

Hillsborough TPO

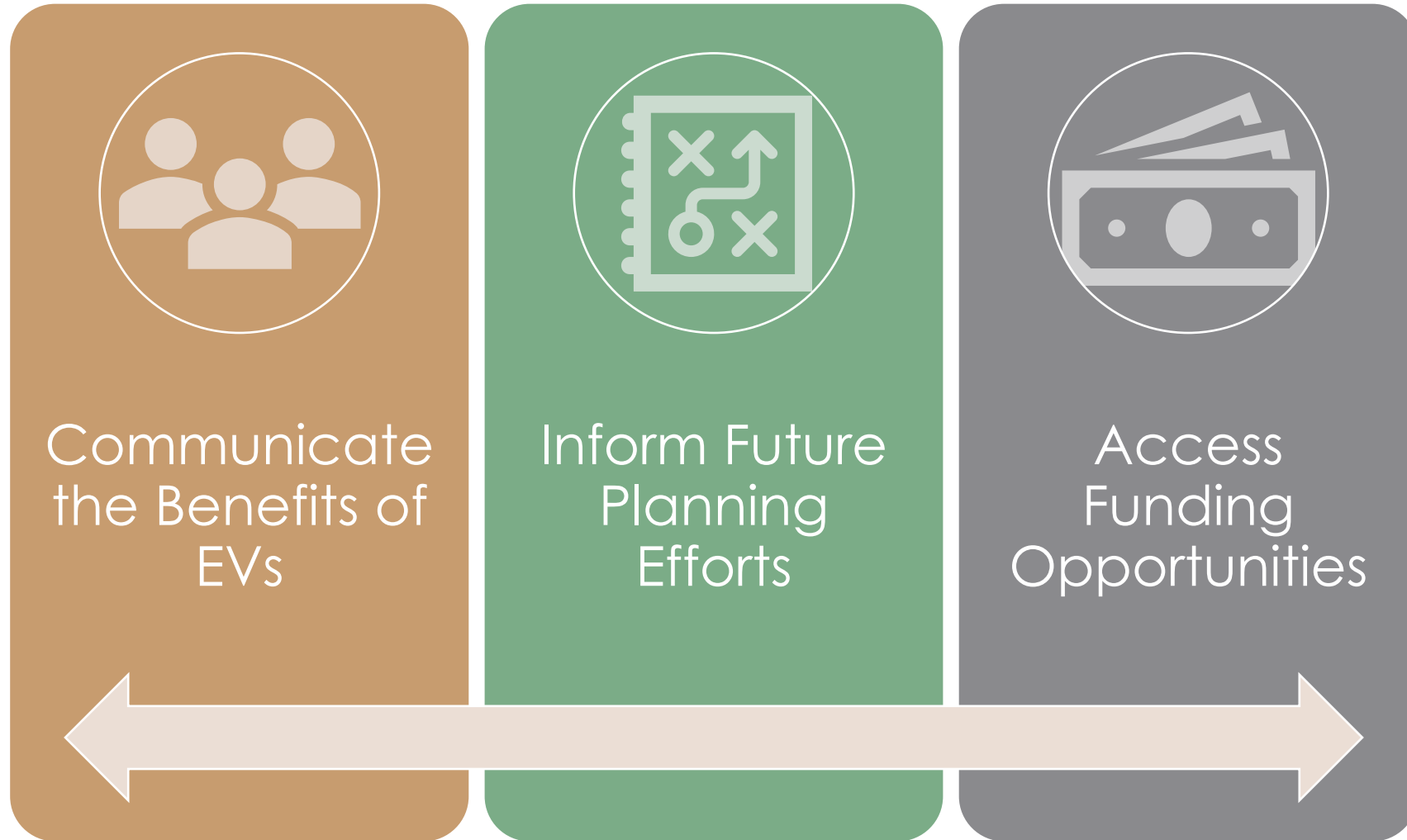
ELECTRIC VEHICLE INFRASTRUCTURE PLAN

Citizens Advisory
Committee

August 2nd, 2023



Plan Context & Overview: Desired Outcomes



Benefits and Barriers to Electric Adoption

Benefits



Reduced Fuel Costs

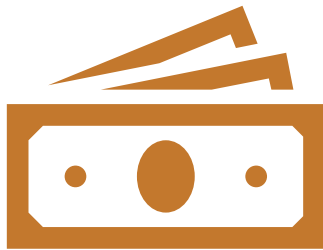


Reduced Emissions

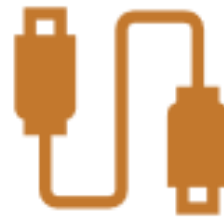


Reduced Maintenance Cost

Barriers



EV Purchase Price



EV Charging Access



Lack of Interest

EV Use Cases

Considered in the EVIP



Urban Light Duty



Rural Light Duty



Disadvantaged
Communities



Transit Buses



Commercial
Delivery



Transportation
Network
Companies

Not Considered in the EVIP



Micromobility



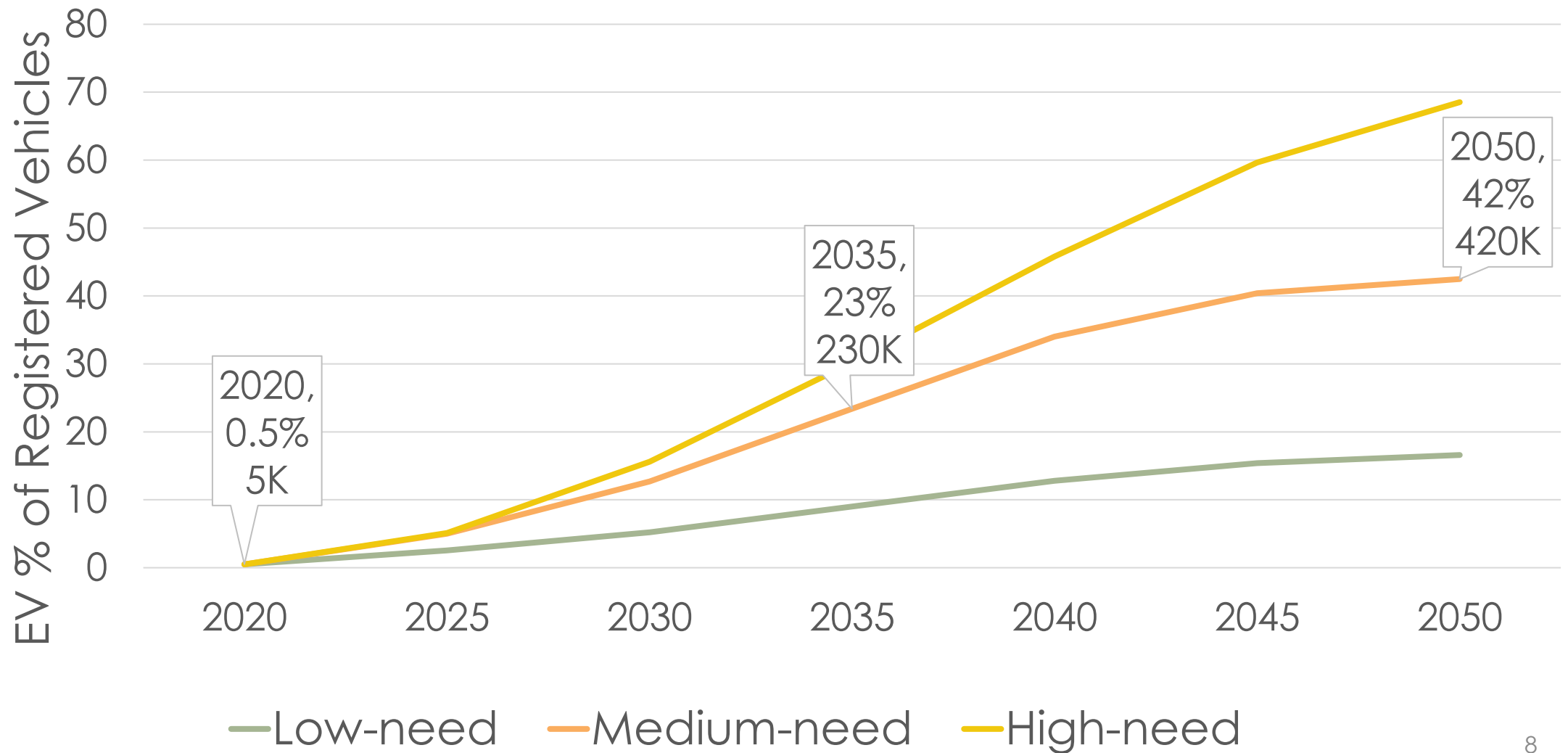
Corridor



Long Haul Trucking

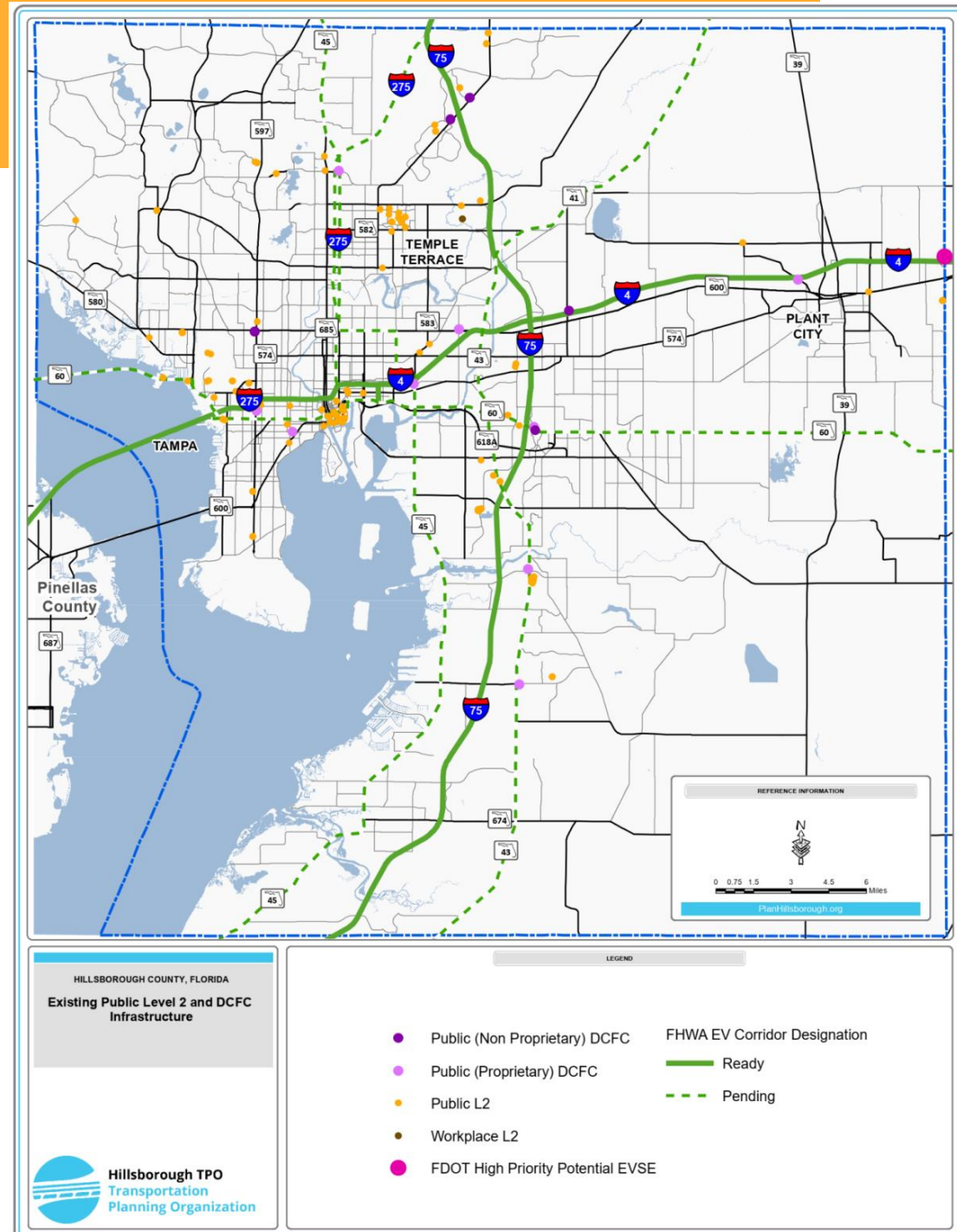
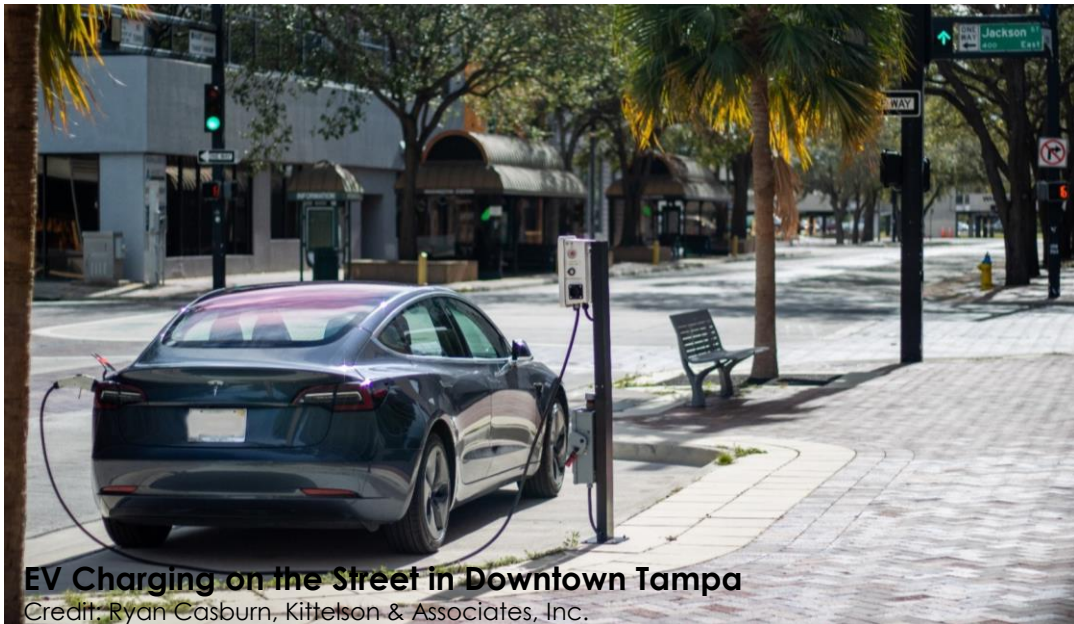
Light Duty Vehicles

Projected EV Adoption for LDV in Hillsborough County



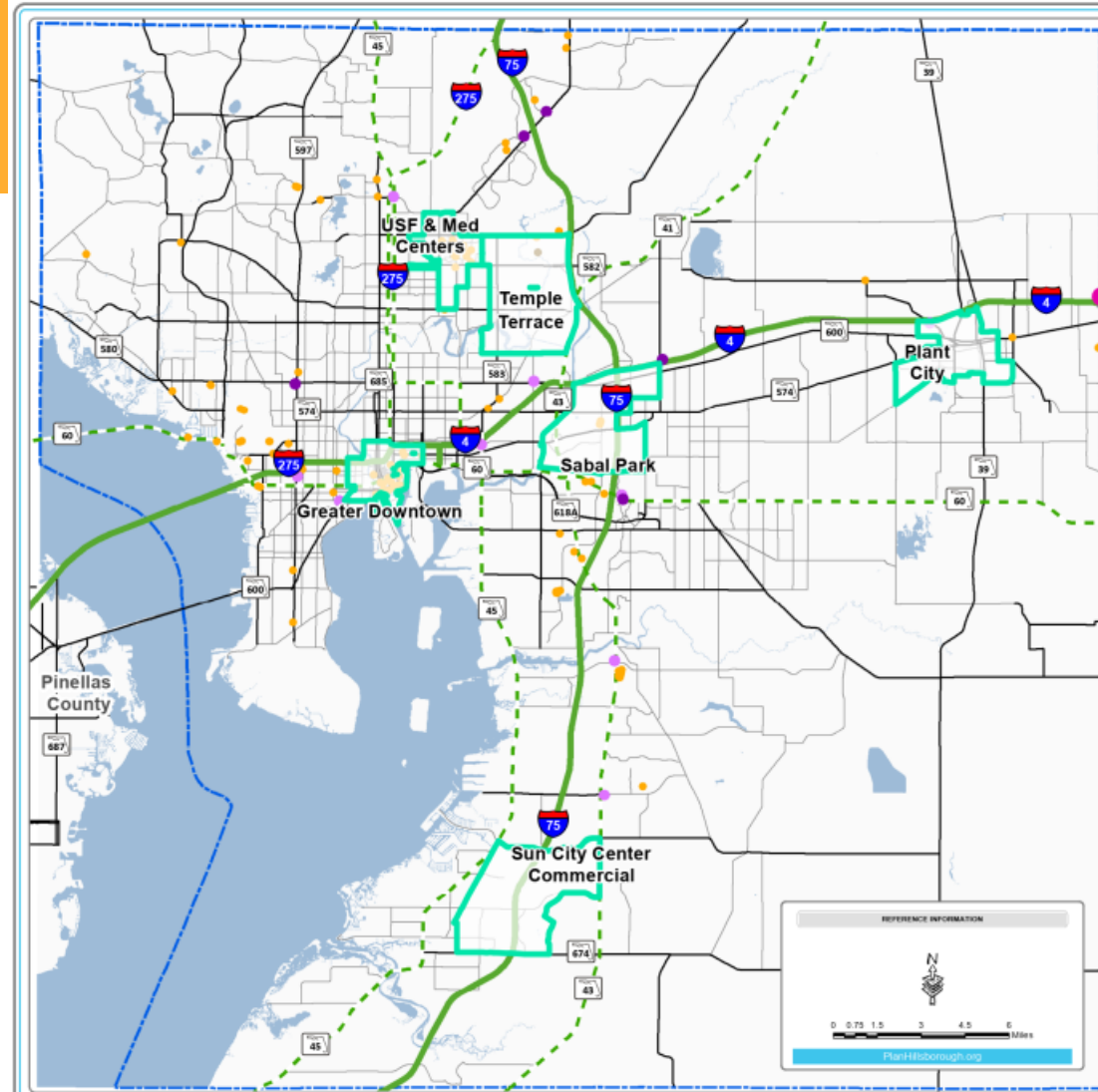
LDV Charging Need

Rounded Ports in County (Medium Scenario)	2023	2035	2050
EVs	6k	230k	420k
DCFC	90	740	1,300
Level 2 (Public)	400	1,900	3,400
Level 2 (Workplace)	100	2,800	5,000



LDV Charging Distribution

Area	DCFC		Public L2		Workplace L2	
	2023	2035	2023	2035	2023	2035
Greater Downtown	0	33	141	84	0	420
Plant City	8	8	2	21	0	29
Sabal Park	0	11	6	27	0	129
Sun City Center Commercial	0	9	0	23	0	22
Temple Terrace	0	26	2	67	4	70
USF & Med Centers	0	19	31	50	0	104



Disadvantaged Communities Considerations

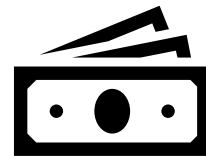
Planning for a similar rate of adoption throughout Hillsborough County.

“Without targeted policies, the unique challenges in lower-income communities are likely to slow overall EV adoption.”

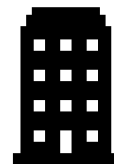
Rocky Mountain Institute

Assess the work towards the recommended targets. Is progress being made throughout the County?

Some extra challenges:



Initial purchase price



Access to home charging



Interest in EVs

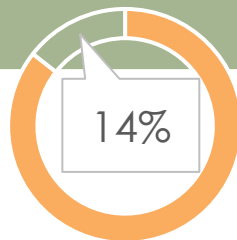
LEGEND

County

DAC



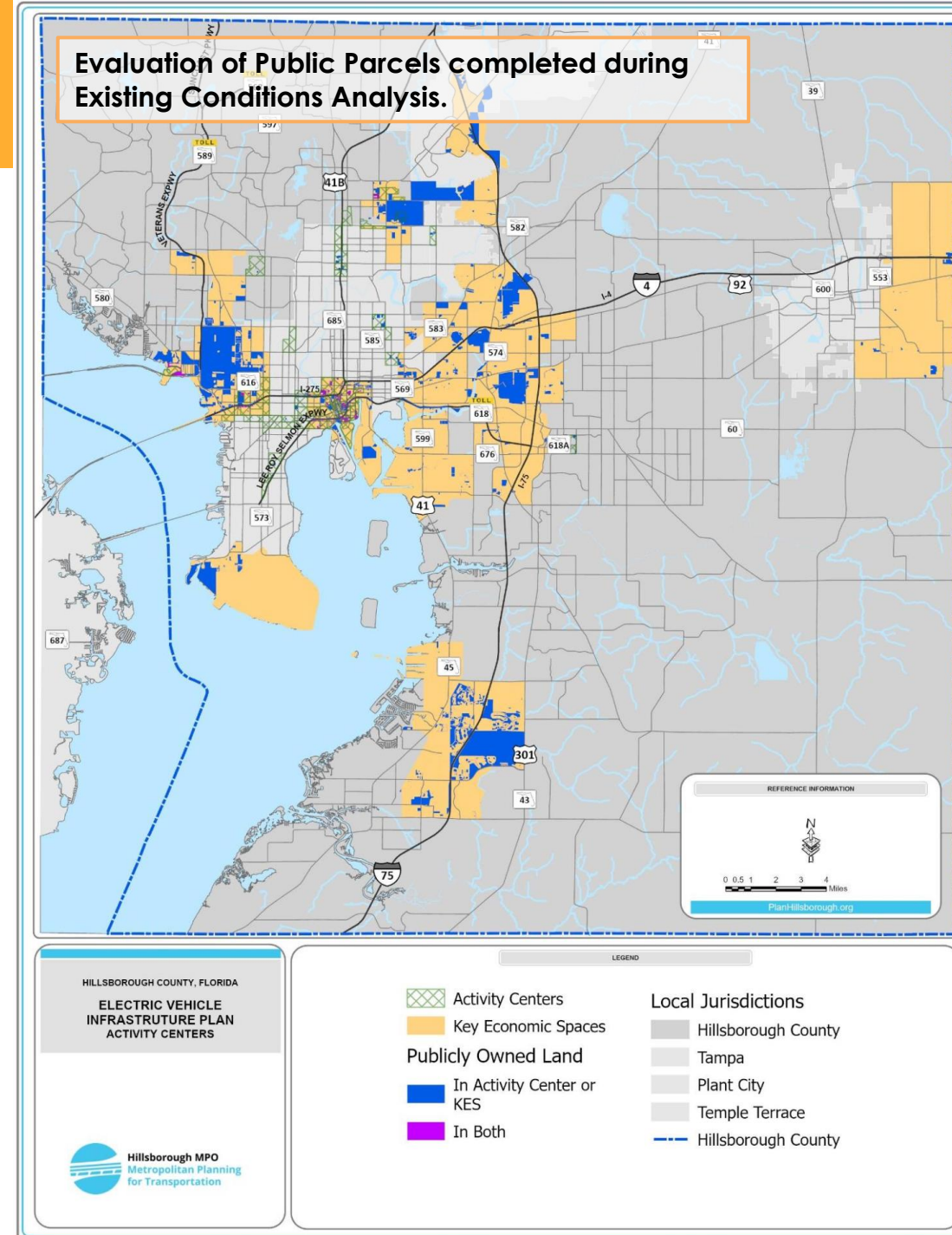
Population



L2 Ports

Prioritization Framework for LDV Chargers

- Some land uses are more attractive for EV charging stations
 - Places people are going already
 - Places with something to do while you wait
 - Places people tend to spend at least a half hour
- Some funding programs have different criteria considered for funding priority
 - Justice40 requirements
 - Multi-family dwellings
 - Alternative fuel corridors
 - Rural areas



Other Use Cases

Transportation Network Companies & Gig Drivers

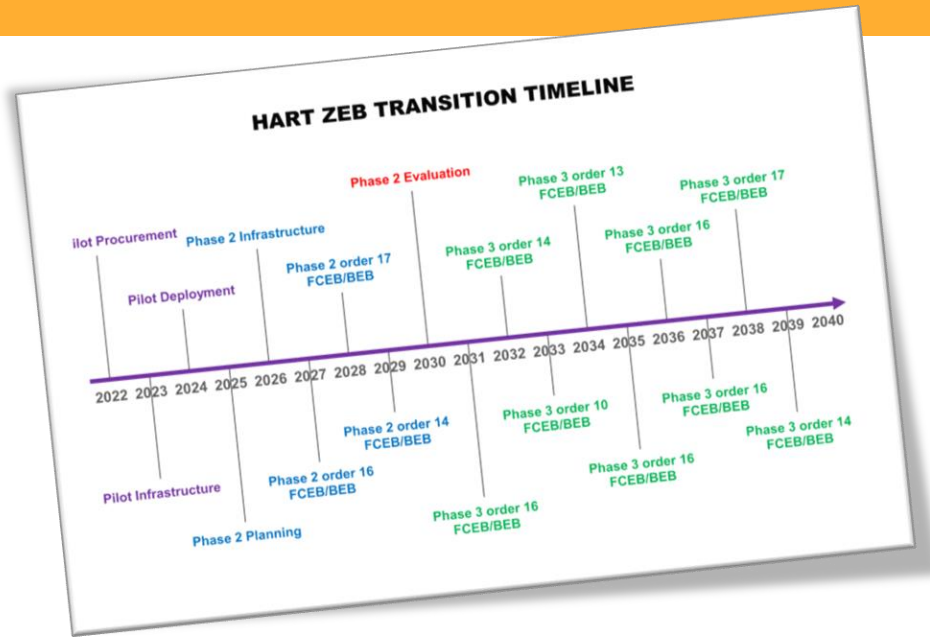
- Increasing number of EV TNCs
 - Increasing vehicle miles travelled in Hillsborough County
 - Increasing portion of all vehicle miles travelled are done by TNC & gig drivers
 - Increasing portion of TNC & gig driver miles are done in an EV
- TNCs are expected to use more DCFC charging
 - More driving each day
 - Opportunity cost of charging time
 - Drivers may not have home charging

Expecting about
35,000 EV TNC/Gig
Drivers in Hillsborough
County in 2050

Need an additional:

- **245** DCFC ports in 2035
- **613** DCFC ports in 2050

Transit (HART)



Credit: Pinellas Suncoast Transit Authority

Level of Adoption	Scenario	BEBs	Depot Chargers	On Route Chargers
Low	Pilot Only	4	4	1
Medium	Short Routes	60	20-60	1
High	All Routes	160	60-160	1
		or 130	or 50-130	or 40

Commercial Delivery (Medium Duty Freight)

Market Forces

- Delivery companies have already committed to replacing with EVs.
- EVs will save money, reduce pollution, and help meet climate goals.

Regulations

The Advanced Clean Truck Rule (not adopted in Florida) requires a growing share of new truck purchases to be zero-emission vehicles from 2025 onwards.

Predicting truck adoption of:

- **0.5% EVs** in 2025
- **60% EVs** in 2050



Credit: Cubic Telecom, Mo Kadry

Need an additional:

- **<15** DCFC ports in 2035
- **<50** DCFC ports in 2050

Policy and Design

Policy Recommendations

Typically, EV ready codes from other jurisdictions require **2-20% of parking spaces** in new developments to have EV charging installed

Typically, EV ready codes have different requirements for different land uses (multi-family residential, industrial, office, commercial, etc.)

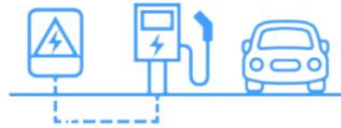
EV READINESS



EV Capable



EV Ready



EV Installed

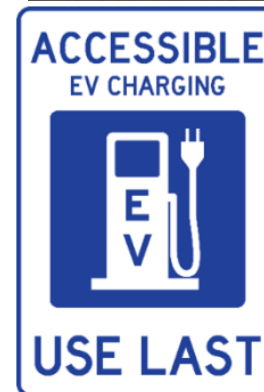
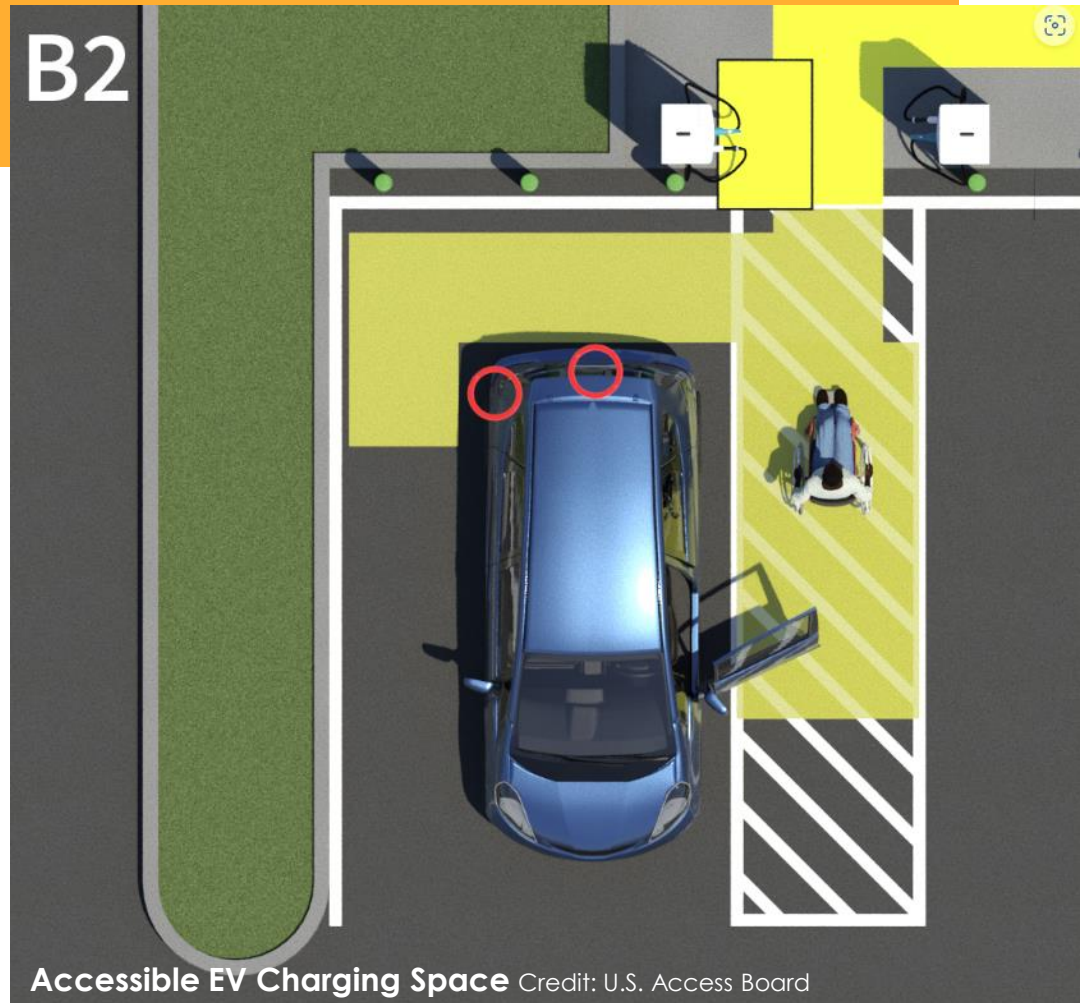
5-15% of parking spaces in new multi-family and commercial developments should have EV charging infrastructure installed

Designing for Accessibility

- Accessible mobility features
- Accessible communication features
- **Recommend a ‘Use Last’ approach**

“The Access Board recommends designing at least two EV charging spaces with accessible mobility features, and providing accessible communication features and operable parts at all EV chargers.”

U.S. Access Board, Design Recommendations for Accessible Electric Vehicle Charging



Accessible EV Charging Signage
Credit: U.S. Access Board



Designing for Different Vehicles

- Micromobility
 - 120V outlets
 - Location that serves users
- Commercial Vehicles
 - Physical design of the charging station
 - Operations that align with commercial use
 - Charger design (speed and cable length)
 - Location that serves users

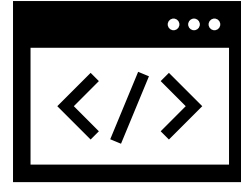


Next Steps

Balances to Keep in Mind



Conflicting
incentives



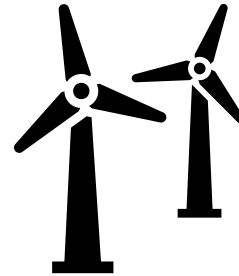
Developing
technology



Non-auto
modes



Disparity
between
communities



Electricity
generation
source



Hurricane
evacuation

Using the Plan



Inform the LRTP



Pursue grants for
community charging



Adopt policies



Review
development
proposals

Discussion

