4. EV Charger Deployment

Key Takeaways

- Massachusetts is a national leader in EV charger deployment, ranking 4th in chargers per capita.
- Over 9,400 charging ports were available to the public across the Commonwealth as of May 2025, an increase of more than 50% since the Initial Assessment.
- Approximately 46,300 and 105,000 public charging ports are needed in 2030 and 2035, respectively, to support the CECP EV adoption projections. A total of 1.55 million charging ports are needed in 2035 including public, fleet, workplace, residential, and MHD chargers.
- The amount of EV charging needed in the future is uncertain and highly dependent on state and federal policy developments, market conditions, and consumer behavior.
- Facing this uncertainty, existing state programs must target incentives on chargers that serve multiple use cases and optimize emissions reductions.
- New and existing programs should also look to address gaps in current program offerings by supporting fast charger deployment along secondary transportation corridors, MHD fleet charging hubs, and efforts to scale deployment of chargers for residents without off-street parking.
- There are key demographic and geographic communities that require additional considerations to ensure equitable charger deployment, including EJ populations, rural communities, MUDs without off-street parking, and MHD vehicles.

Current state of deployment

As Massachusetts accelerates its transition to EVs, understanding the current landscape of EV charger deployment in the Commonwealth is important to identifying infrastructure gaps, planning for future needs across geographies and charger and vehicle types, and fostering a self-sustaining EV charging infrastructure market that requires fewer and smaller incentives over time.

This section provides a snapshot of EV charger deployment in Massachusetts, including the number and distribution of public, workplace, fleet, commercial, and residential chargers, charger deployment by state, utility, and federal programs, and key trends.

This Assessment provides information on current and future EV charging infrastructure deployment in all customer segments and charger categories. This Assessment also provides analysis and next steps for each charger category, which focuses primarily on the types of EV charging infrastructure on which EVICC and the state can have the greatest impact:* (1) EV charging infrastructure accessible to all members of the public (i.e., "public" EV charging), including on-street charging for residential customers; and (2) EV charging infrastructure for fleet vehicles, including public transit.

Public charging is uniquely important for a variety of reasons, including that the availability of public EV charging infrastructure impacts consumer confidence in switching to EVs, deployment can be targeted through state and utility programs, and public chargers serve the greatest number of Massachusetts drivers. EV charging infrastructure for fleet vehicles, particularly for MHD fleet vehicles, is also uniquely important, as EV charging for MHD fleets needs to be scaled more than other EV charging infrastructure based on current deployment levels and MHD fleet vehicles have a higher impact on transportation emissions.

Other customer segments are also important but do not offer EVICC and the state the same opportunity to further the state's EV charging goals. For example, single-family charging infrastructure likely requires significantly less financial support than public EV charging infrastructure and provides charging to vehicles only parked at that single-family home.

*These conclusions are based on public comments, EVICC public meeting discussions, the analysis included in this Assessment, and EEA staff expertise. These categories may change over time and will be re-evaluated in the next EVICC Assessment. Additional information and analysis on high-value EV charging infrastructure opportunities is provided later in this Chapter.

Overview

Massachusetts' EV charging network has grown significantly through a combination of public and private investment, state-led incentive programs, and utility programs and infrastructure support. Drawing from the U.S. Department of Energy's Alternative Fuel Data Center and a range of state-specific data sources, this section outlines the current distribution of chargers by sector and location.

Total deployment - incentive programs

Table 4.1 summarizes available deployment data from state, federal, and utility incentive programs, including contributions from programs such as MassEVIP and the investor-owned utility programs, offering a clear picture of the EV charging infrastructure installed to date as a result of these programs.[1]

Table 4.1. Total EV ports by segment funded through state or utility incentive program[2,3]

	Segment						
Program	**Public**	**Workplace**	**Fleet**	**Residential**	**MUD**	**Other**	**Program Total**
MassEVIP	2,681	2,825	450	-	806	206	6,968
Eversource	1,996	1,265	260	3,974	682	-	8,177
National Grid	1,706	484	19	2,215	417	-	4,841
NEVI/CFI	8	-	-	-	-	-	8
Green Communities	-	-	-	-	-	174	174
DOER/LBE	-	-	240	-	-	-	240
DCAMM	-	-	212	-	-	-	212
Segment Totals	6,391	4,574	1,181	6,189	1,905	380	
Total Ports Funded	20,620						

[1]The U.S. Department of Energy Alternative Fuels Data Center indicates that nearly 10,000 private and public EV charging ports have been deployed in Massachusetts as of May 2025. However, it is unclear how many of those charging ports are incremental to the charger ports numbers included in Table 4.1. EEA is working to develop an inventory of Massachusetts EV charging infrastructure, which aims to reconcile these data sources.

[2]Note: In the 'Other' segment column, the 206 MassEVIP ports represent ports funded through their Educational Campus program. The 174 Green Communities chargers are listed as 'Other' because Green Communities does not collect information about whether their funded ports are publicly accessible or municipal fleet charging.

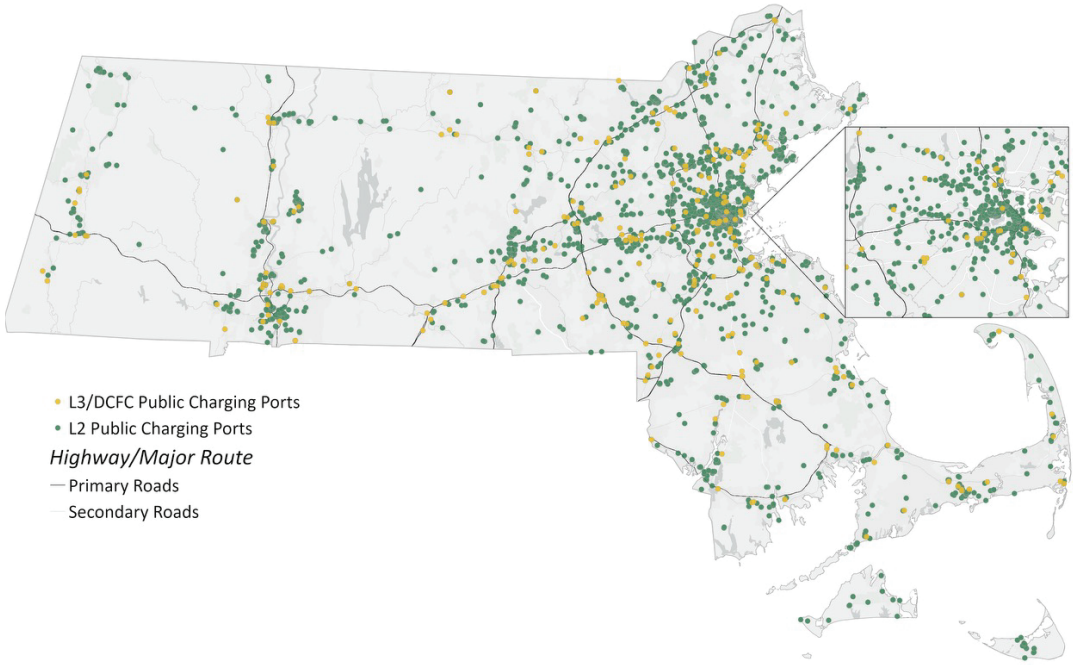
[3]Note: the data in this table reflects program data through the following dates: MassEVIP - April 2025; Eversource and National Grid - May 2025; NEVI/CFI - April 2025; Green Communities - December 2024; DOER/LBE and DCAMM - ports to be installed by the end of 2025.

Public EV charging

Current status

The network of public charging stations in Massachusetts has grown significantly since the Initial EVICC Assessment was released in 2023. When the Initial Assessment was published, there were 2,623 publicly accessible charging station locations, with 6,082 ports. Since then, the number has grown to at least 3,750 charging station locations, with 9,413 ports, as of May 2025.[4] Figure 4.1 shows the location of these DCFC and Level 2 charging stations across the Commonwealth.

Figure 4.1 Public DCFC and Level 2 charging stations in Massachusetts[5]



Incentive funding

While some public charging stations have been built without incentive funding, the majority of public charging stations in Massachusetts have benefited from a state, investor-owned utility, or federal incentive or grant program. Approximately 67.9% of all public charging ports have received funding from these programs, which shows the important role incentive funding has played in deploying EV charging infrastructure to date.[6] Table 4.2 shows the impact that different incentive programs have had on public charging deployment.[7]

[4]Alternative Fuels Data Center, "Alternative fueling station counts by state," U.S. Department of Energy. https://afdc.energy.gov/stations/states. Trends in EV charger deployment in Massachusetts using data from the Alternative Fuels Data Center yield unlikely results for some periods of 2025. Moreover, EEA understands that data from some EV charger companies is not regularly being updated. Thus, EEA has reason to believe that more than 9,413 public EV charger ports are currently deployed in Massachusetts.

[5]Table 4.2 excludes certain state programs that do not fund publicly accessible chargers, like LBE and DCAMM programs. Table 4.2 does not account for chargers that received funding from multiple programs, likely overstating the percentage of chargers supported by state-funded programs.

[6]Some Municipal Light Plants also offer charging incentives, which are not included in this data.

[7]Chargers funded through the Green Communities program are not included in Tables 4.2 or 4.4 because the program does not collect data about whether chargers funded are publicly accessible or for municipal fleet charging. Since the 174 chargers that Green Communities has funded are a relatively small proportion of overall chargers in the state, their omission does not substantively affect the analysis.

Table 4.2 Public charging ports funded by state- and investor-owned utility incentive programs[8,9]

Program	Level 2 Ports	DCFC Ports	Total Ports
MassEVIP	2,502	179	2,681
Eversource	1,842	154	1,996
National Grid	1,509	197	1,706
Total State-Funded Ports	5,853	530	6,383
Total Public Ports	8,193	1,220	9,413
% of Public Ports Receiving State Funding	**71.44%**	**43.44%**	**67.81%**

Comparing public charging infrastructure in other states

Massachusetts has one of the most robust networks of public EV chargers of any state.

EV charging ports per capita and EV charging ports per EV serve as useful metrics for comparing EV deployment across geographies and jurisdictions. Chargers per capita provides insights into the overall status of EV charging infrastructure available to potential EV drivers in a state and can help identify population centers that may need increased charging infrastructure as EV adoption increases. Thus, chargers per capita is a useful metric for long-term planning. Measuring chargers per registered EV, on the other hand, provides insights into how well served current EV drivers are by existing charging infrastructure and can help highlight places with high EV-to-charger ratios that would benefit from additional charging infrastructure in the near-term.

At the local level, the ideal number of EV chargers likely falls between the charger per capita ratio needed to meet the long-term estimate of EV drivers and the ideal charger per EV ratio to serve the current number of EV drivers as charging infrastructure should be built to ensure that future EV drivers have sufficient charging and that potential EV drivers feel confident that this is the case, while also balancing the financial risk of overbuilding. At the state level, these metrics offer convenient points of comparison in a state's progress in building towards future EV needs and meeting current EV charging demand.

As of June 2025, Massachusetts ranks fourth in EV charging ports per capita amongst all states behind Vermont, Washington D.C., and California.[10] Similarly, Massachusetts ranks fifth in EV charging ports per EVs amongst the top ten states in EV

[8]Table 4.2 excludes certain state programs that do not fund publicly accessible chargers, like LBE and DCAMM programs. Table 4.2 does not account for chargers that received funding from multiple programs, likely overstating the percentage of chargers supported by state-funded programs.

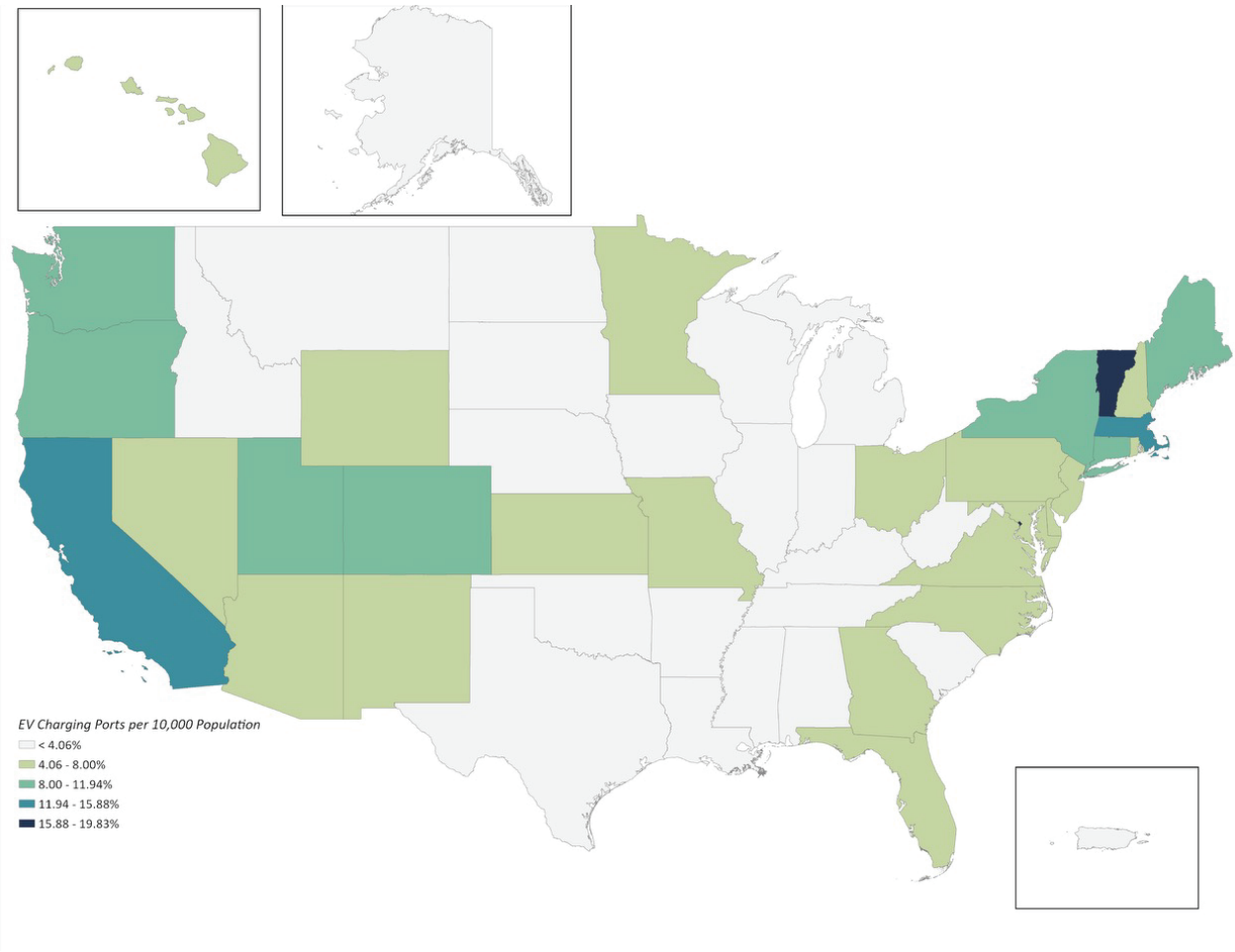
[9]Note: the data in this table reflects program data through the following dates: MassEVIP - April 2025; Eversource and National Grid - May 2025.

[10]Population data was derived from the American Community Survey (ACS) 2023 1-year estimates and EV charging port data was derived from the U.S. Department of Energy's Alternative Fuels Data Center.

charging ports per capita.

Figure 4.2 shows EV chargers per capita across all states. Table 4.3 provides the underlying data from Figure 4.2 and EV charging per EVs for the ten top states in terms of EV chargers per capita.

Figure 4.2 Public charging ports per capita (per 10,000 people) by state[11]



[11]Population data was derived from the American Community Survey (ACS) 2023 1-year estimates and EV charging port data was derived from the U.S. Department of Energy's Alternative Fuels Data Center.

Table 4.3 Top US states by charging ports per capita and charging ports per registered EVs

State	Population[12]	Registered EVs	Count of EV Ports[13]	Ports Per Capita (per 10,000)	Ports per 100 Registered EVs	EV Registration Data Date	EV Registration Data Source
Vermont	647,464	18,790	1,284	19.83	6.83	2025	Open Vehicle Registration Initiative
District of Columbia	678,972	11,800	1,275	18.78	10.81	2023	U.S. Department of Energy Alternative Fuels Data Center
California	38,965,193	1,892,731	56,055	14.39	2.96	12/2024	California Energy Commission
Massachusetts	7,001,399	145,627	9,413	13.44	6.46	4/2025	Massachusetts Vehicle Census
Colorado	5,877,610	183,376	6,532	11.11	3.56	2025	Open Vehicle Registration Initiative
Connecticut	3,617,176	59,893	3,957	10.94	6.61	12/2024	Open Vehicle Registration Initiative
Washington	7,812,880	246,137	7,622	9.76	3.10	5/2025	Washington State Department of Licensing
Maine	1,395,722	19,448	1,344	9.63	6.91	2025	Open Vehicle Registration Initiative
Oregon	4,233,358	118,004	4,022	9.50	3.41	2025	Open Vehicle Registration Initiative
New York	19,571,216	292,641	18,460	9.43	6.31	2025	Open Vehicle Registration Initiative

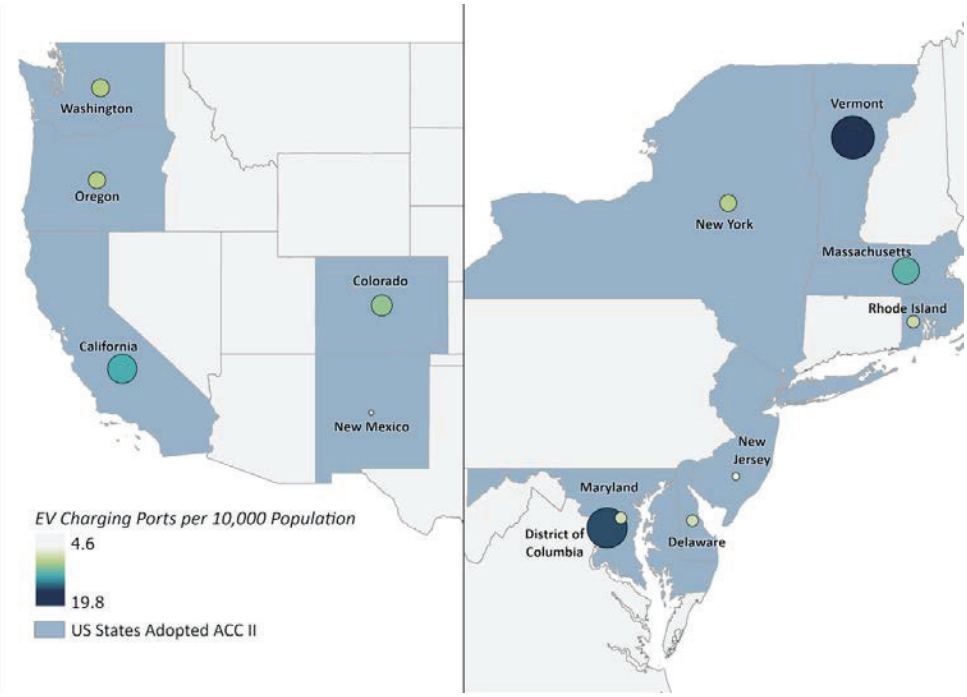
*Population data was derived from the American Community Survey (ACS) 2023 1-year estimates and EV charging port data was derived from the Alternative Fuels Data Center.

It is particularly useful to understand where the Commonwealth stands regarding public EV charging infrastructure in comparison to other states that have made strong commitments to increasing EV adoption. Massachusetts, along with 11 other states and the District of Columbia, have adopted Advanced Clean Cars II (See Chapter 3). Massachusetts ranks fourth among these 13 leading jurisdictions in EV charging per capita. Figure 4.3 shows how Massachusetts' EV charging ports per capita compares to other ACC II states.

[12]Population data was derived from the American Community Survey (ACS) 2023 1-year estimates.

[13]EV charging port data was derived from the U.S. Department of Energy's Alternative Fuels Data Center.

Figure 4.3 Public chargers per capita (per 10,000 people) in states that have adopted the ACC II rule



Workplace and fleet charging

While public EV charging infrastructure is the most visible part of the state's charging network, commercial charging applications like workplace and fleet charging also contribute to the overall charging infrastructure that support EVs. Workplace charging plays an important role in supporting EV drivers who commute, including those who may not have access to charging at their residences. Charging options at public transportation hubs are another important location for EV charging for commuters. Moreover, while EV fleet vehicles make up a much smaller proportion of all EVs on the roads, they are an important part of the Commonwealth's efforts to reduce transportation sector emissions through electrification. MHD vehicles specifically accounted for more than a quarter of all transportation sector emissions in 2019,[14] despite representing less than 4% of registered vehicles in Massachusetts.[15]

Similar to public charging stations, state and utility incentive programs play a large role in the deployment of workplace and fleet charging infrastructure. Table 4.4 shows the number of workplace and fleet charging ports funded through the various incentive programs.[16] The state and utilities also offer fleet advisory programs to help fleet owners plan out EV purchases and the charging infrastructure necessary to support them (See Chapter 3). Figure 4.4 shows workplace and fleet charging ports in Massachusetts that have received state funding.

[14]Emissions from medium- and heavy-duty vehicles was over 8 million metric tons of carbon dioxide equivalent (MMTCO2e) in 2019 (2025/2030 CECP, p. 31). Total transportation sector emissions were slightly over 29 MMTCO2e in 2019 (Massachusetts Clean Energy and Climate Metrics). 8 MMTCO2e is approximately 28% of 29 MMTCO2e.

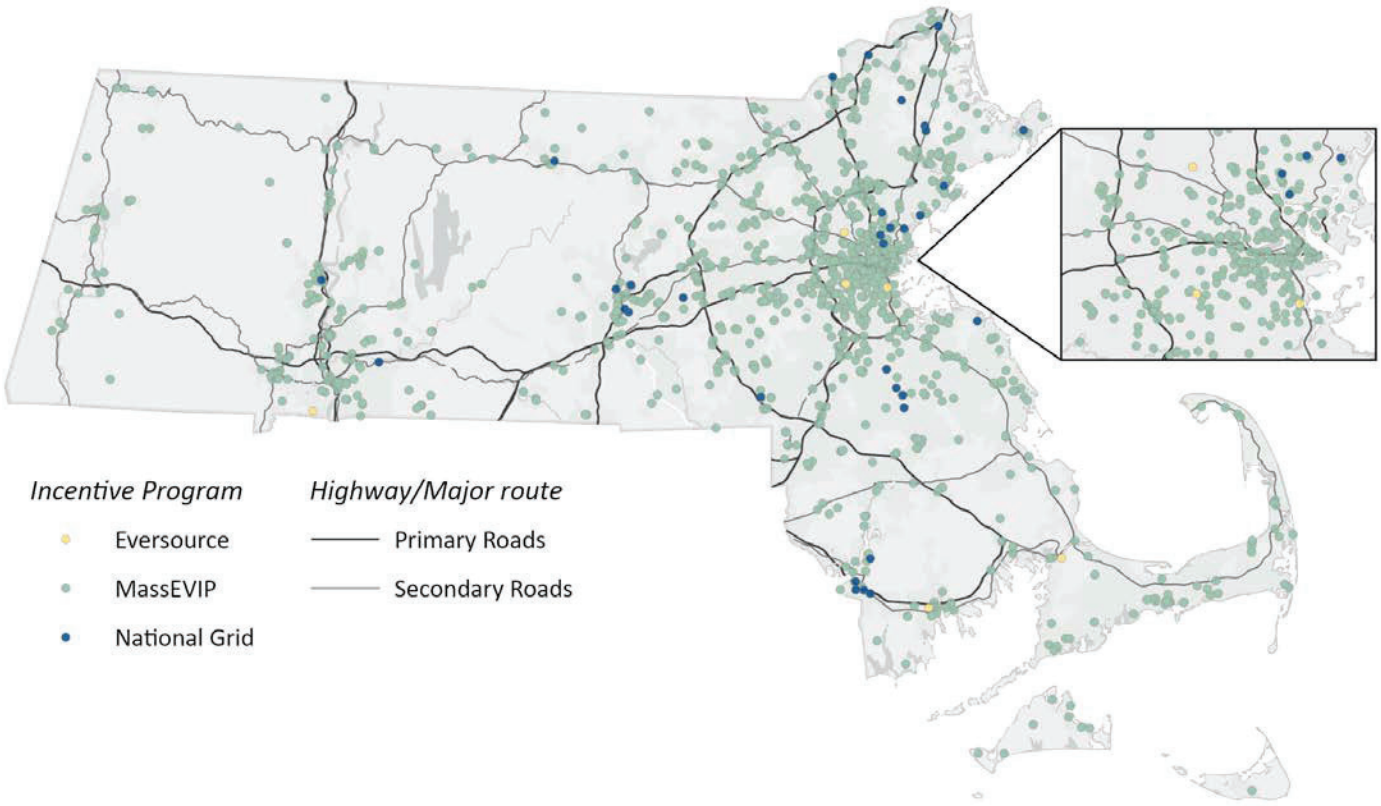
[15]As of January 1, 2020, 5,096,498 total vehicles were registered in Massachusetts, of which 172,587 were MHD vehicles (Massachusetts Vehicle Census). 172,587 is approximately 3.4% of 5,096,498. Deployment of MHD EVs increased significantly over 2024 with 208 new MHD EVs registered in Massachusetts in 2024 compared with 43 in 2023.

[16]Chargers funded through the Green Communities program are not included in Tables 4.2 or 4.4 because the program does not collect data about whether chargers funded are publicly accessible or for municipal fleet charging. Since the 174 chargers that Green Communities has funded are a relatively small proportion of overall chargers in the state, their omission does not substantively affect the analysis.

Table 4.4 Workplace and fleet charging ports funded by state-funded programs

Program	Workplace	Fleet
MassEVIP	2,825	450
Eversource	1,265	260
National Grid	484	19
DOER/LBE	-	240
DCAMM	-	212
Total	**4,574**	**1,181**

Figure 4.4 State-funded workplace and fleet charging stations in Massachusetts



Residential EV charging

Residential EV charging is the final piece of the EV charging network and is where the majority of EV charging occurs.[17] Residential charging can take the form of a Level 1 or Level 2 charger in a residential home or as chargers (usually Level 2) that are available to residents of MUDs with off-street parking. Residential charging can also take the form of on-street chargers and charging stations in densely populated urban areas to support at- or near-home charging for customers without off-street parking. Public parking lots, such as municipal or public transit hubs, in residential areas are ideal locations for charging stations to support residents of MUDs without off-street parking or on-street charging.

While there is no comprehensive dataset of all residential EV chargers, MassEVIP and the investor-owned utility programs include incentives for residential charging and charging for MUDs. Charger deployment through these programs for residential and MUD customers is summarized in Table 4.5.

Table 4.5 Residential and MUD charging ports funded by state-funded programs

Program	Residential	Multi-Unit Dwellings
MassEVIP	-	806
Eversource	3,974	682
National Grid	2,215	417
TOTAL	**6,189**	**1,905**

[17]See references to the Initial Assessment and an October 2022 Canary Media article below. For clarity, the ability and necessity of state or utility programs to support residential EV charging varies by type of residential charging, with at-home charging for single family homes requiring limited intervention and on-street charging to support MUDs without dedicated parking requiring the most intervention (See the "Priority Deployment Areas and Existing Gaps" section later in this Chapter for further discussion).

Considerations for key demographics and vehicle types

Access to EV chargers can be limited or more challenging for some demographics, including EJ populations, rural communities, and residents of MUDs without off-street parking. Additionally, EV charging for MHD vehicles is not as widespread as EV charging infrastructure for light-duty vehicles.

These groups, EJ populations, rural communities, MUDs without off-street parking, and MHD vehicles, have consistently been identified during the monthly EVICC meetings, Technical Committee meetings, and at the public hearings as requiring particular consideration in the Second Assessment's recommendations and in current and future incentive program design. Thus, it is important to understand the barriers these groups face and explore innovative solutions to meeting their charging needs in order to build a truly equitable network of EV chargers across the Commonwealth.

This section explores the unique needs of each of these groups and efforts underway to support each group. In addition to this section, Chapter 3 describes MassCEC's On-Street Charging Solutions program and ACT4All 2 projects which address many of the access challenges discussed herein.

Environmental Justice populations

Communities with EJ populations have unique challenges and needs for EV charging infrastructure. Low-income EJ populations typically rely on older, cheaper vehicles and, thus, are slower to adopt EVs. EJ populations may also face other challenges including language and charging access barriers, difficulty paying for charging, and older building stock without off-street parking.

As access to affordable EVs grows, it is important to ensure that historically underserved communities, especially EJ populations, have access to public EV charging stations, which in turn, can promote economic and workforce development and provide health benefits from improved air quality and reduction in noise pollution. To achieve these benefits, EV charging stations must be sited equitably and in alignment with the community's interests. Key access considerations for EV charging infrastructure in communities with EJ populations are summarized in Table 4.6.

Table 4.6. Summary of EV charger access challenges and implications for EJ populations

Access Consideration	Unique Challenge	Deployment Implication
1. Garage Orphans	Residents without access to off-street charging must rely on public charging	Deploy on-street charging infrastructure to give these residents the option to transition to EVs. Deploy fast charging infrastructure or Level 2 in public parking lots near residential areas when on-street charging is impossible or insufficient to meet the need.
2. Language Access	Language barriers to using applications related to EV use and charger station payments	Ensure clear and consistent communication about the availability and pricing of charging stations to encourage use and build trust, including information designed for non-English speakers.
3. Low-Income Communities	Low-income communities may be more price-sensitive and slower to transition to EVs.	Ensure clear pricing transparency and enable cash payment or systems that do not solely require credit cards or a smartphone application. Provide subsidies or tiered pricing for low-income users where possible.
4. Transportation Corridors	Chargers installed in EJ populations near transportation corridors may bring increased outside traffic to the community	Locations chosen for EV chargers should be carefully considered and incorporate community input.
5. Grid Infrastructure Impact	Charging could result in the need for new electrical infrastructure in overburdened communities	The level of EV charger necessary should be carefully considered. Level 2 charging may be a better choice than DCFC for on-street charging, public lots and multi-unit dwellings.
6. Economic Benefits	EV chargers could provide benefits to nearby businesses and create job opportunities	Build partnerships with local businesses and EV charger installers; prioritize sites that provide economic benefits.

TNC drivers play a key role in accelerating equitable EV adoption. As highlighted in the Initial Assessment, these drivers often represent low-income and underserved populations and operate high-mileage vehicles that are well-suited for electrification. Notably, the top four ZIP codes with the highest number of TNC driver residents are Lawrence, Brockton, Malden, and Revere, each municipalities with EJ populations (Table 4.7). These ZIP codes also align with where the majority of TNC rides originate or end. This overlap underscores the strategic importance of prioritizing EV charging infrastructure in these areas. Doing so not only supports drivers in communities with the greatest need, but also maximizes utilization of charging infrastructure, reinforcing equity goals and advancing statewide climate and clean transportation objectives.

Table 4.7. Transportation network company information by ZIP code as of July 25, 2025

Top ten ZIP codes for TNC driver residents	Top ten ZIP codes for TNC trips
01841 - Lawrence	01841 - Lawrence
02301 - Brockton	2148 - Malden
02148 - Malden	02301 - Brockton
02151 - Revere	02151 - Revere
02149 - Everett	01843 - Lynn
01843 - Lynn	02149 - Everett
01843 - Lawrence	01843 - Lawrence
01844 - Methuen	02124 - Dorchester
02124 - Dorchester	02121 - Dorchester
02169 - Quincy	02169 - Quincy

The OEJE, in coordination with EVICC, recently developed the Guide to the Equitable Siting of Electric Vehicle Charging Stations in Environmental Justice Populations that provides a comprehensive framework for advancing EJ and equity in the planning, implementation, and operation of publicly accessible EV charging stations. The Guide serves to complement the second EVICC Assessment and is primarily intended for state agencies, municipalities, community-based organizations serving EJ populations, in addition to members of the public, local businesses, utility providers, and members of the EV industry.

The Guide emphasizes early planning of EV charging infrastructure and provides the following recommendations on best practices to increase equitable and just site selection:

- **Conduct Equity-Centered Site Assessments** by identifying priority areas, evaluating existing infrastructure, and considering economic and other benefits
- **Prioritize Community-Centered Planning** through early and ongoing meaningful engagement
- **Collaborate and Engage Stakeholders** by involving and engaging with local community leaders and relevant advisory committees
- **Ensure Accessibility and Affordability** through ADA-compliance, clear and effective multilingual signage, and affordable access
- **Address Barriers to Accessing Charging Stations** by considering various factors that limit access to the available technology and affordability

Ultimately, the Guide emphasizes the importance of partnerships and engagement with communities with EJ populations, which will be critical to building a more inclusive and sustainable network of public EV chargers in the Commonwealth.

Rural communities

The Initial EVICC Assessment highlighted the importance of expanding access to EV charging to all residents, as well as the challenges of providing sufficient public charging infrastructure in dispersed low-density communities. Rural residents drive the most and have the highest transportation costs, and therefore the greatest potential to save money and reduce emissions with an EV. Moreover, rural communities have greater access to off-street parking than urban and suburban communities, on average, and, thus, have significant potential to utilize at-home charging to meet their charging needs. While the increased potential for off-street, at-home charging means that rural communities require less on-street public EV charging infrastructure, a robust network of public EV chargers in rural communities is still essential as rural residents typically drive longer distances and are more likely to be negatively impacted by EV charging deserts (i.e., gaps in the network of available EV charging infrastructure). Public charging options are also important for rural communities that rely on tourism, because a lack of public EV charging options could lead to lower visitation rates and poorer economic outcomes for local businesses.

The existence of gaps in the EV charging network in rural areas is largely due to the low utilization rates of EV charging in these areas, which results in lower revenue for charging station owners than revenue at stations with high utilization rates. Lower charger revenue means that targeted financing support (i.e., incentives) is more likely to be required to enable deployment of charging stations. In addition to incentives, the Initial Assessment identified other approaches to support EV charger deployment in rural communities including upfront market research, campaigns that include rural area coverage, and EV dealer engagement. Some of this work was undertaken since the last assessment through dealer support and public events conducted in conjunction with the MOR-EV program. Additional ongoing work related to deployment of publicly available funds for rural charging is being undertaken as part of the infrastructure efforts by the DCR, who will consider which of their properties in rural locations are optimal sites to expand public charging access.

The Second EVICC Assessment collected feedback through public meetings on key access challenges and deployment implications related to EV charging in rural communities. Table 4.8 summarizes this feedback.

Rural communities face distinct electric grid challenges, including high infrastructure upgrade costs. Low EV adoption and sparse population density reduce charger utilization, which in turn impacts financial sustainability. Public feedback has highlighted the importance of resilient technologies like solar and battery systems, safety and accessibility at charger sites, and the need to address weak cell coverage that can disrupt the

user experience. Additionally, education for site hosts about installation costs, pricing, and demand charges is crucial to ensure successful deployment. Together, these factors reflect the unique conditions that must be addressed to ensure equitable and effective deployment of EV infrastructure in rural areas.

Table 4.8. Summary of EV charger access challenges and implications for rural communities

Access Consideration	Unique Challenge	Deployment Implication
1. Sparse population density	Low traffic volumes deter private investment	Public funding or incentives are often necessary
2. Greater travel distances	Longer drives between destinations increase range anxiety	Strategic placement to support inter-town and long-distance travel
3. Limited electrical infrastructure	Older grid may lack capacity for fast chargers	May require grid upgrades or off-grid solutions (e.g. solar + storage)
4. Fewer public amenities nearby	Charging sites may lack restrooms, food, or shelter	Co-locate chargers with public buildings or businesses offering amenities
5. Low EV adoption rates	Smaller EV user base leads to limited short-term utilization	Emphasize equitable access and long-term planning
6. Connectivity issues	Weak broadband or cellular service can disrupt charging operations	Use chargers with offline capabilities or provide reliable connectivity
7. Emergency and redundancy needs	Few alternative routes or stations in case of charger failure	Ensure high reliability and consider backup power options
6. Economic Benefits	EV chargers could provide benefits like spending at nearby businesses and job opportunities	Build partnerships with local businesses and EVSE installers; prioritize sites that provide co-benefits.

Multi-unit dwellings without off-street parking

Expanding access to EV charging for residents of MUDs without off-street parking is essential to ensuring equitable participation in the EV transition. While early EV adopters have generally been higher-income homeowners with access to private garages, many residents, especially in urban areas and communities with EJ populations, rely on on-street parking and lack consistent, convenient access to home charging. Since the majority of EV charging occurs at home,[18] this infrastructure gap presents a major barrier to broader EV adoption. Addressing this challenge requires understanding the spatial, regulatory, and logistical constraints unique to dense, residential neighborhoods and the lived experiences of renters and low- to moderate-income households. Table 4.9 below summarizes identified key access considerations for multi-unit dwellings without off-street parking.

[18]Massachusetts Executive Office of Energy and Environmental Affairs, Electric Vehicle Infrastructure Coordinating Council (EVICC) Initial Assessment, August 11, 2023, https://www.mass.gov/files/documents/2023/08/11/EVICC%20Initial%20Assessment%20Final%2008.11.2023.pdf.

Table 4.9. Summary of EV charger access considerations for multi-unit dwellerings (without off-street parking)

Access Consideration	Unique Challenge	Deployment Implication
1. Community outreach	Lack of engagement may result in chargers being sited in areas where local need is low or concerns are unmet	Inclusive outreach, especially in EJ populations is necessary to inform siting and build local support
2. Community education	Residents may not know how to locate or use public chargers, especially in underserved or multilingual areas	Deployment must include clear, accessible, and multilingual educational materials and signage
3. EV charging station ownership models	Complex ownership arrangements for curbside and shared infrastructure can complicate responsibilities	Ownership must be clarified (municipal, third-party, utility, or shared), with clear maintenance and access protocols
4. Charger hardware types	Different site conditions and infrastructure constraints affect feasibility of curbside, pole-mounted, or streetlight chargers	Each hardware type has trade-offs in cost, siting flexibility, space usage, and grid connectivity
5. Grid and infrastructure constraints	Existing electrical capacity may be limited or hard to access in older neighborhoods	Siting decisions must account for proximity to grid capacity or consider lower-impact or modular charging solutions
6. Zoning and parking regulations	Overnight on-street parking bans and restrictive zoning can hinder deployment	Municipalities may need to review and adjust zoning and parking policies to enable overnight or extended charging
7. Charging speeds	Lower-powered chargers may not support higher turnover rates in shared public spaces	Charger speed should be aligned with local use cases - overnight versus short-term and parking rules
8. Carshare pairing	EV affordability limits access even when chargers are available	Pairing EV charging stations with carshare programs expands EV access to residents without personal vehicles

Residents of multi-unit dwellings without off-street parking face a complex set of access barriers that differ substantially from single-family homeowners. These include regulatory issues like zoning and parking restrictions, infrastructure constraints such as limited grid access, and social factors like language barriers and lack of awareness. Public EV charging infrastructure deployment in these communities must account for the diversity of local needs and site conditions, with thoughtful consideration of charger hardware, ownership models, and community-driven engagement. Charging alone is not enough – residents must also be informed, empowered, and provided with complimentary services like carsharing to ensure equitable access to the EV transition.

Medium- and heavy-duty vehicles

Deploying EV charging infrastructure for MHD, including trucks, buses, and delivery vehicles presents a distinct set of access challenges compared to light-duty vehicles, which are summarized in Table 4.10. These challenges stem from the unique duty cycles of MHD fleets,[19] the intensive energy demands of larger vehicles, and the diverse operational settings ranging from centralized fleet depots to dispersed highway corridors.

Ensuring effective access to MHD charging infrastructure requires a deep understanding of vehicle usage patterns, grid capacity constraints, and how these vehicles interact with both urban freight networks and long-haul routes. Public feedback underscores the need for targeted infrastructure planning that leverages successful truck stop case studies, engages fleet operators, and ensures that charging is co-located with established logistics hubs and amenities.

Table 4.10. Summary of EV charger access considerations, challenges and deployment implications for MHD vehicles

Access Consideration	Unique Challenge	Deployment Implication
1. Vehicle duty cycles	MHD vehicles vary in daily mileage, downtime, and charging needs (e.g., overnight, en route)	Charging infrastructure must match fleet-specific operational schedules and charging windows
2. Depot versus corridor charging	Depot charging supports return-to-base fleets, while long-haul trucks require transportation corridor charging	Deployment strategies must differentiate between local fleets and through-traffic needs
3. High power demand	MHD vehicles require significantly more energy per charge session	Chargers must deliver high kilowatt output (e.g., upwards of 350 kW in some cases), with reliable uptime and minimal queuing
4. Substation capacity and grid impact	MHD charging can place heavy localized load on substations and feeders	Site planning must include detailed grid capacity assessments and potential substation upgrades
5. Co-location with amenities	Drivers need restrooms, food, and rest areas during charging	Transportation corridor sites to support on-route charging should be sited at or near truck stops, rest areas, and service plazas

Access to charging infrastructure for MHD EVs is shaped by a unique intersection of vehicle behavior, power demands, and location constraints. These vehicles have diverse duty cycles that dictate when, where, and how charging can occur—ranging from controlled depot environments to unpredictable highway routes. Public and stakeholder feedback emphasizes the importance of grid readiness, especially near local substations, and the strategic value of co-locating chargers with existing truck stops. Ensuring access also means planning for the physical space requirements of large vehicles and learning from early adopter truck stops that have overcome similar challenges. Together, these insights provide a strong foundation for equitable and practical MHD charging deployment.

[19] "Duty cycle" refers to how a MHD vehicle is used, including how long it is in operation, the frequency with which it is used, and any other operational characteristics.

Future EV charger deployment estimates

Projections of future EV charger deployment to support the Commonwealth's climate requirements are helpful in understanding the scale of magnitude of future charger deployment. However, forecasts of future EV charging infrastructure rely on several highly variable inputs and assumptions that may prove inaccurate. Ultimately, the state's priorities for EV charging deployment are more important than any forecast.

This section provides forecasts of the charging infrastructure needed to support the light-duty and MHD EV adoption rates anticipated in the Massachusetts Clean Energy and Climate Plan for 2050, based on charger type and geography. Residential and light-duty public chargers make up the bulk of projected charging needs, concentrated in denser urban areas, but significant EV charging infrastructure will also be needed to support MHD fleet depots and along transportation corridors as well. These projections are based on the best available data, but have limitations (See Appendix 7) and will fluctuate depending on actual EV adoption rates.

It is important to view EV charging infrastructure estimates by customer segment (also called charger category, e.g., single-family, multi-family, public, etc.) and in the context of whether and how much the state or other actors can influence deployment within that category. For example, public EV charging infrastructure likely requires greater support than single-family charging infrastructure, particularly more so than Level 1 charging at single-family homes. Moreover, EV drivers with single-family homes are likely to want a charger at home and to take this into consideration when purchasing their EV, meaning that EV chargers are more likely to be deployed at single-family homes without additional resources or financial support offered by the state or electric utilities.[20]

EV charger estimates - CECP vehicle adoption

The Massachusetts Clean Energy and Climate Plan for 2050 includes a benchmark of 2.4 million light-duty EVs by 2035, with an interim 2030 benchmark of 900,000 EVs.[21] In order to achieve this level of adoption, the number of light-duty EVs across the state will need to increase 16-fold by 2035, from today's EV count of roughly 150,000. Similarly, Massachusetts has a benchmark of converting 74,000 MHD buses and trucks to electric powered vehicles by 2035, more than 100-times greater than the current level of electric trucks and buses.[22]

To support the growing number of EVs, charging infrastructure will also need to expand and grow rapidly. EVs will use a wide range of charging types, including private Level 1 and Level 2 chargers (serving both single-family and multi-family homes), workplace chargers, and public Level 2 and DCFC. MHD vehicles will also need to be supported by Level 2 (primarily located at private depots) and DCFCs (primarily for long-haul trucking and other public MHD charging sites).

[20]For clarity, enabling action such as wiring upgrade rebates for Level 2 charging at single-family homes may still be necessary to support at-home charging, but will require significantly less financial support than public charging infrastructure. For example, public charging infrastructure has access to significantly higher incentives through the investor-owned utilities and MassDEP programs (See Chapter 3).

[21]Massachusetts Executive Office of Energy and Environmental Affairs. Massachusetts Clean Energy and Climate Plan for 2050. Commonwealth of Massachusetts, 2022. https://www.mass.gov/info-details/massachusetts-clean-energy-and-climate-plan-for-2050.

[22]Light-duty vehicles are defined as vehicles with a mass of less than 8,500 pounds. MHD vehicles are defined as any vehicle larger than a light-duty vehicle. Notably, consumer trucks such as the Ford F-150 Lightning are classified as a light-duty vehicle.

By 2035, over 100,000 publicly accessible charging ports may be needed to support light-duty EVs and over 19,000 charging ports could be needed for MHD EVs. Table 4.11 shows a breakdown of the estimated ports by category and charger type in 2030 and 2035.

Table 4.11. Estimated EV chargers by category and charger type for 2030 and 2035 CECP vehicle projections

Category	Charger Type	Port Count		2035 EV/Port Ratio	Source
		2030	2035		
Single-Family	Level 1	216,000	373,000	5.4	EV Pro Lite
	Level 2	482,000	945,000	2.1	EV Pro Lite
Multi-Family	Level 1	8,000	18,000	22.5	EV Pro Lite
	Level 2	18,000	45,000	8.9	EV Pro Lite
Workplace	Level 2	18,000	47,000	51.7	EV Pro Lite
Public	Level 2	40,000	92,000	26.4	Observed ratios
	DCFC[23]	5,500	10,500	230.4	Observed and modeled ratios
MHD	Private		17,000	1.9	Modeled ratios
	Public DCFC[24]	18,000	2,500	13.9	Modeled ratios
Total		**794,800**	**1,550,000**		

Detailed Results for Chargers for Light Duty Vehicles

EV charging infrastructure will increase across the state over the next 10 years. The following sections show the geospatial results of the charger forecast summarized in Table 4.11. The highest density of chargers for light-duty EVs will be located in population-dense areas, such as Boston and its suburbs, Lowell, Worcester, and Springfield, driven primarily by population, housing types, employment levels, land-use patterns, commuting patterns, and long-distance traffic flows.

Total light-duty chargers in 2030 and 2035

Figure 4.5 and Figure 4.6[25] show the total counts of private residential chargers (Level 1 and Level 2), workplace Level 2 chargers, public Level 2 chargers, and DCFC serving light-duty vehicles. By 2030, Greater Boston will see high levels of EV charger deployment, although most chargers will be residential.

[23]In 2030, 45 percent of DCFC will serve multi-family housing and 55 percent will serve long-distance travel. In 2035, 57 percent of DCFC will serve multi-family housing and 43 percent will serve long-distance travel.

[24]The "public DCFC" included under the medium- and heavy-duty category is incremental to the "DCFC" chargers included under the public category.

[25]All EV charger deployment maps depicting "number of chargers" provide the number of chargers per 0.28 square mile.

Figure 4.5. Combined residential, workplace, and public chargers forecasted to serve 970,000 EVs by 2030.

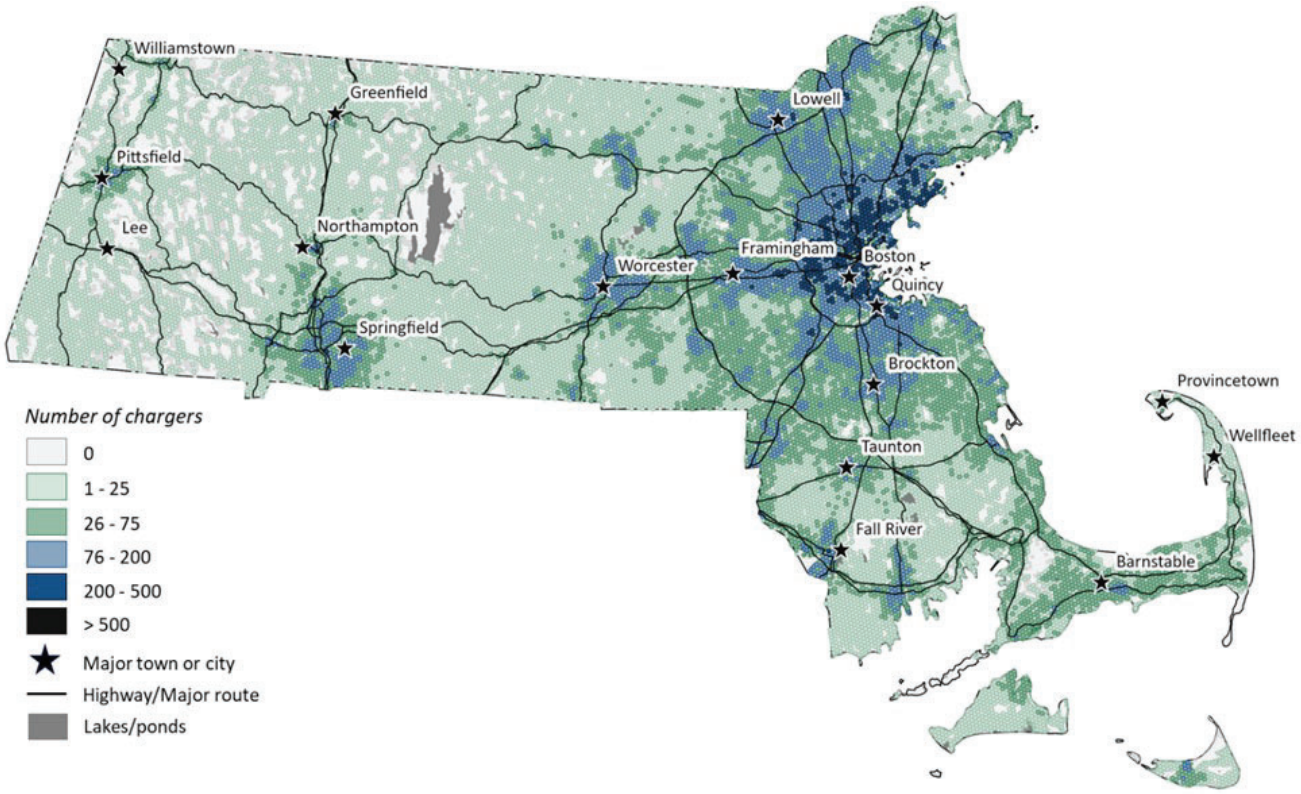
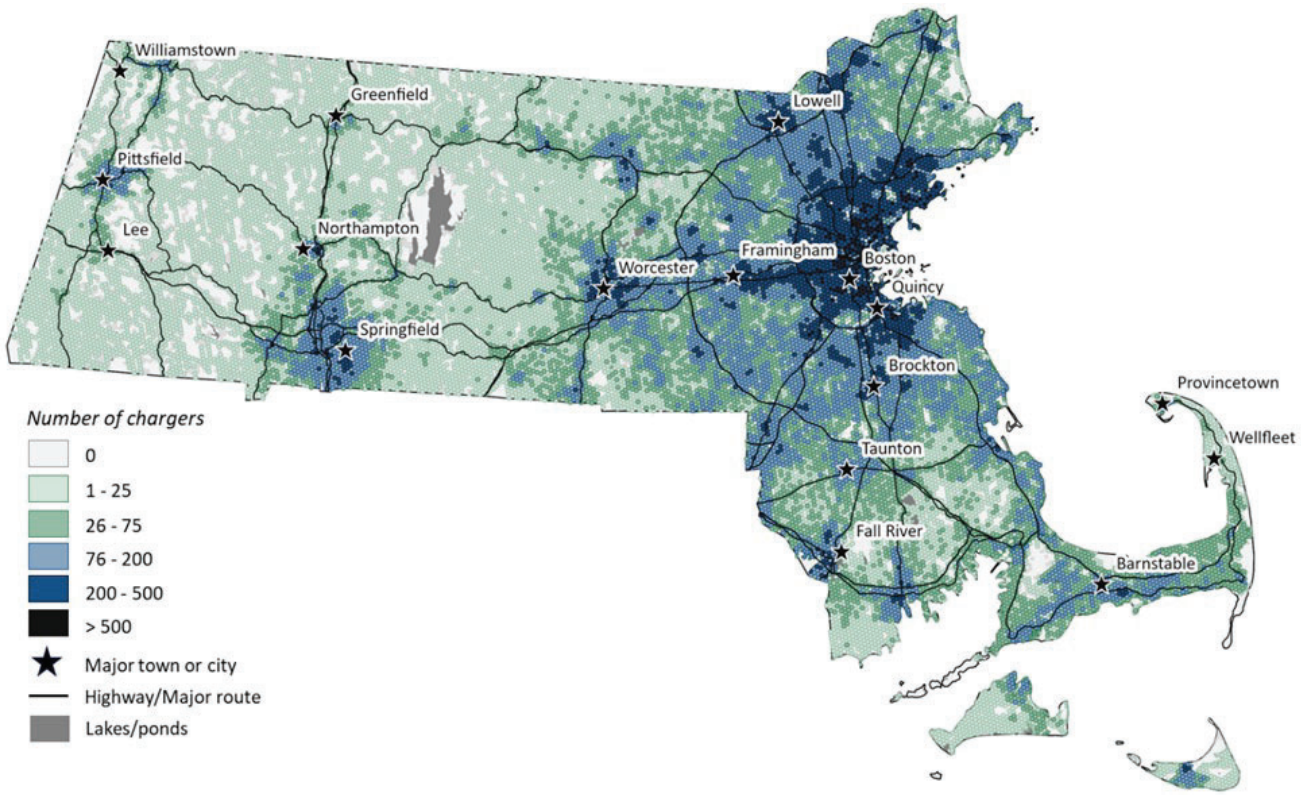


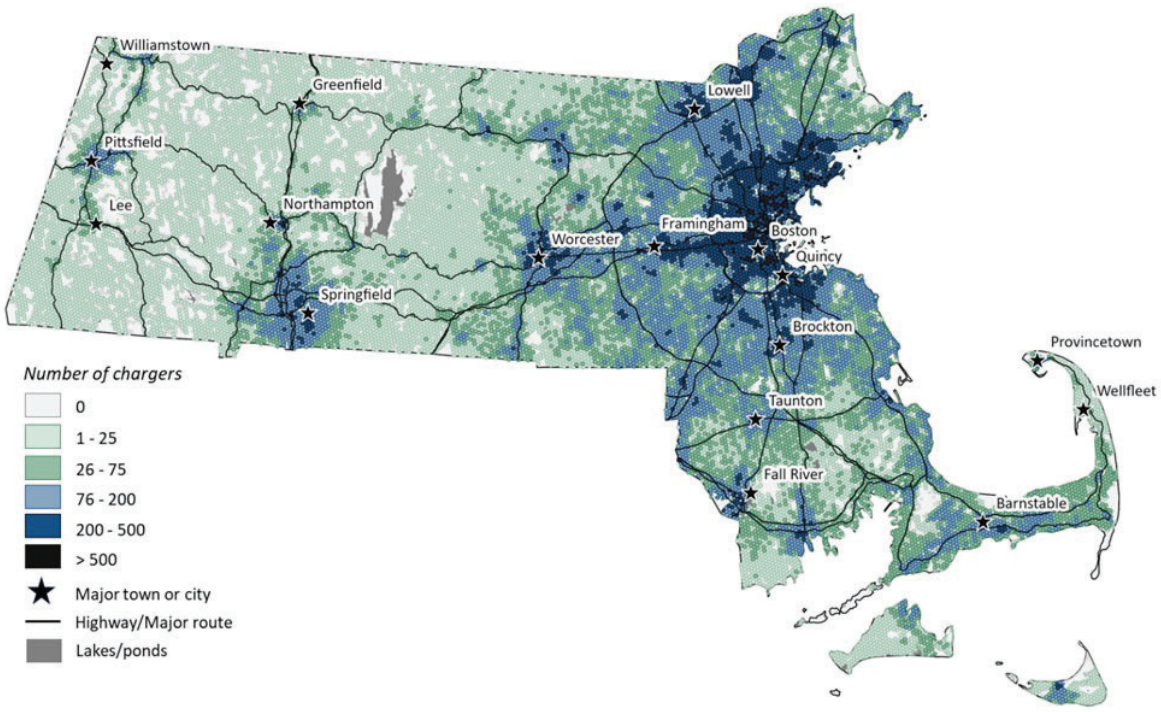
Figure 4.6. Combined residential, workplace, and public chargers forecasted to serve 2.4 million light-duty EVs by 2035.



Residential, workplace, and public Level 2 chargers in 2035

Private residential chargers are projected to make up over 90 percent of all chargers serving light-duty vehicle charging needs in 2035 (Figure 4.7). The highest concentration of private chargers are estimated to occur in urban and suburban areas such as Springfield, Worcester, and Greater Boston.

Figure 4.7. Residential Level 1 and Level 2 chargers forecasted to serve 2.4 million light-duty EVs by 2035



Workplace and public Level 2 chargers are lower in quantity relative to privately-owned residential chargers and more highly concentrated in population dense areas (Figure 4.8 and Figure 4.9). Public Level 2 chargers can serve several charging use cases, including providing charging within communities to support daily trips and serving residents without off-street parking.

The estimated number of workplace and home chargers for 2030 differ between the Initial Assessment and this Assessment as the technical consultants updated their assumptions of home charging access and use based on new, Massachusetts-specific data. In the Initial Assessment, the technical consultants assumed that 70% of EV drivers would have access to home charging; for this Assessment, the consultants used a Massachusetts-specific value of 87%.[26] This modification increases the estimated number of home chargers and reduces the projected need for workplace charging infrastructure, as less workplace charging is needed if more drivers charge at home. As EV adoption expands beyond early adopters, the technical consultants expect the percentage of EV drivers that have access to at-home charging, i.e., access to off-street parking with EV charging infrastructure, to decrease over time. Thus, the technical consultants assumed that 69% of EV drivers will have access to home charging in 2035.

[26]Default assumptions for Massachusetts, given 2030 EV adoption projections, from the U.S. Department of Energy's EVI-Pro Lite Tool. Ge, Y., Simeone, C., Duvall, A. & Wood, E. (2021). There's No Place Like Home: Residential Parking, Electrical Access, and Implications for the Future of Electric Vehicle Charging Infrastructure. National Renewable Energy Laboratory Report No. NREL/TP-5400-81065.

Figure 4.8. Workplace chargers forecast to serve 2.4 million light-duty EVs by 2035

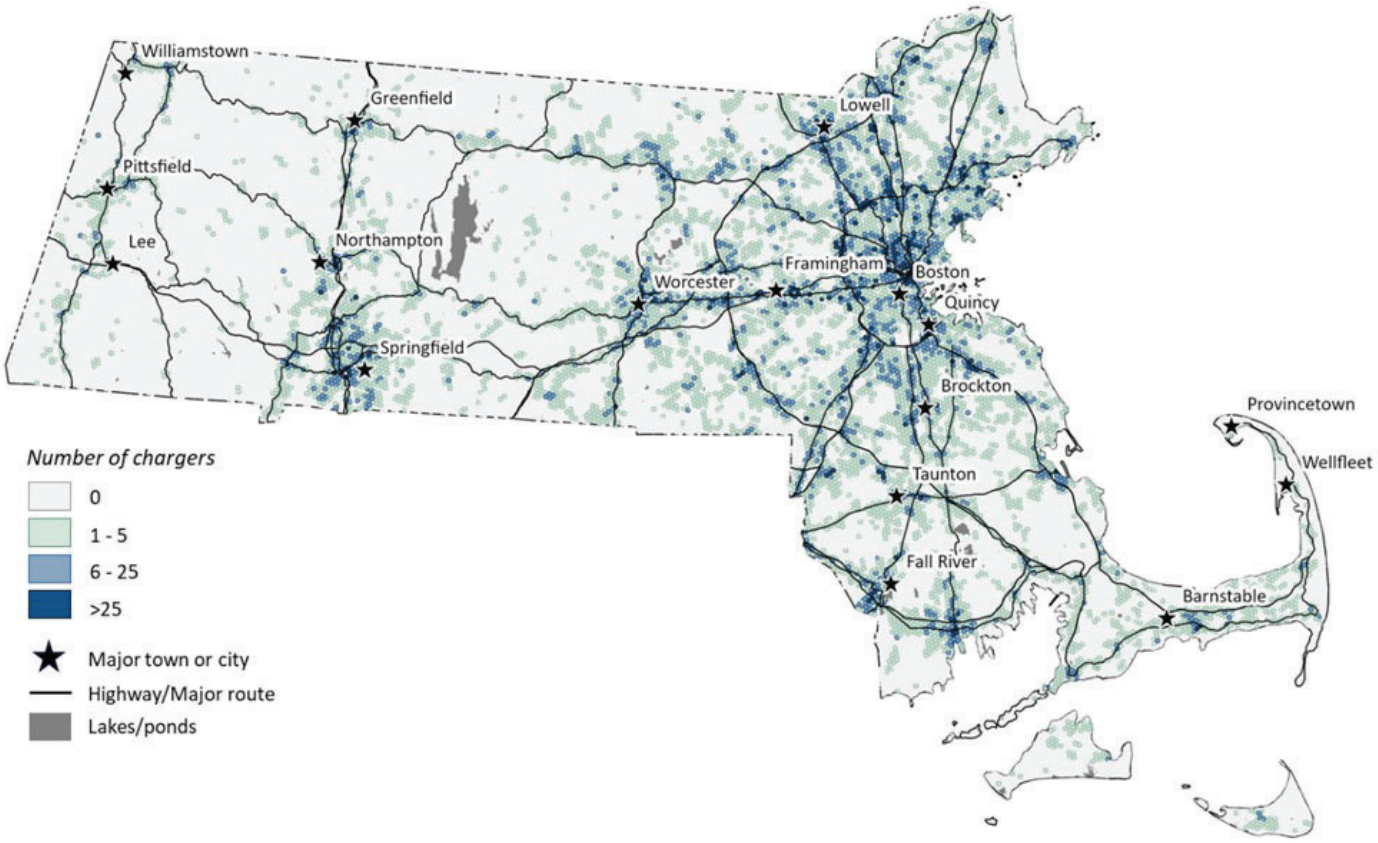
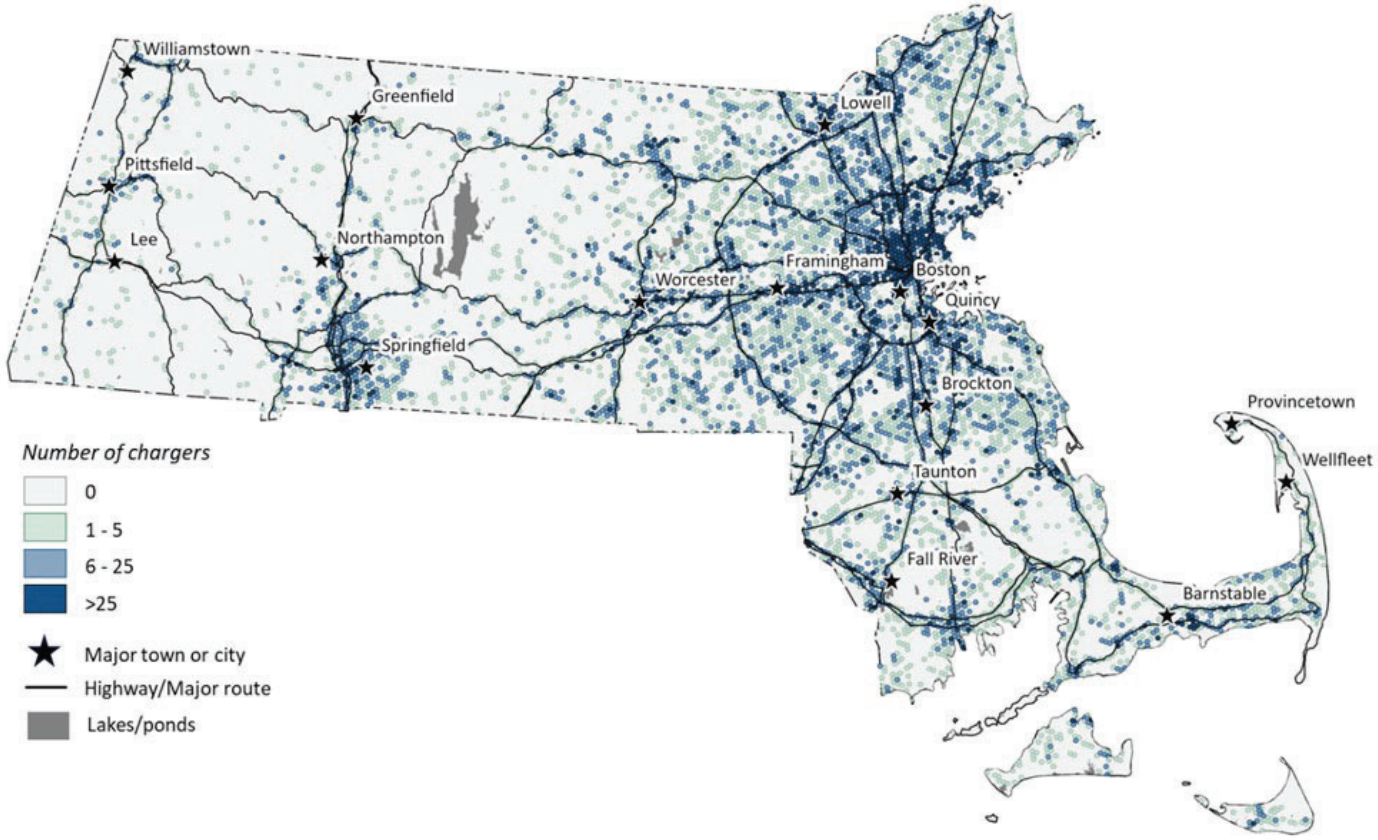


Figure 4.9. Public Level 2 chargers forecast to serve 2.4 million light-duty EVs by 2035



DCFC in 2035

DCFC are particularly important for meeting the state's public charging needs, since they tend to be the most convenient charging option for drivers when charging away from home and can serve multi-unit dwellings, especially those without off-street parking. The availability of DCFC along the state's main transportation corridors is critical for meeting charging demand and addressing range anxiety and charger availability concerns. As a result of these use types, DCFC tend to be concentrated in population dense areas with more multi-unit dwellings and along transportation corridors (Figure 4.10).

Figure 4.10. DCFC forecast to serve 2.4 million light-duty EVs by 2035

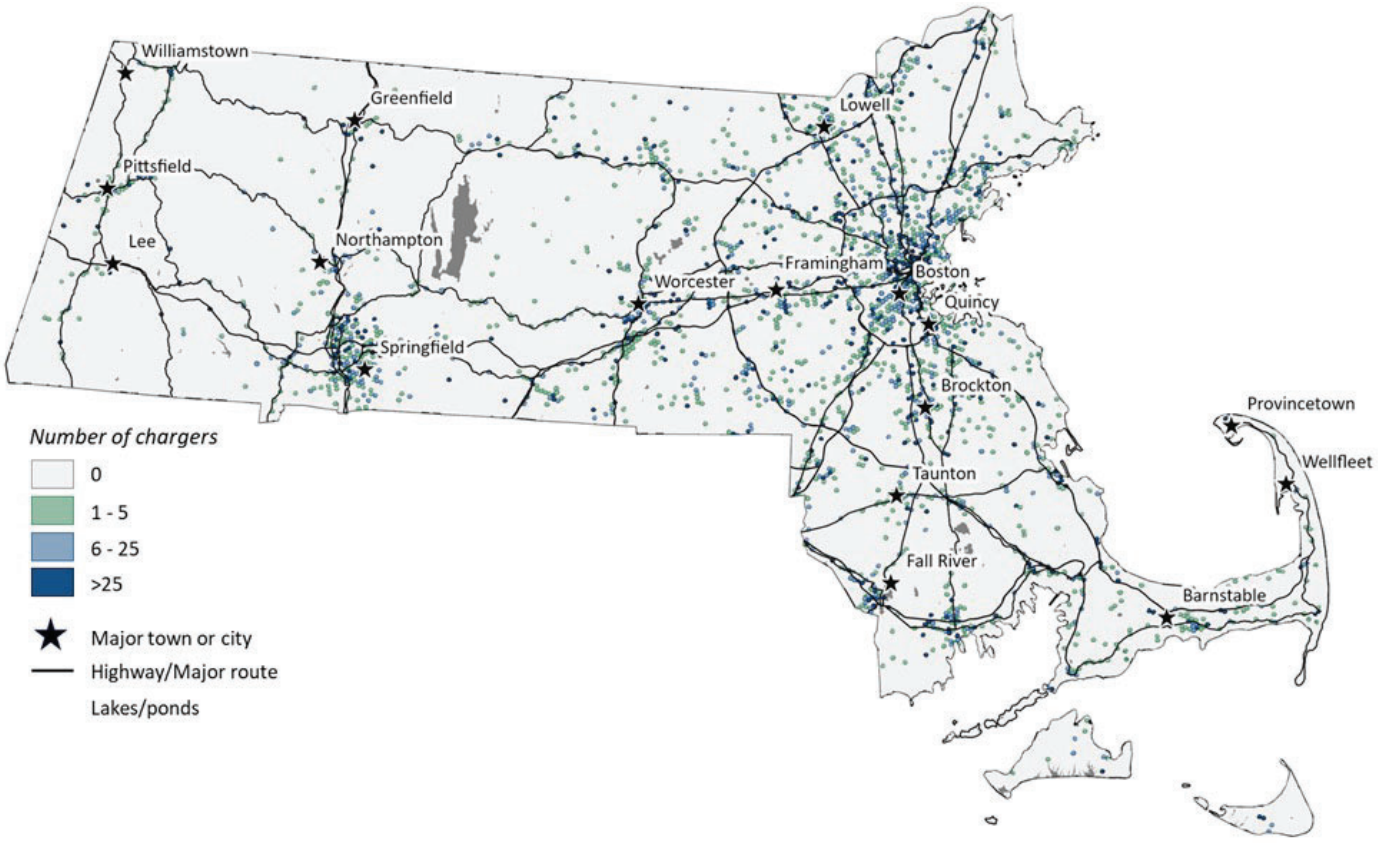
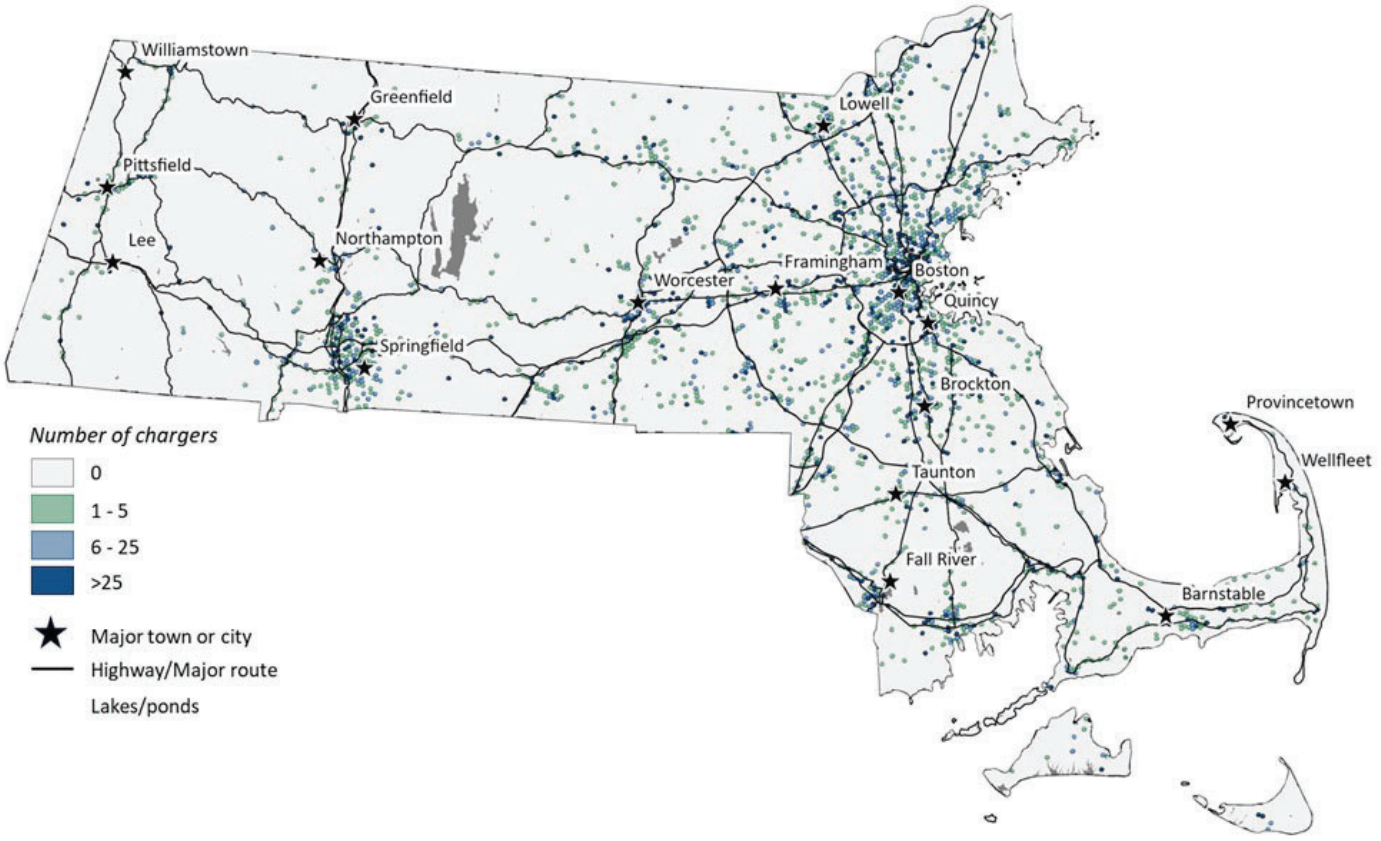


Figure 4.11. DCFC forecasted to serve light-duty EVs and electric MHD vehicles in 2035



The number of estimated DFC is highly sensitive to several variable inputs. Increasing charging speeds (e.g., higher kW chargers) and larger vehicle battery capacity and range (e.g., cars that can drive longer without charging) decrease the number of DCFC needed. A greater amount of workplace charging could also reduce the necessary number of DCFC, especially those supporting vehicles without off-street parking. Finally, a larger number of plug-in hybrids (relative to battery EVs) will reduce the number of required DCFC, as these types of vehicles can use gasoline-powered drivetrains for long-distance travel (instead of DCFC).

Conversely, a greater number of chargers per EVs are needed during the early phases of the adoption curve (i.e., more public chargers need to be available for the first EVs on the road). Additionally, public charging infrastructure, including DCFC, will become more important as EV adoption moves away from higher-income residents with single-family homes to later stage adopters who are less likely to have charging at home (i.e., multi-unit dwellings without off-street parking and rentals).

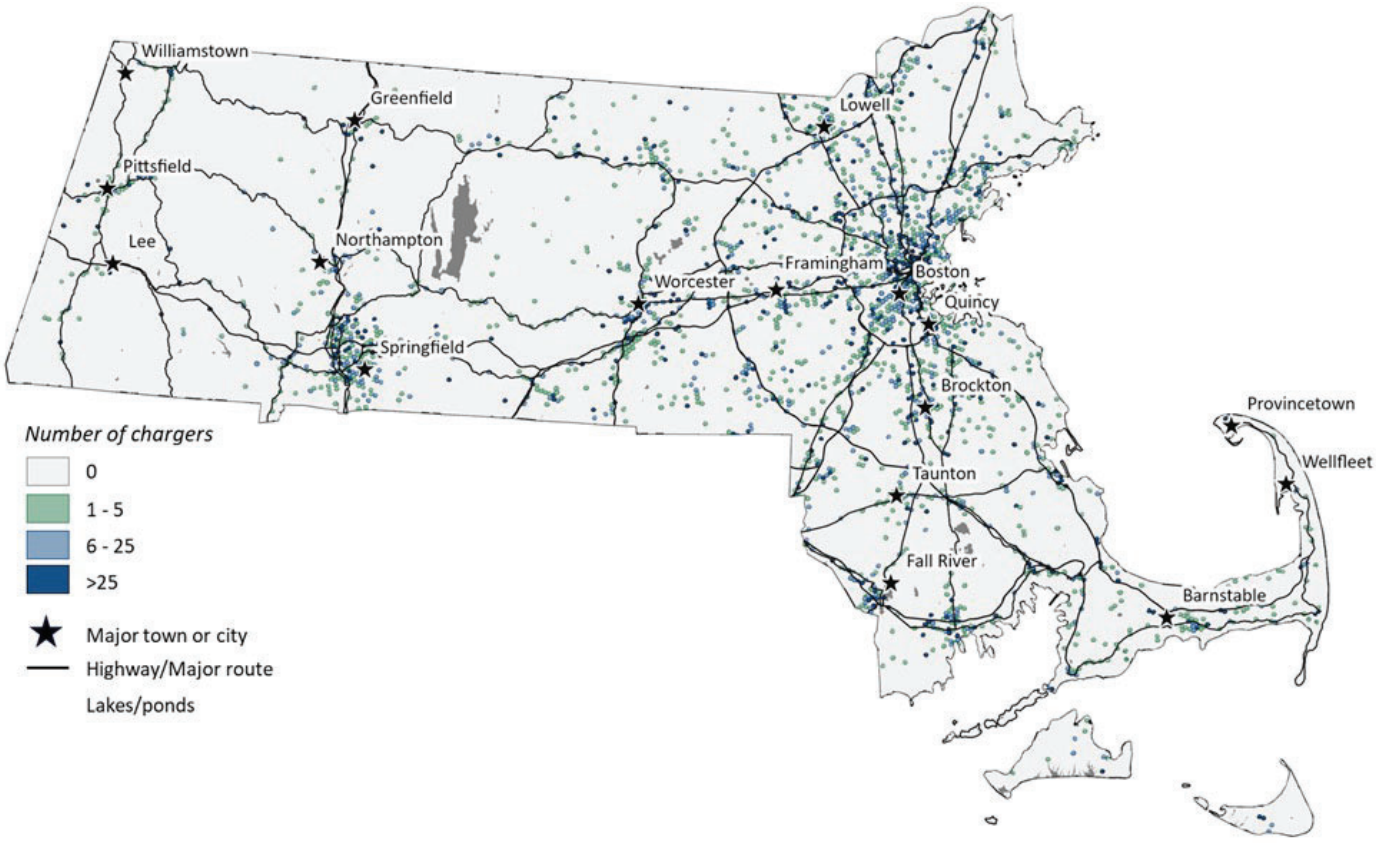
This Assessment forecasts fewer DCFC for 2030 than the Initial EVICC Assessment. This is primarily due to a higher share of plug-in hybrid EVs in the short term (informed by recent trends in vehicle sales) and increased battery EV battery sizes and charging speeds (more vehicles are capable of charging at higher speeds/higher kW chargers). Ultimately, many of the dynamics listed above are highly uncertain, especially as we look further into the future.

Detailed results for chargers for MHD vehicles

As of April 1, 2025, approximately 400 MHD EVs out of a total MHD fleet of over 200,000 vehicles are registered in Massachusetts (Massachusetts Vehicle Census). Deployment of MHD EVs ramped up significantly over 2024 with 208 new MHD EVs registered in Massachusetts in 2024 compared with 43 in 2023. The total number of MHD EVs in the Massachusetts Clean Energy and Climate Plan for 2050 (2050 CECP) is forecast to increase significantly to around 25,000 EVs in 2030, and 75,000 EVs in 2035. This level of MHD EV adoption would require roughly 6,500 private chargers (primarily made up of Level 2) and 800 public DCFCs by 2030.

MHD EVs represent a much smaller share of Massachusetts' overall transportation electrification goals than light-duty vehicles.[27] As a result, even with the significant increases in charging needs by 2035, the forecast number of chargers remains relatively small: 19,500 chargers in 2035 for MHD vehicles out of over 1.5 million. Level 2 charging equipment installations, along with some DCFCs for MHD EVs, are expected at fleet locations and private depots across the state, while DCFCs for trucks are projected to be needed most at fueling stations along transportation routes. DCFCs will also be needed at bus and truck depots.

Figure 4.12. Level 2 and DCFC forecasted to serve electric MHD vehicles in 2035



[27]As noted earlier in this Chapter, MHD vehicles accounted for more than a quarter of Massachusetts' transportation sector emissions in 2019, despite representing less than 4% of registered vehicles.

EV Charger Estimates - Alternative EV Adoption Projections

This section provides estimates of public EV charging infrastructure needs in 2030 and 2035 utilizing both historical vehicle adoption rates[28] and projected, future vehicle adoption rates from Bloomberg New Energy Finance (BNEF). These alternative public EV charging infrastructure estimates are intended to complement the projections completed by the EVICC technical consultants and provide greater context on the amount of EV charging infrastructure that may be needed in 2030 and 2035. These additional estimates illustrate: (1) the variation in EV charging infrastructure estimates based on EV adoption assumptions; and (2) the differences between current EV charging infrastructure deployment rates and the deployment rates needed to meet the CECP benchmarks for EV charger ports needed in 2030.

The comparison between current EV adoption trends and the adoption rates needed to meet the state's targets illustrates the magnitude of the challenge ahead for the Commonwealth, particularly given current federal and market uncertainties. EVICC will continue to take steps, within its authority, to support the adoption of EVs and deployment of EV charging infrastructure in line with the state's climate requirements.

Current EV adoption rate

As of January 1, 2025, approximately 140,000 EVs were registered in Massachusetts, with roughly 36,000 new light-duty and 200 new MHD EVs registered in 2024. Assuming this rate of new EV registrations continues, Massachusetts would have 500,000 light-duty and 2,400 MHD EVs on the road in 2035. Applying the EV-to-port ratios used to calculate the publicly accessible and MHD EV charger port estimates in Table 4.6, approximately 21,000 publicly accessible charging ports and 750 MHD charging ports would be needed to support 500,000 light-duty and 2,400 MHD EVs in 2035. The geographic dispersion of these chargers is likely to be similar to the charger estimates completed by the EVICC technical consultants using the 2050 CECP EV adoption forecast analysis as those estimates rely on current traffic and EV adoption patterns.

Table 4.12 summarizes the EV adoption and public EV charging infrastructure estimates under current EV adoption trends.[29]

Table 4.12. Estimated public and MHD EV chargers by charger type for 2030 and 2035 using current EV adoption rates

Category	Charger Type	EV Count		Port Count	
		2030	2035	2030	2035
Public	Level 2	355,000	500,000	15,000	19,000
	DCFC	355,000	500,000	2,000	2,200
MHD	Private	1,550	2,400	400	650
	Private DCFC	1,550	2,400	50	100

[28]EV adoption rates are likely to grow rather than continue at historical rates as technology adoption rates typically increase after a certain level of total adoption.

[29]As of January 1, 2025, Massachusetts had 8,800 public EV charger ports. Massachusetts deployed approximately 2,000 public EV charger ports in 2024. Applying this deployment rate through 2030 yields 21,010 public EV charging ports. Notably, this exceeds the estimate of 17,000 and 21,000 public EV charger ports needed in 2030 and 2031, respectively.

Bloomberg New Energy Finance (BNEF) EV adoption rate

BNEF provides projections of future EV adoption across the globe.[30] Using their EV estimates for the United States and allocating EVs to Massachusetts based on the Commonwealth's current share of EVs,[31] yields an estimated 950,000 light-duty and 30,000 MHD[32] EVs on the road in 2035. Applying the EV-to-port ratios used to calculate the publicly accessible and MHD EV charger port estimates in Tables 4.11 and 4.12, approximately 40,000 publicly accessible charging ports and 9,100 MHD charging ports would be needed to support 950,000 light-duty and 30,000 MHD EVs in 2035. The geographic dispersion of these chargers is also likely to be similar to the charger estimates using the 2050 CECP EV adoption forecast analysis as those estimates rely on current traffic and EV adoption patterns.

Table 4.13 summarizes the EV adoption and public EV charging infrastructure estimates utilizing BNEF's EV adoption forecast.[33]

Table 4.13. Estimated public and MHD EV chargers by charger type for 2030 and 2035 using BNEF EV adoption rates

Category	Charger Type	EV Count		Port Count	
		2030	2035	2030	2035
Public	Level 2	450,000	950,000	19,000	36,000
	DCFC	450,000	950,000	2,500	4,000
MHD	Private	12,000	30,000	3,200	8,000
	Public DCFC	12,000	30,000	450	1,100

[30]Bloomberg New Energy Finance, 2024 Electric Vehicle Outlook.

[31]BNEF EV estimates were allocated to Massachusetts using total vehicle sales projections from the U.S. Energy Information Administration (EIA)'s Annual Energy Outlook 2025 (Annual Energy Outlook 2025 – Table 39 – Light-Duty Vehicle Stock by Technology Type) and current Massachusetts EV registrations from the Alternative Fuels Data Center. U.S. Energy Information Administration (Alternative Fuels Data Center: Vehicle Registration Counts by State).

[32] The BNEF EV adoption forecast does not include MHD fleet vehicles. The ratio of light-duty EV adoption under the BNEF EV forecast to the CECP light-duty EV adoption forecast in 2030 and 2035 were applied to the CECP MHD EV adoption forecast to calculate 12,000 MHD EVs in 2030 and 30,000 in 2035, respectively.

[33]As of January 1, 2025, Massachusetts had 8,800 public EV charger ports. Massachusetts deployed approximately 2,000 public EV charger ports in 2024. Applying this deployment rate through 2030 yields 21,010 public EV charging ports. Notably, this exceeds the estimate of 17,000 and 21,000 public EV charger ports needed in 2030 and 2031, respectively.

EV charger estimate comparison - CECP, Status Quo, and BNEF EV adoption rates

Figure 4.13 compares the rate of charger deployment using CECP EV adoption rates for 2025 through 2030 with the public EV charging infrastructure that would be needed if recent EV adoption rates continue and if the BNEF EV adoption rates are realized. While the 2050 CECP models an increasing rate of charger deployment as the industry matures, it also assumes that the pace of deployment will increase over time, meaning that the estimates of public EV charging infrastructure shown in Figure 4.13 do not meaningfully diverge until later in this decade.

Figure 4.13. Illustrative comparison of public charging infrastructure needs in 2030 using 2050 CECP, current EV adoption rates, and BNEF EV adoption rates

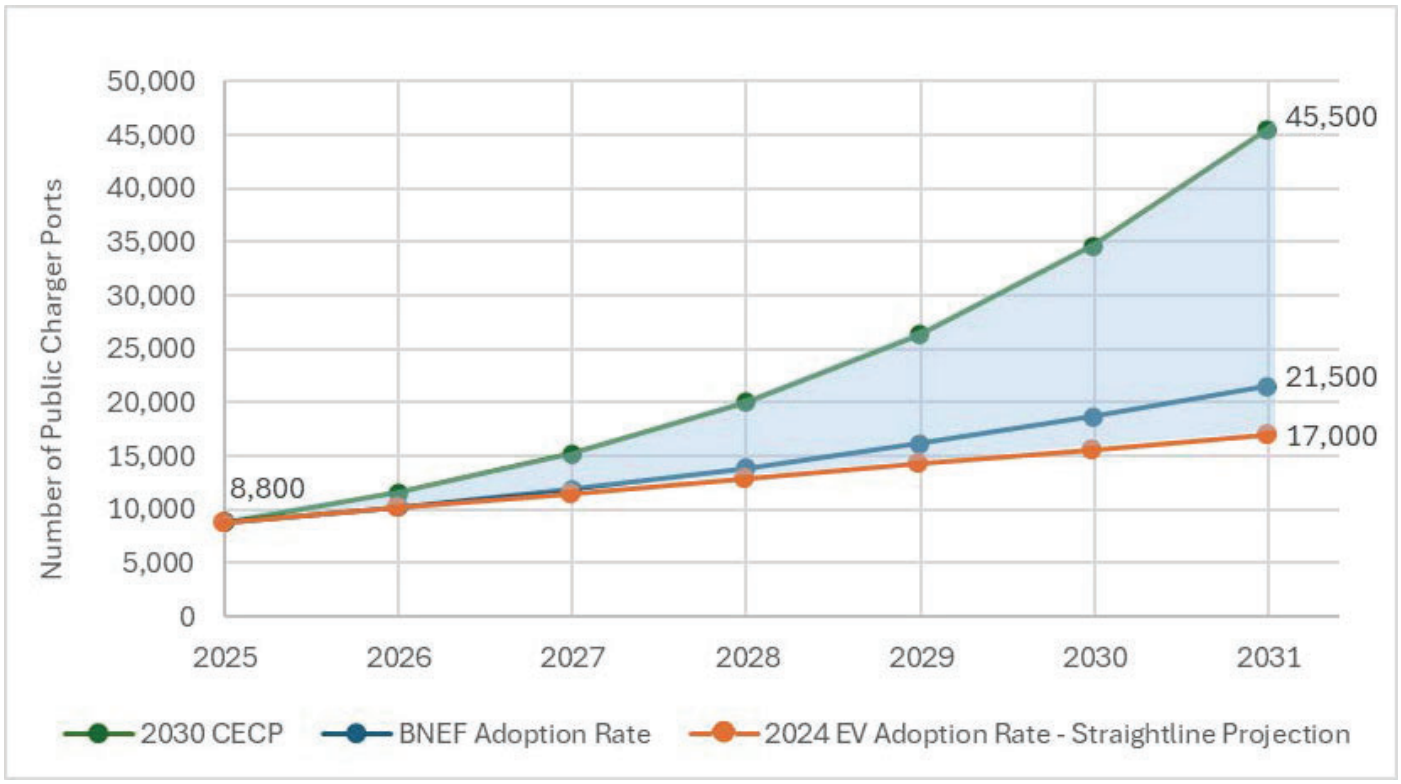
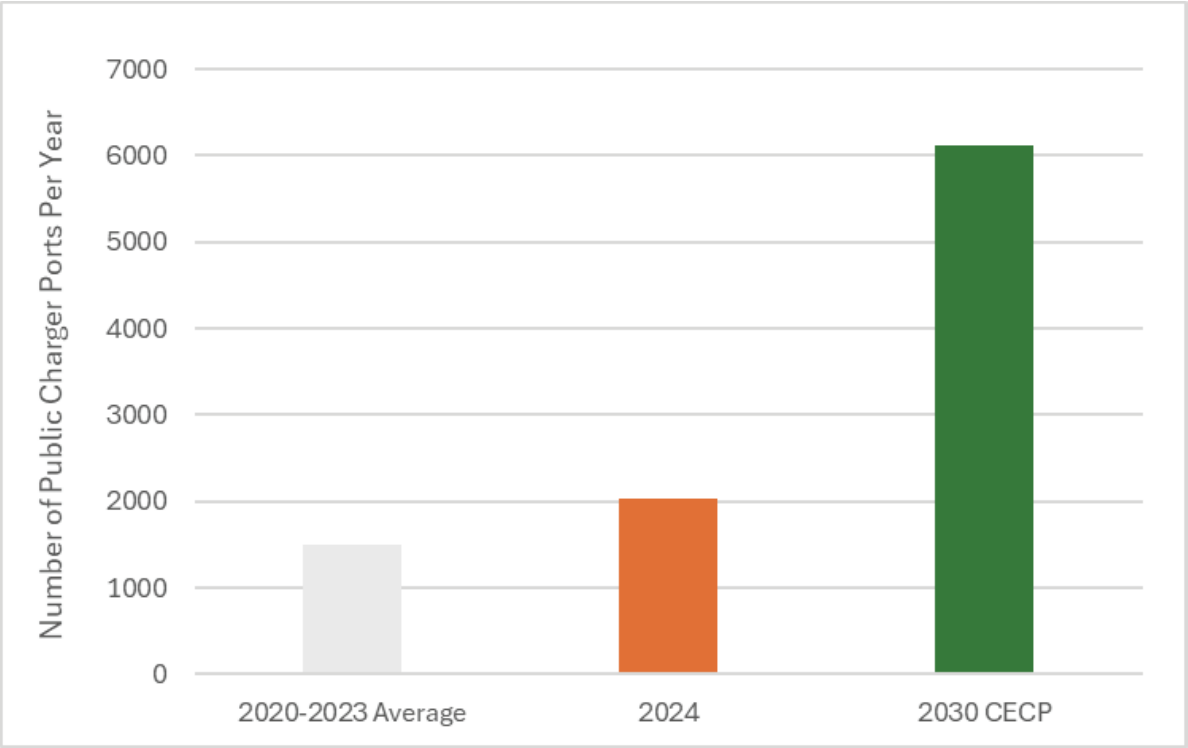


Figure 4.14 compares the average, annual deployment rate required to deploy the public EV charging infrastructure estimated to be needed in 2030 under the 2050 CECP vehicle forecast with the 2024 public EV charging infrastructure deployment rate used in Figure 4.13, as well as the average, annual EV charging infrastructure deployment rate between 2020 and 2023.[34] Figure 4.14 shows that the average annual public EV charging infrastructure deployment rate will need to increase by three-fold through 2030 to meet the CECP EV charger port benchmarks.

[34]Alternative Fuels Data Center, "Alternative Fueling Station Locator," U.S. Department of Energy. https://afdc.energy.gov/stations#/analyze?region=US-MA&show_map=true&country=US&access=public&access=private&fuel=BD&fuel=CNG&fuel=E85&fuel=HY&fuel=LNG&fuel=LPG&fuel=ELEC&lpg_secondary=true&hy_nonretail=true&ev_levels=all.

Figure 4.14. Historical, annual public EV charger deployment versus annual deployment needed to meet 2030 CECP



Future EV charging estimates conclusion

EV charging infrastructure will need to expand and grow rapidly in Massachusetts in the coming years to not only meet the Commonwealth's climate goals, but to serve the growing number of EVs on the road. EVs will use a wide range of charging types, including private Level 1 and Level 2 chargers (serving both single-family and multi-family homes), workplace chargers, and public Level 2 and DCFC. MHD vehicles will also need to be supported by Level 2 and DCFC.

The precise amount of EV charging infrastructure needed in the future is uncertain and highly dependent on future EV adoption, which will be shaped by federal and state policy developments, market conditions, and consumer behavior. Other factors will also impact the amount of EV charging infrastructure needed and actual deployment including, but not limited to, EV and EV charging technology improvements (e.g., longer duration batteries and higher capacity chargers), further changes to federal EV charging programs and incentives (e.g., CFI, tax credits, etc.), and market and other macroeconomic factors (e.g., supply chain constraints, cost increases, etc.).

Facing this uncertainty, EVICC and the state must focus deployment of charging infrastructure in areas that provide the greatest value for EV drivers and give consumers confidence to transition to EVs.

Priority deployment areas and state program alignment

To effectively serve increased EV adoption, Massachusetts' efforts to advance EV charging infrastructure must become more targeted, focusing on deployment of EV charging infrastructure that provides the greatest value to Massachusetts drivers. This approach and understanding of where the state, utilities, and private sector can be most effective in deploying high value EV charging infrastructure is key to ensuring continued and sustained progress amid federal policy and market uncertainties.

This section identifies the EV charging infrastructure opportunities that new and existing EV charging programs in the Commonwealth should prioritize moving forward. It begins by detailing the need for new and existing state-funded efforts to be more targeted and principles for becoming more targeted. It then outlines the highest value EV charging opportunities for light-duty passenger vehicles and fleet vehicles and how state-funded programs can best support deployment of EV charging in these segments. It then provides examples of how Massachusetts' existing programs can better target high-value charging opportunities and analyzes whether any high-value opportunities require additional support. It concludes by summarizing the steps the Commonwealth should take to ensure the highest value EV charging infrastructure opportunities are incentivized by new and existing programs.

Need for and approach to prioritization

Moving forward, new and existing programs funded by the state budget or charges assessed to electric utility customers should focus on the highest value opportunities for both light-duty passenger and fleet EVs.[35] Modifying existing programs to be more targeted in their eligibility and developing new initiatives to target specific EV charging opportunities will allow funding sources to be leveraged to the greatest extent possible, funding higher value projects at lower costs. Fully leveraging public funding is important in both the short- and long-term. In the short-term, it will help counteract current economic and federal policy headwinds. In the long-term, it will enable the Commonwealth to increase the deployment of EV charging infrastructure to support more, new EVs on the road.

State programs and initiatives should not just focus on opportunities with the greatest value to EV drivers, but should also consider the emissions reduction benefits of supporting different types of transportation electrification. For instance, electrification of MHD vehicles provides greater emissions reductions than light-duty passenger vehicle electrification. Similarly, electrification of vehicles used in ridesharing and food delivery reduces more emissions than electrifying other light-duty vehicles due to the difference in vehicle miles traveled. State programs and initiatives should also target funding on use cases and/or barriers where state or funding intervention can impact the outcome. In other words, funding should not be used on activities or outcomes that will occur without intervention or are unlikely to be impacted by intervention. As noted at the beginning of this Chapter, EVICC and the state

[35]Importantly, this should guide future state and utility program actions and should not be applied retroactively. Moreover, it will take time for new and existing programs to adapt and careful consideration to ensure effective implementation.

can have the greatest impact on are EV charging accessible to all members of the public (i.e., "public" EV charging), including on-street charging for residential customers, and EV charging for MHD fleet vehicles.

Regardless of the segment targeted by a specific EV charging program or initiative, all state-funded programs should consider whether, if, and how the program can also support other segments and uses (e.g., fast charging along major corridors could also support charging for residents of multi-unit housing without off-street parking). All state-funded efforts should also seek the equitable buildout of EV charging infrastructure across the Commonwealth, particularly in areas and for customers that have historically had limited access to EV charging infrastructure (i.e., rural communities, communities with EJ populations, tenants of multi-unit dwellings without off-street parking, and MHD vehicles).

Each region of the Commonwealth and each municipality will require a slightly different mix of EV charging infrastructure to support the high-value use cases outlined below. Therefore, it is important to complement any state-funded programs with resources for regional planning agencies and municipal governments to support deployment of EV charging infrastructure that meets the needs of a given region and municipality. Future EV charging infrastructure deployment plans, including the next EVICC Assessment, and EV charging programs should take regional and local needs into account.[36]

High-Value EV charging opportunities

This section identifies the highest value EV charging opportunities for light-duty passenger vehicles and fleet vehicles and how EVICC and state-funded programs can best support deployment of EV charging within these use cases. These use cases were identified, defined, and prioritized based on public comments, EVICC public meeting discussions, the analysis included in this Assessment, and state agency and EEA staff expertise.

These categories and their relative importance may change over time as EV charging infrastructure is deployed, EV and EV charging technology evolves, and as the economics of transportation electrification, particularly heavy-duty EVs, continues to improve. The next EVICC Assessment offers an opportunity to reevaluate these categories and their relative importance.

Light-duty passenger EVs

High-value EV charging infrastructure deployment use cases for light-duty passenger EVs can be categorized into four buckets and broken into two tiers based on level of importance.

The first tier includes: (1) **at- or near-home charging** as roughly 80% of charging occurs at home;[37] and, (2) supporting charging for longer-distance travel and longer daily communities, i.e., to **address range anxiety**. Historically, EV charging deployment programs have focused on the first tier.

[9]For example, state support for on-street charging for MUD residents without off-street parking is likely more impactful in urban and dense residential suburban areas than in rural communities. Conversely, state support for a robust network of fast charging stations and charging at city centers in rural areas may have a greater impact than in urban and suburban areas as chargers are likely to have lower utilization rates in rural areas and a greater, proportionate impact on rural EV drivers and their communities.

[37]Jeff St. John, "5 charts that shed new light on how people charge EVs at home," Canary Media, October 25, 2022, https://www.canarymedia.com/articles/ev-charging/5-charts-that-shed-new-light-on-how-people-charge-evs-at-home

The second tier includes: (3) charging infrastructure that supports **common daily trips**, e.g., shorter commutes and local trips; and, (4) chargers for **rural or remote destinations** that are unlikely to have utilization rates to justify private investment in EV charging infrastructure. Deploying EV charging infrastructure at second tier use cases provides EV drivers confidence in the availability of charging infrastructure where they frequent most and plan to travel. Charging infrastructure at these locations will become increasingly important as Massachusetts continues to build out a robust network of chargers.

Typical solutions for all four high-value light-duty passenger EV charging infrastructure use cases and opportunities for EVICC and state-funded programs to impact deployment at these use cases are outlined below:

- **At- or near- home charging:** The type of EV charging infrastructure used to serve this use case depends on the type and location of housing, whether the EV owner has off-street parking and whether EV charging is available at their off-street parking, and how frequently the EV is used.
    - **Single family homes:** While typically not necessary to provide drivers with the level of charge needed for daily travel as Level 1 chargers can provide 40-50 miles of range overnight, Level 2 chargers provide EV drivers with the peace of mind that their vehicle can be fully charged in a manner of hours.
        - **Potential for Impact:** Current program offerings for wiring upgrades and Level 2 rebates for low-income customers appropriately address existing barriers to adoption. EVICC should consider collecting municipal and utility data to monitor the deployment of EV chargers under these use cases. Ultimately, this is a lower priority use case for additional intervention by state-funded programs given, among other factors, that consumers typically commit to deploying and paying for at-home charging infrastructure when they make the decision to purchase an EV.
    - **Multi-unit dwellings with off-street parking:** Level 1 charging, Level 2 charging, or DCFCs are sometimes provided as an amenity by landlords or building owners.
        - **Potential for Impact:** EVICC understands that the current program offerings under MassEVIP and from the investor-owned utilities appropriately address existing barriers to adoption. EVICC will continue to monitor the deployment of EV chargers under this use case and may recommend expanding programs for these segments if deployment in this segment requires greater support.
    - **Multi-unit dwellings without off-street parking:** Level 2 on-street charging or Level 2 or fast charging stations located within a 5-minute walk, particularly in densely populated areas.
        - **Potential for Impact:** This use case provides an opportunity for EVICC and state-funded programs to have a significant impact as on-street charging is still a nascent use case and is vital to providing near-home charging for residents without off-street parking. The existing MassCEC offering is key to getting municipal on-street charging programs off the ground. The guidebook

that the program will develop will be crucial to standing up even more on-street charging programs. Effectively leveraging the guidebook will be the key to successful on-street charging deployed at scale in Massachusetts. Identification of strategic opportunities to support residents without off-street parking is another opportunity for EVICC to influence deployment of high-value EV charging infrastructure. Municipal and transportation parking lots in or near residential areas are particularly good locations for charging stations to support residents without off-street parking or on-street charging. Municipal and transportation parking lots in or near residential areas are particularly good locations for charging stations to support residents without off-street parking or on-street charging.

- **Longer-distance travel/commutes:** Fast charging stations with minimum rated capacity at or above 120 kilowatts (kW) located near primary and secondary transportation corridors.
    - **Potential for Impact:** EVICC understands that fast chargers alo EVICC understands that fast chargers along transportation corridors often still require financial assistance to be deployed, particularly where grid constraints exist and where utilization rates are expected to remain low. However, once sufficient charging is deployed along major and secondary corridors, it may be appropriate for incentives for fast chargers along transportation corridors to be phased out as these charging stations are likely to yield high utilization rates and, thus, earn sufficient revenue to justify deployment without an incentive. As detailed below, existing programs could be more targeted to ensure public funds support chargers closest to primary and secondary transportation corridors and transportation corridors that currently have fast charging gaps. Fast charging stations along major and secondary corridors that can support other use cases, e.g., overnight charging for residents without off-street parking or on-street charging, and/or maximize emissions reductions, e.g., chargers to support rideshare and food delivery vehicles where a high volume of trips occur, should be prioritized.

- **Common daily trips:** Level 2 or lower capacity fast charging stations (e.g., below 120 kW) at workplaces, municipal and transportation parking lots, near shopping and dining, recreation and community centers, and education facilities, among others.
    - **Potential for Impact:** Workplace charging has been a particular point of emphasis within this category in recent years as it can support EV drivers that don't have access to at- or near-home charging. However, workplace charging only offers charging infrastructure to a limited set of EV drivers. Public EV charging infrastructure at locations convenient for every day car trips such as city centers, grocery stores, and big box stores are also important, but have been less of a focus and are less abundant than anticipated.

In addition to supporting consumer confidence in the availability of parking, these charging stations can also support other use cases, such as at- or near- home parking and rideshare and food delivery drivers. It is unclear whether incentives are insufficient to encourage deployment of these public charging stations or if other barriers exist. To unlock the potential of these locations for EV charging infrastructure, appropriate state agencies should work with these entities to better understand key barriers and to bring existing incentives together in a way that is more convenient to utilize.

- **Destination charging:** Level 2 or lower capacity fast charging stations (e.g., below 120 kW) at ski resorts, public parks, and hotels not near major or secondary travel corridors or other EV charging infrastructure.
    - **Potential for Impact:** This charging use case is helpful for combatting range anxiety and can help reduce grid impacts from fast charging along transportation corridors by providing drivers with additional charging options. However, EV charging infrastructure at popular vacation and tourism destinations such as hotels and resorts in the Berkshires and on Cape Cod is less abundant than anticipated. It is unclear whether incentives are insufficient to encourage deployment or if other barriers exist. To unlock the potential of these locations for EV charging infrastructure, appropriate state agencies should work with these entities to better understand key barriers and to bring existing incentives together in a way that is convenient for these businesses to utilize.

Light-duty and MHD fleet EVs

High-value EV charging infrastructure deployment opportunities for light-duty and MHD fleet EVs can be evaluated in three categories:

- DCFC or Level 2 charging at or near where light-duty and MHD fleet vehicles are housed
- DCFC in areas highly trafficked by light-duty and MHD fleet vehicles
- DCFC along major corridors for longer haul MHD fleet vehicle trips

EV charging near where fleet vehicles are housed is the most important high-value fleet use case for EVICC and state-funded programs to focus on as it offers the best opportunity for EV charging infrastructure to be fully utilized and enables fleets to share EV charging infrastructure.

Charging in areas highly trafficked by fleets is the next most important use case in the short-term as fleets often require on-route charging. This use case is less important for EVICC and state-funded programs to focus on since public EV charging infrastructure that support light-duty passenger EVs can also support on-route fleet charging so long as public chargers are designed to accommodate both light- and medium-duty vehicles. Moreover, EV charging infrastructure to support on-route fleet charging requires greater analysis for fleets to identify optimal locations and coordination amongst fleets, if the infrastructure will be shared, to ensure optimal charger utilization.

In the short-term, EVICC and state-funded programs should place the lowest priority on EV charging infrastructure to support long haul, heavy-duty EVs as the economics of heavy-duty vehicle electrification are currently challenging. However, corridor charging remains critical for enabling full fleet electrification and should be pursued strategically alongside other high-value use cases when the opportunity arises.[38] Moreover, as noted above, **all fast charging along major corridors should be designed and deployed with MHD vehicles in mind** so that they can serve all types and sizes of vehicles. This will require chargers along these corridors to provide higher capacity charging (i.e., 350 kW+) at parking spaces that offer enough space for MHD EVs and/or allow EVs to pull-through like most gas stations.

Better aligning existing program to target high-value EV charging opportunities

As detailed in Chapter 3, Massachusetts' existing programs cover a variety of high-value EV charging opportunities, including supporting the highest value charging opportunities at multi-unit dwellings and for public and fleet use, as well other strategic segments such as workplace charging. Continued support for these EV charging segments within existing programs, at funding and incentive levels commensurate with their value and financial need, will be critical to Massachusetts' ability to meet the charging needs of current and future EV drivers.

However, as discussed throughout this section, existing programs need to become more focused on the highest value EV charging opportunities. Targeted eligibility parameters for EV charging infrastructure segments, along with program requirements that ensure funded chargers serve their intended customer segments, where necessary and practical, can significantly enhance the impact of public investments. Refining incentive criteria and enforcing minimum thresholds in a way that maintains or minimally disrupts administrative efficiency aligns with the strategic objectives outlined in this chapter, namely to leverage limited public funds to deliver greater deployment, usage, equity, and emissions benefits. These potential improvements warrant careful evaluation in the next iteration of existing programs to ensure Massachusetts continues to maximize public benefits and equity in its EV charging infrastructure investments.

Utility Program Incentive Targeting

Public-access DCFC incentives under the Massachusetts utility programs should be more strategically targeted toward high-value use cases and geographies, rather than broadly open to any site. For instance, eligibility for higher-capacity DCFCs (e.g., ≥150 kW) could be restricted to locations within approximately 1–1.5 miles of major highways or sites serving medium- and heavy-duty (MHD) fleets. Additional incentive tiers could prioritize chargers near transportation corridors without DCFCs or in dense residential neighborhoods—provided that the EDCs conduct spatial analysis (or coordinate with EVICC and EVICC members via the Section 103 process) to identify gaps in the DCFC network along transportation corridors and that siting in residential areas follows the EVICC Environmental Justice guidance. This focused approach ensures taxpayer dollars deliver maximum usage and equity impact, bolsters consumer confidence

[38]For example, the recent selection of a new operator for the MassDOT Service Plazas offers an opportunity to ensure that long-term planning for EV charging infrastructure is required of and conducted by the new service plaza operators. EV charging infrastructure accessible to heavy-duty EVs will be required in the medium- and long-term at the MassDOT Service Plazas to support the state's clean transportation goals.

through reliable fast-charging access, and complements statewide deployment goals.

Connecticut's multi-layered utility EV charging programs offer a helpful comparison.[39] Eversource and United Illuminating in Connecticut manage a "Make-Ready" program that layers incentives, including higher rebates for underserved communities and for projects at public, workplace, fleet, or multifamily sites, while setting minimum port counts and differentiated make-ready vs. EVSE rewards. While effective at aligning investment with policy priorities, that structure is administratively more complex. Massachusetts could adapt this by building tiers into incentive design, e.g., enhanced grant or performance incentives for DCFCs in transport corridors or EJ-prioritized zones, though it would need to balance targeting precision with administrative efficiency.

Ensuring Intended Use for the MassEVIP Program

The MassEVIP program requirements are designed to ensure that funded projects deliver their intended benefits by targeting use cases where the public value is highest. For example, workplace charging incentives include minimum employee thresholds to prioritize businesses with larger workforces. This focus helps avoid scenarios where incentives are used by small employers or residential households, which dilutes program impact. By emphasizing workplaces with sufficient employees, MassEVIP supports broader access to EV charging for workers who may lack home charging options, thereby expanding equitable access to EV infrastructure.

Targeted eligibility can be used to preserve public resources by preventing incentive misuse and ensures program outcomes align with state goals for EV adoption and emissions reduction. Targeted eligibility may not be necessary or appropriate in all cases, and the benefits may not outweigh the added administrative costs. However, as MassEVIP and the other EV charging incentive programs evolve, thoughtful development and maintenance of clear, enforceable eligibility criteria, where and when appropriate, will be important to maximizing the program's effectiveness and ensuring that the use of public funding translates into the deployment of high value EV charging infrastructure.

Gaps in existing programs

While Massachusetts' existing programs broadly cover the above listed high-value use cases, some high-value EV charging opportunities are not currently covered or sufficiently covered by these programs. This section identifies gaps in the coverage of high-value EV charging use cases, with highest priority gaps highlighted in yellow boxes.

Light-duty passenger EVs

- **At- or near-home charging:** Scaling on-street charging and charging at public parking lots in residential areas, particularly in municipalities without existing on-street charging programs.
- **Addressing range anxiety:** Fast charging along secondary transportation corridors.
- **Common daily trips:** Proliferation of charging at convenient locations such as grocery stores, box stores, and transit hubs.

[39]See Connecticut Electric Vehicle (EV) Charging Program (Commercial): 2025 Participation Guide for Customers & Vendors Commercial EV Infrastructure Program.

- **Destinations:** Proliferation of charging at popular vacation and tourism destinations (e.g., hotels and resorts in the Berkshires and on Cape Cod).
- **General / Multiple Use Cases:** Scaling charging infrastructure for rideshare and food delivery vehicles in areas where a high volume of trips occur.

Light-Duty and MHD fleet EVs

- **Near where fleets are housed:** Near where fleets are housed: Building MHD fleet charging at or near where fleet vehicles, including transit fleets, are housed, both for individual fleets and at depots to serve multiple fleets.
- **Highly trafficked MHD areas and major corridors:** Ensure charging deployed via state-funded programs along major corridors is accessible for MHD EVs.

Scaling MassCEC's On-Street Charging Solutions program, along with identifying opportunities at public parking lots to support residential charging, and deploying DCFC along secondary transportation corridors are the two most important gaps to address for light-duty passenger EVs as they support the most important EV charging use cases for those vehicles. EVICC and state-funded programs should also prioritize deploying EV charging infrastructure at MHD fleet depots as MHD fleet EV charging needs to be scaled more than other charging infrastructure to meet the state's clean transportation goals and MHD fleet vehicles have a higher impact on transportation emissions.

Light-duty passenger EVs

Table 4.14 provides a comprehensive list of the high-value use cases for light-duty passenger EVs and the existing program offerings that support deployment of EV charging for these use cases. Table 4.14 also provides a detailed evaluation of the high-value light-duty passenger use cases not covered by existing program offerings and potential next steps to address the identified gaps.

Fast charging along secondary corridors

The identified gap in fast charging infrastructure along secondary transportation corridors is validated by Figure 4.15, which shows sections of primary and secondary transportation corridors in Massachusetts that are within one mile of a public DCFC charging location. The map highlights that DCFC stations are more numerous along primary corridors and in the eastern half of the state, but that large sections of Western Massachusetts, particularly along secondary corridors, lack DCFC availability. These qualitative and quantitative findings are consistent with stakeholder feedback gathered at EVICC meetings and public hearings, where Western Massachusetts was consistently identified as lacking sufficient DCFC capacity.

Table 4.14. Summary of high-value light-duty passenger EV charging use case gaps in existing programs

Priority Tier	Use Case	Typical Charger Solutions	Programs Addressing Use Case	Existing Gap	Potential Next Step(s)
1	**At- or near-home:** Housing with off-street parking	Level 1 or Level 2	MassEVIP Multi-Unit Dwelling program, Investor-Owned Utility programs (*single-family wiring rebates; Make-Ready and charger incentives for multi-unit dwellings*)	N/A	N/A
	At- or near-home: Housing without off-street parking	Level 2 curbside charging or fast charging	On-Street Charging Solutions program and Act4All 2 Equal Energy Mobility Project	Scaling on-street charging, particularly in municipalities without existing on-street charging programs in dense residential areas Level 2 and fast charging in the same areas, but where on-street charging may not be possible/practical or is inssuficient to meet demand.	Leverage the On-Street Charging Solutions program Guidebook to support more municipal programs Use the Section 103 process (See Appendix 8) to identify charging opportunities near housing without off-street parking with particular consideration for the use of public parking lots and supporting other high-value use cases
	Long-distance travel and longer daily commutes, i.e., addressing range anxiety	Fast charging along primary and secondary transportation corridors	NEVI, Investor-Owned Utility Programs (Make-Ready and fast charger incentives)	Fast charging along secondary transportation corridors Promoting / scaling deployment of fast chargers along major and secondary corridors to support rideshare and food delivery vehicle electrification	Explore analysis and/or programs to support fast charging along secondary corridors and scaling MassCEC's TNC Charging Hub program Use the Section 103 process (See Appendix 8) to identify ideal locations and appropriate design of future, related offerings

Priority Tier	Use Case	Typical Charger Solutions	Programs Addressing Use Case	Existing Gap	Potential Next Step(s)
2	**Common daily trips such as shorter commutes and local trips** (e.g., chargers at municipal and transportation parking lots, recreation and community centers, and education facilities and near shopping and dining)	Level 2 or lower-power fast charging	MassEVIP Public Access Charger program, Investor-Owned Utility Programs (Make-Ready and Level 2 charger incentives for public access chargers)	Proliferation of charging at convenient locations such as grocery stores and big box stores	Explore outreach and packaging existing incentives for (i) grocery stores, (ii) big box stores, and (iii) small businesses in city centers Explore ideal locations for lower-powered fast charging hubs in rural and suburban areas and EJ populations
	Rural or remote destinations (e.g., chargers at ski resorts, public parks, and hotels	Level 2 or lower-power fast charging	MassEVIP Public Access Charger program, Investor-Owned Utility Programs (Make-Ready and Level 2 charger incentives for public access chargers), DCR's Public Access EV Charging Program[40]	Proliferation of charging at popular vacation and tourism destinations (e.g., hotels and resorts in the Berkshires and on Cape Cod)	Explore outreach and packaging existing incentives for popular vacation and tourism destinations

EVICC plans to use the Section 103 process (See Appendix 8) to explore the appropriate distance between DCFCs, the ideal power capacity and number of fast charger ports,[41] and ideal locations for DCFCs along secondary transportation corridors. These outputs will inform future state-funded offerings designed to ensure a baseline of DC fast charging along secondary transportation corridors.

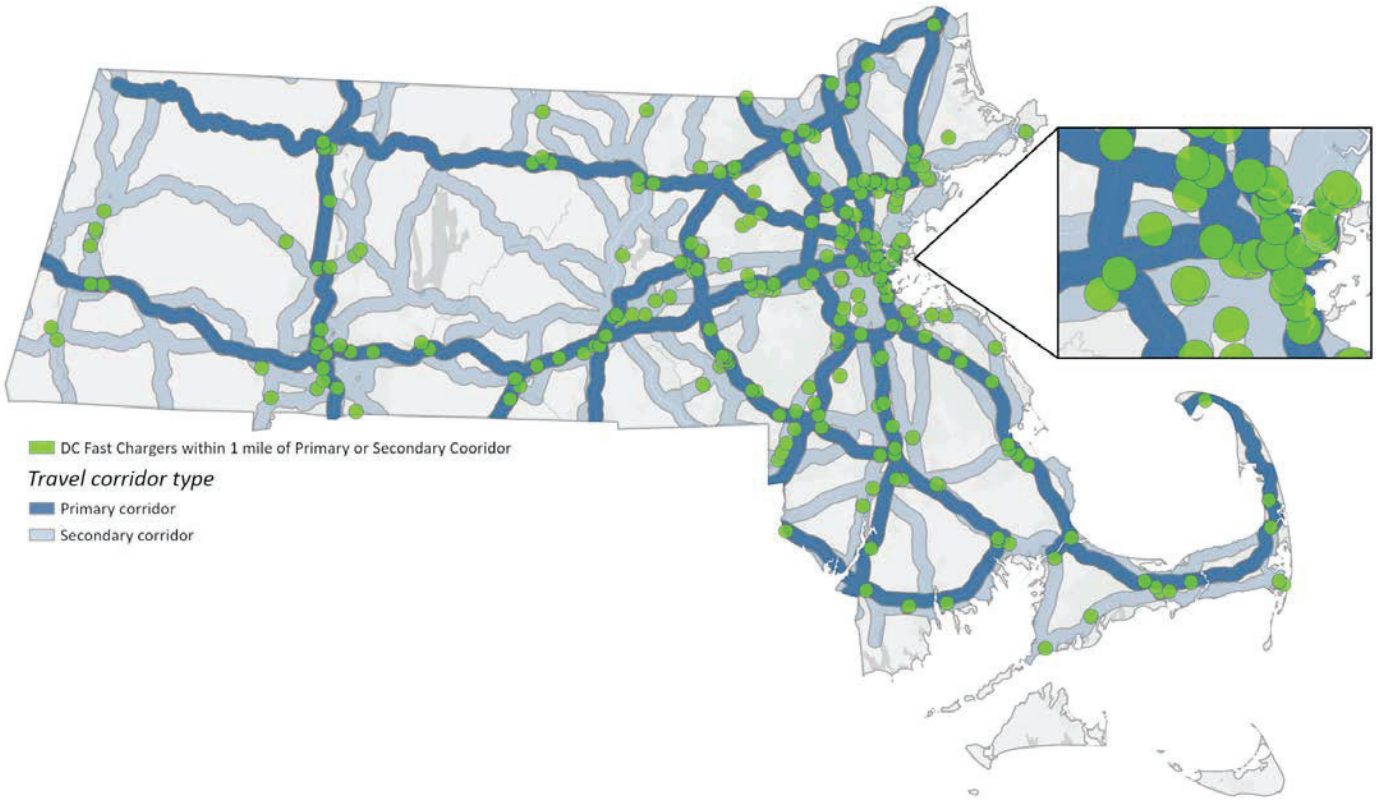
Light-duty and MHD fleet EVs

Several efforts are already underway to support the high-value EV charging infrastructure deployment opportunities for fleet EVs including, but not limited to: the MassDOT Service Plaza Operator Request for Proposals (See Chapter 3); the MassCEC's Medium- and Heavy-Duty Charging Solutions program (See Chapter 3); and MassEVIP's expansion of its workplace and fleet charging incentives to MHD fleets.

[40]DCR's Public Access EV Charging Program is funded through the Charging and Fueling Infrastructure (CFI) Grant Program administered by the U.S. Department of Transportation's Federal Highway Administration. DCR continues to have access to its CFI funding. See Chapter 3 for more information on the program.

[41]Primary and secondary corridors are depicted differently in other figures and prior analysis presented at EVICC public meetings. This figure aligns the primary corridors with Massachusetts' Alternative Fuel Corridors, identifying all other major transportation corridors as "secondary".

Figure 4.15 Primary and secondary transportation corridor segments within 1 mile of a DCFC station[42]



Charging for MHD fleet vehicles is a particularly important consideration for Massachusetts' charging network as electrification of MHD vehicles will reduce emissions from the transportation sectors more than electrification of light-duty passenger vehicles.[43] The General Court validated the importance of EV charging for MHD vehicles by directing EVICC to explore MHD charging in this Assessment (See 2024 Mass. Acts Ch. 239, §§ 102, 103).

Unfortunately, chargers accessible to MHD vehicles are not as widespread as light-duty vehicle chargers. The U.S. Department of Energy's Alternative Fuel Data lists only 6 public charging stations with 15 ports for medium-duty vehicles and 2 public charging stations with 4 ports for heavy-duty vehicles. Many MHD fleet vehicles likely rely on charging infrastructure at their own depots, rather than public chargers, which are not reflected in the U.S. Department of Energy's data. Moreover, Table 4.1 indicates that more than 1,800 charger ports have been deployed through state-funded programs to support fleets, which very likely include several charger ports serving MHD fleets.

Regardless of the actual number of EV charger ports available to MHD EVs, it is clear that more needs to be done to ensure that MHD fleets have sufficient resources and charging infrastructure to confidently transition to EVs. This is particularly

[42]For example, the Massachusetts' NEVI program is designed to ensure that there are at least four DCFCs of at least 150 kW located every 25 miles along primary travel corridors. These parameters may or may not be appropriate for the future EV charging needs along secondary corridors.

[43]As noted earlier in this Chapter, MHD vehicles accounted for more than a quarter of Massachusetts' transportation sector emissions in 2019, despite representing less than 4% of registered vehicles.

true for MHD fleets where the transition to EVs can offer financial savings, e.g., last mile delivery and service industry vehicles. These fleets also provide an opportunity for early electrification "wins" and to build familiarity with EVs with MHD fleet owners and operators.

In particular, charging at MHD fleet hubs should be prioritized as it will provide the greatest value for MHD fleets and biggest impact for public funding. New models that allow MHD fleets housed near each other, e.g., at the same depot, or frequenting similar locations to share EV charging infrastructure should be tested and scaled to allow for public funding of MHD chargers to be further leveraged. This model would also address the upfront cost barrier of EV charging for MHD fleet electrification.

Additionally, existing state-funded programs should encourage public charging stations receiving incentives to accommodate MHD EVs where practicable and appropriate. Ensuring that public charging stations supported by public funds are able to serve light- and medium-duty vehicles not only supports MHD electrification, but ensures the equitable use of public dollars that were collected from businesses and residences alike.

EV charging deployment priorities conclusion

State-funded EV charging program offerings must become more targeted on the areas of greatest value outlined in this Section in order to better leverage available public funding.

Current state-funded programs should continue to fund EV charging infrastructure for public use, multi-unit dwellings, workplaces, and fleets (e.g., EVIP and the EDC programs), but these programs must make the following improvements to better align with high-value EV charging opportunities and to better unlock private funding:

- **Minimize eligibility overlap;**[44]
- **Improve customer communication** and publicly available information;
- Target **high-value DC fast charging** opportunities that, where possible and practical, serve both light- and medium-duty vehicles and multiple use cases (e.g., overnight residential charging, rideshare and food delivery vehicle electrification, etc.); and,
- Ensure **funds are utilized on intended use cases**, where necessary and practical.

Gaps in existing program offerings must also be addressed to ensure that the highest impact EV charging opportunities are targeted. This section identified several gaps in existing program offerings. EVICC recommends discrete actions to address each gap at the conclusion of this Chapter and in Chapter 8. Ultimately, however, EVICC recommends that addressing the following gaps be prioritized as they serve the highest value light-duty passenger and fleet EV use cases:[45]

- Ensuring a baseline of **fast charging along secondary transportation corridors**;
- **Scaling on-street charging and charging at public transit parking lots in residential areas throughout the Commonwealth,** to support residents without off-street EV charging, particularly in municipalities without existing on-street charging programs; and,

[44]Conclusion from Chapter 3.

[45]Importantly, these priority areas serve as guideposts for future actions and should not be applied retroactively. Moreover, it will take time for new and existing programs to align with these priorities and careful consideration of how best to align with these priorities to ensure effective implementation.

- **Deploying MHD fleet charging, including charging for transit fleets, at or near where fleet vehicles are housed**, both for individual fleets and at depots to serve multiple fleets.

These conclusions assume that existing state and utility programs and initiatives continue to support the deployment of other high-value EV charging opportunities at similar levels. Massachusetts' EV charging deployment priorities may require modification if deployment lags in these other segments. EVICC will actively follow deployment across all high-value EV charging opportunities and will recommend changes to the priorities identified in this report if and when necessary, including in the next EVICC Assessment.

Ultimately, the continued progress and deployment of high-value EV charging infrastructure within existing programs and the additional actions outlined in this section to address gaps in existing EV changing efforts will allow the Commonwealth to build an equitable, interconnected, accessible, and reliable EV charging network throughout Massachusetts.

Public Comments

During the monthly EVICC public meetings in 2024 and 2025 and at the public hearings on the Second EVICC Assessment, EVICC members and members of the public provided feedback on EV charging needs across the state. Key themes from those comments are highlighted below.

- There is a need for additional fast charging across the state, particularly in Central and Western MA (especially west of Springfield, along Rt 2, Rt 9, Rt 7, and I-90) and in rural areas off of main transportation corridors.
- Additional Level 2 charging stations are needed to serve dense residential areas, especially for people who may not have charging at their home. Innovative solutions like curbside charging models could help meet this need.
- More Level 2 charging is needed at common, local travel destinations like workplaces, transit hubs, and commuter parking areas.
- Vacation and recreation areas, like the Berkshires, Cape Cod, and State parks, would benefit from more fast charging options, in addition to some Level 2 charging in locations like hotels and recreation areas where people may spend longer periods of time.
- Both DCFCs and Level 2 charging should be co-located with grocery stores, big box stores, downtown areas, etc.

Participants at the public hearings also provided feedback and ideas included in the section on considerations for key demographics and vehicle types. Those comments have been incorporated directly into the recommendations. A summary of comments provided during the public hearings on the Second EVICC Assessment and the minutes and presentations from prior EVICC public meetings are available on the EVICC website.

EVICC Recommendations

EVICC recommends the following actions to address the analysis and key themes highlighted in this Chapter and to support the building out of EV charging infrastructure to ensure an equitable, interconnected, accessible, and reliable EV charging network in Massachusetts.

- **Agency Action:** Explore the creation of an initiative focused on deploying fast charging stations along secondary corridors. *(Lead(s): EEA and MassDEP; Support: MassDOT, DOER, and the EDCs)*
- **Agency Action:** Develop additional initiatives to support medium- and heavy-duty EV charging, including exploring deploying charging hubs near fleet depots and industrial zones and piloting MHD charger-sharing reservations paired with other solutions to reduce common fleet charging barriers. *(Lead(s): EEA and MassDEP; Support: MassCEC, MassDOT, DOER, and the EDCs)*
- **Agency Action:** Establish partnerships with state, municipal, and stakeholder organizations to conduct tailored outreach and ways to package existing incentive programs to high-value locations for EV charging infrastructure including (i) grocery stores, (ii) big box stores, (iii) small businesses in city centers, (iv) popular vacation and tourism destinations (e.g., hotels and resorts in the Berkshires and on Cape Cod), (v) public parking lots (e.g. transit and transportation hubs), and (vi) MHD fleets that could financially benefit from electrifying (e.g., last mile delivery and service industry vehicles). *(Lead(s): EEA; Support: EOED, MassDEP, DOER, MassDOT, MBTA, and municipal governments)*
- **Agency Action:** Collaborate with the legislature and relevant stakeholders to explore ways to standardize local EV charger permitting, including model ordinances and enabling authority to reduce deployment delays across municipalities. *(Lead(s): EEA and DOER)*
- **Agency Action:** Create a Municipality Resource Committee to support development of resources for municipalities that will meet on an ad hoc basis. EEA will work with DOER's Green Communities Division and the Metropolitan Area Planning Council to identify potential committee members and OEJE to include representation from community-based organizations and EJ populations, and others who can help develop and/or review materials. *(Lead(s): EEA; Support: DOER, MAPC, and OEJE)*
- **Agency Action:** Create and maintain a public inventory of EV chargers in Massachusetts, to the greatest extent practically possible, to inform the biennial EVICC Assessment. This inventory will leverage existing data sources and future DOS registration processes. *(Lead(s): EEA; Support: DOS)*

- **Agency Action:** Identify locations that could serve multiple high-value EV charging use cases including, but not limited to, (a) fast charging hubs along major transportation corridors to support long-distance travel, rideshare drivers, and residential charging and (b) charging stations at public parking lots, e.g., municipal and transit lots, to serve daily trips and residential charging. *(Lead(s): EEA; Support: MassDEP, MassDOT, MBTA, DOER, and the EDCs)*
- **Agency Action:** Ensure that future iterations of existing state-funded EV charging programs appropriately prioritize the high-value use cases identified in the Second Assessment, support development of EV charging infrastructure that serves multiple high-value use cases, where possible and appropriate, and utilize the Guide to the Equitable Siting of Electric Vehicle Charging Stations in Environmental Justice Populations as applicable. *(Lead(s): Program Administrators, i.e., MassDEP, MassCEC, DOER, and the EDCs; Support: EEA, MassDOT, and MBTA)*
- **Agency Action:** Continue ongoing coordination on transportation electrification inputs and strategies for the next Clean Energy and Climate Plan *(CECP). (Lead(s): EEA; Support: DOER, MassDEP, MassCEC, MassDOT, MBTA, DPU, as appropriate, and the EDCs)*
- **Agency Action:** Ensure that the Guide to the Equitable Siting of Electric Vehicle Charging Stations in Environmental Justice Populations is utilized, as applicable, in the execution of the Second EVICC Assessment recommendations. *(Lead(s): EEA; Support: All EVICC member organizations)*
- **Agency Action:** Continue ongoing coordination on transportation electrification inputs and strategies for the next Clean Energy and Climate Plan (CECP). (*Lead(s): EEA; Support: DOER, MassDEP, MassCEC, MassDOT, MBTA, DPU, and the EDCs)*