



Andrew M. Cuomo, Governor

Richard L. Kauffman, Chairman

John B. Rhodes, NYSEDA President and CEO

New York State  
Electric Vehicle  
Supply Equipment  
(EVSE)  
Deployment Program;  
*a Charge NY Initiative*

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**2013 Summary**

Haverstraw  
Village Hall

VILLAGE OF HAVERSTRAW  
ELECTRIC  
VEHICLE  
CHARGING  
STATION  
(2 HOUR MAX)

15  
MINUTE  
PARKING

EXCEPT FOR ELECTRIC  
VEHICLES DURING CHARGING



Haverstraw Village Court – Municipal Parking Lot

40 New Main Street; Haverstraw

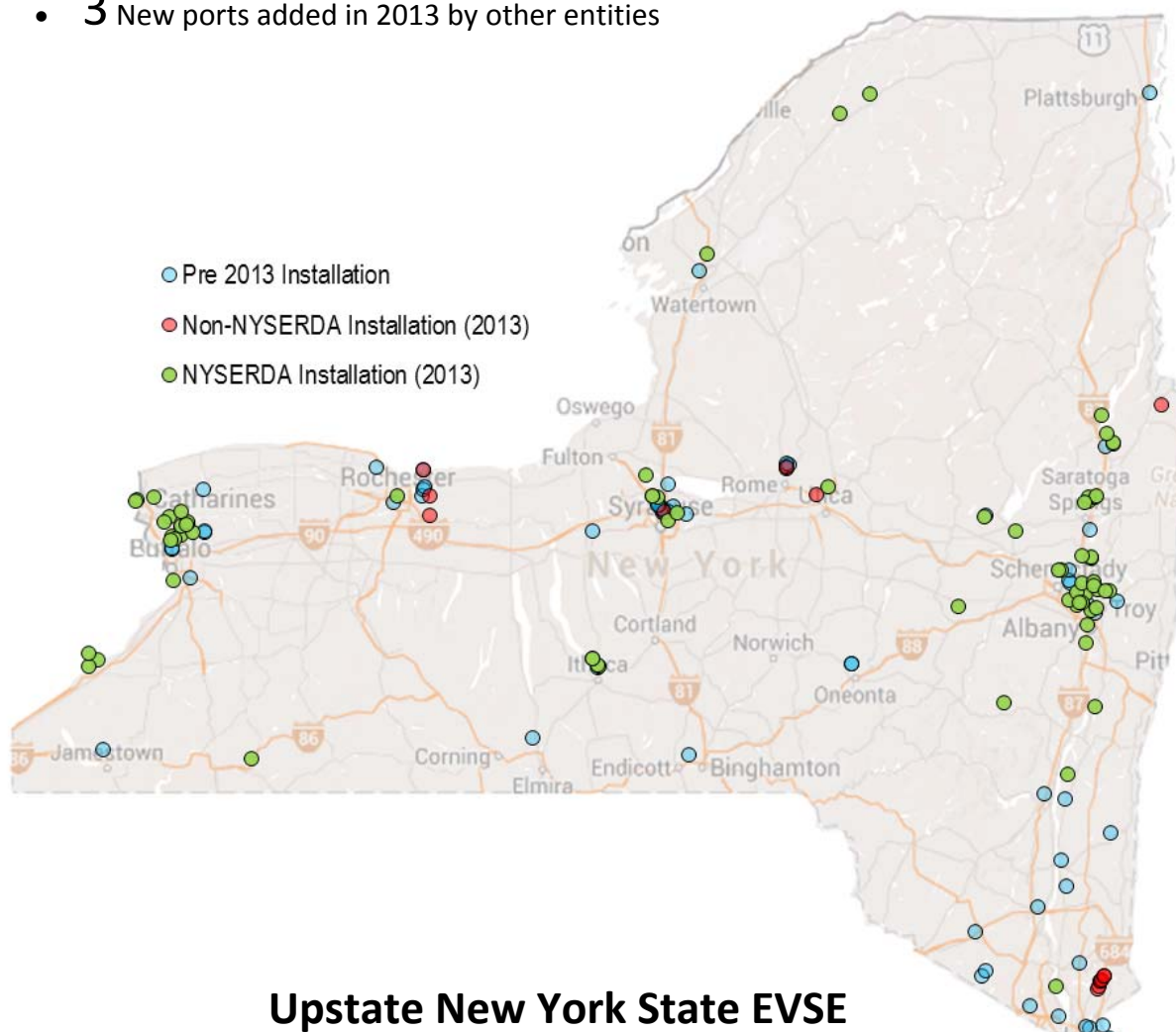
# NYS EVSE as of December 31, 2013

## 743 Total Public Electric Vehicle Charging Ports

- **259** New ports added in 2013 through NYSERDA's EVSE Deployment Program
- **75** New ports added in 2013 by other entities

## 126 Total Private Electric Vehicle Charging Ports

- **25** New ports added in 2013 through NYSERDA's EVSE Deployment Program
- **3** New ports added in 2013 by other entities



welcome to Icon Parking

head

Electric Car  
Charging Station



-chargepoint+

"Access Anywhere. Go Everywhere."

exit on

icon stay right

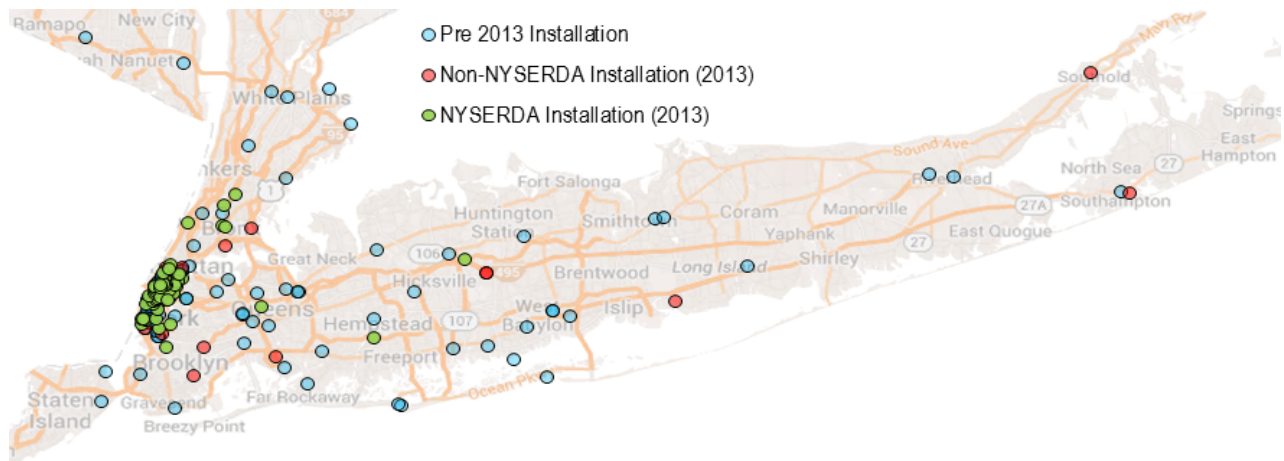
icon stay right

ation key only

stop

stant





## New York City and Long Island EVSE

### NYSERDA EVSE Deployment Program 2013 installations include;

**NYC Parking Garages (70 ports)**

**Kohl's Retail Stores (16)**

**Hilton Hotels (12)**

**Chili's Restaurants (14)**

**Marriot Hotels (10)**

**New York State Attractions (14)**

- Bronx Zoo
- Buffalo Zoo
- Niagara Falls
- Onondaga Lake
- Windham Mountain

**Medical Facilities (6)**

- Cayuga Medical Center
- Glens Falls Hospital

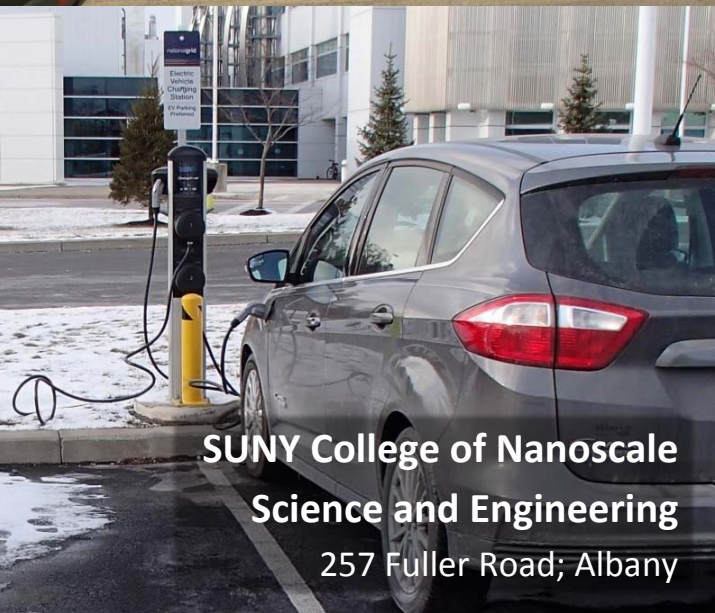
**Frito-Lay Distribution Facilities (20)**

**Universities and Colleges (22)**

- Bard College
- Buffalo State
- Clarkson University
- Columbia University
- Empire State College
- Rensselaer Polytechnic Institute
- Schenectady Community College
- Skidmore College
- St. Lawrence University
- SUNY Albany
- SUNY Buffalo
- SUNY Cobleskill
- SUNY IT
- Queens College
- Union College



**Frito-Lay Jim Rich Service Center**  
70 Ridgeland Road; Rochester



**SUNY College of Nanoscale  
Science and Engineering**  
257 Fuller Road; Albany

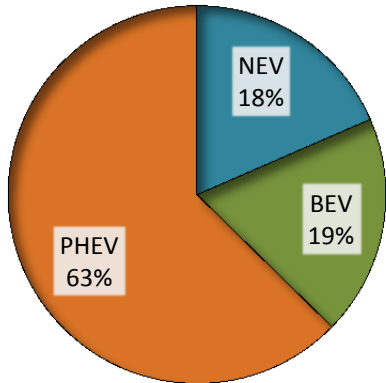


**Vanderbilt Financial**  
125 Froehlich Farm Boulevard; Woodbury

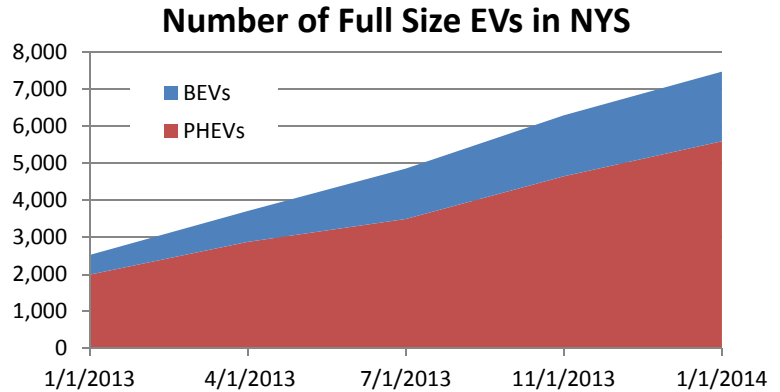


**SUNY Albany**  
1400 Washington Avenue; Albany

# NYS Plug-in Electric Vehicle Ownership



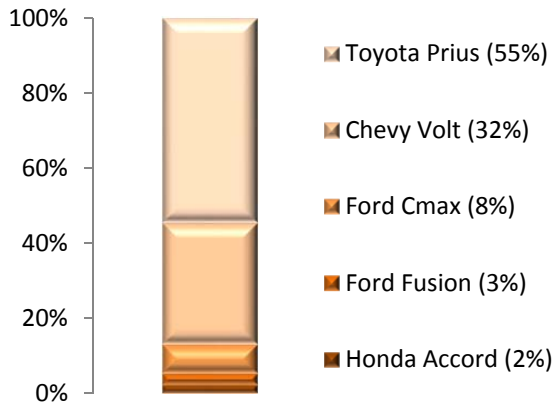
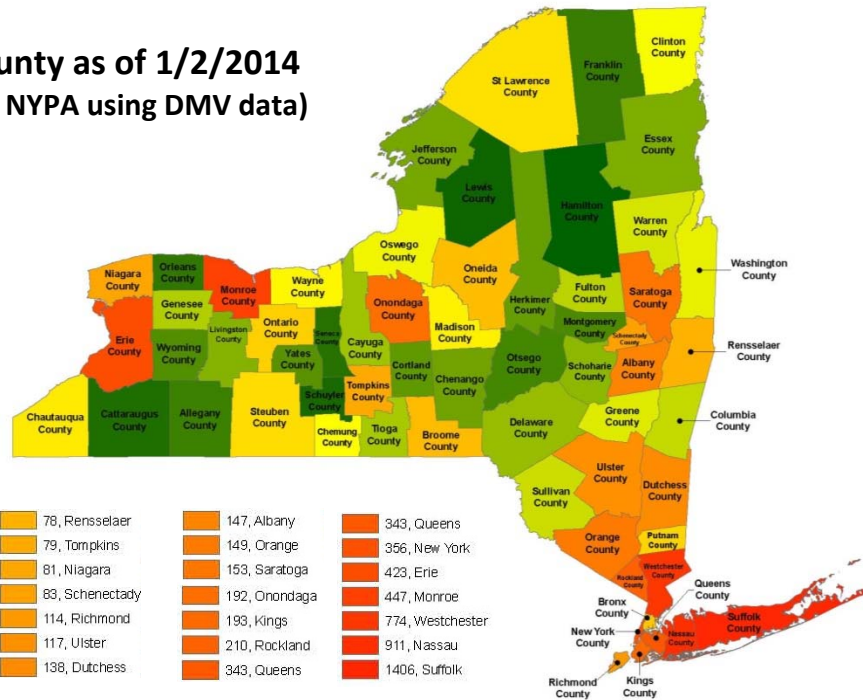
All NYS Electric Plug-in Vehicles



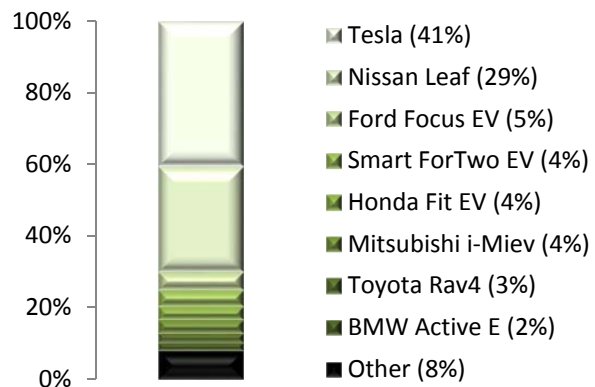
## EVs by County as of 1/2/2014 (Created by NYPA using DMV data)

**Totals, COUNTY**

1, Hamilton	15, Tioga
3, Lewis	16, Genesee
4, Schuyler	18, Fulton
4, Cattaraugus	19, Columbia
5, Seneca	21, Sullivan
5, Orleans	21, Warren
8, Franklin	22, Greene
9, Allegany	23, Washington
10, Otsego	25, Oswego
10, Montgomery	25, Clinton
11, Wyoming	28, Chemung
11, Yates	30, Wayne
11, Cortland	31, Madison
11, Herkimer	32, Chautauqua
12, Chenango	40, St Lawrence
13, Jefferson	40, Steuben
13, Essex	52, Putnam
14, Livingston	57, Ontario
15, Schoharie	65, Bronx
15, Delaware	66, Oneida
15, Cayuga	71, Broome



Plug-in Hybrid Electric Vehicles (PHEVs)



Battery Electric Vehicles (BEVs)

COURTYARD  
Marriott

FIRE DEPT.  
CONNECTION





# EVSE Utilization

While most of the new 141 EVSE installations in the NYSERDA EVSE Deployment Program were only operational near the end of the year, for 2013 use from all stations resulted in;

<b>Consumption of 74 MWh of energy</b>	<b>Displacement of 10,000 gallons of petroleum</b>	<b>Savings of 131,000 lbs of CO<sub>2</sub> emissions</b>
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## Public EVSE Stations Statistics

**3,907** Charge Events totaling **39** MWH

**3%** of the time an EVSE port was occupied

**63%** of the occupied time was spent charging

**0.1** charge events per day per port

**5** plug-in hours and **10** kWh per charge event



**Cayuga Medical Center**  
91-273 Dates Drive; Ithaca



**Chili's Restaurant**  
1570 Military Road; Niagara Falls

## Private EVSE Station Statistics

**1,468** Charge Events totaling **35** MWH

**27%** of the time an EVSE port was occupied

**26%** of the occupied time was spent charging

**0.6** charge events per day per port

**11** plug-in hours and **24** kWh per charge event



## Of the public EVSE installations in the NYSERDA EVSE Deployment Program;

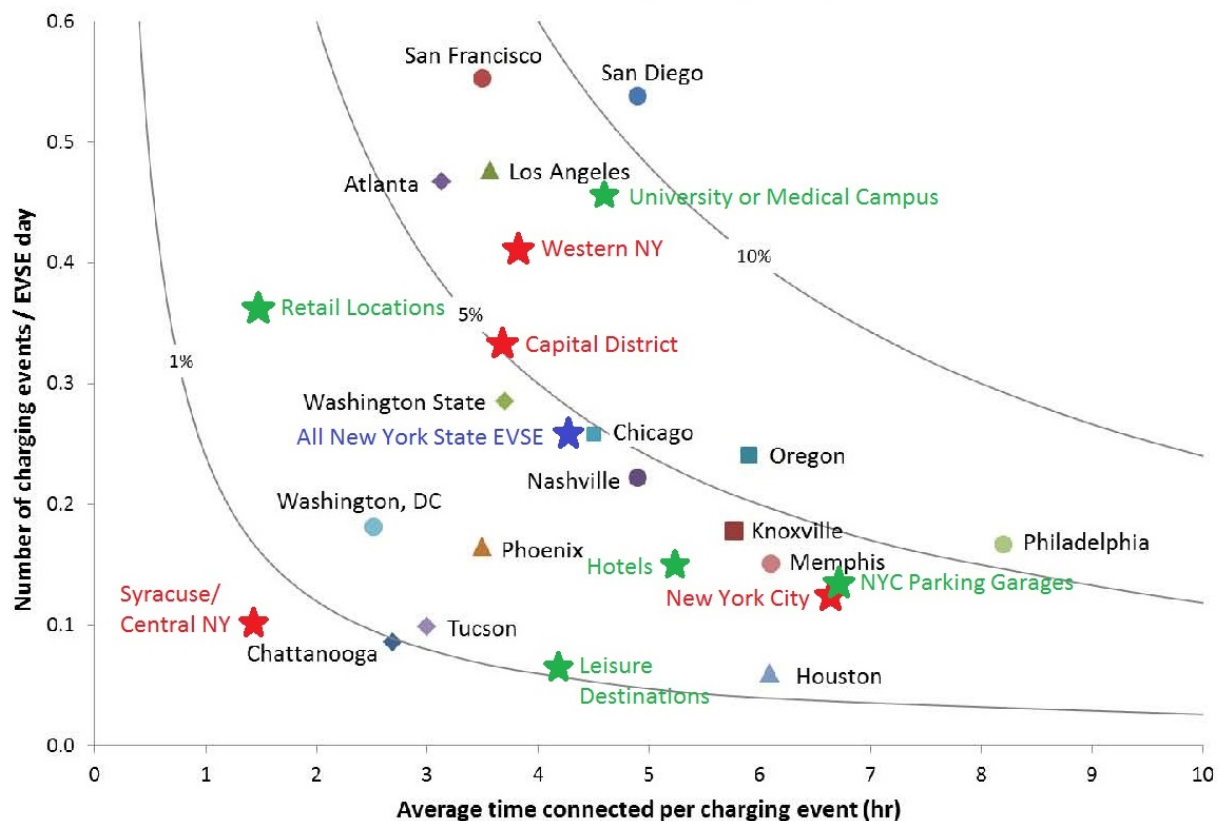
EVSE in **New York City parking garages** dispensed **3 to 4 times more energy per charge event** than EVSE in other parts of the State.

EVSE in the **Capital District and Western NY** were **occupied more** (a vehicle was plugged into a port an average of 3.8% and 3.1% of the time respectively) than EVSE in other parts of the State.

EVSE that **charged a fee for use** (most of which were in NYC) had **fewer charge events per day** (0.05 versus 0.16 charge events per day at free stations), but dispensed **more energy per charge event** (23.2 kWh versus 8.6 kWh per charge event at free stations).

The **average plug-in time per charge event differed for various location types**. Shortest was the Retail locations (1.6 hours), followed by Hotels (4.3 hours), Leisure Destinations (4.5 hours), University or Medical Centers (5.6 hours), and NYC Parking Lot/Garage (6.5 hours). Workplaces and Multi-family Housing showed even longer plug-in times per charge event, but have few installations to date.

## Comparison of public NYS EVSE usage to public EV Project Blink EVSE usage<sup>1</sup>



<sup>1</sup> Smart, John. Electric Vehicle Charging Infrastructure Usage Observed in Large-scale Charging Infrastructure Demonstrations. Idaho National Laboratory. Feb 2014. <http://avt.inel.gov/pdf/EVProj/EVInfrastructureUsage.pdf>

ELECTRIC VEHICLE CHARGING STATION PARKING ONLY

ELECTRIC VEHICLE PARKING ONLY WHILE CHARGING

Electric Car Charging Station  
-chargepoint+  
"Access Anywhere. Go Everywhere."

VILLAGE OF HAVERSTRAW  
ELECTRIC VEHICLE CHARGING STATION  
(2 HOUR MAX)

nationalgrid  
Electric Vehicle Charging Station  
EV Parking Preferred

SKYCHARGERS  
RESERVED PARKING FOR ELECTRIC VEHICLES

RESERVED FOR ALTERNATIVE FUEL VEHICLES

ELECTRIC VEHICLE CHARGING STATION  
Provided By: Car Charging Group, Inc.

RESERVED PARKING FOR ELECTRIC VEHICLES WHILE CHARGING

ELECTRIC VEHICLE CHARGING STATION

Electric Vehicle Charging Station  
Get a charge while you shop.  
Kohl's is pleased to provide this Electric Vehicle Charging Station free of charge while you shop.  
KOHLS Cares

ELECTRIC VEHICLE CHARGING ONLY

RESERVED PARKING  
ELECTRIC VEHICLES ONLY

ELECTRIC VEHICLE PARKING ONLY

EXCEPT FOR ELECTRIC VEHICLE CHARGING

RESERVED PARKING  
HYBRID VEHICLES

Electric Vehicle Charging Station  
Please...  
Courtesy of Price Chopper

ELECTRIC VEHICLE PARKING ONLY



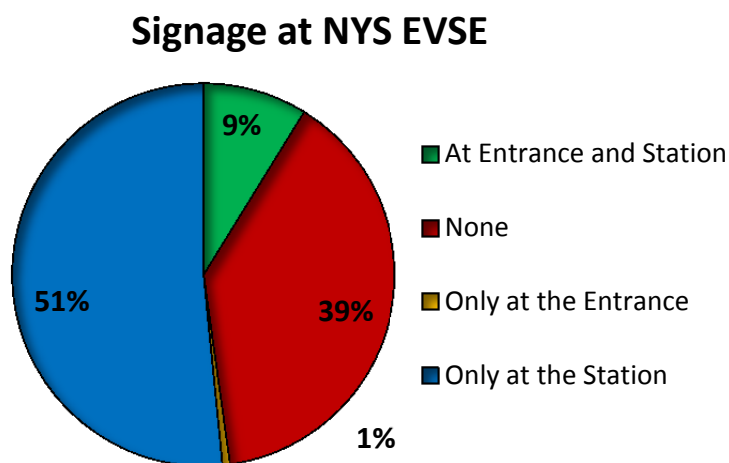
CHARGING POINT  
Electric Vehicle Charging Station  
Limited Time

# Key Observations

EVSE **installation costs greatly varied**; ranging from \$1,567 to \$25,785 with an average of \$7,305. Key factors that influence the installation costs are;

- 1) Length of run from the electrical panel to the station
- 2) Whether a new electrical service panel must be added
- 3) Ground surface that must be excavated and repaired for the underground conduit
- 4) Whether a new concrete base must be constructed
- 5) Location within the State (i.e. labor rates and permit fees)
- 6) Experience of the installer (impacts the number of hours to install the EVSE)

There was **very little consistency in the signage** and pavement markings used at EVSE locations for different installers if any was used at all. As shown in the figure, many had no signs at all and more than half only had signs on the station itself which does not help EV drivers in locating the station. The variation in signage (see preceding page) can lead to driver confusion.



Keeping parking spaces in front of the **EVSE available for drivers to charge EVs** was a challenge at some locations. Signage can influence this as some do not state that only EVs can park there and less specifically state that the EV must be charging when parked there. Even if the signage is clear, it must be enforced to be effective. It was not uncommon to see non-EVs parked in these spaces. At some locations, equipment or storage trailers were parked in one of the spaces and in winter, some spaces were occupied by a snow pile. These locations clearly did not consider how the parking lot is used all year round before the EVSE was installed.

The stations that are experiencing the **most use are those installed at a location with known EV drivers**. These include some parking garages in New York City, apartment complexes, and universities. A few retail locations make that list as well, but that might be from an employee rather than customers. This trend will likely continue until EVs are more common. However, the **most important stations may be the more remote destinations**. While these are less used, when they are used it is likely by an EV driver in need of a charge and these stations also likely facilitate the expanded use of EVs throughout the State.



nationalgrid

Electric  
Vehicle  
Charging  
Station

EV Parking  
Preferred

**KOHL'S**

STOP

STOP

ChargePoint

1

2

3

# Press Coverage

1. [ChargePoint Launches First of More Than 80 Electric Vehicle Charging Stations, with Funding from NYSERDA](#). Business Wire. March 11, 2013.
2. [\\$1M NYSERDA Grant Sparks EV Charging Stations in New York City](#). CleanTechIQ. March 12, 2013.
3. [Governor Cuomo Announces the Installation of Hundreds of Electric Vehicle Charging Stations](#). NYSERDA. April 11, 2013.
4. Seiler, Casey. [State details vehicle plug-in stations initiative](#). Capitol Confidential (Time Union). April 11, 2013.
5. [Electric Vehicle Charging Stations Coming Across New York State](#). CBS New York. April 13, 2013.
6. [New York State, Golub Corporation Announce Installation of Electric Vehicle Charging Stations At Niskayuna Price Chopper](#). NYSERDA. April 25, 2013.
7. [ChargePoint, National Grid, and NYSERDA Launch Electric Vehicle Charging Station Project in Upstate New York](#). NYSERDA. May 22, 2013.
8. Settle, Kristopher. [EV Initiatives in New York Spur More Sales, High Expectations](#). The Energy Collective. May 30, 2013.
9. [Electric Vehicles Will Get a Charge at St. Lawrence University](#). St. Lawrence University. June 28, 2013.
10. [Governor Cuomo Launches \\$19 Million Truck Voucher Incentive Program to Promote Electric Vehicles](#). NYSERDA. August 9, 2013.
11. [Glens Falls Hospital Installs Electric Vehicle Charging Stations](#). Saratoga Today Newspaper. August 16, 2013.
12. [Governor Cuomo Announces Charge NY Program to Accelerate Use and Benefits of Electric Vehicles in New York](#). NYSERDA. September 6, 2013.
13. [New York Charges Forward: Frito-Lay Increases Fleet of All-Electric Delivery Trucks And Rolls Out Enhanced Charging Stations In The State](#). MarketWatch. September 12, 2013.
14. [ChargePoint, National Grid and NYSERDA Unveil Electric Vehicle Charging Station Project at Tops Supermarket](#). NYSERDA. September 25, 2013.
15. [New Electric Vehicle Charging Station Open at SUNY Empire State College](#). SUNY Empire State College. November 1, 2013.
16. Nealon, Cory. [UB installs electric car-charging stations on campus](#). UB Reporter. December 5, 2013.
17. Mader, Barbara. [Kohl's offers free electric vehicle charging to customers](#). Examiner.com. December 16, 2013.



PHARMACY CAFE

**Tops**

DELI

BAKERY

Bottle Return



TOPS  
OPEN 24 HOURS  
6.99



# Detailed EVSE Usage Statistics\*

Region	Ports	Total Days of Port Availability	Charge Events (CE)	Charge Events per day	Plug-in Time			Charging Time			% of Plug-in time charging	Total Energy (kWh)	Energy per CE
					Hours	Hours per CE	%	Hours	Hours per CE	%			
Capital District	71	10,539	2,112	0.20	9,641	4.6	3.8%	6,506	3.1	2.6%	67%	14,793	7.0
New York City	56	11,302	776	0.07	5,012	6.5	1.8%	3,109	4.0	1.1%	62%	18,369	23.7
Syracuse/Central NY	14	2,364	182	0.08	299	1.6	0.5%	255	1.4	0.4%	85%	1,069	5.9
Western NY	32	3,782	753	0.20	2,851	3.8	3.1%	1,342	1.8	1.5%	47%	3,998	5.3
Other	10	1,450	84	0.06	215	3	0.6%	162	2	0.5%	75%	657	7.8

Location Type/Venue	Ports	Total Days of Port Availability	Charge Events (CE)	Charge Events per day	Plug-in Time			Charging Time			% of Plug-in time charging	Total Energy (kWh)	Energy per CE
					Hours	Hours per CE	%	Hours	Hours per CE	%			
Hotel	20	2,494	270	0.11	1,165	4.3	1.9%	696	2.6	1.2%	60%	3,041	11.3
Leisure Destination	12	1,374	60	0.04	270	4.5	0.8%	166	2.8	0.5%	61%	567	9.4
Parking Lot/Garage (NYC)	54	10,812	774	0.07	5,009	6.5	1.9%	3,106	4.0	1.2%	62%	18,359	23.7
Retail Location	49	7,413	1,334	0.18	2,105	1.6	1.2%	1,661	1.2	0.9%	79%	6,210	4.7
University or Medical Campus	34	4,788	982	0.21	5,466	5.6	4.8%	2,883	2.9	2.5%	53%	6,292	6.4
Other	14	2,556	487	0.19	4,004	8.2	6.5%	2,862	5.9	4.7%	71%	4,417	9.1

Land Use Type	Ports	Total Days of Port Availability	Charge Events (CE)	Charge Events per day	Plug-in Time			Charging Time			% of Plug-in time charging	Total Energy (kWh)	Energy per CE
					Hours	Hours per CE	%	Hours	Hours per CE	%			
Rural	22	2,926	325	0.11	1,533	4.7	2.2%	572	1.8	0.8%	37%	2,026	6.2
Suburban	71	11,281	2,073	0.18	7,151	3.4	2.6%	4,977	2.4	1.8%	70%	12,818	6.2
Urban	90	15,230	1,509	0.10	9,335	6.2	2.6%	5,825	3.9	1.6%	62%	24,042	15.9

Payment Required	Ports	Total Days of Port Availability	Charge Events (CE)	Charge Events per day	Plug-in Time			Charging Time			% of Plug-in time charging	Total Energy (kWh)	Energy per CE
					Hours	Hours per CE	%	Hours	Hours per CE	%			
No	141	22,001	3,543	0.16	15,899	4.5	3.0%	9,950	2.8	1.9%	63%	30,440	8.6
Yes	42	7,436	364	0.05	2,119	5.8	1.2%	1,424	3.9	0.8%	67%	8,446	23.2

\*Includes data from all stations reporting usage, which may be less than all stations installed by the end of 2013.