

# EVICC data needs summary

**Purpose:** to gather and summarize the data needed for EVICC to be successful

Original directive	Suggested data needed	Possible sources
The present condition of, and future needs for, road and highway electrification	<ul style="list-style-type: none"><li>Number and type of public chargers/ports along highways and major thoroughfares in Massachusetts</li><li>Geographic distribution of public chargers along major thoroughfares</li><li>Functionality/online and offline time of public chargers</li></ul> <p><i>Note that Sweden is building an actual “electric road” with <a href="#">multiple types of recharging capabilities</a></i></p>	<a href="#">AFDC / U.S. DOE</a> (current) Synapse (future needs) <b>Present condition: TBD</b>
Estimates of the number and type of electric vehicle charging stations needed in public and private sector settings including, but not limited to, parking lots for public transit stations, commercial and industrial settings and single occupancy, double occupancy and multiple-occupancy residential structures	<ul style="list-style-type: none"><li>Number and type of all public chargers in Massachusetts organized geographically</li><li>Maps of municipalities with and without charging stations</li></ul>	<a href="#">AFDC / U.S. DOE</a> Synapse
Suggestions for optimal locations for electric vehicle charging stations in urban, suburban and rural areas including, but not limited to, low-income and moderate-income communities	<ul style="list-style-type: none"><li>Electric vehicle purchase data, 2020–2023</li><li>EV information webinar and workshop participation data</li></ul>	<a href="#">RMV</a> Green Energy Consumers Alliance Synapse
Discussion of distribution, transmission, and storage infrastructure and technology needed	<ul style="list-style-type: none"><li>Geographic distribution of kWh load across Massachusetts, 2020–2023</li><li>Temporal distribution of kWh load across Massachusetts, 2020–2023, including granular views of peak driving periods</li><li>Geographic and temporal distribution of kWh attributed to public charging stations</li><li>Projected cost (financial and timing) of distribution and transmission needs on individual projects (e.g. level 2 and DCFC installations, MDHD depots)</li><li>Projected total cost of distribution and transmission needed to support EV charging depending on deployment strategy.</li><li>Cost-effectiveness of strategies to reduce transmission and distribution impacts.</li></ul>	DPU Synapse Utilities
Discussion of present and projected future costs and methods of financing those costs	<p>For installers:</p> <ul style="list-style-type: none"><li>Estimates of installation costs for public charging stations, including versions accounting for different variables (distance to electricity source, tunneling, etc.)</li><li>Costs of a range of equipment types for Level II, DCFCs, etc.</li><li>Cost of transmission and distribution infrastructure.</li><li>Types of maintenance agreements and costs</li><li>Average cost and common types of equipment repairs</li><li>Average cost and average frequency of equipment upgrades</li><li>Current available financing methods for charging stations</li></ul> <p>For consumers:</p> <ul style="list-style-type: none"><li>Range and average cost to charge per kWh at public stations</li><li>Cost variations per kWh at public stations depending on timing (e.g., free until 6 p.m.)</li><li>Variable costs of electricity by utilities per kWh by month, 2020–2023</li></ul>	ChargePoint National Grid / Eversource DPU Charging port manufacturers Charging port installation contractors Charging station maintenance contractors

Discussion of technological advances in charging stations and related infrastructure, equipment and technology including, but not limited to, advances that may aid in collecting data, connecting via remote communications, providing mobile charging, assisting in grid management and assisting in the integration of renewable energy resources	<ul style="list-style-type: none"><li>● Summary of technological advances under exploration for charging station equipment and infrastructure</li><li>● Summary of current data collection methods for mobile charging, grid management, and integration of renewable energy</li><li>● Cost and benefits of networked charging, data generation technologies</li><li>● Impact of grid management systems on deployment of renewable energy and storage, strategies to maximize potential benefits for renewable energy generation.</li><li>● Potential role of bidirectional charging: costs, benefits, limitations, potential.</li></ul>	Charging port manufacturers ChargePoint and similar
Discussion of strategies to maintain electric vehicle charging stations in full and continuous working order	<ul style="list-style-type: none"><li>● Analysis of charging station uptime and strategies to improve uptime.</li><li>● Frequency and types of repairs historically needed</li></ul>	Charging station maintenance contractors
Recommendations to assist governmental and private sector officials in installing charging stations and related infrastructure, equipment and technology, including within proximity of on-street parking	<ul style="list-style-type: none"><li>● Logistics for charging station installation needs (e.g. physical space requirements)</li></ul>	Charging port installation contractors
Identification and discussion of current policies and recommendations for policies, laws and regulatory actions that may facilitate the provision of charging stations and related infrastructure, equipment and technology including, but not limited to, cybersecurity requirements and best practices.	<ul style="list-style-type: none"><li>● Compilation of current state and federal EV charging incentives</li><li>● Current policies, laws, regulatory actions related to charging station installation, infrastructure, equipment, and technology</li></ul>	GreenerU DPU, DOER, MassDOT, DEP <a href="#">Inflation Reduction Act</a> (incentives for businesses)