Commonwealth of Massachusetts

Executive Office of
Energy and Environmental Affairs

Second Electric Vehicle Infrastructure Coordinating Council (EVICC) Assessment

August 11, 2025

Second Assessment Overview

Where We Are

- **Massachusetts has made considerable progress since the last EVICC Assessment.** Public EV charging increased by ~50% between August 2023 and December 2024 with annual fast charger deployment increasing more than 150%.
- **Massachusetts is well situated compared with its peers.** Massachusetts ranks 4th in EV chargers per capita amongst all states, including ACC II and ZEV MOU states and 1st in charger density.
- However, EV charger deployment **currently faces significant headwinds**. Federal program and investment tax credit roll backs and market and cost uncertainties are the biggest challenges.

Where We Hope to Go

- The current pace of **EV charger deployment needs to triple** to meet the EV adoption benchmarks included in the state's Clean Energy and Climate Plans (CECP) by 2030.
- Given existing headwinds and the need to increase deployment, Massachusetts must:
  - **Be more strategic** in employing public funding, leveraging private funding, and utilizing the electric grid;
  - **Improve efficiencies** of existing program administration and coordination and by removing common barriers;
  - **Be proactive** in planning for future EV charging, grid infrastructure, and future funding sources; and,
  - **Significantly improve the EV charging experience.**

Existing EV Charging Programs

Massachusetts has **programs in place or under development to support nearly every aspect of EV charging**, including programs that:

i. Support EV charger deployment, both at scale and in targeted use cases;
ii. Test and scale novel business and technology models to unlock further private funding;
iii. Provide tailored customer support to reduce soft costs and address barriers; and,
iv. Other programs and initiatives to reduce the electric grid impacts of EV charging and proactively plan for future grid infrastructure to accommodate EVs.

EV charger incentive programs offset the costs of electrical infrastructure upgrades (called “make-ready” or “installation costs”), charging equipment (called “EVSE” for electric vehicle supply equipment), and / or other costs (e.g., operations and maintenance costs, networking costs, etc.).

These programs are overseen and/or administered by a variety of organizations including the state’s investor-owned utilities, the Massachusetts Department of Environmental Protection (MassDEP), the Massachusetts Department of Transportation (MassDOT), the Massachusetts Department of Energy Resources (DOER), and the Massachusetts Clean Energy Center (MassCEC).

Summary of Massachusetts EV Charger Programs

	Charger Types	Use Case	Inactive / Grant	Program Administrator
Scaling Deployment				
MassEVIP	Level 1 or 2	Public access, multi-unit dwellings, workplaces, and fleets	Y	MassDEP
Investor-Owned Utility Programs	Level 2 or fast charging	Public access, multi-unit dwellings, workplaces, and fleets	Y	National Grid, Eversource, and Unitil
Targeted Deployment				
Addressing Range Anxiety				
National Electric Vehicle Infrastructure (NEVI) Formula Program	Fast charging	Major transit corridors	Y	MassDOT
Service Plazas	Fast charging	Major transit corridors	N - contractual obligation for plaza operator(s)	MassDOT
Specific Use Cases				
Investor-Owned Utility Programs	Level 2	Single-family residential to address Level 2 cost barriers	Y	National Grid, Eversource, and Unitil
Green Communities	Level 2	Municipal charging	Y	DOER
Leading by Example Division (LBE) / Division of Capital Asset Management and Maintenance (DCAMM)	Level 2	State charging	Y	LBE/DCAMM
Charging and Fueling Infrastructure (CFI) Grant Program	Grant dependent	Grant dependent (e.g., state parks, MBTA park-and-rides, etc.)	Y	Grant dependent

Summary of Massachusetts EV Charger Programs (cont.)

	Charger Types	Use Case	Inactive / Grant	Program Administrator
Proving + Scaling New Models				
Creating Replicable Models				
On-Street Charging Solutions	Level 2	Residential charging for EV drivers without off-street charging	Y	MassCEC
Ride Clean Mass: Transportation Network Company (TNC) Charging Hubs Program	Level 2 or fast charging	Charging for rideshare drivers	Y	MassCEC
Vehicle-to-Everything	Level 2	Utilizing EVs as a grid resources	Y	MassCEC
Mobile Charging for Medium- and Heavy-Duty (MHD) Vehicles	Level 2 or fast charging	Novel charging solution for MHD fleets to address common barriers	Y	MassCEC
Accelerating Clean Transportation for All Round 2 (ACT4All 2)	Level 2	Multiple equity focused novel applications / business models	Y	MassCEC
Support Services				
Utility Fleet Advisory Services Program	N/A	Public fleets in Eversource and National Grid territory	N - provides technical assistance to help overcome common barriers	National Grid and Eversource
Mass Fleet Advisor	N/A	Private fleets in Eversource + National Grid territory, all other fleets	N - provides technical assistance to help overcome common barriers	MassCEC
Other Programs + Initiatives				
National Grid's Off-Peak Rebate Program	Level 2	Residential and fleet EVs	Y - monthly rebate for charging during certain hours	National Grid
Proposed Managed Charging Programs	Level 2	Residential EVs	Under review in D.P.U. 24-195 and 24-197 (Monthly rebates, if approved)	Eversource and Unitil
Section 103 Process	Process authorized in Section 103 of the 2024 Climate Act to work with the investor-owned utilities to identify potential grid upgrades to accommodate future EV charging.			

Percentage of EV Charging Receiving Public Funding

- **Approximately 68%** of all public EV chargers have received funding from state or utility programs.
  - The below figure includes chargers located in Municipal Light Plant (i.e., municipally owned/operated utility) territory. It does not include federal tax incentives or account for chargers that participated in multiple programs.

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

Charger Projections - 2030/2035 Estimates

The EV charger estimates below rely on the EV adoption assumptions in the Clean Energy and Climate Plan (CECP) for 2050.

Category	Charger Type	Port Count		2035 EV/Port Ratio
		2030	2035	
Single-Family	Level 1	216,000	373,000	5.4
	Level 2	482,000	945,000	2.1
Multi-Family	Level 1	8,000	18,000	22.5
	Level 2	18,000	45,000	8.9
Workplace	Level 2	18,000	47,000	51.7
Public	Level 2	40,000	92,000	26.4
	DCFC	5,500	10,500	230.4
Medium- and Heavy-Duty	Level 2	6,500	17,000	1.9
	DCFC	800	2,500	13.9
Total		**794,800**	**1,550,000**	

It is important to view EV charging infrastructure estimates by charger category (i.e., customer segment, e.g., single-family, multi-family, public, etc.) in the context of whether and how much the state or other actors can influence deployment. For example, public EV charging infrastructure likely requires greater support to deploy than single-family chargers.

State EV Charging Priorities

- The precise amount of EV charging infrastructure needed in the future is uncertain and highly dependent on several factors including, but not limited to, future EV adoption, which will be shaped by federal and state policy developments, market conditions, and consumer behavior.

- The state's priorities and strategy for building EV charging infrastructure are important than the forecast of future EV charging infrastructure.

- State and utility program should focus on:
  - EV charging opportunities that have the highest value for Massachusetts drivers and where state and utility programs can have the greatest impact. In general, this means targeting high-value public and fleet charging (see next slide).
  - EV charging opportunities that maximize emissions reduction benefits (e.g., MHD fleet electrification and EV chargers for rideshare drivers) and multiple high-value use cases (e.g., fast charging along major corridors that also supports charging for residents without off-street parking or on-street charging).
  - The equitable buildout of EV charging infrastructure across the Commonwealth, particularly in areas or for customers that have historically had limited access to EV charging infrastructure (i.e., rural communities, communities with environmental justice populations, tenants of multi-unit dwellings without off-street parking, and MHD vehicles).

EV Charging Program Recommendations

Existing Programs

- The Second Assessment recommends that existing state and utility programs and initiatives continue to fund EV charging infrastructure for public use, multi-unit dwellings, workplaces, and fleets (e.g., EVIP and the EDC programs) with the following improvements to better align with high-value EV charging opportunities and to better unlock private funding:
  - **Minimize eligibility overlap**;
  - **Improve customer communications** and publicly available information;
  - Target **high-value DCFC 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.

Addressing Gaps

- The Second Assessment also recommends that the following gaps in the EV charging network and existing program offerings be prioritized moving forward:
  - Ensuring a baseline of **fast charging along secondary transportation corridors**;
  - Scaling on-street charging and charging at public transit parking lots in residential areas to **support residents without off-street EV charging**, particularly in municipalities without existing on-street charging programs; and,
  - 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.

Electric Grid Implications of EV Charging

- Understanding the impacts of EV charging on the grid and alternative solutions to building new grid infrastructure is critical to ensuring affordability.
- The Second Assessment models four scenarios to estimate the potential peak electricity demand of EV charging (Table 1) and the potential impact on electric grid feeders* (Table 2) in 2030 and 2035.
- This analysis is a starting point to engage with the utilities and stakeholders on the process required by Section 103 of the 2024 Climate Act.

Table 1. 2030 and 2035 demand from EVs during peak hours

Year	Scenario 1 Unmanaged (MW)	Scenario 2 Flat Charging (MW)	Scenario 3 Status Quo (MW)	Scenario 4 Technical Potential** (MW)
2030	1,547	1,035	1,440	241
2035	4,001	2,699	3,255	477

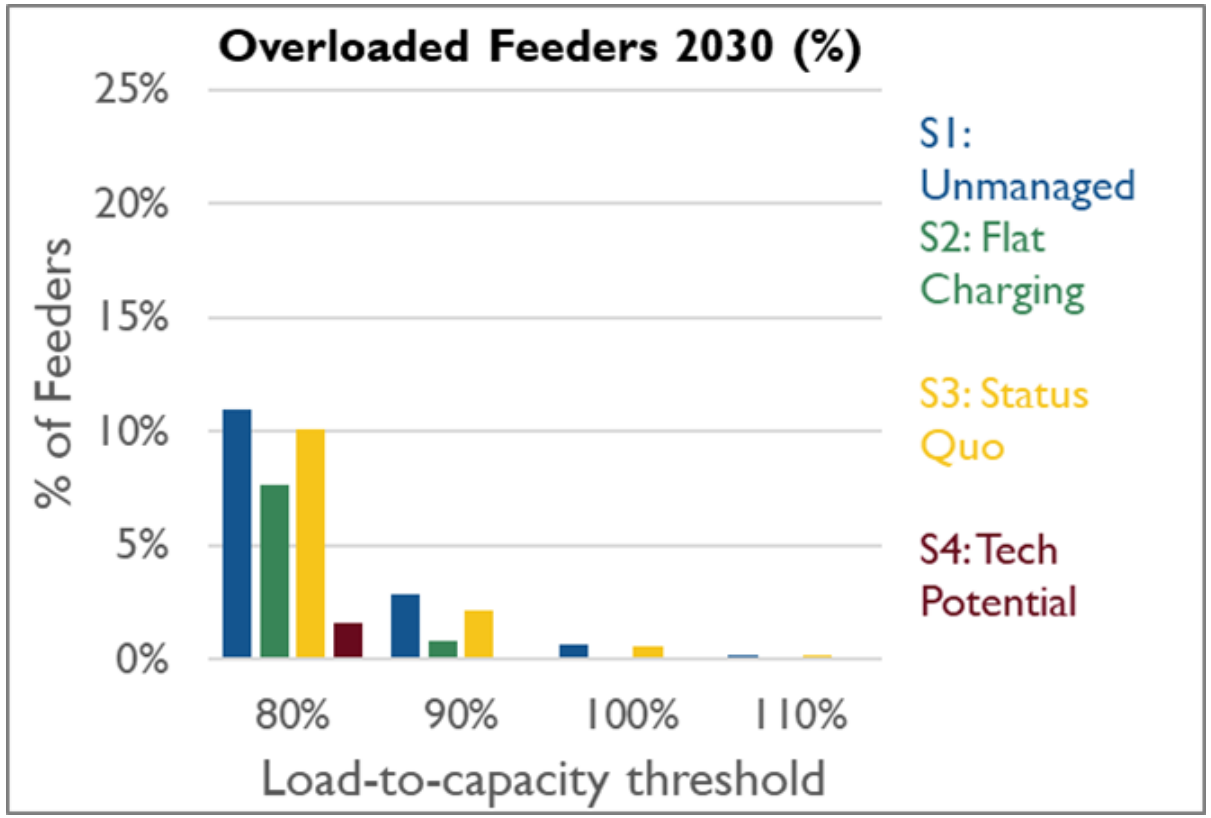
Table 2. Overloaded Feeders in 2030 and 2035

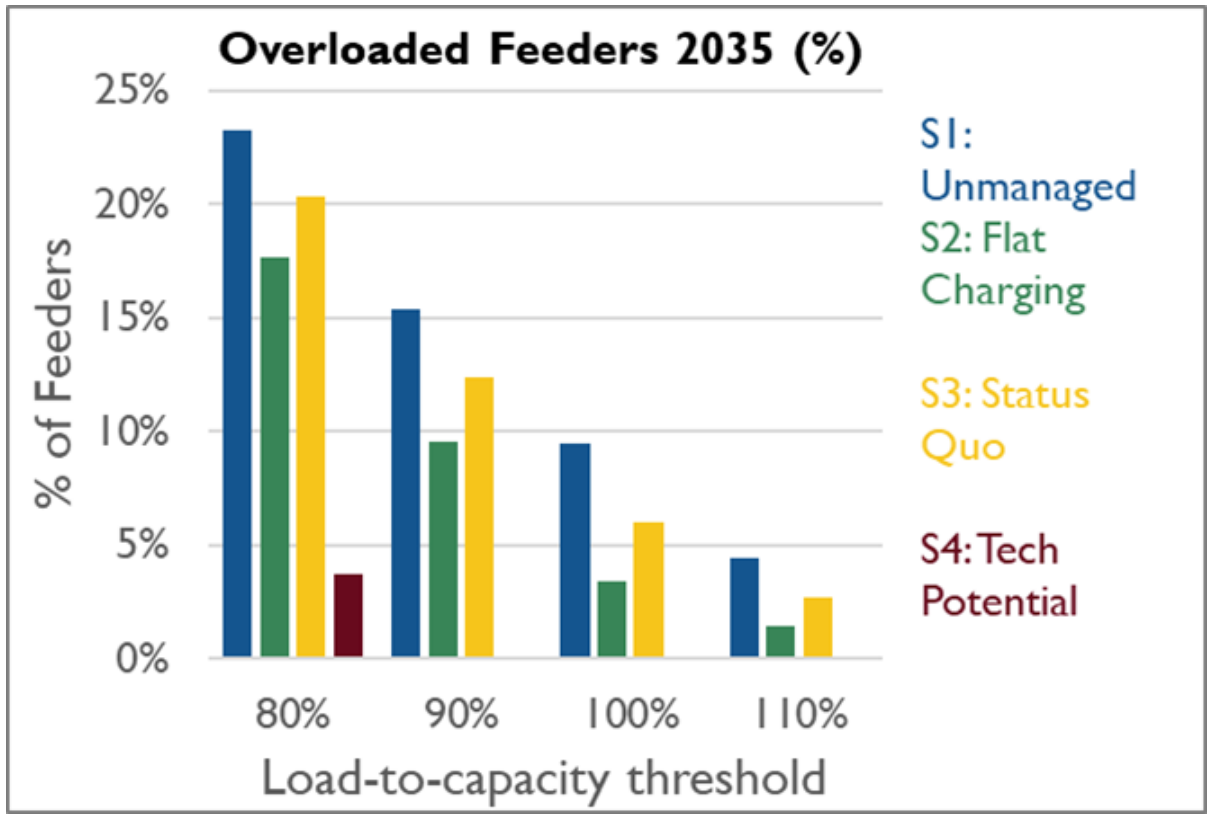
	Scenario 1 Unmanaged	Scenario 2 Flat Charging	Scenario 3 Status Quo	Scenario 4 Technical Potential**
2030 count	289	200	266	41
% of Total Feeders	11%	8%	10%	2%
2035 count	613	466	537	7
% of Total Feeders	23%	18%	20%	4%

* Feeders are low- to medium-voltage distribution lines that carry electricity from a substation to lower distribution lines that directly serve customers.

Scenario 4 **is not practically possible; however, it serves as an illustration of the importance of managed charging. The types of locations where managed changing is most likely to help avoid grid upgrades is the most impactful output of the managed charging analysis included in the draft Second EVICC Assessment.

Projected Feeder Overloading





In the next five years, 2-11% of Massachusetts feeders could overload. Similarly, about 10 percent of substations could be overloaded from EV load by 2030 and 28 percent by 2035.

Key Consumer Experience Considerations

Reliability

A charger's hardware and software components must all be working correctly for a smooth charging experience.

Best Practices:

- Real time status reporting
- Uptime requirements
- Open Charge Point Protocol (OCPP)

Charger Registration

Establishing registration requirements allows for charging station inspection and allows for better oversight of consumer protection measures.

Examples:

- Division of Standards EV Charger Testing Program
- 2024 Climate Act EV consumer protection measures

Data Sharing

Data sharing across charging networks and interoperability requirements help streamline consumer charging experiences.

Best Practices:

- Data aggregation on platforms like Google, Apple Maps, and PlugShare
- Data sharing through Application Programming Interfaces (APIs)

Consumer Disclosure and Payment

Generally, each charging station operator has their own payment system, which which often causes consumer frustration.

Best Practices:

- Plug & Charge (see next slide)
- EVICC Owner-Operator Resource on fee and policy guidance

Key Consumer Experience Considerations

Operational Standards

Clear operational standards is key to addressing ongoing challenges with charger interoperability.

Key Considerations:

- Charging speed based on electrical capacity
- Connector types and vehicle compatibility
- Charger-to-charger network communication and charging network-to-charging network communication

Other Consumer Protections

- Americans with Disabilities Act (ADA) space considerations
- Roadway and wayfinding signage
- Pricing signage

Plug & Charge

Technology that allows seamless authentication and billing so that drivers can charge simply by plugging in their vehicle.

Benefits:

- Reduces friction at the point of use
- Greater convenience and trust for drivers
- Reduced support costs and stronger customer retention for operators
- Current network is fragmented

EV Charging Business Model Concerns and Solutions

Ensuring sustainable, scalable EV charging requires addressing key business model challenges.

The draft Second EVICC Assessment identified **the following areas of concern**: Infrastructure Costs, Energy Pricing, Utilization Rates, Revenue Streams, Consumer Convenience, Interoperability, Grid Dependency, Government Incentives, Technology Evolution, Battery Advancements, Sustainability, Cybersecurity and Supply Chains.

The draft Second EVICC Assessment also identified **potential solutions** for these concerns:

- **High Costs:** Infrastructure and grid upgrade support via grants, modular design, and partnerships.
- **Uncertain Profitability:** Stabilize revenue via collaborations (subscriptions, ads, etc.) and dynamic pricing.
- **Low Utilization:** Improve demand through better siting, off-peak incentives, and higher power chargers.
- **Consumer Friction:** Expand access, enhance user experience, and ensure payment + network compatibility.
- **Grid & Tech Pressure:** Mitigate demand with solar, storage, and future-proof modular systems.
- **Policy & Supply Risks:** Target stable incentives and diversify tech sourcing and manufacturing.

Second Assessment Recommendations

The Second Assessment recommends **32 strategic actions** to ensure that Massachusetts is well-positioned to continue its progress in deploying EV charger and to effectively adapt to changing circumstances.

The strategic actions are organized into the following categories:

Be More Strategic

- Prioritizing Value
- Unlocking Private Funding
- Minimizing Grid Impact

Improve Efficiency

- Enhancing Current Programs
- Reducing Barriers

Be Proactive

- Proactive Planning
- Sustainable Funding

Significantly Improve the Charging Experience

Each strategic action identifies lead and supporting state agencies and/or the investor-owned electric utilities (i.e., EDCs). Recommendations for municipalities and private actors are not explicitly included. However, these groups are equally as important in realizing Massachusetts' EV charging goals as they are responsible for deploying charging infrastructure. Several strategic actions will provide additional support to municipalities and private industry to deploy this infrastructure.

Notable Recommendations

- Establish partnerships with state, municipal, and stakeholder organizations to conduct tailored outreach and ways to package existing incentive programs to high-value EV charging opportunities.
- Develop a long-term managed charging strategy, defining program benefits, cost-effectiveness metrics, and incentive structures, and integrating lessons learned from pilot projects and industry best practices into broader implementation.
- Create a planning framework for integrating EV charging infrastructure projections into electric distribution system planning through the requirements outlined in Section 103 of the 2024 Climate Act, including ensuring that known, high-value charging locations, such as the MassDOT Service Plazas, have sufficient grid capacity to support light-, medium-, and heavy-duty EVs on the timescale needed to meet the Commonwealth's climate requirements.
- Collaborate with the legislature and relevant stakeholders to explore ways to standardize local EV charger permitting to reduce EV charger deployment delays, including developing model ordinances.
- Develop resources to reduce barriers for municipalities, potential EV charging site hosts, and other EV charging stakeholders similar to the Public Level 2 EV Charging Station Fees and Policies Guide.
- Renew efforts to pass comprehensive "right-to-charge" legislation by expanding the 2024 Climate Act to include renters.
- Build on the success of MassCEC's existing innovative EV charging infrastructure programs … by providing resources and lessons learned to help further unlock the potential of these business and technology models. Simultaneously, look for new opportunities to test and help scale other innovative business models.