



# EV CHARGING STATIONS FOR THE GENERAL PUBLIC

COMMUNICATION FILE 230012 TO PUBLIC WORKS COMMITTEE

4/26/2023



**ECO**  
ENVIRONMENTAL  
COLLABORATION  
OFFICE

# Why Electric Vehicles (EVs)

- Improve local air quality with no tail-pipe emissions
- To address climate change, we need to transition vehicles off of combustible fossil fuels for energy
- Vehicle electrification is being done in conjunction with transitioning electric power sources away from fossil fuels
- The bipartisan infrastructure bill allocates \$7.5 billion to build EV charging networks.
- Car manufacturers are increasingly offering new electric vehicles, particularly in regions with good EV Charging Infrastructure

# CLIMATE AND EQUITY PLAN

[Milwaukee.gov/ClimatePlan](https://milwaukee.gov/ClimatePlan)

## Vehicle Electrification is one of the “Ten Big Ideas”

- Municipal Fleet EV Purchasing Policy (File 222725 Adopted). More to be done for City Fleet EV Charging Infrastructure
- Develop and adopt a formal charging network plan for deploying an electric vehicle charging network, including municipally sited stations.
- Explore a city ordinance that requires EV charging infrastructure at parking lots, multi-family residential buildings, mixed use developments and other commercial properties.



# CITY POLICY ON PUBLIC EV CHARGING

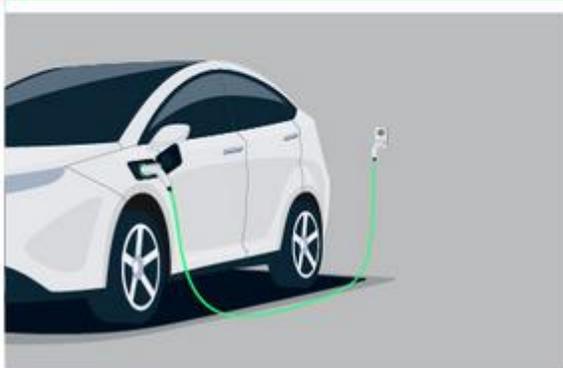
ECO first installed Public EV Chargers in 2012 (CCFN 110141).

First EV Charging policies passed in 2012 (CCFN# 120040)

- Chapter 101.27.8: Prohibits non-electric vehicles using EV Charging Stations
- Chapter 309-22: Selling Electric Vehicle Recharging Services to the Public (for City-owned chargers)
- Chapter 295: Zoning Code for Public Chargers; Adopted in 2021, CCFN#210486



# Know your EV Charging Stations



## LEVEL 1



**4-6 miles/hour**  
Replenish Rate

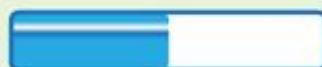


**7-30 hours for full charge**

Approximate time to charge a battery\*

**CHARGE**  
110/120V

## LEVEL 2



**10-20 miles/hour**  
Replenish Rate



**2-10 hours for full charge**

Approximate time to charge a battery\*

**CHARGE**  
208/240V

## DIRECT CURRENT (DC) FAST CHARGING\*



**120-200 miles/hour**  
Replenish Rate



**20-90 minutes for full charge**

Approximate time to charge a battery\*

**CHARGE**  
480V or 208V

\*dependent on the size of the battery

Graphic of the difference between Level 1, 2, and 3 EV chargers



Level 2 Public Station



# THREE FEDERAL GRANTS

NEVI – grants to States to for EV Fast Charging every 50 miles on designated major interstates and corridors (WISDOT managed)

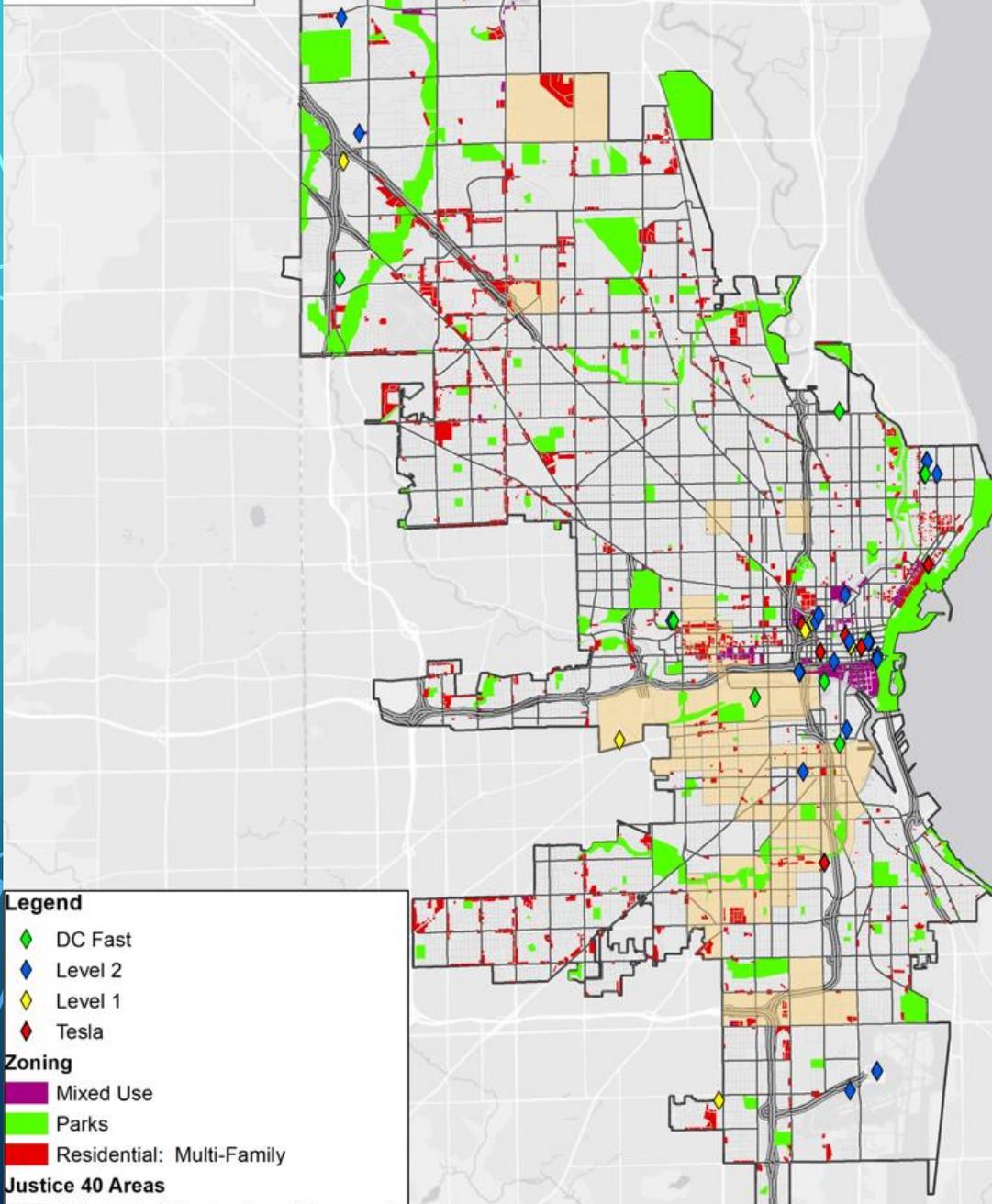
Charging and Fueling Infrastructure Discretionary Grant Program

- **Community Program**
- Corridor Program

# COMMUNITY CHARGING GRANT PROPOSAL

- Proposal, including a Preliminary Charging Plan, due May 30<sup>th</sup>
- 80% Federal Share
- Max award is \$15m. We are targeting a \$2-5m proposal.
- National experts from WSP Engineering hired to develop the plan with ECO and stakeholders
- Public/Private Partnership so majority of local share is from the hosting property owners
- Fund public charging station installations, with equity in mind.
- Public outreach and finalization of plan after May 30<sup>th</sup>.

## Existing Charging Station Locations



### Legend

- ◆ DC Fast
- ◆ Level 2
- ◆ Level 1
- ◆ Tesla

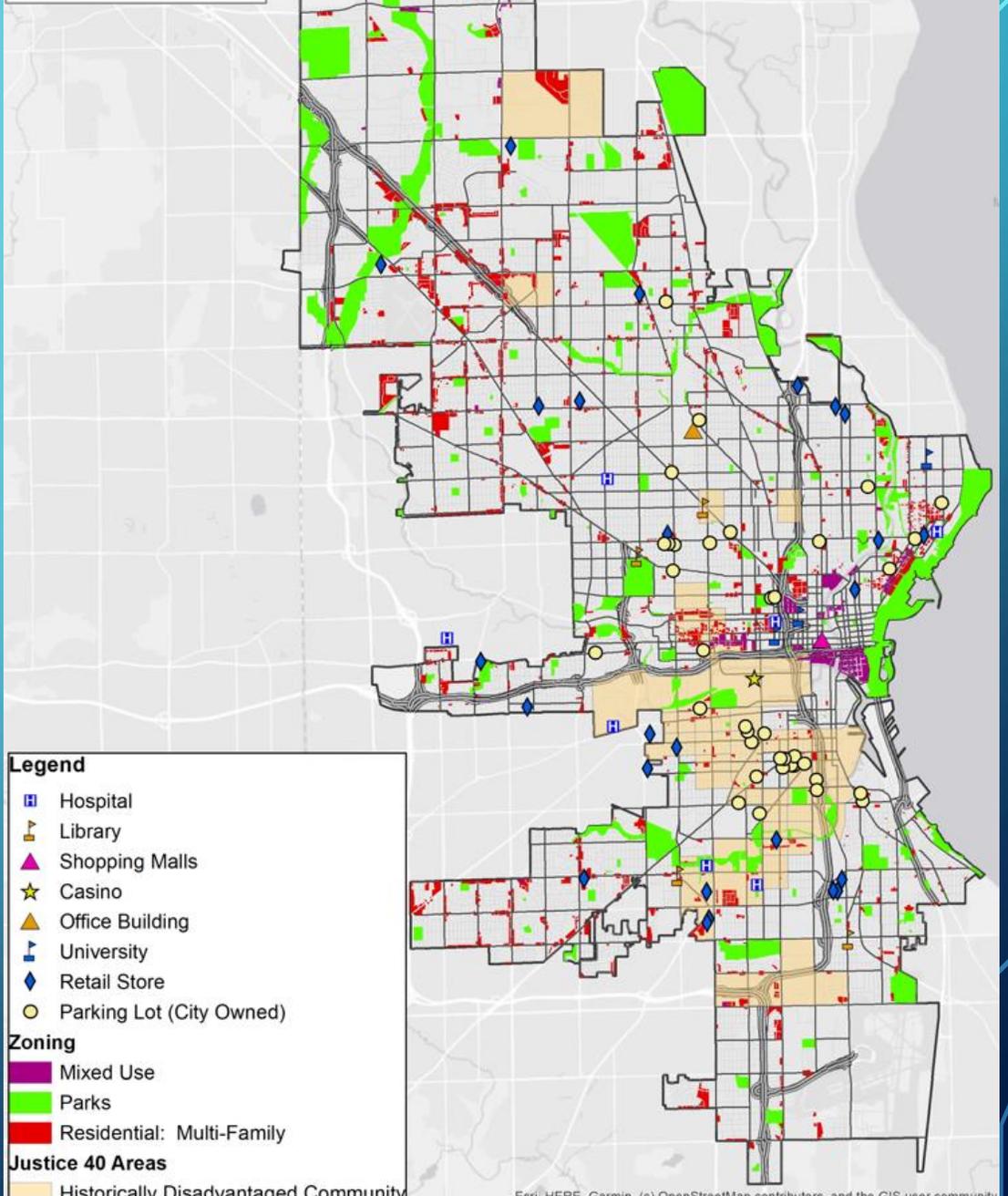
### Zoning

- Mixed Use
- Parks
- Residential: Multi-Family

### Justice 40 Areas

- Historically Disadvantaged Community

## Potential Charging Station Locations



### Legend

- Hospital
- Library
- Shopping Malls
- ★ Casino
- ▲ Office Building
- University
- ◆ Retail Store
- Parking Lot (City Owned)

### Zoning

- Mixed Use
- Parks
- Residential: Multi-Family

### Justice 40 Areas

- Historically Disadvantaged Community

## October 2018

Complete Streets Policy  
Approved by Common

## September 2022

WisDOT National Electric  
Vehicle Infrastructure Plan

## May 2023

Preliminary Electric Vehicle  
Infrastructure Charging Plan  
Complete

## Summer/Fall 2023

Final EV Infrastructure  
Charging Plan Planning Process

## September 2022

WisDOT National Electric  
Vehicle Infrastructure Plan

## April 2023

Milwaukee Climate and Equity Plan

## May 2023

US DOT Charging and Fueling  
Infrastructure (CFI) Discretionary  
Grant Application Due

## November/ December 2023

Tentative CFI Grant Awards  
Announced by US DOT