# Electric Vehicle Charging Infrastructure Trends from the Alternative Fueling Station Locator: Third Quarter 2021

Abby Brown,[1] Alexis Schayowitz,[2] and Emily Klotz[2]

*1 National Renewable Energy Laboratory*
*2 ICF*

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**Office of Energy Efficiency & Renewable Energy**
**Operated by the Alliance for Sustainable Energy, LLC**

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**Technical Report**
NREL/TP-5400-81775
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*Cover Photo by Erik Nelsen/ICF: NREL 65887.*

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# List of Acronyms

| | |
|---|---|
| AFDC | Alternative Fuels Data Center |
| AMPUP | AmpUp network |
| API | application program interface |
| BN | Blink network |
| CCS | Combined Charging System |
| CHARGELAB | ChargeLab network |
| CPN | ChargePoint network |
| DC | direct current |
| E85 | ethanol blend containing 51% to 83% ethanol, depending on geography and season |
| EA | Electrify America network |
| EV | electric vehicle, including all-electric and plug-in hybrid electric vehicles |
| EVC | EV Connect network |
| EVCS | EV Charging Solutions network |
| EVGATEWAY | evGateway network |
| EVN | EVgo network |
| EVSE | electric vehicle supply equipment |
| EVSP | electric vehicle service provider |
| FCN | Francis Energy network |
| FLO | FLO network |
| FPLEV | FPL EVolution network |
| GRN | Greenlots network |
| HD | heavy-duty |
| L1 | Level 1 charger |
| L2 | Level 2 charger |
| LD | light-duty |
| LIVINGSTON | Livingston Energy Group network |
| MD | medium-duty |
| NON | non-networked |
| NREL | National Renewable Energy Laboratory |
| OC | OpConnect network |
| OCPI | Open Charge Point Interface |
| OEM | original equipment manufacturer |
| PHEV | plug-in hybrid electric vehicle |
| POWERFLEX | Powerflex network |
| Q1 | quarter 1, or first quarter of the calendar year |
| Q2 | quarter 2, or second quarter of the calendar year |
| Q3 | quarter 3, or third quarter of the calendar year |
| Q4 | quarter 4, or fourth quarter of the calendar year |
| SCN | SemaConnect network |
| TESLA | Tesla Supercharger network |
| TESLAD | Tesla Destination network |
| VLTA | Volta network |
| WEB | Webasto network |
| ZEFNET | ZEF network |

# Executive Summary

The U.S. Department of Energy's Alternative Fueling Station Locator contains information on public and private nonresidential alternative fueling stations in the United States and Canada and currently tracks ethanol (E85), biodiesel, compressed natural gas, electric vehicle (EV) charging, hydrogen, liquefied natural gas, and propane stations. Of these fuels, EV charging continues to experience rapidly changing technology and growing infrastructure. This report provides a snapshot of the state of EV charging infrastructure in the United States in the third calendar quarter of 2021 (Q3). Using data from the Station Locator, this report breaks down the growth of public and private charging infrastructure by charging level, network, and location. Additionally, this report measures the current state of charging infrastructure compared with two different 2030 infrastructure requirement scenarios. This information is intended to help transportation planners, policymakers, researchers, infrastructure developers, and others understand the rapidly changing landscape for EV charging. This is the seventh report in a series. Reports from previous quarters can be found in the Alternative Fuels Data Center (AFDC) and National Renewable Energy Laboratory (NREL) publication databases, as well as the AFDC Charging Infrastructure Trends page (https://afdc.energy.gov/fuels/electricity_infrastructure_trends.html).

In Q3, there was a 2.9% increase in the number of electric vehicle supply equipment (EVSE) ports in the Station Locator, including a 3.3% increase in public EVSE ports and a 0.5% increase in private EVSE ports. Among public EVSE ports, direct-current (DC) fast EVSE ports grew by the largest percentage (6.5%). The Northeast region of the Clean Cities Coalition Network had the largest increase in public charging infrastructure in Q3 (4.9%), though California, which has almost a third of the country's public charging infrastructure, continues to lead the country in the number of available public EVSE ports.

This report uses two different studies to benchmark the current state of public and workplace charging infrastructure with future requirements to support a growing fleet of light-duty EVs. NREL's 2017 *National Plug-In Electric Vehicle Infrastructure Analysis* estimated that 27,500 DC fast and 601,000 Level 2 EVSE ports would be required in the United States to support a scenario in which 15 million light-duty EVs are on the road by 2030 (Wood et al. 2017). Based on this analysis, 72.7% and 16.3% of the required DC fast and Level 2 EVSE ports, respectively, have been installed as of Q3. Atlas Public Policy's 2021 *U.S. Passenger Vehicle Electrification Infrastructure Assessment* estimated that an additional 252,000 DC fast and 244,000 Level 2 EVSE ports beyond today's installations would be required by 2030 to support a scenario in which 100% of passenger vehicle sales are electric by 2035 (McKenzie and Nigro 2021). Based on this assessment, the amount of DC fast and Level 2 EVSE ports is 7.4% and 29.1%, respectively, of the way toward meeting 2030 infrastructure requirements. It is important to note, however, that the majority (57.4%) of public DC fast EVSE ports in the Station Locator are on the Tesla network and are therefore only readily accessible to Tesla drivers. Additionally, the Joseph R. Biden administration has established a goal of building a national public charging network of 500,000 EVSE ports by 2030. To meet this goal by 2030, approximately 15,152 public EVSE port installations will be required each quarter for the next 9 years, requiring a significant increase from the 5,063 public EVSE ports that have been installed each quarter on average since the start of 2020.

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# 1 Overview of the Station Locator

The U.S. Department of Energy's Alternative Fuels Data Center (AFDC) launched in 1991 in response to the Alternative Motor Fuels Act of 1988 and the Clean Air Act Amendments of 1990 (Alternative Fuels Data Center 2021a). Originally, it served as a hard copy resource for alternative fuel performance data and eventually became an internet resource in 1995. Since then, the AFDC has evolved dramatically into a robust online resource that provides a broad range of information on alternative fuels and advanced transportation technologies, including fueling and charging station data. In 2017, the National Renewable Energy Lab (NREL) partnered with National Resources Canada to expand the data set to include the location of those same alternative fuel stations across Canada as the Electric Charging and Alternative Fueling Stations Locator, or *Localisateur de stations de recharge et de stations de ravitaillement en carburants de remplacement* (Levene et al. 2019). The Station Locator database now includes information on public and private nonresidential alternative fueling stations in the United States and Canada and currently tracks ethanol (E85), biodiesel, compressed natural gas, electric vehicle (EV) charging, hydrogen, liquefied natural gas, and propane stations.

Although historical data for all fuel types in the Station Locator are available, it is especially important to take an in-depth look at EV charging due to rapidly changing technology and growing infrastructure. This trend is likely to continue as the federal government seeks to fund transportation electrification projects, original equipment manufacturers (OEMs) double down on their electrification commitments, more utilities begin offering incentives for EVs and infrastructure, and states and municipalities set electrification goals and mandates. Using Station Locator data, this report explores the growth of both public and private EV charging infrastructure in the United States for the third calendar quarter of 2021 (Q3). This is the seventh report in a series. Reports from previous quarters can be found in the AFDC and NREL publication databases, as well as the AFDC Charging Infrastructure Trends page (https://afdc.energy.gov/fuels/electricity_infrastructure_trends.html).

## 1.1 EV Charging Data Sources

NREL and its data collection contractor and collaborator, ICF, use a variety of methods to gather and verify EV charging data in the Station Locator. Electric vehicle service providers (EVSPs), responsible for managing a network of EV charging stations (Figure 1), share data directly with the Station Locator team and are the largest data source for EV charging in the Station Locator. In addition, data are collected through industry outreach, Clean Cities coordinators, and other manual methods.

**Non-Networked Stations**

Non-networked EV charging stations are not connected to the internet and provide basic charging functionality without advanced communications capabilities. Because of this, non-networked charging is generally free or offered as an amenity for those who pay for parking or to access a business.

**Networked Stations**

Networked EV charging stations are connected to the internet via a cable or wireless technology and can communicate with the backend computer system of an EVSP. Being connected to a network lets station owners or site hosts manage who can access stations and control how much it costs drivers to charge their vehicle. An EVSP typically manages a group of networked EVSE, otherwise known as a network, and may use its communication capabilities to communicate directly with drivers, other EVSPs, or utilities; monitor and share real-time station status; broadcast location information; collect and store usage data; control access; or facilitate payment. For a group of networked EVSE to be considered a network, it cannot be considered part of another network and it must have a dedictaed platform that allows users to locate EV charging stations as well as initiate and pay for charging events.

**Figure 1. Non-networked vs. networked EV charging stations**

### 1.1.1 Data From Charging Network APIs

Prior to 2014, NREL manually collected all EV charging data, including EV charging stations managed by EVSPs. In 2014, to keep up with the rapid growth of charging infrastructure, NREL began incorporating daily updates on networked charging station data directly from EVSPs, when available. NREL does this by accessing the network's application program interface (API) and importing each network's API data into the database. Using APIs ensures the efficiency, accuracy, and completeness of the data are maintained.

Figure 2 shows a timeline of the integration of the network APIs into the Station Locator data management process. Open Charge Point Interface (OCPI)-based APIs that have been integrated into the Station Locator are also shown in Figure 2. See Section 1.2 for more information on the OCPI protocol.

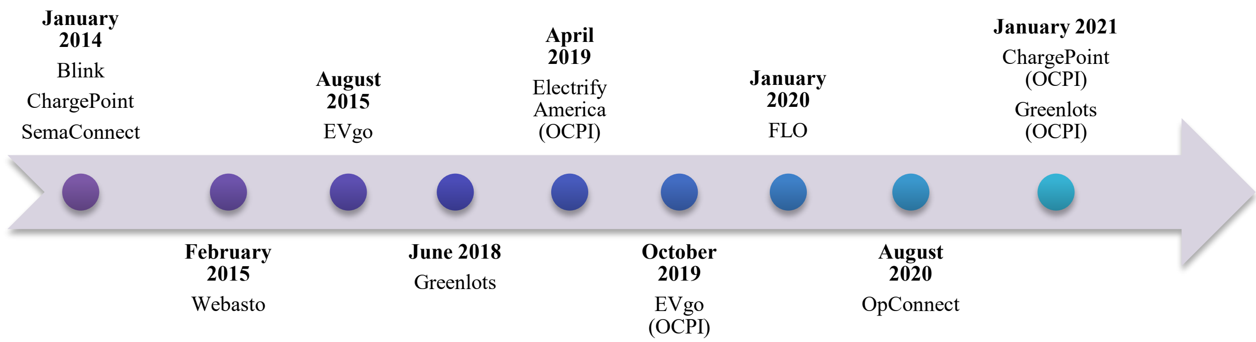


**Figure 2. Timeline of API integrations in the Station Locator**

As of September 2021, there were 47,823 public and private charging stations in the database, which are available on the Station Locator or accessible via API or data download (Alternative

Fuels Data Center 2021b). Of those, approximately 72% are automatically updated daily via EVSP-provided APIs, whereas the rest are managed and updated manually.

The Station Locator team is working with additional EVSPs to access and integrate existing APIs or provide them with best practices on developing an API if they have not yet automated their data sharing. This will help ensure station data are as current and accurate as possible, while also increasing the efficiency of the EV charging data update process.

### *1.1.2 Manually Collected Data*

For non-networked (i.e., not connected to the internet) stations, data sources include trade media, Clean Cities coordinators, a "Submit New Station" form on the Station Locator website, EV charging station manufacturers, electric utilities, OEMs, state and municipal governments, private companies, and others. The Station Locator team regularly monitors news outlets for press releases on new EV charging station openings and seeks out more information, as appropriate, to confirm and add the EV charging data to the Station Locator.

The Station Locator team also receives semiregular data in the form of spreadsheets from EVSPs that have networked stations but do not currently have an API available. These EVSPs include, but are not limited to, EV Connect, Tesla, and Volta. Additionally, the team receives regular updates from Chargeway that include stations on all networks. The team is greatly appreciative of our partners' continued collaboration and willingness to share regular data updates.

Finally, Clean Cities coalitions (see Section 2.1.3) proactively provide information on station updates and additions throughout the year. Coalitions also serve as a valuable on-the-ground resource for stations that ICF is not able to confirm through normal station confirmation processes. Unconfirmed stations are sent to coalitions throughout the year for confirmation; if the coalition is not able to provide any additional information, the station is subsequently removed from the Station Locator.

It is important to state these reports reflect a snapshot of the number of available electric vehicle supply equipment (EVSE) ports in the Station Locator at the end of each quarter. Therefore, notable changes may be attributed to the manual data collection process, as new manually added EVSE ports are counted in the quarter in which they are added to the Station Locator as opposed to when the infrastructure was installed. Additionally, stations that are temporarily out of service are not included in these reports.

## 1.2 EV Charging Data Fields

Current charging infrastructure in the Station Locator generally falls into the following categories:

- **Public:** A broad category that includes EV charging located in publicly accessible areas or along highway corridors.
- **Workplace:** EV charging intended to provide charging to employees during the workday.
- **Commercial/Fleet:** EV charging intended to provide charging for electric fleet vehicles, including municipal/private fleets, car sharing, and transportation network companies.

The Station Locator does not maintain data on single-family residential charging and has minimal, yet expanding, data on charging at multifamily buildings. See Section 2.2.3 for additional details.

In 2019, the Station Locator team began transitioning its counting logic to align with the hierarchy defined in the OCPI protocol: locations, EVSE ports, and connectors (EVRoaming Foundation 2020), as shown in Figure 3 and described in this section. With this transition, the Station Locator is now counting the number of EVSE ports at a station location, rather than the number of connectors as previously counted.

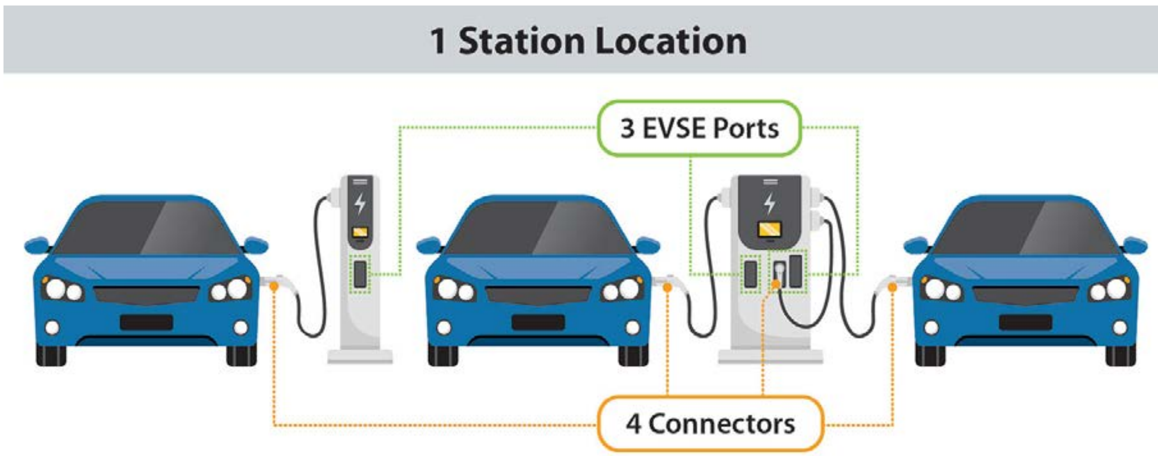


**Figure 3. EV charging infrastructure hierarchy**

Source: Alternative Fuels Data Center (2021d)

The following fuel-specific fields are tracked in the Station Locator for EV charging stations (Alternative Fuels Data Center 2021c):

- EV charger information:
    - Station location: A site with one or more EVSE ports located at the same address.
    - EVSE port type
        - Level 1 (L1): 120 V; 1 hour of charging = 2–5 miles of range
        - Level 2 (L2): 240 V; 1 hour of charging = 10–20 miles of range
        - DC fast: 480+ V; 20 minutes of charging = 60–80 miles of range
    - Connectors (number and type): What is plugged into a vehicle to charge it. Multiple connectors and connector types can be available on one EVSE port, but only one vehicle will charge at a time.

    - NEMA: for Level 1 chargers[1]
    - J1772: for Level 1 and Level 2 chargers
    - Combined Charging System (CCS): for DC fast chargers for most vehicle models
    - CHAdeMO: for DC fast chargers for select vehicle models[2]
    - Tesla: for all charging levels for Tesla vehicles
  - Network
  - Manufacturer
  - Power output (kW)
- Open date
- Workplace
- Pricing
- On-site renewable electricity source.

These fields and the associated definitions are used in the analysis that follows.

# 2 Electric Vehicle Charging Infrastructure Trends

The purpose of this report is to identify EV charging infrastructure trends for Q3 of 2021. However, as previously mentioned, the Station Locator has been collecting data on alternative fueling stations since the 1990s and therefore has historical EV charging station data for several years that can serve as a baseline for more analysis. See the first report in this series for the growth of EVSE ports and EV charging stations in the Station Locator over the last 10 years (Brown et al. 2020).

In Q3, the number of EVSE ports in the Station Locator grew by 2.9%, or 3,607 EVSE ports. Public EVSE ports grew by 3.3%, or 3,511 ports, and account for the majority of EVSE ports in the Station Locator (Figure 4). Private EVSE ports increased by 0.5%, or 96 EVSE ports (Figure 4).

[1] Most, if not all, EVs will come with a Level 1 cordset, so no additional charging equipment is required. On one end of the cord is a standard NEMA connector (for example, a NEMA 5-15, which is a common three-prong household plug), and on the other end is an SAE J1772 standard connector (often referred to simply as J1772, shown in Figure 3). The J1772 connector plugs into the car's J1772 charge port, and the NEMA connector plugs into a standard NEMA wall outlet.

[2] See the Second Quarter 2020 report for a discussion around which vehicle models use the CHAdeMO standard (Brown et al. 2021b).

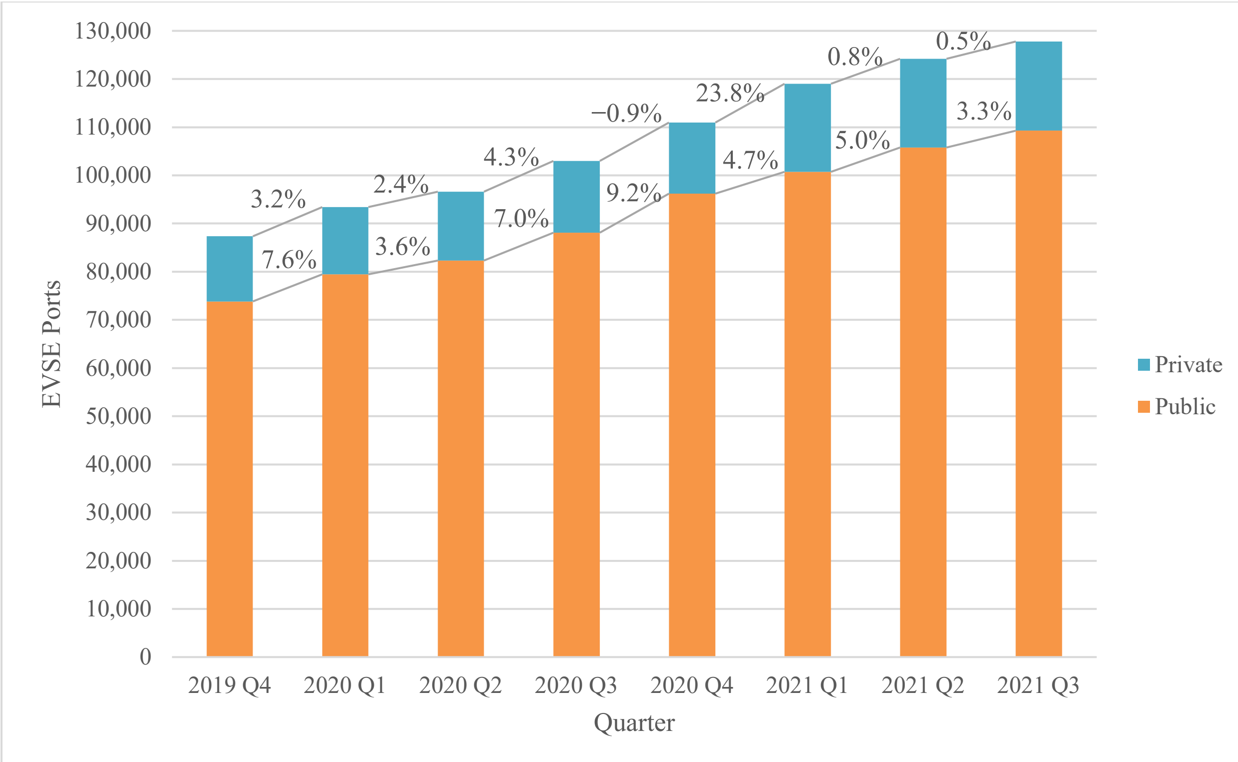


**Figure 4. Quarterly growth of EVSE ports by access**

The following sections break down the growth of public and private EVSE ports further to highlight what types of EV infrastructure grew in Q3 and where EV infrastructure has grown geographically. Because the number of EVSE ports represents the number of vehicles that can charge simultaneously at an EV charging station, the remainder of this report will focus on EVSE port growth.

## 2.1 Public Charging Trends

As previously mentioned, public EV charging refers to EV charging stations that are available to all EV drivers and located in publicly accessible locations, such as commercial locations or along highway corridors. In Q3, the number of public EVSE ports in the Station Locator increased by 3,511, bringing the total number of public EVSE ports in the Station Locator to 109,276 and representing a 3.3% increase since Q2. The following sections break down the growth of public EVSE ports by charging level, network, region, and state.

### *2.1.1 By Charging Level*

As shown in Figure 5, the majority of public EVSE ports in the Station Locator are Level 2, followed by DC fast and Level 1. However, DC fast EVSE ports increased by the greatest percentage (6.5%) in Q3 (Figure 5). Level 1 EVSE ports decreased by 3.7% (Figure 5). The decrease in public Level 1 EVSE ports can be attributed to closures of ChargePoint and non-networked stations in California, though the number of both ChargePoint and non-networked EVSE ports grew overall in Q3, driven by new Level 2 and DC fast EVSE port installations.

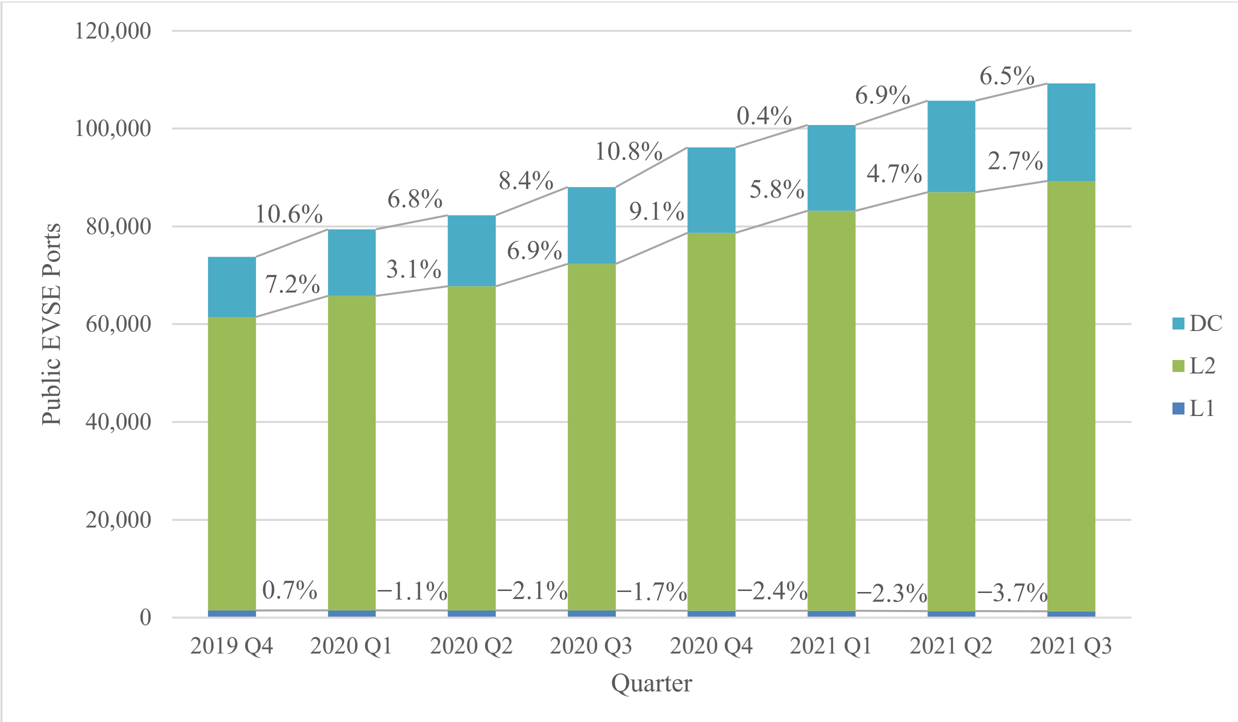


**Figure 5. Quarterly growth of public EVSE ports by charging level**

Note: Figure excludes legacy EVSE ports that are not classified by charging level and are no longer manufactured.

When compared with Level 1 and Level 2 chargers, DC fast chargers have the highest power output and therefore provide the most charge in the least amount of time. Building out the country's network of public DC fast chargers will be critical to supporting EV adoption in the United States, and it is therefore important to highlight trends in the growth of DC fast EVSE ports in the Station Locator. Whereas the power output for Level 1 chargers is about 1 kW and Level 2 chargers can operate at up to 19kW, DC fast chargers have a typical power output of 50 kW, and DC fast chargers with higher levels of power output are increasingly more available. Extreme fast charging infrastructure, which has a power output of 350 kW or more, was introduced in 2018. The number of DC fast EVSE ports with these higher power levels remain a minority in the Station Locator, yet are steadily increasing, as seen in Figure 6.

It is important to point out that of the 19,929 public DC fast EVSE ports in the Station Locator, power output data are currently only available for 46.0%; Figure 6 is therefore based on power output data for 9,171 DC fast EVSE ports. NREL is in the process of integrating updated OCPI-based APIs to streamline the collection of power output data and create a more complete data set. Additionally, if a DC fast EVSE port has two connectors with different power outputs, only the maximum power output is counted in Figure 6.

As shown in Figure 6, the number of EVSE ports with a power output between 250 kW and 349 kW grew by the largest percentage in Q3 (68.2%). This increase is primarily driven by new installations of DC fast EVSE ports on the Tesla Supercharger network with a power output of 250 kW. For an explanation of the large changes seen in 2021 Q1, see the 2021 Q1 report (Brown et al. 2021a).

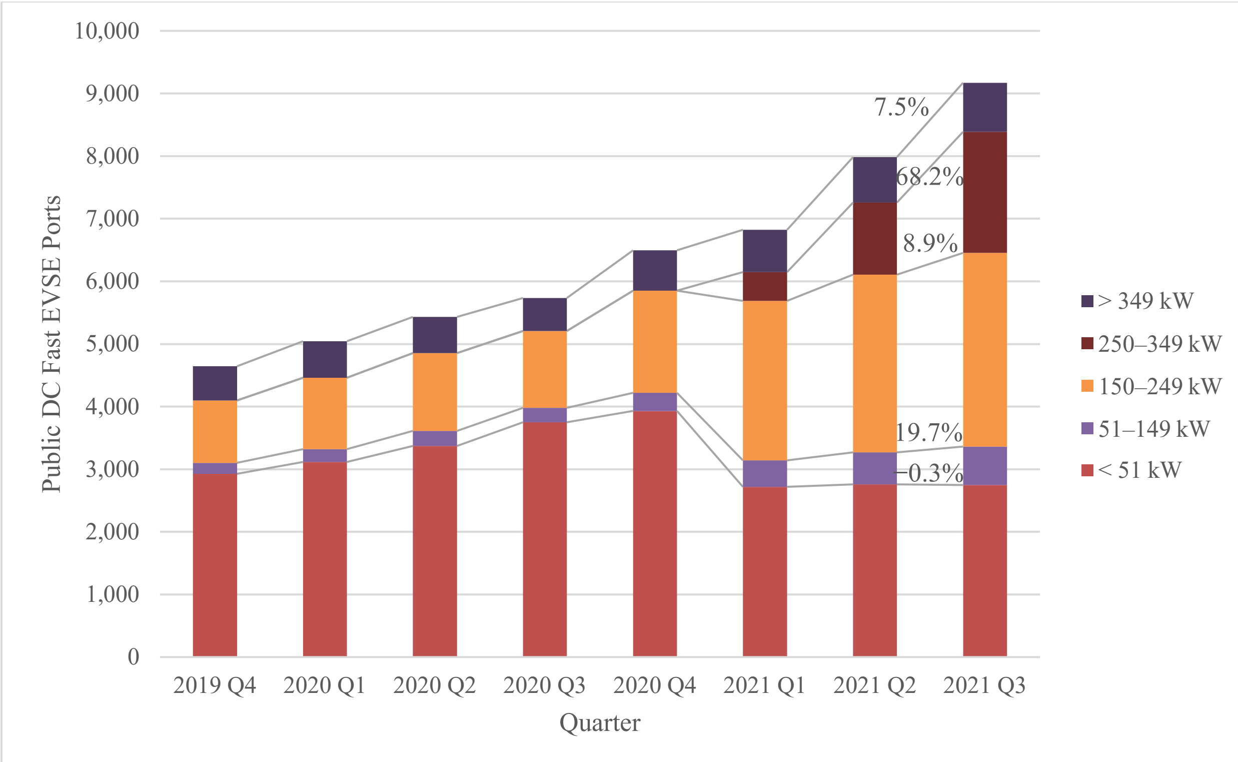


**Figure 6. Quarterly growth of public DC fast EVSE ports by power output**

Finally, there are currently three types of connectors available for DC fast chargers: CHAdeMO, CCS, and Tesla. As noted in Section 1.2, not all EVs are compatible with each connector type. Most EV models entering the market today can charge using the CCS connector, while the all-electric Nissan LEAF and Mitsubishi Outlander plug-in hybrid electric vehicles (PHEVs) are the only models still being produced in the United States with the CHAdeMO connector standard. Only Tesla vehicles can charge with the Tesla connector. Although Tesla vehicles do not have a CHAdeMO charge port and do not come with a CHAdeMO adapter, Tesla does sell an adapter, allowing Tesla vehicles to charge at DC fast chargers that have a CHAdeMO connector.

At the end of 2020, 50% of registered EVs in the United States were compatible with the CCS connector, 42.5% of registered EVs were Teslas, and 7.5% of registered EVs were compatible with the CHAdeMO connector (Experian Information Solutions 2020). Of the 24,033 DC fast connectors in the Station Locator as of Q3, Tesla connectors made up 47.7%, a similar share to the number of Teslas on the road. Tesla connectors also grew by the largest percentage in Q3 (Figure 7). CSS connectors grew by 5.5%, and made up 30.2% of DC fast connectors as of Q3. Finally, despite CHAdeMO-compatible vehicles only making up 7.5% of registered EVs, the number of CHAdeMO connectors in the Station Locator continues to grow and made up 22.1% of DC fast connectors in Q3. One possible reason for this is that some grant programs require that public DC fast stations have both CHAdeMO and CCS connectors available in order to be eligible for funding.

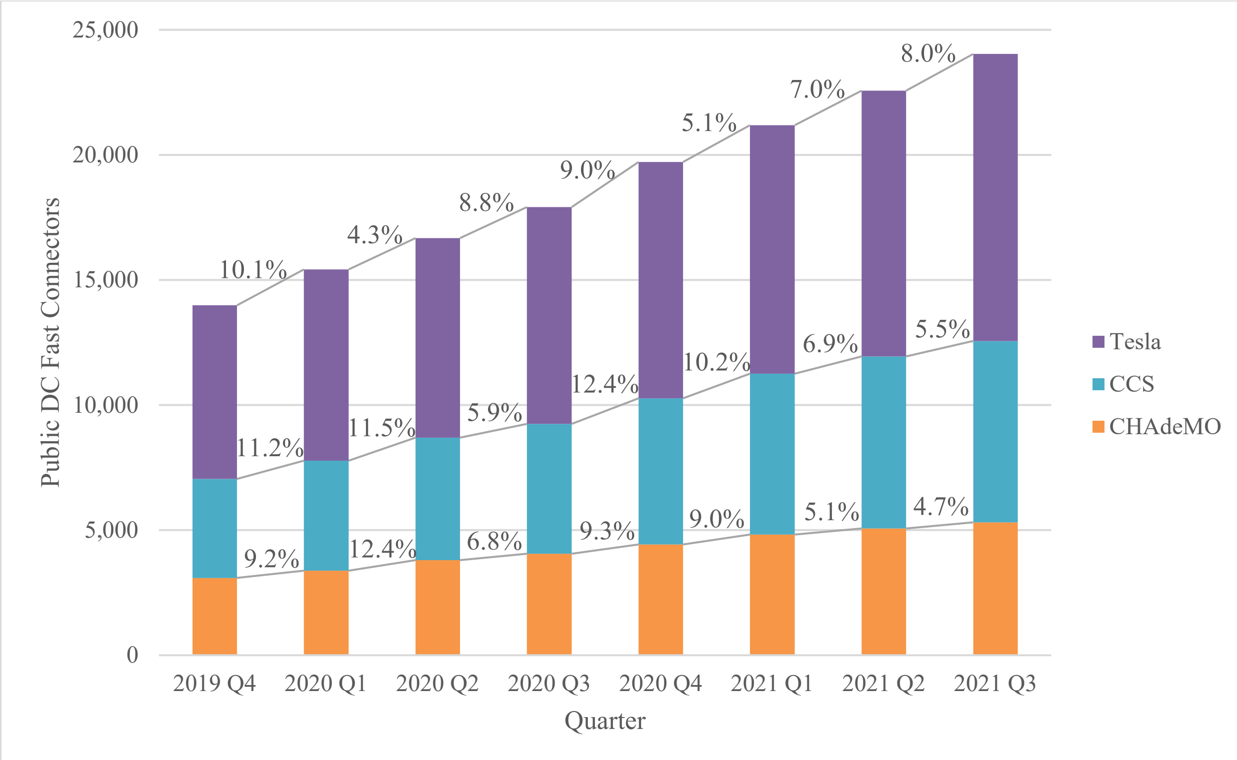


**Figure 7. Quarterly growth of public DC fast connectors by type**

### 2.1.2 By Network

As discussed in Section 1.1, the Station Locator team works with most major EVSPs to collect EV charging infrastructure data for the Station Locator. Currently, the Station Locator includes stations on the 22 networks listed below, 9 of which update on a nightly basis. In addition, the Station Locator contains non-networked (NON) station data, which includes stations that were previously networked. Figure 8 shows the growth of networks in the Station Locator since the end of 2019.

- AmpUp (AMPUP)
- Blink (BN)
- ChargeLab (CHARGELAB)
- ChargePoint (CPN)
- Electrify America (EA)
- EV Connect (EVC)
- EV Charging Solutions (EVCS)
- evGateway (EVGATEWAY)
- EVgo (EVN)
- Francis Energy (FCN)
- FLO (FLO)
- FPL EVolution (FPLEV)
- Greenlots (GRN)
- Livingston Energy Group (LIVINGSTON)
- OpConnect (OC)
- Powerflex (POWERFLEX)
- SemaConnect (SCN)
- Tesla Supercharger (TESLA)
- Tesla Destination (TESLAD)
- Volta (VLTA)
- Webasto (WEB)
- ZEF Network (ZEFNET)

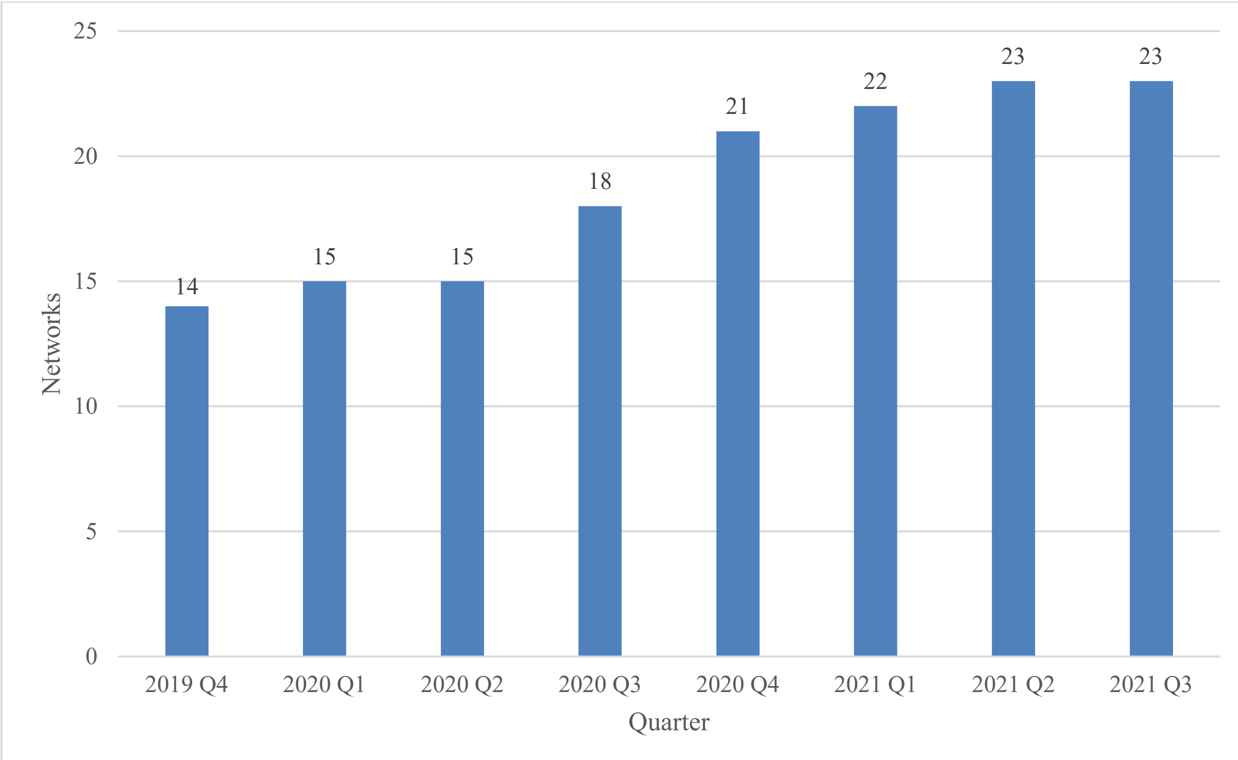


**Figure 8. Quarterly growth of networks in the Station Locator**

Note: Non-networked stations are counted as one network.

As of the end of Q3, the ChargePoint network accounted for the largest number of public EVSE ports (42.6%) in the Station Locator, and Level 2 chargers constituted the majority of ChargePoint's network (Figure 9). This holds true for many of the networks in the Station Locator, except for the Electrify America, EVgo, Francis Energy, FPL EVolution, and Tesla Supercharger networks. These networks are predominately, if not completely, made up of DC fast chargers. Of the networks with DC fast chargers, Tesla Supercharger has the largest share of public DC fast EVSE ports (57.4%), followed by Electrify America (14.4%) and EVgo (8.1%) (Figure 10).

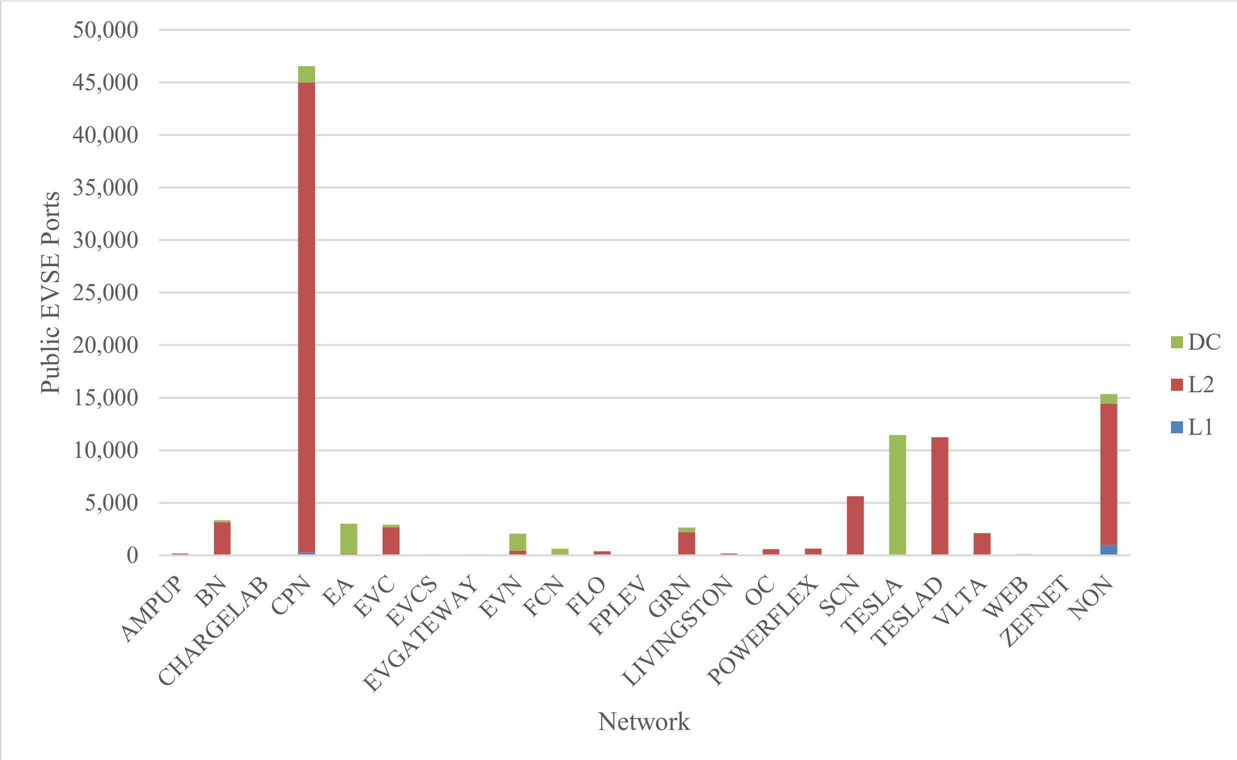


**Figure 9. Breakdown of public EVSE ports by network and charging level in Q3**

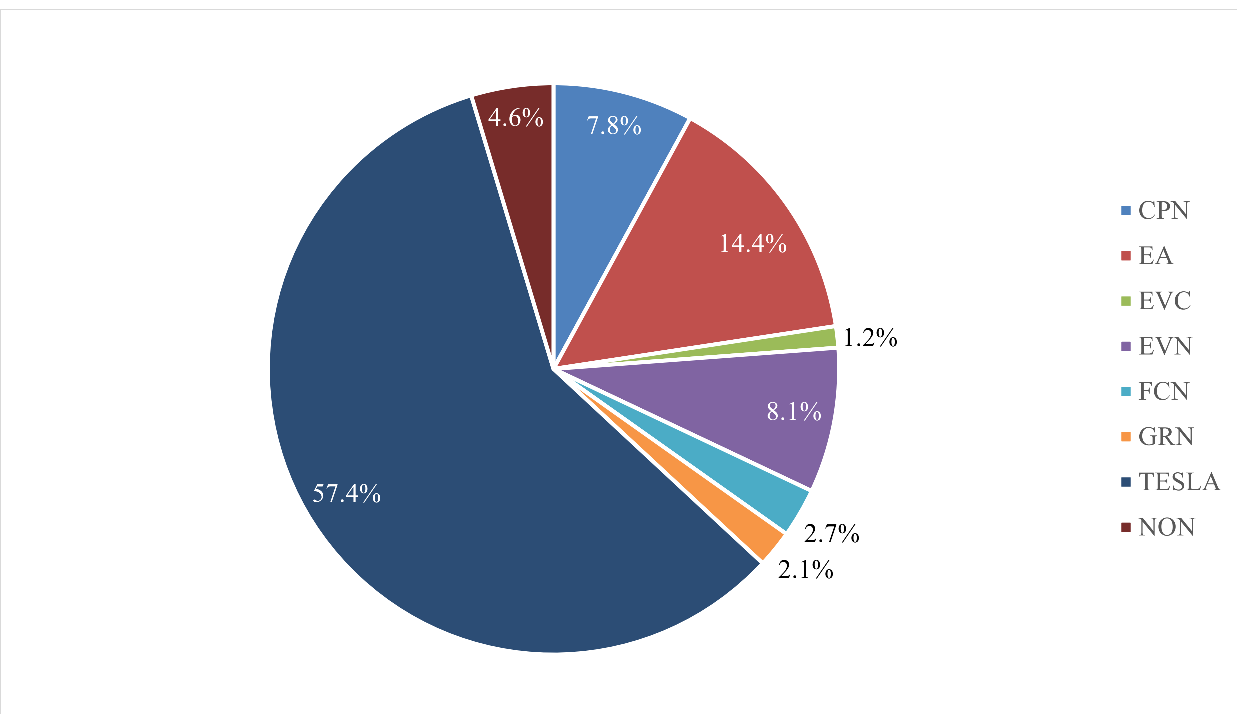


**Figure 10. Breakdown of public DC fast EVSE ports by network in Q3**

Note: Figure excludes networks that make up less than 1% of public DC fast EVSE ports.

Figure 11 shows the growth of each network in Q3, and Table 1 includes the percent growth of each network in Q3. The number of public EVSE ports on the majority of networks increased in Q3, with the exception of Blink, which decreased by 2.8%, and a handful of networks that experienced no growth (Table 1). The decrease in Blink EVSE ports can be primarily attributed to a decrease of Level 2 EVSE ports.

evGateway grew by the largest percentage (34.2%) in Q3 due to the opening of electric mobility company Revel's first DC fast charging superhub in Brooklyn, New York (Stone 2021). This charging hub includes 25 EVSE ports with multiple different connector types so that any vehicle can charge at this location.

FLO also grew by a considerable percentage in Q3 (33.8%), which is primarily due to the installation of Level 2 EVSE ports in Cincinnati, Ohio, and New York, New York. The growth in Cincinnati may be attributed to FLO's partnership with Electrada, a Cincinnati-based electric mobility startup that is working with a variety of stakeholders to deploy EV charging stations in the Midwest (FLO 2020). Electrada has already deployed several stations in Cincinnati and has a goal of installing over 300 throughout the Midwest (Erpenbeck 2021). In New York, FLO has partnered with the New York City Department of Transportation and Consolidated Edison to install 100 curbside Level 2 EVSE ports, contributing to the growth seen in Q3 (FLO 2021).

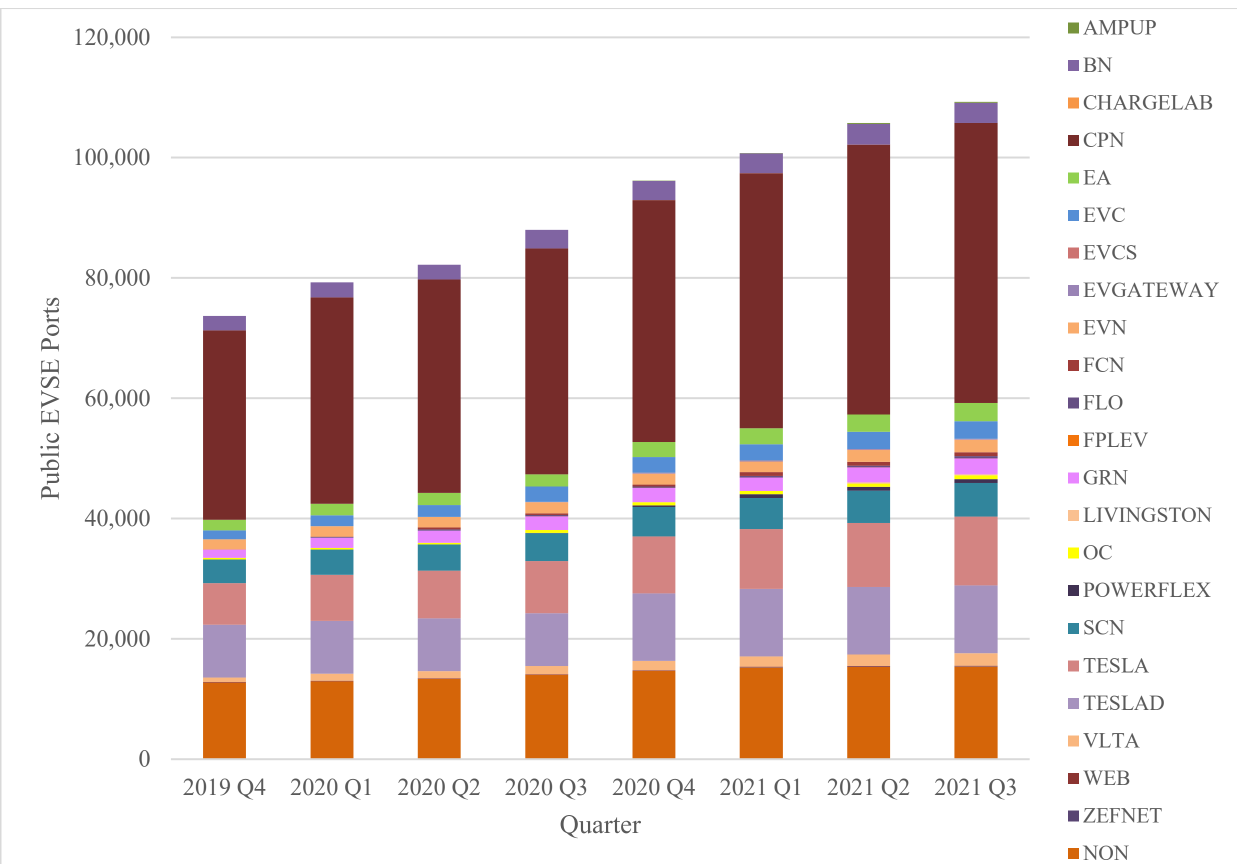


**Figure 11. Quarterly growth of public EVSE ports by network**

**Table 1. Quarterly Growth of Public EVSE Ports by Network**

| Network | 2020 Q1 Growth | 2020 Q2 Growth | 2020 Q3 Growth | 2020 Q4 Growth | 2021 Q1 Growth | 2021 Q2 Growth | 2021 Q3 Growth |
|---|---|---|---|---|---|---|---|
| AMPUP | N/A | N/A | N/A | N/A | 10.0% | 154.5% | 0.0% |
| BN | 5.5% | −3.4% | 27.3% | 3.5% | 2.8% | 5.0% | −2.8% |
| CHARGELAB | N/A | N/A | N/A | N/A | 0.0% | 0.0% | 0.0% |
| CPN | 9.0% | 3.4% | 5.7% | 7.1% | 5.4% | 5.8% | 3.9% |
| EA | 11.9% | 2.3% | 1.2% | 23.9% | 6.8% | 9.0% | 4.0% |
| EVC | 17.7% | 11.2% | 29.8% | 3.2% | 4.1% | 5.1% | 0.9% |
| EVCS | N/A | N/A | N/A | N/A | 8.3% | 0.0% | 19.2% |
| EVGATEWAY | N/A | N/A | N/A | 2.9% | 2.8% | 0.0% | 34.2% |
| EVN | 3.2% | 2.2% | 1.2% | −0.3% | −3.3% | 12.4% | 4.6% |
| FCN | 0.0% | 31,100.0% | 0.0% | 0.0% | 101.0% | 0.0% | 0.0% |
| FLO | N/A | 25.8% | 3.7% | −0.5% | 35.9% | 5.6% | 33.8% |
| FPLEV | N/A | N/A | N/A | 0.0% | 0.0% | 0.0% | 0.0% |
| GRN | 24.2% | 18.9% | 13.0% | 5.0% | −6.7% | 10.9% | 6.0% |
| LIVINGSTON | N/A | N/A | N/A | N/A | N/A | N/A | 0.0% |
| OC | 0.0% | 4.9% | 87.2% | 13.7% | 0.0% | 0.4% | 12.0% |
| POWERFLEX | N/A | N/A | N/A | 13,400.0% | 133.7% | 0.0% | 0.0% |
| SCN | 7.6% | 2.6% | 6.6% | 5.6% | 5.3% | 4.5% | 4.3% |
| TESLA | 10.1% | 4.3% | 8.8% | 9.0% | 5.1% | 7.0% | 7.7% |
| TESLAD | 0.2% | 0.0% | 0.2% | 27.5% | 0.3% | 0.1% | 0.0% |
| VLTA | 53.5% | 0.0% | 17.9% | 11.8% | 10.8% | 12.2% | 9.5% |
| WEB | 0.9% | −0.9% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| ZEFNET | N/A | N/A | N/A | N/A | N/A | 0.0% | 0.0% |
| NON | 1.8% | 3.0% | 5.0% | 5.0% | 3.7% | 0.7% | 0.4% |
| Total | 7.6% | 3.3% | 7.0% | 9.2% | 4.7% | 5.0% | 3.3% |

### 2.1.3 By Region

The Clean Cities Coalition Network is broken down into seven regions (Figure 12), which were used to analyze the growth of public EV charging infrastructure across the country (Clean Cities Coalition Network 2021a). See the 2020 Q1 report for more information about the Clean Cities Coalition Network (Brown et al. 2020).

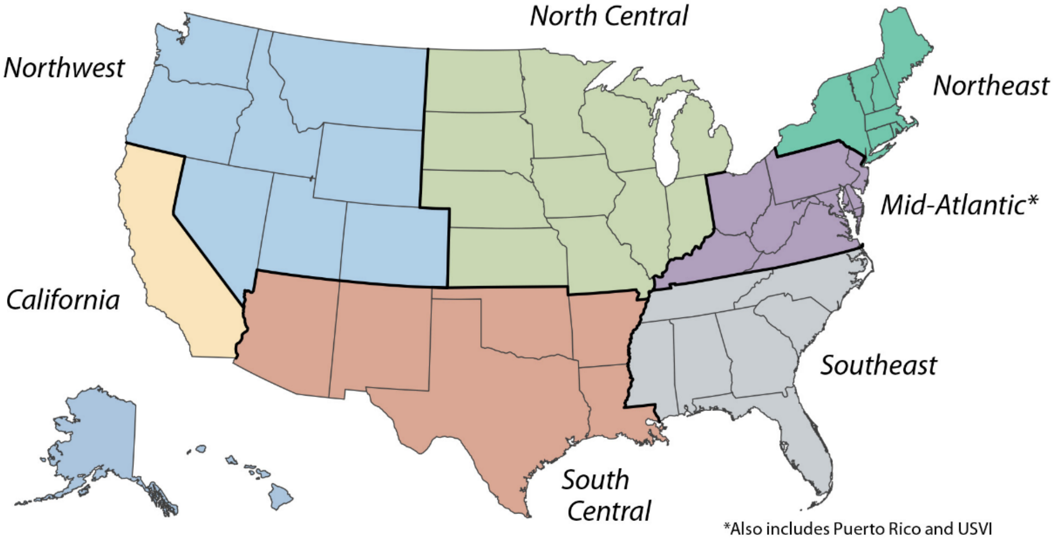


**Figure 12. Clean Cities regions**

Source: Clean Cities Coalition Network (2021b)

As shown in Figure 13, the California region continues to have the largest share of the country's public EVSE ports (32.4%). However, the Northeast region grew by the largest percentage (4.9%) (Figure 13). Across every region except for the South Central region, DC fast EVSE ports grew at a faster rate than Level 2 EVSE ports in Q3, with the Southeast region seeing the largest percentage growth in DC fast EVSE (Table 2).

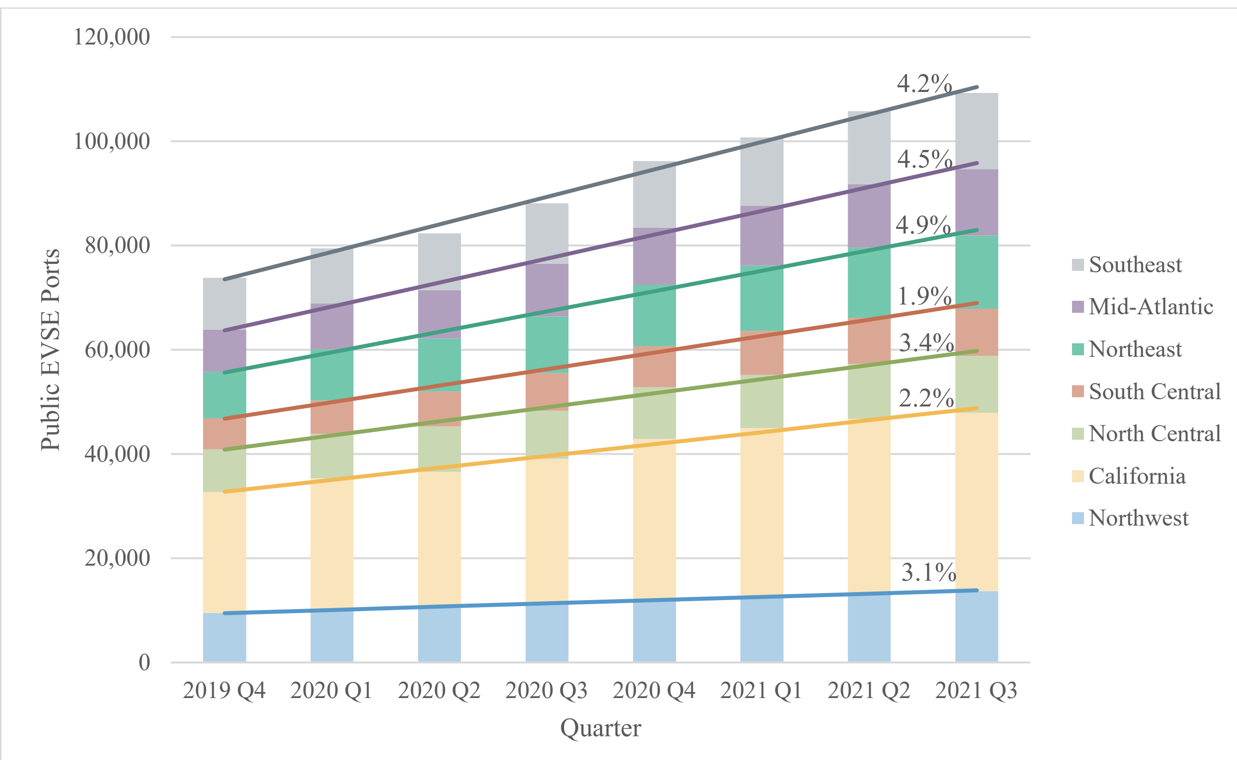


**Figure 13. Quarterly growth of public EVSE ports by Clean Cities region**

**Table 2. Growth of Public Level 2 and DC Fast EVSE Ports by Clean Cities Region in Q3**

| Clean Cities Region | Level 2 EVSE Port Growth | DC Fast EVSE Port Growth |
|---|---|---|
| California | 1.3% | 7.3% |
| Mid-Atlantic | 4.6% | 4.9% |
| North Central | 2.9% | 7.3% |
| Northeast | 4.5% | 9.0% |
| Northwest | 2.9% | 4.4% |
| Southeast | 2.8% | 10.4% |
| South Central | 2.4% | 1.6% |

### 2.1.4 By State

To track the growth of EVSE ports by state, the Station Locator team calculated the number of public EVSE ports per 100 light-duty EV registrations in each state. The team chose this metric to compare charging infrastructure development across states on a basis that accounts for proportional impact. Washington, D.C., is considered a state for the purpose of this analysis, and the registration data are based on Experian's 2020 registration data (Experian Information Solutions 2020).

In Q3, the five states that had the largest percent growth of EVSE ports per 100 EVs were Alaska, North Dakota, South Dakota, Alabama, and Ohio (Table 3). However, Alaska, North Dakota, and South Dakota have the lowest number of public EVSE ports in the county; therefore, the addition of a relatively small number of EVSE ports results in a relatively large percent increase. For example, Alaska added 14 EVSE ports, growing from 67 EVSE ports in Q2 to 81 EVSE ports in Q3. In absolute terms, California added the most public EVSE ports in Q3 (749), followed by New York (341). Further, Alaska, North Dakota, and South Dakota are among the five states with the lowest EV registrations in the country, whereas California leads the Unites States in the number of EV registrations. Nevertheless, it is important to highlight the growth of EVSE ports in these relatively small, rural markets.

**Table 3. Top Five States With the Largest Growth of EVSE Ports per 100 EVs in Q3[3]**

| State | EVSE Ports per 100 EVs in 2021 Q2 | EVSE ports per 100 EVs in 2021 Q3 | Growth of EVSE ports per 100 EVs in Q3 |
|---|---|---|---|
| Alaska | 5.1 | 6.1 | 20.9% |
| North Dakota | 24.0 | 27.7 | 15.5% |
| South Dakota | 14.8 | 16.9 | 14.0% |
| Alabama | 8.9 | 9.7 | 8.6% |
| Ohio | 6.9 | 7.5 | 7.9% |

[3] See the Appendix for the growth of EVSE ports per 100 EVs in all states in Q3.

## 2.2 Private Charging Trends

Private EV charging refers to EV charging stations that are available only to certain drivers for specific purposes, such as charging for transit fleets or employee-only charging at workplaces. Although the Station Locator team proactively seeks out new station openings to include, the opening of private workplace chargers may not necessarily be shared publicly. The Station Locator team therefore relies on Clean Cities coalitions, industry partners, and Station Locator users to share this information. Due to the challenge in collecting these data, the number of private, nonresidential charging stations in the Station Locator is likely underrepresented; however, the Station Locator team is continually working to improve the data collection in these areas.

In Q3, the number of private EVSE ports in the Station Locator increased by 96, bringing the total number to 18,506 and representing a 0.5% increase since Q2. The following sections break down the growth of private EVSE ports by level, as well as by three specific types: workplace, multifamily building, and fleet charging.

### *2.2.1 By Charging Level*

As shown in Figure 14, the majority of private EVSE ports in the Station Locator are Level 2. In Q3, private Level 2 EVSE ports grew by 0.7%, while the number of Level 1 and DC fast EVSE ports each decreased by five EVSE ports (Figure 14).

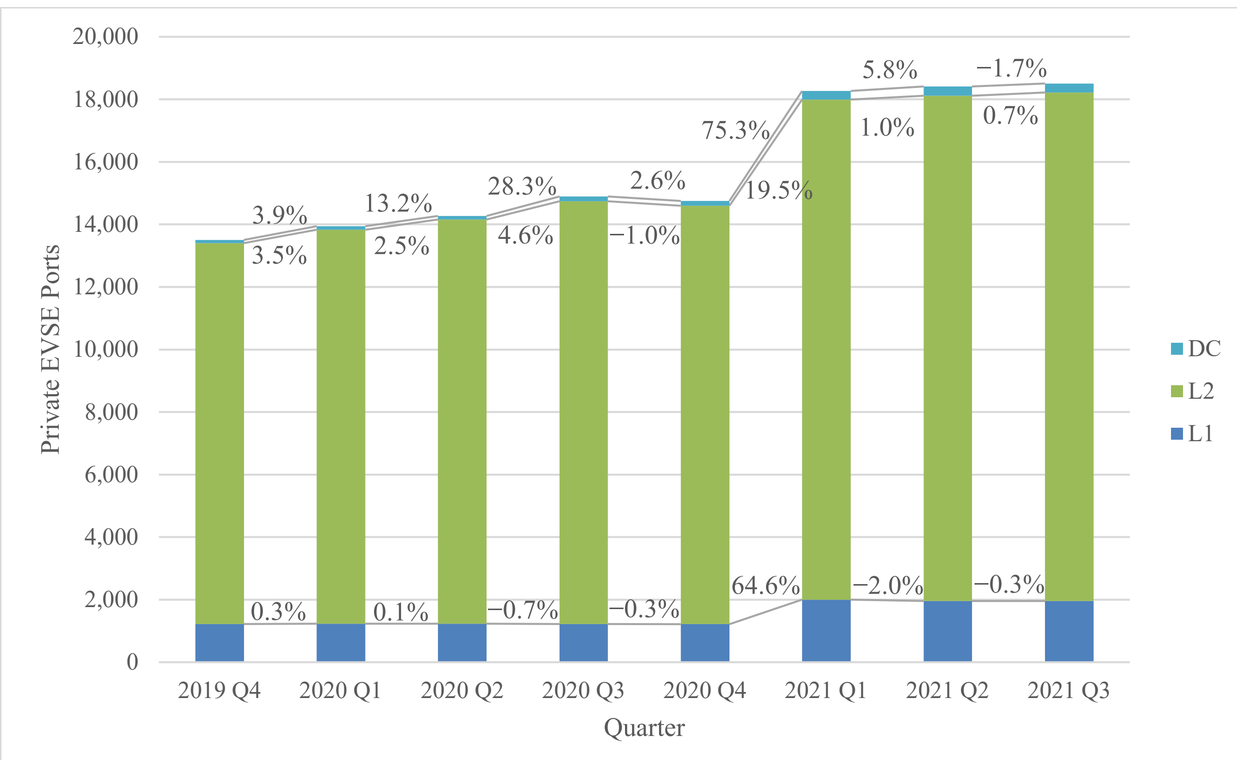


**Figure 14. Quarterly growth of private EVSE ports by charging level**

Note: Figure excludes legacy EVSE ports.

### 2.2.2 Workplace Charging

Workplace EV charging infrastructure includes charging stations that are private and designated for employee use only. The majority of private workplace EVSE ports in the Station Locator are Level 2 (Figure 15), which is to be expected because employees use workplace chargers while they are parked at work for an extended period and therefore do not necessarily need rapid charging.

As of the end of Q3, there were 10,117 workplace EVSE ports in the Station Locator. As shown in Figure 15, only Level 2 EVSE ports grew in Q3.

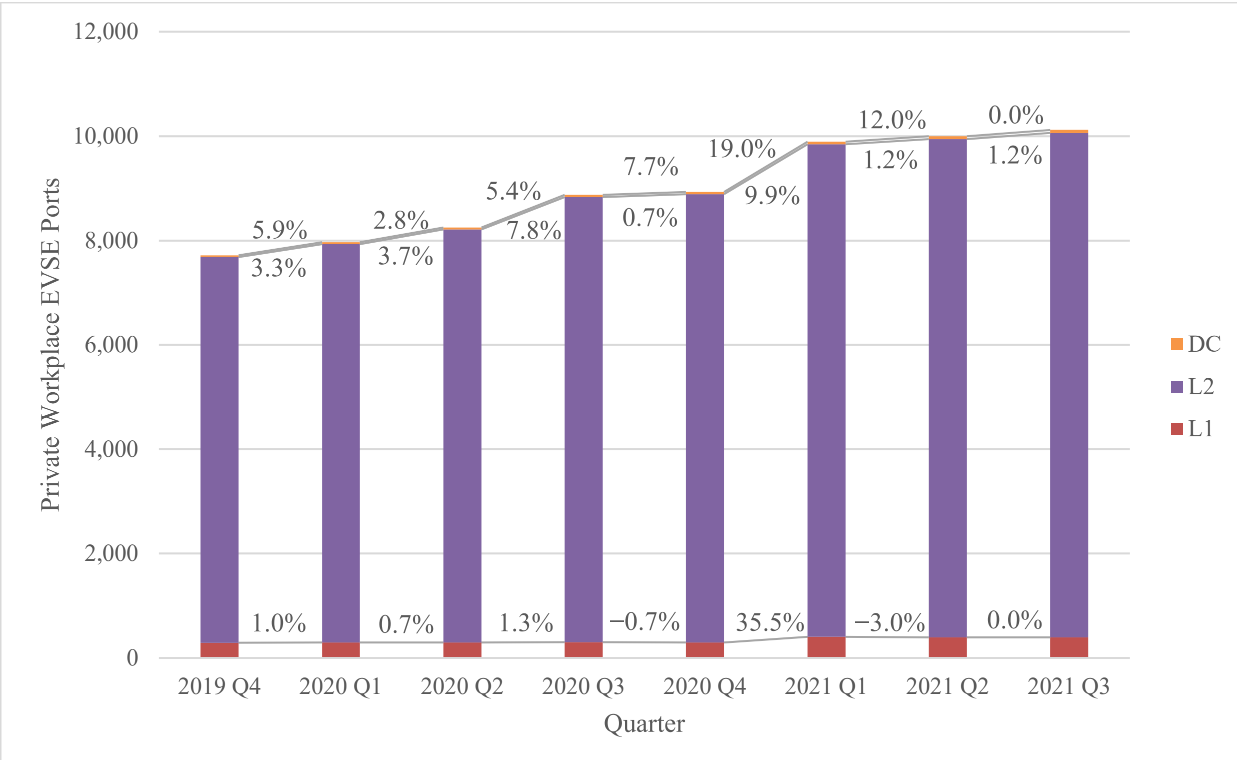


**Figure 15. Quarterly growth of private workplace EVSE ports by charging level**

### 2.2.3 Multifamily Building Charging

In 2019, the Station Locator team began a focused effort to capture private charging infrastructure installed at multifamily buildings that is available for resident use only. In Q3, there was a 9.8% increase in EVSE ports at multifamily buildings, bringing the total number of EVSE ports to 971 (Figure 16). Multifamily building EVSE ports in the Station Locator are either Level 1 or Level 2, but as with previous quarters, only Level 2 EVSE ports grew in Q3 (Figure 16).

The Station Locator team continues its concerted efforts to collect data on EVSE ports at multifamily buildings, and the number of these EVSE ports is likely to continue to grow in future quarters.

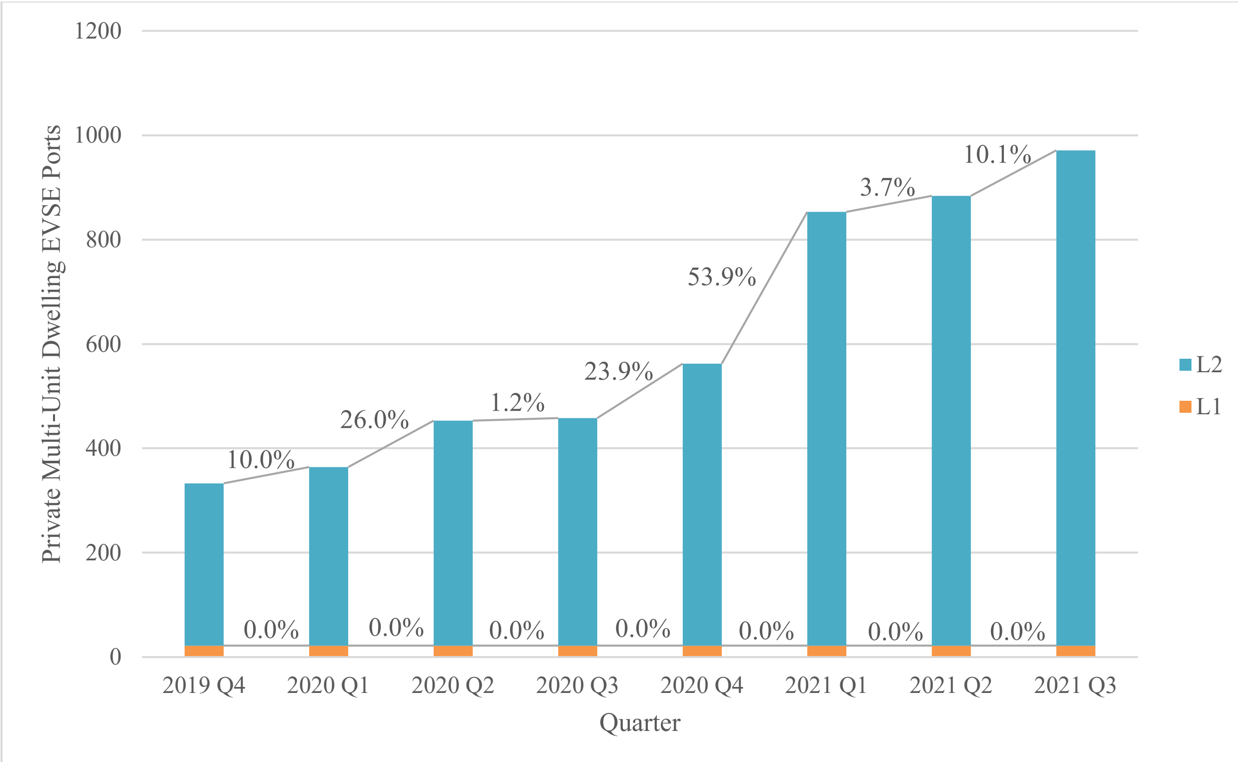


**Figure 16. Quarterly growth of private multifamily building EVSE ports by charging level**

### 2.2.4 Fleet Charging

In 2020, the Station Locator team began collecting data on whether stations are dedicated fleet charging stations, and if so, what types of vehicles charge at the station based on the Federal Highway Administration weight class (i.e., light-duty [LD], medium-duty [MD], or heavy-duty [HD] vehicles). As of Q3, the team has collected this information for 85.2% of private EVSE ports, of which 46.6% are being used for fleet charging purposes. Note that some fleet EVSE ports are also used by employees and are therefore counted in Section 2.2.2 as well.

Figure 17 shows the breakdown of these EVSE ports by fleet type and charging level. The fleet type indicates the largest vehicle type that charged at the station as of Q3, though other vehicle types may charge at the station as well. The majority of EVs on the road are LD vehicles, such as sedans, sports utility vehicles (SUVs), and pickup trucks; unsurprisingly, the majority of fleet charging EVSE ports are used to charge LD vehicles, and the majority of fleet charging EVSE ports are Level 2 (Figure 17).

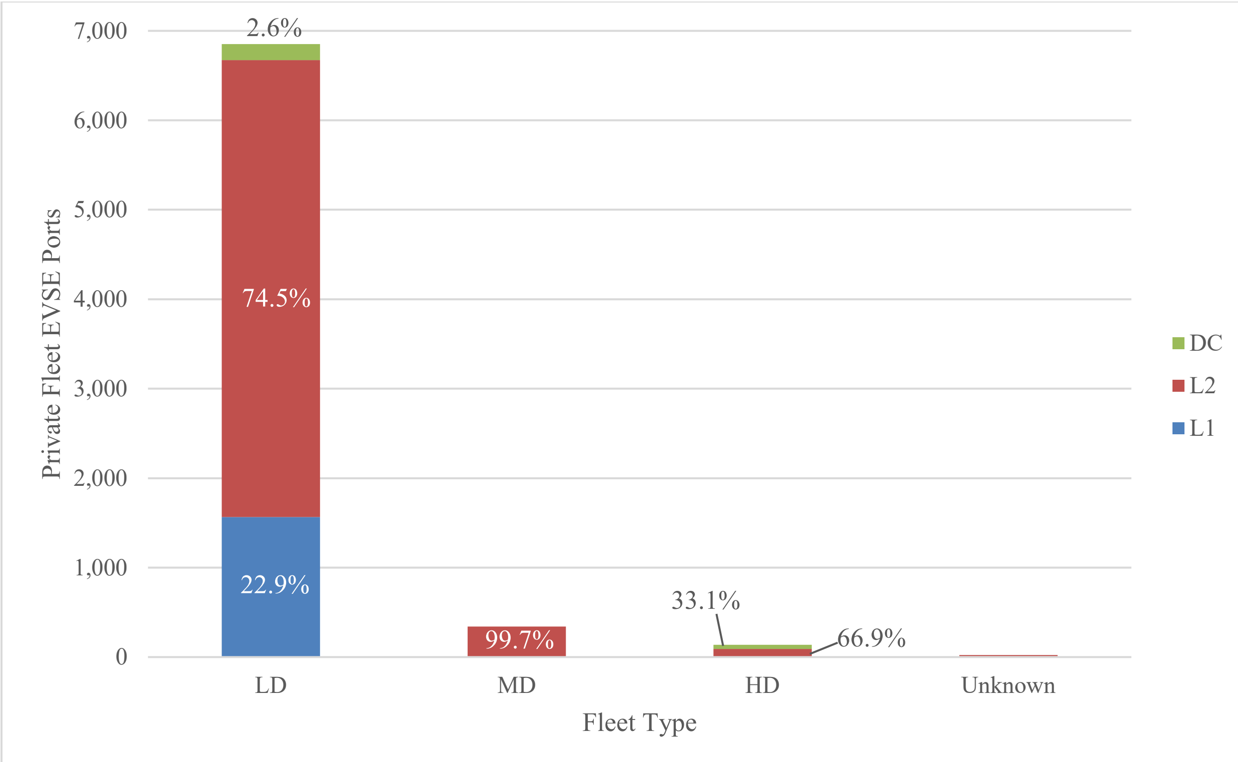


**Figure 17. Breakdown of private fleet EVSE ports by fleet type and charging level in Q3**

The Station Locator team continues to expand its private fleet data collection efforts, especially for fleets that are installing charging infrastructure for MD and HD vehicles such as school bus fleets and public transit fleets. Additionally, the Station Locator team is tracking the development of MD and HD charging infrastructure and will collect additional data, such as new connector types, as the technology evolves and is deployed.

# 3 Projecting Future Charging Infrastructure Needs

The Joseph R. Biden administration's American Jobs Plan would establish grant and incentive programs for the state, local, and private sectors to build a network of 500,000 public EVSE ports in the United States by 2030 (The White House 2021a).[4] As the corresponding legislation and budget had not yet been passed as of Q3, installations funded as a result of this plan have not begun. However, this figure serves as a useful benchmark for where the country's charging infrastructure is headed and what will be required to achieve it. To put this goal into context, the number of public EVSE ports in the Station Locator has grown by an average of 5,063 EVSE ports per quarter since the beginning of 2020. If Biden's goal is additive, this pace will need to increase to 15,152 public EVSE port installations each quarter for the next 9 years. If Biden's goal is cumulative, then the number of public EVSE port installations is 21.9% of the way towards the goal as of Q3, and approximately 11,840 public EVSE port installations will be

[4] The plan establishes a goal of installing 500,000 public charging stations by 2030 but does not specifically outline whether a charging station means a location or an EVSE port, as defined in Section 1.2. For the purposes of this report, it was assumed that charging station refers to a single-port charger, and therefore 500,000 EVSE ports. Further, it is unclear whether this goal means that 500,000 additional EVSE ports will be funded by 2030, or enough EVSE ports will be funded so that the total number of EVSE ports in the United States reaches 500,000 by 2030.

required each quarter for the next 9 years. Either way, the pace of installations will need to increase significantly.

Details regarding how many DC fast versus Level 2 EVSE ports installations will be funded under the plan have not yet been released; however, two studies with different EV projection scenarios offer insight into how much public and workplace charging would be required in the United States to support a growing fleet of light-duty EVs. NREL's 2017 *National Plug-In Electric Vehicle Infrastructure Analysis* includes a central scenario that assumes linear growth of EV sales to 20% of all light-duty vehicle sales by 2030, which results in 15 million light-duty EVs on the road by 2030 (Wood et al. 2017). Based on this scenario, a total of 27,500 DC fast EVSE ports and 601,000 Level 2 EVSE ports would be required across the United States. This equates to 1.8 DC fast EVSE ports per 1,000 EVs and 40.1 Level 2 EVSE ports per 1,000 EVs. Atlas Public Policy's 2021 *U.S. Passenger Vehicle Electrification Infrastructure Assessment* assumes that 100% of passenger vehicle sales are electric by 2035 (McKenzie and Nigro 2021). This would result in approximately 57.5 million light-duty EVs on the road by 2030 (McKenzie and Nigro 2021). Based on this scenario, approximately 495,000 additional public and workplace EVSE ports would be required by 2030 beyond the number of installations as of 2021 Q1, with approximately 252,000 additional DC fast EVSE ports and 244,000 additional Level 2 EVSE ports required. Using the number of installations as of 2021 Q1 as a baseline, this results in 269,558 DC fast EVSE ports and 335,266 Level 2 EVSE ports by 2030.[5] This equates to 4.7 DC fast EVSE ports per 1,000 EVs and 5.8 Level 2 EVSE ports per 1,000 EVs.

Both studies use different assumptions to arrive at their infrastructure projections. For example, NREL's analysis models infrastructure needs based on a one-to-one ratio of all-electric vehicles and PHEVs with different ranges, whereas Atlas models infrastructure needs based on all-electric vehicles with a range of 250 miles only. In NREL's model, the number of public Level 2 EVSE ports required is sensitive to the number of PHEVs that are included in the mix, and as more PHEVs are included, more Level 2 EVSE ports are recommended (Wood et al. 2017). This is one factor behind the higher number of Level 2 EVSE ports required by 2030 in NREL's analysis compared with Atlas' assessment, as well as the higher ratio of Level 2 EVSE ports per 1,000 EVs.

It is important to point out that these are just two scenarios, and this report does not assume that one is more likely or impactful than the other. NREL's analysis, however, may underrepresent the trajectory of the industry given that it is based on projections from 2017. Since then, some states have established more ambitious electrification plans or have passed regulations to phase out new sales of gasoline-powered light-duty vehicles and increase sales of zero-emission light-duty vehicles. As a result, individual states are likely to set charging infrastructure targets for their states that may not align with this analysis. However, for the purposes of this report, these scenarios provide an opportunity to benchmark where the country's charging infrastructure currently stands.

[5] This assessment assumes that all DC fast EVSE ports have a power output of 350 kW. Therefore, this assessment assumes that if DC fast EVSE with lower power outputs are installed, the total number of DC fast EVSE ports required by 2030 will increase.

As of Q3, there were 19,985 public and workplace DC fast EVSE ports and 97,673 public and workplace Level 2 EVSE ports available in the United States (Figure 18). Based on NREL's analysis, the amount of DC fast and Level 2 EVSE ports installed is 72.7% and 16.3%, respectively, of the way toward meeting projected 2030 infrastructure requirements to support 15 million EVs (Figure 18). Based on Atlas' assessment, the amount of DC fast and Level 2 EVSE ports is 7.5% and 29.0%, respectively, of the way toward meeting projected 2030 infrastructure requirements to support 50 million EVs (Figure 18). As with previous quarters, it is important to note that 57.4% of public DC fast EVSE ports in the Station Locator are on the Tesla Supercharger network and are therefore only readily accessible to Tesla drivers. Additionally, as of the end of September 2021, over 40% of EVs on the road were Teslas (Experian Information Solutions 2020; Atlas Public Policy 2021).[6] When public Tesla EVSE ports are excluded, the amount of DC fast and Level 2 EVSE ports currently installed decreases to 31.1% and 14.4%, respectively, of the way toward meeting NREL's projected infrastructure requirements, and 3.3% and 26.7%, respectively, toward meeting Atlas' projected infrastructure requirements.

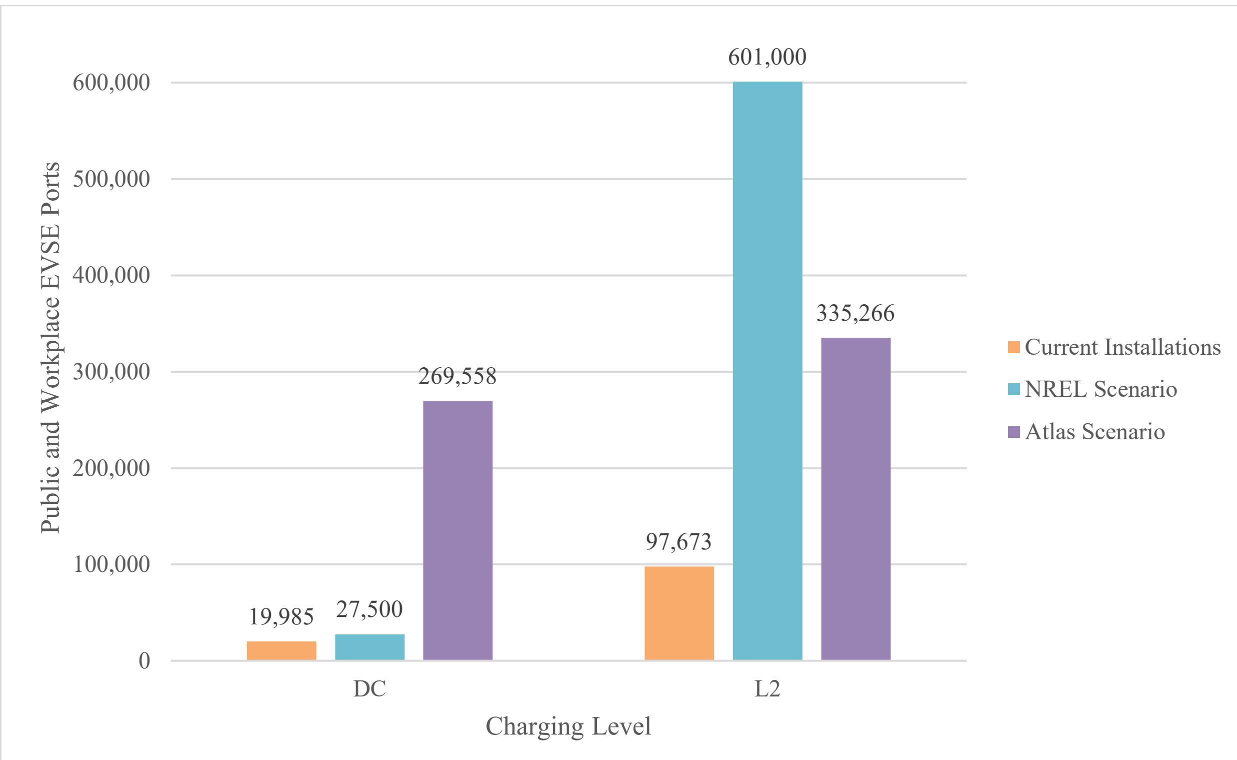


**Figure 18. Current availability of public and workplace charging versus two scenarios of 2030 infrastructure requirements in the United States**

There were approximately 2 million EVs on the road in the United States in Q3 (Experian Information Solutions 2020; Zhou 2021).[7] The ratios of DC fast and Level 2 public and

[6] This percentage is based on the number of Teslas registered in the United States in 2020, the total number of light-duty EVs registered in the United States in 2020, and 2021 light-duty EV sales data. This figure does not account for Teslas that have been retired in 2021 or total light-duty EVs that have been retired in 2021.

[7] The number of EVs as of the end of Q3 is based on 2020 EV registration data and 2021 light-duty EV sales data. The 2 million figure does not account for vehicles that have been retired in 2021 and may slightly overestimate the number of EVs on the road.

workplace EVSE ports per 1,000 EVs in Q3 were 10.0 and 48.7, respectively (Table 4). These ratios decrease to 4.3 and 43.1, respectively, when Tesla EVSE ports are excluded. Using NREL and Atlas' estimated ratios of the number of DC fast and Level 2 EVSE ports per 1,000 EVs as a proxy for how much infrastructure is sufficient to meet charging needs in 2030, Table 4 suggests that, as of Q3, public and workplace DC fast and Level 2 EVSE ports are keeping up with current charging needs in terms of the amount of infrastructure currently available. However, this comparison does not speak to whether the geographic distribution of EVSE ports matches where there is charging demand. Additionally, it is notable that roughly 12.5% of the 15 million light-duty EVs in NREL's analysis and 3.5% of the 57.5 million light-duty EVs in Atlas' assessment were on the road as of Q3 despite the rapid growth of the EV market in 2021 so far. As the number of EVs on the road continues to grow, these ratios will decrease unless the pace of infrastructure growth is able to keep up.

**Table 4. Current Public and Workplace EVSE per 1,000 EVs Versus Two Scenarios of 2030 Infrastructure Requirements in the United States**

| Port Level | EVSE per 1,000 EVs in 2021 Q3 | NREL – EVSE per 1,000 EVs needed in 2030 to support 15 million EVs | Atlas – EVSE per 1,000 EVs needed in 2030 to support 57.5 million EVs |
|---|---|---|---|
| DC Fast | 10.0 | 1.8 | 4.7 |
| Level 2 | 48.7 | 40.1 | 5.8 |

# 4 Developments That Could Impact Future Quarters

In August 2021, the Infrastructure Investment and Jobs Act (H.R. 3684), also referred to as the bipartisan infrastructure legislation, passed in the United States Senate (Cowan and Cornwell 2021). This bill includes $7.5 billion for EV charging infrastructure, including $2.5 billion for other alternative fueling infrastructure (Taylor 2021). The Build Back Better Act (H.R. 5376), also referred to as the reconciliation bill, also has funds earmarked for EV charging infrastructure, but as the reconciliation bill is still under negotiation, final provisions have not yet been announced.

Shortly after the infrastructure legislation passed the Senate, President Biden signed an executive order that sets a voluntary goal of making 50% of new passenger vehicle sales in the United States zero-emission by 2030 (The White House 2021b). The executive order had support from General Motors, Ford, and Chrysler's parent company Stellantis (Shepardson and Mason 2021). Going quite a bit further, New York Governor Kathy Hochul signed legislation that established a goal of making 100% of new passenger vehicle sales in New York State zero-emission by 2035 and 100% of medium- and heavy-duty vehicle sales zero-emission by 2045, if feasible (Office of Governor Kathy Hochul 2021). Although a handful of other states are considering similar legislation to completely phase out the sale of gasoline-powered passenger vehicles, New York is only the second state after California to adopt such rules.

Q3 also saw big announcements from charging networks. Electrify America announced plans to more than double its charging network by 2025, which would increase its total number of charging stations to 1,700 and its total number of DC fast EVSE ports to 9,500 (Electrify America 2021a). The expansion will include EVSE ports with power outputs of 150 kW and 350 kW, and, beginning in January 2022, will only include stations with CCS connectors (Electrify America 2021a, 2021b). This decision comes as a result of OEMs shifting away from the CHAdeMO standard (see Section 1.2) and higher utilization of CCS connectors at Electrify America's stations (Electrify America 2021b). Similarly, Elon Musk announced plans to open up Tesla chargers to all vehicles, although there are no current plans as to how or when this will occur (Stock 2021).

The need for building out the country's EV charging infrastructure has been gaining more and more attention and doing so will require coordination among the private sector and all levels of government. As a result, two new initiatives launched in Q3. First, a coalition of 24 automakers, workers, utilities, suppliers, investors, and public interest groups formed the EV Charging Initiative (EV Charging Initiative 2021a). The initiative's primary goal is to develop charging infrastructure across the United States to serve light-, medium-, and heavy-duty vehicles, and aims to do so by developing a framework, bringing together stakeholders, developing action plans, and committing capital and resources (EV Charging Initiative 2021b). Second, Illinois, Indiana, Michigan, Minnesota, and Wisconsin formed the Regional Electric Vehicle Midwest Coalition, or REV Midwest (Chappell 2021).[8] Their objectives include advancing medium- and heavy-duty fleet electrification, including coordinating on charging infrastructure development, providing workforce development programs to support the transition to EVs, and ensuring that disadvantaged communities benefit from electrification efforts (Regional Electric Vehicle Midwest Coalition 2021).

Finally, the Station Locator data collection and management processes will continue to impact future EVSE port counts as well. As noted in Section 1.1.1, since 2019, the Station Locator team has been transitioning its counting logic to align with the hierarchy defined in the OCPI protocol: station locations, EVSE ports, and connectors (EVRoaming Foundation 2020). With this transition, the Station Locator is now counting the number of EVSE ports at a station location rather than the number of connectors, as previously counted. For example, a charging location with one EVSE port and two connectors was previously counted twice but is now only counted once using the OCPI protocol's counting logic. As of Q3, all manually collected data, as well as EVSE ports on the ChargePoint, Electrify America, EVgo, and Greenlots networks, are counted according to the OCPI logic. Additionally, as discussed in Section 1.1.1, as additional OCPI APIs are integrated into the Station Locator, the Station Locator team may continue to see increases in station counts due to cases where one station is split out into several new stations to represent different physical locations of EVSE ports at one address. Finally, NREL is continuously working with EVSPs to add new APIs to the Station Locator, and as these new APIs come online, there will likely be an increase in the number of EVSE ports in the Station Locator.

[8] REV Midwest is modeled after REV West, a coalition of eight western states (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming) that formed in 2017. The goals of REV West include establishing an Intermountain West EV Corridor and supporting EV adoption.

# 5 Conclusion

This report examines the growth of EV infrastructure in the Station Locator, including the growth of public EV charging by charging level, network, region, and state, and the growth of private EV charging by charging level and use type (i.e., workplace, multifamily building, and fleet), in Q3 of 2021. With such rapid growth and change in EV charging infrastructure, the information presented in this report aims to help readers understand how and where the infrastructure is developing, where there may be areas of opportunity, and whether development is keeping pace with projected charging demand and national targets.

As of the end of Q3, Level 2 chargers accounted for the majority of both public and private EVSE ports in the Station Locator (80.6% and 87.9%, respectively). Overall, there was a 2.9% increase in the number of EVSE ports in the Station Locator. Although Level 2 EVSE ports contributed to the majority of that growth in absolute terms, public DC fast EVSE grew by the largest percentage (6.5%) when compared with Level 1 and Level 2 EVSE port growth. California continues to lead the country in terms of the total number of public EVSE ports available (34,219), though public charging infrastructure grew by the largest percentage in the Northeast region in Q3 (4.9%).

Based on NREL's 2017 analysis that estimated the number of public and workplace chargers required to support a scenario in which there are 15 million EVs on the road by 2030, the number of DC fast and Level 2 EVSE ports as of Q3 is 72.7% and 16.3%, respectively, of the way toward meeting projected 2030 needs (Wood et al. 2017). However, the majority (57.4%) of public DC fast EVSE ports in the Station Locator are on the Tesla network and are therefore only readily accessible to Tesla drivers. When Tesla EVSE ports are removed, this decreases to 31.1% and 14.4%, respectively. Based on Atlas' 2021 assessment that estimated the number of public and workplace chargers required in a scenario in which 100% of passenger vehicle sales are electric by 2035, the number of DC fast and Level 2 and DC fast EVSE ports as of Q3 is 7.5% and 29.1%, respectively, of the way toward meeting projected 2030 needs (McKenzie and Nigro 2021). This decreases to 3.3% and 26.7%, respectively, when Tesla EVSE ports are removed.

When comparing the current rate of deployment of public charging infrastructure with the Biden administration's goal of installing 500,000 EVSE ports in the United States by 2030, it is clear that the pace of installations will need to significantly increase. Since the start of 2020, an average of 5,063 public EVSE ports have been installed each quarter. To meet the Biden administration's goal by 2030, approximately 15,152 public EVSE port installations will be required each quarter for the next 9 years.

Finally, as the Station Locator team adds new charging networks to the Station Locator and continues its concerted effort to collect multifamily building and fleet charging data, there will continue to be large increases in the number of EVSE ports available.

If there are additional metrics that readers are interested in seeing, please email suggestions to the authors at TechnicalResponse@icf.com.

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# Appendix

**Table A-1. Q3 Growth of EVSE Ports per 100 EVs by State**

| State | EVSE Ports per 100 EVs in 2021 Q2 | EVSE ports per 100 EVs in 2021 Q3 | Growth of EVSE ports per 100 EVs in Q3 |
|---|---|---|---|
| AK | 13.8 | 16.7 | 20.9% |
| AL | 75.3 | 81.8 | 8.6% |
| AR | 44.7 | 47.2 | 5.6% |
| AZ | 145.5 | 147.5 | 1.4% |
| CA | 2,488.5 | 2,544.2 | 2.2% |
| CO | 220.3 | 233.4 | 5.9% |
| CT | 78.7 | 80.0 | 1.7% |
| DC | 26.4 | 27.3 | 3.4% |
| DE | 8.2 | 8.7 | 6.7% |
| FL | 175.7 | 181.3 | 3.2% |
| GA | 114.6 | 118.5 | 3.4% |
| HI | 21.9 | 21.7 | −0.9% |
| IA | 12.2 | 13.1 | 7.6% |
| ID | 6.3 | 6.5 | 3.2% |
| IL | 48.5 | 50.1 | 3.4% |
| IN | 17.9 | 18.4 | 2.7% |
| KS | 19.7 | 19.9 | 1.2% |
| KY | 8.1 | 8.4 | 4.4% |
| LA | 6.9 | 7.0 | 1.5% |
| MA | 78.6 | 83.1 | 5.8% |
| MD | 52.3 | 54.4 | 3.8% |
| ME | 10.1 | 10.4 | 3.1% |
| MI | 28.2 | 29.7 | 5.3% |
| MO | 16.9 | 17.0 | 0.5% |
| MN | 16.2 | 16.6 | 2.7% |
| MS | 2.3 | 2.3 | 2.2% |
| MT | 1.6 | 1.7 | 5.2% |
| NC | 17.2 | 18.6 | 7.6% |
| ND | 0.8 | 1.0 | 15.5% |
| NE | 2.1 | 2.3 | 6.8% |
| NH | 1.9 | 2.0 | 4.8% |
| NJ | 9.3 | 9.8 | 4.9% |

| State | EVSE Ports per 100 EVs in 2021 Q2 | EVSE ports per 100 EVs in 2021 Q3 | Growth of EVSE ports per 100 EVs in Q3 |
|---|---|---|---|
| NM | 2.3 | 2.3 | 2.3% |
| NV | 5.3 | 5.3 | −0.7% |
| NY | 25.8 | 27.2 | 5.5% |
| OH | 6.6 | 7.1 | 7.9% |
| OK | 3.3 | 3.3 | 0.5% |
| OR | 6.7 | 7.0 | 4.5% |
| PA | 7.3 | 7.7 | 5.2% |
| RI | 1.5 | 1.6 | 6.0% |
| SC | 2.1 | 2.2 | 5.8% |
| SD | 0.4 | 0.4 | 14.0% |
| TN | 3.6 | 3.8 | 3.3% |
| TX | 12.4 | 12.6 | 2.1% |
| UT | 4.3 | 4.4 | 2.6% |
| VA | 5.7 | 5.8 | 2.2% |
| VT | 1.3 | 1.3 | 1.8% |
| WA | 5.4 | 5.5 | 1.7% |
| WI | 1.2 | 1.2 | 4.4% |
| WV | 0.3 | 0.3 | 4.7% |
| WY | 0.0 | 0.0 | 2.4% |