NARUC Electric Vehicles State Working Group

AUGUST 31, 2021

Welcome

Moderator: Commissioner Bocanegra, Illinois

Panelists

- Cher Griffith Taylor, Senior Programs Specialist, Electrification Coalition
- Chris Castro, Director of Sustainability & Resilience, City of Orland, Florida
- Maty Sauter, Division Manager, Office of Management and Finance, City of Portland, Oregon

Agenda

3:00 PM	 Welcome and Introductions (3 minutes) Agenda review
	Introduce yourselves
3:03 PM	 Presentation: Cher Griffith Taylor, Electrification Coalition (12 minutes) Cher Griffith Taylor will introduce the Climate Mayors EV Purchasing Collaborative and provide an overview of the municipal EV planning process
3:15 PM	 Presentation: Chris Castro, City of Orlando (12 minutes) Chris will discuss Orlando, Florida's ecosystem for transportation electrification, and emerging issues the city is dealing with
3:27 PM	 Presentation: Maty Sauter, City of Portland (12 minutes) Maty Sauter will provide an overview of Portland, Oregon's climate and transportation goals, and discuss the city's experience engaging with the commission
3:39 PM	 Discussion and Q&A (21 minutes) Speakers will take additional questions from working group members
4:00 PM	 Closed Door Discussion (28 minutes) Working group members will discuss their own views and the actions their states have taken to date.
4:28 PM	Next Steps and Announcements (2 minutes)
4:30 PM	Adjourn

Introduce Yourselves – Will you be joining us at the Summer Policy Summit? In Denver or virtually?

EV Working Group Members

States:

- Arizona
- California
- Colorado
- Connecticut
- Delaware
- District of Columbia
- Florida
- Georgia
- 🕨 Hawaii
- Illinois
- Kentucky
- Maryland

- Massachusetts
- Michigan
- Minnesota
- Missouri
- Nevada
- New Jersey
- New York
- North Carolina
- Ohio
- Oregon
- Pennsylvania
- Puerto Rico
- Rhode Island

- South Dakota
- Texas
- Utah
- Vermont
- Washington
- Wisconsin

National/Federal Partners:

- NARUC
- NRRI
- ▶ U.S. DOE
- National Labs
- U.S. EPA



Cher Griffith Taylor | Snr. Programs Specialist

NARUC – EV State Working Group | 31 August 2021



EV Adoption Programs Around the U.S.

The **Electrification Coalition (EC)** is a nonpartisan, not-for-profit group of business leaders committed to promoting policies and actions that facilitate the deployment of electric vehicles on a mass scale.





Climate Mayors EV Purchasing Collaborative

The Collaborative is a partnership designed to help **accelerate the electrification of public fleets** across the country.

Through the procurement portal and staff support, the Collaborative works to reduce the costs and barriers to electrifying fleets to make it easy for public fleets to go electric.

www.DriveEVfleets.org



The Collaborative Reach

265 committed cities, counties, ports, universities, and transit agencies

4,550 light-duty electric vehicles and buses committed

2,893

electric vehicles procured to date

1,350

charging stations installed to date



Light-Duty Vehicle and EVSE Options







2021 CHRYSLER PACIFICA HYBRID

2022 TOYOTA PRIUS \$40 751 PRIME

\$27 714

2021 TOYOTA RAV4 PRIME



2022 Nissan Ariya-Coming Soon



2022 Chevy Bolt EUV



2022 CHEVY BOLT \$35 252



-chargepoin+



lilypad SIEMENS (-)ebasto



Electric School Bus Offerings









(f) LION ELECTRIC



MAEK

Electrification Coalition

Medium-and Heavy-Duty Electric Chassis and Equipment













Staffing and Support Resources

Customized and **free** technical support including:



Connection to a cohort of public agencies Best practices and case studies

Connections to leading fleets and vendors Parity of vehicle offerings and technical support across the US

Analysis of current fleet and vehicle recommendations





Goals of Fleet Analysis

- Understand what vehicles are in the fleet and how they're used
- Understand the total fueling / operation cost of fleet compared to alternatives
- ✓ Determine estimated emissions of fleet compared to alternative
- Provide recommendations for vehicle types, charging, and ways to track success metrics for EV usage

Dashboard for Rapid Vehicle Electrification (DRVE)



O DRVE

DRVE

Dashboard for Rapid Vehicle Electrification

DRVE is a powerful tool that allows cities and their fleet managers to explore electrification scenarios and see how changes in gasoline prices, charging infrastructure and vehicle selection will affect the financial outcome of fleet electrification. The tool is based on the Fleet Procurement Analysis Tool, which compares procurements side-by-side on a cost-permile basis and provides an analysis of cash flows and location-specific lifecycle emissions. This tool builds upon that functionality by analyzing thousands of scenarios and allowing the user to model the electrification of their entire fleet at a time, rather than 1 vehicle.



Standard fleet analysis can be costly, take weeks/months, and the results can be difficult to interpret.

The DRVE Tool is an accessible, easy-to-use tool that analyzes fleet data in **minutes:** light-, medium-, and heavy-duty vehicles.

https://www.electrificationcoalition.org/drve/



Key Inputs Required



Open Fleet Data

Back

To use your fleet data, select the file containing your data by pressing the 'Open File' button below. Then, select the sheet where your inventory data resides, and select the columns that contain each vehicles VIN/Serial Number. If you data contains vehiclelevel information on useful life or annual VMT, you can select those as well. Please ensure field names appear in the first row of your worksheet.

C:\Users\mstephensrich\OneDrive - Securinį

Required Fields

	leet Data
VIN/Serial Number Column	IN
D	livision
Optional Fields E	nvironmental Code
	1N
Expected Years of Use Column	n Service Date
N	Aileage
P	arts total
Т	otal External
Annual VMT T	otal labor

Next

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Open

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Fleet Inventory and Usage Data

Operational Cost and Data

Fuel Cost Data

Availability of Tax Credits and Rebates



DRVE Tool Insights

- **Near-term** procurement opportunities
- Average Lifetime and Per-Mile Cost by Model
- Emissions Comparisons by Use Case
- Impacts on Savings Potential with Different Settings/Models

https://www.electrificationcoalition.org/drve/





Process

R	Load Data	Map Vehicles	Set Options	Run Analysis	View Results
	Fleet inventory table info on each vehicle in fleet (VIN, VMT, Years of Use, etc).	Map conventional vehicle to EV alternative. Can customize mapping if preferred vehicle(s) are available.	Set custom or default market factors, as well as charging and procurement strategies, for analysis. Fully customizable.	Time to run depends on number of scenarios; Could take more than an hour for a large fleet.	View results in Microsoft Power BI Dashboard
©	Electrification Coalition				Internet

- View various EV replacement scenarios.
- Sort and assess replacement recommendations by the 1,000s or individual unit
- Fully exportable data
- New Features released/underway:
 - \rightarrow Automated Report Download
 - \rightarrow More charging planning features
 - → Increased flexibility for adding incentives/rebates





https://www.electrificationcoalition.org/drve/

Thank you!

Cher Griffith Taylor Senior Programs Specialist (202) 461-2365 ctaylor@electrificationcoalition.org www.driveevfleets.org



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Green Works Orlando: Advancing ZEV from the Most Visited City in America!

Chris Castro, LEED GA, CPB Director, Office of Sustainability & Resilience Future-Ready co-chair City of Orlando

Green Works Orlando Office of Sustainability & Resilience

- Award-winning sustainability program called "Green Works Orlando" launched by Mayor Buddy Dyer in 2007
- Develops internal and citywide policies + programs to:
 - Protect natural resources and the environment (air, water, land)
 - Improve public health and social equity
 - Create green economic dev. and green jobs opportunities
 - Decrease air pollution and carbon emissions
 - Enhance city resilience and adapt to climate change impacts
 - Reduce operational expenses and enhance efficiency
 - Educate the residents and businesses on sustainable practices
- Focuses on 7 key areas:
 - Clean Energy
 - Green Buildings
 - Local Food Systems
 - Zero Waste
 - Livability
 - Clean Water
 - Electric & Alternative Transportation

















Orlando's Citywide yearly emissions by sector / source





Orlando's Climate Action Strategy

Through the American Cities Climate Challenge, the City of Orlando has launched an effort to accelerate and deepen our climate actions to create the greatest climate impact through 2030 and showcase the benefits – good jobs, cleaner air, and cost savings – that climate solutions brings.





Trajectory for electric vehicle (EV) adoption and charging demand...

- By 2025, EV adoption is projected to more than double in the Orlando metro area.
- By 2030, EV adoption is projected to reach 10-30% of registered vehicles, and by 2050, nearly 70%.





Source: FDAC

We are creating an e-mobility ecosystem and preparing for a rapid and massive transformation ahead





Municipal EV Fleet - ~3,000 vehicles

- **Goal:** 100% Electric and Alt. Fuel for all City Fleet by 2030
- 200+ EV & Hybrids in City Fleet
 - Chevy Bolts EV's for City Hall motor pool
 - Nissan Leafs
 - EV Motorcycles for OPD
 - Solar golf cart pilots
- Submitted LOI for 100 F-150 EV Trucks
- EV Purchasing Collaborative with Climate Mayors



Lymmo Electric Bus Expansion

- Goal: 100% of Lymmo BRT powered by zeroemission EV by 2025
- Added 8 new EV buses in 2021; 6 more in 2022
- 100% Grapefruit, Lime, and partial Orange lines







OUC 🔀

The Reliable One







RENT A CHEVY VOLT It Doubles as a VIP Pass

frond

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LEARN MORE



RELIABLE • AFFORDABLE • SUSTAINABLE

EV Charging Locations - City-Wid... A map of the recommended locations to implement public facing EV chargers 94 views

All changes saved in Drive

Starting April 2021, the City of Orlando and OUC will be enabling 100+ new Level 2 EV charging stations throughout City parks, Rec centers, parking garages, and more.



ADA Accessibility was major lesson learned!

EV Recharge Hubs





Downtown Orlando. 22 DCFC stations, up to 350 kW chargers.

Ride & Drive events

Launch: Quarterly

Purpose:

- Encourage residents and businesses to test ride various EV models
- Provide opportunity for test-rides without the pressure of buying or leasing a vehicle
- Q&A with EV experts
- Compare various EV models
- \$50 VISA gift card for test driving an EV





EV Virtual Ride & Drive Video Series





Electrified Dealership Program

Launch: November 2020

Progress:

- 5 dealerships participating with a goal of 15 participating in 2021
- Diversity in branding. Nissan, Jaguar, Volvo, Audi confirmed
- 10+ of 30 sales reps trained
- Chevrolet (3), Ford and Mini all introduced to the program

Next steps: Continue to build dealership pipeline. Continue to train more salespeople.



Orlando Utilities Commission (OUC – The *Reliable* One) has introduced a new Electrified Dealer Program designed to enhance the electric vehicle (EV) purchasing experience and help increase and encourage EV purchasing/leasing in Central Florida. Through this program, local dealers can take advantage of financial incentives for each eligible electric vehicle sold or leased along with specialized EV training and educational materials.

BENEFITS

- Direct-to-dealer sales incentives
- Recognition on OUC's website
- Promotional media kit
- Lead generation from OUC Ride and Drive programming
- · Marketing collateral for on-site use
- EV sales training to staff
- Co-marketing opportunities

REQUIREMENTS

- 1. EV/PHEVs and ICE in inventory on lot
- 2. Actively sell and advertise EV/PHEVs
- 3. Share monthly EV/PHEV sales data with OUC
- Two sales staff members must train with OUC twice a year
- Functioning EV charging station on site at the dealership and available to customers
- 6. Participate with OUC in cross-promotion marketing

Orlando EV Readiness Code

- Approved by Orlando City Council on August 23, 2021
 - Sunrises January 1st, 2022

EV Capable: Install electrical panel capacity with a dedicated branch circuit and a continuous raceway from the panel to the future EV parking spot.

EVSE Installed: Install a minimum number of Level 2 EV charging stations.



- An EV readiness ordinance requires a percentage of new parking spaces built to include electrical infrastructure that enables future EV charging.
- Covered types can include:
 - Commercial
 - 2% installed; 10% capable
 - Multi-family
 - 2% installed, 20% capable

Green Works Orlando: Climate Solutions from the Most Visited City in America!

Chris Castro, LEED GA, CPB Director, Office of Sustainability & Resilience Future-Ready co-chair City of Orlando

City of Portland | Division of Asset Management | Maty Sauter

PUC Coordination with Local Governments for Transportation Electrification

NARUC EV State Working Group

August 31, 2021 | 3:00-4:30 PM EST



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Presentation Overview

NARUC EV State Working Group

- City of Portland Green Fleet Conversion Overview
- Challenges & Opportunities for Municipalities
- Tips for Successful Engagement & Collaboration



City of Portland/CityFleet Overview

- 3,600 vehicle/equipment units largest municipal fleet in OR
- All fleet services administered by one department (CityFleet)
 - Long-range inventory planning (working with bureaus)
 - Specifications development & procurement
 - Maintenance & repair
 - Vehicle/equipment disposition
 - All fueling (liquid and otherwise)
- City has aggressive climate/equity goals (as does the public)
- Fairly complicated implementation environment
 - Fleet services are provided to 26 independent bureaus that all have different needs, operating environments, and perceptions of authority



CityFleet's Green Fleet Objectives

1.0 Achieve Council Goals

By 2030, reduce emissions 50% from 1990 levels; be at net zero by 2050

2.0 Improve Public Health

Leverage green fleet to improve city air quality and achieve more equitable public health outcomes

3.0 Maintain Reliability

Ensure bureaus continue to have reliable and cost-effective fleets while making this transition



4.0 Deliver Real Value

Embrace a data-driven approach to conversion: sound environmental, social, and financial analyses

5.0 Improve Operations

Embrace change, and leverage the moment to enhance CityFleet's daily operations

6.0 Be the Leader

Create a national model, and regional pathways for EV conversion at scale



Potential Fleet Conversion Trajectories



Inputs considered in analysis

- Vehicle lifecycle costs: acquisition, maintenance, and fuel costs
- Carbon emissions

Three options to meet goals: First Call, Last Call, and Fast Adoption

- First Call = high cost
- Last Call = high emissions
- Fast adoption is City's plan = fiscally and socially responsible





What comprises EV "fuel costs"?

Charging infrastructure/backbone – "make-ready" – Gets electricity from the pole to the charger Barriers: no charging = no conversion; \$\$ & risky

Charging infrastructure/equipment – "charger" – Plugs into the vehicle to fuel it up Barriers: no charging = no conversion; O&M is real

Electrons

- Fuel!

Barriers: stable, affordable (cost neutral) pricing



Make-ready infrastructure



- Make-ready is risky and expensive to build, and few from market are interested in acting; could this be utility-owned?
- Is there an appropriate way to socialize make-ready costs?
 - Months of effort to evaluate new ideas using existing methodologies
 - Portland General fleet pilot make-ready program approved by OPUC
 - CityFleet is in the program with 3 development/pilot locations
- Ideally, CoP's work will support other fleets in converting





Charging equipment

- City does not have the experience, knowledge or resources to build, own and operate charging stations
- City's opinion is that this is best served by the market (low/moderate risk; want competition to get good pricing; want competition to compel lifecycle innovation)
 - Soliciting innovative solutions from competitive marketplace with Charging as a Service (Caas) RFP
 - Vendor will build/own/maintain chargers while City pays for the service (presumably monthly, TBD)
 - RFP is out for bid right now





Electrons/Fuel

- Likely procured along with our charging equipment (CaaS)
- Looking for solutions like Smart Charging to save on costs
- Certain operational realities make some energy pricing concepts appealing; other operational realities make them complex to administer or benefit from
 - Shift work/time-of-use pricing are units down in the off-hours?
 - "Hot cars" 24/7 use, with no down time; how fuel at all?
- Fast charging is the next frontier



Other Interesting Notes on Fleets

- For fleet charging, geography/location matter (and change)
 - Integrated fleet/operations planning
 - Integrated fleet/facility planning (this is very complex)
- Lots of questions about co-location with the public
 - Ideal would provide public benefit and offset costs
 - Very difficult to administer (e.g., police cars)
- Lots of interest in EVs as part of a larger program for municipal benefit (e.g., resilience – batteries/microgrids), but real-world experimentation is necessary to test the validity of these ideas in the fleet environment



Roadmap: How do we get to Net Zero?





Tips for Successful Engagement & Collaboration



Focus on a common goal – municipalities, utilities, and regulators should all be aligned

4

Ensure that other stakeholders are involved to monitor claims re: benefits/value delivery

2

Understand the potential and the reality of municipalities: catalysts with limited funds

3

Connect desired outcomes with incentives: what's utility work, and what's market work?

Look for different models/approaches to solving the problem; pick the right one (data)













City of Portland
Thank you!











Questions?

Raise your hand to ask a question or type a question into the question box

Peer Discussion – Commissioners and Commission Staff Only

Facilitator

EV Working Group Chair Maria Bocanegra and Illinois Commerce Commission Staff

Discussion Questions

1. What goals have municipalities in your jurisdiction set with regards to climate / transportation planning?

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- 1. What goals have municipalities in your jurisdiction set with regards to climate / transportation planning?
- 2. To what extent have municipalities engaged with your commission, and how has this engagement taken place?
 - 1. Have municipalities in your state engaged with the commission regarding transportation electrification?
 - 2. If so, what top issues have emerged from the municipal perspective?

Discussion Questions

- 1. What goals have municipalities in your jurisdiction set with regards to climate / transportation planning?
- 2. To what extent have municipalities engaged with your commission, and how has this engagement taken place?
 - 1. Have municipalities in your state engaged with the commission regarding transportation electrification?
 - 2. If so, what top issues have emerged from the municipal perspective?
- 3. What opportunities are available, or could be leveraged, in your commission to enable greater coordination with local governments?

Announcements

Sep 22, 1-5pm (ET): NASEO State EV Infrastructure Summit

- https://bit.ly/2WDp1s4
- Oct-Nov (dates TBD): NASEO EV Infrastructure Workshop Series
 - Workshop series will replace EVSWG monthly meetings through November
- Nov 7-10: NARUC Annual Meeting, registration opens this week
- Presentations and recordings of past EVSWG events are available on the website
- EVSWG Listserv: <u>NARUC-EVSWG@lists.naruc.org</u>