

MEMORANDUM OF UNDERSTANDING

between

ALLIANCE FOR SUSTAINABLE ENERGY, LLC
MANAGING AND OPERATING CONTRACTOR FOR THE
NATIONAL RENEWABLE ENERGY LABORATORY

and

[OpenPATH Deployer Name (e.g. The City of XXX)]

SUBJECT. [Deployment program or study name e.g. "e-bike program"]

Synergistic coordination between the National Renewable Energy Laboratory (NREL) and the [OpenPATH Deployer] for support in use of the NREL OpenPATH platform for the [Deployment program or study 3 sentence summary]

1. Participants

- a. The National Renewable Energy Laboratory ("NREL") is a national laboratory owned by the Department of Energy and managed and operated by the Alliance for Sustainable Energy, LLC under DOE Contract No. DE-AC36-08GO28308. NREL has a primary location at 15013 Denver West Parkway, Golden, Colorado, 80401.
- b. [Deployer name and organization description e.g. The City of XXXX (YY), a municipal corporation, with a primary location at ZZZZ].
- c. Either [YY] or NREL are referred to as a "Participant". Both FC and NREL are collectively referred to as "Participants."

2. Purpose

- a. Desiring synergy between their independently programmed activities, the Participants intend coordination under this MOU to advance their mutual interests.
- b. NREL plans to support the energy evaluation objectives of [YY] using an instance of the NREL OpenPATH platform for data collection among participants [program or study name]. NREL will share de-identified datasets with [YY] and provide a public dashboard with standardized analyses for energy, emissions, and use evaluation. The datasets will inform various U.S. Department of Energy (DOE)-sponsored research projects related to energy efficiency through changes to travel behavior. The datasets will also be archived for long-term research use on the NREL Transportation Secure Data Center (TSDC) or Livewire data platforms. Validation and improvement of the

OpenPATH platform will support the goals of DOE's Energy Efficient Mobility Systems (EEMS) Core Tools capabilities.

3. Scope of Coordination

- a. The shared objectives for the coordination planned under this MOU are:
 - Testing and implementation of the NREL OpenPATH platform in support of [YY]'s [program or study name].
 - Analysis of energy, emissions, and use of the program from datasets generated by participants in [program or study name].
 - Development of reports and/or publications to inform similar programs in other locations.
 - Long-term archival on secure data platforms to support longitudinal research and comparison with future programs.
 - NREL's support to the grantees participating in the pilot is intended to include:
 - Availability for advice or support for configuring the data tools
 - Periodic support to iterate or adjust tool implementation based on feedback
 - Support for the public dashboard with automated analytics for generating reporting elements
 - Engagement with individual participants for problem solving as needed with approval of [program or study name]
- b. Potential outcomes from the coordination include:
 - Validation and improvement of the NREL OpenPATH platform.
 - Energy, emissions, and use evaluation of the [program or study name].
 - Data and informational input into DOE-sponsored research projects related to energy efficiency through travel behavior change.
 - Publications related to findings to serve as foundational knowledge for similar applied projects.
- c. Collaboration between NREL and [YY] will support various U.S. Department of Energy (DOE)-sponsored research projects related to energy efficiency through changes to travel behavior. Travel survey data linked to demographic information is generally limited in both geographic scope and freshness. This makes it hard to evaluate impacts of new mobility options until several years after the options have been deployed. Collaboration with the [program or study name] offers a unique data opportunity for more timely evaluation of the energy and emissions impacts of novel mobility modes. Direct benefits include access to data to inform large agent-based models (ABMs) that are integral to the program objectives of SMART research work, behavioral response to new mobility options, and perspectives on equity of access to emerging transportation technology within underrepresented population groups.
- d. The TSDC was created in 2009 to address the challenge of maximizing research returns from original transportation data while protecting the privacy of participants. The project is supported by the U.S. DOT and the U.S. DOE and is hosted at the National Renewable Energy Laboratory's (NREL's) Center for Integrated Mobility Sciences, located in Colorado. Examples of recent research enabled by TSDC data include assessing electric vehicle adoption, public transit gaps and active transportation potential. Detailed information on the TSDC's operating procedures is available [on the website](#) and [in this publication](#) and [fact sheet](#).

4. Funding

- a. Unless otherwise determined by writing, each Participant is responsible for the costs it incurs in participating in the coordination contemplated by this MOU, including all administrative costs, overhead expenses, labor costs, insurance costs, travel expenses and similar costs.
- b. This MOU is neither a fiscal nor a funds-obligation document. Nothing in this MOU authorizes or is intended to obligate the Participants to expend, exchange, or reimburse funds, services, or supplies or transfer or receive anything of value.
- c. This MOU: (1) is not a contract; (2) is not to be used to obligate or commit funds; and (3) is not to be used as a basis for the transfer of funds.

5. Researcher Exchanges

- a. Each Participant is to be responsible for its own personnel in relation to researcher exchanges to carry out coordination under this MOU.
- b. Each Participant's personnel are to adhere to the regulations, policies, and procedures of the host institution in carrying out coordination under this MOU, including protection of business proprietary information, protection of intellectual property, conditions of coordination and decorum, conditions of security and safety, and all other terms under which personnel are authorized to participate in researcher exchanges at the host institution.
- c. Each Participant has sole responsibility for its own personnel in relation to matters as travel formalities, appropriate insurance (medical insurance), travel expenses, suitable living accommodation and expenses, and computing hardware, applications, and internet connections. At the sole discretion of and compliant with the terms of systems access at the host institution, limited access to internal computing hardware and systems may be provided under researcher exchanges to facilitate the researcher's activities at the host institution.

6. Term

- a. This MOU shall be effective on the later date of the signatures of the Participants.
- b. The term of this MOU is for [duration e.g. 30] months. The MOU may be extended by mutual written consent.
- c. Earlier termination of the MOU shall be effective upon sixty (60) days written notice given to the other Participant.

7. Role of the Participants

- a. Each Participant’s principal point of contact for coordination under this MOU is identified below. These contacts will also be responsible for resolution of issues occurring across organizational lines in their respective organizations.

NREL

Name	
Title	
Address	
email	
Phone	

[Deployer name – e.g. City of XXX]

Name	
Title	
Address	
email	
Phone	

- b. The Participants agree that neither will use the name of the other Participant or its employees in promotional activities with reference to the coordination arising from this MOU without prior written approval of the other Participant.

8. Confidentiality and Disclosure of Information

Each Participant intends to coordinate independently programmed activities in a manner which facilitates exchanges of non-proprietary information that is not Personal Identifiable Information (“PII”). For the purpose of this MOU, PII means all information that identifies, or can be used to identify, locate, contact, or impersonate a particular individual. Examples of PII include a specific individual’s: first name (or initial) and last name (current or former); geographical address; electronic address (including an e-mail address); personal cellular phone number; telephone number or fax number dedicated to contacting the individual at his or her physical place of residence. When connected with one or more of the items of information specified above, PII includes any other information concerning an individual that, if disclosed, identifies or can be used to identify a specific individual physically or electronically. For the purposes of this MOU, location information that is not linked to the items above, and basic demographic information is not considered PII.

9. Intellectual Property

Activities which may involve sharing of proprietary information and transfer of rights and interest in intellectual property are excluded from the purview of this MOU. In the event it becomes necessary to share proprietary information, separate nondisclosure agreements will be put in place.

10. Review Meetings

- a. Quarterly meetings to review plans and coordination, along with ad-hoc coordination meetings as necessary.
- b. NREL: [Fill this in], YY: [Fill this in]

11. Future Collaborations

- a. This MOU does not create legally binding obligations between the Participants. It serves only as a record of the Participants' coordination of areas of independently programmed activities.
- b. The Participants may propose to each other separate joint collaboration that involves collaborative research and development related to the subject matter of the MOU.
- c. If the Participants agree to undertake joint collaborations that involve collaborative research and development, they intend to develop a separate written agreement for each collaborative research and development project, setting out each Participant's contribution, deliverables, responsibilities, and intellectual property rights and obligations.

Signatures

The Participants hereby confirm this MEMORANDUM OF UNDERSTANDING and acknowledge their understanding by the following signatures.

Alliance for Sustainable Energy, LLC
managing and operating contractor for the
NATIONAL RENEWABLE ENERGY LABORATORY

[DEPLOYER NAME – E.G. CITY OF XXX]

Signature

Signature

Printed name

Printed name

Title

Title

Date

Date

APPENDIX (study-specific information)

1. **Name:** (e.g. NREL Commuting Study)
2. **Short textual description (~ 3 sentences):** e.g. As commute schedules get increasingly complex in our “Future of Work”, NREL would like to experiment with an automated trip tracking solution for understanding travel behavior. This commuting study (“Study”) can allow NREL to understand variations in travel across centers, days of the week and months of the year without complex, time-consuming surveys.
3. **Short textual purpose (~ 3 sentences):** e.g. NREL can use this information to understand how people get to work, what their constraints are, and how to better provide alternative options to driving alone. This comprehensive information will aid NREL in its goal to reduce carbon emissions from transportation.
Or
The data collected during the program will be used to understand how eBikes are used including when and how often as well as distance travelled.
4. **Three-sentence summary for app (e.g.):**
 - The Colorado Energy Office aims to incentivize commuters to adopt energy-efficient, non-polluting modes of transportation and maximize air quality benefits.
 - In this pilot program, it is providing e-bikes to low-income essential workers in communities around the state.
 - If you are a program participant, this app can help you log your trips and compete against others to benefit our environment.
5. **Point of contact listed in the app – e.g.:** For questions about the program, please contact AAA at the City of XXX (email:, phone:.....).
6. **List of users with access to the admin dashboard:** No more than 3 names. Please contact NREL if there are any personnel changes that cause this list to change.
7. **Examples of research questions that this data could be used to answer (optional, max 3 bullet points): e.g.**
 - Travel behavior modeling to support cost-benefit analyses of various potential commute programs.
 - The impact of post-pandemic telework on transportation energy efficiency and GHG emissions