

CASE STUDY

Enhancing EV Infrastructure with MassDOT

BACKGROUND

The Massachusetts Department of Transportation (MassDOT) focuses on serving people's needs while promoting economic vitality, quality of life, and environmental sustainability. By fostering programs and projects that yield substantial returns on investment, MassDOT aims to support the Commonwealth's economic vitality, quality of life, and environmental sustainability. An ambitious initiative to expand the network of Electric Vehicle (EV) chargers along the Massachusetts Turnpike showcases this commitment, aligning with broader efforts to promote clean, efficient, and accessible transportation solutions.

CHALLENGE

With the accelerating adoption of electric vehicles, MassDOT recognized the critical need to enhance the EV charging infrastructure at travel plazas along the Massachusetts Turnpike. The project's scope required a multifaceted approach, addressing the technical, financial, and regulatory aspects of such an expansion. Specifically, MassDOT sought an owner's engineer to conduct comprehensive studies and analyses to understand the power requirements for EV chargers, the costs of service upgrades or utility enhancements needed, and the feasibility of incorporating renewable energy solutions.

SOLUTION

To meet these challenges, MassDOT enlisted the Electric Power Engineers (EPE) for its expertise as a specialized engineering team tasked with the following key activities:

An initial load study determined power demands for EV chargers, guiding future planning and infrastructure development. The team conducted on-site assessments and engineering analysis to evaluate the current electrical infrastructure capacity and determine required upgrades for new EV chargers. Financial analysis conducted for project in PJM market, considering energy supply costs for EV charging sites and complexities of market pricing regulations. Feasibility studies assessed integrating solar PV systems with battery storage for sustainable and cost-effective energy solutions, analyzing cost savings from solar energy and the impact of batteries on minimizing grid upgrades.

CLIENT



TYPE

EVs

SECTOR

Electrification Planning

ISO

ISO-NE

LINE OF BUSINESS

Electrification Transportation

SERVICES PROVIDED

- Load Study
- Engineering and On-site Assessments
- Financial Analysis
- Solar PV and BESS Feasibility Studies

LOCATION

Illinois



Delivering Energy Intelligence