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July 1, 2025

Lisa Felice
Executive Secretary
Michigan Public Service Commission
7109 West Saginaw Hwy, 3rd Floor
Lansing, MI 48917

Re: U-21538 – *In the matter, on the Commission's own motion, to open a docket for certain regulated electric utilities to file transportation electrification plans and for other related matters.*

Dear Ms. Felice:

Consistent with the Commission's Orders in Case Nos. U-21492 and U-21538, attached for electronic filing is Indiana Michigan Power Company's Transportation Electrification Plan and proof of service.

This is a paperless filing and is, therefore, being filed only in pdf.

Please contact me if you have any questions.

Thank you.

Sincerely,

Dykema Gossett PLLC

Theresa A. G. Staley

Digitally signed by: Theresa A.G. Staley
DN: CN = Theresa A.G. Staley email = TAStaley@dykema.com C = US
Date: 2025.07.01 13:43:31 -04'00'

Theresa A. G. Staley

Enclosure

INDIANA MICHIGAN POWER℠

An AEP Company

Transportation Electrification Plan

July 2025

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Abbreviations

ADMS	Advanced Distribution Management System (ADMS)
AFDC	Alternative Fuels Data Center, hosted by US Department of Energy
AMI	Advanced Metering Infrastructure
BAU	Business as Usual
BEV	Battery Electric Vehicle
DACR	Distribution Automatic Circuit Reconfiguration
DCFC	DC Fast Charging Stations
DER	Distributed Energy Resources
DERMS	Distributed Energy Resource Management
DSM	Demand Side Management
EGLE	Environment, Great Lakes, and Energy, under Michigan Department of Environment
EV	Electric Vehicle
EVSE	Electric Vehicle Supply Equipment – “charging station”
EVSP	Electric Vehicle Service Provider
FERC 2222	Federal Energy Regulatory Commission rule requiring independent system operators (ISO) and regional transmission organizations (RTO) in the U.S. to develop plans that give DERs access to wholesale energy markets.
IRP	Integrated Resource Plan
LDVs	Light Duty Vehicles
Level 2	A Level 2 charger, can charge an electric vehicle between 3kW to 19kW
MiEJ	Michigan Environmental Justice Screening Tool
MUD	Multi-Unit Dwelling
PHEV	Plug-In Hybrid Electric Vehicle
TCO	Total Cost of Ownership
TE	Transportation Electrification
TEP	Transportation Electrification Program or “The Plan”
TOD	Time of Day
V2G	Vehicle-to-Grid
V2X	Vehicle to (various including Home, Business, Grid)
ZEV	Zero Emission Vehicles

Executive Summary

Background

In Case No. U-21492, the Commission requires electric utilities in the state of Michigan to file a Transportation Electrification Plan (TEP) that contains the electric utility's long-term strategy to address transportation electrification in its service territory and its strategy to optimize electric vehicle (EV) charging load. The TEP is required to include planned investments, incentives, programs, and expenditures that are reasonably expected to increase transportation electrification in the electricity utility's footprint during the plan.[1] This document contains Indiana Michigan Power's (I&M or Company) Transportation Electrification Plan (TEP) that meets the requirements set forth by the Commission and provides the Company's forward-looking strategy support electric vehicle growth in I&M's service territory. Informed by nearly 15 years of experience with EV programs and shaped by market analysis and customer input, the TEP outlines near-term pilot programs designed to meet current needs while remaining flexible to adapt as technologies, customer expectations, and the EV market continue to evolve.

Vision and Mission

I&M is committed to powering a future where all customers benefit from the electrification of transportation. Our mission is to foster efficient transportation electrification (TE) within our service territory by providing programs that optimize the use of the grid, ensuring that the advantages of electrification extend beyond just EV drivers to benefit all customers. Together, we aim to create a sustainable and accessible transportation ecosystem for a cleaner, brighter future.

Objectives

To support the continued growth of the EV market, the Company is focused on improving charging access and affordability through targeted incentives and rate options for its Michigan customers. By implementing pilot programs and rate structures, the Company aims to put programs in place today that encourage both the adoption and efficient use of EV's while also providing I&M the opportunity to evaluate pilot results to inform the development of future programs and incentives that encourage EV charging load to be realized in a manner that benefits the grid of the future. Ongoing customer engagement and feedback will guide the evolution of EV offerings, aligned with changing customer needs and preferences.

Strategies

The Company has developed a two-tiered approach, consisting of short- and long-term strategies. The short-term strategy (1–3 years) focuses on near-term growth in EV

[1] Michigan Transportation Electrification Plan Amended Filing Requirements Case No. U-21492, January 24, 2025.

adoption through market analysis, charger rebates (with enhanced support for underserved communities), time-of-day rate options, a managed charging pilot, customer education, and stakeholder collaboration. The long-term strategy (3+ years) builds on the lessons learned from the short-term and supports EV market maturity by monitoring evolving trends, updating forecasts, refining our long-term planning processes, and exploring more advanced managed charging and demand-side management solutions. This two-tiered approach, paired with continued stakeholder engagement, will allow the TEP to evolve with market needs. The plan will be reviewed and updated biennially in accordance with MPSC requirements.

Pilot Proposals

Building on the experience gained from its existing EV programs, the Company is introducing a refreshed portfolio of electric transportation pilots designed to meet evolving customer needs, support grid readiness, and advance equitable access with a goal of making these programs permanent in the next TEP. These pilots include:

- **Residential**: A new charger rebate program and a Managed Charging Pilot to encourage off-peak charging.
- **Commercial**: An updated charger rebate program to expand access to public and fleet charging infrastructure, along with plans to file updated EV rates to better support commercial charging use cases.
- **Equity-Focused**: Enhanced rebates for low-income[2] customers tailored to improve charging access and affordability, helping to close infrastructure gaps.
- **Education & Outreach**: Targeted education and customer engagement initiatives to raise awareness and promote participation.

Process

As outlined in the Amended Filing Requirements in Case No. U-21492,[3] this document serves as an informational Transportation Electrification Plan. A comprehensive programmatic filing including detailed program designs, rates, budgets, and participation forecasts is planned for the near future.

Conclusion

Indiana Michigan Power's Transportation Electrification Plan reflects a forward-looking approach to supporting an increase in electric transportation. Through a focus on equity, infrastructure development, grid optimized charging, and programs tailored to the needs of our customer base, the Company aims to deliver meaningful benefits to all stakeholders and help shape a cleaner, more resilient energy future.

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[2] Low-income is defined as 200% of federal poverty level.

[3] Amended Filing Requirements in Case No. U-21492 https://mi-psc.my.site.com/sfc/servlet.shepherd/version/download/068cs00000XDvn6AAD

Introduction

Indiana Michigan Power is an investor-owned electric utility operating in Michigan and Indiana. The Company serves approximately 134,000 customers in Michigan and 485,000 customers in Indiana. I&M estimates that as of March 1, 2025, there are approximately 3,000 EVs owned/operated by its customers in Michigan.

I&M began its first EV pilots in 2010 with the approval of its first EV-focused tariff—Tariff RS-OPES/PEV and accompanying residential charging equipment rebates in Case No. U-16496. As the first American Electric Power (AEP) operating company and the third electric utility in Michigan to implement such a program, I&M recognized early the importance of preparing for the evolving needs of plug-in electric vehicle owners.

I&M continued to expand and evolve its EV offerings with the introduction of its IM Plugged IN pilots in 2018, which gave customers three distinct EV rate options: Whole Residence Time-of-Day, Separately Metered PEV Time-of-Day, and sub metered PEV Time-of-Day. The Electric Vehicle Supply Equipment (EVSE) incentive program continued unchanged while funding was available, demonstrating I&M's commitment to supporting residential EV infrastructure . In 2020, I&M expanded its EV programs to include commercial customers, further broadening the scope of the IM Plugged IN pilot.

Building on this foundation and continued learnings from I&M pilot programs and industry trends, I&M is planning to update and refine its EV pilots to better meet the needs of our customers as technology changes and the EV market grows. The Company will incentivize targeted new charger deployments, offer rates and incentives to encourage off-peak charging and provide customers with options to help manage their electric costs. As the EV market expands, I&M will continue to evaluate the effectiveness of its programs, pilot initiatives, and rate options to optimize the grid to better serve our customers as they transition to electric transportation.

In accordance with the Amended Filing Requirements outlined in Case Number U-21492, the Company presents this TEP detailing our strategies to address the opportunities and challenges of transportation electrification and outlines our approach to optimizing EV charging loads.

I&M EV Market Overview[4]

Electric Vehicle Sales

In 2024, the global EV industry expanded to the mass market. In the US, the EV market has started to experience a shift in sentiment and perception of EVs among consumers. In the past, EV's were perceived by many consumers as a luxury or premium product due a limited supply and often at a premium cost to other alternatives. Due to significantly expanded EV offerings from automakers, increasing availability of EVs in the secondary market, declining battery prices and manufacturing costs, and incentives for new EV purchases, new and used EVs are now more accessible and affordable. According to Jato Dynamics,[5] a leading automotive data firm, the price difference between electric vehicles (EVs) and internal combustion engine (ICE) vehicles has narrowed significantly—from approximately 50% in 2021 to just 15% in 2023.

Atlas Public Policy's EV Hub Market Dashboard in Figure 1 below, shows that sales and leases of EVs in Michigan are steadily increasing.[6] Michigan's EV sales in the first quarter of 2025 reached 10.6% of market share, slightly above the national average of 9.4%.[7] Over the same period, I&M's Michigan territory market share lagged the state and ranged from 2.5-7+%, as noted in Figure 2.

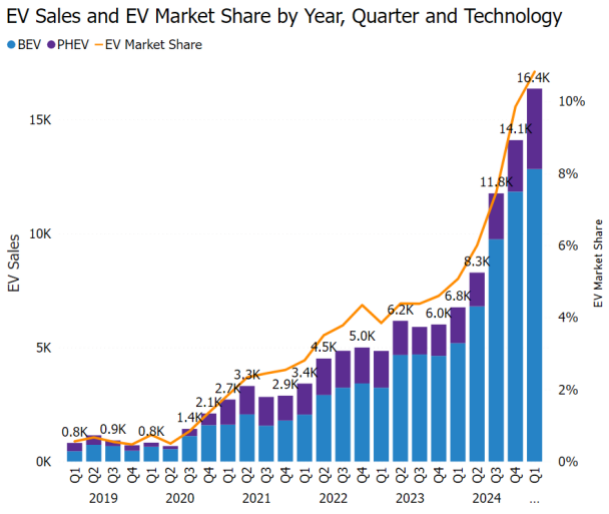

Figure 1: Atlas Public Policy, Michigan EV Sales and Market Share by Quarter, Year, and Technology

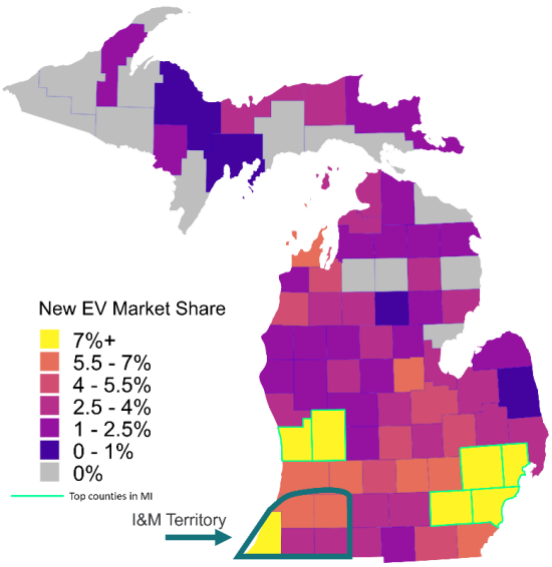

Figure 2: EPRI analysis of Experian data, Q1 2025

[4] This section responds to Case No. U-21492, Amended Filing Requirements section 6(c), (h), (k), (l), and (m), which call for (c) an overview of the current retail market for EVs and charging equipment; (h) available data on public charging station availability and usage patterns; (k) historical EV registration data by vehicle class; (l) a forecast of EV adoption; and (m) a forecast of EV-related load growth.

[5] Price gap between EVs and ICE cars is shrinking fast- Jato Dynamics: https://insideevs.com/news/748568/price-gap-evs-ice-shrinking/#:~:text=According%20to%20its%20latest%20report,2022%20and%2015%25%20in%202023.

[6] EV Market Dashboard – Atlas EV Hub: https://www.atlasevhub.com/market-data/ev-market-dashboard/

[7] EPRI analysis of Experian data, 2025

However, the Company's EV market size is relatively small in actual number of vehicles – with approximately 3,000 EVs currently in operation as of March 1, 2025. The majority of these are light-duty passenger vehicles. Table 1 shows EV registrations in the zip codes served by Company's Michigan service territory, broken out by vehicle class. Parsing registration data beyond zip code level is not feasible currently. Therefore, some EVs adjacent to the Company's territory may be included in these counts.

Year	Light Duty	Medium Duty	Heavy Duty	Total
2020	693	0	0	693
2021	1,026	0	0	1,026
2022	1,457	0	0	1,457
2023	2,082	0	0	2,082
2024	2,827	0	7	2,834

Table 1: Internal EV Registration Tracking by Vehicle Class

Electric Vehicle Forecast

The projections below represent the Company's expectations for the light duty electric vehicle (EV) market growth within its Michigan service territory through 2028. Figure 3 illustrates the number of EVs registered in 2023 and 2024, along with low, base, and high growth scenarios for future adoption. These projections are developed by a third-party consultant specializing in EV market forecasting. Additional details on data sources and methodology can be found in Appendix C: EV Forecast Methodology.

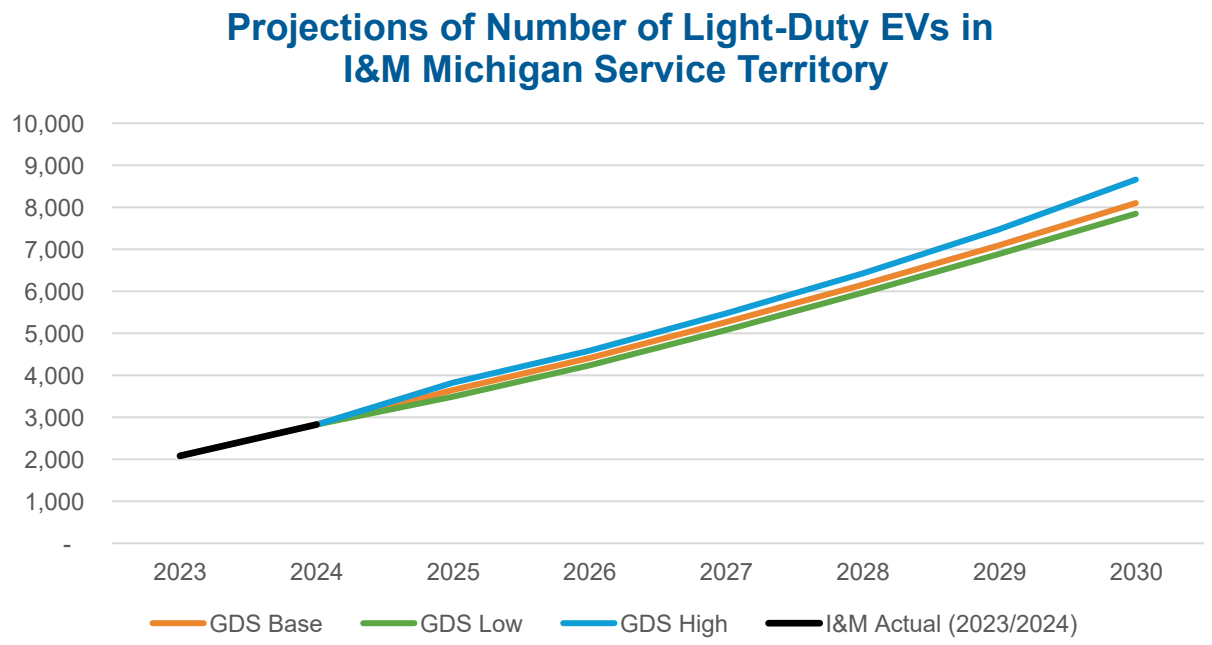

Figure 3: Actual EV Registrations with Base, Low, and High Growth Forecast Scenarios

Table 2 presents a forecast of medium and heavy-duty electric vehicles expected within the Company's Michigan service territory. This forecast provides insight into anticipated market trends across vehicle classes. Additional details on data sources and methodology can be found in Appendix C: EV Forecast Methodology.

Year	Low Forecast			Base Forecast			High Forecast		
	Med/Heavy Vehicles	Share EVs	EV Count	Med/Heavy Vehicles	Share EVs	EV Count	Med/Heavy Vehicles	Share EVs	EV Count
2024*	7,318	0.10%	7	7,318	0.10%	7	7,318	0.10%	7
2025	7,325	0.11%	8	7,581	0.11%	9	7,682	0.11%	9
2026	7,299	0.14%	11	7,819	0.14%	11	8,028	0.14%	12
2027	7,314	0.19%	14	8,111	0.19%	16	8,438	0.19%	16
2028	7,329	0.30%	22	8,412	0.30%	25	8,867	0.30%	26
2029	7,345	0.44%	33	8,726	0.44%	39	9,320	0.44%	41
2030	7,362	0.71%	52	9,052	0.73%	66	9,797	0.77%	75

Table 2: Medium and Heavy-Duty EV Projections

**actual*

EV Charging Market

Home Charging

Home charging plays a vital role in the EV ownership[8] experience, offering convenience, cost savings, and overnight charging capabilities. According to the National Renewable Energy Laboratory (NREL), around 80% of EV charging happens at home,[9] highlighting its importance in supporting widespread EV use. However, as the market of EV owners and/or consumers leasing electric vehicles expands to include more renters and residents of multi-unit dwellings, access to reliable public charging will become increasingly important to ensure provide equitable access to EV charging.[10]

Most electric vehicles come equipped with a portable Level 1[11] charging cable, which plugs into a standard household outlet. While this option is convenient for some, many EV owners choose to install a Level 2 charger[12] at home for faster charging. Some automakers include a Level 2 charger with the vehicle purchase, but in most cases,

[8] The term EV ownership is used throughout the document and refers to customers who own or lease an EV.

[9] Blonsky, Michael, Prateek Munankarmi, Sivasathya Balamurugan. 2021. Incorporating Residential Smart Electric Vehicle Charging in Home Energy Management Systems: Preprint. Golden, CO: National Renewable Energy Laboratory. NREL/CP-5D00-78540. https://www.nrel.gov/docs/fy21osti/78540.pdf

[10] Ge, Yanbo, Christina Simeone, Andrew Duvall, and Eric Wood. 2021. There's No Place Like Home: Residential Parking, Electrical Access, and Implications for the Future of Electric Vehicle Charging Infrastructure. Golden, CO: National Renewable Energy Laboratory. NREL/TP-5400-81065. https://www.nrel.gov/docs/fy22osti/81065.pdf

[11] Level 1 Charging: Uses a standard 120-volt household outlet and provides about 2–5 miles of range per hour of charging. It is typically used for overnight charging at home.

[12] Level 2 Charging: Operates on a 240-volt outlet (like those used for dryers) and delivers 10–60 miles of range per hour. Commonly found in public locations such as workplaces, shopping centers, and parking garages.

customers can buy one separately through the manufacturer, online retailers, or major stores.

Public Charging

For visitors to the region or customers who need to charge away from home, public charging infrastructure continues to expand across I&M's Michigan service territory. A growing number of charging ports are available to support drivers on the go.

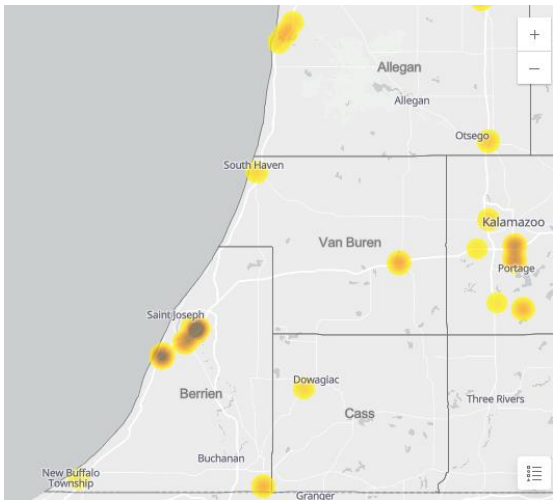

Figure 4: MI Public DCFC Charging Stations Heatmap of I&M Michigan territory and Surrounding Area

As of May 2025, there are approximately 53 public Level 2 charging ports located at 25 sites throughout the territory. [13] However, nearly 47% of these ports could be considered semi-public, as they are located at workplaces or car dealerships—locations that may have limited accessibility for the general public.

Figure 4 is a heatmap from the State of Michigan EV Community Toolkit, illustrating the concentration of DCFC locations in I&M's Michigan territory and surrounding areas.[14] There are 66 DC Fast Charging (DCFC)[15] ports distributed across 14 locations in the service territory. [16] These chargers are operated by various Electric Vehicle Service Providers (EVSPs), offering a range of access models and pricing structures. Table 3 provides a breakdown of DCFC locations by type, including the number of ports and the percentage share by location category.

Location Type	DCFC Locations	% DCFC Locations	DCFC Ports	% DCFC Ports
Car Dealership	7	50%	19	29%
Gas Station	1	7%	2	3%
Grocery Store	3	21%	30	45%
Misc.	1	7%	1	2%
Restaurant	2	14%	14	21%
Total	**14**		**66**	

Table 3: DCFC Locations and Port Counts

[13] US Department of Energy Alternative Fuel Database; retrieved May 7, 2025

[14] Interactive Maps and Data Resources | State of Michigan Community EV Toolkit, retrieved June 9, 2025

[15] DC Fast Charging provides high-powered, rapid charging for electric vehicles, significantly reducing charging time by delivering direct current (DC) electricity directly to the vehicle's battery.

[16] Id.

The Company monitors load data for many DCFCs within its Michigan service territory using a PowerBI dashboard. This analysis relies on meter data from DCFC sites that are reasonably confirmed to be measuring only EV load. Charging station locations are identified using the U.S. Department of Energy's Alternative Fuel Data Center (AFDC). It is important to note that not all DCFCs in the territory are included—only those for which separate metering of EV charging can be reasonably verified.

Figure 5 presents a snapshot of I&M's dashboard, showing average aggregated kilowatt-hour (kWh) usage by day of the week for the included DCFC sites. Utilization patterns indicate that charging activity peaks in the afternoons, particularly from Friday through Sunday.

Currently, the Company does not track Level 2 charger usage in the same manner. However, 8760-hour load shapes for DCFCs and a selection of separately or sub-metered Level 2 chargers are provided in Appendix A: 8760 Hour Load Shapes.

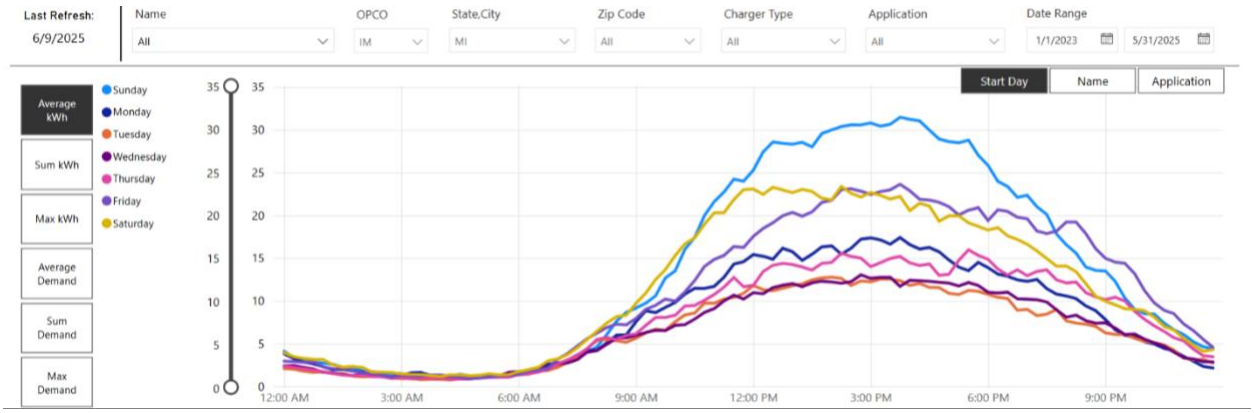

Figure 5: Internal DCFC Load Shape Dashboard for DC Fast Chargers in the Company's Michigan Territory

Public Charging Forecast

Table 4 projects public charging station growth in I&M's service territory through 2030 in three scenarios, low growth, base growth and high growth. Additional details on data sources and methodology can be found in Appendix C: EV Forecast Methodology.

Accounting for current ports, the Company estimates its proposed new public charging rebates will meet up to 24% of the anticipated public charging need for the area under the high growth scenario in 2028 (anticipated to be the last year of the next proposed pilot). This estimate will be further refined in the programmatic filing to follow this TEP. As the EV market accelerates, the Company's programs will scale accordingly.

	Low			Base			High		
Year	**L2**	**DCFC**	**Total**	**L2**	**DCFC**	**Total**	**L2**	**DCFC**	**Total**
2025	77	70	147	83	71	154	89	72	161
2026	104	75	179	110	76	186	117	87	204
2027	134	80	214	141	81	222	148	104	252
2028	166	85	251	173	86	259	183	122	305
2029	199	91	290	207	92	300	221	141	362
2030	235	97	332	244	99	343	265	162	427

Table 4: EV Charger Port Count Forecast

Forecasted EV Load Through 2030

Table 5 is the Company's internal forecast of the electric load that will be directly attributable to the EVs within I&M's Michigan territory through 2030. This load forecast is inclusive of anticipated residential and fleet EV load, but currently does not include public charging. The methodology used to produce this forecast is included in Appendix B: Internal EV Load Forecasting Methodology.

Year	Residential kWh	Commercial kWh	Total kWh
2025	10,436,092	764,616	11,200,707
2026	12,322,132	902,799	13,224,931
2027	14,482,356	1,061,071	15,543,427
2028	16,896,623	1,237,956	18,134,579
2029	19,224,822	1,408,535	20,633,357
2030	21,540,416	1,578,190	23,118,606

Table 5: Forecasted Electric Load from EVs through 2030

State and Federal Policy[17]

The Company recognizes the importance of coordinating with state and federal agencies to align with evolving policy priorities. A key example is the MI Healthy Climate Plan, Michigan's roadmap to achieving economy-wide carbon neutrality by 2050, which outlines actionable steps through 2030. One of the goals outlined in this plan is to electrify vehicles by building the infrastructure needed to support 2 million EVs on Michigan roads by 2030. In response, I&M's Transportation Electrification Plan includes targeted rebates to help close gaps in the public charging network and rate options designed to offer predictable billing for charging network operators, supporting the infrastructure buildout needed to meet this goal.

I&M has supported customers in securing federal funds through providing utility documentation and letters of support. The Company also similarly supported school districts in applying for EPA electric school bus funding[18] and collaborated with Electric Power Research Institute (EPRI) on two proposals for US Department of Energy funding for managed charging.[19] These efforts will translate well to assisting customers in their applications for grants offered by the state of Michigan including the Clean Fuel and Charging Infrastructure Program and the Charge Up Michigan Program.

Coordination with Other States

The Company also maintains operations in Indiana and will leverage the experiences and work done the Company has done in Indiana to assist in informing I&M's transportation electrification plans in Michigan.

I&M has recently received approval of EV pilot programs in Indiana that support public charging infrastructure, customer education, and EV rate designs. The EV pilots test new rate designs that encourage off-peak charging and efficient management of the grid. I&M's approved EV pilot programs in Indiana are designed to encourage

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[17] This section responds to Case No. U-21492, Amended Filing Requirements Sections 3, 6(a), and 6(b), including the Company's coordination with state and federal EV infrastructure planning efforts (6a), and a summary of existing state policies and programs that support transportation electrification (6b). It also includes an overview of relevant EV policy goals and programs in Indiana (3).

[18] Interest in public fleet electrification has been modest so far. However, the Company has waived construction costs associated with the installation of electric school bus chargers for Hartford Public Schools and provided assistance for Three Rivers Public Schools with the installation of chargers in 2019; https://www.trschools.org/files/user/4/file/Three-Rivers-News-Release-(1).pdf

[19] A full report on the Company's federal grant activities is available in its most recent biannual reports regarding federal funding (Case No. U-21227). https://mi-psc.my.site.com/sfc/servlet.shepherd/version/download/068cs00000S9m8hAAB

customers to charge EVs during off peak hours and to begin to explore new technology such as vehicle to grid (V2G) concepts for medium duty EVs. The Indiana programs include:

1. Residential Managed Charging
2. Vehicle to Grid[20]
3. Rebates for public, multi family, workplace, and fleet charging
4. Enhanced rebate amounts for low income and rural areas

These pilot programs were approved by the Indiana Utility Regulatory Commission for a period of two years[21] and are scheduled to begin in the second half of 2025. Additionally, I&M owns and operates four public DC fast chargers in the state of Indiana, where a portion of the installation cost was offset through grant funding from the Indiana Department of Energy Management (IDEM) who manages the state's Volkswagen Settlement funds allocation and programs. These experiences will complement and provide additional valuable information as I&M develops, promotes, and implements its pilots and programs in Michigan.

TEP Vision, Mission and Objectives

As the Company prepared this Transportation Electrification Plan, it drew upon nearly 15 years of experience with EV programs, customer feedback, along with current market analysis and forward-looking projections. To guide this plan, and future EV initiatives, I&M developed a mission, vision, and set of objectives to serve as the foundation for its approach to transportation electrification.

Vision and Mission

I&M is committed to powering a future where all customers benefit from the electrification of transportation. Our mission is to foster efficient transportation electrification (TE) within our service territory by providing programs that optimize the use of the grid, ensuring that the advantages of electrification extend beyond just EV drivers to benefit all customers. Together, we aim to create a sustainable and accessible transportation ecosystem for a cleaner, brighter future.

Objectives

Improve charging access and affordability

Improve EV charging access and affordability by providing program options, incentives and rate choices that support the projected market growth of EVs in our service territory.

[20] Currently the V2G pilot is still in development and there are no findings to report.

[21] Indiana Cause No. 46090 Order dated February 19, 2025.

Provide enhanced incentives, where appropriate, addressing unique needs of underserved communities.

Encourage off-peak charging

Recognize EV ownership is increasing among our customers and seek to provide pricing structures that incentivize customers to charge their vehicles during off-peak times benefiting not just EV drivers, but all customers.

Optimize the grid

Evaluate early market stage effectiveness of EV pilots, programs, incentives and rate choices, that help optimize the grid before the EV market is more widespread, so we can better serve our customers as they transition to electric transportation.

Customer engagement

Obtain customer feedback regarding preferences as well as the scope and effectiveness of I&M's EV rates and pilots.

Guiding Principles and Strategy[22]

To support the mission, vision, and objectives and develop a strategy that will evolve and grow with customers' increasing use of electrified transportation, the Company undertook a strategic planning process which is described in Appendix E: Strategic Planning. This strategic planning process resulted in the creation of guiding principles, and a short- and long-term strategy which are described below.

TEP Guiding Principles

I&M developed the following guiding principles to frame the Company's TEP proposals and future program designs to position the Company's EV programs to benefit customers, the grid and promote a sustainable and reliable energy future, while also addressing barriers to EV adoption.

1. Remove customer barriers and provide customers with options and control.
    - I&M will promote efficient and cost-effective charging, residential customer and commercial site host equipment options, and enable commercial site hosts to choose how or if to bill EV drivers for charging services.
2. Pilot different program offerings, providing customers the opportunity to optimize fuel cost savings.

[22] This section responds to Case No. U-21492, Amended Filing Requirements section (1), which calls for the electric utility to submit a TEP which outlines both short- and long-term strategies for advancing transportation electrification, along with a plan to optimize EV charging load to support grid efficiency and reliability.

- I&M will develop incentives and program offerings providing residential and commercial customers with options to optimize fuel savings to the benefit of all customers.

3. Build programs to manage EV load to the benefit of the grid and all customers.
    - I&M will proactively help residential and commercial customers manage EV charging load through both active and passive managed charging programs.
4. Support charging market competition while maintaining market neutrality.
    - I&M will not establish its own network of public chargers but will work with Electric Vehicle Service Providers (EVSPs), through rate design and appropriate incentives.
5. Identify and incorporate best practices for the future, while managing program costs.
    - I&M will develop effective data tracking, reporting and program management to help identify and incorporate best practices while managing program costs.
6. Engage external stakeholders through annual reports to help inform the future regulatory record.
    - I&M will proactively engage with key external stakeholders on TEP program development and implementation and develop detailed annual reports to inform the future regulatory record.
7. Support state and regulatory goals and requirements.
    - I&M supports the state policy objectives described earlier in the State and Federal Policy section of this TEP.

Strategy

The Company's short-term electric vehicle strategy focuses on 1 to 3-year immediate needs and desired results, while the long-term strategy focuses on 3+ years and involves more detailed planning for electric transportation growth in the territory. Taken together, they provide a roadmap to guide the Company's EV programs and planning for the next decade.

Short Term Strategy (1-3 years)

Objective: Address early market stage EV growth and prepare infrastructure and customers for increasing numbers of electric vehicles on the system.

Key Focus Areas

1. Planning for EV market growth

The Company evaluated current market trends, including state and federal policies, incentives, and automaker commitments, alongside benchmarking across Michigan, the region, and peer utilities nationwide. Using this context, I&M developed vehicle volume

and load forecasts across multiple vehicle classes, which will be included in the Company's future IRPs to evaluate the impact to both on-peak and off-peak demand.

2. Increasing access and affordability of EV charging

The Company will provide charger rebates for both residential and commercial customers, with enhanced rebates provided in census tracts designated as rural by the US Census, areas with MiEJ scores of >60, and for low-income customers to help increase charging infrastructure access and affordability. Definitions and additional detail are provided in the Pilot Programs and Equity sections.

3. Managing grid impacts

The Company will provide new rate options for commercial customers together with a new managed charging program for residential customers designed to shift EV charging load into off-peak hours where feasible, while providing customers with more predictable bills.

4. Providing education and outreach support

The Company will enhance education and outreach content to help customers prepare their homes and businesses for EV deployment, including FAQs, check lists, charging best practices, rate options, incentives and other electric vehicle program information.

5. Collaborating with key stakeholders

The Company will continue its engagement with industry stakeholders directly and via industry groups such as Alliance for Transportation Electrification (ATE), Electric Power Research Institute (EPRI), Edison Electric Institute (EEI), US DRIVE, etc. In addition, I&M will continue to seek out relevant grant opportunities to further its EV programs as well as continue to assist customers in their grant efforts and applications by providing letters of support, and general information on available grants, processes, and procedures.

Long Term (3+ Years)

Objective: Support EV market maturity and refine our long-term planning processes.

Key Focus Areas

1. Monitoring key market trends

Monitoring key market trends is foundational to I&M's long-term EV strategy. This monitoring effort will include updating the inventory of state and federal policies, and incentive and grant programs designed to support or accelerate EV adoption and charging infrastructure deployment. The Company will also regularly review automaker commitments, investments and future plans together with utility electric transportation programmatic advancements in Michigan, the region, and peer states. Technology and vehicle use trends such as battery cost reduction, vehicle efficiency, Vehicle to X

(V2X),[23] electrification of ride share applications, electric autonomous fleets, etc. will also be considered as these technologies mature. Finally, the Company will assess customer preferences using both primary and secondary research.

2. Forecasting and capacity planning

Based on the results from the key market trends, I&M will prepare annual updated vehicle volume and load forecasts including data and results from pilots (e.g., understanding different vehicle use cases, charging load shapes, etc.). These annual updated EV load forecasts will be included in the Company's load forecasts that will be used in future IRP and rate case proceedings and will consider both increased demand and EVs as flexible resources. The Company will also consider system impacts from the EV market growth stage when performing long range planning for the distribution system. Finally, I&M will closely monitor Federal Energy Regulatory Commission (FERC) Order 2222[24] developments and regularly evaluate how DER aggregation may impact the planning and operation of the distribution system. As more is known about how electric transportation may be utilized in DER aggregations, these considerations will be incorporated into I&M's planning process.

3. Managing grid impacts through evolving demand side management (DSM)

As the EV market grows, managed charging programs will be evaluated to determine if they should expand to include additional use cases such as fleets and demand response (DR) or incorporate increasingly sophisticated active managed charging capabilities to optimize loads, balance demand and prevent grid strain at increasingly granular levels.

4. Providing education and outreach support

Long-term, I&M's education and outreach efforts could be enhanced through additional resources depending on customer and market needs. These enhancements could include rate analyses, online rate calculators, and online fleet planning tools such as Total Cost of Ownership (TCO) calculators, etc.

5. Collaborating with key stakeholders

Long-term, I&M may also consider, based on market scale, developing enhanced advisory service capability to support fleet managers, multi-unit dwelling (MUD), building managers, public charging site hosts, and other key constituents. In addition, the

[23] Vehicle to X (V2X) refers to the technology that enables electric vehicles to communicate with and exchange energy with the grid or other systems, allowing for benefits like energy storage, demand response, and enhanced grid stability. Here, we use V2X broadly to also encompass vehicle to grid (V2G) applications.

[24] FERC Order No. 2222, issued by the Federal Energy Regulatory Commission in 2020, enables distributed energy resources (DERs)—such as rooftop solar, battery storage, and electric vehicles—to participate in wholesale electricity markets through aggregation. This rule aims to enhance grid flexibility, promote innovation, and increase competition by allowing small-scale energy resources to compete alongside traditional power plants.

Company will continue to engage with policy makers, other utilities and infrastructure providers to help align future utility programs with state goals and program trends. Utilizing the inputs and data above, I&M will re-evaluate and update the TEP in accordance with MPSC requirements, currently every two years.

Stakeholder and Customer Outreach[25]

The Company began program development to update its suite of EV pilots starting in 2023. Surveys and outreach meetings were conducted with customers in both Michigan and Indiana to obtain feedback from across the system. Although new and updated programs were initially filed in Indiana to meet regulatory requirements, our primary focus was on designing programmatic frameworks that could be efficiently, and cost effectively adapted to the unique needs of customers in both states. More detailed summaries of stakeholder meetings, along with summaries of the surveys mentioned below are available in Appendix D: Stakeholder Outreach.

Surveys

In a 2023 survey focused on potential future offerings, the Company asked residential customers about their interest in EV-related programs. Surveys were sent to customers in both Indiana and Michigan. Michigan residents comprised 30% of survey responses to questions about future EV programs. When surveyed, 72% of Michigan respondents indicated they were "extremely" or "very" interested in using an app that could *provide information to Indiana Michigan Power to allow us to better manage charging as EVs in your neighborhood increase to maximize your neighborhood grid capacity to accommodate new EVs.* A significant majority, 64% were willing to allow I&M to schedule their overnight charging in exchange for a discounted rate.

In 2024, to better understand why some customers have not completed the enrollment process for its current EV programs, the Company conducted a *rejector* survey targeting individuals who had inquired about the program but ultimately chose not to participate. Despite initial interest, more than half of the customers who explored the IM Plugged

What was the reason you decided not to participate in the program?	
The program was confusing	16%
The cost to install the additional equipment required to participate was too expensive	34%
It was too much work to have the additional equipment installed	13%
The program didn't save enough money	25%
I'm not sure	6%
Other	38%

Table 6: Responses to 2024 Rejector Survey of IM Plugged IN non-participants

[25] This section responds to section 5 of Case No. U-21492, Amended Filing Requirements, regarding stakeholder outreach. Additional information is in Appendix D.

IN pilot program did not proceed with enrollment. The survey allowed respondents to select multiple reasons for opting out and provided space for open-ended responses. Due to a small sample size, results from both Indiana and Michigan customers were combined. Table 6 shows responses to the question: *What was the reason you decided not to participate in the program? Select all that apply.*

Furthermore, 72% expressed interest in an EV charging program that does not require any equipment beyond what their electrician deems necessary for charger installation. This indicates that while customer interest exists, barriers prevent broader participation.

More recently in JD Power survey[26] of I&M customers across a range of topics, 141 Michigan customers responded to a question regarding how they would rate I&M's support of electric vehicle ownership. A significant majority, 72% rated our EV programs as "average or above average," an additional 10% rated them as outstanding. Figure 6 highlights these responses.

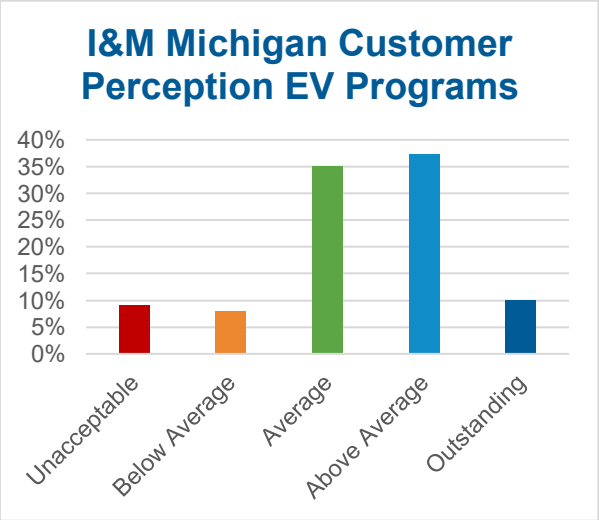


Figure 6: Responses to 2024 JD Power 2024 Electric Utility Residential Customer Satisfaction Study Questionnaire

Stakeholder Meetings

As part of the stakeholder engagement process supporting the development of new EV pilots, a series of five outreach meetings were conducted between late 2023 and April 2025. These included two meetings with stakeholders in Indiana and three with stakeholders in Michigan. The initial meetings in each state were designed to present early-stage program concepts and gather feedback to inform the refinement of potential pilot designs. Subsequent meetings focused on more fully developed pilot proposals, incorporating stakeholder input and aligning more closely with the program elements for the final pilot design.

Stakeholder Engagement Impact on Program Design

In response to this customer feedback, I&M is proposing to eliminate the need for the submeter base installation as a condition for participation in our residential offerings and is adding a residential managed charging pilot. Additionally, the surveys revealed limited interest in leasing chargers directly from the company. Due to low enrollment in the current whole-house TOD (approximately 31 customers) and the minimal interest in leasing chargers, these options were excluded from the proposed portfolio of pilots.

[26] JD Power 2024 Electric Utility Residential Customer Satisfaction Study Questionnaire

Pilot Programs[27]

Existing Pilot: IM Plugged IN

In 2020, the MPSC approved IM Plugged IN (Case No. U-20359) with a $675,000 budget cap. The program was extended in 2024 (Case No. U-21461). The Company has learned valuable lessons, described below, which have informed the design of the new suite of proposed pilots. IM Plugged IN was designed to promote electric vehicle adoption while supporting grid optimization.

IM Plugged IN pilots consist of the following components:

1. Multi-Unit Dwelling (MUD) Charging - Incentives: $2,500 for first port, $500 for each additional; Contribution in Aid of Construction (CIAC) suspension option.
2. Fleet & Workplace Charging - Incentives: Same as MUD program.
3. Interstate Corridor Charging - Partnership: Supports Michigan Department of Environment, Great Lakes and Energy (EGLE's) Charge Up Michigan Program.
4. Residential & Small Commercial Time of Day (TOD) rates. TOD rate options are available to customers in Michigan. These tariffs offer significant savings, up to 45% discount on energy consumed during off-peak hours. For those tariffs which require the need for a submeter base to be installed, a $500 incentive is offered to help offset the costs.
5. Education and Outreach: To support the IM Plugged IN initiative, the Company launched a comprehensive, multi-channel outreach campaign to educate customers on EV benefits, incentives, and tools. This included targeted digital ads, social media, email campaigns, bill inserts, newsletters, AMI-based alerts, and website resources—all designed to engage customers and promote informed EV adoption.

A full summary of these efforts undertaken as a key component of IM Plugged In is available in the report filed under MPSC Case No. U-20359.

[27] This section responds to Case No. U-21492, Amended Filing Requirements section 1 and 6 subsections (d), (p), and (s) outlining the Company's planned investments, incentives, programs, and expenditures aimed at advancing transportation electrification within its service territory. It includes customer education, and incentive efforts designed to raise awareness and encourage EV adoption (p) and summarizes proposed pilots, lessons learned from past projects (d) and (s) identifies key performance indicators for program success.

Residential Results and Lessons Learned

Tarif Code	Number of Participants	Rate Description
57	31	Whole Residence TOD rate provides a discounted rate from 9:00 pm to 7:00 am on weekdays and all day on weekends. Requires submeter for EV charging, but the whole home is on the rate.
58	2	Separately metered TOD rate for EV charger only. Best for a separate garage/barn. Discounted rate from 9:00 pm to 7:00 am weekdays and all day on weekends.
59	190	Submetered TOD rate for EV Charger only provides discounted rate from 11:00 pm to 6:00 am daily. Requires submeter.

Table 7: Residential Time of Day Rates with Number of Participants as of May, 2025

IM Plugged IN's residential Time of Day tariffs, known as tariffs 57, 58, and 59 are described above in Table 7. Tarif 57 and 59 necessitate the installation of a submeter, while option 58 requires a separate meter and service setup. Customers have the flexibility to choose between a whole residence TOD or an EV-only TOD plan, depending on customer preference. Currently, approximately 223 customers, representing approximately 7% of EV drivers within the service territory, have opted for these TOD rates. On average, customers on tariff 59, the most utilized of the three options, enjoy savings of $23 per month through off-peak charging.

Analysis indicates that customers utilizing these rates charge their vehicles during off-peak hours approximately 79% of the time. This trend underscores the effectiveness of the TOD rates in promoting energy use during periods of lower demand.

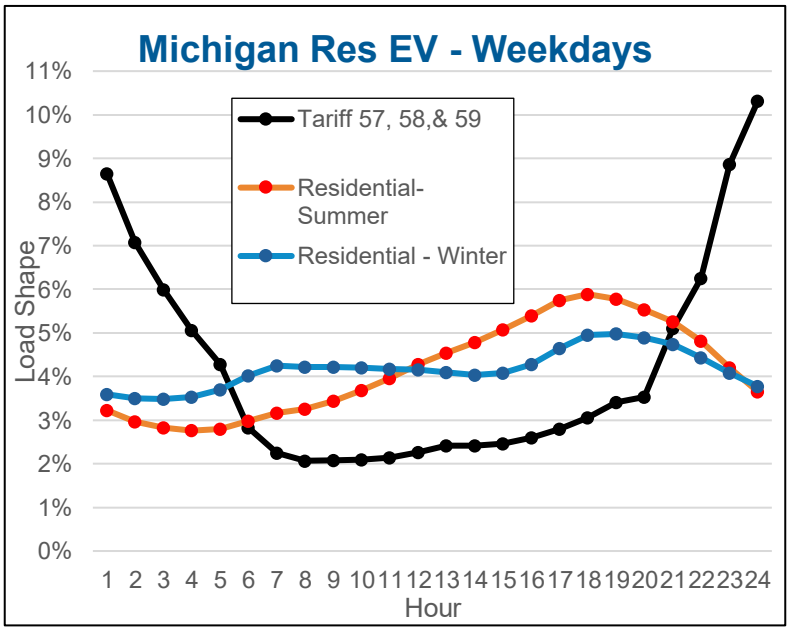


Figure 7: Aggregated Residential Load Shapes for TOD Rate Participants

Figures 7 and 8 provide visual representations of the aggregated load shapes associated with these tariffs (black line) compared to standard residential load shapes for both summer (red line) and winter (blue line) months. Figure 7 illustrates the combined load shape for all three tariffs, while Figure 8 focuses

specifically on tariff 059, which has the highest participation among the options. The charts specifically highlight the EV charging activity, demonstrating the rates' impact on shaping charging loads.

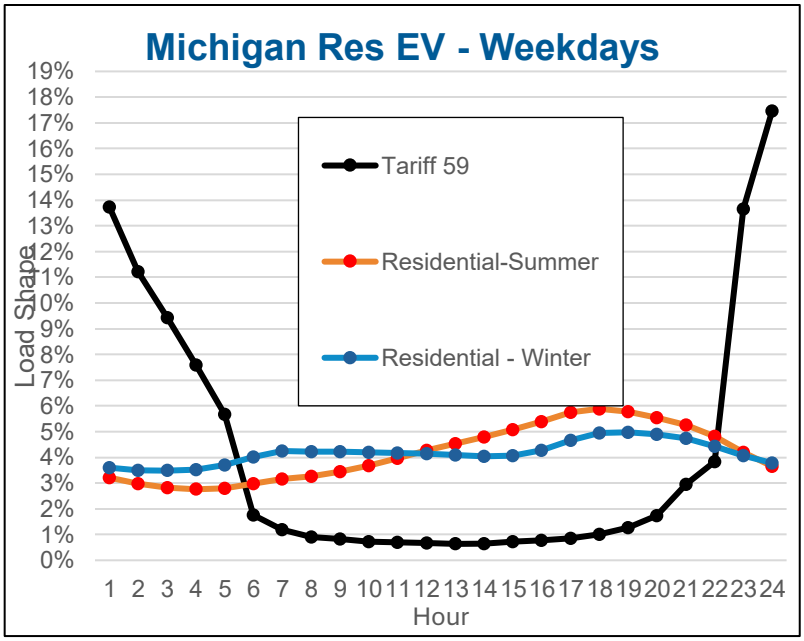


Figure 8: Aggregated Load Shape for Residential Tariff 59 Participants

Despite the evident advantages, the relatively low participation rates (summarized in Table 7 above) and insights gathered from customer surveys have prompted the Company to explore alternative solutions that do not require submeter installation. Details regarding the proposed solutions will be explained in greater detail the Proposed New Pilots section.

Commercial Results and Lessons Learned

Low utilization of commercial rebates prompted the Company to reevaluate the structure of the rebate and participation requirements. An existing requirement to provide a vehicle identification number (VIN) will be removed, and incentive amounts will be higher in the new pilot. The Company believes these changes will encourage greater utilization of the rebates and thus improve charging access.

Proposed New Pilots

Building on insights gained from previous pilot programs, the Company is now prepared to evolve its offerings to align with changing customer expectations and the next phase of EV market growth within its service territory. The following programs have been developed incorporating customer feedback and lessons learned from earlier pilots. The Company anticipates proposing to make these pilots permanent in its next TEP. Proposed pilot summaries are included here. Participation forecasts are shown in Appendix C and are a function of projected EV market growth. Fluctuations in EV market growth may have impacts on participation rates. Full program details and updated rate choices for commercial customers will be proposed via a programmatic filing following the TEP.

Residential Managed Charging Pilot

Objective	Introduce managed charging options for customers to shift load to off-peak hours and level load to avoid the creation of new peaks.
Target Market	I&M's target customer for the Managed Charging Pilot is a residential EV owner with a Level 2 home charger with the ability to routinely charge their EV during off-peak hours and weekends.
Duration	3 years
Program Description	Managed Charging is the proactive, controlled charging of electric vehicles in a manner that is beneficial to the customer and electric grid by shifting the time and/or power level of charging. This pilot would provide customers with two options to manage their charging. **Planned EV Charging Pilot:** Customers in the Planned EV Charging Pilot will schedule their own vehicle charging during I&M's prescribed off-peak window. **Smart EV Charging Pilot:** Customers participating in the Smart EV Charging Pilot will allow I&M to schedule their vehicle during off-peak hours, while ensuring their vehicle is charged to the desired level in time for their daily departure time.
Incentive Strategy	Customers will receive a one-time charger rebate. Low-income customers are eligible for an enhanced one-time charger rebate. Customers receive a monthly bill credit under both pilot options. If a customer charges on peak 3 times per month, the credit for that month will be forfeited. If a customer forfeits the credit 3 times per year, I&M reserves the right to remove them from the program.
Implementation Strategy	I&M will utilize its existing managed charging vendors, chosen via an RFP process, to implement the program.
Education and Outreach Strategy	I&M will promote Managed Charging tools through: • social media • targeted email campaigns • customer newsletters I&M will also run paid media campaigns on: • social media

	• streaming audio • digital display platforms to utilize robust targeting capabilities All marketing will direct customers to our website for information. I&M Solutions Center and Customer Service staff will receive training to encourage customers to enroll in the Managed Charging Program. Customers with high likelihood of an EV present will receive targeted marketing. Additionally, customers who have previously indicated interests in energy efficiency programs or rebates, or renewable programs will also receive targeted marketing messages.
Measurement and Verification	I&M will measure the conversion rate of customers who express interest in the program and the number of customers who sign-up and participate. Program participation and off-peak charging shall be the strongest success measurement of the pilot. I&M will evaluate customer satisfaction through independent third-party surveys including Medallia and JD Power. I&M will use a third-party evaluator to provide statistical analysis of pilot results.

Table 8: Proposed New Residential Pilot Descriptions

Proposed Commercial Charging Pilot

Objective	Pilot is designed to increase availability of charging stations and fill gaps in the charging network equitably across the service territory. The pilot will offer incentives toward electric vehicle chargers installation in I&M Michigan territory.
Target Market	Target customers include businesses, fleets, multifamily housing, schools, nonprofits, tribes, municipalities, counties, etc.
Duration	Three years
Program Description	I&M will offer incentives for the installation of EV chargers. • I&M Michigan Commercial customers installing Level 2 or DCFC public charging, fleet, workplace, and multi-family dwelling chargers in qualified areas may receive a per port rebate.

	• Higher rebates are available for multi-unit dwellings and/or fleets located in areas designated as rural or with an MiEJ score of > 70%. • Public chargers must be installed in areas designated as rural or in an area with an MiEJ score of > 70% to receive the rebate. For public charging rebates the Company will impose distance requirements from existing chargers as a condition of eligibility. Residential chargers, with the exception of Level 2 chargers at multifamily properties, are not eligible for these rebates.
Incentive Strategy	Rebates offered per charger port installed. Incentive amount is determined based on the type of equipment installed, and location of installation. Limits will be placed on the number of rebates a single customer or site host can receive.
Implementation Strategy	I&M will perform, manage, and support customer outreach and enrollment activities. I&M will monitor, store and track interactions with the customers, provide trained customer service staff for assisting customers with questions about the program, and provide service-related issues resolution.
Education and Outreach Strategy	I&M will directly contact local elected officials and sustainability managers of identified communities and conduct targeted outreach to businesses and multifamily housing in identified communities and census tracts. I&M will update its website with program information for charging providers.
Measurement and Verification	Success is indicated by successful deployments of chargers in the target areas, and by increasing charger utilization over time. The impact evaluation will document charger deployment, location, and utilization over time. I&M may supplement the evaluation efforts with customer surveys and additional load analyses.

Table 9: Proposed New Commercial Pilot Descriptions

Summary of Existing and New Pilot Proposed Changes

The new pilots described in this TEP represent an evolution of I&M's EV programs. Tables 10 and 11 below summarize the changes to existing pilots, along with new pilots the Company will propose in a subsequent programmatic filing to follow this TEP.

Residential Program Summary	New or Existing	Changes to Existing Pilots
Whole House TOD (Tariff 057) - uses household AMI meter plus requires an "informational" submeter to capture PEV usage. All usage (both PEV and non-PEV) are billed on RS-TOD rate (35 existing customers) $500 submeter incentive	Existing	No new enrollments. Existing participants can stay on rate.
Separately Metered TOD (Tariff 058) - requires separate meter and service for PEV charger. Usage billed same as RS-TOD rate (2 existing customers)	Existing	No new enrollments. Existing participants can stay on rate.
Submetered PEV TOD (Tariff 059) - total residential usage including PEV usage will be billed on Tariff RS. Submeter will capture on/off peak usage for the PEV. For off-peak kWh the customer will receive a credit (197 existing customers) $500 submeter incentive	Existing	No new enrollments. Existing participants can stay on rate.
Managed Charging Pilot: Option 1 - "Planned" charging or Option 2 - "Smart" charging	Yes	N/A
Rebates to offset customer costs for charging equipment installation from the meter to the charger stub	Yes	N/A
Higher level of rebates for low-income customers and customers	Yes	N/A

Table 10: Summary of Residential Existing Pilot Changes with New Pilot Proposals

Commercial Program Summary	New or Existing	Changes to Existing Pilots
GS-PEV for existing General Service customers having averaged less than 4500 kWh per month. • Option 1, Stand-alone PEV Service – off-peak rate and possible reduced construction costs. • Option 2, Submetered PEV TOD - off-peak credit and $500 submeter incentive.	Existing	Option 1 – Remove requirement to provide VIN as proof of EV ownership Option 2 - Freeze enrollment. Existing participants can stay on rate.
C&I, Workplace (Employee or Fleet) and Multi Unit Dwellings (MUD) Incentives. • Under this program, $2,500 for the first port and $500 for each additional port installed. In addition, we may be able to waive customer investments associated to underground/overhead construction costs for stand-alone service. The incentive is not applicable to chargers used solely for public PEV charging.	Existing	Adjust incentive amounts, remove requirement to provide VIN as proof of EV ownership, add Environmental Justice considerations, and consider geographical requirements to fill gaps in existing charging network.
Public and Fleet Plug-in Electric Vehicle tariff for level 2 & DCFC chargers. A non- demand rate comprised of a minimum charge and an energy charge with a TOD component.	Yes	N/A

Table 11: Summary of Residential Existing Pilot Changes with New Pilot Proposals

Equity and Barriers[28]

The Company recognizes that barriers to transportation electrification can be exacerbated by geographic factors, income levels, and other circumstances. To better understand the specific needs of our customers and to develop programs that effectively address those needs, the Company analyzed EV market growth and public charging installations, utilizing the MiEJScreen,[29] Michigan's Environmental Justice interactive screening tool and Justice 40,[30] and US Census urban/rural classifications.

Analysis of existing residential EV tariff participants revealed:

- 81% reside in single-family homes
- 5% live in apartments or condominiums
- 14% reside in unknown property types
- 5% have MiEJ scores >60

Equity and EV Registrations

As anticipated at this early stage of EV market growth, EV registrations are predominantly concentrated in areas with lower MiEJ scores, meaning they are in areas with fewer environmental justice concerns, as illustrated in Figure 9, which maps current EV registrations with the MiEJ Screening Tool. Similarly, using the Justice 40 Screen, most EV registrations are located in areas which are classified as "not disadvantaged," as illustrated in Figure 10.[31]

Equity and Public Charging

In contrast to EV registrations, the correlation of charger location to areas with higher MiEJ scores and Justice 40 Disadvantaged designations is less

Charger Type	MiEJ >60	Justice 40 Disadvantaged or Partially Disadvantaged
DCFC	38%	45%
Level 2	43%	68%

Table 12: Chargers with MiEJ and Justice 40 Designation

[28]This section responds to Case No. U-21492, Amended Filing Requirements section subsections 6 (g) and (r) by identifying key market barriers to transportation electrification and outlining strategies to promote equitable access. It includes an overview of barriers the Company can address proposed solutions (g) and barriers beyond its control. Additionally, it discusses measures to expand EV adoption among disadvantaged, low-income, and underserved communities (r), including an income-based analysis of EV adoption and charging infrastructure (R.i), the use of equity mapping tools in program planning (R.ii), and a summary of equity-focused programs (R.iii).

[29] MiEJScreen is an interactive screening tool that identifies a variety of stressors and demographics within communities that may impact environmental conditions or the public health of residents. A census tract with a high score is one that experiences a combination of various stressors and potential increased vulnerability than census tracts with low scores. MiEJScreen: Environmental Justice Screening Tool (Version 1.0)

[30] The Climate and Economic Justice Screening Tool (CEJST), originally developed by the U.S. Digital Service and the Council on Environmental Quality under the Justice40 Initiative, has been removed from federal websites as of January 2025. The Company archived relevant data for its service territories prior to the removal. An unofficial copy of the CEJST dataset is currently hosted by the Public Environmental Data Partners (PEDP). These sources were used for this analysis.

[31] Some concentrations of EVs appear outside of the Company's territory. This is because the Company serves part of several zip codes, parsing EV registration data beneath the zip code level is not currently feasible.

pronounced. Table 12 shows the percentages of chargers located in areas with MiEJ scores >60 and Justice 40 areas designated as disadvantaged or partially disadvantaged. Figures 11 and 12 map public chargers listed in the US Department of Energy's Alternative Fuel Data Center with the MiEJ Screening Tool and Justice 40 Designations.

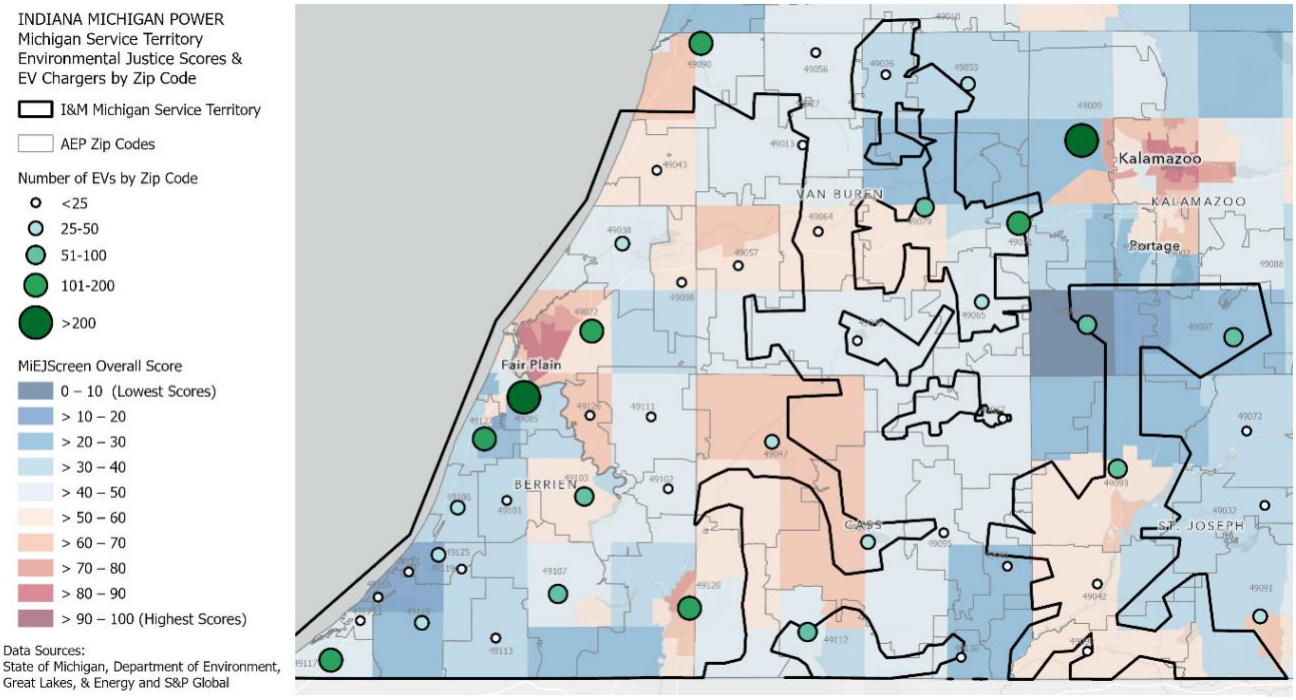


Figure 9: EV Registrations by Zip Code with MiEJ Screen

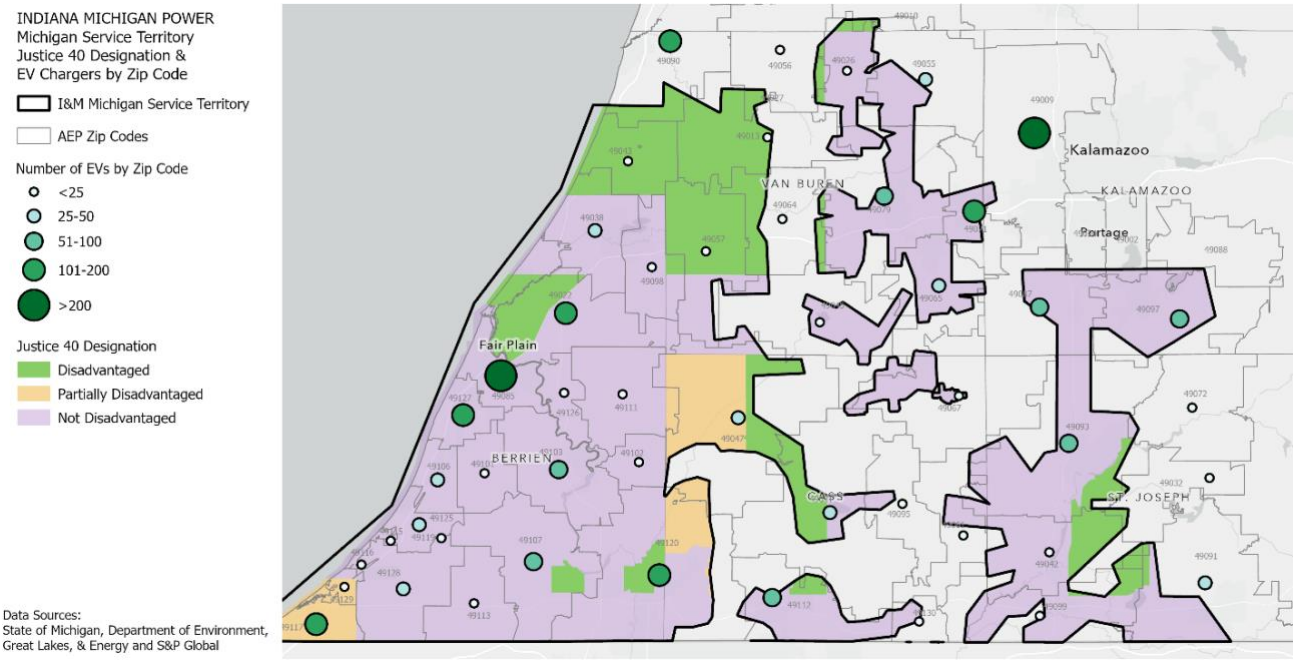


Figure 10: EV Registrations by Zip Code with Justice 40 Designation

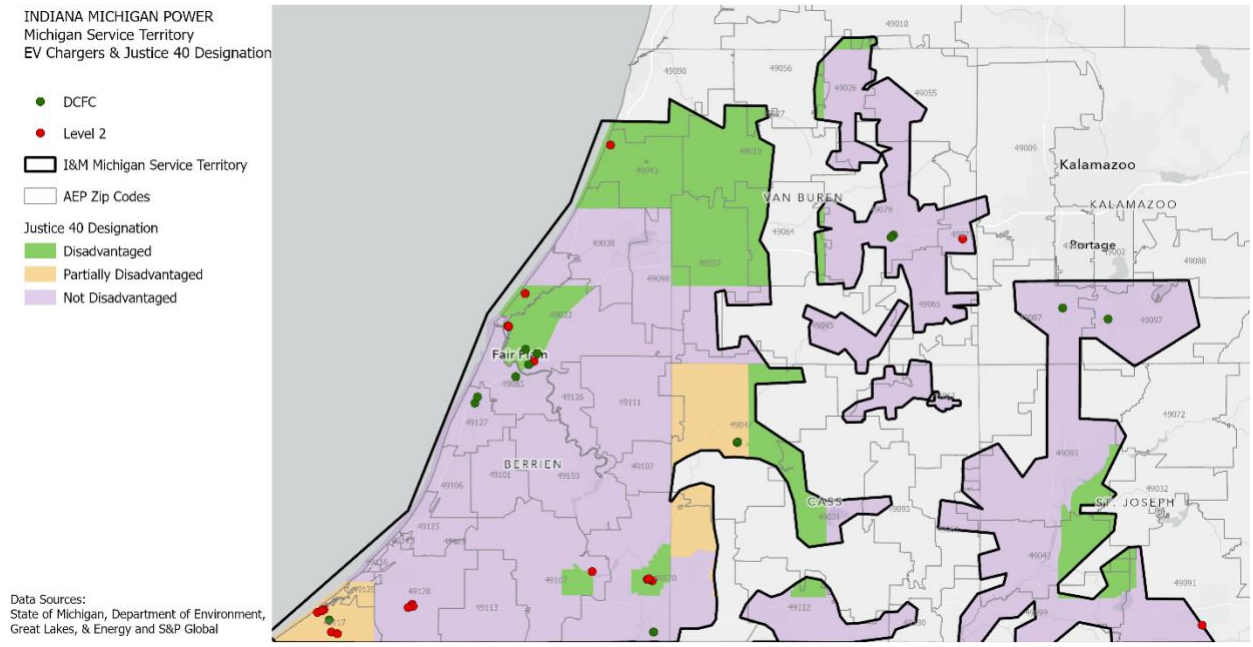


Figure 11: Justice 40 Designation with Public EV Charger Locations

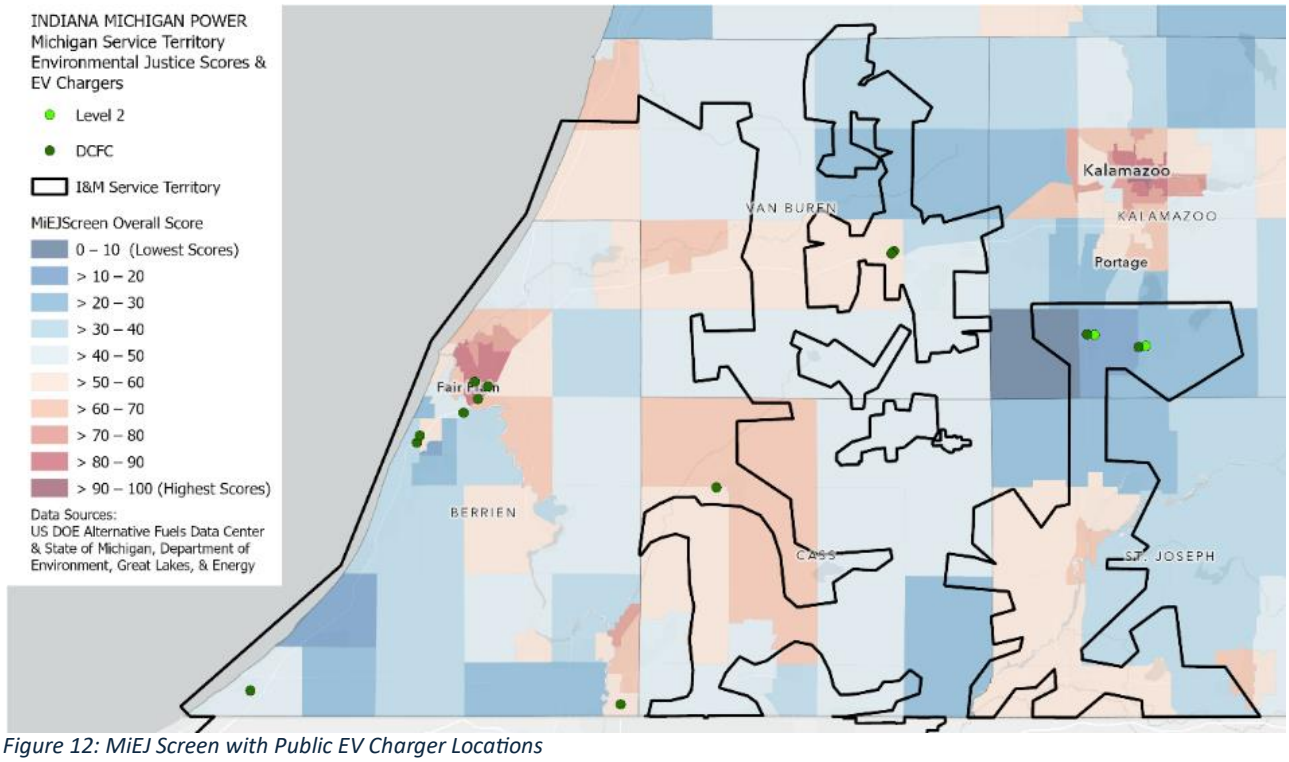


Figure 12: MiEJ Screen with Public EV Charger Locations

Rural Considerations

The Company's service area in southwestern Michigan is predominantly rural, [32] with 90% of the territory classified as rural, as illustrated in Figure 13 and Table 13.

	Approximate Square Mileage	Percent of Territory
Total I&M Michigan Territory	**1,375**	**100%**
Urban Area	**133**	**10%**
Rural Area	**1,242**	**90%**

Table 13: Urban and Rural Square Mileage of I&M Michigan Territory

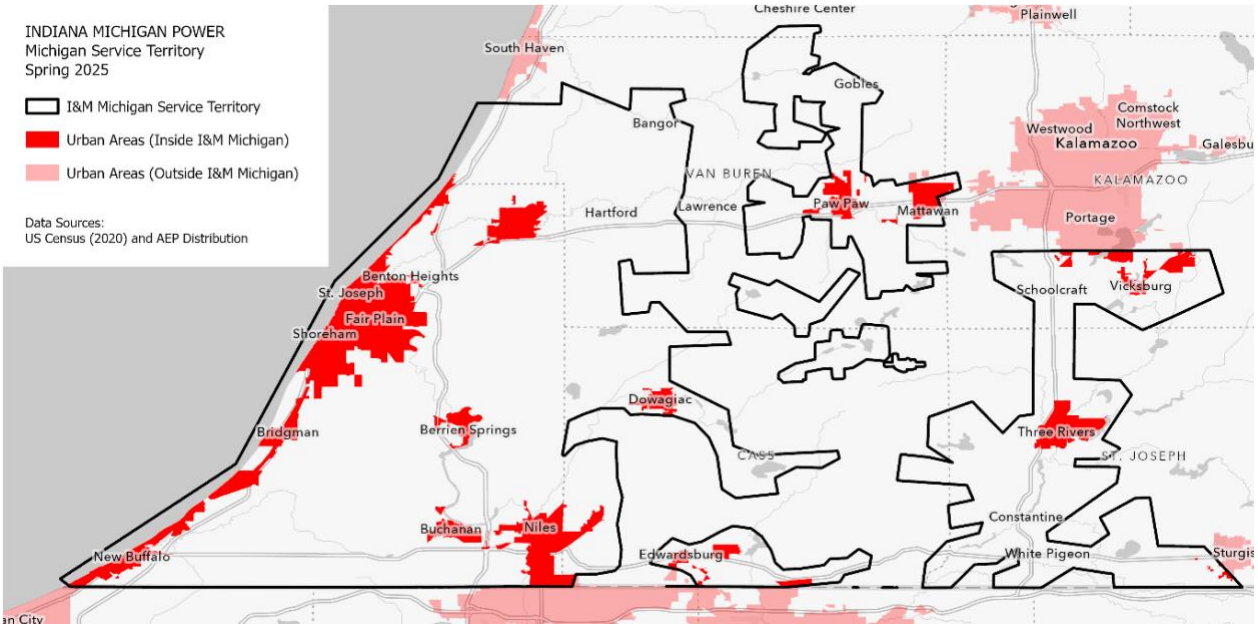


Figure 13: I&M Michigan Territory with Urban and Rural designations

In addition to the barriers that impact the EV market more generally such as price, range, evolving federal policy, and vehicle availability, additional barriers may also exist for I&M's more rural Michigan customer base. According to national trends, customers in rural areas may be more likely to think electric vehicles (EVs) are not well-suited to their needs. These perceptions are likely shaped by several key factors, including:

- **Cold Weather Performance**: Research from the U.S. Department of Energy and the National Renewable Energy Laboratory (NREL) confirms that cold temperatures can reduce EV battery range by up to 30%, depending on vehicle type and driving conditions.[33]
- **Charging Infrastructure Availability**: Rural areas often have fewer public charging stations, which can increase range anxiety and limit the perceived practicality of EV ownership. In 2024 NREL found that the availability, reliability,

[32] Rural as defined by 2020 US Census.

[33] Impact of Electric Vehicle Charging Station Reliability, Resilience, and Location on Electric Vehicle Adoption

and geographic distribution of EV charging infrastructure significantly influence EV adoption rates in rural communities.[34]

- **Travel Patterns and Vehicle Use**: Rural residents typically drive longer distances for work, services, and recreation, which can amplify concerns about range and charging access. While this means that rural drivers may benefit the most from EVs due to lower fuel costs, travel patterns differ from urban areas[35] and concerns about range and charger availably may be more difficult to overcome.

Results of Equity and Barrier Analysis on Pilot Design

The characteristics and corresponding needs of the territory have been considered as the Company developed this TEP. Considering the findings from both the equity and public charging analysis, specific distance requirements from existing chargers will be established for the public charger rebate pilot to avoid funding new chargers near existing locations, thus addressing gaps in the charging network. Enhanced rebates are available for public and fleet chargers in areas with elevated MiEJ scores or areas considered rural in US Census data, ensuring that resources are directed to the communities that require them most. And finally, enhanced residential rebates will be offered for home charging installations for income qualified customers, and multi-family properties will be eligible for commercial rebates.

Grid Planning and Analytics[36]

Distribution System Impacts

Currently, the level of EV utilization in I&M's service territory has not significantly affected the distribution grid. However, it is crucial for I&M to consider future EV growth rates when planning its distribution system. The potential impacts and considerations for the distribution grid are outlined in the following sections.

Impacts to Distribution System Capacity

The anticipated growth in load due to electrified transportation is modest and expected to be uneven across the distribution grid. Areas with higher incomes tend to adopt EVs more quickly, as residents can more easily afford new vehicles. This trend is already observable, as highlighted in the Equity and Barriers section. Additional DC Fast chargers are likely to be installed along highway corridors and other high-traffic

[34] id

[35] id

[36] 6 This section responds to Case No. U-21492, Amended Filing Requirements subsections 6(e), and (n). It outlines how the Company's TEP integrates with its broader distribution system planning, including anticipated system impacts, opportunities for efficient grid management, the role of transportation electrification in supporting renewable energy integration and anticipated technology changes that could impact planning.

locations. Fleet electrification may create localized "spot loads," potentially leading to capacity constraints on I&M's distribution grid. At present, there are no known large-scale fleet electrification or high-density EV charging projects in I&M's Michigan service area.

Impacts to Outage Response and Planned Work

Currently, there are no significant impacts on outage response or planned maintenance due to the existing levels of EV adoption in I&M's Michigan footprint. However, failing to consider EV adoption rates in distribution planning could restrict I&M's ability to manage load transfers during outages or when de-energizing equipment for safety. I&M continues to monitor EV penetration rates and incorporates the load growth from EVs into its distribution planning.

Impacts to Grid Modernization

EV usage has not yet had a significant impact on I&M's grid modernization efforts. As noted, I&M will take EV market growth into account as it continues to modernize its grid. I&M is also monitoring the implementation of FERC 2222, which facilitates two-way power flow on the grid, including potential contributions from EVs.

TEP integration with Distribution Planning

I&M employs robust Distribution Planning Criteria that establish clear operational limits for electrical components. When these criteria are not met, distribution planning engineers devise solutions, typically in the form of capital improvement projects designed to upgrade existing assets. These projects are scheduled to facilitate capacity increases are completed before forecasted overloads occur. Growth in the EV market will continue to be a factor in I&M's distribution system planning.

Enhancing Distribution Circuit Load Forecast

In addition to circuit-level load forecasts, system operators assess load transfer capabilities in their daily operations. Any capacity constraints that hinder load transfers or affect circuit ties are communicated to planning engineers, who explore options for future capacity enhancements. Input from TEP efforts will aid in minimizing factors that limit operational flexibility.

Engagement with EVSPs

Recently I&M, in collaboration with all AEP operating companies, initiated outreach to Electric Vehicle Service Providers (EVSPs) to discuss their long-range plans for EV charging infrastructure within AEP territories. While this engagement is in its early stages, it has facilitated collaboration across the AEP system in effort to enhance energization timelines and improve delivery schedules for transformers and related equipment. Furthermore, I&M's Michigan territory has become the first in the AEP system to offer publicly accessible capacity maps, expediting the process of siting chargers by identifying areas with available grid capacity. Building on this capability, two other AEP operating companies have committed to build similar maps in the near future. Figure 14 shows a screenshot of I&M's public hosting capacity map.[37]

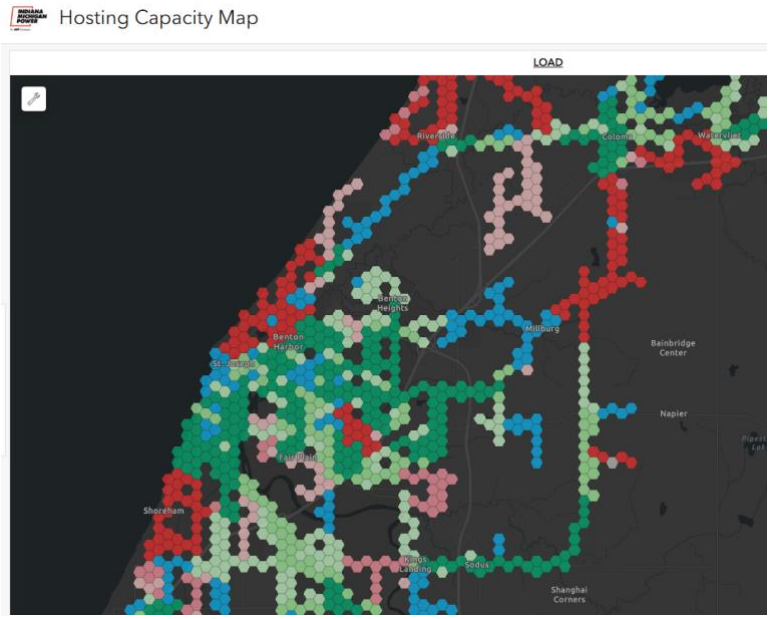


Figure 14: I&M's Public Hosting Capacity Map

Portfolio of Actions

I&M successfully deployed Advanced Metering Infrastructure (AMI) meters, which captures demand and usage data at 15-minute intervals. By analyzing this data, I&M can gain insights into distribution load characteristics at the individual customer level. The company is exploring ways to identify EV customers based on their demand profiles[38], which could enhance circuit-level forecasts by improving understanding of EV charging behavior.

Leveraging Customer Programs

Significant upgrades to substations due to EVs are not anticipated in the next five years. While system planning considers uncertainties, traditional load forecasting has proven reliable based on established usage patterns. However, EV charging introduces new uncertainties as customer behavior continues to evolve with increasing EV adoption. Time-of-Day (TOD) rates and managed charging may help shift charging to off-peak

[37] Map is available on the Company's website at: https://www.indianamichiganpower.com/company/about/hosting-capacity

[38] I&M is preparing to launch its Managed Charging program in Indiana. Identifying EV customers is a key initial step for customer recruitment.

hours, reducing impacts on the grid. As EVs proliferate, I&M will gain better insights into charging patterns through data collected from AMI meters and managed charging pilot programs.

Efficient Grid Management

I&M is in the process of implementing an Advanced Distribution Management System (ADMS) that has a planned Distributed Energy Resource Management System (DERMS) module. This system is anticipated to help enhance grid stability while interfacing with new technologies and resources connected to the distribution system. By consolidating multiple operational systems into one platform, grid operators will be better equipped to manage the grid efficiently. The DERMS module is expected to improve visibility of Distributed Energy Resources (DERs) and facilitate their integration into daily operations. I&M is closely monitoring developments related to FERC 2222 and continuously evaluating the impact of DER aggregation on distribution system planning and operations.

Renewable Resource Integration

The growth of EVs presents opportunities for integrating renewable energy sources into the I&M distribution system. Vehicle-to-Grid (V2G) technology allows energy to be stored in EV batteries during periods of high renewable production and discharged during peak demand. This technology can enhance the distribution system by aligning energy injection from DERs with periods of high demand. While commercially available, V2G remains an emerging technology with many unknowns regarding its impact on the distribution grid. I&M will soon initiate the Company's first V2G pilot program in Indiana to gain insights into how this technology can benefit the distribution grid. Although limited in scope, the data collected from this pilot will inform future distribution planning efforts, ensuring that DER energy production maximizes benefits to the system.

Charging and Vehicle Technology: Future Impacts on Planning and Forecasting

As the EV market continues to evolve, advancements in charging and vehicle technologies will have significant implications for grid planning, forecasting, and policy development.

Charging Technology and Infrastructure Planning

The rise of ultra-fast charging will introduce higher power demands over shorter durations, requiring utilities to adapt to new load profiles. As infrastructure expands across diverse use cases, a deeper understanding of charging behavior will be essential. Proactive planning may be needed to identify areas requiring additional grid capacity, especially as fleet electrification accelerates. In some regions, managed fleet charging and flexible connection solutions are already emerging in response to grid constraints.

Vehicle Technology and Market Evolution

New EV models across a range of price points and duty cycles, along with extended vehicle ranges, are making EVs more accessible to a broader audience. Plug-in hybrid vehicles are also evolving, with larger batteries that could resemble the load profiles of fully electric vehicles. Some automakers are pairing these advancements with higher-power residential chargers, up to 19.2 kW, further shaping charging load patterns.

Grid Integration and Managed Charging

The emergence of multi-EV households as shown in Figure 15 will continue to evolve residential charging needs and increase demand for flexible, customer-centric solutions. As the EV market grows, managed charging programs may be critical to optimizing grid use and integrating renewable energy.

Figure 15: Two EVs charging at a single residence

Vehicle-to-X (V2X) Technology

V2X capabilities are becoming more common as automakers integrate bidirectional charging into new models. As costs decline, understanding customer preferences around these technologies, whether for grid export, peak demand reduction, or backup power will be key. Identifying the value streams that motivate customer participation will be essential. Continued innovation, pilot programs, and collaboration with automakers will be necessary to support this evolution.

Policy and Regulatory Considerations

In addition to technological advancements, regulatory and policy developments will shape assumptions. For example, the Michigan Public Service Commission's March 2025 declaratory ruling (Case No. U-21619), which determined that Ford Motor Co.'s home backup power system does not require interconnection authorization under current standards, highlights the evolving state regulatory policies. Federal policy will also play a pivotal role. Uncertainty around federal automotive industry tariffs as well as manufacturing and EV tax credits could significantly influence the pace of EV adoption.

As the EV technology and policy landscape continue to evolve, so too will the Company's forecasting and planning processes.

Cost Benefit Analysis[39]

The Company has prepared a cost benefit analysis (TEP CBA) to estimate the benefits and costs of the TEP under the following five cost benefit tests:

1. Ratepayer Impact Test (RIM)
2. Total Resource Cost Test (TRC)
3. Societal Cost Test (SCT)
4. Participant Cost Test (PCT)
5. Utility Cost Test (UCT).

All cost tests were evaluated under the Company's Weighted Average Cost of Capital (WACC) approved in the Company's most recent general rate case in Case No. U-20359 and using an EV charging station equipment useful life assumptions of seven (7) years and an EV useful life assumption of twelve (12) years.

As shown in Appendix F, Figure F4, the Plan contains program participation estimates for the residential programs under Base, High, and Low sensitivities. The TEP CBA adjusts all cost test scores under those sensitivities. The Company did not evaluate sensitivities for any of the commercial programs and therefore the TEP CBA for commercial programs reflects a Base forecast level of participation.

At the portfolio level, The Plan passes four (4) of the five (5) cost tests over the proposed three-year period, 2026 through 2028. Figure 14 provides the portfolio-level cost test ratio results for the five cost tests and under the three different residential sensitivities.

[39] This section responds to Case No. U-21492, Amended Filing Requirements subsection 6 (o) regarding cost benefits tests.

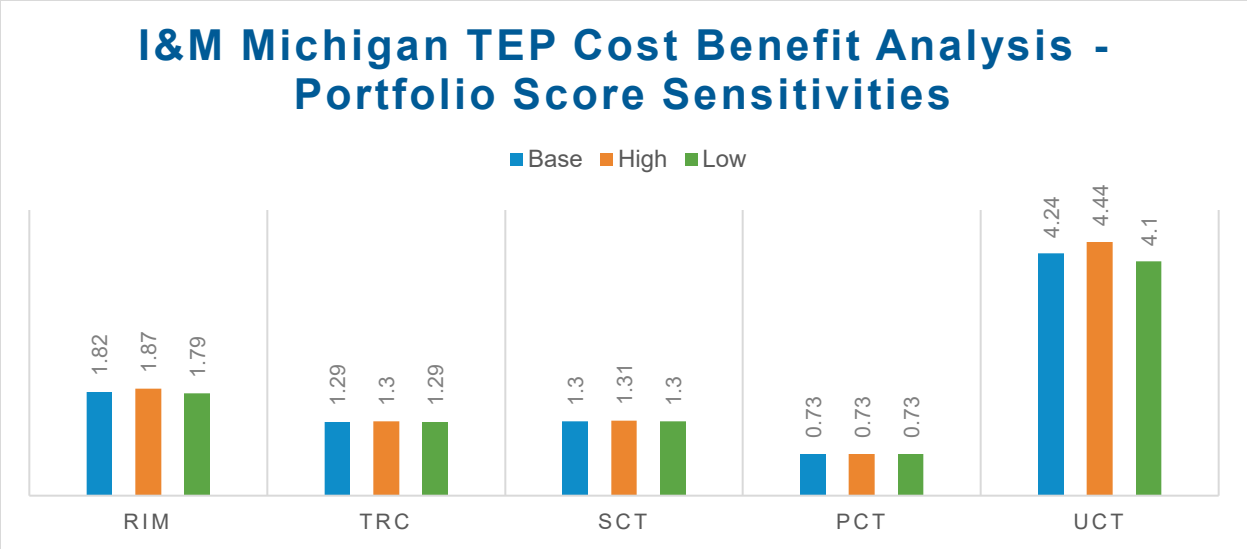


Figure 14: I&M TEP CBA Analysis Results

Appendix F provides additional detail for the cost benefit test outcomes by program, year, and for the three-year program period. Appendix F also presents the cost benefit test formulaic inputs used by the Company, respective to the benefit and cost purview of each test. The description of each benefit and cost formula input states which type of benefits and costs were included.

Annual Reporting

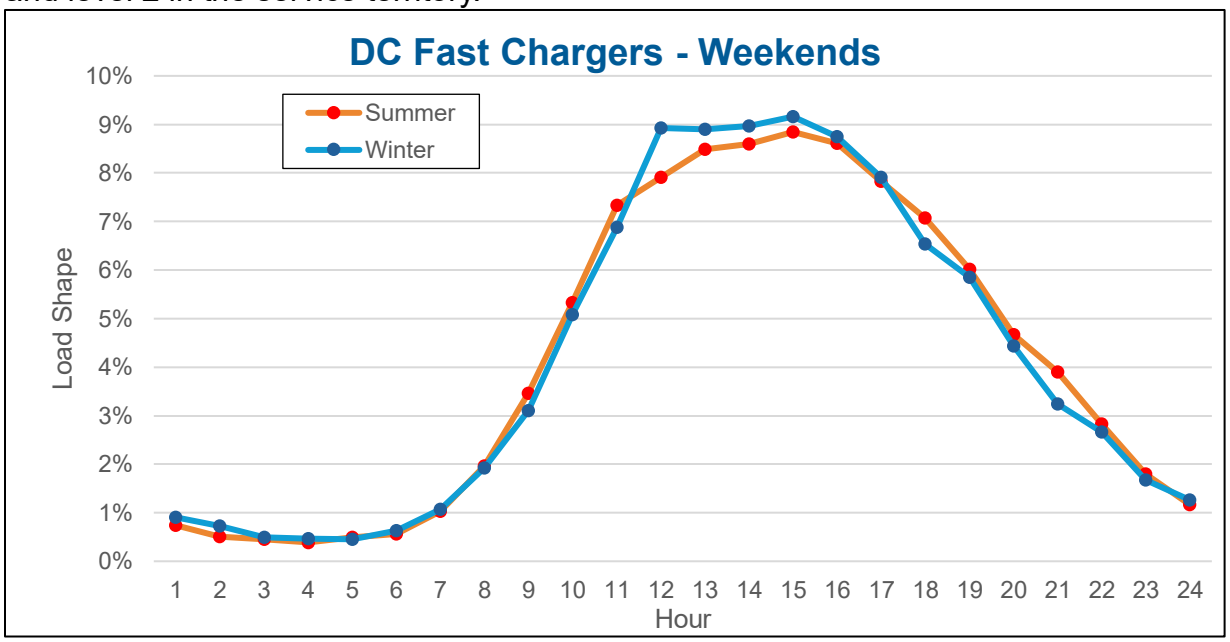
The Company will submit an Annual Progress Report by June 1 each year in Case No. U-21538, as required under Section 9 of the Amended TEP filing requirements. This report will replace the current EV Annual Report and will include updates on EV adoption, charging infrastructure deployment, program participation, load impacts, spending, and customer outreach. It will also provide data on charger usage patterns, and progress toward key performance indicators, helping to inform future planning and transparency in program implementation.

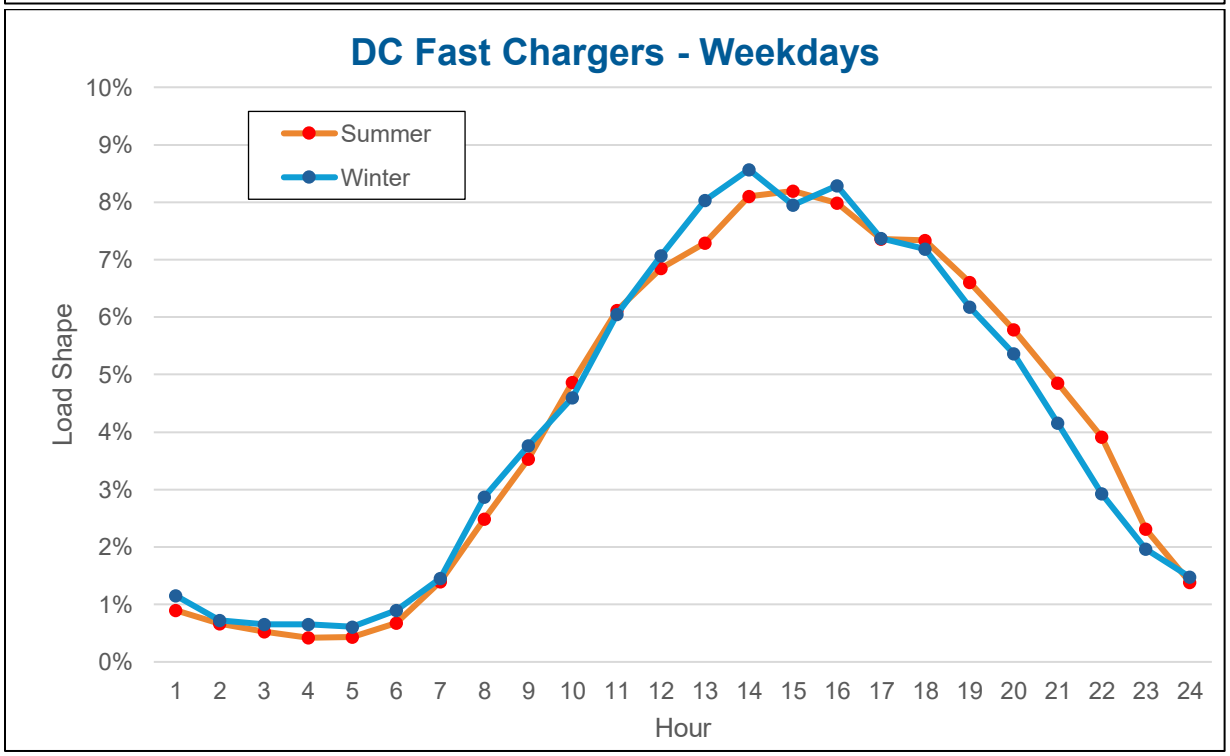
Conclusion

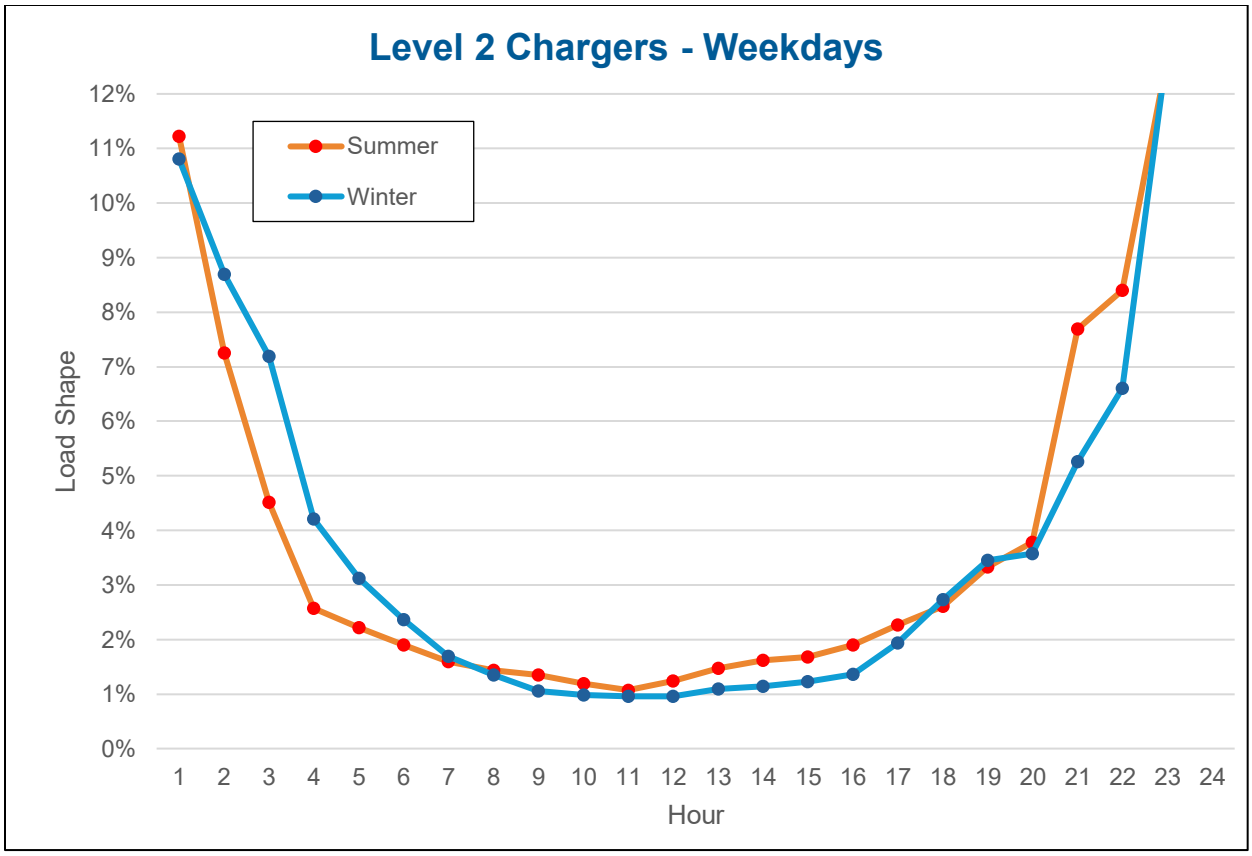
This Transportation Electrification Plan reflects not just a roadmap, but a commitment to adaptability and our customers and the communities we serve. It outlines a transportation electrification strategy grounded in experience, data, customer feedback, and Michigan state policy. While the pace of change in the EV landscape is rapid, our approach remains steady: responsive to today's needs, and ready for tomorrow's opportunities.

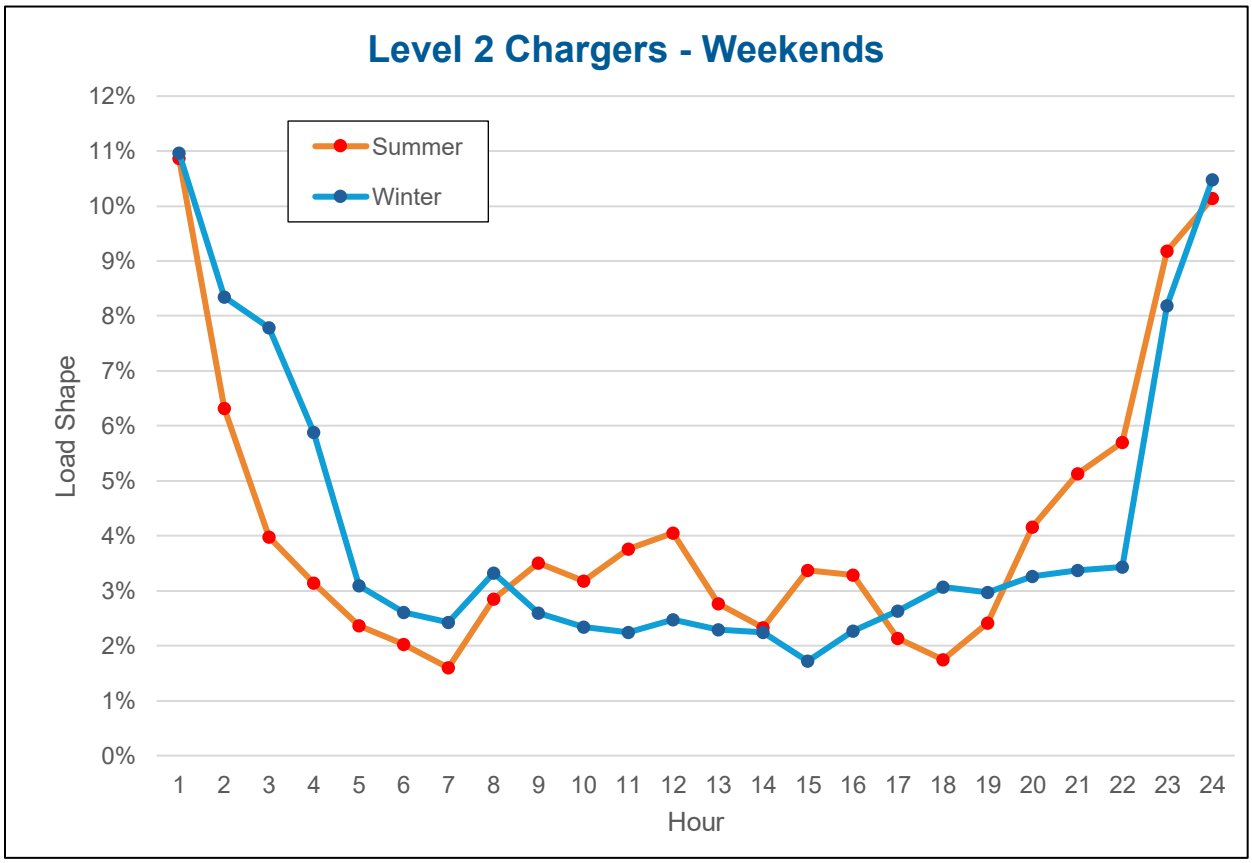
Appendix A: 8769-Hour Load Shapes

As required by subsection 6 (h) of the Amended Filing requirements, below are aggregated 8760 load shapes for a selection of separately metered DC fast chargers and level 2 in the service territory.






Level 2 Chargers - Weekdays
Summer
Winter
Load Shape
12%
11%
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour


Level 2 Chargers - Weekends
Summer
Winter
Load Shape
12%
11%
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour

Appendix B: Internal EV Load Forecasting Methodology

Description of Methodology, Tools, and Software Included in TEP

In order to forecast EV-related energy and demand that are included in Michigan's Transportation Electrification Plan, we employ a fixed effects econometric model to project electric vehicle counts across the United States that includes a particular focus on state-specific dynamics. The fixed-effects approach allows us to account for unobserved heterogeneity across states, capturing the local preferences and unique characteristics that may impact EV adoption. By controlling for state specific factors, our model provides a more nuanced understanding of how various determinants influence EV growth rates within each state.

The model incorporates several critical variables that are expected to affect EV adoption. These include vehicle prices, overall vehicle stock, household incomes, charging infrastructure availability, and Zero Emission Vehicle (ZEV) mandates. Price data is sourced from EIA, stock and economic data from Moody's Analytics, and charging infrastructure data from the DoE AFDC.

Each of these factors plays a significant role in shaping consumer preferences and behaviors toward electric vehicles. For instance, higher vehicle prices may deter potential buyers, while increased charging availability can significantly enhance the attractiveness of EVs. By including these variables, we aim to isolate their effects on EV counts and better understand the factors driving growth in Michigan.

The fixed effects models to forecast EV growth rates for the state of Michigan were produced with the R statistical software package. R is a software environment that provides a wide variety of statistical techniques, including fixed effects regression modeling. R is commonly used in industry for data analysis, statistical modeling, and data visualization.

To project future EV counts, we apply the corresponding state growth rates derived from our fixed effects model to the latest vehicle counts obtained from S&P data for I&M's service territory in Michigan. This approach enables us to generate state-specific projections that reflect both current trends and the unique circumstances of the state's automotive market. By leveraging the most recent data, we ground our projections reality, reflective of ongoing market conditions.

Projected EV counts are split into light-duty, medium-duty, and heavy-duty vehicle classes. The ratio of each class to the total vehicle count is derived from the existing ratio of each electric vehicle class to total vehicle registrations from the most recent vehicle counts obtained from S&P data. The ratio is an aggregate of AEP's complete

service territory, and those ratios are supplied to the vehicle forecasts for I&M's Michigan service territory. See Figure 1 for the ratio of electric vehicle counts used in the most recent forecast.

Figure 1

EV Class	Ratio of Total EV Counts
Light Duty	99.73%
Medium Duty	.01%
Heavy Duty	.26%

Once we have projected the EV counts, we convert these figures into estimated kilowatt-hours (kWh) for inclusion into our energy forecast as a post-model adjustment. This conversion is essential for understanding the broader implications of EV adoption on the electrical grid and energy consumption patterns. To achieve this, we focus on the top ten EV models in AEP's overall service territory and calculate their annual energy consumption using the Department of Energy's (DoE) Alternative Fuels Data Center (AFDC) vehicle cost calculator. It should be noted that only the base scenario is incorporated into the load forecast.

We use the default assumptions from the vehicle cost calculator, which assume an average vehicle usage of 12,000 miles driven per year. We then derive the annual kWh consumption for each model. This information allows us to assess the total energy demand resulting from the projected EV counts. By aggregating the annual kWh via a weighted average of these top models, we can provide a comprehensive forecast of the energy requirements associated with EV adoption. See aggregated annual kWh for each EV vehicle class in Figure 2.

Figure 2

EV Class	Average kWh/Year
Light Duty	3,533
Medium Duty	17,548
Heavy Duty	97,926

Appendix C: EV Forecast Methodology

MEMORANDUM

TO	Jon Walter and Adriane Jaynes, I&M
FROM	Rich Hasselman, Jeffrey Huber, Jake Thomas, and Melissa Tucci, GDS Associates, Inc.
DATE	June 25, 2025
RE	Michigan EV Forecast and Program Adoption

Introduction and Background

I&M requested that GDS develop a forecast of electric vehicles, public charging, and EV charging program adoptions in I&M's Michigan service territory. These forecasts are intended to support I&M in a rate filing associated with new EV charging rates/programs. As explained in each subsequent section to this memo, the EV forecasts are informed by 2023, 2024, and Q1 2025 actual EVs in I&M's Michigan service territory, provided by I&M. The program adoption forecast is based on adoption curves that take into account I&M's current EV charging programs in Michigan. While informed by I&M Michigan data, the forecast for electric vehicles and program adoptions reflect GDS's independent opinion.

Below we describe the forecast of EVs, followed by the forecast of program adoptions. The EV forecasts cover Light-Duty EVs, Medium-Heavy Duty EVs, and Public Chargers that support EVs.

Light-Duty Electric Vehicle Forecast Through 2030

The GDS Team developed an independent EV forecast through 2030 using an engineering modeling approach. The model starts with the number of EV currently in I&M's Michigan jurisdiction, which represents approximately 1.4% of the estimated total number of vehicles in the area. Total vehicles are estimated based on US Census Bureau data for Michigan, indicating an average of 1.8 vehicles owned per household multiplied by the number of residential accounts in I&M's territory.

The rate of adoption of EVs was developed for base, low, and high adoption rate scenarios in which GDS relied upon a variety of predictions developed by third parties for national long-term adoption rates, including the Energy Information Administration, Wood Mackenzie, EPRI, and others. For the base case, the GDS Team selected a long-term adoption rate of 12%. The low case is 8.6% and the high case is 25%. Early adoption rates are then developed as a linear projection from current adoption rates (in the 4% range) to the end-point.

GDS also recognized that I&M's Michigan territory income level ($62,562) is below the national average ($79,824), which can impact adoption of EVs which tend to be higher priced than traditional ICE vehicles for most of the modeled time period. The end-point adoption rates are based on forecasts for the U.S. as a whole. We therefore applied an income adjustment to the adoption rate through 2029, which is the earliest point at which some experts think EVs will achieve price parity with comparable ICE vehicles. While the demographic adjustment theoretically dampens EV adoptions, EV sales shares in I&M's Michigan service territory have aligned with national trends. The effect reduces the modeled demographic adjustment. The result

is that GDS' projected adoption rates in the I&M Michigan territory are approximately 98% of the national average by 2027.

Table 1 Projected Adoption Rate of EV for New Vehicle Purchases in I&M Michigan Territory

Year	Low Case	Base Case	High Case
2025	4.78%	4.90%	5.37%
2026	4.92%	5.17%	6.09%
2027	5.06%	5.43%	6.82%
2028	5.21%	5.69%	7.55%
2029	5.79%	5.94%	6.63%
2030	6.11%	6.35%	7.45%

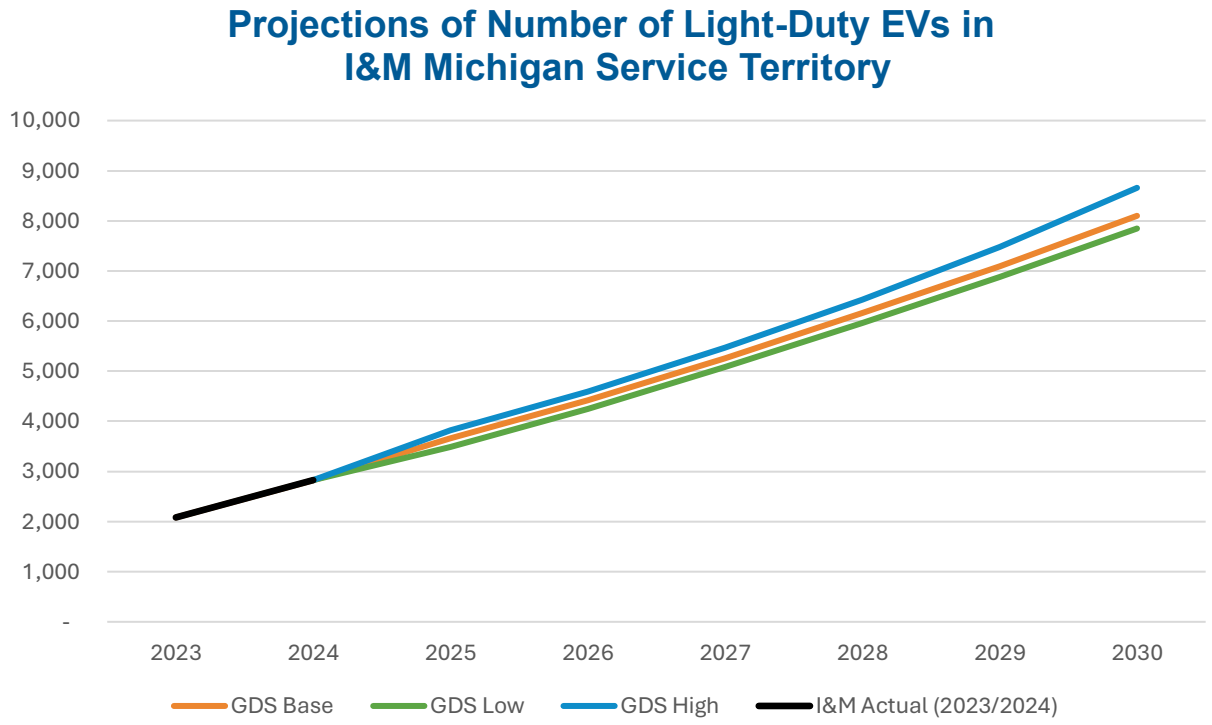
To determine the number of EV each year, the model determines new vehicle additions as a function of household growth the average number of vehicles per household in Michigan. The adoption rates as shown above then determine the number of new EV added to the territory through new household growth. The model also takes into account vehicle replacement. According to the USDOT Bureau of Transportation[40], the average lifespan of a light duty vehicle was 12.6 years in 2024. The average lifespan is projected to increase slowly over time. Therefore, the GDS model also recognizes that in each year, roughly 1/12 of existing vehicles will be replaced, and of those replacement vehicles, a share will be EV, based on the adoption rates provided above. The resultant projections for number of EV are provided in the table and figure below.

Table 2 Projected Number of Light-Duty EVs in I&M Michigan Service Territory

Year	Actual	Low Case	Base Case	High Case
2023	2,082			
2024	2,827			
2025		3,491	3,657	3,823
2026		4,244	4,413	4,592
2027		5,086	5,263	5,475
2028		5,963	6,155	6,431
2029		6,881	7,097	7,482
2030		7,847	8,100	8,659

[40] https://www.bts.gov/content/average-age-automobiles-and-trucks-operation-united-states

Figure 1 GDS 2023-2030 I&M Michigan Light-Duty EV Forecast



Medium/Heavy-Duty Electric Vehicle Forecast Through 2030

I&M has seen modest activity with adoption of Medium Duty (MD) and Heavy Duty (HD) electric vehicles (EVs). Only seven are currently in the Michigan territory. Forecasting assumes there will be ongoing adoptions, supported by general industry expectations. For example, S&P Global states "While electric truck sales continue to represent a small share of total deliveries, we expect the transition toward zero-emission vehicles (ZEVs) will accelerate over 2025-2030, supported by advances in battery economics and charging infrastructures."[41] In general, MDEV and HDEV adoption has been slower than for light-duty vehicles. EV Magazine notes "The transition to electric HDVs lags behind passenger vehicle electrification by approximately six to eight years."[42] The U.S. Department of Energy expects that "[…] by 2030, nearly half of medium- and heavy-duty trucks will be cheaper to buy, operate, and maintain as zero emissions vehicles than traditional diesel-powered combustion engine vehicles."[43]

To forecast the number of MDEV & HDEV in I&M's Michigan territory, GDS first estimated the number of total MDV & HDV in the territory. GDS then used a percentage of all vehicles that will be electric to produce the MDEV/HDEV forecast. The percentages are based on an assumption that adoption will lag the light-duty EV market by eight years. For example, in 2022, GDS estimated that 0.73% of all vehicles in the I&M Michigan territory were electric. For MDEV & HDEV, we used the same 0.73% but applied the percentage to 2030 (eight years beyond 2022).

As the basis for the MDEV and HDEV forecast is informed, in part, by the expected growth of light-duty EVs, GDS utilized household counts to inform the MDEV and HDEV forecast. GDS began with a forecast of MD and HD vehicles overall. GDS relied upon Michigan DOT data that indicated that there were 0.0323 MDV/HDV per household in the state in 2017 and 0.05084 per household in 2021 (most recent two data points available). GDS used a trend line to determine a 2024 factor of 0.06475 vehicles per HH. Observation of the last 25 years of MDV/HDV per HH in the U.S. shows compound growth of 3.5% per year over the past twenty years. This growth rate was applied to the Michigan 0.06475 value to grow it into the future for the base case projections. Finally, the factor was multiplied by I&M's residential consumer forecast to estimate number of MDV/HDV in the territory.

The forecasting process is summarized as:

- (A) Forecasted Michigan service territory Residential customer count from I&M
- (B) Number of Medium- and Heavy-Duty Vehicles per household
  - 2024 ratio derived from Michigan DOT fast facts publications by vehicle type and the Census American Community Survey (ACS) Table DP02 – Total Households in Michigan
  - 2025 and beyond are grown at the Compound Annual Growth Rate (CAGR) of the vehicles/household ratio at the US level. Sourced from Census data and the US Bureau of Transportation Statistics (BTS).

[41] https://www.spglobal.com/ratings/en/research/articles/241211-2025-global-outlook-for-heavy-duty-trucks-isn-t-rosy-13354457

[42] https://evmagazine.com/news/ev-transition-boosts-returns-for-heavy-duty-truck-makers

[43] https://www.energy.gov/articles/doe-projects-zero-emissions-medium-and-heavy-duty-electric-trucks-will-be-cheaper-diesel

    - The base case forecast uses a 20-year compound annual growth rate (CAGR). The High Case forecast uses a 25-year CAGR. The low case maintains the 2024 ratio throughout the forecast period.
- (C) Number of all Medium/Heavy-Duty Vehicles in service territory is the product of items A and B.
- (D) Number of Medium- and Heavy Duty Electric Vehicles
    - 2024 uses actuals from I&M
    - 2025 – 2030 are a product of C and E
- (E) Cumulative percentage of Electric Vehicles
    - 2024 – derived from items C and D
    - 2025 – 2029 are grown based upon an approximate S-Curve
    - 2030 is based upon the Light-Duty EV Forecast, lagged 8 years.

The results are shown in Table 3.

Table 3 Forecast of MDEV/HDEV 2025-2030

Year	Low Forecast			Base Forecast			High Forecast		
	Med/Heavy Vehicles	Share EVs	EV Count	Med/Heavy Vehicles	Share EVs	EV Count	Med/Heavy Vehicles	Share EVs	EV Count
2024*	7,318	0.10%	7	7,318	0.10%	7	7,318	0.10%	7
2025	7,325	0.11%	8	7,581	0.11%	9	7,682	0.11%	9
2026	7,299	0.14%	11	7,819	0.14%	11	8,028	0.14%	12
2027	7,314	0.19%	14	8,111	0.19%	16	8,438	0.19%	16
2028	7,329	0.30%	22	8,412	0.30%	25	8,867	0.30%	26
2029	7,345	0.44%	33	8,726	0.44%	39	9,320	0.44%	41
2030	7,362	0.71%	52	9,052	0.73%	66	9,797	0.77%	75

*actual

Electric Vehicle Public Charger Forecast Through 2030

GDS developed a forecast for public chargers by utilizing two key information sources:

- Counts of Level 2 (L2) and Direct Current Fast Chargers currently installed in the I&M Michigan Service Territory, provided by I&M.
- Industry estimates of the ratio of light-duty public chargers per EV in 2030, nationally, from several sources.

The National Renewable Energy Laboratory (NREL) has projected that by 2030 there will be 33 million electric vehicles and 1.25 million public charging stations throughout the U.S. This translates to a rate of one charging station for every 26.4 EVs. The current ratio is one charging station for every 8.4 EVs in the U.S. This indicates that as EV adoption increases, the number of charging stations will also increase but at a much lower rate. S&P Global projects that there will be one charging station for every 16.5 EVs. I&M currently has 1 public charging station for every 23.8 EVs in its Michigan territory.

With I&M's current ratio of EVs per charging station within the range of NREL and S&P Global expectations for 2030, GDS held this ratio constant for developing a forecast of public charging stations. As such, GDS's forecast of public charging stations is assumed to maintain pace with total EV adoptions. The ratio of one charger per 23.8 EVs drives the forecasted growth of public chargers.

Currently, 55 percent of I&M public charging stations are DCFC stations and 45 percent are L2 stations. By 2030, S&P Global projects that 85 percent of stations in the US will be L2 and only 15 percent DCFC. GDS used this 85/15 split to inform the ratio of new chargers added to the I&M Michigan system. By 2030, that means that 71% of I&M Michigan public charging stations will be L2. The forecasted counts of each public charger type are presented in Table 4, below.

Table 4 Forecast of Public Chargers 2025-2030

Year	Low Forecast			Base Forecast			High Forecast		
	L2	DCFC	Total	L2	DCFC	Total	L2	DCFC	Total
2024*	53	66	119	53	66	119	53	66	119
2025	77	70	147	83	71	154	89	72	161
2026	104	75	179	110	76	186	117	87	204
2027	134	80	214	141	81	222	148	104	252
2028	166	85	251	173	86	259	183	122	305
2029	199	91	290	207	92	300	221	141	362
2030	235	97	332	244	99	343	265	162	427

*actual

Program Adoption Forecast Through 2028

The GDS Team used primary market research from the 2021 potential study to determine steady state adoption rates for key electric vehicle (EV) demand response (DR) program types. The market research collected data for direct load control and rate programs. For rate programs, the survey included willingness to participate in time-of-use rates and critical peak pricing rates. This survey data gave GDS a starting point for customers willing to participate in a rate or direct load control program. To determine more specific participation rates for electric vehicles, other evaluations, research, or potential studies were used[44].

While I&M's existing EV Plugged In TOU rate has been available to customers since 2020, the rate will no longer be offered to new customers starting in 2026. There will be two new EV managed charging options starting in 2026: passive and active managed charging. The new options will not require a separate submeter to be installed. Participation for the existing I&M Plugged In TOU Rate is expected to increase to approximately 312 participants through the end of 2025, with participation being frozen after that.

Customers participating in the new passive charging option will schedule their own vehicle charging during I&M's prescribed off-peak window. Customers participating in the new active charging pilot will allow I&M to schedule their vehicle during off-peak hours, while ensuring their vehicle is charged to the desired level in time for their daily departure time.

The Team determined a steady state participation rate of 15% for the TOU/new passive managed charging option and 15% for the active managed charging option. In the long-term, approximately 30% of EVs are expected to be enrolled in one of the three demand response program options. Since the existing TOU customers will be frozen at the end of 2025, the future passive program participants are allocated to participate in the new passive charging program. As such, the percentage of total EVs participating in the frozen TOU program (after 2025) will decrease, while increasing in the new passive managed charging program from 2026 and beyond.

We assume an "S-Curve" for the path to steady state participation; an example is shown in Figure 2. In this curve, the participation growth accelerates aggressively over the first half of a five-year period and then slows over the second half of the five-year period. After the five-year period ends, participation still grows slowly as new electric vehicles are adopted, but not as quickly as the initial five years of the program.

Since the Plugged In TOU Rate option has been available to customers since 2020, GDS assumed the S-Curve's five-year period of fast growth to start in 2022. The passive charging option will follow the same curve as TOU, since it is a similar program. Growth is then expected to slow in 2027, with the steady-state participation rate, assuming the program were to continue beyond 2028, expected to be reached in 2035. The new active managed charging option will start in 2026 and will start its fast growth at the program implementation. Growth is expected to slow in 2028 and reach steady state participation in 2034, again, assuming the program were to continue beyond 2028.

[44] Sources used to determine EV steady state adoption rates include studies from Eversource, National Grid, NRECA, NREL, NYSERDA, PG&E, SCE, SDG&E, SEPA, and US Drive.

Figure 2. S-Curve Example

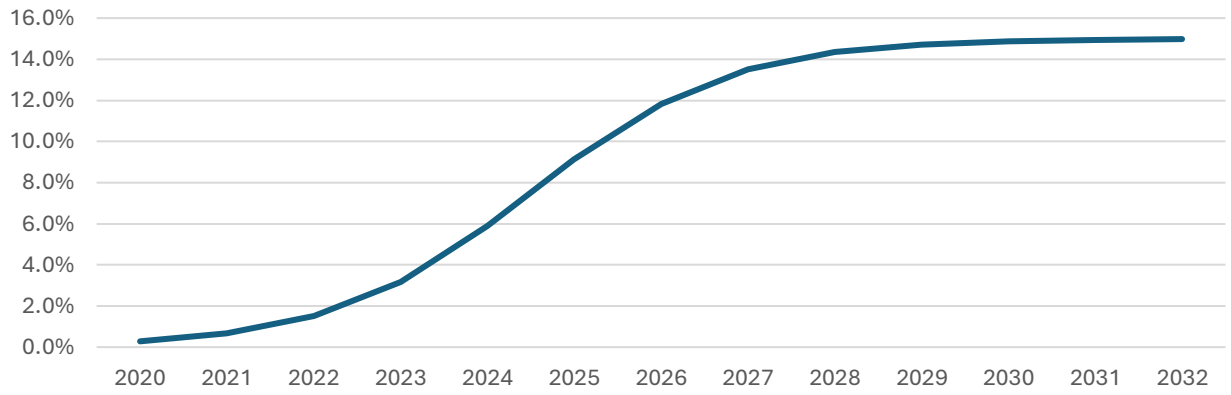


Table 5 shows the actual participation for 2022 to 2024, along with the forecasted participation for 2025 to 2028 for each program option. Participation rates are also shown for the three program options, which are the percentage of the participants out of the total EVs forecasted in I&M's territory.

Table 5. Electric Vehicle Load Management Program Participation

	Actuals			Forecasted			
	2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Existing I&M TOU Rate Participants	60	94	203	312	312	312	312
New Passive Managed Charging Participants	0	0	0	0	149	320	495
New Active Managed Charging Participants	0	0	0	0	66	197	462
Number of EVs in I&M Territory	1,471	2,082	2,827	3,657	4,413	5,263	6,155
TOU Percentage of EV Forecast	4.1%	4.5%	7.2%	8.5%	7.1%	5.9%	5.1%
Passive Managed Charging Percentage of EV Forecast	0.0%	0.0%	0.0%	0.0%	3.4%	6.1%	8.0%
Active Managed Charging Percentage of EV Forecast	0.0%	0.0%	0.0%	0.0%	1.5%	3.8%	7.5%
Total Participation Rate for all EVs	**4.1%**	**4.5%**	**7.2%**	**8.5%**	**12.0%**	**15.8%**	**20.6%**

Appendix D: Stakeholder and Customer Outreach

Consistent with I&M's Electric Tariffs governing its Data Privacy Policy, all Personal Data related to customers of the Company have been omitted as the Company has not obtained prior Informed Customer Consent for disclosure of said information.

Stakeholder Workshop Summaries

A total of five stakeholder workshops were held regarding EV programs. The Indiana focused sessions were held on January 4, at 9:00 am and February 21, 2024, at 10:00am, 43 invitations were issued. The first Michigan stakeholder workshop was held February 12, 2024, at 10:00am Thirty-two invitations were issued for this event

The initial stakeholder meetings were designed to present early-stage program concepts and gather feedback to inform the refinement of potential pilot designs. Participants were presented high level pilot concepts. Their feedback was used to shape the final program design.

These workshops covered the proposed EV pilots of Managed Charging, Vehicle to Grid, Low income & rural Level 2 Charging, and Education & Outreach efforts. A brief description was given along with the potential customer journey for each pilot. Time was allotted for participants to ask questions and provide input on the proposed pilots. Some of the questions received from the sessions included:

- If a customer is on managed charging, where I&M is deciding what time period to charge their car, are there any options for customers to choose their own time to charge if their schedule occasionally varies?
- How will the manage charging support multi-family homes?
- Is it possible to have different incentives for the V2G pilot based on how far along school districts are with acquiring chargers? For example, maybe if the school already has a charger, they can be incentivized with the credit.
- Are there upfront incentives to help get the DAC/Rural Level 2 Charger pilot going? Some of the upfront cost will be a barrier to municipalities that are rural or disadvantaged. The incentive will need restructuring. Most city residents will not want to see the money used to buy EV chargers when streets need fixed.

In April 2025, two outreach sessions were held with Michigan stakeholders to discuss EV pilot proposals. The first of the two 2025 sessions focused on residential programs and took place at 6:00pm on April 24. Both sessions highlighted the necessity for continuous dialogue and collaboration between I&M and its customers and stakeholders, as well as the ongoing commitment to improving customer experiences in the evolving landscape of electric vehicles.

For the residential session held on April 24, 2025, at 6:00 p.m. 130 people were invited, 17 RSVPs were received, and 7 customers attended. These customers were also advised of the commercial session and were given the opportunity to attend both sessions.

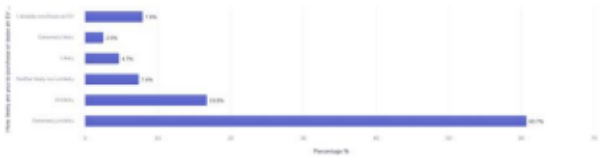
One participant expressed positive sentiments regarding I&M's lower rates compared to another utility in the state. One participant expressed a preference for maintaining the sub metered TOD rate. Key topics of discussion included the necessity for enhanced education and outreach efforts regarding EV tax credits, charging station locations, and the rebate process. Customers voiced the need for improved communication about tax credits, and tools to enable easier bill analysis, and more public charging information. Overall, the session was characterized by productive conversations and provided valuable feedback on both the current and future pilots.

The April 25, 2025, session was held at 10:00 a.m. and focused on commercial programs. A total of 65 people were invited, 11 RSVPs were received, and 12 attended. These customers were also advised of the residential session and were given the opportunity to attend both sessions.

This session was characterized by a more structured dialogue than the residential meeting, with participants emphasizing the need for I&M to encourage optimal charging management and support the development of public charging infrastructure, particularly in multi-family settings. Concerns were raised about frequently out-of-service charging stations, which have been a common complaint. However, since I&M does not own public charging in Michigan, the Company has few options to address this concern. Additionally, there was recognition of the success seen in other regions regarding school districts utilizing charger rebate programs and make-ready incentives. Participants expressed interest in learning from each other's experiences, particularly in relation to vehicle-to-grid (V2G) programs, and emphasized the importance of I&M's transparency about future plans in this area, which could help municipal and school district customers justify higher initial capital investments to enable V2G capabilities.

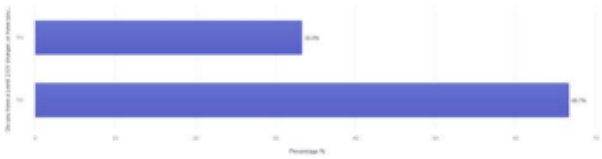
EV Program Design Survey, September 2023

How likely are you to purchase or lease an EV (all-electric or plug-in hybrid) in the next 12 months?



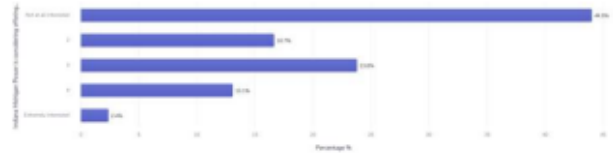
2

Do you have a Level 2 EV charger, or have you added a 240v outlet for charging at your home?



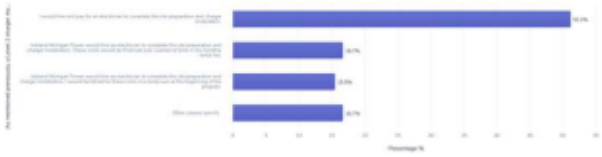
3

Indiana Michigan Power is considering offering a new EV charging program that allows customers to lease a Level 2 EV charger. Indiana Michigan Power would offer several Level 2 charger options for customers to select from, with a monthly fee ranging from about $18 - $25. The monthly fee would include maintenance for the charger while enrolled in the program. A Level 2 charger costs $300 to $900, on average. How interested would you be in leasing a Level 2 charger from Indiana Michigan Power? If you already own a Level 2 charger, please answer the question as if you do not already own one.



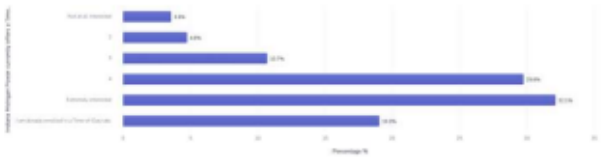
4

As mentioned previously, a Level 2 charger must be installed by a licensed electrician and prior to installation, work (wiring, upgraded electrical panel, etc.) may need to be completed to prepare your home for the charger. If you were to lease a Level 2 charger from Indiana Michigan Power, how would you most prefer to pay for the site preparation and EV charger installation?



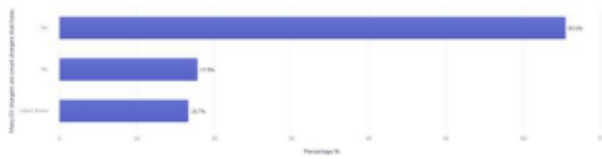
5

Indiana Michigan Power currently offers a Time-of-Day rate that allows you to save money when you use electricity during off-peak hours. Usage during off-peak hours (e.g., 9:00 pm - 6:00 am) is discounted 30% from the standard residential per kWh rate. With this rate, you can save money by shifting activities that use electricity in your home, like doing laundry and charging your EV, to off-peak hours. How interested are you in enrolling in Indiana Michigan Power's Time-of-Day rate?



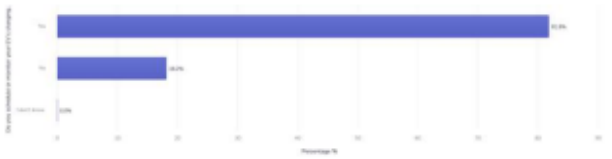
6

Many EV chargers are smart chargers that have Wi-Fi connectivity. These chargers can be monitored and controlled by an app on your smartphone. If you currently own/lease an EV, does your EV charger have Wi-Fi connectivity? If you are likely to purchase/lease an EV in the future, would you consider using Wi-Fi connectivity?



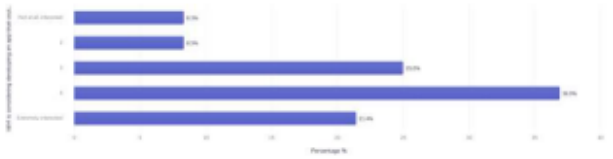
7

Do you schedule or monitor your EV's charging using a method other than a Wi-Fi connected charger, such as your vehicle's dashboard or app?



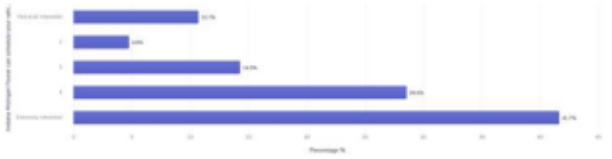
8

I&M is considering developing an app that could enhance your EV charging experience. How interested are you in each of the following potential features? Providing charging information to Indiana Michigan Power to allow us to better manage charging as EVs in your neighborhood increase to maximize your neighborhood grid capacity to accommodate new EVs.



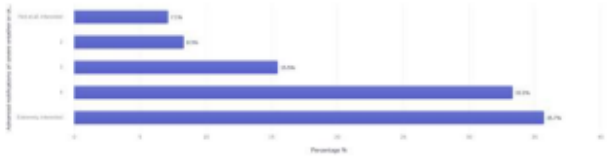
9

Indiana Michigan Power can schedule your vehicle to be charged overnight at a discounted rate, while giving you the option to override if charging is needed urgently.....



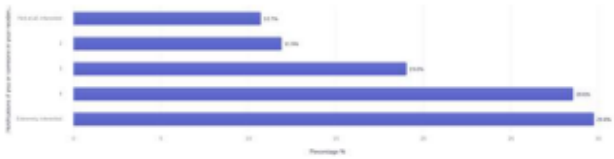
10

Advanced notifications of severe weather or other issues that may impact your power and a reminder to charge up in advance of the event...



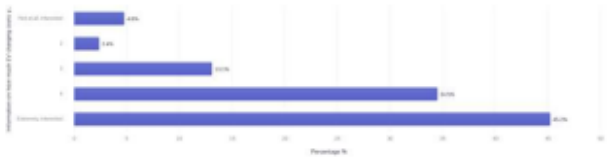
11

Notifications if you or someone in your residence plugs in during the most expensive times to charge....



12

Information on how much EV charging costs you each month, compared to local gas prices, and how much you saved by charging overnight.....



13

Rejector Survey Response Data, March 2024

Start Date	Do you currently own an electric vehicle (EV) or a plug-in hybrid electric vehicle (PEV)?	If yes, which one?	Do you recall inquiring about the Indiana Michigan Power EV rebates and/or discounted rate for overnight charging?	What was the reason you decided not to participate in the program? Select all that apply.						Would you be interested in an EV/PEV charging program from I&M that does not require installing additional equipment beyond what your electrician deems necessary for the installation of a charger?
	Response	Response	Response	The program was confusing	The cost to install the additional equipme	It was too much work	The program didn't	I'm not sure	Other (please specify)	Response
2024-03-24 12:17:33	Yes	EV	Yes		The cost to install the additional equipment required to participate was too expensive				I have a level 2 charger, and I c	Maybe
2024-03-23 00:44:55	Yes	EV	Yes				The program didn't save enough money		I did the work myself and your	Yes
2024-03-21 23:37:09	Yes	EV	Yes		The cost to install the additional equipment required to participate was too expensive					Yes
2024-03-21 10:26:36	Yes	PEV	Yes		The cost to install the additional equipment required to participate was too expensive				Difficult to find electrician who	Yes
2024-03-21 07:21:40	No									
2024-03-19 12:04:52	Yes	PEV	Yes						I actually did participate in the	Yes
2024-03-19 07:40:20	Yes	EV	Yes		The cost to install the additional equipment required to participate was too expensive					Yes
2024-03-19 07:27:45	Yes	EV	Yes		The cost to install the additional equipment	It was too much work to	The program didn't save enough money			Yes
2024-03-18 19:43:51	Yes	EV	Yes			It was too much work to have the additional equipment installed			I wanted the time of day tariff	Maybe
2024-03-18 18:31:12	Yes	EV	Yes	The program was confusing						Yes
2024-03-18 18:19:42	Yes	EV	Yes						Apartment complex did not all	Maybe
2024-03-18 14:31:55	No									
2024-03-18 14:06:19	Yes	EV	No							Yes
2024-03-18 13:34:51	Yes	EV	Yes		The cost to install the additional equipment required to participate was too expensive					Yes
2024-03-18 12:40:01	Yes	EV	Yes						I did use your program	No
2024-03-18 12:02:05	No									
2024-03-18 11:56:48	Yes	PEV	Yes						Finding electrical contractors a	No
2024-03-18 11:39:45	Yes	EV	Yes						Our off-peak plan was cheaper	No
2024-03-18 11:37:49	Yes	EV	Yes				The program didn't save enough money			Yes
2024-03-18 11:25:04	Yes	EV	Yes					I'm not sure		Yes
2024-03-18 11:12:04	Yes	EV	Yes	The program was confusing						Maybe
2024-03-18 11:05:32	Yes	EV	Yes	The program was confusing	The cost to install the additional equipment	It was too much work to	The program didn't save enough money			Yes
2024-03-18 11:01:28	Yes	EV	Yes		The cost to install the additional equipment required to participate was too expensive				We could not participate beca	Yes
2024-03-18 10:58:44	Yes	EV	Yes	The program was confusing						Yes
2024-03-18 10:37:34	Yes	PEV	Yes		The cost to install the additional equipment required to participate w		The program didn't save enough money			Yes
2024-03-18 10:32:50	Yes	EV	Yes				The program didn't save enough money			Maybe
2024-03-18 10:31:15	Yes	EV	Yes		The cost to install the additional equipment required to participate was too expensive					Yes
2024-03-18 10:29:04	Yes	EV	Yes							
2024-03-18 10:18:34	Yes	EV	Yes						I sent in an application and got	Yes
2024-03-18 10:01:13	Yes	EV	Yes				The program didn't save enough money			Yes
2024-03-18 10:01:48	Yes	EV	Yes							
			Respnse Count	**5**	**11**	**4**	**8**	**2**	**12**	**23**
			Response Percentage	**16%**	**34%**	**13%**	**25%**	**6%**	**38%**	**72%**

Appendix E: Strategic Planning

As part of TEP development, I&M undertook an internal strategic planning process to help determine its role over the next ten years in support of electric vehicle and charging infrastructure deployment. This process included four key steps as outlined in Figure E-1 below.

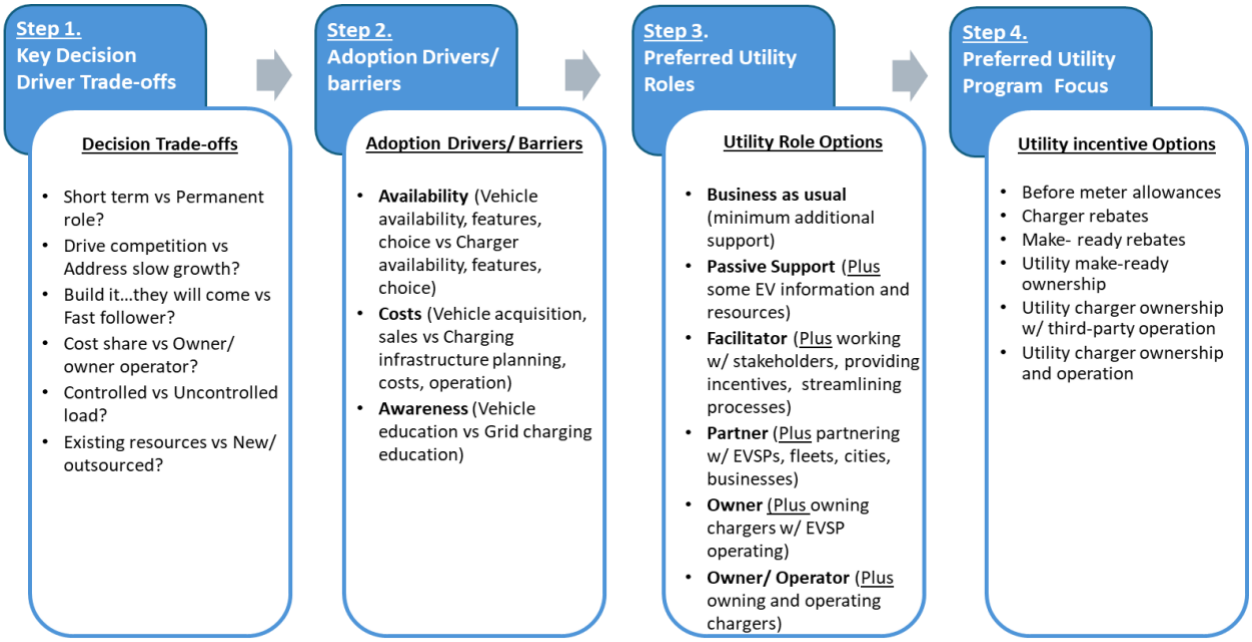


Figure E-1: TEP Development Strategic Planning Process Diagram

Step 1. Assessment of key decision driver tradeoffs

Understanding trade-offs is crucial, as each choice involves giving up something to gain something else, and identifying these trade-offs helps guide the Company on the role it will play in support of electric transportation. I&M assessed six different trade-off choices including,

a. Utility engagement- Is the Company support only required in the near term, or is it a more permanent requirement?
b. Vendor engagement- Should the Company partner with all qualified charging equipment and service providers to foster competition or should it "pick a winner"?
c. Grid planning- Should the Company make infrastructure investments in anticipation of EV load materializing, or make those investments once the customer has committed to EV and charging equipment purchases?
d. Investment choice- Should the Company build its programs around a cost share model where EV customers have "skin-in-the-game" and control of their charging needs or should the utility own and operate the charging equipment?

e. Load management- Should the Company encourage the incremental EV load to be managed through active and passive means, or should this load be unmanaged?
f. Resource management- Should the Company manage its TE programs entirely in house, or should implementation vendors be utilized?

Results of I&M's key decision driver tradeoff choices

I&M views its role in the near term (1-3 years) as providing incentives, rate options and customer education and outreach to support both the state's EV goals, as well as the Company's key objectives addressing:

- Customer charging costs
- Off-peak charging
- Grid optimization

In addition, and in support of the state's commitment to an equitable transition to EVs, I&M will provide higher incentives and support, where appropriate, addressing the unique needs of these underserved communities.

Long term (3+ years) the Company will likely focus on rate/tariff choices, more sophisticated DSM programs and customer education and outreach to help optimize customer charging to the benefit of the utility system, EV customers and most importantly all customers.

The Company does not intend to own public chargers and has designed its public charging pilots to encourage Electric Vehicle Service Provider (EVSP)[45] competition while avoiding competition with these unregulated entities.

Recognizing the relatively low EV market projections in the territory, and the need to protect all ratepayers, the Company prefers to be a "fast follower" after the customer has met certain program requirements such as EV or charger purchases and has demonstrated a financial commitment to charging infrastructure deployment.

To further leverage these investments, I&M prefers a "cost share" type model, where customers have skin-in-the-game and the utility can incentivize more charging infrastructure deployment across the territory. Given the high potential for flexibility in residential EV loads, the Company is strongly motivated to consistently encourage charging behavior to avoid system peaks, defer system upgrades and reduce costs.

[45] An Electric Vehicle Service Provider (EVSP) is a company that offers charging services for electric vehicles, including the installation, operation, and maintenance of EV charging stations. EVSPs are typically unregulated entities that compete in the open market to provide charging solutions to consumers and businesses.

Finally, the Company will look to outsource elements of its Transportation Electrification programs, where appropriate, to vendors with proven track records in this space.

Step 2. Assessment of Key Market Drivers and Barriers

Based on the market characteristics in I&M's territory (small size, residential focus, rural dominance, EV vehicle volume forecasts, customer segment profiles, etc.), the Company assessed which market segments (light passenger, light commercial, fleets, transit and school buses) need to be addressed at this stage of market development and evaluated which drivers and barriers to address for each segment; for example charging infrastructure availability, cost, and customer awareness and best charging practices, while also capitalizing on opportunities to enhance grid reliability.

Results of I&M's adoption drivers and barriers assessment

Residential

Light-duty vehicles (LDVs) are expected to account for over 95% of EV load growth in the next decade, with more than 80% of LDV charging occurring at home.

Market Drivers/Barriers: Residential customers are often challenged by charger/installation planning, costs, operation and general awareness of how to get homes EV ready and best charging practices.

Program Solutions: Company programs should address market barriers, support customer needs, and include rebates to reduce costs as well as time-based rates or incentives to encourage off-peak charging, lower bills, and reduce grid strain.

Equity Considerations: Some communities face greater barriers to home charging due to lower incomes and lower rates of home ownership. In many cases people in these communities experience higher exposure to air pollution from nearby highways and fleet depots. To address these challenges, the Company will offer enhanced rebates for residential charging for low-income customers. Additional details and definitions are provided in the Pilot Programs and Equity and Barriers sections.

Commercial and Industrial

While projected load growth from light commercial vehicles, trucks, and transit and school buses remains relatively low, there are distinct and often localized challenges that Company programs must address. These include charging needs for multi-unit dwellings (MUDs), public DC fast charging (DCFC), and fleet operations.

Market Drivers and Barriers: Customers such as building owners, site hosts, and fleet operators face several challenges, including:

- Planning and installing chargers

- Managing upfront and ongoing costs
- Operating charging infrastructure
- Understanding how to prepare buildings, sites, and fleets for EV readiness and adopt best charging practices

Program Solutions: To address these challenges and support customer needs, Company programs may include:

- **Charger and installation rebates**: Help reduce upfront costs and promote safe, smart equipment deployment that supports future demand response (DR) and demand-side management (DSM) programs.
- **Time-differentiated rates or incentives**: Encourage off-peak charging for MUDs and small fleets, reduce customer bills, defer transformer upgrades, and benefit the broader grid.
- **Non-demand rate options**: Support public and fleet DCFC deployments by addressing low utilization challenges during early market development.

Equity Considerations: Some communities face disproportionate barriers to transportation electrification, often such communities are located near highways and fleet depots. To support equitable access, the Company will offer rebates for MUDs, fleets, and public charging stations located areas with >60 MiEJ scores, or areas designated as rural by the US Census. Additional details and definitions are provided in the Pilot Programs and Equity and Barriers sections.

Step 3. Assessment of best role for the Company supporting EVs

Based on the key decision driver trade-off results, I&M then evaluated six different roles commonly employed by utilities across the country, in support of transportation electrification. This included:

a. **"Business as Usual" (BAU)-** lowest level of engagement, where a utility continues with its current operations, potentially with minimal changes to support EV customers.
b. **"Passive Supporter"-** Next level of engagement, including BAU plus the utility provides information and resources to customers about EVs and charging infrastructure, without actively investing or promoting EV charging.
c. **"Facilitator"-** Next level of engagement, including BAU and Passive Supporter plus the utility works with other stakeholders to create an environment conducive to EV adoption, such as providing infrastructure incentives or streamlining customer and utility processes and procedures.
d. **"Partner"-** Next level of engagement, including BAU, Passive Supporter, Facilitator plus the utility collaborates, supports and partners with other entities,

like Electric Vehicle Service Providers (EVSPs) or fleet owners/operators, to assist in the deployment of EV charging infrastructure.

e. **"Owner"-** Next level of engagement, including BAU, Passive Supporter, Facilitator, Partner plus the utility invests in and owns EV charging infrastructure, but may outsource the operation and maintenance to third party EVSPs. This role can be very costly for utilities and can include multi-year program costs such as charging equipment purchase/ replacement, warranty/ maintenance, etc.
f. **"Owner/ Operator"-** Is the highest level of engagement, including BAU, Passive Supporter, Facilitator, Partner, Owner plus the utility invests in, owning, and operating EV charging infrastructure, potentially managing charging stations and collecting revenue through a "price-to-driver" rate. This role is arguably the most expensive for utilities and can include costs detailed above in the owner category, together with the addition of network costs and fees.

Results of I&M's preferred role assessment

The Company has determined its most cost effective and preferred role at this stage of EV market development in its territory is "Facilitator/ Partner". This role is consistent with the nascency of the EV market in the Company's territory and supports a focus on exploring different incentives and rates, through pilots and programs to generate data and understanding for the future as the EV market matures in the territory.

Step 4: Preferred Utility Design Focus Assessment

Once I&M determined the preferred role of Facilitator/Partner, the next step was to identify appropriate program design options that were consistent with the Company's preferred role. I&M has determined that its early market stage EV programs should include a suite of charger rebates supporting both residential and C&I use cases together with TOD rates and incentives, designed to shape EV charging load and help optimize it to grid conditions.

Benchmarking

To guide I&M's TEP development, the Company analyzed 11 utility electric vehicle programs in- depth and reviewed the American Council for an Energy Efficient Economy (ACEEE) report "Utility Transportation Electrification Planning[46] from September 2022, in detail. This benchmarking allowed the Company to better understand best practices from other utility programs helping to inform I&M's approach and program proposals. A high-level summary of these electric vehicle programs, at the time the Company benchmarked them, is at the end of this section in figure E-2.

[46] ACEEE report "Utility Transportation Electrification Planning

Given different EV market stages (early, growth, maturity, etc.) across the country, there are a variety of corresponding utility EV programs (for example: charger and/or make-ready rebates, vs. utility ownership, TOU rates vs load management incentive programs, etc.). Key takeaways from I&M's benchmarking effort include:

Pilot Programs: Utility pilot programs are commonly used to gather data and stakeholder feedback. These pilots typically span two to three years and serve as testbeds for future program refinement and scaling.

Program Maturity: More established or "operationalized" EV programs often extend across general rate case periods, typically lasting three or more years. In jurisdictions with a longer history of EV investment—utilities like Consumers Energy and DTE are evolving from pilot initiatives to permanent, ongoing programs.

Program Focus: Most utility programs prioritize Level 2 charging infrastructure over direct current fast charging (DCFC) (on a per-port basis). This emphasis is driven by the versatility of Level 2 charging (supporting residential, multi-unit dwelling, fleet and workplace, and destination use cases) and its lower associated equipment and installation costs. In emerging EV markets, supporting multiple Level 2 use cases provides utilities with operational insights while increasing visibility and accessibility to new EV drivers.

Equity and Accessibility: A growing number of utility programs incorporate targeted equity components, such as enhanced rebates for income-qualified customers or incentives in underserved areas. The ACEEE report indicates that most surveyed utility programs addressed equity considerations. For example, Duke Energy Indiana has allocated 10% of its residential rebate funding for low-income communities.

Multi-Unit Dwelling (MUD) Support: Recognizing the unique challenges faced installing charging in multi-unit buildings, many utility programs include targeted support for this segment. These challenges often stem from the need to coordinate among tenants, property managers, and building owners. Duke Energy North Carolina, for example, installs, owns, and operates Level 2 chargers at selected MUD sites across its territory.

Rate Design and Load Management: Nearly all utility EV programs incorporate pricing mechanisms—such as TOD rates or separate metering—to encourage off-peak charging and mitigate system costs. Program examples range from Consumer Energy's fixed off-peak charging rebate to Florida Power & Light's separate metering and billing for EV loads.

Program Support Functions: Utilities generally allocate 10% to 25% of their total EV program budget to support functions such as marketing, education and outreach, IT systems, and administrative costs. Specifically, utilities recognize the critical role of customer education in maximizing the benefits of EV integration and system optimization.

Company	State	Electric Customers (millions)	Typical Program Duration (years)	Total Investment (millions)	DCFC	Level 2	Level of Incentive (L2) Current Offering	Level of Incentive (DCFC) Current Offering	Load Management
Dominion Energy	VA	2.7	3	$39.5	34	1,995	Residential On-bill financing for Level 2 Installation Free charger for income qualified $125 rebate for qualified charger must enroll in Dominion Demand Response Program Commercial Turnkey Level 2 Installation as shown for the Fleet Charing Program under "Commercial" Others Commercial Installations will receive a rebate based on usage	Commercial Customers participating in the Fleet Charging Program receive a 50% upfront incentive on EV charging construction and installation, commonly referred to as "make-ready." Customers make convenient, monthly on-bill payments for the remaining costs. There may also be grants and tax incentives available. Electric School Bus Infrastructure Program including coordination, grid upgrades, construction, and charger installation. Fleet Electrification Guide	Whole House ToU Rate schedule for company owned L2 & DCFC $40 to enroll in DR program $40 to enroll in EV Telematics Load Management
Consumers Energy	MI	1.8	2	$18.9			Residential Home Charger Rebate of $500 towards installation for qualified Level 2 EVSE $1,000 rebate for income qualified customers to install a residential Level 2 Charger Maximum output of 9.6kW (50 Amps) Must agree to enroll in Nighttime Savers Rate Commercial Public installs within 3 blocks of residential or MDU can receive a $7,500 rebate for each Level 2 installed (2 ports), need to be separately metered on a ToU rate MDU can receive a $7,500 rebate for each Level 2 installed (2 ports), need to be separately metered on a ToU rate Workplace, Hospitality & Fleets can receive a $7,500 rebate for each Level 2 installed (2 ports), need to be separately metered on a ToU rate Fleet make-ready cost "to the meter" will be reimbursed for Level 2 installation	Commercial Fleet upgrade cost "to the meter" will be covered, owned, and maintained for DCFC installations Fleets can receive a rebate of $15k for DCFC < 50kW, need to be separately metered on a ToU rate Rebates of up to $70,000 for installing a 150kW DCFC in a public location, need to be separately metered on a ToU rate Fleet Advisory Services	Whole house TOU Rate Smart Charging Incentive Residential $10/month for off peak charge
DTE Energy	MI	2.3	2	$75.3	86	6,380	Residential Receive a rebate to cover Level 2 charger & installation – Income qualified Commercial Fleets receive a Level 2 rebate amount of $2,500/port Commercial customers receive a Level 2 rebate amount of $2,500/port Multi-family customers can receive a Level 2 rebate amount of 5,000/port Income Eligible Multi-family units can receive a Level 2 rebate amount of $14,400/port	Commercial Fleets can receive a rebate of $70,000/DCFC Public charging installation can receive a rebate of $50k for DCFC > 150kW Public charging installations in rural or disadvantaged communities can receive a rebate of $70k for DCFC > 150kW Fleet Advisory Services	Whole house ToU rate

Figure E-2: Benchmarking Summary

Company	State	Electric Customers (millions)	Typical Program Duration (years)	Total Investment (millions)	DCFC	Level 2	Level of Incentive (L2) Current Offering	Level of Incentive (DCFC) Current Offering	Load Management
Ameren (Missouri)	MO	1.3	5	$11.0	152	701	N/A	Commercial Ameren Charge Ahead Program provides incentives of up to 50% off the total project cost, or 45,000 for Level 2 ports and $20,000 for DCFC	N/A
Evergy (Missouri)	MO	0.3	5	$7.2		3,009	Residential $500 rebate for installing Level 2 charger $250 Developer rebate for every home the gets a 240-volt outlet as part of new construction Commercial Workplace & MDU Up to $25,000 per site for installing 10 Level 2 smart charging ports	Commercial Public Rebate up to $40,000 for installing 6 Level 2 & 2 DCFC Fleet Rebate of up to $65,000 for installing 10 Level 2 & 2 DCFC	Residential Whole House Night & Weekends Plan (Required) Evergy ToU Business Rate Plan available for separately metered Commercial EVSEs
Evergy (Kansas)	KS	1	5	$19.5	491	5,644	Residential $250 rebate for installing L2 charger $500 rebate for installing Level 2 charger and signing up for Nights & Weekend rate Commercial Workplace & MDU Up to $25,000 per site for installing 10 Level 2 smart charging ports	Commercial Public Rebate up to $55,000 for installing 6 Level 2 & 2 DCFC Fleet Rebate of up to $65,000 for installing 10 Level 2 & 2 DCFC	Residential Whole House Night & Weekends Plan (Required) Evergy ToU Business Rate Plan for available for separately metered Commercial EVSEs
Georgia Power Company	GA	2.7	3	$82.5		33	Residential $150 rebate for Level 2 EVSE, up to 2 allowed per residence (Discrepancy – $250 rebated in some collateral) Self installation allowed Can purchase from the Georgia Power Marketplace and receive an instant $150 rebate Builders allowed $100 rebate for installing Level 2 EVSEs in new homes. Commercial Make Ready Program for public facing installation, public includes public, MUD, transportation services, vehicles in use for public service Commercial EVSE Rebate Cannot participate in GPC make ready program Up to $30k/project and up to $60k/applicant/year Rebate amounts are Level 2 – $250/kW	Commercial Make Ready Program for public facing installation, public includes public, MUD, transportation services, vehicles in use for public service Commercial EVSE Rebate Cannot participate in GPC make ready program Up to $30k/project and up to $60k/applicant/year Rebate amount is DCFC – $150/kW	Plug-In Electric Vehicle Tariff Overnight Advantage Plane – whole house ToU rate – EV Ownership not required

Company	State	Electric Customers (millions)	Typical Program Duration (years)	Total Investment (millions)	DCFC	Level 2	Level of Incentive (L2) Current Offering	Level of Incentive (DCFC) Current Offering	Load Management
Duke Energy (Florida)	FL	1.7	3-5	$112.2	430	3,300	Residential Up to $819 / charger / vehicle for upgrades to place a Level 2 EVSE (Hardware & wiring permits not covered) Commercial $1,192 to $4,619 for Charger Prep Credit to help cover the cost of Level 2 EVSE Installation	Commercial $9,391 to $26,938 for Charger Prep Credit to help cover the cost of DCFC EVSE Installation	$7.50/monthly bill credit (per EV) to charge off peak verified by telematics or AMI - Level 2 only
Duke Energy (Indiana)	IN	0.9	2	$3.3		1,200	Residential 48-month term rental of a residential Level 2 EVSE to cover EVSE, placement and commissioning Commercial 48-month term rental of a Level 2 EVSE to cover EVSE and commissioning	Commercial 8 years term rental of DCFC EVSE including cost of EVSE placement, warranty and maintenance	N/A
Duke Energy (North Carolina) Duke Energy Progress numbers vary slightly	NC	2.4	3	$24.7	40	240	Residential Up to $1,117 / charger / vehicle for upgrades to place a Level 2 EVSE (Hardware & wiring permits not covered) 36-month term rental of a residential Level 2 EVSE to cover EVSE, maintenance and commissioning $150 Homebuilder Charger Prep Credit for homes upfitted with EV Charging infrastructure Commercial $725 to $1,605 for Charger Prep Credit to help cover the cost of Level 2 EVSE Installation Rental (4 year) Level 2 including cost of EVSE placement, warranty and maintenance	Commercial $2,781 to $30,347 for Charger Prep Credit to help cover the cost of DCFC EVSE Installation 7 years term rental of DCFC EVSE including cost of EVSE placement, warranty and maintenance	N/A
Duke Energy (South Carolina)	SC	2		$8.8	60	400	Residential Up to $1,236 to $1,755 / charger / vehicle for upgrades to place a Level 2 EVSE (Hardware & wiring permits not covered) not covered) $150 Homebuilder Charger Prep Credit for homes upfitted with EV Charging infrastructure Commercial $793 to $2,004 for Charger Prep Credit to help cover the cost of Level 2 EVSE Installation	Commercial $3,044 to $39,150 for Charger Prep Credit to help cover the cost of DCFC EVSE Installation Rental (7 year) DCFC including cost of EVSE placement, warranty and maintenance	N/A

Appendix F: Cost Benefit Analysis

Figure F1: Cost Benefit Analysis Results

Indiana Michigan Power Company
Michigan Transportation Electrification Plan (TEP) EV Program Cost Benefit Test Results

	Utility Cost Test (UCT)	Benefits = Utility's Benefits	NPV (Marginal Energy and Capacity Costs Incurred from EV Program Attributed Incremental Load Growth) + NPV(I&M Increased Utility Revenue from EV Program Attributed Increased EV Charging Load + NPV (Avoided T&D Peak Loads from EV Load Shift)
		Utility Costs = Participant Incentives + Program Implementation Cost	Pgm Customer Incentives (Enrollment, Equipment, Electricity Rate Differential Ongoing) + Pgm Implementation Costs

Utility Cost Test (UCT)

EV Pgm	Tariff Sector	Customer Segment	Charging Load Type	Program Charging Rate Tariff	2026 Benefits	2026 Costs	Ratio	2027 Benefits	2027 Costs	Ratio	2028 Benefits	2028 Costs	Ratio	3 Year Benefits	3 Year Costs	3 Year Ratio
Planned EV Charging Pilot	Residential	DAC	Level 2	Pilot Rider RS-PEV2 (Option 1)	$308,383	$169,271	1.820	$653,412	$110,818	5.9	$1,034,787	$132,347	7.82	$1,688,199	$243,165	6.94
Planned EV Charging Pilot	Residential	Non-DAC	Level 2	Pilot Rider RS-PEV2 (Option 1)	$2,231,237	$592,039	3.770	$4,791,688	$575,057	8.33	$7,515,819	$682,415	11.01	$12,307,507	$1,257,472	9.79
Smart EV Charging Pilot	Residential	DAC	Level 2	Pilot Rider RS-PEV2 (Option 2)	$141,057	$154,656	0.910	$388,129	$125,323	3.1	$917,595	$186,709	4.91	$1,305,724	$312,032	4.18
Smart EV Charging Pilot	Residential	Non-DAC	Level 2	Pilot Rider RS-PEV2 (Option 2)	$987,394	$697,014	1.420	$2,840,401	$739,714	3.84	$6,758,441	$1,103,637	6.12	$9,598,842	$1,843,351	5.21
Commercial Charging Opportunity Pilot-W	Commercial	Non-DAC	Level 2	GS	$64,522	$44,233	1.460	$175,326	$37,108	4.72	$188,367	$42,850	4.4	$363,693	$79,958	4.55
Commercial Charging Opportunity Pilot-MUD	Commercial	Non-DAC	Level 2	GS	$64,604	$44,233	1.460	$175,498	$37,108	4.73	$188,562	$42,850	4.4	$364,060	$79,958	4.55
Public Charging Opportunity Pilot	Commercial	DAC	Level 2	GS	$23,411	$53,095	0.440	$118,425	$55,890	2.12	$155,301	$61,904	2.51	$273,726	$117,794	2.32
Public Charging Opportunity Pilot	Commercial	DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$415,558	$342,730	1.210	$909,707	$361,517	2.52	$987,220	$367,259	2.69	$1,896,927	$728,776	2.6
Commercial Charging Opportunity Pilot-W	Commercial	DAC	Level 2	GS	$64,326	$44,233	1.450	$174,762	$37,108	4.71	$187,557	$42,850	4.38	$362,319	$79,958	4.53
Commercial Charging Opportunity Pilot-MUD	Commercial	DAC	Level 2	GS	$64,406	$45,143	1.430	$174,934	$38,018	4.6	$187,751	$43,636	4.3	$362,685	$81,654	4.44
Commercial Charging Opportunity Pilot-F	Commercial	DAC	Level 2	GS	$23,245	$46,683	0.500	$117,742	$45,478	2.59	$154,087	$51,405	3	$271,829	$96,883	2.81
Commercial Charging Opportunity Pilot-F	Commercial	DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$273,253	$238,849	1.140	$743,835	$350,197	2.12	$963,737	$364,375	2.64	$1,707,572	$714,572	2.39
Commercial Charging Opportunity Pilot-F	Commercial	Non-DAC	Level 2	Public & Fleet PEV Pilot	$57,027	$57,300	1.000	$158,041	$64,625	2.45	$204,426	$71,521	2.86	$362,467	$136,146	2.66
Commercial Charging Opportunity Pilot-F	Commercial	Non-DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$275,466	$238,731	1.150	$750,233	$320,264	2.34	$809,818	$325,805	2.49	$1,560,051	$646,069	2.41
Portfolio Total (Net UMR EPIS Impacts & EV Cust. Awareness & Education Costs Added at Portfolio Level Only)					**$4,993,889**	**$2,747,138**	**1.82**	**$12,172,133**	**$2,877,153**	**4.23**	**$20,253,468**	**$3,498,491**	**5.79**	**$37,419,490**	**$9,122,781**	**4.10**

	Ratepayer Impact Test (RIM Test)	Benefits = Downward Pressure on Utility Revenue Requirement	NPV(I&M Increased Utility Revenue from EV Program Attributed Increased EV Charging Load) + NPV (Avoided T&D Peak Loads from EV Load Shift)
		Costs = Increased Utility Revenue Requirement	NPV (Marginal Energy and Capacity Costs Incurred from EV Program Attributed Incremental Load Growth) + Pgm Customer Incentives (Enrollment, Equipment, Electricity Rate Differential Ongoing) + Pgm Implementation Costs + Net Utility Make Ready to serve New/Upgraded Service for EV charging load)

Ratepayer Impact Test (RIM)

EV Pgm	Tariff Sector	Customer Segment	Charging Load Type	Program Charging Rate Tariff	2026 Benefits	2026 Costs	Ratio	2027 Benefits	2027 Costs	Ratio	2028 Benefits	2028 Costs	Ratio	3 Year Benefits	3 Year Costs	3 Year Ratio
Planned EV Charging Pilot	Residential	DAC	Level 2	Pilot Rider RS-PEV2 (Option 1)	$246,377	$231,277	1.070	$521,738	$242,492	2.15	$826,085	$341,049	2.42	$1,594,200	$814,818	1.96
Planned EV Charging Pilot	Residential	Non-DAC	Level 2	Pilot Rider RS-PEV2 (Option 1)	$1,782,604	$1,040,672	1.710	$3,826,077	$1,540,668	2.48	$5,999,985	$2,198,249	2.73	$11,608,666	$4,779,589	2.43
Smart EV Charging Pilot	Residential	DAC	Level 2	Pilot Rider RS-PEV2 (Option 2)	$111,941	$183,772	0.610	$307,836	$205,616	1.5	$727,614	$376,690	1.93	$1,147,391	$766,078	1.5
Smart EV Charging Pilot	Residential	Non-DAC	Level 2	Pilot Rider RS-PEV2 (Option 2)	$783,584	$900,824	0.870	$2,252,805	$1,327,310	1.7	$5,359,158	$2,502,920	2.14	$8,395,547	$4,731,054	1.77
Commercial Charging Opportunity Pilot-W	Commercial	Non-DAC	Level 2	GS	$53,121	$55,634	0.950	$143,824	$68,610	2.1	$143,824	$87,393	1.65	$340,769	$211,637	1.61
Commercial Charging Opportunity Pilot-MUD	Commercial	Non-DAC	Level 2	GS	$53,185	$55,652	0.960	$143,951	$68,655	2.1	$143,951	$87,461	1.65	$341,087	$211,768	1.61
Public Charging Opportunity Pilot	Commercial	DAC	Level 2	GS	$20,707	$55,799	0.370	$105,328	$68,987	1.53	$131,660	$85,545	1.54	$257,695	$210,331	1.23
Public Charging Opportunity Pilot	Commercial	DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$367,834	$390,454	0.940	$735,668	$535,556	1.37	$735,668	$618,811	1.19	$1,839,170	$1,544,821	1.19
Commercial Charging Opportunity Pilot-W	Commercial	DAC	Level 2	GS	$53,187	$55,372	0.960	$143,956	$67,914	2.12	$143,956	$86,451	1.67	$341,099	$209,737	1.63
Commercial Charging Opportunity Pilot-MUD	Commercial	DAC	Level 2	GS	$53,251	$56,298	0.950	$144,083	$68,869	2.09	$144,083	$87,304	1.65	$341,417	$212,471	1.61
Commercial Charging Opportunity Pilot-F	Commercial	DAC	Level 2	GS	$20,800	$49,128	0.420	$105,583	$57,637	1.83	$131,974	$73,518	1.8	$258,357	$180,283	1.43
Commercial Charging Opportunity Pilot-F	Commercial	DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$245,245	$266,857	0.920	$613,164	$480,868	1.28	$735,736	$592,376	1.24	$1,594,145	$1,340,101	1.19
Commercial Charging Opportunity Pilot-F	Commercial	Non-DAC	Level 2	Public & Fleet PEV Pilot	$53,578	$60,749	0.880	$142,874	$79,792	1.79	$178,592	$97,355	1.83	$375,044	$237,896	1.58
Commercial Charging Opportunity Pilot-F	Commercial	Non-DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$245,604	$268,593	0.910	$614,082	$456,415	1.35	$614,011	$521,612	1.18	$1,473,697	$1,246,620	1.18
Portfolio Total (Net UMR EPIS Impacts & EV Cust. Awareness & Education Costs Added at Portfolio Level Only)					**$4,091,018**	**$3,671,081**	**1.11**	**$9,800,969**	**$5,269,389**	**1.86**	**$16,016,297**	**$7,756,734**	**2.06**	**$29,908,284**	**$16,697,204**	**1.79**

	Total Resource Cost Test (TRC)	Benefits = Participant's Net Benefits	NPV(I&M Increased Utility Revenue from EV Program Attributed Increased EV Charging Load) + NPV (Gasoline Fuel Savings)
		Costs = Marginal Increased Energy & Capacity Supply Costs + Program Implementation Costs + Participant Costs	NPV (Marginal Energy and Capacity Costs Incurred from EV Program Attributed Incremental Load Growth) + Pgm Implementation Costs + Participant Incremental EV Cost + Participant Net EVSE Installation Cost + Participant Contribution In Aid to Construction for Utility Make Ready

Total Resource Cost Test (TRC)

EV Pgm	Tariff Sector	Customer Segment	Charging Load Type	Program Charging Rate Tariff	2026 Benefits	2026 Costs	Ratio	2027 Benefits	2027 Costs	Ratio	2028 Benefits	2028 Costs	Ratio	3 Year Benefits	3 Year Costs	3 Year Ratio
Planned EV Charging Pilot	Residential	DAC	Level 2	Pilot Rider RS-PEV2 (Option 1)	$657,330	$336,131	1.960	$1,391,992	$525,044	2.65	$2,101,765	$633,229	3.32	$3,493,757	$1,158,273	3.02
Planned EV Charging Pilot	Residential	Non-DAC	Level 2	Pilot Rider RS-PEV2 (Option 1)	$4,755,975	$2,432,008	1.960	$10,207,946	$3,430,937	2.98	$15,265,446	$4,128,438	3.7	$25,473,392	$7,559,374	3.37
Smart EV Charging Pilot	Residential	DAC	Level 2	Pilot Rider RS-PEV2 (Option 2)	$305,331	$158,116	1.930	$839,659	$389,352	2.16	$1,891,392	$741,040	2.55	$2,731,051	$1,130,392	2.42
Smart EV Charging Pilot	Residential	Non-DAC	Level 2	Pilot Rider RS-PEV2 (Option 2)	$2,137,314	$4,354,810	0.490	$6,144,778	$8,684,138	0.71	$13,930,829	$18,109,950	0.77	$20,075,607	$26,794,088	0.75
Commercial Charging Opportunity Pilot-W	Commercial	Non-DAC	Level 2	GS	$89,408	$107,593	0.830	$216,398	$143,975	1.5	$211,018	$157,016	1.34	$427,416	$300,991	1.42
Commercial Charging Opportunity Pilot-MUD	Commercial	Non-DAC	Level 2	GS	$102,898	$194,596	0.530	$243,376	$231,005	1.05	$236,006	$244,069	0.97	$479,382	$475,073	1.01
Public Charging Opportunity Pilot	Commercial	DAC	Level 2	GS	$36,152	$100,111	0.360	$146,515	$175,042	0.84	$179,327	$185,586	0.97	$325,842	$360,629	0.9
Public Charging Opportunity Pilot	Commercial	DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$385,188	$378,418	1.020	$770,376	$438,514	1.76	$767,803	$516,027	1.49	$1,538,179	$954,541	1.61
Commercial Charging Opportunity Pilot-W	Commercial	DAC	Level 2	GS	$89,408	$107,331	0.830	$216,398	$143,279	1.51	$211,018	$156,074	1.35	$427,416	$299,353	1.43
Commercial Charging Opportunity Pilot-MUD	Commercial	DAC	Level 2	GS	$102,898	$379,582	0.270	$243,376	$413,719	0.59	$236,006	$426,536	0.55	$479,382	$840,254	0.57
Commercial Charging Opportunity Pilot-F	Commercial	DAC	Level 2	GS	$33,131	$102,467	0.320	$138,460	$188,225	0.74	$170,016	$198,179	0.86	$308,476	$386,404	0.8
Commercial Charging Opportunity Pilot-F	Commercial	DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$256,829	$195,908	1.310	$642,073	$315,962	2.03	$767,780	$413,292	1.86	$1,409,853	$729,253	1.93
Commercial Charging Opportunity Pilot-F	Commercial	Non-DAC	Level 2	Public & Fleet PEV Pilot	$113,082	$378,344	0.300	$301,550	$651,855	0.46	$362,233	$662,522	0.55	$663,783	$1,314,377	0.51
Commercial Charging Opportunity Pilot-F	Commercial	Non-DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$244,771	$278,862	0.880	$611,928	$492,861	1.24	$611,928	$552,517	1.11	$1,223,856	$1,045,379	1.17
Portfolio Total (EV Cust. Awareness & Education Costs Added at Portfolio Level Only)					**$9,309,715**	**$9,584,275**	**0.97**	**$22,114,825**	**$16,303,907**	**1.36**	**$36,942,567**	**$27,204,474**	**1.36**	**$68,367,107**	**$53,092,657**	**1.29**

Figure F2: Cost Benefit Analysis Results continued

Indiana Michigan Power Company
Michigan Transportation Electrification Plan (TEP) EV Program Cost Benefit Test Results

	Societal Cost Test (SCT)	**Benefits = TRC Benefits + Societal Benefits**	NPV(I&M Increased Utility Revenue from EV Program Attributed Increased EV Charging Load) + NPV (Gasoline Fuel Savings) + Environmental Benefits from Carbon Reduction
		Costs = TRC Costs = Marginal Increased Energy & Capacity Supply Costs + Program Costs + Participant Costs	NPV (Marginal Energy and Capacity Costs Incurred from EV Program Attributed Incremental Load Growth) + Pgm Implementation Costs + Participant Incremental EV Cost + Participant EVSE Net Installation Cost + Participant Contribution In Aid to Construction for Utility Make Ready

Societal Cost Test (SCT)

EV Pgm	Tariff Sector	Customer Segment	Charging Load Type	Program Charging Rate Tariff	2026 Benefits	2026 Costs	Ratio	2027 Benefits	2027 Costs	Ratio	2028 Benefits	2028 Costs	Ratio	3 Year Benefits	3 Year Costs	3 Year Ratio
Planned EV Charging Pilot	Residential	DAC	Level 2	Pilot Rider RS-PEV2 (Option 1)	$660,203	$336,131	1.960	$1,397,866	$525,044	2.66	$2,110,683	$633,229	3.33	$4,168,752	$1,494,404	2.79
Planned EV Charging Pilot	Residential	Non-DAC	Level 2	Pilot Rider RS-PEV2 (Option 1)	$4,776,760	$2,432,008	1.960	$10,251,019	$3,430,937	2.99	$15,330,218	$4,128,438	3.71	$30,357,997	$9,991,382	3.04
Smart EV Charging Pilot	Residential	DAC	Level 2	Pilot Rider RS-PEV2 (Option 2)	$306,683	$158,116	1.940	$843,248	$389,352	2.17	$1,899,528	$741,040	2.56	$3,049,459	$1,288,508	2.37
Smart EV Charging Pilot	Residential	Non-DAC	Level 2	Pilot Rider RS-PEV2 (Option 2)	$2,146,777	$4,354,810	0.490	$6,171,046	$8,684,138	0.71	$13,990,751	$18,109,950	0.77	$22,308,574	$31,148,898	0.72
Commercial Charging Opportunity Pilot-W	Commercial	Non-DAC	Level 2	GS	$89,266	$107,593	0.830	$215,517	$143,975	1.5	$209,291	$157,016	1.33	$514,074	$408,584	1.26
Commercial Charging Opportunity Pilot-MUD	Commercial	Non-DAC	Level 2	GS	$103,222	$194,596	0.530	$243,396	$231,005	1.05	$235,161	$244,069	0.96	$581,779	$669,669	0.87
Public Charging Opportunity Pilot	Commercial	DAC	Level 2	GS	$36,537	$100,111	0.360	$147,115	$175,042	0.84	$179,546	$185,586	0.97	$363,198	$460,740	0.79
Public Charging Opportunity Pilot	Commercial	DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$383,008	$378,418	1.010	$760,743	$438,514	1.73	$753,403	$516,027	1.46	$1,897,154	$1,332,959	1.42
Commercial Charging Opportunity Pilot-W	Commercial	DAC	Level 2	GS	$89,266	$107,331	0.830	$215,517	$143,279	1.5	$209,291	$156,074	1.34	$514,074	$406,684	1.26
Commercial Charging Opportunity Pilot-MUD	Commercial	DAC	Level 2	GS	$102,746	$379,582	0.270	$242,495	$413,719	0.59	$234,279	$426,536	0.55	$579,520	$1,219,836	0.48
Commercial Charging Opportunity Pilot-F	Commercial	DAC	Level 2	GS	$33,415	$102,467	0.330	$138,773	$188,225	0.74	$169,891	$198,179	0.86	$342,079	$488,870	0.7
Commercial Charging Opportunity Pilot-F	Commercial	DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$255,443	$195,908	1.300	$634,356	$315,962	2.01	$753,868	$413,292	1.82	$1,643,667	$925,161	1.78
Commercial Charging Opportunity Pilot-F	Commercial	Non-DAC	Level 2	Public & Fleet PEV Pilot	$115,039	$378,344	0.300	$306,171	$651,855	0.47	$367,302	$662,522	0.55	$788,512	$1,892,721	0.47
Commercial Charging Opportunity Pilot-F	Commercial	Non-DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$244,352	$278,862	0.880	$606,511	$492,861	1.23	$602,510	$552,517	1.09	$1,453,373	$1,324,241	1.1
Portfolio Total (EV Cust. Awareness & Education Costs Added at Portfolio Level Only)					**$9,342,717**	**$9,504,275**	**0.98**	**$22,173,773**	**$16,223,907**	**1.37**	**$37,045,722**	**$27,124,474**	**1.37**	**$68,562,212**	**$52,852,657**	**1.30**

	Participant Cost Test (PCT)	**Benefits = Participant's Net Benefits**	NPV (Gasoline Fuel Savings) + Pgm Incentives (Participant + Electricity Rate Differential)
		Costs = EV Charging Lifetime Electricity Costs + Participant EV Costs	NPV (Participant EV Charging Load Electricity Costs) + Participant Incremental EV Cost + Participant EVSE Net Installation Cost + Participant Contribution In Aid to Construction for Utility Make Ready

Participant Cost Test (PCT)

EV Pgm	Tariff Sector	Customer Segment	Charging Load Type	Program Charging Rate Tariff	2026 Benefits	2026 Costs	Ratio	2027 Benefits	2027 Costs	Ratio	2028 Benefits	2028 Costs	Ratio	3 Year Benefits	3 Year Costs	3 Year Ratio
Planned EV Charging Pilot	Residential	DAC	Level 2	Pilot Rider RS-PEV2 (Option 1)	$580,526	$458,149	1.270	$981,711	$677,074	1.45	$1,409,038	$934,648	1.51	$2,390,749	$1,611,722	1.48
Planned EV Charging Pilot	Residential	Non-DAC	Level 2	Pilot Rider RS-PEV2 (Option 1)	$3,567,592	$3,314,846	1.080	$6,961,609	$5,060,916	1.38	$9,955,220	$6,825,286	1.46			
Smart EV Charging Pilot	Residential	DAC	Level 2	Pilot Rider RS-PEV2 (Option 2)	$348,188	$212,608	1.640	$657,536	$441,671	1.49	$1,351,409	$997,199	1.36	$2,008,945	$1,438,870	1.4
Smart EV Charging Pilot	Residential	Non-DAC	Level 2	Pilot Rider RS-PEV2 (Option 2)	$2,051,737	$4,736,253	0.430	$4,634,543	$9,413,227	0.49	$9,682,102	$20,347,461	0.48			
Commercial Charging Opportunity Pilot-W	Commercial	Non-DAC	Level 2	GS	$80,520	$135,918	0.590	$109,682	$196,249	0.56	$110,044	$196,249	0.56	$219,726	$392,498	0.56
Commercial Charging Opportunity Pilot-MUD	Commercial	Non-DAC	Level 2	GS	$93,946	$222,950	0.420	$136,533	$283,330	0.48	$134,905	$283,330	0.48	$271,438	$566,659	0.48
Public Charging Opportunity Pilot	Commercial	DAC	Level 2	GS	$68,540	$112,892	0.610	$97,077	$216,113	0.45	$109,571	$235,806	0.46	$206,648	$451,918	0.46
Public Charging Opportunity Pilot	Commercial	DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$380,084	$605,775	0.590	$396,225	$790,856	0.5	$399,394	$790,856	0.51	$795,619	$1,581,712	0.5
Commercial Charging Opportunity Pilot-W	Commercial	DAC	Level 2	GS	$80,520	$135,918	0.590	$109,682	$196,249	0.56	$110,044	$196,249	0.56	$219,726	$392,498	0.56
Commercial Charging Opportunity Pilot-MUD	Commercial	DAC	Level 2	GS	$94,856	$408,200	0.230	$137,443	$467,080	0.29	$135,691	$467,080	0.29	$273,134	$934,159	0.29
Commercial Charging Opportunity Pilot-F	Commercial	DAC	Level 2	GS	$59,065	$115,539	0.510	$78,497	$230,556	0.34	$89,619	$250,270	0.36	$168,116	$480,825	0.35
Commercial Charging Opportunity Pilot-F	Commercial	DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$251,026	$350,860	0.720	$380,640	$619,251	0.61	$398,199	$710,731	0.56	$778,839	$1,329,981	0.59
Commercial Charging Opportunity Pilot-F	Commercial	Non-DAC	Level 2	Public & Fleet PEV Pilot	$116,804	$414,963	0.280	$223,301	$719,172	0.31	$255,162	$745,883	0.34	$478,463	$1,465,055	0.33
Commercial Charging Opportunity Pilot-F	Commercial	Non-DAC	Level 3 DCFC	Public & Fleet PEV Pilot	$238,731	$432,050	0.550	$320,264	$771,124	0.42	$325,805	$771,124	0.42	$646,069	$1,542,248	0.42
Portfolio Total (EV Cust. Awareness & Education Costs Added at Portfolio Level Only)					**$7,992,135**	**$11,656,919**	**0.69**	**$15,224,743**	**$20,082,866**	**0.76**	**$24,466,203**	**$33,752,170**	**0.72**	**$47,683,081**	**$65,491,956**	**0.73**

Figure F3: Cost Benefit Definitions

Cost Test	CBA Ratio	Cost Test Formulae
Ratepayer Impact Test (RIM)	Benefits = Downward Pressure on Utility Revenue Requirement	NPV(I&M Increased Utility Revenue from EV Program Attributed Increased EV Charging Load) + NPV (Avoided T&D Peak Loads from EV Load Shift)
	Costs = Increased Utility Revenue Requirement	NPV (Marginal Energy and Capacity Costs Incurred from EV Program Attributed Incremental Load Growth) + Program Customer Incentives (Enrollment, Equipment, Electricity Rate Differential Ongoing) + Program Implementation Costs + Net Utility Make Ready to serve New/Upgraded Service for EV charging load)
Total Resouce Cost Test (TRC)	Benefits = Participant's Net Benefits	NPV(I&M Increased Utility Revenue from EV Program Attributed Increased EV Charging Load) + NPV (Gasoline Fuel Savings)
	Costs = Marginal Increased Energy & Capacity Supply Costs + Program Implementation Costs + Participant Costs	NPV (Marginal Energy and Capacity Costs Incurred from EV Program Attributed Incremental Load Growth) + Program Implementation Costs + Participant Incremental EV Cost + Participant Net EVSE Installation Cost + Participant Contribution In Aid to Construction for Utility Make Ready
Societal Cost Test (SCT)	Benefits = TRC Benefits + Societal Benefits	NPV(I&M Increased Utility Revenue from EV Program Attributed Increased EV Charging Load) + NPV (Gasoline Fuel Savings) + Environmental Benefits from Carbon Reduction
	Costs = TRC Costs = Marginal Increased Energy & Capacity Supply Costs + Program Costs + Participant Costs	NPV (Marginal Energy and Capacity Costs Incurred from EV Program Attributed Incremental Load Growth) + Program Implementation Costs + Participant Incremental EV Cost + Participant EVSE Net Installation Cost + Participant Contribution In Aid to Construction for Utility Make Ready
Participant Cost Test (PCT)	Benefits = Participant's Net Benefits	NPV (Gasoline Fuel Savings) + Program Incentives (Participant + Electricity Rate Differential)
	Costs = EV Charging Lifetime Electricity Costs + Participant EV Costs	NPV (Participant EV Charging Load Electricity Costs) + Participant Incremental EV Cost + Participant EVSE Net Installation Cost + Participant Contribution In Aid to Construction for Utility Make Ready
Utility Cost Test (UCT)	Benefits = Utility's Benefits	NPV (Marginal Energy and Capacity Costs Incurred from EV Program Attributed Incremental Load Growth) + NPV(I&M Increased Utility Revenue from EV Program Attributed Increased EV Charging Load + NPV (Avoided T&D Peak Loads from EV Load Shift)
	Utility Costs = Participant Incentives + Program Implementation Cost	Program Customer Incentives (Enrollment, Equipment, Electricity Rate Differential Ongoing) + Program Implementation Costs

* NPV = Net Present Value Discounting at I&M Michigan Weighted Average Cost of Capital

Figure F4: Residential Managed Charging Participation Sensitivity Analysis

		Actuals			Forecast			
		2022	2023	2024	2025	2026	2027	2028
LOW CASE	EV TOU Participants (Legacy Program)	60	94	203	298	298	298	298
	EV Passive Managed Charging Participants	0	0	0	0	146	312	484
	EV Active Managed Charging Participants	0	0	0	0	64	191	447
	Number of EVs (Base Forecast)	1,471	2,082	2,827	3,491	4,244	5,086	5,963
	% TOU Participants of Total EVs	4.08%	4.51%	7.18%	8.53%	7.02%	5.86%	5.00%
	% Passive Managed Charging Participants of Total Evs	0.00%	0.00%	0.00%	0.00%	3.43%	6.14%	8.12%
	% Active Managed Charging Participants of Total EVs	0.00%	0.00%	0.00%	0.00%	1.50%	3.75%	7.50%
	% all DR EV Participants	**4.08%**	**4.51%**	**7.18%**	**8.53%**	**11.95%**	**15.75%**	**20.62%**
MID CASE	EV TOU Participants (Legacy Program)	60	94	203	312	312	312	312
	EV Passive Managed Charging Participants	0	0	0	0	149	320	495
	EV Active Managed Charging Participants	0	0	0	0	66	197	462
	Number of EVs (Base Forecast)	1,471	2,082	2,827	3,657	4,413	5,263	6,155
	% TOU Participants of Total EVs	4.08%	4.51%	7.18%	8.53%	7.07%	5.93%	5.07%
	% Passive Managed Charging Participants of Total Evs	0.00%	0.00%	0.00%	0.00%	3.38%	6.07%	8.05%
	% Active Managed Charging Participants of Total EVs	0.00%	0.00%	0.00%	0.00%	1.50%	3.75%	7.50%
	% all DR EV Participants	**4.08%**	**4.51%**	**7.18%**	**8.53%**	**11.95%**	**15.75%**	**20.62%**
HIGH CASE	EV TOU Participants (Legacy Program)	60	94	203	326	326	326	326
	EV Passive Managed Charging Participants	0	0	0	0	154	331	517
	EV Active Managed Charging Participants	0	0	0	0	69	205	482
	Number of EVs (Base Forecast)	1,471	2,082	2,827	3,823	4,592	5,475	6,431
	% TOU Participants of Total EVs	4.08%	4.51%	7.18%	8.53%	7.10%	5.96%	5.07%
	% Passive Managed Charging Participants of Total Evs	0.00%	0.00%	0.00%	0.00%	3.35%	6.04%	8.04%
	% Active Managed Charging Participants of Total EVs	0.00%	0.00%	0.00%	0.00%	1.50%	3.75%	7.50%
	% all DR EV Participants	**4.08%**	**4.51%**	**7.18%**	**8.53%**	**11.95%**	**15.75%**	**20.62%**

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, to open a docket for certain regulated electric utilities to file transportation electrification plans and for other related matters.	))))	Case No. U-21538

PROOF OF SERVICE

Cassandra A. Jackway, an employee of Dykema Gossett PLLC, says that on the 1st day of July 2025, she served Indiana Michigan Power Company's Transportation Electrification Plan upon the following parties at the email addresses indicated:

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