

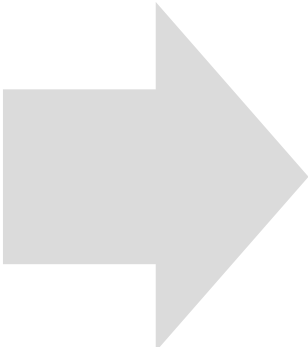
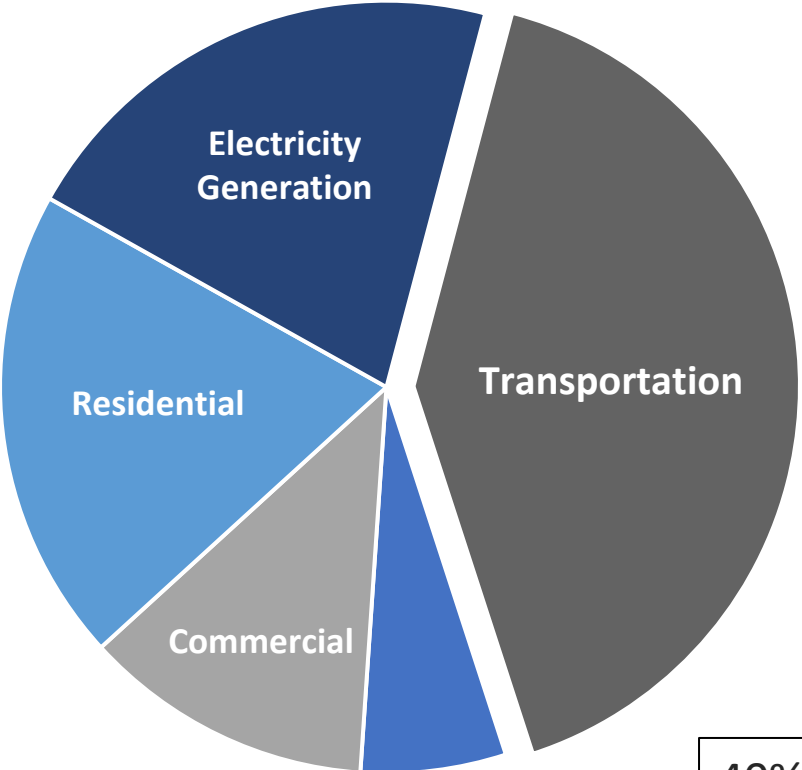
# Southern Tier West: Charge NY - Electric Vehicles





Jason Zimblar  
March 31, 2022



# Decarbonizing Transportation

GHG emissions by sector – NYS in 2018



- 10%**  Light Duty Passenger Vehicles
- 15%**  Light Duty Trucks
- 7%**  Medium / Heavy Duty Trucks
- 8%**  Others

40% of all carbon emissions derive from the transportation sector.

# NY Clean Transportation



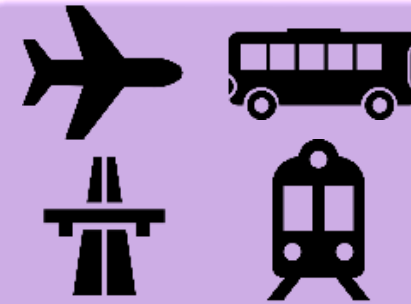
## Electric Vehicles

- >95,000 today
- >850,000 by 2025
- All new LD sales ZEV by 2035; MD/HD sales by 2050



## EV Charging Stations

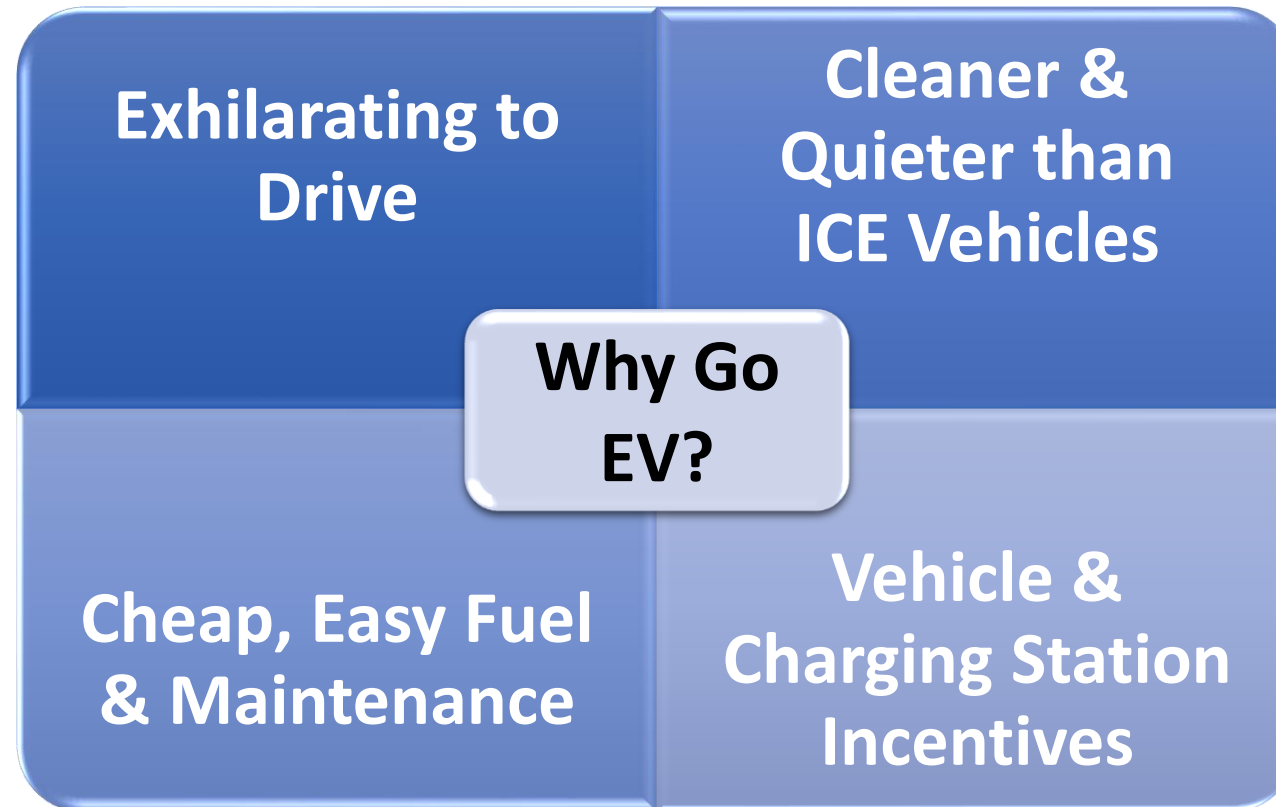
- >7,000 today
- >10,000 by 2021
- >10 non-Tesla DCFC sites in each REDC by 2022



## Transportation

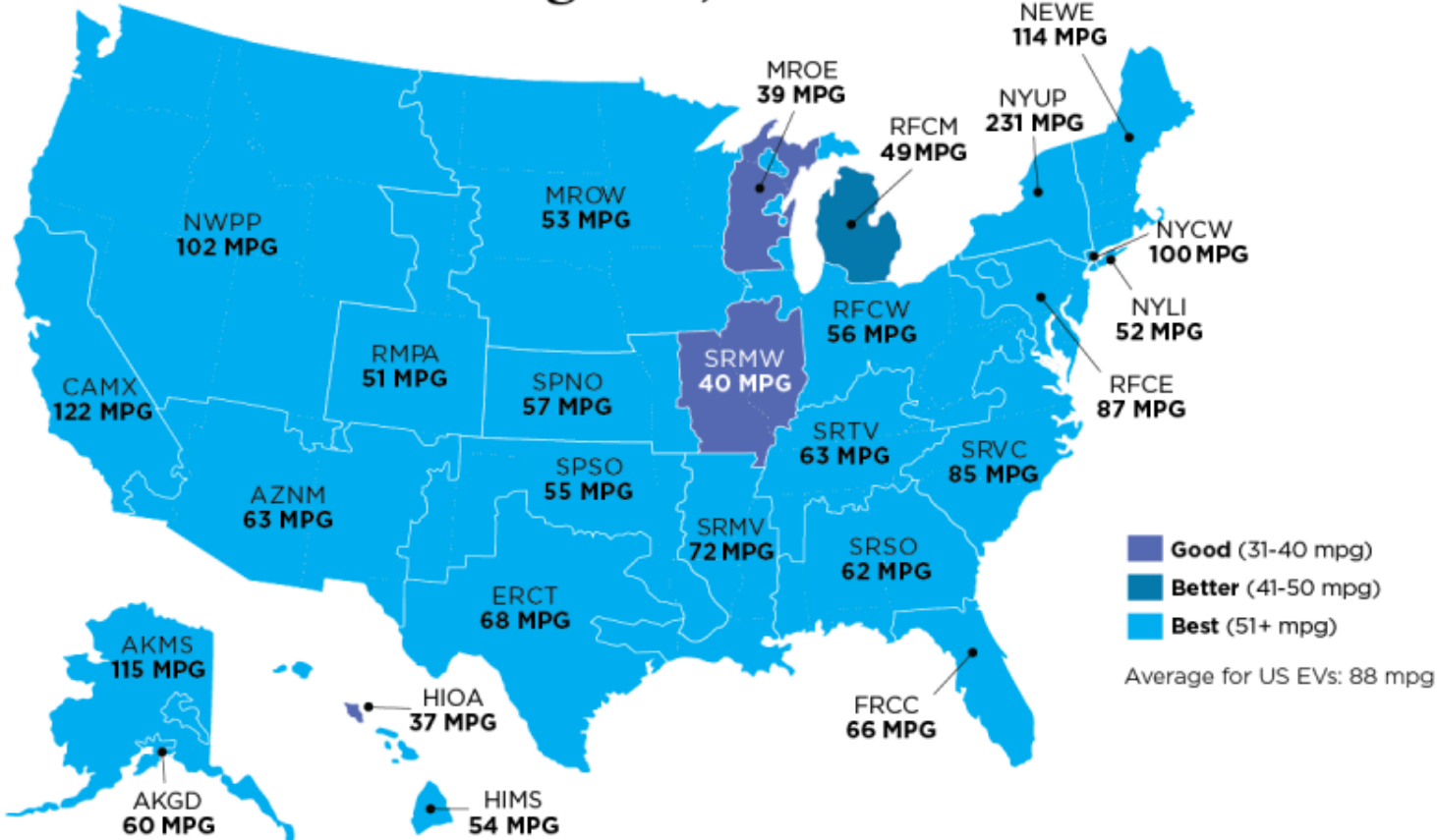
- Currently: ~40% of NYS GHG
- Goal: Reduce NYS GHG 40% by 2030; 85% by 2050
- Transit buses all electric by 2040

# Why Go EV?



# EVs are Cleaner

## EV Emissions as Gasoline MPG Equivalent Average EV, 2018



# EV Basics: From ICE to EV

**HOW CLEAN IS YOUR RIDE?** CARS ARE POWERED IN MANY DIFFERENT WAYS.



**CONVENTIONAL GAS**

**POWERED BY** Gas engine

**BATTERY TRAVEL** None

**FUEL SOURCE** Gas



**CONVENTIONAL HYBRID**

**POWERED BY** Gas engine & electric motor

**BATTERY TRAVEL** Short distances

**FUEL SOURCE** Gas



**PLUG-IN HYBRID**

**POWERED BY** Electric motor & gas engine

**BATTERY TRAVEL** Medium distances

**FUEL SOURCE** Electricity & Gas



**BATTERY-POWERED**

**POWERED BY** Electric motor

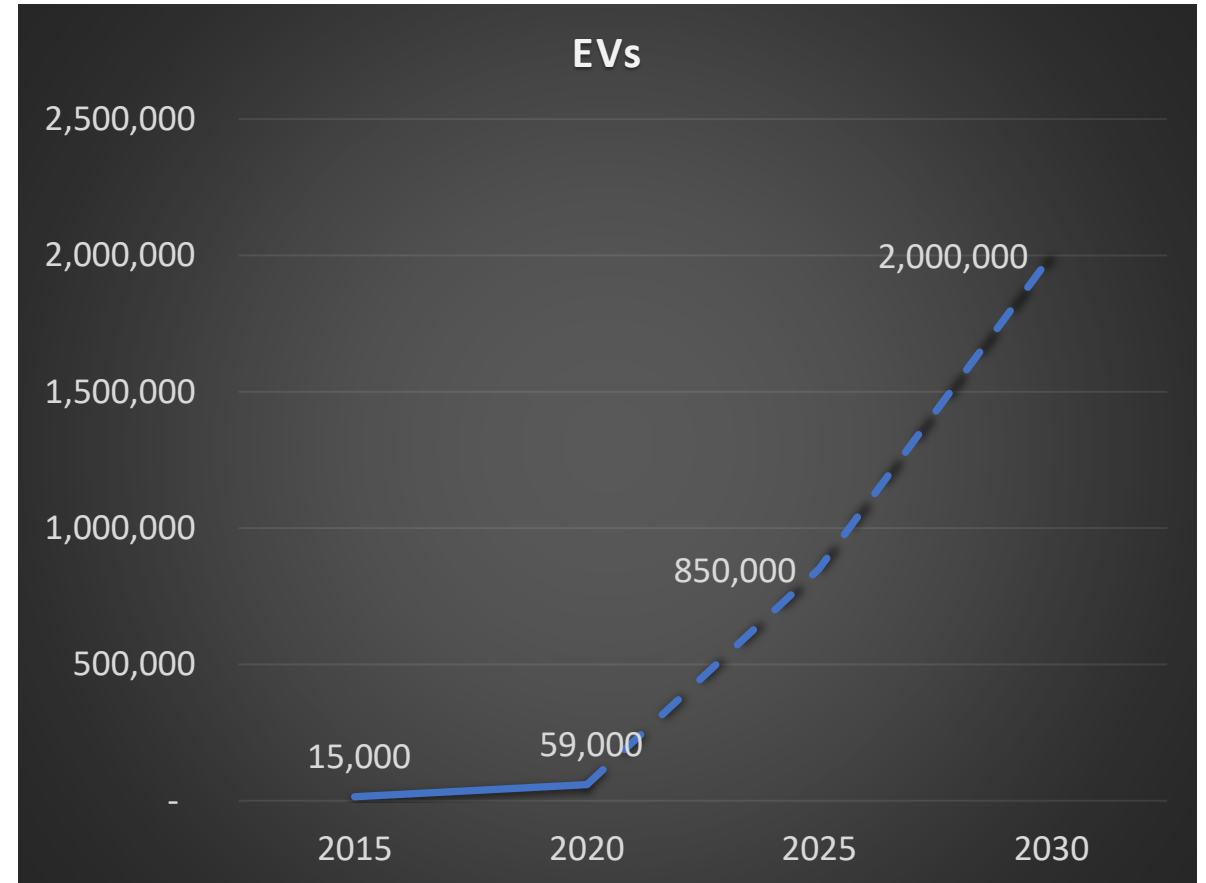
**BATTERY TRAVEL** Long distances

**FUEL SOURCE** Electricity

**DRIVE CLEAN REBATE ELIGIBLE CARS**

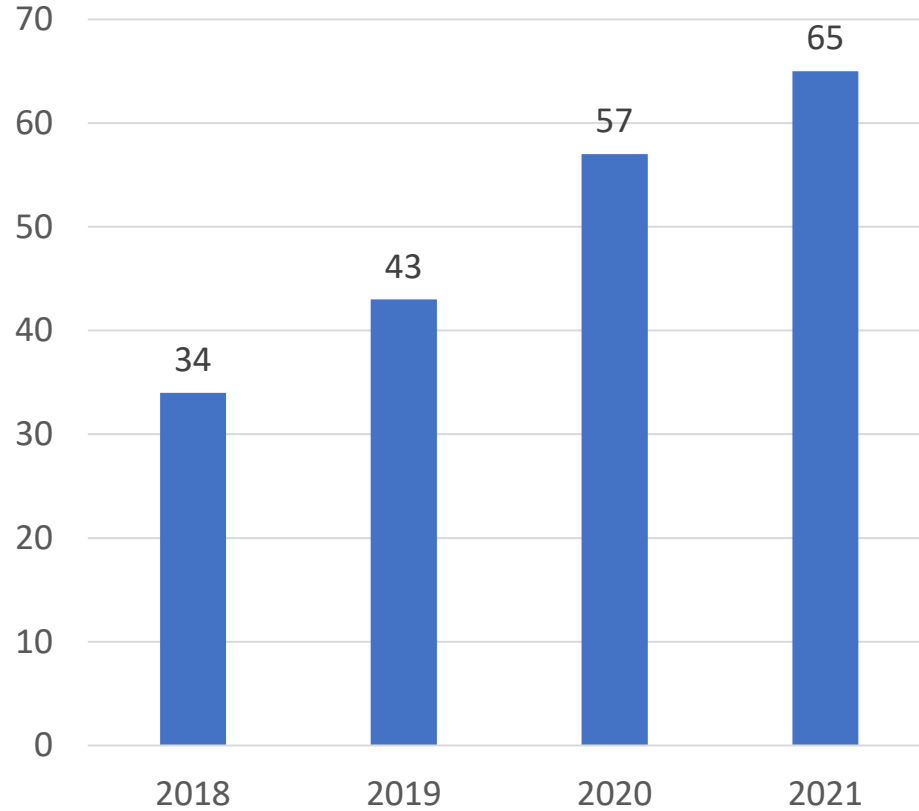
# EV in NY Today & Tomorrow

REDC	Original Registrations	EVs on the Road	LDVs on the Road
+ Capital Region	9,418	7,043	663,657
+ Central New York	4,218	3,200	426,515
+ Finger Lakes	9,082	6,765	702,159
+ Long Island	39,312	27,445	1,924,565
+ Mid-Hudson	25,570	18,535	1,438,196
+ Mohawk Valley	2,026	1,537	258,860
+ New York City	27,731	19,777	1,890,854
+ North Country	1,691	1,252	203,309
+ Southern Tier	3,832	3,090	341,693
+ Unknown	5	3	240
+ Western New York	7,385	5,373	771,655
<b>Total</b>	<b>130,270</b>	<b>94,020</b>	<b>8,621,703</b>



# EV Availability

Drive Clean Rebate Available Models



Zero Emission Vehicles Available in 2022

BEV	PHEV	
Audi e-tron	Audi A7 e	Kia Niro Plug-In Hybrid
Audi RS e-tron GT	Audi A8	Kia Sorento Plug-In Hybrid
BMW i3	Audi Q5	Land Rover Range Rover Plug-in
Chevrolet Bolt EV	Bentley Bentayga	Lexus NX 450
Ford Mustang Mach-E	BMW 330e	Lincoln Aviator Grand Touring
Hyundai Ioniq 5	BMW 530e	Lincoln Corsair Grand Touring
Hyundai Ioniq Electric	BMW 745e	MINI Cooper S E Countryman AL..
Hyundai Kona Electric	BMW X3	Mitsubishi Outlander PHEV
Jaguar I-PACE	BMW X5	Polestar 1
Kia Niro EV	Chrysler Pacifica	Porsche Cayenne S E-Hybrid
Lucid Air	Ferrari SF90	Porsche Panamera 4 E-Hybrid
Mazda MX-30	Ford Escape	Subaru Crosstrek Hybrid
Mercedes-Benz EQS	Honda Clarity Plug-In Hybrid	Toyota Prius Prime
MINI Cooper SE Hardtop	Hyundai Ioniq Plug-in Hybrid	Toyota RAV4 Prime
Nissan LEAF	Hyundai Santa Fe	Volvo S60
Polestar 2	Hyundai Tucson	Volvo S90
Porsche Taycan	Jeep Wrangler 4xe	Volvo V60
Rivian R1S	Karma GS-6	Volvo XC60
Rivian R1T	Karma Revero	Volvo XC90
Tesla Model 3		
Tesla Model S		
Tesla Model X		
Tesla Model Y		
Volkswagen ID.4		
Volvo C40 Recharge		
Volvo XC40 Recharge		



# Choosing an EV

## > EV Guides & Buying Tools

- <https://afdc.energy.gov/vehicles/search/>
- <https://driveelectricus.com/explore-electric-cars/>
- <https://content.sierraclub.org/evguide/pick-a-plugin>



# Current EV Programs & Incentives

## > Light Duty

- NY Drive Clean Rebate (\$97M) - Up to \$2,000 per vehicle, depending on electric range
- Federal EV Tax Credit (certain models) – Up to \$7,500 per vehicle
- Toll Discounts & HOV Lane Access

## > Medium- and Heavy-Duty

- New York Truck Voucher Incentive Program

# Drive Clean Rebate for EVs

- > Approved over 60,000 rebates totaling \$86 million
- > Remaining funding = \$11 million

### HOW THE DRIVE CLEAN REBATE WORKS

The diagram illustrates the process in three steps: 1. A computer monitor displays '30+ MODELS TO CHOOSE FROM'. 2. A building labeled 'CAR DEALER' has two cars parked in front. 3. A family of three stands next to a yellow car.

- 1 FIND YOUR FAVORITE PLUG-IN HYBRID OR BATTERY-POWERED CAR
- 2 GO TO THE NEAREST PARTICIPATING DEALER AND TRY THE ELECTRIC CAR YOU LIKE
- 3 GET UP TO \$2,000 OFF YOUR ELECTRIC CAR PURCHASE

Electric Range (miles)	Rebate Levels	# of Models
Less than 40	\$500	41
40 to 199	\$1,000	8
200 and greater	\$2,000	8
Over \$42K MSRP	\$500	28

# EVSE Basics

	Phase	Volts	Amps	kW	Range Added (mi/hr)	Hours to Charge (20-80% for 60 kWh)	Cost per plug
<b>AC Level 1</b>	Single	120	10	1	3-5	24+	nominal
<b>AC Level 2</b>	Single	240	30-80	7-19	25-65	2-5	\$5,000-\$15,000
<b>DCFC</b>	Three	480+	100-600+	50-300+	150-1000+	.5	\$50,000-\$150,000

**Level 1**  
NEMA 515

**Level 2**  
J1772

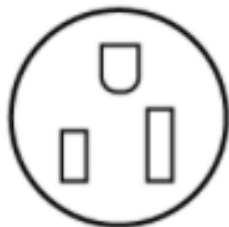
**DC Fast Chargers**

CCS

CHAdeMO

Tesla

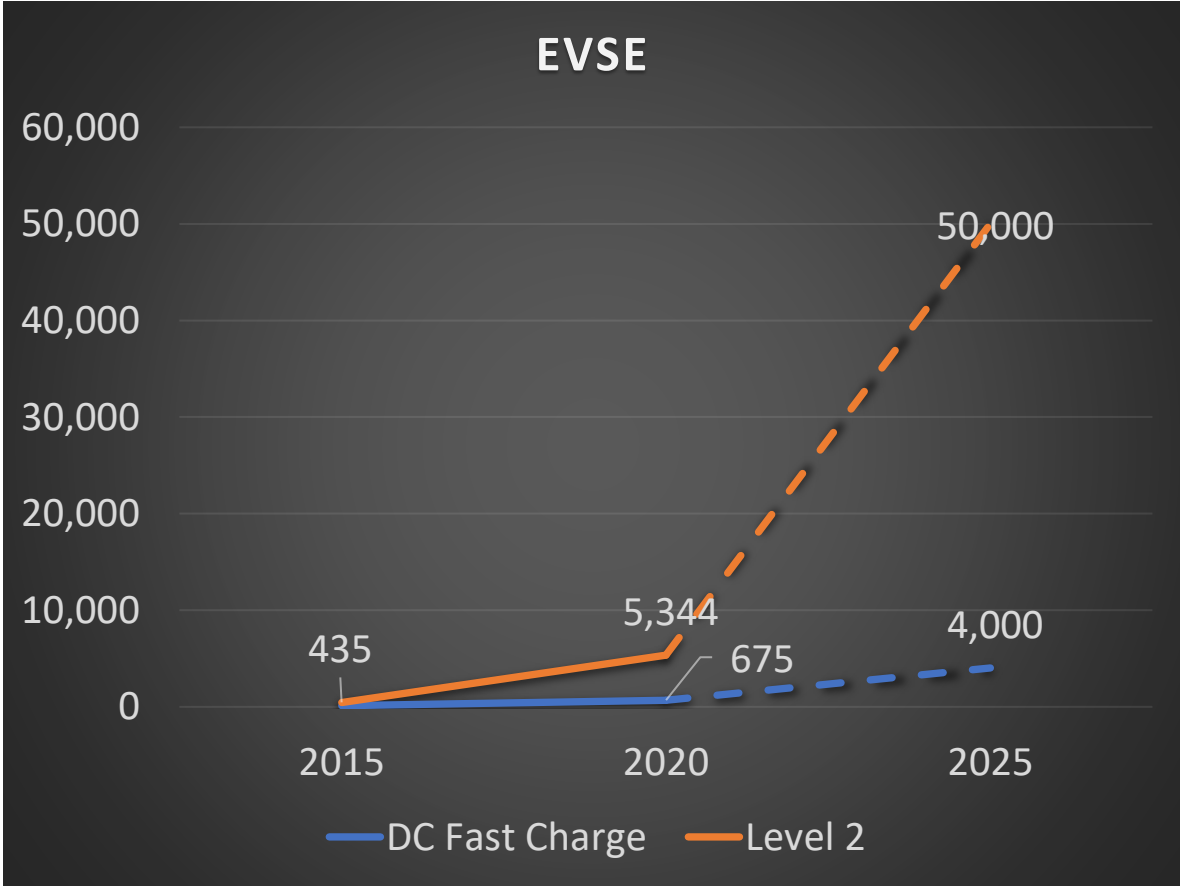
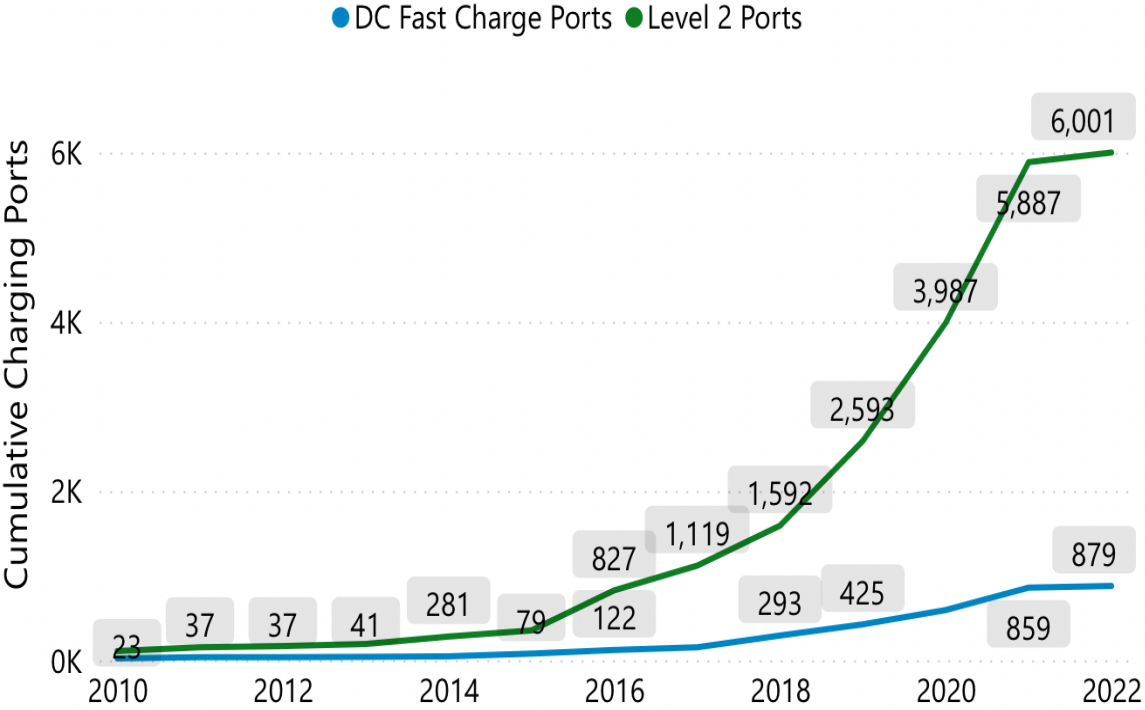
Standard Home Outlet



Home Charging

Public Charging

# EVSE in NY Today & Tomorrow



# Current NYS Charging Station Programs

## > Public Charger Incentive Programs

- Charge Ready NY – for L2 chargers
  - Funding exhausted – anticipated re-launch in Q3 with focus on MUD & Workplace charging
- DCFC Incentive (\$11M) – up to 80% of purchase and installation cost

## > Other Programs

- Utility programs (\$700M+) – e.g. Make-Ready, ConEd SmartCharge
- NYPA EVolve NY (\$250M)
- NYS Tax Credit (50% up to \$5k) for non-residential EV chargers

## > Future Programs

- BIL/IIJA/NEVI
- DEC Municipal Charging Infrastructure

# NYS Key Future Activities

## > EV

- Continued vehicle incentives to drive volume, price reductions for all vehicle classes
- Expanded consumer & dealer engagement alongside partners
  - Future outreach program & workplace charging program

## > EVSE

- Increased investment in EVSE and further development of viable business plans/models
  - PSC addressing EVSE tariffs (TOU, demand charges) & utility EVSE ownership in 2022
- Managed charging R&D projects
- Better charging solutions for apartment dwellers
- Improvements in charging station interoperability
- Planning for EVSE siting, especially for DCFCs
- Integration of EVSE into building codes (e.g. NYC Local Law 130)

# Municipalities & EVs

## > Best practices for EVSE permitting

- Expedited permitting process via concurrent reviews
  - Establish timelines for EV permits
  - Permit as accessory use
- Allow approval as Noted
- Establish parking requirements
- Allow online submission

## > Tools to aid Munis

- DC Fast Charger Guidebook
  - Model administrative and technical permitting ordinances
  - Sample charging station permits
  - Sample plan requirements checklist
  - ADA guidance
- Other Guides
  - Residential EVSE Permit Process
  - Guide for Planners & Municipal Planning Boards



DC Fast Charger Streamlined Permitting Guidebook  
for Local Governments



Residential EVSE Permit Process  
Best Practices



## PROMOTING ELECTRIC VEHICLE CHARGING STATION INSTALLATIONS

Increasing Planners' & Municipal  
Planning Boards' Involvement



# For More Information

## > Contact

- Jason Zimbler, [Jason.Zimbler@nyserda.ny.gov](mailto:Jason.Zimbler@nyserda.ny.gov)

## > Visit:

- Charge NY: <https://www.nyserda.ny.gov/ChargeNY>
- Drive Clean Rebate: <https://www.nyserda.ny.gov/Drive-Clean-Rebate>
- Info for Planners & Municipalities: <https://www.nyserda.ny.gov/All-Programs/ChargeNY/Support-Electric/Planners-and-Municipalities>

# Q&A

