

## MEMORANDUM OF UNDERSTANDING

between the

**THE DEPARTMENT OF ENERGY, OFFICE OF ENERGY EFFICIENCY AND  
RENEWABLE ENERGY**

and the

**THE DEPARTMENT OF TRANSPORTATION, OFFICE OF THE ASSISTANT  
SECRETARY FOR RESEARCH AND TECHNOLOGY**

This Memorandum of Understanding ("MOU") is entered into this thirteenth day of April, 2016, by and between the United States Department of Energy ("DOE") and the United States Department of Transportation ("DOT") (hereinafter "the Parties"). The Office of Energy Efficiency and Renewable Energy ("EERE") will serve as the program office responsible for carrying out the goals of the MOU on behalf of DOE, and the Office of the Assistant Secretary for Research and Technology ("OST-R") will serve as the program office responsible for carrying out the goals of the MOU on behalf of DOT. EERE and OST-R shall be referred to as "Party" or "Parties" as appropriate.

### **I. Purpose and Authority.**

The purpose of this MOU is to allow EERE and OST-R to pursue key opportunities for collaborative action between government agencies in order to accelerate innovative "smart" transportation systems research, development, demonstration, and deployment. Recognizing the mutual interest in realizing the economic, environmental, and national security benefits achieved by the growing use of smart transportation technologies, the partnership will facilitate dialogue and coordinated actions to leverage EERE's traditional focus and expertise in transportation energy technology systems and OST-R's traditional focus and expertise in transportation safety technology systems to accelerate analysis, tools, and applications of those technologies. Through improved communication and coordination, the Parties seek to maximize the public benefits gained through the development of an interconnected, safe and efficient transportation system.

EERE enters into this MOU under the authority of section 646 of the Department of Energy Organization Act (Pub. L. 95-91, as amended; 42 U.S.C. § 7256). OST-R enters into this MOU under the authority of 23 U.S.C. 502, 23 U.S.C. 503, and 49 U.S.C. 301.

EERE and OST-R are committed to working together towards the following goals:

1. Coordinating for mutual benefit DOT's Smart City Challenge and EERE's SMART Mobility consortium to implement a joint effort on future mobility, identify and make straightforward relevant cooperation opportunities, and set a precedent by which future collaboration can be designed and executed.

2. Providing leadership and best practices in the development and analysis of transportation data, including reliance on DOE's National Laboratories and other relevant data partners to create and abide by a data management plan and accompanying analytics to ensure quality, accessible data and analytics, including vehicle and other telematics systems.
3. Leveraging DOE's expertise in transportation electrification such as those from the EV Everywhere Grand Challenge and core research and development (R&D) programs — including electric vehicle (EV) infrastructure modeling and deployment planning tools, vehicle travel pattern electrification assessment, effective education and awareness campaigns guidance, and workplace charging analysis—to collaborate on a plan that maximizes the potential benefits of multi-modal electrification.
4. Leveraging DOT's experience and expertise with connected and automated vehicles from its research and demonstration efforts in the Smart City Challenge as well as its connected vehicle pilot projects, to identify opportunities for additional safety, energy and environmental benefits.
5. Utilizing existing stakeholder networks, such as DOE's Clean Cities Coalitions, for institutional knowledge on pre-existing local resources and effective outreach pathways in the near-term and as a template for how city stakeholders can engage and support Smart City Challenge and SMART Mobility efforts that continue, or grow, in the longer-term.
6. Exploring opportunities to support a Technologist-in-Cities pilot, wherein a federal or national laboratory expert on mobility and energy may be embedded within a Smart City to liaise with DOE and DOT, who can support the management of future mobility-relevant issues and advise the city's innovation and technology officials on related efforts.

Through this MOU, DOE and DOT agree to work together to advance each of these priorities and develop work plans to accomplish these goals. Specific work plans for the aforementioned initiatives will be developed by the Parties and incorporated as additional addenda under this MOU.

The Parties do not intend or expect to create intellectual property under this MOU. If it appears that coordination under this MOU may result in creation of intellectual property, the Parties will enter into one or more separate written agreements which coordinate creation of and ownership of intellectual property.

## **II. Background.**

In December 2015, DOT, acting through the Federal Highway Administration, announced the Smart City Challenge, wherein through competitive selection of city-authored proposals, DOT supports the creation of a fully integrated, first-of-its-kind city using data, technology, and creativity to shape how people and goods move in the future. At approximately the same time, a series of transportation-as-a-system studies at National Laboratories supported by EERE were

formalized as part of the EERE SMART Mobility consortium, now a multi-lab research collaboration engaged in analysis, modeling and simulation, and applied energy-efficiency and low-carbon transportation R&D. The timing of the Smart City Challenge and SMART Mobility efforts, along with the alignment in topics of interest to both agencies, led OST-R and EERE to engage in exploratory conversations regarding potential collaboration. These conversations also coincided with the release of "[\*Technology and the Future of Cities\*](#)" by the President's Council of Advisors on Science and Technology (PCAST). Specifically, the report recognizes the opportunity for cities to leverage technology and innovation to enhance the lives of citizens and calls upon federal agencies to coordinate research, development, and deployment activities to realize the full potential. The high-value and near-term opportunities identified by EERE and OST-R form the basis for this MOU.

### **III. Responsibilities of the Parties.**

EERE and OST-R will share in facilitating inter-governmental coordination with other key agencies, potentially including the National Science Foundation and the National Institute of Standards and Technology, and the Executive Office of the President, including the Council on Environmental Quality, in support of this partnership.

EERE acknowledges that the Smart City Challenge is a DOT activity and that this MOU does not provide EERE with a role in the processes for reviewing Smart City Challenge applications or selecting the winning city. EERE's role in the Smart City Challenge is subject to DOT approval. OST-R acknowledges that the SMART Mobility Consortium, EV Everywhere, and Clean Cities are DOE activities. OST-R's role in SMART Mobility Consortium, EV Everywhere, and Clean Cities is subject to DOE's approval.

The parties recognize the value of promoting this partnership in a coordinated fashion and will jointly coordinate publicity and press for activities under this MOU. EERE will not reference this MOU or the Smart City Challenge in public statements, including press releases, without prior consent in writing from DOT. DOT will not reference this MOU, the SMART Mobility Consortium, EV Everywhere, or Clean Cities in public statements, including press releases, without prior consent in writing from EERE.

### **IV. Points of Contact.**

The points of contact responsible for administration of this Agreement are:

DOE: Reuben Sarkar, EERE

DOT: Mark Dowd, OST-R

### **V. Terms and Termination.**

This MOU shall remain in effect until terminated by either Party upon written notice to the other Party.

This MOU in no way restricts either of the Parties from participating in any activity with other public or private agencies, organizations or individuals.

This MOU is neither a fiscal nor a funds obligation document. Nothing in this Agreement authorizes or is intended to obligate the Parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value.

This MOU is strictly for internal management purposes for each of the Parties. It is not legally enforceable and shall not be construed to create any legal obligation on the part of either Party, including that of a federal contractor. This Agreement shall not be construed to provide a private right or cause of action for or by any person or entity.

This MOU is subject to, and will be carried out in compliance with, all applicable laws, regulations and other legal requirements.

**VI. Modifications.**

This MOU may be modified by mutually acceptable written amendment duly executed by authorized officials of EERE and OST-R.

**VII. Entire Agreement.**

This MOU constitutes the full and final understanding of both Parties on all subjects contained within it. All prior negotiations, understandings, and agreements are merged into this Agreement.

**VIII. Execution.**

The Parties have caused this MOU to be executed in duplicate originals by their duly authorized representatives and is effective on the date of the last signature below.

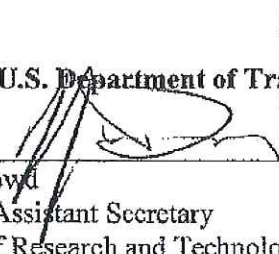
**For the U.S. Department of Energy**



Reuben Sarkar  
Deputy Assistant Secretary  
Office of Energy Efficiency and Renewable Energy

April 13, 2016

**For the U.S. Department of Transportation**



Mark Dowd  
Deputy Assistant Secretary  
Office of Research and Technology

April 13, 2016