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Innovative Procurement for Fleet Electrification

May 22, 2019

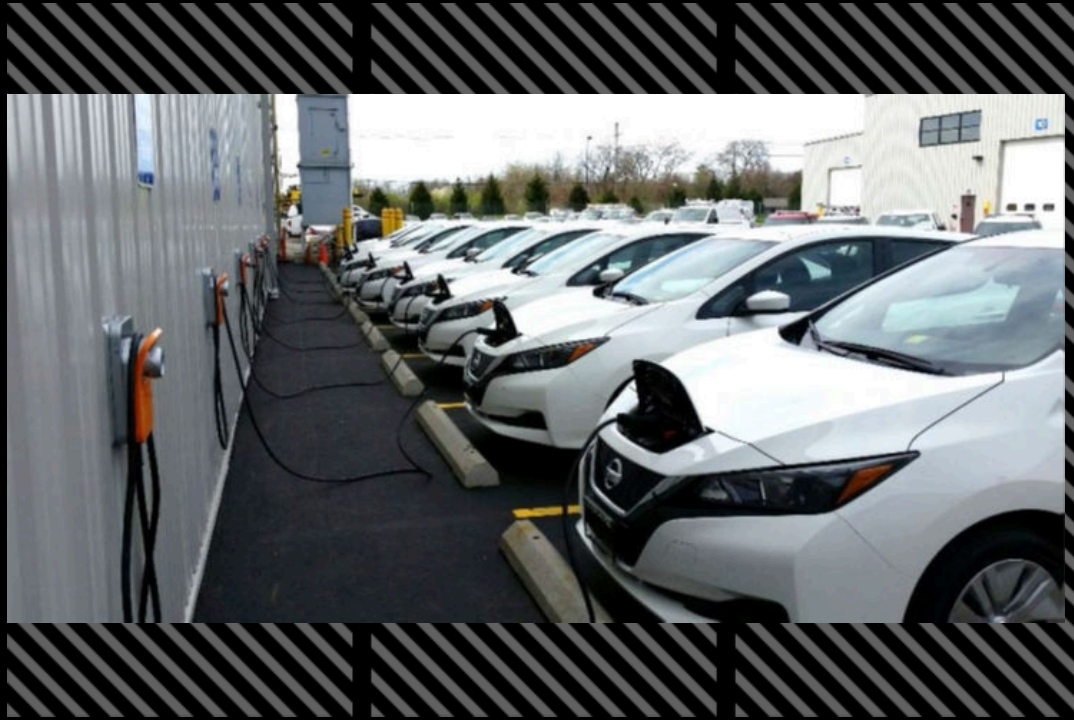
# Innovative Procurement for Fleet Electrification

# Electrification Plan PRIORITY 2:

## Vehicle Fleet Adoption

**Improve the Midwest's lagging position in electric vehicle (EV) deployment**

- *265 Public EV's*
- *10 COTA Buses*
- *450 Private Fleets*
- *40 Transportation Service Providers*



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# Building Partnerships

## Public Partners and Their EV Commitments

| Agency | Quantity | Additional Expected |
|---|---|---|
| City of Columbus | 93 | 107 |
| Airport, MPO, 7 municipalities | 11 | 11 |
| Dublin, OH | 5 | 5 |
| Franklin County | 13 | 0 |
| The Ohio State University | 5 | 15 |
| **Total Committed** | **127** | **138** |

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# CITY OF COLUMBUS FLEET VEHICLES

Vehicles acquired to-date through one year lease to buy:

**Nissan Leaf**
**73 vehicles**

**Ford Fusion Energi**
**20 vehicles**

**Chevy Bolt**
**1 vehicle**

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# FLEET ELECTRIFICATION PRIORITY TIMELINE


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**Triple Net Price Bid = Dealer Invoice - Dealer Holdback – Advertising - Fleet Discounts + Dealer Markup**

Where:

- Dealer Invoice = Vehicle invoice from the automaker
- Dealer Holdback = Percentage of dealer invoice or suggested MSRP
- Advertising = Marketing funding from the automaker
- Fleet Discounts = Intra-transit credit, automaker bid assistance, or fleet-specific discount. Policies for government bid assistance may vary by automaker
- Dealer Markup = A bid above the cost to the dealer

# Addressing Challenges:

## 1. High Upfront Costs for EV Procurement

Example: 2018 Nissan Leaf S Hatchback – EV
MSRP = $30,680

Bid Price = $21,706

12 Month Lease to Own Price = $20,861

Less Grant Incentive = $17861

Total discount = 40%

# Vehicle Fleet Adoption

## ROUND 2, City Universal Term Contract Bid Prices

| 2019 Vehicle Models | Mike Albert | Ricart Ford | Byers | Savings | Type |
|---|---|---|---|---|---|
| Nissan Leaf | $22,304 | $23,310 | | $1,005 | Lease |
| Chevy Bolt | $30,749 | | $33,878 | $3,128 | Lease |
| Ford Fusion Energi | $31,455 | $28,552 | | $2,902 | Purchase |

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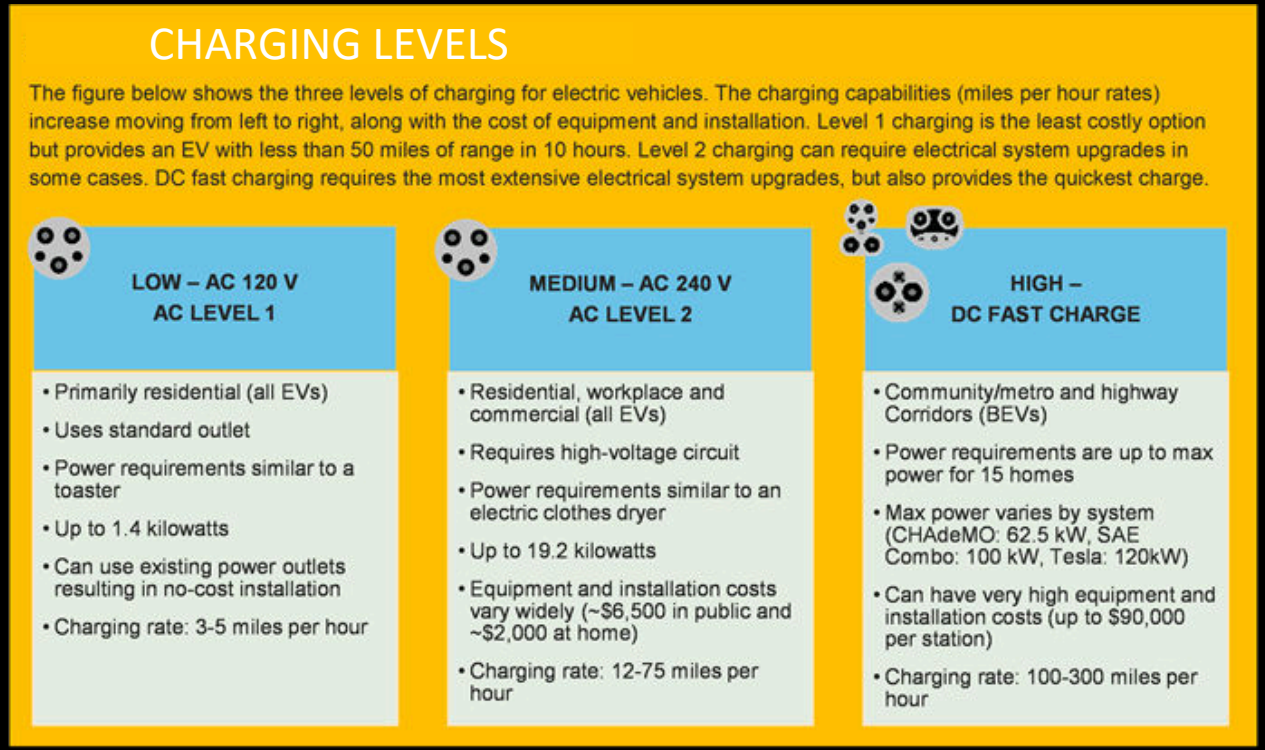
# Other Challenges:

## 2. Overcoming Range Anxiety and Deploying Charging Infrastructure



# Partial List of available EV's to Columbus in 2017

(within price range)

| Make | Model | Type | E Range |
|---|---|---|---|
| Chevy | Bolt | BEV | 238 mi |
| | Volt | PHEV | 53 mi |
| Chrysler | Pacifica | PHEV | 33 mi |
| Ford | Fusion | PHEV | 22 mi |
| | Focus | BEV | 115 mi |
| Honda | Clarity | BEV | 89 mi |
| Hyundai | Sonata<br>Ioniq | PHEV | 27 mi<br>24 mi |
| Nissan | Leaf | BEV | 107 mi |

# Other Challenges:

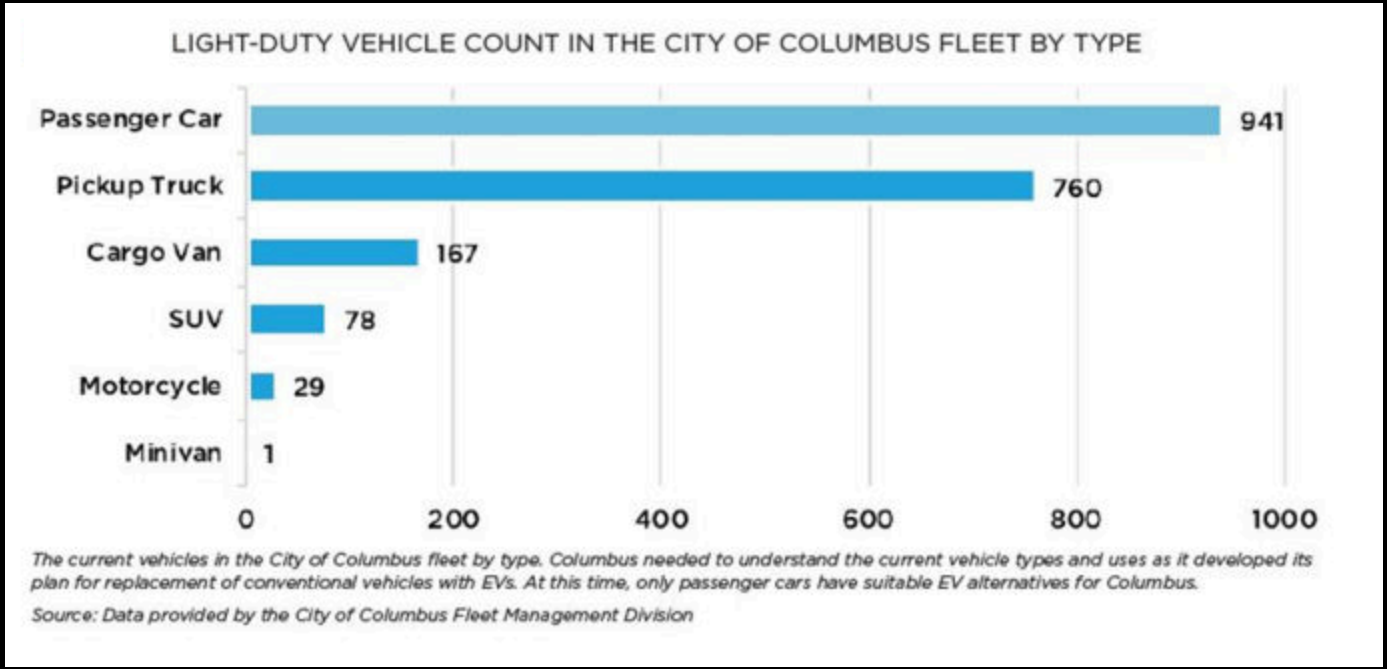
## 3. Improving Vehicle Selection

For 2019:
Kia Niro, Toyota Prius Prime…

# City of Columbus Vehicle Procurement Process

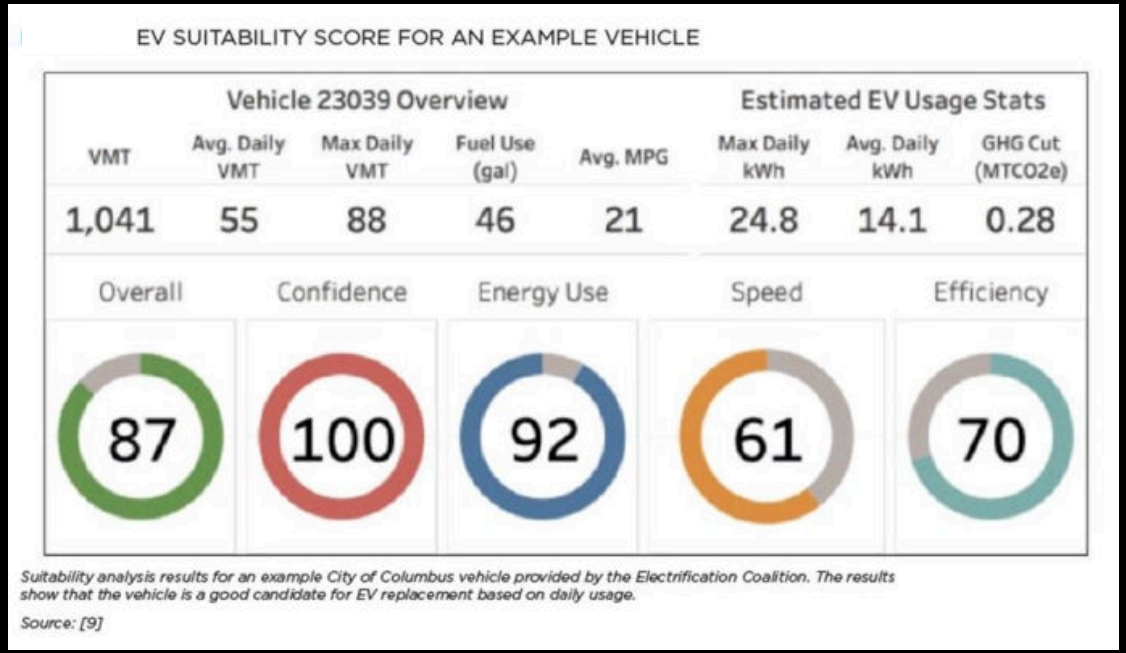

*Major process steps for the City of Columbus EV procurement program. Some steps happened concurrently, for example the assessing the city's need for charging infrastructure was critical to identifying candidate vehicles and making vehicle purchases.*

# Existing Fleet Assessment




*The current vehicles in the City of Columbus fleet by type. Columbus needed to understand the current vehicle types and uses as it developed its plan for replacement of conventional vehicles with EVs. At this time, only passenger cars have suitable EV alternatives for Columbus.*

*Source: Data provided by the City of Columbus Fleet Management Division*




*Suitability analysis results for an example City of Columbus vehicle provided by the Electrification Coalition. The results show that the vehicle is a good candidate for EV replacement based on daily usage.*

*Source: [9]*

# Identifying Vehicles for Replacement by Evaluating Vehicle Data

# Evaluating the Bids for a Universal Term Contract

**TABLE 3:** EVS OFFERED BY BIDDERS TO THE CITY OF COLUMBUS

| MAKE | MODEL | TYPE | BATTERY SIZE | ELECTRIC RANGE (MI) | MSRP | TAX CREDIT (BUY/LEASE) |
|---|---|---|---|---|---|---|
| **Chevrolet** | Volt** | PHEV | 18.4 | 53 | $33,220 | $0/$3,750 |
| | Bolt EV** | BEV | 60 | 238 | $36,620 | $0/$3,750 |
| **Ford** | Fusion Energi Plug-in Hybrid** | PHEV | 7.612 | 22 | $33,120 | $800/$2,000 |
| | C-MAX Energi Plug-in Hybrid** | PHEV | 7.612 | 20 | $27,120 | $800/$2,000 |
| | Focus Electric** | BEV | 33.5 | 115 | $29,120 | $1,500/$3,750 |
| **Nissan** | LEAF** | BEV | 30 | 107 | $30,680 | $1,500/$3,750 |

*2017 model EVs offered to the City of Columbus by bidders with battery size, electric range in miles, MSRP in U.S. dollars, and tax credit savings. Note the bidder with a purchase option offered to pass along much less of the federal EV tax credit than the bidder that proposed a lease.*

*Source: [6]*

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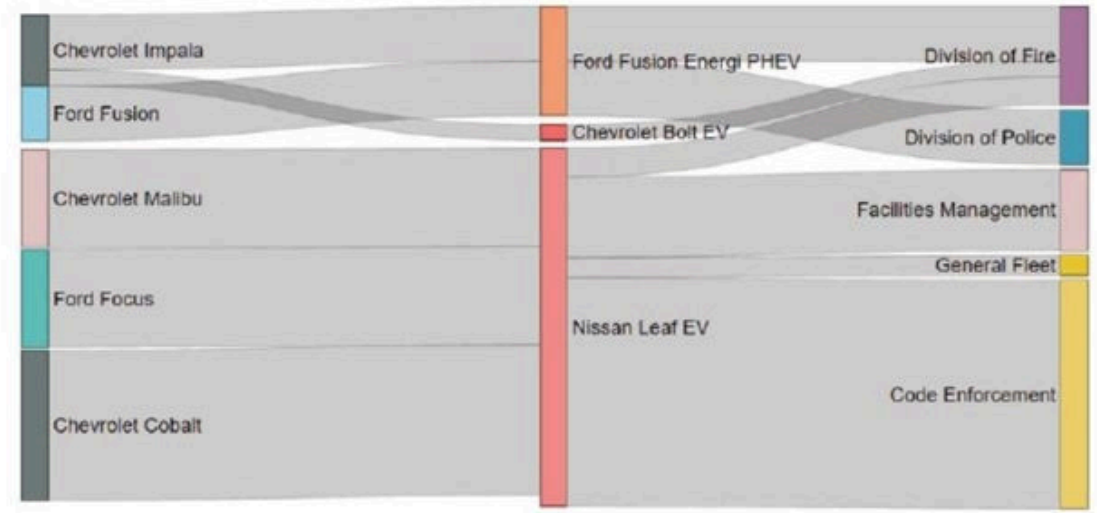
# Vehicle Replacements

CONVENTIONAL FLEET VEHICLES, THEIR EV REPLACEMENTS, AND THE CITY DIVISION WHERE THE EV WILL BE USED




*A mix of gasoline-powered passenger cars are being replaced with EVs for several divisions within the City of Columbus.*

*Source: City of Columbus*

# Infrastructure Deployment

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- Persistence
- Flexibility
- Non Profit Expertise
- EV advantages

# Lessons Learned and Guidance for Other Cities

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# Workforce Training: EV Course offerings at Columbus State Community College


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# THANK YOU