PLANNING FOR EVS

A Getting-Started Toolkit for Local Governments

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ABOUT

The Economic Growth Institute (EGI) leverages the University of Michigan and other public/private resources, research, technologies, and expertise to foster innovation and equitable economic growth.

EGI's work in energy transition focuses on supporting the State of Michigan's transition into the future of energy through planning, research, and technical assistance. EGI engages local communities, businesses, and other stakeholders to anticipate the impact of new technologies and other transitions or disruptions in the economy, to accelerate recovery and growth. EGI partners with leaders in local government, nonprofits, and businesses to gain insights to inform our impact assessments and to convene stakeholders around targeted planning to accelerate action-based strategy.

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SECTION 01

INTRODUCTION

Electric vehicles are an increasingly important consideration for the vehicles residents drive, the fleets local governments operate, and the development projects that come through the permit counter.

Local governments that plan early can reduce avoidable retrofits, make permitting more predictable and prepare viable projects for available funding. Without a shared approach, staff may have to respond separately to a developer's questions about parking infrastructure, a resident's charging permit or a first responder's training needs.

This toolkit helps Michigan local governments take practical first steps toward EV readiness. It provides guidance, checklists, examples, and trusted resources to help communities assess local needs, coordinate across departments and utilities, identify planning and permitting considerations, and establish priorities for implementation. Communities can use the toolkit at their own pace, beginning with actions that align with their staffing, resources, and local goals.

WHO SHOULD USE THIS GUIDE

City, village, township and county managers; planning and zoning staff; building officials; fire marshals and emergency responders; public works and fleet directors; and grant writers. Most sections involve more than one role, so use the toolkit as a shared starting point across departments.

HOW TO USE THIS GUIDE

Use the sections in sequence or select topics based on your community's immediate needs. Begin with shared vocabulary, then establish utility relationships and understand the governing safety and code framework. Use that foundation to update plans, zoning, permitting and long-term operations.

Each primary implementation section includes an action checklist with suggested lead departments. Adjust ownership to your community's structure, and involve the governing body when formal policy adoption or funding approval is required.

A FIRST MEETING THAT PRODUCES A NEXT STEP

Bring planning, building, public works, fleet and fire staff together. Identify one immediate EV issue, name a lead, identify the serving utility and agree on a date to report back.

WHERE TO GO DEEPER: EV READINESS GUIDES

U.S. DOE / AFDC: EV Readiness and Utility Engagement (web guide)
Readiness topics and questions for local governments.

Joint Office of Energy and Transportation: EV Charging Playbook (web toolkit)
Planning worksheets and implementation modules.

SECTION 02

GETTING STARTED

HOW EV CHARGING AFFECTS LOCAL PLANNING

Local governments do not need to own or operate charging stations to support EV readiness. Their role may include coordinating with utilities, reviewing local policies, improving permitting processes, identifying community charging needs, and helping public and private partners advance feasible projects.

Gasoline and diesel fueling already involve zoning, permitting, environmental review and fire safety. EV charging expands the number and variety of locations involved, while adding electrical-capacity planning and closer coordination with utilities.

Charging can occur at homes, workplaces, curbs, parking structures, public sites and fleet yards. Matching charging power to how long vehicles remain parked helps determine site design, parking policy and operating costs.

Electrical capacity: coincident charging demand can affect service equipment, transformers and distribution circuits.

Parking duration: Level 1 and Level 2 charging commonly occur while a vehicle is parked for hours; DC fast charging serves shorter stops.

Distributed access: residents without dedicated parking may depend on workplace, multifamily or public charging.

Safety: EVSE installation introduces electrical considerations, while vehicle incidents may involve high-voltage batteries and thermal runaway.

QUICK COMPARISON

CONSIDERATION	GAS / DIESEL VEHICLES	ELECTRIC VEHICLES
Energy access	Fuel stations and private fleet facilities	Homes, workplaces, public sites and fleet facilities
Time at the site	Usually a short dedicated fueling stop	Minutes to hours, depending on equipment, vehicle and energy needed
Supply coordination	Fuel supplier and site operator	Site owner, charging operator and electric utility
Local planning role	Land use, access, permitting and safety	The same roles, plus electrical service and coordination across more site types
Key safety considerations	Fuel handling, storage and fire protection	Electrical installation, high-voltage vehicle systems and battery incident response

Charging times and infrastructure needs vary by application. Select equipment based on the use case rather than charging speed alone. [22], [23]

CHARGING LEVELS MATCH POWER TO PARKING TIME

LEVEL 1: 120 V AC	LEVEL 2: 208/240 V AC	DC FAST CHARGING
Uses a compatible cordset and a suitable household-type receptacle. Roughly 3-5 miles of range per hour is a useful illustration. Can suit lower daily mileage and long parking periods at home or work. An existing circuit must be assessed for suitability.	Common for homes, workplaces and public destinations. Roughly 15-25 miles per hour is illustrative, with actual rates varying. Requires an appropriate circuit; a panel or service upgrade depends on available capacity and the installation design.	Supplies DC directly to the vehicle battery, bypassing the onboard AC charger. DOE illustrates 100-200+ miles in about 30 minutes. Actual performance varies substantially. Utility infrastructure and vehicle capability are central considerations.

These figures are illustrative, not guaranteed charging rates. Battery size and state of charge, vehicle limits, temperature and charger output affect the result. Use "DC fast charging" consistently; "Level 3" is an informal label. [22], [23]

GETTING STARTED: ACTION CHECKLIST

ACTION	IMPLEMENTATION DETAILS	LEAD
☐ **Form an EV team and designate a team lead**	Include planning, zoning, fire, building, public works and fleet staff. Invite the utility and other partners when relevant.	**Manager / Planning**
☐ **Inventory current activity and identify immediate needs**	Log EV-related permits, developer inquiries, service calls, known development proposals, existing charging sites and resident inquiries from the past year.	**Planning / Building**
☐ **Contact the serving electric utility and establish a coordination process**	Identify utility and municipal contacts, share immediate needs and likely projects, and agree on a process for service questions and project updates.	**Administration / Utility Liaison**
☐ **Train staff on fundamentals**	Cover AC Level 1, AC Level 2, DC fast charging, EVSE, make-ready work and battery safety.	**HR / Public Safety**
☐ **Agree on terminology**	Use consistent definitions in permits, local policies and public materials; identify the controlling code or program.	**Administration / Planning**
☐ **Publish a glossary**	Share a one-page handout at the permit counter and online.	**Public Information**
☐ **Set scope and ownership**	Brief leadership, choose initial actions, assign owners and set a review date.	**Manager**

SECTION 03

COMMON EV TERMS EVERY TEAM SHOULD KNOW

EVSE (ELECTRIC VEHICLE SUPPLY EQUIPMENT)

Equipment that supplies electricity to charge an EV. Codes and ordinances use EVSE; "charger" is the common public term. In AC charging, the vehicle's onboard charger converts AC to DC.

MAKE-READY INFRASTRUCTURE

Electrical infrastructure prepared for charging, potentially including service work, panels, conduit and wiring. The scope and cost responsibility vary by utility program and project.

EV-CAPABLE, EV-READY AND EV-INSTALLED

Common planning tiers. EV-Capable generally provides capacity and pathways for future charging. EV-Ready generally provides a complete circuit and termination near a space. EV-Installed includes charging equipment. Exact requirements differ by adopted ordinance; specify the voltage, capacity, wiring and termination required.

DEMAND CHARGE

A tariff charge based on measured demand, often the highest average power draw over a defined interval. It is separate from energy charges. Measurement periods, seasonal rules and ratchets vary by tariff.

LOAD HOSTING CAPACITY

The additional electricity demand a grid location may accommodate under stated assumptions. A generation hosting-capacity map measures a different application. Screening maps do not guarantee service availability.

MANAGED CHARGING

Coordinating charging timing or power to meet vehicle needs while managing electricity costs and electrical capacity.

THERMAL RUNAWAY

Uncontrolled self-heating in a battery cell that can release hazardous gases and lead to fire or propagation to other cells. Damaged batteries can also retain energy and reignite.

TOTAL COST OF OWNERSHIP

The full cost of acquiring, installing, operating, maintaining and eventually replacing vehicles or charging infrastructure over its useful life.

NEVI AND CFI

The National Electric Vehicle Infrastructure Formula Program (NEVI) funds state-led charging deployment, initially emphasizing Alternative Fuel Corridors. Eligibility can broaden after corridor certification. The Charging and Fueling Infrastructure (CFI) discretionary program supports eligible community and corridor charging or alternative-fueling projects. Check current solicitations.

kW, kWh, PORT AND CONNECTOR

Kilowatts (kW) measure power; kilowatt-hours (kWh) measure energy. A charging port serves one vehicle at a time. A connector is the physical plug; a port may offer more than one connector type.

Definitions summarized for planning use. [8], [14], [20], [22], [26]

SECTION 04

ASSESSING GRID READINESS AND WORKING WITH UTILITIES

The electric utility is an early planning partner. Staff can begin with a clear list of priority sites and questions; detailed electrical studies come later.

BEGIN ASSESSING LOCAL CHARGING NEEDS AND UTILITY CAPACITY

Local governments can begin by identifying potential charging locations, estimating future needs, and establishing a working relationship with their electric utility. The utility can help determine whether existing electrical infrastructure can support proposed projects and what additional assessments or upgrades may be necessary.

Identify serving utilities. Use the Electric Utility Service Area Map to screen addresses and verify service with the provider. A community may contain investor-owned, municipal and cooperative service territories.

Identify likely demand. Inventory municipal lots, fleet yards, transit facilities, commercial corridors and priority private sites. Note expected vehicle types, charging power and parking duration.

Request utility capacity screening. Ask the utility what screening or technical assessment is needed to determine available capacity for proposed charging loads. Treat maps as preliminary indicators; service availability depends on current conditions and a site-specific utility review.

Establish a point of contact. Name a municipal liaison and a utility contact so questions and project updates follow a consistent path.

QUESTIONS TO ASK THE UTILITY

Which service upgrades and make-ready costs belong to the utility, site owner or charging operator? What tariff or program governs that allocation?

Which energy, time-of-use and demand charges apply? Are EV tariffs or managed-charging programs available?

What application, design, equipment and construction steps control the energization timeline?

Could phased deployment, lower charging power or managed charging reduce peak demand or the scale of upgrades?

Use "service connection" or "energization" for ordinary charging loads. Ask separately about interconnection requirements if the project includes export-capable generation, storage or bidirectional charging. [4], [8], [26]

WHERE TO GO DEEPER: UTILITY GUIDANCE AND CAPACITY MAPS

U.S. DOE / AFDC: EV Readiness and Utility Engagement (web guide)
Utility rates, site assessments and coordination.

Great Plains Institute / MTEC: Electric Utility Roles in the EV Market (2018 PDF)
Utility program-design principles; Great Plains Institute, 2018.

U.S. DOE: Distribution System Hosting Capacity Map Atlas (web resource)
Load screening and map limitations.

GRID READINESS: ACTION CHECKLIST

ACTION	IMPLEMENTATION DETAILS	LEAD
☐ **Identify all serving utilities**	Confirm each utility serving priority sites using service-area maps and provider verification.	**GIS / Planning**
☐ **Designate a utility liaison**	Appoint a municipal contact for service requests, planning updates and issue resolution.	**Administration**
☐ **Identify available utility infrastructure information**	Coordinate with utilities on service boundaries and available capacity information. Respect limitations on sensitive grid data.	**GIS / Engineering**
☐ **Request load-capacity screening**	Ask specifically about EV/load hosting capacity, constraints and site-specific study requirements.	**Utility Liaison**
☐ **Inventory priority sites**	Record ownership, expected charging demand, parking duration, access, expansion needs and likely project timing.	**Planning / Public Works**
☐ **Clarify service procedures**	Document applications, review steps, estimated lead times and make-ready cost responsibilities under applicable utility rules.	**Utility Liaison / Legal**
☐ **Review EV rate structures**	Evaluate energy charges, demand charges, time-of-use periods and available EV programs using a realistic load profile.	**Finance / Public Works**
☐ **Align managed charging**	Assess charging schedules, power-sharing and utility demand-response options against fleet and public-use needs.	**Fleet / Sustainability**
☐ **Set recurring coordination**	Review the project pipeline, capacity constraints and dependencies with each serving utility.	**Utility Liaison**

WHAT TO BRING TO THE FIRST SITE DISCUSSION

Bring the site address, a simple layout, the number and type of vehicles, proposed charging power, operating hours, anticipated growth and desired in-service date. Ask the utility what additional information is needed before a design or service commitment.

SECTION 05

PREPARING FOR EV SAFETY CONSIDERATIONS

Plan for safe charging installations and effective response to vehicle incidents. Building officials, electrical inspectors and fire personnel each have a role.

Communities can begin by reviewing existing inspection, fire response, towing, and emergency management procedures to identify where EV-specific training or protocols may be needed.

UNDERSTAND THE CORE HAZARDS

Battery thermal runaway: damaged or defective lithium-ion cells can self-heat, release hazardous gases and ignite. An incident can propagate to other cells, and reignition is possible.

Electrical and collision hazards: installation design must address shock protection, equipment ratings, cable routing and exposure to vehicle impact.

Enclosed parking: evaluate access, ventilation and fire-protection requirements under the codes applicable to the building and proposed installation.

Stranded energy: damaged batteries may retain energy after a crash or fire. Towing, storage and monitoring protocols should address the vehicle manufacturer's emergency-response guidance.

APPLY THE GOVERNING CODES

Identify the Michigan-adopted electrical, building and applicable fire requirements and the enforcing agency before updating permit forms. Distinguish enforceable provisions from model-code language and recommended practice. [25]

NFPA 70 / NEC Article 625: addresses EV power-transfer equipment installations, alongside other applicable NEC articles. Inspectors should use the adopted edition for circuits, conductors, protection and installation requirements.

IBC §406.2.7 (2021 model code): requires NFPA 70 installation, listing and labeling to UL 2202 or UL 2594 as applicable to the equipment, and an accessibility cross-reference. It does not itself set detailed bollard, wall-rating or sprinkler-spacing rules. [11], [29]

NFPA 855: concerns stationary energy storage and may be relevant where a charging project incorporates a stationary battery system. It is not a general installation standard for every vehicle battery or charger.

WHERE TO GO DEEPER: EV SAFETY AND CODES

Michigan LARA: Construction Codes and Rules (webpage)
Michigan code editions and rule references.

National Fire Protection Association: EV Safety Resources (webpage)
EV safety information and standards.

University of Georgia: EV Fire Safety Technical Guide (PDF)
Technical background on EV fire safety.

BUILD TRAINING AND PUBLIC SAFETY PROGRAMS

Use qualified training providers and current manufacturer emergency-response guides. Incorporate EV incidents into existing training rotations, including high-voltage isolation, reignition and stranded-energy hazards. Confirm course scope and cost before describing a resource as free.

EV SAFETY: ACTION CHECKLIST

ACTION	IMPLEMENTATION DETAILS	LEAD
☐ **Confirm governing codes**	Record adopted editions, responsible agencies and relevant EVSE or stationary-storage provisions.	**Building / Code Official**
☐ **Verify listed equipment**	Check the applicable listing, labeling, equipment ratings and installation instructions during review and inspection.	**Building / Permitting**
☐ **Train first responders**	Include battery incidents, high-voltage hazards, cooling and monitoring considerations, and manufacturer response guides.	**Fire Department**
☐ **Train electrical inspectors**	Cover continuous-load sizing, applicable GFCI rules, load management, conductor protection and burial requirements.	**Electrical Inspection**
☐ **Establish damaged-vehicle protocols**	Coordinate towing, storage and monitoring procedures for vehicles with damaged batteries or retained energy.	**Fire / Police / Public Works**
☐ **Update permit forms**	Request equipment specifications, electrical design information and any applicable site or fire review.	**Permitting / Building**
☐ **Publish resident guidance**	Distribute clear installation and charging-safety information at permit counters and online.	**Public Information**

RESIDENT CHARGING SAFETY

Use appropriate, safety-certified equipment and qualified electrical installation. Follow vehicle and equipment instructions. Do not use extension cords or improvised adapters; stop using damaged equipment. Share the USFA handout for resident-facing guidance. [12]

WHERE TO GO DEEPER: SAFETY HANDOUTS AND INSPECTION GUIDES

U.S. Fire Administration: EV Charging Safety Tips (PDF handout)
Ready-to-share resident handout.

New Buildings Institute: EVSE Permitting and Inspection Guidelines (PDF)
Multifamily and office permitting guidance; check code editions.

SECTION 06

PUTTING EVS INTO PLANNING

Write EV readiness into the plans and processes that already guide local decisions, so the work can continue through staff turnover and budget cycles.

EV readiness planning should reflect a community's broader transportation, economic development, housing, infrastructure, and sustainability priorities. Before establishing new policies or investments, communities should consider where charging access is needed, how projects align with existing development plans, and whether proposed actions address identified local needs.

WHERE EV LANGUAGE BELONGS

Comprehensive or master plans: establish charging-access goals, identify priority locations and connect future zoning and capital decisions to community needs.

Capital improvement plans: flag fleet yards, transit facilities and public lots for charging investment, including utility work, accessible site design and future expansion.

Climate or sustainability plans: connect fleet and community charging actions to measurable transportation goals. Use metrics that match the requirements of any specific funding opportunity.

Hazard mitigation and emergency operations plans: incorporate high-voltage and battery-incident considerations into training, response coordination and equipment planning.

Fleet transition or public works plans: establish replacement criteria, vehicle duty-cycle assessments, charging schedules and procurement responsibilities.

EXAMPLE LOCAL GOAL

Expand access to charging for residents without dedicated parking. Establish a locally supported access target, identify priority multifamily and commercial areas, and evaluate EV-capable infrastructure requirements where legally authorized.

EXAMPLE FLEET GOAL

Transition the light-duty municipal fleet to zero-emission vehicles by 2035 where operationally feasible, using replacement cycles, charging readiness and total cost of ownership to guide procurement.

These sample goals are policy examples, not mandates. Set dates, percentages and access measures using local conditions and authority. [14], [16], [17]

INTEGRATE EV READINESS INTO EXISTING PLANNING CYCLES

Immediate actions: adopt an EV readiness resolution, improve administrative procedures and evaluate zoning changes within local authority. Confirm Michigan construction-code requirements separately.

Mid-cycle updates: incorporate charging readiness into capital-project scoring, annual budgets and fleet replacement decisions.

Full plan revisions: include pre-developed charging goals, public engagement findings and implementation responsibilities when plans are updated.

USE A READINESS FRAMEWORK

Engage residents, businesses, property owners, and other stakeholders to understand current charging barriers, anticipated demand, and potential locations. Include perspectives from multifamily housing residents, people without access to private charging, and businesses considering fleet electrification.

Charging Smart offers free technical assistance and Bronze, Silver and Gold designations. Its required and elective criteria are organized into six categories: [5]

CATEGORY	LOCAL APPLICATION
Planning	Establish a community vision and goals for EV readiness.
Regulation	Review zoning, development and approval processes.
Utility Engagement	Build productive utility relationships.
Education and Incentives	Inform residents and businesses and identify support programs.
Government Operations	Plan municipal fleets, assets and charging.
Shared Mobility	Consider transit, school buses, rideshare and other shared modes.

EVALUATE PARKING READINESS REQUIREMENTS

Consider an appropriate mix of EV-Capable, EV-Ready and EV-Installed spaces in new development. Define each tier, identify legal authority and scale requirements to land use, demand and project size. Include the governing body and legal counsel in adoption decisions.

For accessibility, apply the requirements governing the site and equipment. The U.S. Access Board's technical assistance distinguishes mandatory provisions from additional design recommendations. [24]

WHERE TO GO DEEPER: EV PLANNING GUIDES AND TOOLKITS

Energy Ready: Charging Smart Program Guide (PDF)
Designation criteria and implementation support.

Joint Office of Energy and Transportation: EV Charging Playbook (web toolkit)
Planning and deployment worksheets.

SEMCOG: State of Michigan Community EV Toolkit (website)
Michigan community resources.

SEMCOG: Community EV Readiness, Zoning and Local Actions (webpage)
Local actions and zoning examples.

PUTTING EVS INTO PLANNING: ACTION CHECKLIST

ACTION	IMPLEMENTATION DETAILS	LEAD
☐ **Choose a planning entry point**	Select an immediate resolution or administrative improvement, a CIP update, or a scheduled plan revision.	**Planning / Governing Body**
☐ **Update the master plan**	Include measurable charging-access goals and a practical implementation approach.	**Planning Commission**
☐ **Address EVSE as an accessory use**	Evaluate permitted accessory charging across relevant districts; distinguish standalone charging sites.	**Planning / Legal**
☐ **Evaluate EV parking requirements**	Develop clear EV-Capable, EV-Ready and EV-Installed definitions and requirements within local authority.	**Planning / Governing Body**
☐ **Integrate accessibility**	Address accessible routes, surfaces, reach ranges, operable parts, cable handling and relevant site requirements.	**Accessibility / Engineering**
☐ **Incorporate EV infrastructure into capital improvement planning**	Include EVSE, utility and site work, accessibility, future expansion and ongoing maintenance costs.	**Finance / Capital Projects**
☐ **Set measurable targets**	Choose fleet, access or emissions metrics and identify the data needed to track progress.	**Sustainability / Planning**
☐ **Update public safety plans**	Include battery and high-voltage incident considerations in emergency plans and responder coordination.	**Emergency Management**
☐ **Establish fleet timelines**	Align vehicle replacement, charging installation, operating needs and total cost of ownership.	**Fleet Management**
☐ **Adopt a readiness framework**	Use a recognized framework such as Charging Smart to organize actions and track completion.	**Program Lead**

Suggested leads initiate and coordinate the work. Ordinance adoption, appropriations and other formal approvals follow the community's governing procedures. [5], [14], [24], [25]

SECTION 07

STREAMLINING PERMITTING

A clear, predictable review process helps applicants submit complete applications and helps staff resolve issues early.

FOR ROUTINE HOME AND COMMERCIAL CHARGING

- Publish a checklist for standard, low-complexity installations and identify when administrative or over-the-counter review is available.
- Specify electrical-load information, equipment documentation, site drawings and accessibility information needed for review.
- Explain which projects require additional building, fire, right-of-way or utility coordination. Expedited review does not remove required technical review or inspection.

FOR PUBLIC AND MORE COMPLEX SITES

- Publish realistic review targets and distinguish application-completeness checks, technical review, permit issuance and utility energization.
- Provide written correction notices identifying deficiencies and required information.
- Evaluate accessory-use treatment for routine installations and reserve discretionary review for circumstances authorized by applicable law.

CALIFORNIA EXAMPLES TO ADAPT

The archived Fresno ordinance, §11-113(e)(1), specifies 15 business days for review of a **complete DCFC permit application**. The archived Redlands ordinance specifies a correction notice within ten working days when an application is incomplete. These examples illustrate process design; they are not Michigan deadlines. [2], [3]

WHERE TO GO DEEPER: PERMITTING CHECKLISTS AND ORDINANCES

City of West Hollywood: EVSE Permitting Checklist (PDF)
An example application checklist.

City of Fresno: EV Charging Review Ordinance (2019 PDF)
2019 ordinance; see subsection (e)(1).

City of Redlands: EV Charging Systems Ordinance (2018 PDF)
2018 ordinance; see §15.58.060(D).

California GO-Biz: EV Charging Station Permitting Guidebook (PDF)
California permitting and energization guidance.

STREAMLINING PERMITTING: ACTION CHECKLIST

ACTION	IMPLEMENTATION DETAILS	LEAD
☐ **Create a routine-project checklist**	Publish required documents and eligibility criteria for expedited residential and commercial EVSE review.	**Building Department**
☐ **Publish electrical criteria**	Explain load calculations, capacity documentation and acceptable load-management approaches under the adopted code.	**Electrical Inspection**
☐ **Set clear review targets**	Define the clock's starting point, completeness criteria, review stages and responsible staff.	**Planning / Building**
☐ **Standardize correction notices**	Provide timely written comments and a clear resubmittal path for incomplete or deficient applications.	**Permitting Staff**
☐ **Define right-of-way rules**	Address encroachment, pole mounting, easements, cable management, snow clearance, bike lanes and accessible routes.	**Public Works / ROW**
☐ **Address multifamily and curbside access**	Clarify ownership, operations, user access and maintenance responsibilities for charging without dedicated parking.	**Planning / Housing**
☐ **Publish fees and contacts**	Post the fee schedule, forms, required inspections, review targets and staff contacts online.	**Building / Finance**

KEEP PERMITTING AND ENERGIZATION CONNECTED

A municipal permit does not guarantee electrical service is ready. Track the utility application, design approval, equipment procurement, construction and energization alongside the local review process. Communicate dependencies to the applicant early. **[4]**

WHERE TO GO DEEPER: LOCAL APPROVALS AND ACCESSIBILITY

IREC / SEAC / RMI: EV Charger Planning and Zoning Guide (PDF)
Local planning, zoning and approval guidance.

SEMCOG: Community EV Readiness, Zoning and Local Actions (webpage)
Michigan community examples and local actions.

U.S. Access Board: Accessible EV Charging Design Recommendations (web guide)
Accessibility requirements and recommendations.

SECTION 08

LONG-TERM EV SUCCESS

Sustained success depends on useful locations, realistic funding and reliable operation after installation.

Before committing to charging infrastructure, communities should evaluate the full cost of ownership, including equipment, installation, utility upgrades, electricity, network services, maintenance, repairs, and eventual replacement. Expected utilization, revenue, and available operating support should inform project design and ownership decisions.

USE LOCAL DATA TO PRIORITIZE FUTURE INVESTMENTS

Combine regional infrastructure studies with current local information on vehicle activity, housing, travel patterns, parking dwell time, existing chargers and utility capacity. Consider residents without home charging and evaluate access, affordability and expected use together. [19], [16]

BUILD A SUSTAINABLE FUNDING APPROACH

Track actual opportunities. Monitor MDOT, EGLE, OFME, federal program pages and utility programs. Confirm open dates, eligible applicants and eligible costs for each solicitation.

Keep projects ready. Maintain site-control records, utility correspondence, a concept layout, cost estimates, approvals and an operations plan. Identify required matching funds and reimbursement cash flow.

Separate vehicles and infrastructure. A grant for charging equipment does not necessarily pay for vehicle purchases. Match each cost category to a program that permits it.

Combine support only when permitted. Confirm cost-share rules, eligible utility rebates and restrictions on duplicate reimbursement before combining awards.

Respond to the actual selection criteria. Demonstrate community need and feasibility, and address equity or other priorities when specified in the solicitation. Do not assume all programs use the same scoring system.

PROTECT RELIABILITY AND USER ACCESS

Assign responsibility for maintenance, customer support, pricing, payment systems, snow clearance and accessible routes.

Define uptime per charging port, measurement periods, exclusions, outage reporting and repair response times in contracts.

Review plans periodically as adoption, utilization, utility capacity and program availability change.

For projects subject to 23 CFR Part 680, the federal standard requires greater than 97% average annual uptime per port, subject to its calculation and exclusions. A local SLA should identify the applicable standard and include enforceable monitoring and repair provisions. [28]

MICHIGAN FUNDING SNAPSHOT

Status checked September 25, 2026. Program pages and solicitation documents control eligibility and timing.

PROGRAM	WHAT THE CURRENT INFORMATION MEANS
MDOT NEVI [20], [27]	Michigan's fully built-out certification allows broader deployment. Round 3 includes locations within and beyond corridor gaps; its published proposal deadline was August 7, 2026. Monitor awards and future notices.
EGLE Clean Fuel and Charging Infrastructure [21]	The posted multifamily and public-charging rounds are closed. The program supports charging/fueling infrastructure, including fleet-related infrastructure; do not assume vehicle purchases are eligible.

LONG-TERM EV SUCCESS: ACTION CHECKLIST

ACTION	IMPLEMENTATION DETAILS	LEAD
☐ **Site with data**	Use travel patterns, dwelling types, dwell times, existing coverage and utility screening to prioritize sites.	**GIS / Transportation**
☐ **Prioritize equitable, affordable, reliable and usable access**	Include underserved neighborhoods and multifamily residents; assess affordability, reliability and usability alongside geographic coverage.	**Planning / Community Engagement**
☐ **Track funding cycles**	Maintain a calendar of verified opportunities, eligibility requirements and application dates.	**Grants / Finance**
☐ **Confirm funding combinations**	Document allowed match sources, rebate treatment and avoidance of duplicate cost reimbursement.	**Grants / Finance**
☐ **Set reliability standards**	Define per-port uptime, reporting, exclusions and response targets in procurement documents.	**Procurement / Operations**
☐ **Structure O&M contracts**	Assign maintenance, software, connectivity, customer support and long-term operating responsibilities.	**Public Works / Legal**

WHERE TO GO DEEPER: FUNDING AND PROJECT PLANNING

Michigan MDOT: NEVI Formula Program (program webpage)
Michigan NEVI updates.

Michigan EGLE: Clean Fuel and Charging Infrastructure Program (program webpage)
Current EGLE program details.

U.S. DOT: Charging Forward - Rural Electric Mobility Toolkit (web toolkit)
Rural funding and implementation considerations.

SEMCOG: Michigan EV Planning Tools and Infrastructure Studies (webpage)
Michigan studies and planning tools.

SOURCE DIRECTORY

01 West Hollywood EVSE Permitting Checklist

City of West Hollywood; example hosted by California GO-Biz.

Checklist for existing residential and nonresidential buildings. Adapt to Michigan codes and local review procedures.

02 Fresno Municipal Code §11-113: EV Charging Review

City of Fresno; Ordinance 2019-016, effective August 7, 2019.

Archived example. Subsection (e)(1) specifies 15 business days to review a complete DCFC application.

03 Redlands EV Charging Systems Ordinance

City of Redlands; Ordinance 2869 (2018); archived 2020 copy.

Includes administrative review and a ten-working-day correction-notice provision. California example, not Michigan law.

04 Electric Vehicle Charging Station Permitting Guidebook

California GO-Biz; second edition, January 2023.

Planning, accessibility, permitting and energization guidance. Separate California requirements from transferable practices.

05 Charging Smart Program Guide

Charging Smart / Energy Ready; April 2025.

Free technical assistance and Bronze, Silver and Gold designations across six categories.

06 Electric Utility Service Area Map

Michigan Public Service Commission.

Address-based utility territory screening. Confirm the serving utility and service arrangements with the provider.

07 Electric Utility Roles in the Electric Vehicle Market

Midcontinent Transportation Electrification Collaborative / Great Plains Institute; April 2018.

Consensus principles for utility EV program design. A policy framework, not a site-specific service agreement.

08 Electric Vehicle Readiness: Utility Engagement

U.S. Department of Energy, Alternative Fuels Data Center.

Readiness planning, utility rates, site assessments and coordination with electric providers.

09 EV Fire Safety Technical Guide

University of Georgia, Georgia Network for Electric Mobility; 2025 guide.

Background on EV fire safety and planning. Apply the locally governing codes and current responder protocols.

10 Electric Vehicle Safety Information

National Fire Protection Association.

EV safety information, standards and responder resources. Check individual courses for availability and cost.

Linked copies of ordinances are historical examples unless otherwise stated.

SOURCE DIRECTORY CONTINUED

11 2021 IBC §406.2.7: EV Charging Stations and Systems

International Code Council; 2021 model code.

NFPA 70 installation, UL 2202/2594 listing and labeling, and an accessibility cross-reference. Confirm the adopted edition.

12 Electric Vehicle Charging Safety Tips

U.S. Fire Administration / FEMA.

A resident-facing handout on equipment, installation and safe charging practices.

13 EVSE Permitting and Inspection Guidelines

New Buildings Institute, with Forth Mobility; 2024; hosted by SEAC.

Multifamily and office installations: Level 2 EVSE and 120/240 V outlets. References the 2020 NEC and 2021 IBC; confirm adopted editions.

14 Planning and Zoning Guidance for Electric Vehicle Charger Deployment

Ed Gilliland and Robert Graff; IREC, SEAC and RMI; August 2023.

Local planning, zoning, parking, accessibility and approval-process guidance, with example forms.

15 Charging Forward: Rural Electric Mobility Toolkit

U.S. Department of Transportation.

Rural planning partners, project development, funding and business-model considerations.

16 Public Electric Vehicle Charging Infrastructure Playbook

Joint Office of Energy and Transportation.

Interactive modules on planning, engagement, siting, funding, policy, procurement and revenue.

17 State of Michigan Community EV Toolkit

SEMCOG and Michigan Office of Future Mobility and Electrification.

Michigan resources for community readiness, fleet electrification and infrastructure planning.

18 Community Readiness: Zoning and Local Actions

SEMCOG / State of Michigan Community EV Toolkit.

Local policy examples and community-readiness resources. Verify each example's current ordinance.

19 Planning Tools and Michigan Infrastructure Studies

SEMCOG / State of Michigan Community EV Toolkit.

Statewide EV charging studies and planning tools. Use regional findings alongside current local demand and utility data.

20 Michigan NEVI Formula Program

Michigan Department of Transportation.

Program updates, procurement documents and implementation information for Michigan NEVI projects.

21 Clean Fuel and Charging Infrastructure Program

Michigan Department of Environment, Great Lakes, and Energy.

Charging and fueling infrastructure support. Check the specific use-case solicitation, match rules and application status.

ADDITIONAL PRIMARY SOURCES

22 Electric Vehicle Charging Stations

U.S. DOE, Alternative Fuels Data Center.

Charging levels, voltage, range-added examples and station terminology.

23 Charging Electric Vehicles at Home

U.S. DOE, Alternative Fuels Data Center.

Level 1 suitability, electrical capacity, installation and continuous-load considerations.

24 Design Recommendations for Accessible EV Charging Stations

U.S. Access Board.

Distinguishes applicable accessibility requirements from additional, nonbinding design recommendations.

25 Michigan Codes, Rules, Public Acts and Standards

Michigan Department of Licensing and Regulatory Affairs.

Entry point for applicable Michigan code editions, administrative rules and construction-code resources.

26 U.S. Atlas of Distribution System Hosting Capacity Maps

U.S. Department of Energy.

Distinguishes generation and load applications. Maps support screening rather than guaranteeing service.

27 Michigan NEVI Round 3 Procurement

Michigan Department of Transportation; 2026.

Round 3 scope and schedule following Michigan's fully built-out certification.

28 National Electric Vehicle Infrastructure Standards and Requirements

Federal Highway Administration; 23 CFR Part 680.

Minimum standards for covered federally funded charging projects, including per-port uptime.

29 2021 International Building Code Errata

International Code Council.

Corrected text of §406.2.7, including its accessibility cross-reference.

PLANNING FOR EVS

A Getting-Started Toolkit for Local Governments

NOVEMBER 2026

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GETTING STARTED

7 ACTION ITEMS

ACTION	IMPLEMENTATION DETAILS	LEAD
☐ **Form an EV team and designate a team lead**	Include planning, zoning, fire, building, public works and fleet staff. Invite the utility and other partners when relevant.	Manager / Planning
☐ **Inventory current activity and identify immediate needs**	Log EV-related permits, developer inquiries, service calls, known development proposals, existing charging sites and resident inquiries from the past year.	Planning / Building
☐ **Contact the serving electric utility and establish a coordination process**	Identify utility and municipal contacts, share immediate needs and likely projects, and agree on a process for service questions and project updates.	Administration / Utility Liaison
☐ **Train staff on fundamentals**	Cover AC Level 1, AC Level 2, DC fast charging, EVSE, make-ready work and battery safety.	HR / Public Safety
☐ **Agree on terminology**	Use consistent definitions in permits, local policies and public materials; identify the controlling code or program.	Administration / Planning
☐ **Publish a glossary**	Share a one-page handout at the permit counter and online.	Public Information
☐ **Set scope and ownership**	Brief leadership, choose initial actions, assign owners and set a review date.	Manager

GRID READINESS

9 ACTION ITEMS

ACTION	IMPLEMENTATION DETAILS	LEAD
☐ **Identify all serving utilities**	Confirm each utility serving priority sites using service-area maps and provider verification.	GIS / Planning
☐ **Designate a utility liaison**	Appoint a municipal contact for service requests, planning updates and issue resolution.	Administration
☐ **Identify Available Utility Infrastructure Information**	Coordinate with utilities on service boundaries and available capacity information. Respect limitations on sensitive grid data.	GIS / Engineering
☐ **Request load-capacity screening**	Ask specifically about EV/load hosting capacity, constraints and site-specific study requirements.	Utility Liaison
☐ **Inventory priority sites**	Record ownership, expected charging demand, parking duration, access, expansion needs and likely project timing.	Planning / Public Works
☐ **Clarify service procedures**	Document applications, review steps, estimated lead times and make-ready cost responsibilities under applicable utility rules.	Utility Liaison / Legal
☐ **Review EV rate structures**	Evaluate energy charges, demand charges, time-of-use periods and available EV programs using a realistic load profile.	Finance / Public Works
☐ **Align managed charging**	Assess charging schedules, power-sharing and utility demand-response options against fleet and public-use needs.	Fleet / Sustainability
☐ **Set recurring coordination**	Review the project pipeline, capacity constraints and dependencies with each serving utility.	Utility Liaison

EV SAFETY

7 ACTION ITEMS

ACTION	IMPLEMENTATION DETAILS	LEAD
☐ **Confirm governing codes**	Record adopted editions, responsible agencies and relevant EVSE or stationary-storage provisions.	Building / Code Official
☐ **Verify listed equipment**	Check the applicable listing, labeling, equipment ratings and installation instructions during review and inspection.	Building / Permitting
☐ **Train first responders**	Include battery incidents, high-voltage hazards, cooling and monitoring considerations, and manufacturer response guides.	Fire Department
☐ **Train electrical inspectors**	Cover continuous-load sizing, applicable GFCI rules, load management, conductor protection and burial requirements.	Electrical Inspection
☐ **Establish damaged-vehicle protocols**	Coordinate towing, storage and monitoring procedures for vehicles with damaged batteries or retained energy.	Fire / Police / Public Works
☐ **Update permit forms**	Request equipment specifications, electrical design information and any applicable site or fire review.	Permitting / Building
☐ **Publish resident guidance**	Distribute clear installation and charging-safety information at permit counters and online.	Public Information

PUTTING EVS INTO PLANNING

10 ACTION ITEMS

ACTION	IMPLEMENTATION DETAILS	LEAD
☐ **Choose a planning entry point**	Select an immediate resolution or administrative improvement, a CIP update, or a scheduled plan revision.	Planning / Governing Body
☐ **Update the master plan**	Include measurable charging-access goals and a practical implementation approach.	Planning Commission
☐ **Address EVSE as an accessory use**	Evaluate permitted accessory charging across relevant districts; distinguish standalone charging sites.	Planning / Legal
☐ **Evaluate EV parking requirements**	Develop clear EV-Capable, EV-Ready and EV-Installed definitions and requirements within local authority.	Planning / Governing Body
☐ **Integrate accessibility**	Address accessible routes, surfaces, reach ranges, operable parts, cable handling and relevant site requirements.	Accessibility / Engineering
☐ **Incorporate EV Infrastructure Into Capital Improvement Planning**	Include EVSE, utility and site work, accessibility, future expansion and ongoing maintenance costs.	Finance / Capital Projects
☐ **Set measurable targets**	Choose fleet, access or emissions metrics and identify the data needed to track progress.	Sustainability / Planning
☐ **Update public safety plans**	Include battery and high-voltage incident considerations in emergency plans and responder coordination.	Emergency Management
☐ **Establish fleet timelines**	Align vehicle replacement, charging installation, operating needs and total cost of ownership.	Fleet Management
☐ **Adopt a readiness framework**	Use a recognized framework such as Charging Smart to organize actions and track completion.	Program Lead

STREAMLINING PERMITTING

7 ACTION ITEMS

ACTION	IMPLEMENTATION DETAILS	LEAD
☐ **Create a routine-project checklist**	Publish required documents and eligibility criteria for expedited residential and commercial EVSE review.	Building Department
☐ **Publish electrical criteria**	Explain load calculations, capacity documentation and acceptable load-management approaches under the adopted code.	Electrical Inspection
☐ **Set clear review targets**	Define the clock's starting point, completeness criteria, review stages and responsible staff.	Planning / Building
☐ **Standardize correction notices**	Provide timely written comments and a clear resubmittal path for incomplete or deficient applications.	Permitting Staff
☐ **Define right-of-way rules**	Address encroachment, pole mounting, easements, cable management, snow clearance, bike lanes and accessible routes.	Public Works / ROW
☐ **Address multifamily and curbside access**	Clarify ownership, operations, user access and maintenance responsibilities for charging without dedicated parking.	Planning / Housing
☐ **Publish fees and contacts**	Post the fee schedule, forms, required inspections, review targets and staff contacts online.	Building / Finance

LONG-TERM EV SUCCESS

6 ACTION ITEMS

ACTION	IMPLEMENTATION DETAILS	LEAD
☐ **Site with data**	Use travel patterns, dwelling types, dwell times, existing coverage and utility screening to prioritize sites.	GIS / Transportation
☐ **Prioritize equitable, affordable, reliable and usable access**	Include underserved neighborhoods and multifamily residents; assess affordability, reliability and usability alongside geographic coverage.	Planning / Community Engagement
☐ **Track funding cycles**	Maintain a calendar of verified opportunities, eligibility requirements and application dates.	Grants / Finance
☐ **Confirm funding combinations**	Document allowed match sources, rebate treatment and avoidance of duplicate cost reimbursement.	Grants / Finance
☐ **Set reliability standards**	Define per-port uptime, reporting, exclusions and response targets in procurement documents.	Procurement / Operations
☐ **Structure O&M contracts**	Assign maintenance, software, connectivity, customer support and long-term operating responsibilities.	Public Works / Legal