



Pete Westlake

Manager, Customer Strategic Projects,
Finance, & Contracts
Orlando Utilities Commission

THE EV REVOLUTION

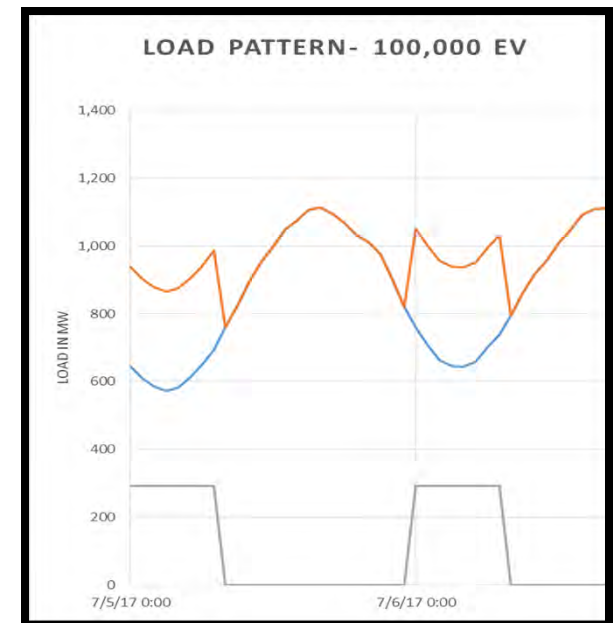
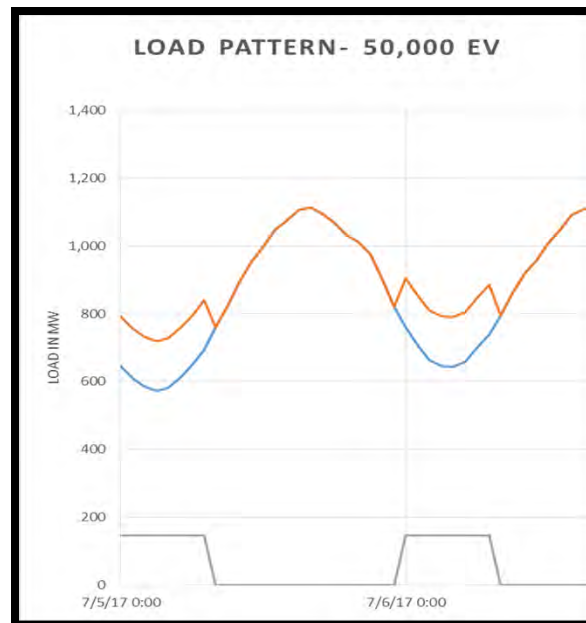
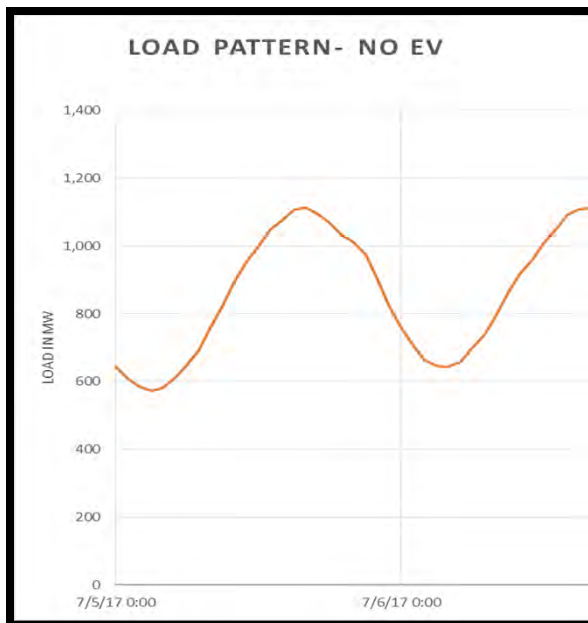


OUC Load Pattern – Why EVs are important

- Peak around 4 p.m.

- >1 mW weekday off-peak load = \$14 million revenue

- >2 mW weekday off-peak load = \$28 million revenue



EV Charging Observations

- Opportunities
 - Appropriate charging will reduce cost/kWh
 - EVs can counterbalance revenue erosion
- Problems
 - Charging at our current peak pressures demand
 - 5-7 p.m. is the natural time to start
 - All owners charging on Level 2 at the same time of day can drive a huge demand spike
 - Solar capacity does not match EV peak



EV Charging Implications

- Utilities must influence charge behaviors
 - Overnight charging timing must be flexible and optimally Level 1
 - ✓ Adopt a behavior program to influence timing
 - ✓ Explore Time of Use (TOU)
 - ✓ Find a way to land chargers at your customer's workplace
- Get in front of fleet adoption with smart charging
 - ✓ Establish a managed charge solution fleet

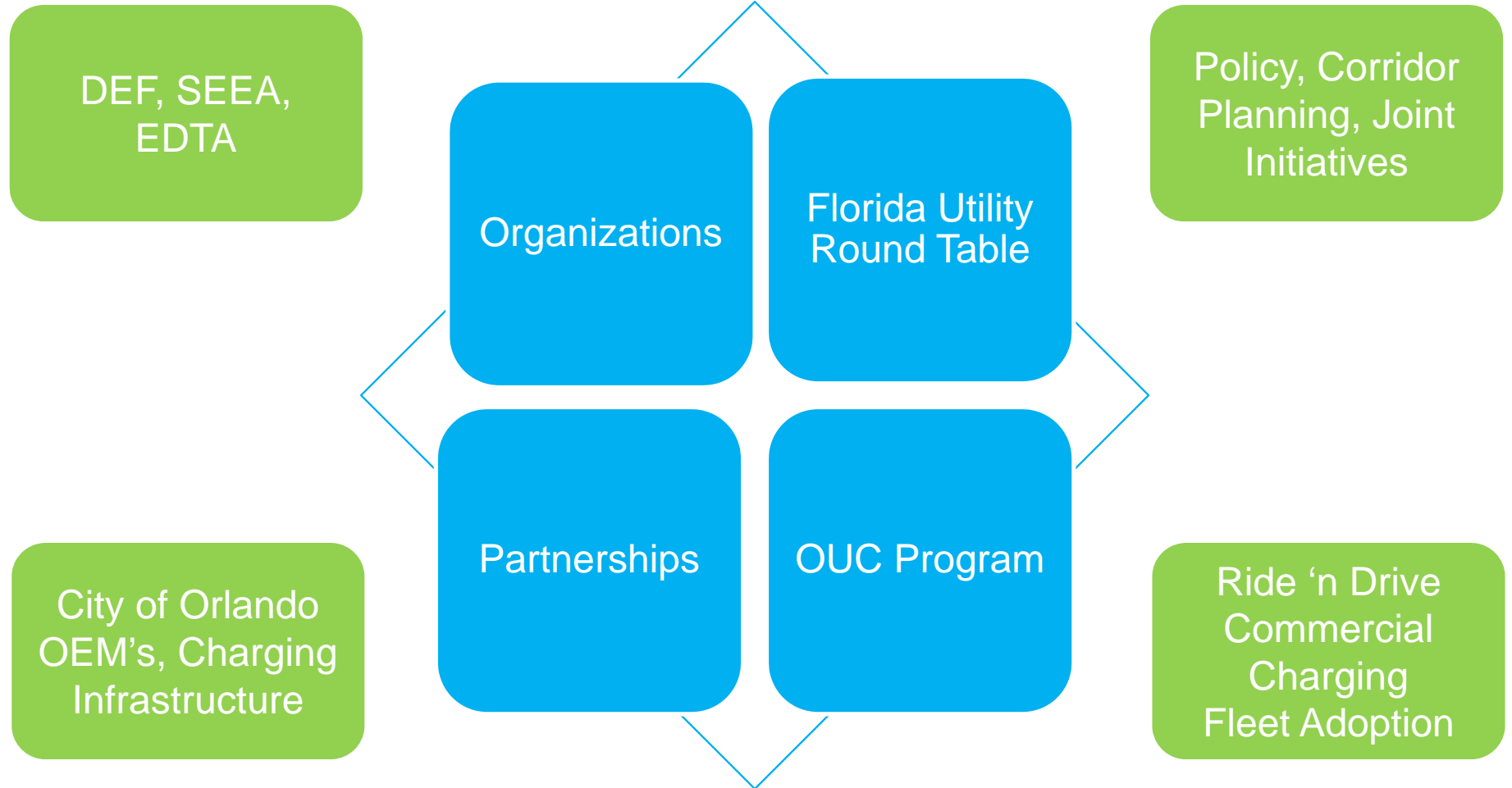


Orlando Adoption is Here!

- OUC territory has 800,000 vehicles
- BEV/PHEV adoption
 - 1,700 (0.2%) – April 2018
 - ↑ – 3,300 (0.4%) – Sept 2018 100%
 - ↑ – Tesla now projects Florida to be number 2 in the US and Orlando to be number 1 or 2 just behind Miami in Florida for Tesla Sales
- Florida's current 2023 projection will require the equivalent of one nuclear power plant to support

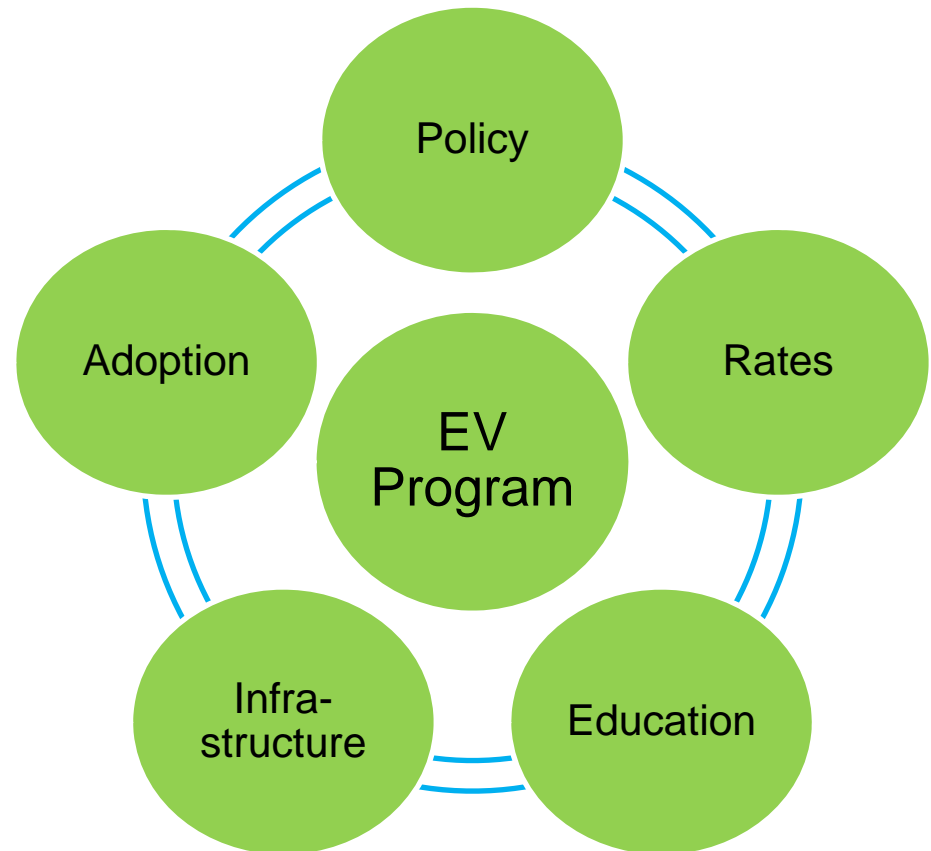
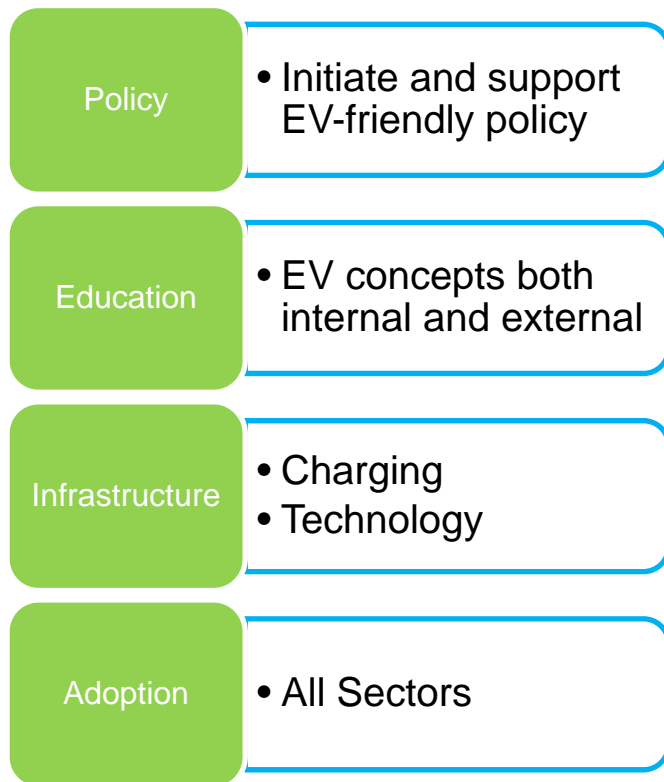


EV Adoption: "It takes a village."



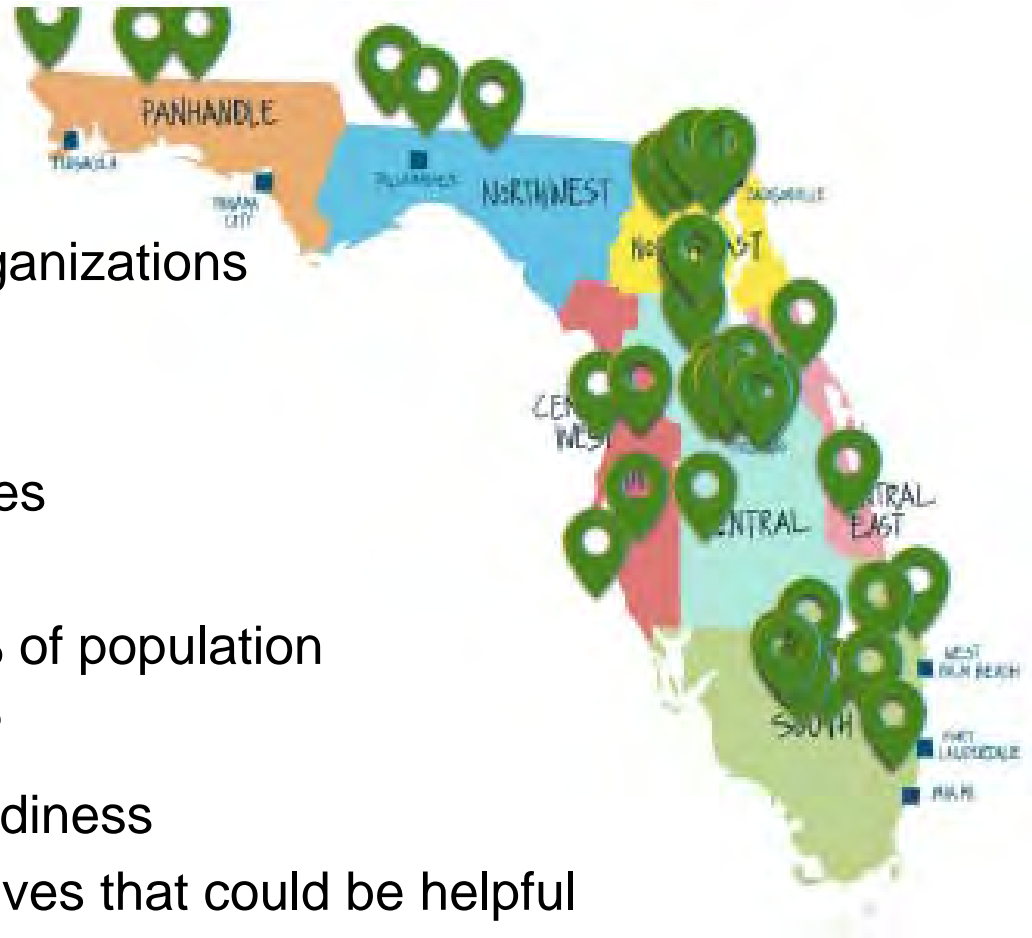
OUC's Framework for Adoption

Program Objectives:



Florida Utility EV Roundtable

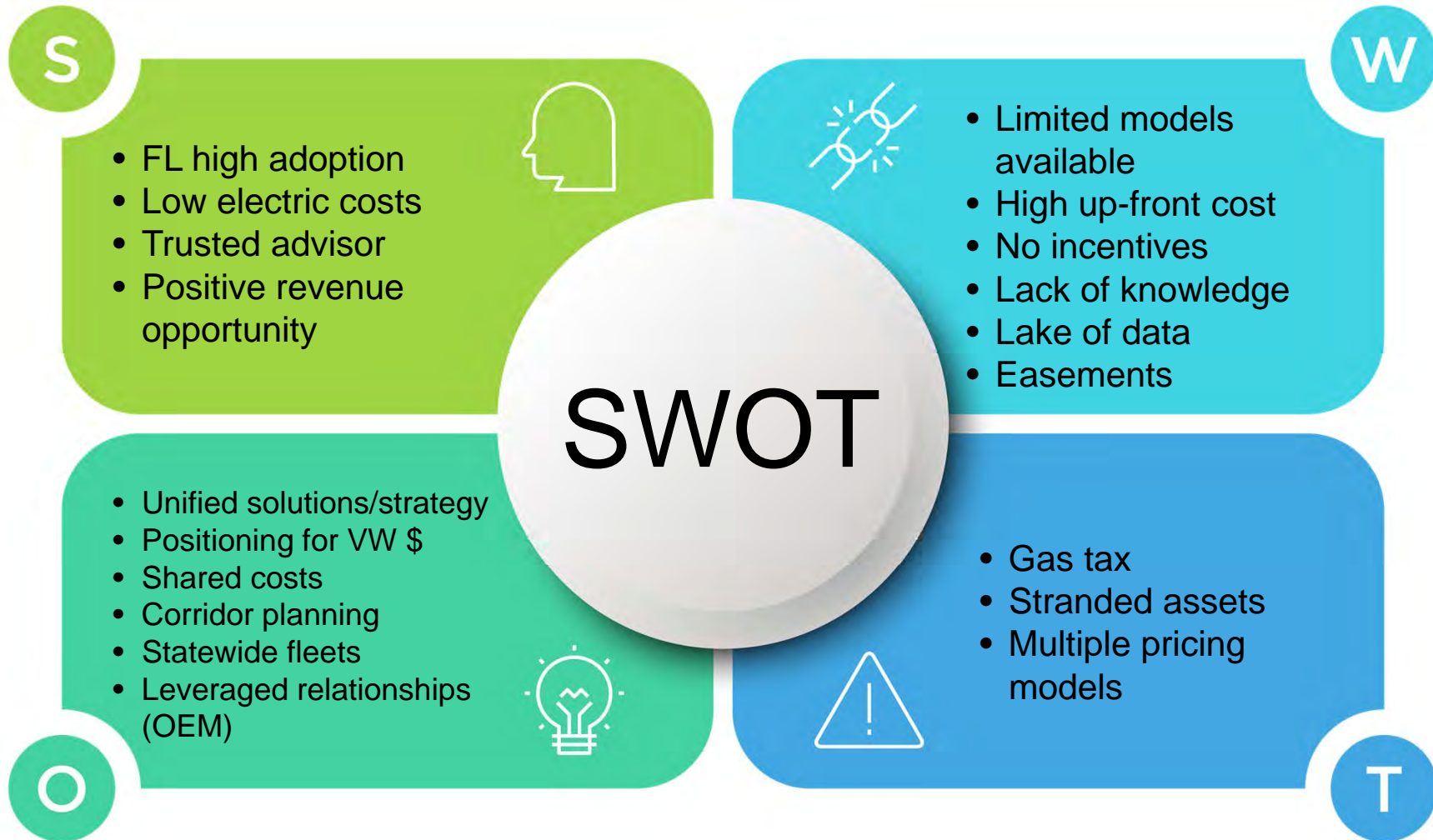
- Who attended?
 - 77 individuals in 26 organizations
 - 16 municipals
 - 2 cooperatives
 - 4 investor-owned utilities
 - 3 agencies
 - Representation of 90% of population
- What did we achieve?
 - Profiled Florida EV readiness
 - Determined joint initiatives that could be helpful



What did we learn?

- High variance in EV knowledge
 - Only five utilities have experience with fast chargers
- Desire is high, funding and approach are limited
- Charging deployment is limited to large centers
- Few are concerned about capacity
- Many are concerned about impact to grid, data analytics and infrastructure
- Few have a strong adoption program

How prepared are Florida utilities for EV?



Next Steps

- We meet again in February
 - Increase utility knowledge
 - Explore New business opportunities
 - Organize within existing Florida structure
 - Discuss best positioning for VW funding
 - Prioritize state-wide opportunities



What should you do?

- Obtain DMV IHS or DMV data to monitor growth
- Join DEF to add your voice to state policy
- Participate in the EV Utility Roundtable
- Build relationships with local OEM
- Establish an education program
 - Internal for utility staff
 - External for customers
 - External for OEM sales

Want to increase adoption?

- Add an educational program for:
 - Fleet adoption
 - Residential use
 - OEM sales
- Add incentives for the OEM sales representative
- Make sure you have visible infrastructure
- Sponsor ride events
- Work with your local mass transit authority