leverage private sector funding to increase energy productivity and reduce water, transportation, and other costs to cities and communities, including the results of the study under section 204;

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

(D) best practices and lessons learned from technology demonstrations, including return on investment and performance information to help cities decide how to initiate integration of smart technologies;

(E) Federal, State, and local best practices for safeguarding cybersecurity and ensuring appropriate data management and data privacy;
(F) technical specifications for wireless or wired broadband infrastructure to support smart city technologies; and

(G) such other topics as are requested by industry entities or local governments or determined to be necessary by the Secretaries.

(e) EXISTING GUIDES.—In creating, publishing, and maintaining the guide under subsection (a), the Secretaries shall consider Federal, State, and local guides published before, on, or after the date of enactment of this Act relating to smart city or community goals, activities, and best practices—

(1) to prevent duplication of efforts by the Federal Government; and

(2) to leverage existing complementary efforts.

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

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

(2) to promote the consideration of smart city or community technologies and encourage States and local governments to contribute smart city or
community program and activity data to the guide
published under subsection (a);

(3) to identify—

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

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

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

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

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

TITLE II—PROVIDING ASSIST-
ANCE TO CITIES AND COMMUN-
ITIES

SEC. 201. TECHNOLOGY DEMONSTRATION GRANT PRO-
GRAM.

(a) IN GENERAL.—The Secretary shall establish a
smart city or community regional demonstration grant
program under which the Secretary shall conduct dem-
onstration projects focused on advanced smart city or
community technologies and systems in a variety of com-
munities, including small- and medium-sized cities and rural and Tribal communities.

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

(1) to demonstrate—

(A) potential benefits of concentrated investments in smart city or community technologies that are repeatable and scalable across cities of different sizes; and

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

(2) to facilitate the adoption of advanced smart city or community technologies and collaboration between small- and medium- to large-sized cities; and

(3) to demonstrate protocols and standards that allow for the measurement and validation of the cost savings and performance improvements associated with the installation and use of smart city or community technologies and practices.

c) DEMONSTRATION PROJECTS.—

(1) ELIGIBILITY.—Subject to paragraph (2), a unit of local government shall be eligible to receive a grant for a demonstration project under this section.
(2) APPLICATION; COOPERATION.—To qualify for a demonstration project under this section, a unit of local government shall—

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

(B) agree to follow applicable best practices identified by the Secretaries, in consultation with industry entities and institutions of higher education, to evaluate the effectiveness of the implemented smart city or community technologies to ensure that—

(i) technologies and interoperability can be assessed;

(ii) best practices can be shared; and

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

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

(A) subject to subparagraph (B), shall provide to a unit of local government selected under this section for the conduct of a demonstration project a grant in an amount equal to not more than 50 percent of the total cost
of technology investments to incorporate and
assess qualifying smart city or community tech-
nologies in the applicable jurisdiction; but

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

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

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

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

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

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

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

(2) open to the public to reproduce, publish, or
otherwise use, without cost.
(f) Authorization of Appropriations.—There is authorized to be appropriated to carry out subsection (e) $100,000,000 for each of fiscal years 2020 through 2024.

SEC. 202. CYBERSECURITY WORKING GROUP.

(a) Sense of Congress.—It is the sense of Congress that—

(1) the work conducted by the Internet Policy Task Force and the Digital Economy Leadership Team of the Department of Commerce to foster an enabling environment for Internet of Things technology to grow and thrive, allow the private sector to lead, and promote technology-neutral standards and consensus-based multistakeholder approaches to policymaking at local, Tribal, State, Federal, and international levels on issues ranging from the security to the competitiveness of the United States is valuable and should be continued; and

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

(b) Establishment.—
(1) IN GENERAL.—The Secretary, in consultation with the Council, shall convene a multistakeholder working group, to be known as the “Cybersecurity Working Group”, to develop tools for communities to use to evaluate the cybersecurity of smart city or community technologies.

(2) MEMBERSHIP.—

(A) IN GENERAL.—In appointing members to the Working Group, the Secretary shall consider appointing—

(i) representatives of consumer groups;

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

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

(iv) manufacturers of smart city or community devices, equipment, and software;

(v) individuals with expertise in communications networks;

(vi) Federal, State, and local law enforcement officials;
(vii) individuals with other expertise necessary to carry out the duties of the Working Group; and

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

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

(3) DUTIES.—The Working Group shall—

(A) leverage and build on previous activities carried out by the Department of Commerce relating to Internet of Things technology;

(B) develop tools for communities to evaluate the cybersecurity of smart city or community technology being considered by the communities for adoption in those communities;

(C) develop tools for communities to protect against cybersecurity threats relevant to the technology the community has chosen to adopt;

(D)(i) assess—
(I) whether Internet of Things cyber-security standards should exist; and

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

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

(E) submit to the Council a report that describes the findings of the Working Group.

SEC. 203. TECHHIRE WORKFORCE TRAINING AND DEVELOPMENT PROGRAM.

(a) In General.—Not later than 18 months after the date of enactment of this Act, based on findings from the needs assessment conducted under section 101(a)(3), the Secretary of Labor, in consultation with the Secretary, shall establish a pilot program, to be known as the “TechHire Workforce Training and Development Pilot Program”, under which the Secretary of Labor, during the 5-year period beginning on the date of enactment of this Act, shall provide to eligible entities, on a competitive basis, grants for technology-based job training and education programs that provide industry-recognized credentials.
(b) Requirements.—A job training and education program that is awarded a grant under this section shall—

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

(2) focus on smart city or community technologies, systems, and infrastructure across all sectors of the economy;

(3) address privacy and cybersecurity considerations; and

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

(c) Eligible Entities.—To be eligible to receive a grant under this section, an entity shall be a public organization or an organization described in section 501(c) of the Internal Revenue Code of 1986 and exempt from taxation under section 501(a) of that Code that—

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

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

(ii) a State workforce development board;

or

(iii) an appropriate subgroup of a local workforce development board or a State workforce development board; or
(B) a board of proportional participation, as determined by the Secretary of Labor, of relevant organizations, including—

(i) relevant industry organizations, including public and private employers;

(ii) labor organizations;

(iii) one or more units of local government that are actively pursuing smart city or community programs; and

(iv) postsecondary education organizations;

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

(3) demonstrates the ability to recruit and support individuals who plan to work in a relevant sector on the successful completion of relevant job training and education programs;

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

(B) uses a curriculum that has received extensive feedback from employers; and

(5) demonstrates successful outcomes connecting graduates of job training and education pro-
grams to quality jobs relevant to the job training and education programs.

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

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

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

(B) demonstrate a strong partnership with a local workforce development board or State workforce development board;

(2) house the job training and education program in—

(A) a community college or institution of higher education that includes basic science, technology, and math education in the curriculum of the community college or institution of higher education; or

(B) an apprenticeship program registered with the Department of Labor or a State;
(3) work with the Secretary of Defense or veterans organizations to transition members of the Armed Forces and veterans to careers in a relevant sector;

(4) include in the application an entity that receives State funding or is operated by a State agency;

(5) include an apprenticeship program registered with the Department of Labor or a State as part of the job training and education program;

(6) provide support services and career coaching;

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

(8) propose to serve—

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

(B) individuals with barriers to employment (as defined in section 3 of the Workforce Innovation and Opportunity Act (29 U.S.C. 3102)).

(f) ADDITIONAL CONSIDERATION.—In making grants under this section, the Secretary of Labor shall consider regional diversity.
(g) **LIMITATION ON APPLICATIONS.**—An eligible entity may not submit, either individually or as part of a joint application, more than 1 application for a grant under this section during any 1 fiscal year.

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

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

(j) **REDUCTION OF DUPLICATION.**—Before submitting an application for a grant under this section, each applicant shall—

1. consult with the heads of appropriate Federal agencies; and
2. coordinate the proposed activities of the applicant with existing State and local programs.

(k) **TECHNICAL ASSISTANCE.**—The Secretary of Labor, in consultation with the Secretary, may provide technical assistance to eligible entities under subsection (e) to leverage the existing job training and education programs of the Department of Labor and other relevant programs at appropriate Federal agencies.
(l) **REPORT.**—Not less frequently than once every 2 years, the Secretary of Labor shall submit to Congress, and make publicly available on the website of the Department of Labor, a report on the program established under this section, including a description of—

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

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

(3) best practices used to leverage the investment of the Federal Government under this section; and

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

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

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

Not later than 1 year after the date of enactment of this Act, the Comptroller General of the United States shall conduct a study to identify—
(1) financial and procurement mechanisms currently available to public and private entities to fund smart city or community activities and associated demonstration projects, including “pay for performance” financing that could deliver measurable and verifiable market and non-market values to smart cities or communities;

(2) new, innovative financial and procurement mechanisms under development or used experimentally that may be available, in the near term, to public and private entities to fund smart city or community activities and associated demonstration projects;

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

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

SEC. 205. TECHNICAL ASSISTANCE, VOUCHER PILOT PROGRAM, AND TECHNOLOGIST IN RESIDENCE PILOT PROGRAM.

(a) TECHNICAL ASSISTANCE PROGRAM.—The Secretary of Energy shall establish a program to provide technical assistance to cities seeking to incorporate smart city technologies.
(b) **Smart City Voucher Pilot Program.**—

(1) **In general.**—The Secretary of Energy shall develop and implement a pilot program to improve the access of cities to the expertise, competencies, and infrastructure of National Laboratories for the purposes of promoting smart city technologies.

(2) **Partnerships.**—In carrying out the program under this subsection, the Secretary of Energy shall provide to a city that has partnered with a small business concern access to the expertise of National Laboratories.

(c) **Technologist in Residence Pilot Program.**—

(1) **In general.**—The Secretary of Energy shall expand the Technologist in Residence pilot program of the Department of Energy to include partnerships between National Laboratories and cities with respect to research and development relating to smart cities.

(2) **Requirements.**—For purposes of the partnerships entered into under paragraph (1), technologists in residence shall work with an assigned city to develop an assessment of smart city tech-
ologies available and appropriate to meet the smart city objectives of the city.

(d) GUIDANCE.—The Secretary of Energy, in consultation with the Secretary, shall issue guidance with respect to—

(1) the scope of the programs established under subsections (a) through (e); and

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

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

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

TITLE III—IMPROVING PERFORMANCE AND INTEROPERABILITY

SEC. 301. STANDARDS AND INTEROPERABILITY FRAMEWORK.

(a) PARTICIPATION.—To strengthen the public-private partnership approach to smart city-related or community-related standards development and interoperability, the Secretary, acting through the Director of the National
Institute of Standards and Technology, shall strongly encourage and support participation by Federal Government experts in private sector-led, standards-related activities that convene smart city or community stakeholders, including representatives of applicable Federal agencies.

(b) ACTIVITIES.—To promote innovation and economic competitiveness and to achieve interoperability of smart city or community devices and systems, while strengthening the United States approach to private sector-led standardization activities and the participation of Federal representatives under subsection (a), the Secretary, in consultation with private and public sector stakeholders, shall—

(1) survey and review domestic and international smart city or community performance standards, existing architectures, applications, and deployments, and interoperability standards;

(2) make consensus-based recommendations—

(A) to identify gaps in the smart city or community performance standards and interoperability standards under paragraph (1);

(B) to harmonize existing standards and deployment efforts and enable greater interoperability across smart city or community technologies;
(C) to coordinate domestic and international performance standards and interoperability standards to promote uniform performance standards and interoperability standards worldwide, including with respect to the need for testing and demonstration; and

(D) for guidelines to enable interoperability in the collection, storage, ownership, and sharing of data;

(3) based on the recommendations under paragraph (2), develop a consensus-based framework that includes protocols and model standards for the management and exchange of information, including existing guidelines, best practices, and industry consensus standards;

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

(5) lead international coordination efforts to develop industry-led, technology-neutral, voluntary, consensus-based global smart city or community performance standards and interoperability standards.
TITLE IV—INTERNATIONAL CO-
OPERATION AND BEST PRACT-
ICES

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

(a) In General.—The Secretaries may carry out ac-
tivities—

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

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

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

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

(A) meet community needs; and

(B) advance innovation and open competi-
tion.
(b) ** Eligible Activities. —** The activities referred to in subsection (a) may include grants, contracts, challenges, prize competitions, public-private partnerships, and other innovative mechanisms.

(c) **Authorization of Appropriations. —**

(1) IN GENERAL.—There is authorized to be appropriated to the Secretaries to carry out this section $20,000,000 for each of fiscal years 2020 through 2024.

(2) Limitation on Use of Funds.—Funds made available under paragraph (1) may not be used to provide assistance to—

(A) a foreign country; or

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

**SEC. 402. TRADE PROGRAM.**

The Secretary, in consultation with the Secretary of State, such other members of the Council as the Secretary determines to be appropriate, and private stakeholders, shall establish a strategic international smart cities and communities trade program, which shall include trade missions—

(1) to promote the export of United States smart cities or communities technologies;
(2) to stimulate job growth in the United States;

(3) to identify potential partners and strategies for United States companies in target foreign market sectors;

(4) to organize events with local governments, businesses, associations, academia, and other stakeholders to promote smart city or community partnerships;

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

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

(7) to assist in achieving United Nations Framework Convention on Climate Change commitments;

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

(9) to leverage expertise in infrastructure to deliver solutions that can help make communities more efficient, livable, and sustainable; and
(10) to work with the United States Agency for International Development, the Overseas Private Investment Corporation, and the Export-Import Bank of the United States to identify opportunities to finance international investment in United States smart cities or communities technology companies.