*\*This downloadable Word document can be modified and placed in your organization’s branded template*

**EV Infrastructure Needs Baseline Assessment**

Establishing a baseline assessment can help you assess and estimate how many electric vehicle (EV) chargers you will need to meet demand. A baseline assessment should include an evaluation of scenarios that combine public and private EV charging, levels of charging (Level 2 and DC fast charging), and number of ports.

Conduct a baseline assessment to help you determine the number and type of EV chargers needed to support EV drivers in your area based on high and low percentages of home charging adoption. This analysis can be based on projected EV adoption at a designated point in the future or your jurisdiction’s EV adoption goals. You can use the provided worksheet to record the data associated with your assessment.

*Note: This assessment does not include charging needs for on-demand drivers (transportation network companies like Uber and Lyft) or road trippers and visitors. Tools from the National Renewable Energy Laboratory (NREL) such as* [*EVI On-Demand*](https://github.com/NREL/EVI-OnDemand) *and* [*EVI-RoadTrip*](https://www.nrel.gov/transportation/evi-roadtrip.html) *can complement the projections that result from this activity to provide a more detailed assessment of requirements.*

**Step 1: Identify the EV projections and/or goals for your infrastructure needs analysis based on a high percentage of home charging (consider using estimates that reflect potential EV charging demand at multiple points in the future—e.g., 2025, 2030, and 2035).**

*Option 1:* Use local projections for EV adoption.

*Option 2:* Use local EV adoption goals from your jurisdiction’s existing plans or policies.

*Option 3:* Use [state-level projections](https://data.nrel.gov/submissions/214) from NREL’s [2030 National Charging Network report](https://driveelectric.gov/files/2030-charging-network.pdf).

* Click on this link: <https://data.nrel.gov/submissions/214>.
* Download the *state\_cbsa-2030ncn-results.zip* folder and unzip the files.
* Once the files are unzipped, you will see a file for each state. Select the state of your target municipality or municipalities.
* Each state file contains 12 projections.
  + Select three to five files (unique projection scenarios) that you want to explore as possible projections to use as inputs in the EVI-Pro Lite tool to estimate EV infrastructure needs.
  + Open the corresponding Excel files.
  + Useful projection scenario files may include *baseline*, *low\_home\_charging\_access*, *high\_home\_charging\_access*, *fast\_sales\_growth*, and/or *low\_sales\_growth*.
* Locate your target “region­\_name” within these Excel files. If your exact region is not included, locate a nearby and/or similar region to use as a proxy for this exercise.
  + Locate the projected number of plug-in electric vehicles (PEVs, including both battery-electric and plug-in hybrid vehicles) for the year 2025.
  + Switch to the 2030 tab and locate the projected number of PEVs for that year.
* Based on your exploration of various projected PEV ownership rates under unique scenarios, choose one EV adoption scenario to use for your EV infrastructure needs baseline assessment.

**Step 2: Run calculations in NREL’s** [**EVI-Pro Lite**](https://afdc.energy.gov/evi-pro-lite) **online tool to determine the number of chargers needed if there is a lower percentage of home charging.**

* Input the first in your series of EV projections or goals.
* Take screenshots of the charts the tool generates.
* Reduce the percentage of at-home charging. *Note: Consider setting the percentage of at-home charging equal to the percentage of homeowners (thereby assuming no at-home charging for renters).*
* Hit “Recalculate.”
* Screenshot the generated charts.

**You now have two EV infrastructure projections to meet your first interim vehicle goal or projection! The first shows the number of chargers if there is a higher percentage of home charging, and the second shows the number of chargers needed if there is a lower percentage of home charging.**

**Step 3:** **Repeat Step 2 for each projection in your series.** You should have two sets of infrastructure needs for each EV adoption projection/goal.

**You can record your data here:**

By [*year of first goal/projection*] we aim to have *[goal/projection]* EVs registered in [*jurisdiction name*].

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By [*year of first goal/projection*] we aim to have *[goal/projection]* EVs registered in [*jurisdiction name*].

By [*year of first goal/projection*] we aim to have *[goal/projection]* EVs registered in [*jurisdiction name*].

An analysis using the EVI-Pro Lite tool determined charger needs for [*jurisdiction name*] under various scenarios.

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| --- | --- | --- | --- | --- |
| **Scenario Description** | **Single-Family Charging Ports** | **Shared Private Charging Ports** | **Public Level 2 Charging Ports** | **Public DC Fast Charging Ports** |
| *Year:*  *# of Vehicles:*  *% of At-Home Charging:*  *Other Scenario Characteristics:* |  |  |  |  |
| *Year:*  *# of Vehicles:*  *% of At-Home Charging:*  *Other Scenario Characteristics:* |  |  |  |  |
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