

APPENDIX H: DATA COLLECTION REQUIREMENTS

Tables H-1 through H-9, below, list the types of data that CARB will require the Grantee to collect on STEP-funded projects. Additional data may be collected beyond what is presented below, and CARB may require additional data based on the type of projects proposed and selected for funding. CARB and the selected funding recipient will collaborate on finalizing the list of data to be collected. CARB must approve the final data collection plan.

Any data collected that contains personally identifiable information, such as the names, personal phone numbers, and home addresses of end users must be secured and protected in compliance with State and federal privacy laws. All information and data submitted to CARB is the property of CARB and will become a public record. As such, any information or data that contains personally identifiable information should be reported only in aggregate or with the personally identifiable information removed.

The Grantee shall obtain and report to CARB all trip information collected via telematics and surveys. When not obtained, an explanation must be provided. Where possible, data collected should be disaggregated by basic demographic data (e.g., gender, race/ethnicity, age, income).

In addition to data collection and monitoring, the Grantee will be required to provide analysis of the data, including a compilation and summary of the data for each quarterly report and for the final report.

I. VEHICLES AND CHARGING OR FUELING INFRASTRUCTURE

Basic vehicle data should be captured by data loggers. Data should be collected and reported in a standardized format (e.g., Mobility Data Specification from the Open Mobility Foundation).

Table H-1: Example Data for Vehicles¹ and Associated Charging or Fueling Infrastructure

End User Experience
<ul style="list-style-type: none"> i) List of unique identifiers (unique number or code) for all participants or users (including denied or removed participants) with census tract of residents and zip code and basic demographic information, if available ii) Number of users and their membership type (e.g., standard, community, trial) iii) Total number of withdrawn memberships and reason, if applicable and available iv) Total number of applicants approved, if applicable v) Total number of participants removed and reason, if applicable vi) Date of application, date of approval, and date of denial or removal vii) User survey data, including: <ul style="list-style-type: none"> 1. Census tract of residence, zip code, and county and basic demographic information (e.g., gender, race/ethnicity, age, income, ADA needs) 2. Transportation patterns, vehicle ownership, and average annual vehicle miles traveled (e.g., via personal vehicles, ride-hailing, carsharing) in last two years prior to participation in the project 3. List of unmet transportation and mobility needs 4. Purpose of using the service (e.g., work commute, grocery shopping, medical appointments, etc.) 5. Baseline scenario (e.g., if not for the service, would the trip have been taken; if not for the service, what mode would have been used) 6. User experience of the vehicle, service, or equipment (e.g., availability, power, capacity to meet travel needs or fleet operation demand, perceived safety, operations and maintenance challenges, service and parts availability, refueling experience, and any barriers) 7. User experience of how the vehicle, service, or equipment increased their access to key destinations 8. Waiting time for service 9. Feedback from participants regarding effectiveness of outreach efforts and materials
Vehicle and Charging or Fueling Equipment Specifications
<ul style="list-style-type: none"> i) Vehicle specifications (e.g., type of vehicle, new or used, manufacturer, model, model year, gross vehicle weight rating, fuel type, EPA fuel economy, battery or fuel capacity (in kWh, gallons, kg), vehicle identification number (VIN), vehicle license plate number, class, serial number, etc.) ii) Full propulsion system specifications, including legible emissions control label photo (for vehicles) iii) Connectivity specifications (e.g., on-board modems, mobile apps that can provide trip summary or energy metrics) iv) Age and odometer reading for used vehicles

¹ See definition in Appendix A.

Vehicle and Charging or Fueling Equipment Specifications

- v) Charging or fueling equipment specifications (e.g., manufacturer, model, model year, serial number, charger level, voltage output, amperage, etc.)
- vi) Purchase or lease date and cost
- vii) Registration date and date of next renewal (for vehicles)
- viii) Insurance information and date of next renewal (for vehicles)
- ix) First date of operation (for both vehicles and charging equipment)
- x) Site locations for charging or fueling equipment (street address or latitude and longitude)
- xi) Description of intended use of vehicle

Vehicle Operation

- i) Number of trips taken in total, per vehicle, and per day
- ii) Description of typical daily use of vehicles
- iii) Number of riders reported for each vehicle trip
- iv) Vehicle usage (e.g., hours of operation per day, days of operation per year, GPS route data [must be able to distinguish between key off and key on but not moving], etc.)
- v) Origin and destination (data should be aggregated in such a way as to not reveal personally identifiable information) or route location
- vi) Miles traveled per trip, per day, and in total, including odometer readings
- vii) Average miles per kilowatt hour
- viii) Average speed per trip

Other

- i) Description of workforce and user training programs, if any, related to the use and maintenance of the zero-emission vehicles. Evaluate the effectiveness of such programs and the costs associated with them.
- ii) Collector and distribution vehicle data for charging electric scooters, bikes, and mopeds or replacing their batteries (e.g., vehicle specifications, vehicle miles traveled, trip purpose)
- iii) Energy or fuel consumption data
- iv) Maintenance and repair data, including insurance policy and warranty claims
- v) Service call data
- vi) Description of any accidents or incidents, including collisions and maintenance and fueling incidents
- vii) Operation and capital cost data
- viii) Cooperative Intelligent Transportation Systems (C-ITS) application
- ix) Description of any data exchange regarding the trip and service with State and local authorities such as cities as a voluntary effort or required by law

II. TRANSPORTATION SUBSIDIES

Table H-2: Example Data for Transportation Subsidies

Subsidies
<ul style="list-style-type: none"> i) Description of service or vehicle subsidized ii) Number of subsidies provided iii) Value per subsidy iv) Description of method of subsidy distribution
Recipients
<ul style="list-style-type: none"> i) Number of recipients ii) List of unique identifiers (unique number or code) for all recipients with census tract of residents and zip code and basic demographic information, if available iii) Description of targeted audience of subsidies iv) Recipient survey data, including: <ol style="list-style-type: none"> 1. Census tract of residence, zip code, and county and basic demographic information (e.g., gender, race/ethnicity, age, income, ADA needs) 2. Transportation patterns, vehicle ownership, and average annual vehicle miles traveled (e.g., via personal vehicles, ride-hailing, carsharing) in last two years prior to participation in the project 3. List of unmet transportation and mobility needs 4. Purpose of using the service (e.g., work commute, grocery shopping, medical appointments, etc.) 5. Baseline scenario (e.g., if not for the subsidy, would the trip have been taken; if not for the subsidy, what mode would have been used) 6. Recipient experience of how the subsidy increased their access to key destinations 7. Feedback from participants regarding effectiveness of outreach efforts and materials

III. FACILITY OR INFRASTRUCTURE IMPROVEMENTS

Data collection for facility or infrastructure improvements should focus on benefits realized due to project implementation.

Table H-3: Example Data for Facility or Infrastructure Improvements

Pedestrian, Bike, or Complete Streets Facilities or Infrastructure
<ul style="list-style-type: none"> i) Location of facility or infrastructure ii) Number of users (e.g., bike and pedestrian counts) iii) User survey data, including: <ol style="list-style-type: none"> 1. Census tract of residence, zip code, and county and basic demographic information (e.g., gender, race/ethnicity, age, income, ADA needs)

Pedestrian, Bike, or Complete Streets Facilities or Infrastructure

2. Transportation patterns, vehicle ownership, and average annual vehicle miles traveled (e.g., via personal vehicles, ride-hailing, carsharing) in last two years prior to participation in the project
3. List of unmet transportation and mobility needs
4. Purpose of using the facility (e.g., work commute, grocery shopping, medical appointments, etc.)
5. Baseline scenario (e.g., if not for the facility, would the trip have been taken; if not for the facility, what mode would have been used)
6. Feedback on user experience

Fixed-route Transit System Improvements

- i) Location of transit stop(s) or route
- ii) Number of riders of improved transit system or route
- iii) Rider survey data, including:
 1. Census tract of residence, zip code, and county and basic demographic information (e.g., gender, race/ethnicity, age, income, ADA needs)
 2. Transportation patterns, vehicle ownership, and average annual vehicle miles traveled (e.g., via personal vehicles, ride-hailing, carsharing) in last two years prior to participation in the project
 3. List of unmet transportation and mobility needs
 4. Purpose of using the service (e.g., work commute, grocery shopping, medical appointments, etc.)
 5. Baseline scenario (e.g., if not for the service, would the trip have been taken; if not for the service, what mode would have been used)
 6. Feedback on user experience

Renewable Energy Generation or Storage

- i) Monthly amount of renewable energy generated, stored, and utilized
- ii) Costs and savings from onsite energy generation, storage, and production

Broadband Infrastructure

- i) Number of users connected to the funded infrastructure
- ii) Average user bandwidth and speed
- iii) Monthly total data usage and throughput for the funded infrastructure
- iv) User survey data, including:
 1. Census tract of residence, zip code, and county and basic demographic information (e.g., gender, race/ethnicity, age, income, ADA needs)
 2. Transportation patterns, vehicle ownership, and average annual vehicle miles traveled (e.g., via personal vehicles, ride-hailing, carsharing) in last two years prior to participation in the project
 3. List of unmet transportation and mobility needs
 4. Purpose of using the broadband service

Broadband Infrastructure
<ul style="list-style-type: none"> 5. Baseline scenario (e.g., if not for the service, would the trip have been taken; if not for the service, what mode would have been used) 6. User experience of how the broadband service increased their access to key destinations or otherwise served to displace vehicle trips 7. Feedback on user experience

IV. PLANS AND PROGRAMS

Table H-4: Example Data for Plans and Policies

Plan or Policy
<ul style="list-style-type: none"> i) Schedule of development and implementation ii) Copy of plan or policy once complete iii) Description of impacted or target audience iv) Outcomes of plan or policy, if applicable during grant term

Table H-5: Example Data for Programs

Program
<ul style="list-style-type: none"> i) Schedule of development and implementation ii) Outcomes of program, if applicable during grant term

Participants
<ul style="list-style-type: none"> i) Number of participants ii) List of unique identifiers (unique number or code) for all participants with census tract of residents and zip code and basic demographic information, if available iii) Participant survey data, including: <ul style="list-style-type: none"> 1. Census tract of residence, zip code, and county and basic demographic information (e.g., gender, race/ethnicity, age, income, ADA needs) 2. List of unmet transportation needs 3. Purpose of participating in the program 4. Feedback on participant experience 5. Feedback from participants regarding effectiveness of outreach efforts and materials

V. COMMUNITY ENGAGEMENT, OUTREACH, AND EDUCATION

For all projects, the Grantee shall track and report information on community engagement, outreach, and education conducted to ensure that identified end users in the community have the knowledge necessary to use new transportation services or to participate in decision-making processes during project implementation.

Table H-6: Example Data for Community Engagement, Outreach, and Education

Outreach
<ul style="list-style-type: none"> i) Schedule of community engagement, outreach, and education conducted, materials used (including copies of any written documents or surveys used), and number of people contacted ii) Method of outreach (e.g., online, flyer, door-to-door notice, etc.) iii) Evaluation of outreach and engagement strategies deployed

Events
<ul style="list-style-type: none"> i) Location, date, time of event ii) Type of event (e.g., workshop, in-person meeting, webinar, educational forum) iii) Approximate number of attendees iv) List of unique identifiers (unique number or code) for all participants with census tract of residents and zip code and basic demographic information, if available v) Number of speakers or other active participants vi) Title of event vii) A summary of key takeaways from the event iv) Participant survey data, including: <ul style="list-style-type: none"> 1. Census tract of residence, zip code, and county and basic demographic information (e.g., gender, race/ethnicity, age, income, ADA needs) 2. Purpose of participating in the event 3. Feedback on participant experience 4. Feedback from participants regarding effectiveness of outreach efforts and materials

VI. LESSONS LEARNED

For all projects, the Grantee shall track and report information on lessons learned.

Table H-7: Example Data for Lessons Learned

Lessons Learned
<ul style="list-style-type: none"> i) Challenges that occurred during implementation and resolutions ii) Successes and best practices

VII. JOBS SUPPORTED

Once the grant agreement is executed, the Grantee shall submit the following information to estimate the jobs supported by STEP funds.

Table H-8: Example Data for Modeled Jobs

Modeled Jobs
<ul style="list-style-type: none"> i) Top three funded project activities, by cost ii) Percent of total project budget associated with each of the top three project activities

The Grantee shall track and report information on employment outcomes from funded projects that provide jobs or job training, including the data in the table below.

Table H-9: Example Data for Employment Outcomes

Employment Outcomes
<ul style="list-style-type: none"> iii) Job classifications or trades iv) Job training credentials v) Number of jobs provided (in full and for disadvantaged and low-income communities) vi) Total project work hours (in full and for disadvantaged and low-income communities) vii) Average hourly wage (in full and for disadvantaged and low-income communities) viii) Total number of workers that completed job training (in full and for disadvantaged and low-income communities) ix) Description of job quality (e.g., benefits provided such as health care and paid time off) x) Targeted hiring strategy

VIII. PROJECT OUTCOMES

The Grantee shall track and report annual data on the outcomes of capital projects for the first three years after they are operational. Data required includes those listed in the table below.

Table H-10: Example Data for Project Outcome Reporting

Project Outcomes for Capital Projects
<ul style="list-style-type: none"> i) Average daily ridership ii) Days of operation per year iii) Fuel or electricity use per year iv) Vehicle miles traveled per year