



Electric Vehicle Charging: Supporting the Needs of All EV Drivers

David Schatz, Director, Public Policy

October 17, 2017



The Nation's Largest and Most Open EV Charging Network



Largest Community of EV drivers

- + 70% of new EV drivers join every month
- + A driver plugs into our network every 2 seconds



40,000+ Spots

Charging Everywhere

- + 40,000+ charging spots
- + 28M charging sessions
- + 600+ ports added every month

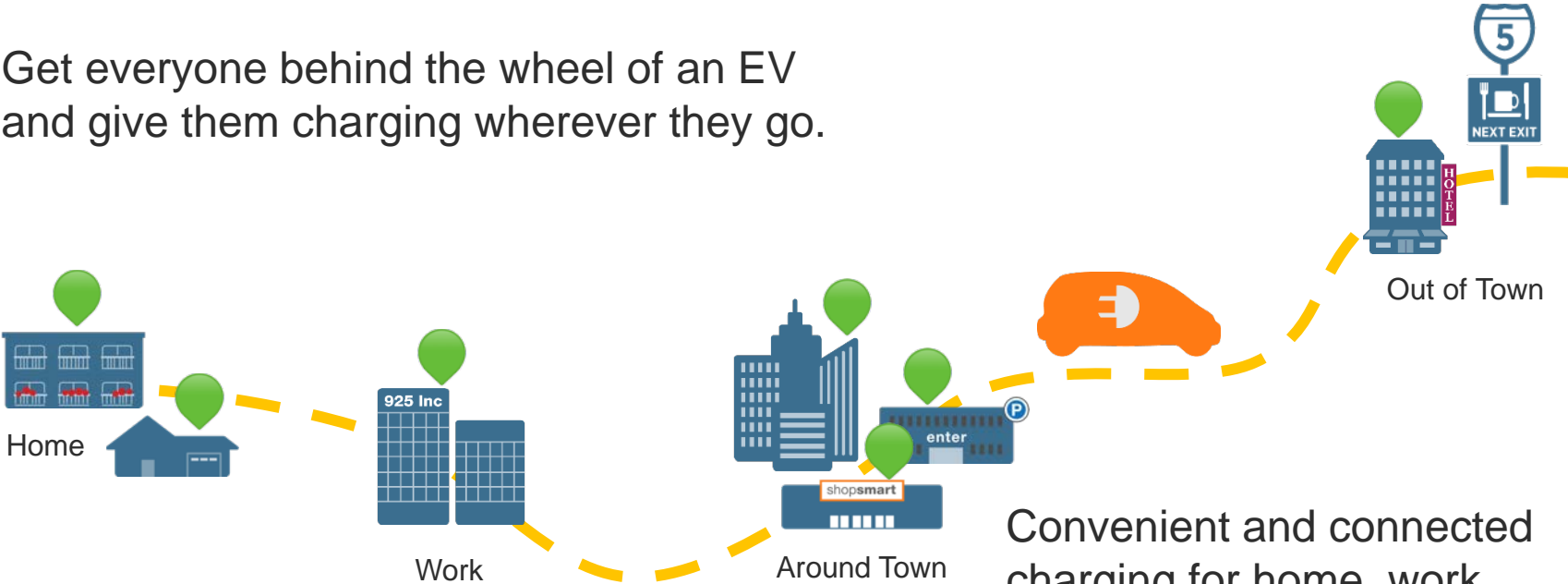


We're Established and Growing

- + ~\$300+ million in funding
- + Recent Daimler, Siemens investment
- + Market leader

Our Mission: EV Charging, Everywhere

Get everyone behind the wheel of an EV and give them charging wherever they go.



Convenient and connected charging for home, work, around town and out of town.

EV Charging 101



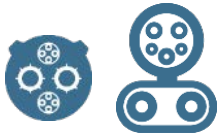
EV Charging Basics



Level 1



Level 2

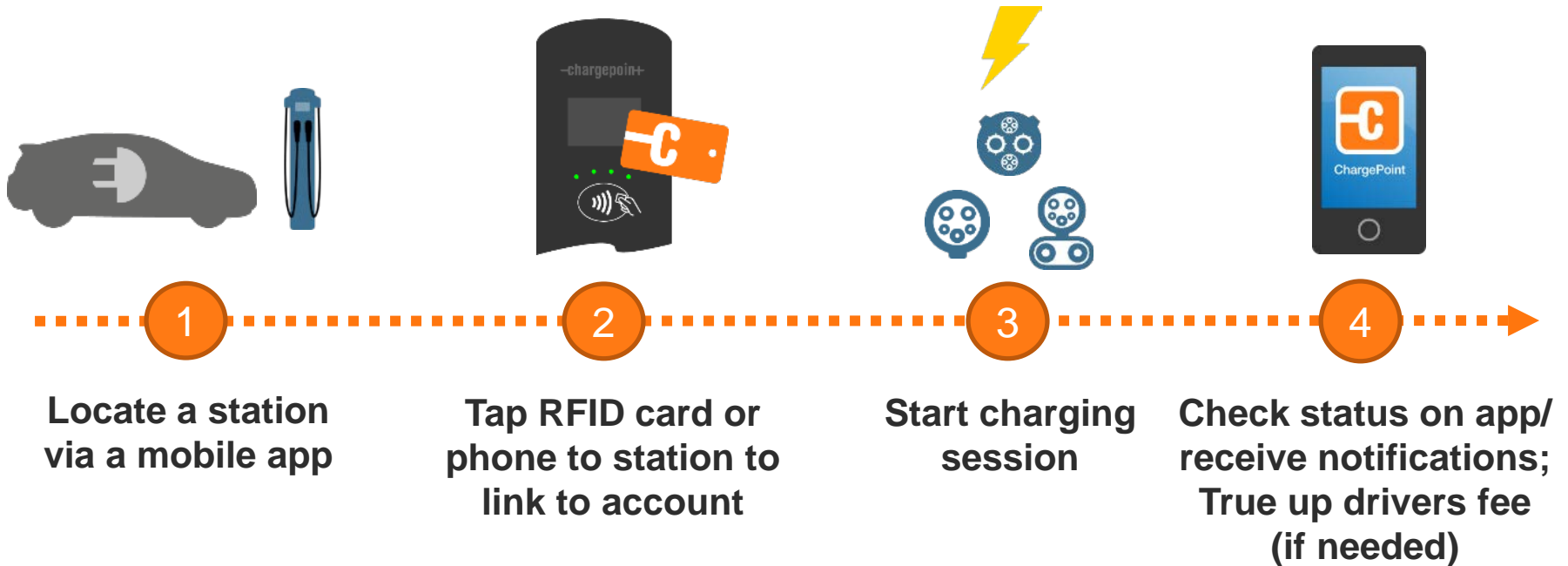


DC Fast

	Level 1	Level 2	DC Fast
Electrical Specs	120 Volts AC 12 – 16 Amps (home appliance)	208/240 Volts AC 16-32 Amps (home washer/dryer)	208 to 480 Volts DC 70 – 125 Amps, Three phase
Range Per Hour of Charging	~3 – 5 miles	~12 – 25 miles	100 - 200 miles +
Typical Time for Full Charge ¹	18+ hours	~2 - 4 hours	~15 - 45 mins

1. EV with 80 mile range (average of Top 8 Selling mass-market EVs in 2016)

A “Connected” Charging Session



Connected EV Charging – Value for All

EV Drivers



- Availability
- Information
- Convenience
- Seamless payment
- Consistent user experience

Site Hosts (Commercial)



- Maximize utilization
- Customizable tools
- Simple operation
- Limited administration
- Continuous upgrades
- Ensure uptime

Utilities



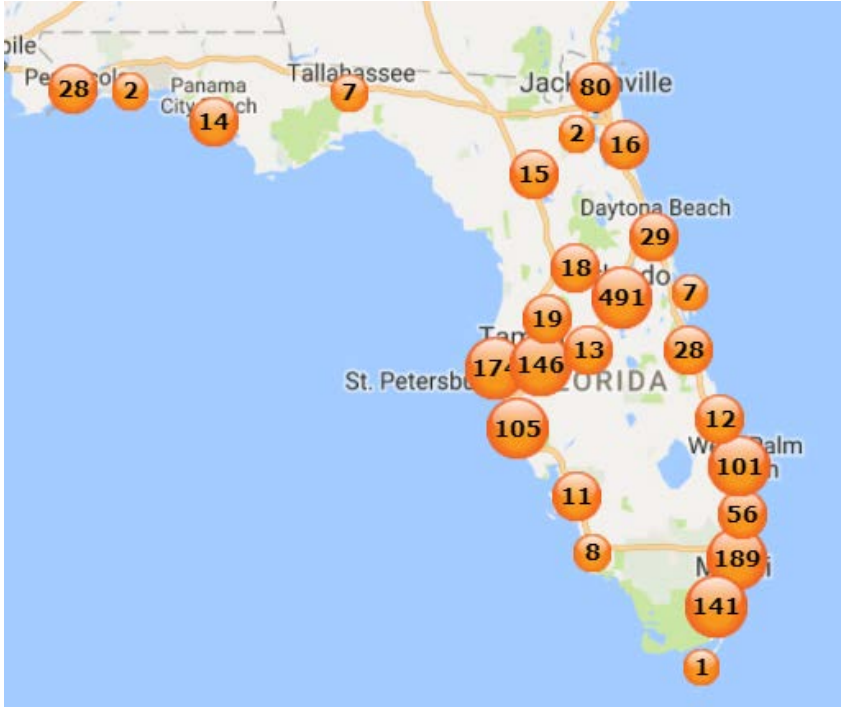
- Support EV adoption
- Visibility into load pockets
- Data for load forecasting
- Load Management
- Flexible “DER” lever
- Seamless integration

A long-exposure photograph of a highway at night. The image shows light trails from cars, with bright yellow and white streaks on the left side and red streaks on the right. The road markings, including a red double line and white dashed lines, are visible on the right side of the road. The overall scene is dynamic and conveys a sense of motion and progress.

Florida's Market: Trends and Next Steps

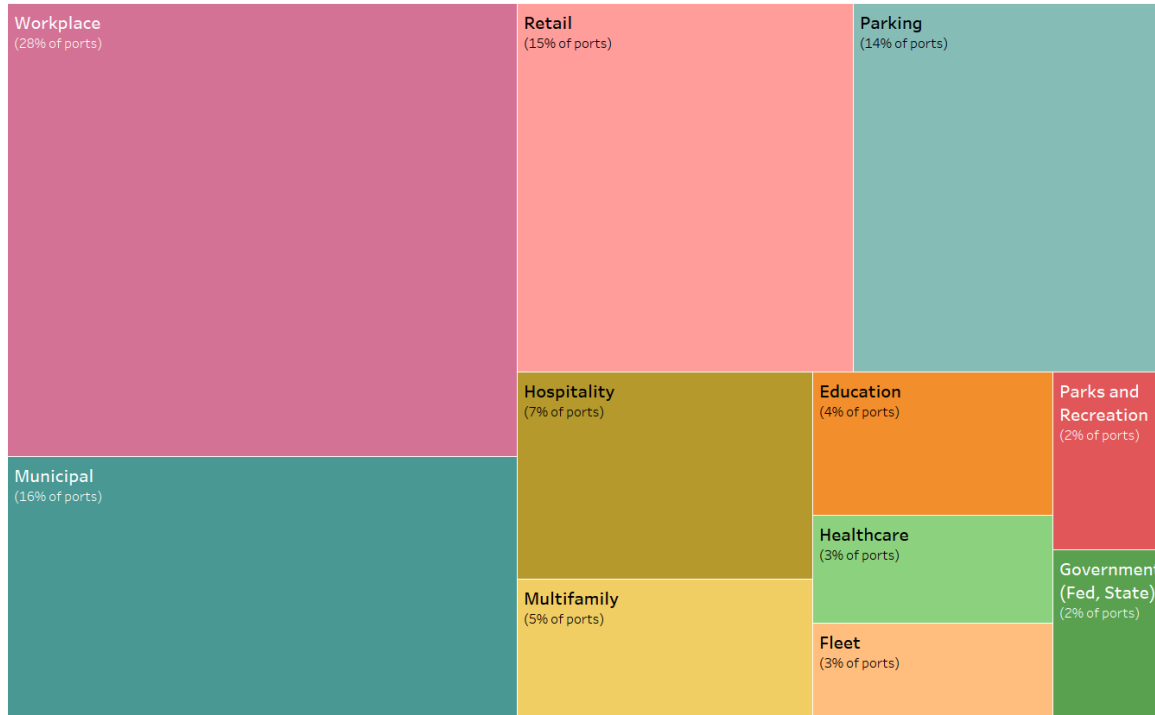
Florida EV Charging Stations

All Public Charge Ports:	1,968
Total EVs in FL (6/30/17):	24,345
Growth in EVs (YoY):	39%
ChargePoint Public Ports	1,356 →
ChargePoint Sessions (2017):	200,000
ChargePoint Drivers (FL):	13,000



EV Charging Infrastructure Trends

Coverage in Every Charging Category



- + Current Ratio of FL Cars to Public Charging Stations = **12 to 1**
- + Private Investment enabled **positive YOY growth** of charging infrastructure in FL metros
- + **Workplace/Retail** are bedrocks
- + **Key Targets** for Future Deployments: Multifamily, Corridor, Government, Fleets
- + Markets with **rebate programs** have fastest deployments
- + **Greater deployments of electric buses** throughout Florida

Recommended Action at the Commission

- + **Bottom Line: Florida must have an open deliberative process to address the specific needs of the state market and explore the many models of EV deployment and utility investment**
- + Open a dialogue, led by the Commission, to clarify regulatory conditions on EV charging infrastructure
 - Where prudent, allow a role for the utility in charging infrastructure deployments that supports grid benefits, minimizes cost to ratepayers, and aligns with the existing competitive market
 - Develop demand side management solutions to encourage off-peak charging at home
 - Consider segment-specific barriers to EV charging deployments (e.g. demand charges with DCFC)
- + Conduct regular workshops for all associated stakeholders to collaboratively engage and inform the Commission on EVs and the associated loads
 - Evaluate market trends and demands
 - Review competitive products and emerging technologies, including all forms of transportation electrification (buses, trucks, fleets, TNC needs, etc.)
 - Discuss lessons learned from utility programs in other jurisdictions

Key Considerations for EV Programs

- + **Customer choice** of charging equipment and services
- + **Continuing innovation** by activating the competitive market
- + **Leverage available private funding** and make sure site hosts have “skin in the game”
- + **Site host to control access and pricing** for charging services onsite
- + **Avoiding island networks** or regulatory boundaries for EV drivers
- + Encourage **smart charging** behaviors and enable grid benefits through load management or using embedded meters to support EV TOU rates at home

Summary

- + Electrical vehicle adoption is growing rapidly and provides significant benefits to drivers, the environment, and the economy
- + Transportation electrification represents a potential beneficial load for utilities, enabling greater efficient use of grid infrastructure and lower costs for all
- + The EV Charging Infrastructure sector is growing, dynamic, and competitive
- + Smart charging programs can empower customers to charge their vehicles in a manner that could lead to broader ratepayer and grid benefits
- + Open dialogues, led by the Commission, can clarify regulatory conditions of the EV charging market, and lead to a scalable and sustainable sector

Thank You

For more information, please visit <http://chargepoint.com>