# Electric Vehicle Charging Station Pilot Project

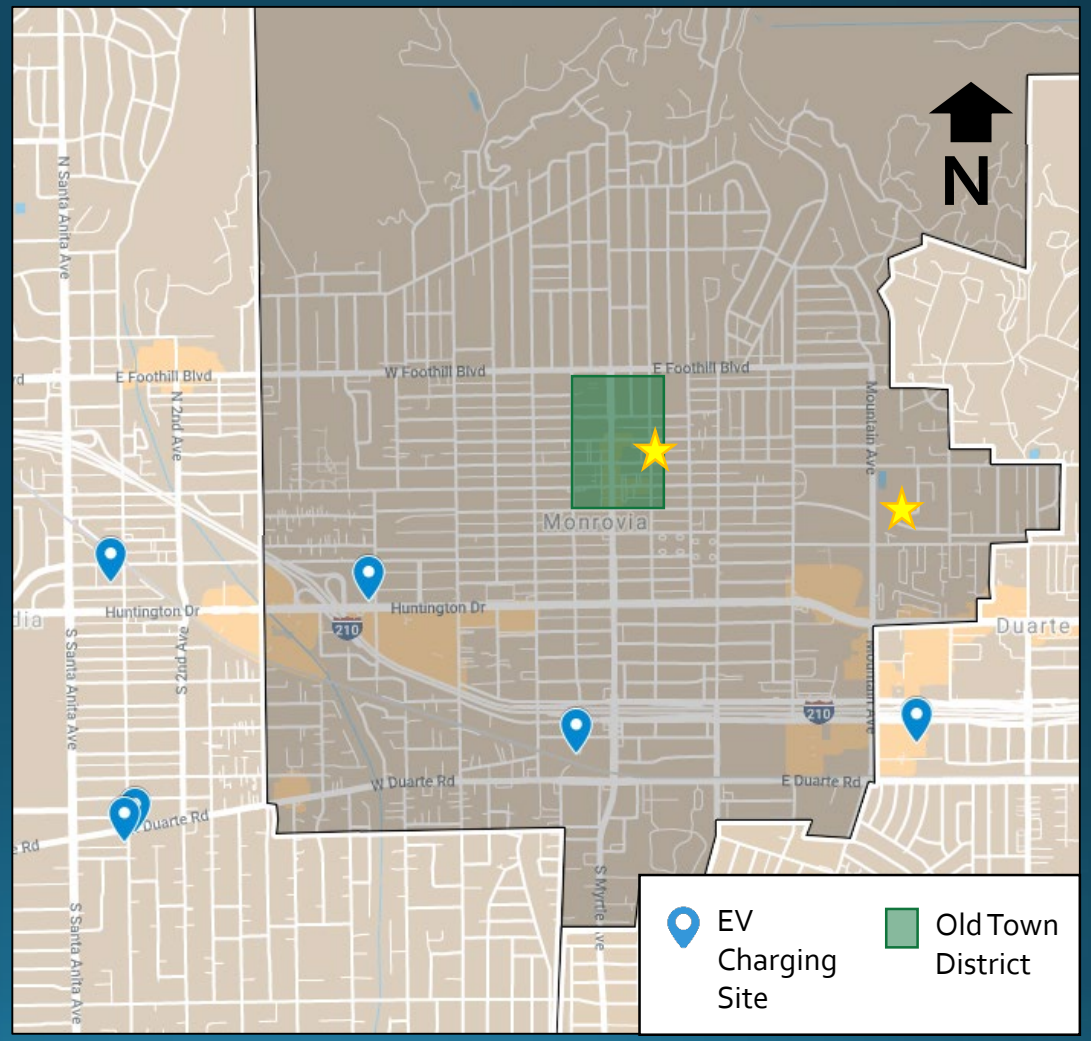
April 20, 2021 City Council Meeting

# Background

- On November 17, 2020, the City Council authorized the purchase of 6 Chevrolet Bolts.
- At the meeting, Council directed staff to investigate options for installation EV charging stations for both City Fleet Use and Public Use

# Current EV Charging Locations

- 6 area locations where public EV charging is available
  - Shell Gas Station
  - Wal-Mart
  - Station Square (Metro Parking Structure)
- No charging stations for City Use
- No charging stations in or near Old Town district



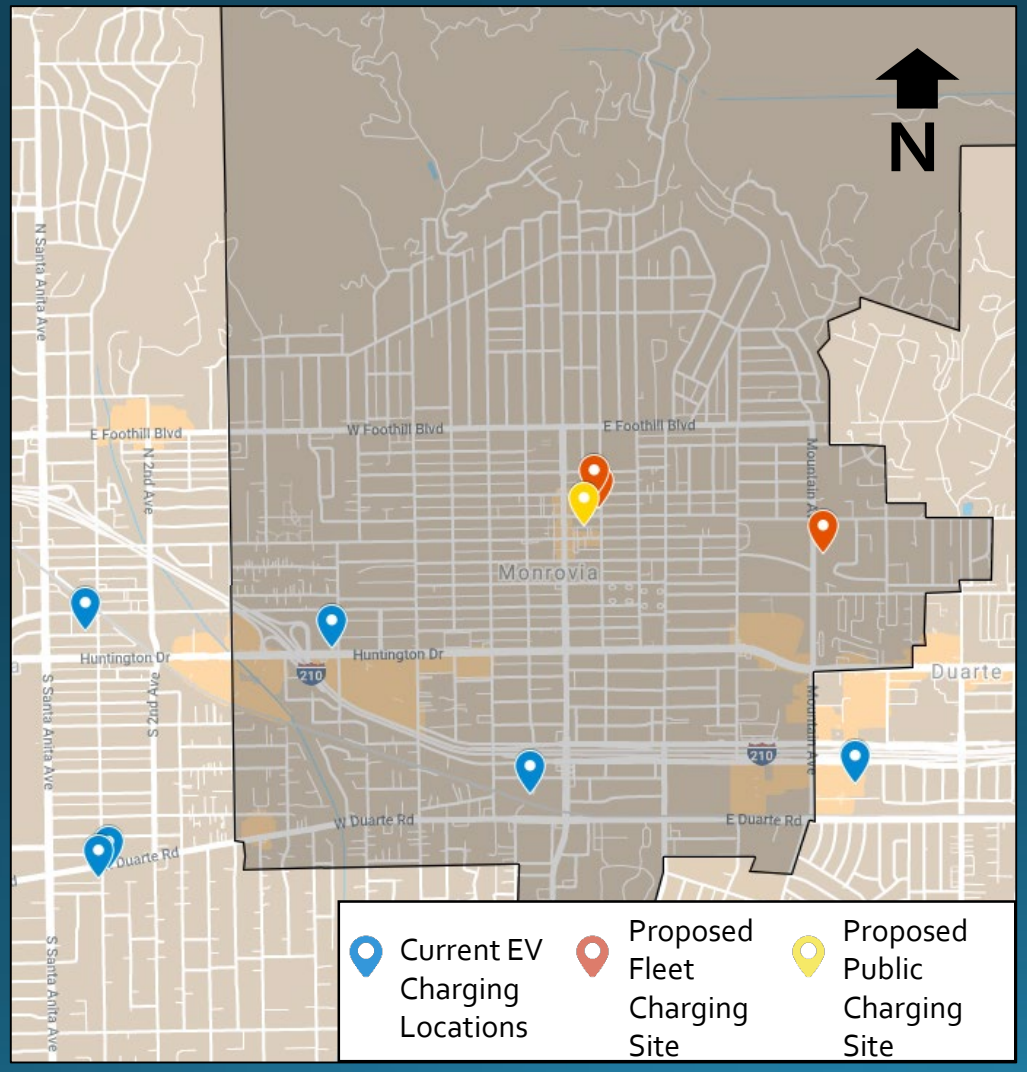
# Our Work Since November 2020 -

- Identify Current Program Needs -
  - Install EV charging stations for current and anticipated City fleet needs
  - Install 1st EV charging stations in/near Old Town, the City-owned lots with the highest usage by residents and local business patrons
  - Develop a program that allows staff to gather information for deployment of additional charging stations in the future
- Site Evaluation
  - Current parking
  - ADA accessibility (required by State law)
  - Anticipated EV demand
  - Current electrical facilities available

# Proposed Pilot EV Charging Locations

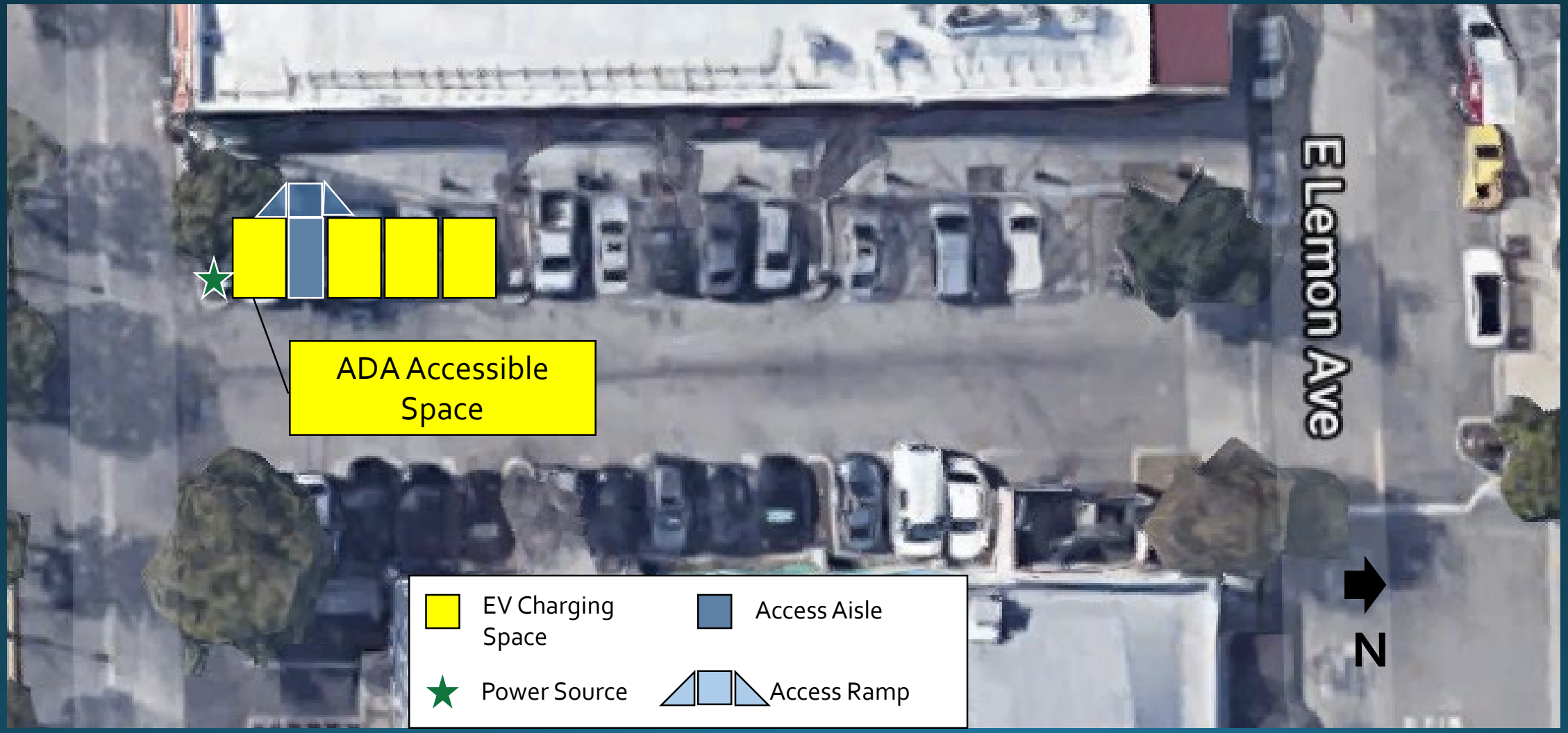
| Location | Address | Quantity | Purpose |
|---|---|---|---|
| City Hall Parking Lot | 415 S Ivy Ave | 2 | Fleet Charging |
| Corporate Yard Parking Lot | 600 S Mountain Ave | 2 | Fleet Charging |
| Police Department Parking Lot | 140 E Lime Ave | 4 | Fleet Charging |
| Public Parking Lot #4 | 100 Block of E Lemon Ave (across from Fire Station 101) | 4 | Public Charging |
| Total Proposed EV Chargers | | 12 | |

# Map of Proposed Charging Locations

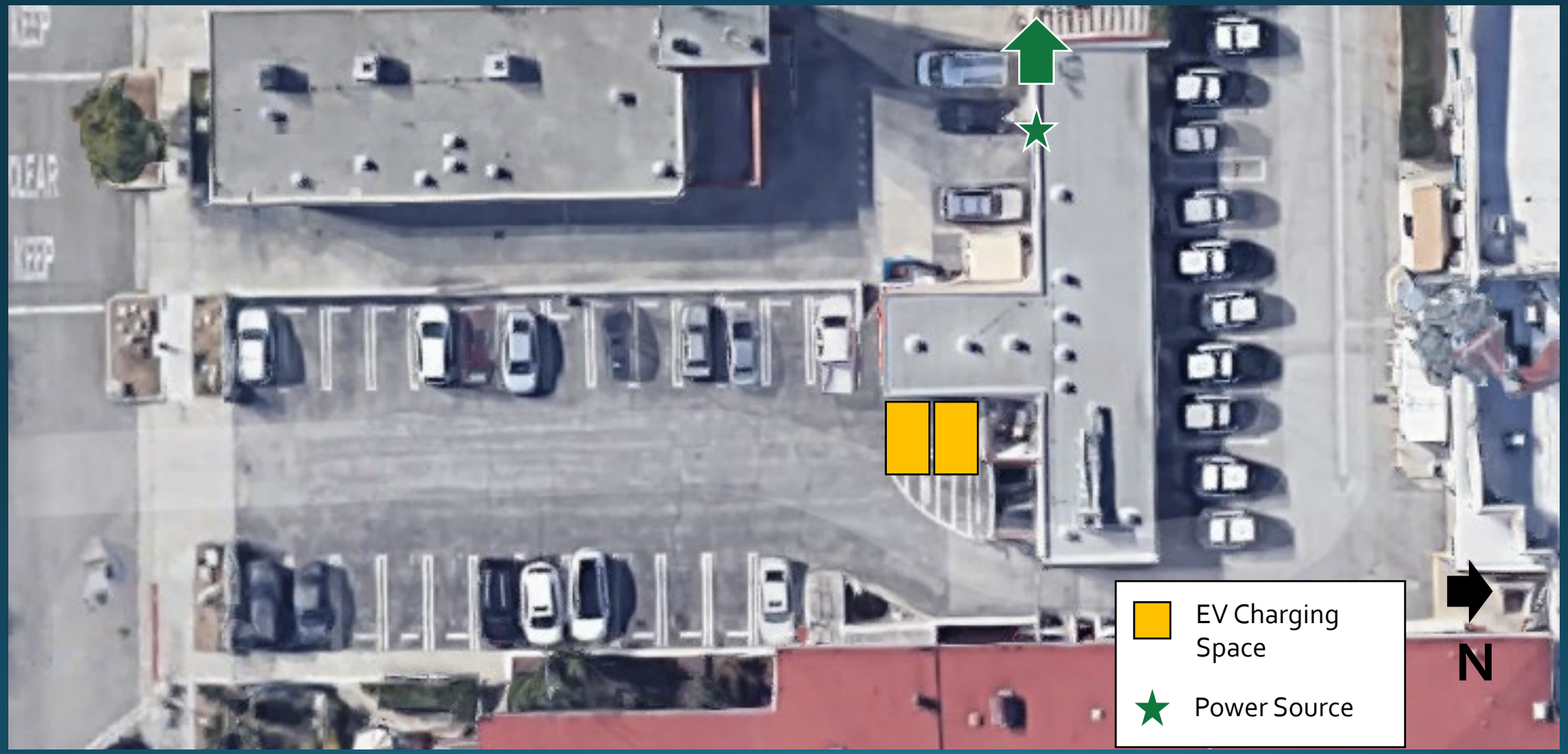



Myrtle Ave
N
Lime Ave
Police Department Lot
City Hall Lot
Lemon Ave
Public Lot # 4
Colorado Ave

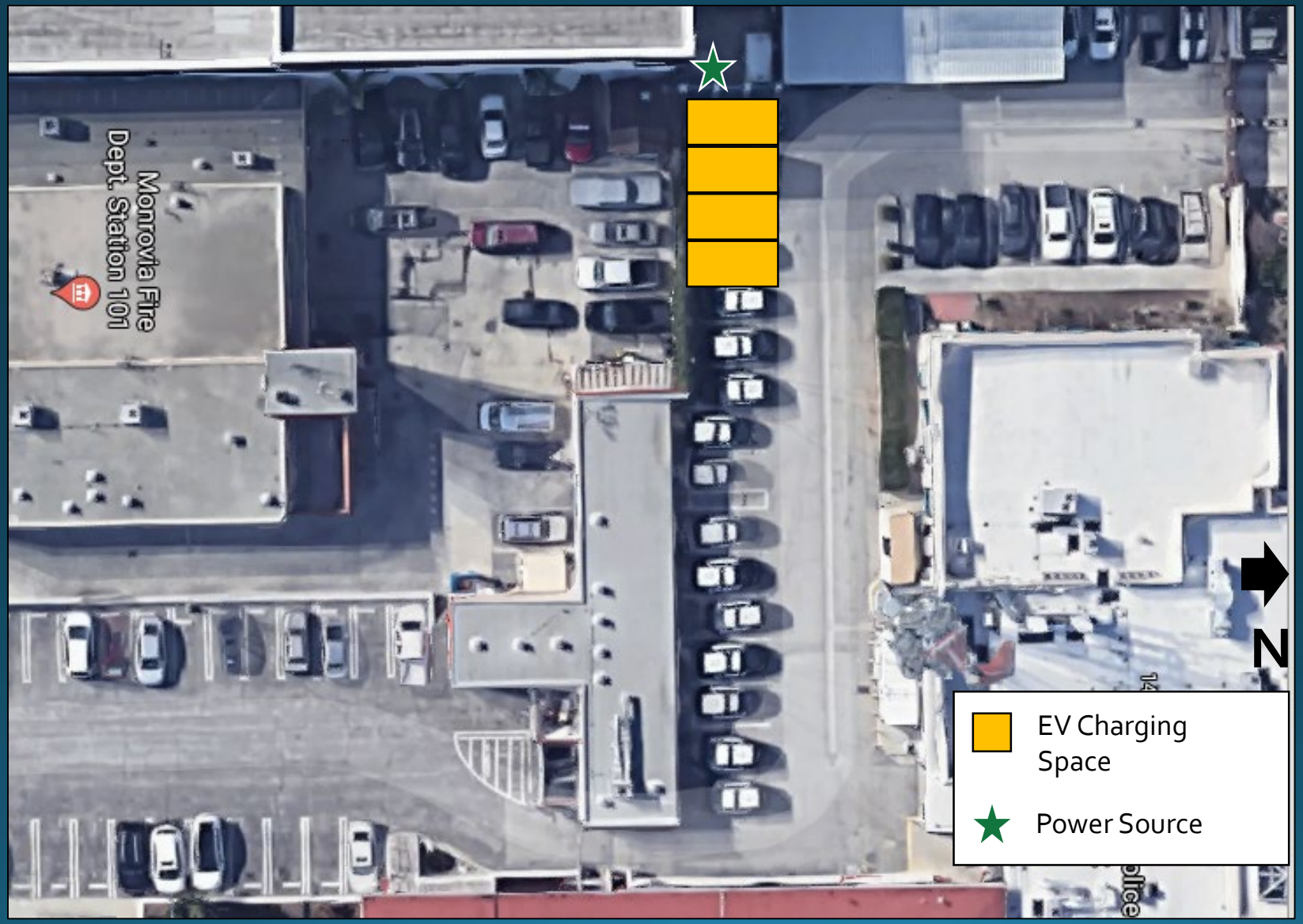
# Public EV Charging Station Site



# City Hall EV Charging Station Site

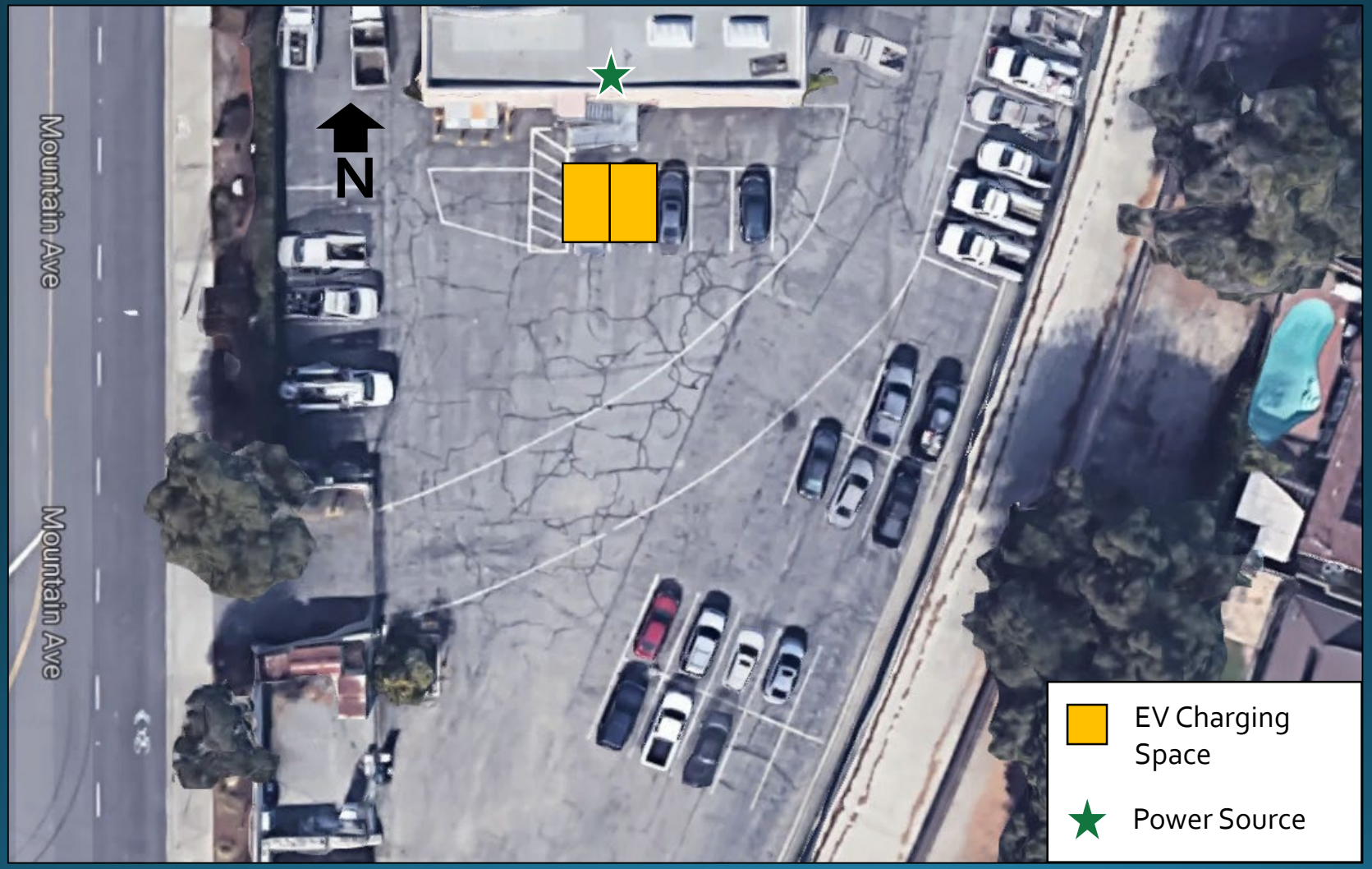


# Police Department EV Charging Station Site




Lime Ave
Mountain Ave
N
Corporate Yard Lot
Royal Oaks Dr

# City Hall EV Charging Station Site



# Types of EV Chargers

- Chargers are categorized in multiple ways
- One of the most well known is through  the rate at which they charge vehicles

| Charge Level | Level 1 | Level 2 | Level 3 |
|---|---|---|---|
| Voltage | 110 | 220 | 480 |
| Typical Rate of Charge (Chevrolet Bolt) | 4 miles for 1 hour of charging | 25 miles for  1 hour of charging | 100 miles for ½ hour of charging |
| Cost per Charger | $200+ | $400+ | $10,000+ |

# Types of EV Charger Connectors

- Another grouping is the type of connector utilized

| Level 2 Connector | J1772 Connector | Tesla Connector | Other connectors are used for fast charging & in other areas of the world |
|---|---|---|---|
| Used by | Most EV manufacturers in North America | Tesla | |
| Manufactured by | Most charger manufacturers | Tesla | |



Tesla J1772 Adapter

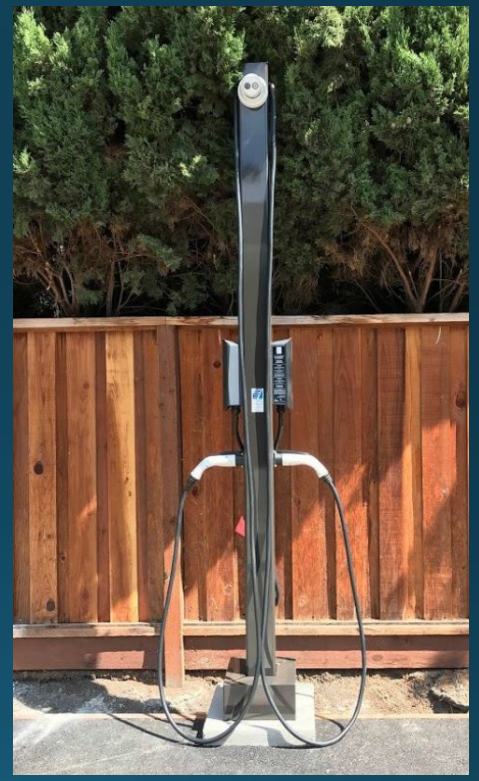
# Types of EV Charger Features

- A final grouping is the type of extra features offered

| "Smart" | "Dumb" |
|---|---|
| Allows data collection | Does not allow data collection |
| Tracks energy use | Does not track energy use |
| Enables payment for usage | Does not readily allow for payment based on usage |
| Add initial and maintenance costs | No added initial or maintenance costs |
| Typically used with public charging | Typically used for fleet/private vehicle charging |

# Webasto Turbo DX

- Webasto is an EV charging manufacturer, whose North American headquarters are located in Monrovia
  - Provides charging equipment and support services to more than 14 major car manufacturers
- Propose use of Turbo DX 32 Amp Chargers for both fleet and public charging locations
  - Public chargers included added amenities like “smart” capabilities and cable management features
  - Webasto’s partner Powerflex would provide ongoing “smart” charger maintenance for life of pilot program



# Pilot Program for Public Charging

- Once installed, staff requests a Pilot Program of at least 30 days of free public charging at Lot #4 to:
- Help build awareness of these new facilities
- Provide data for development of future EV installations
  - Future site locations?
  - Charge for usage?
- Staff will return with updates and recommendations once the Pilot is complete.

# Funding the Pilot Program

- The AQMD Motor Vehicle Subvention Fund (AB 2766) provides restricted funds for the purpose of reducing vehicle emissions
- Current AB2766 balance is more than $230,000, which is enhanced annually by local return funds of approximately $48,000 this fiscal year

# Budget for Pilot Project

- Staff requests appropriation of $112,600 from the AB2766 Air Quality Improvement Program for purchase, design, and installation of 12 EV Charging stations, as follows:

| Item | Cost |
|---|---|
| EV Chargers and Equipment (Webasto) | $ 13,000.00 |
| Installation (Electric Service and Supply Co.) | $ 69,500.00 |
| Design (Merrell Johnson) | $ 11,400.00 |
| Contingency (20%) | $ 18,700.00 |
| **Total Requested Appropriation** | **$112,600.00** |

# Future EV Charging Sites

- The City Council has expressed a desire to have EV charging stations throughout the City
- Staff anticipates including a budget request for additional facilities in the FY2021-2022 and 2022-2023 budgets
- Staff is also pursuing multiple avenues to expand the availability of public charging stations on private property
  - Commercial Shopping Centers
  - Hotels
  - Multi-family Housing

# Requested Action

- Approve the EV Charging Station Pilot Project as described in the staff report, authorize an appropriation not to exceed $112,600.00 from the AB2766 Fund, authorize the purchase of twelve (12) EV chargers and equipment, aware a contract to Electric Service and Supply Co. in an amount not to exceed $69,500.00 for the installation of 12 EV Charging Station in City parking lots, and authorize the City Manager to execute the necessary documents in a form approved by the City Attorney