

# Charging Station Implementation Strategies

## Tompkins County Plug-in Electric Vehicle Infrastructure Plan



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**The Ithaca-Tompkins County Transportation Council**



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## Introduction

The electric vehicle (EV) industry has expanded in recent years; however, widespread adoption of EVs has not yet occurred despite their advanced engineering, lower fuel costs, and environmental benefits. This is due in part to the lack of public EV infrastructure, particularly charging stations, which are necessary to make EVs a practical choice for drivers. Transportation is responsible for 35% of all greenhouse gas (GHG) emissions in Tompkins County and widespread use of EVs has the potential to significantly reduce GHG emissions while creating green jobs.

Over the past year, an EV Infrastructure Plan for Tompkins County was coordinated by the Ithaca-Tompkins County Transportation Council who, with several other key organization in the area, formed a Steering Committee to oversee this effort. The Contractors, Energetics Incorporated and Clean Communities of Central New York, are supporting Tompkins County in this transition to help its communities prepare and encourage EV adoption and use. Several reports have been developed for this project to provide background on this topic for local residents and document the results from analyzing the potential to expand EV infrastructure in the County.

***Existing Conditions and Best Practices*** summarized the current conditions for EV use in Tompkins County, and best practices in the establishment of a charging station network, which included commercially-owned charging stations, municipally or institutionally-owned charging stations, and charging apparatus that may be installed in new homes and businesses, as well as existing buildings.

***EV Charging Station Site Suitability*** identified a set of optimal locations for EV charging stations in Tompkins County using a Criteria Tool. The tool assigned a suitability score for potential charging station sites based on several characteristics of that location. This report explains the criteria and associated suitability scores for evaluated sites based on the Criteria Tool.

***Preliminary Engineering and Cost Analysis for EV Charging Stations*** documented the recommended strategy for installing new EV charging stations at seven different locations in Tompkins County that showed good potential based on the Criteria Tool. In addition to preparing these seven sites for a charging station installation, these locations represent a range of site characteristics that should help other locations estimate the costs to install a charging station based on similarities to these locations.

This report summarizes opportunities to expand the EV charging station network in Tompkins County. It outlines financing strategies for installing EV charging stations, along with an implementation strategy for Tompkins County to pursue the recommended EV infrastructure investments and other opportunities to increase EV use.

## Financing Strategies

An initial cost of \$10,000 to \$25,000 to install an EV charging station (as estimated for potential sites in the *Preliminary Engineering and Cost Analysis*) is a significant investment for a business or organization. While there is an opportunity to potentially recover electricity costs from the EV drivers (around \$1.50 per charge event), this requires ongoing networking fees (around \$300 per charging port per year). Some site hosts seek to recover the networking fee through usage fees, however, with the average charging port experiencing only about 100 charge events per year, this would add an additional \$3.00 fee per charge event which is twice the cost of just the electricity itself. For this reason, charging station hosts have found it challenging to recover the operating costs for a charging station in most locations. EV drivers typically would plug in to a public charging station with this higher fee only if they absolutely require a charge. Otherwise, they will wait until they get home where they have a charging station that only costs them the electricity dispensed, \$1.50, rather than the \$4.50 fee at the public station.

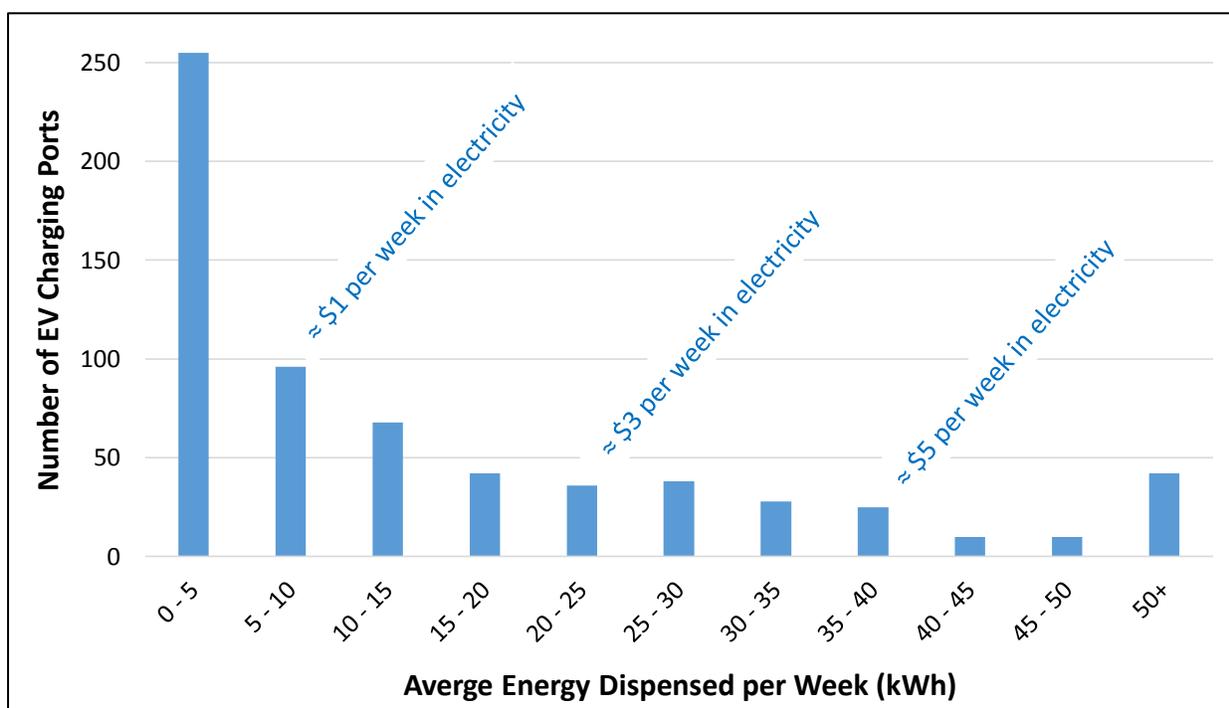


Figure 1. Average electricity dispensed and cost at \$0.31 per kWh, per EV charging port in the NYSERDA Deployment Program for 2016

Given the challenge to recover the costs for electricity and networking, it is nearly impossible for a site host to expect to charge any additional fee to cover the initial costs to install the station. Therefore, a site host must recognize that the initial costs to install a station will not be recovered through usage fees. However, there are many benefits a site host can get from having a charging station. The primary benefit is additional business from EV drivers that come to your location to charge and then purchase services or products from your business. The charging station is also an outward sign of the host site's commitment to zero emission transportation solutions which may attract business from others beyond the EV drivers who wish to patronize businesses that promote sustainability. If a station host doesn't offer services or goods that can be purchased at their location, the station can still offer the host benefits. Charging stations can also attract desirable employees who are looking for a place of employment that cares about the

environment or would offer them a perk like free charging if they bought an EV. Note that the financing strategies outlined in this report are for publically accessible charging stations serving guests or visitors, rather than employee or fleet EVs. Some of these strategies could apply to infrastructure serving personal, employee, or fleet EVs, but those often have different financial considerations and justifications, because the infrastructure owner or operator can take advantage of the fuel savings from their EV that is plugging into these stations.

While there are many reasons to install charging stations for these various benefits, there is still a need to address how the station can be financed by the host site. Several strategies can be used for this, with the first to be selective about where to install the charging station so the initial costs are minimized. There are some charging station manufacturers or service providers that offer financing options and occasionally profit sharing arrangements, but many manufactures are no longer offering this option because they are not seeing a good opportunity in this market. Incentives and grants are likely the best option for site hosts to reduce the initial cost of installing a charging station. Currently New York State is very supportive of expanding EV technology and is offering attractive opportunities to install charging stations.

### Low Cost Installations

The previously published report on Charging Station Installation Analysis for the Electric Vehicle Infrastructure Plan in Tompkins County, provided in-depth cost estimates for various charging station installations. There are many factors that contribute to the total installation cost, which is why it can range from \$10,000 to \$25,000 for an AC Level 2 dual-port charging station. A dual-port station, which can charge 2 EVs at once, is often used as a standard initial installation because many charging station models are available in this configuration and can be placed between parking spaces to serve multiple EVs. Unless the installation of the station is extremely simple, once a site has an excavator and electrician onsite to perform the work, the cost between a single- and dual-port installation is negligible and only includes the additional equipment and wiring that is needed (typically less than 20% of the entire installation).

Installation costs can be significantly higher if additional electrical panel modifications or new service to the facility are needed. The electrical service must have the capacity to add two 240 volt - 40 amp circuits for an AC Level 2 dual-port station (the overall service should be at least 200 amps and potentially higher if there are other significant loads in the building). Having available breaker slots in the electrical panel to add these breakers reduces the electrical installation costs and eliminates the need to use a subpanel. An older, outdated panel may need to be replaced and updated to current code before a charger can be safely added, which would also add costs. In most circumstances, a host site only has one electrical panel from which power for the charger must originate. However, if a host is contemplating putting in a charging station at two different locations and can choose the one with the most recent electrical work or the one that has newer subpanels from which they can pull power from, this can reduce installation costs.

Another key factor in the installation cost for an EV charging station is the distance that power must run from the electrical panel to the location of the charger, and if there are any obstructions in the path of the wire. For cost reasons, it is desirable to minimize the distance between the electrical panel and EV charging station as much as possible, and in some cases might be beneficial to use an existing subpanel in a different part of the building or perhaps even in another building on the property. Conduit for the electrical wire will be routed along ceilings and walls inside, pass through the building foundation or walls, and buried underground until it reaches the station. Inside the building, the length of the run, obstacles (e.g., concrete walls, metal I-beams, lights, or fire suppression systems), and accessibility contribute to

costs. For outdoor routing, the length of the run, immovable objects (e.g., landscaping, tree roots, ponds, or buildings), manmade surfaces (e.g., concrete or pavement), utility lines (e.g., electrical, water, or gas), and any other obstacles that may complicate trenching should be avoided as best as possible. Trenching through grass, dirt, or gravel is easy to dig and repair. If there is a parking space next to a building and the EV charging station can be mounted on the building surface, this eliminates all trenching costs (but make sure the cord would not obstruct any walkway when being used to charge an EV).



Figure 2. If there is no parking space adjacent to a building where the EV charging station can be wall-mounted, look for locations where the conduit path for power can be through grass (A) or only a small portion of sidewalk (B). It is more expensive to cut and repair pavement (C) or to use directional boring under pavement (D)

Wall mounted charging stations have lower installation costs and the units are less expensive. Garage installations can be ideal for reducing costs and protecting the station from the environment, but note that stations requiring cellular service for communication might need to run an antennae to the outside of a parking structure for a good signal. This cellular signal is required for networked stations that operate on a charging network which can offer features such as active station monitoring, tracking usage, and billing EV drivers for using the station. Many hosts like the capabilities of networked stations, but the units are about twice as expensive as non-networked stations and require the host to pay an annual subscription fee to use the features. Most EV charging stations available for public use will be AC Level 2 so the user can get a worthwhile charge within 2-4 hours. However, for longer-term parking situations, such as workplace or transit stations where an EV might stay parked for 8 hours, or airports where the EV might be in one place for days, AC Level 1 charging stations are a lower cost option. These stations have half the electrical power requirements and may be purchased for less than \$1,000. However, AC Level 1 stations are non-networked and typically are only appropriate in a garage setting.



Figure 3. Mounting this Level 2 station on an existing structure helped keep the installation costs low for the Sciencenter

For organizations interested in providing EV charging, but do not want to or are unable to pay a lot for the initial installation, there are opportunities to lower costs by taking advantage of some strategies mentioned above. Wall mounted installations, non-networked stations, or even AC Level 1 stations are significantly less expensive than the typical pedestal mounted networked AC Level 2 stations found in many public settings. Instead of an average installation cost of \$18,000, these strategies can reduce installation costs below \$10,000 and in some cases even less than \$5,000. This makes installing a charging station an option for more organizations. One option even less expensive than installing a simple station on a wall, would be to install ground fault circuit interrupter (GFCI) outlets on dedicated 15 amp circuits which can be offered to EV drivers for charging. All EVs come with a portable AC Level 1 charger that they can pull out and connect between the outlet and their vehicle, so any EV driver is prepared for these outdoor outlets. However, a GFCI outlet for regular EV charging use is not recommended, because those outlets are not designed for continuous max power draw by an EV and the outlet receptacle will wear out and potentially need to be replaced. For occasional use and an opportunity for a business to start offering EV charging where there might not be high demand, this can be an initial solution to test.



Figure 4. Outlets on several light poles at the Cornell Business Park are offered for EV charging

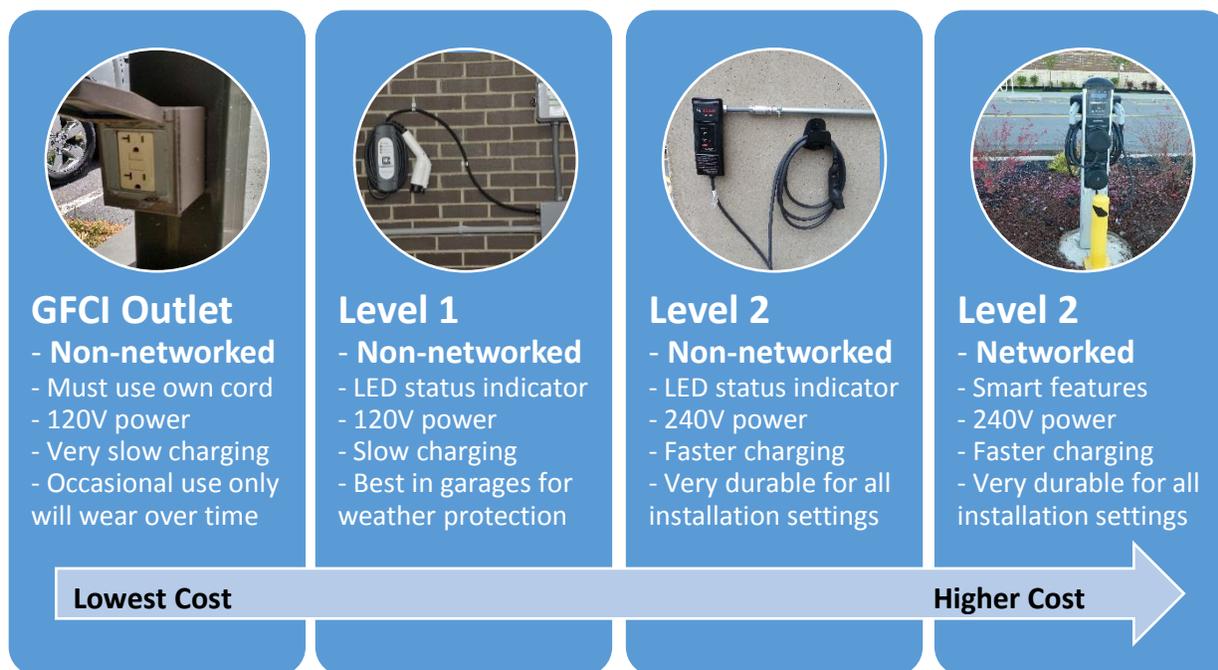


Figure 5. EV Charging Station Alternative Current (AC) Types

## Manufacturer/Provider Financing

The most common station ownership model is for the host site to own the station. Some charging station service providers advertise a different business model, in which they pay for the installation, own and operate the station, and share some of the profits with the host site. Unfortunately, several of these companies have gone out of business recently as the financial model did not prove to be beneficial. Most charging station service providers still in business operate the network that manages the station and may manufacture the equipment as well. Chargepoint, EV Connect, Greenlots, EVgo, and CarChargingGroup are some examples of charging station service providers. Unfortunately, most of these companies no longer offer this charging station operating model unless the location is in a very select market where they know they can return a profit or they have secured a grant that has covered a portion of the installation costs.

Some charging station manufacturers, third-party charging station service providers, and charging station network providers offer a leasing option for their equipment. As with the above financing option, the company would likely have a grant award to offer any discounted leasing rate for customers because in most markets it is very unlikely for any charging station to return a profit that could help pay for the initial cost of the equipment or installation. However, several charging station service providers and manufacturers may offer financing terms with little or no interest because they are still competing with one another to establish market share. As the number of charging station manufacturers and service providers decrease (in the last year, three major manufacturers/distributors—Eaton, GE, and Leviton—have announced they are discontinuing their charging station product line) and the clear market leaders emerge in this sector, there will be fewer opportunities to secure discounts or financing.

Some EV manufacturers have programs to support charging station installations. Tesla has provided charging stations for their vehicles to certain destinations where they anticipate their drivers going to increase the available infrastructure, but hosts were required to pay for the installation. Nissan had a similar program for fast chargers which would provide a station if the host paid for the installation. Additionally, BMW has been looking to install charging stations in certain markets at tourist destinations to build out the charging infrastructure and entice people to buy EVs.

## Incentives and Grants

Similar to the trend in financing options from the charging station manufacturers and service providers, there were several programs and grants that funded charging station installations for hosts because the industry was new and sponsors had interest in learning how this technology would perform. At the Federal level, the two major efforts sponsored by the U.S. Department of Energy were the EV Project and ChargePoint America. The EV Project deployed 13,000 home and public charging stations and registered 8,000 EVs in order to collect and analyze data. This project collected data to characterize vehicle use in diverse topographic and climatic conditions, evaluated the effectiveness of charging infrastructure, and conducted trials of various revenue systems for commercial and public charging infrastructures. The ultimate goal of The EV Project was to take the lessons learned from the initial deployment of EVs and the charging infrastructure supporting them, to enable the streamlined deployment for the next generation of EVs. Starting in May 2010, ChargePoint America installed 4,600 home, public, and commercial charging points in 10 U.S. regions, one of which was the New York City area. This was also to help understand how charging stations and EVs would be used since this was early in their deployment.

In New York State, the New York State Energy Research and Development Authority (NYSERDA) awarded \$8 million to 14 organizations in 2012 and 2013 to install AC Level 2 EV charging stations. These installations have totaled more than 700 charging outlets and represent a wide range of business models and approaches to providing public charging infrastructure. The goal of this program was to expand New York's charging infrastructure and learn about which types of locations and business models are most promising. The opportunities to secure funding for EV charging stations are dwindling as the technology matures. However, there are still several active incentives and grants that can be used by ambitious hosts that show a strong interest in supporting an installation and are willing to make some investment themselves. Several current incentives and grants in New York State for EV charging stations are listed below with an explanation on who is eligible to participate and what each program offers. Currently there are no incentives at the Federal level for EV charging stations.

#### [New York State Alternative Fuel Vehicle Recharging Tax Credit](#)

New York State provides an [income tax credit](#) for 50% of the cost, up to \$5,000, for the purchase and installation of alternative fuel vehicle refueling and electric vehicle recharging stations until end of 2017. The credit targets commercial and workplace charging stations.

#### [NYPA Public Sector Charging Station Program](#)

Level 2 EV charging stations manufactured by EV-Box are offered to **NYPA energy customers, as well as any state or local government entity**, through a pre-negotiated contract with EV Connect to install and manage approximately 300 stations. EV Connect will provide management of the charging ecosystem, which includes the charging stations, host locations, electric utility interaction and the driver experience. This incentive can be combined with the Municipal ZEV Infrastructure Rebate Program (see below).

#### [Energetics Incorporated Targeted EV Charging Station Deployments](#)

Coordination support and discounted costs to install ChargePoint EV charging stations are available as part of a broad EV market development project **in the following regions of NYS:**

- 1) Capital District, Mohawk Valley, Central New York, Genesee Region, and Western New York – five stations per region, in locations identified by the regions as priority areas
- 2) Rochester – four stations in parking garages as part of an EV Deployment Community project
- 3) Hudson Valley and Catskills regions – twelve stations at tourist destinations
- 4) To Be Determined Municipality – eleven stations as part of a second EV Deployment Community project

#### [EV Connect EV Charging Station Financing Project](#)

Low-cost financing and leasing opportunities for EV-Box charging stations with a **focus on public and non-profit entities**. EV Connect provides their innovative management and software solutions, making charging station management easy and interactive for every site host.

#### [Zero Emission Vehicle Infrastructure Rebate Program for Municipalities](#)

The [Municipal ZEV Infrastructure Rebate Program](#) concluded the 2016 Request for Applications on March 31, 2017. Through this program administered by the New York State Department of Conservation, rebates were awarded for EV charging stations up \$8,000 per port, and for DC Fast Charge infrastructure up to \$32,000 per pedestal. The applicant was responsible for a 20% local

match (of the rebate amount) and any additional costs above the stated limits. It is unknown whether additional funding for this program will be made available to continue it.

Additional incentives and grants may be available in the future, but they are less likely as a technology emerges so it is best to leverage those that are currently active. Now that several locations around the state have installed charging stations and best practices have been identified from those, there is less motivation for the sponsors to continue funding EV charging stations. Future funding will likely be directed towards charging technologies like fast chargers, wireless charging, or other technology that is just emerging in the market. This provides an opportunity to install the latest systems, but also comes with the potential for bugs or issues to work through as the products are first used in real world conditions.

No incentive or grant program will provide something for free without asking for something in return. These programs provide discounts and reduce out-of-pocket expenses, but several come with requirements and paperwork because the sponsor wants to gain some information and insight on the installation in exchange for the provided funding. In many cases that increases the time to deploy the technology and someone will need to handle the paperwork. Often this is a small sacrifice for receiving the funding and likely easier to allocate staff time than out-of-pocket expenses.

## Implementation Strategies and Goals for Tompkins County

Successful EV deployments occur in phases that gradually increase the number of charging stations and support these through education, outreach, and incentives for the vehicles themselves. From the state's perspective, increasing the number of charging stations is good, but the ultimate goal is the purchase of EVs which result in environmental benefits over their lifetime. A municipality may be less interested in increasing ownership, and primarily interested in increasing electric miles driven by residents and visitors so they are not using gasoline and emitting harmful pollutants in their local environment. However, encouraging more EV ownership will certainly accelerate this benefit. The following sections describe the characteristics of each deployment phase in the expansion of EV technology and note how Tompkins County currently falls on this timeline.

### Deployment Phase 1 – Introduction of the Technology

This first phase of deployment is when the technology first appears in the community with an EV being purchased by an early adopter and charging stations installed at that private residence and in the community. Tompkins County has passed this phase several years ago and now has a very vibrant EV culture. As of January 2017 there were 186 registered EVs and 10 public AC Level 2 charging stations with universal connectors, including a direct current (DC) fast charger.

During this initial phase, several items are resolved in regards to the administrative (permitting) process for installing charging stations which will make it much easier for other installations to follow. The first ones to drive an EV now understand the advantages and challenges with operating such a vehicle, which they have shared with neighbors and friends that may now be EV owners. Most Tompkins County residents can now recognize an EV model or may know someone that owns one. Local dealerships have sold EVs and have a much better sense as to how and who to market these towards. Public charging stations were installed and data on their use has been collected for several years which helps to understand where they are most effective and what the local demand for public charging is.

Given the local support for the environment, it is not surprising that Tompkins County has embraced EVs and has several early adopters that purchased vehicles and organizations that have installed public EV charging stations. Several of these were installed using grant funding by organizations willing to make an investment in this new technology, but some have been installed by organizations entirely on their own. Tompkins County has successfully progressed through this first deployment phase for EVs and is ready to embrace the next phase.

### Deployment Phase 2 – Reaching a Critical Mass

This is an ideal time for Tompkins County to support the next phase of EV deployment by marketing and supporting EV use beyond the early adopter. With many of the hurdles addressed and overcome by the early adopters, it is time to encourage every new car buyer to consider an EV. All local organizations should be determining if an EV charging station installation could be beneficial. The EV industry is similarly going through their next phase in deployment with several EV models coming to market that improve on their initial offerings. Almost all major manufacturers offer a plug-in hybrid electric vehicle or a battery electric vehicle and several have both. Battery technology has advanced while costs are decreasing which means that many of today's EV models have longer electric ranges to fit the driving pattern of more people. Just released this year is the Chevy Bolt with a 238 mile electric range at an MSRP starting at \$37,495 before

the Federal Tax Credit and State Rebate Incentive. The Bolt has a similar cost to prior year EVs that only had electric ranges less than 100 mile, while offering a similar range to some of the top-end EVs that have sold for around \$100,000. In addition to the expanded offerings by OEMs that are making EVs more attractive to customers, the Federal tax credit up to \$7,500 is still being offered and New York State has recently initiated a Drive Clean Rebate that could add a reduction of up to \$2,000 on EV purchases. These developments



*Figure 6. The 2017 Chevrolet Bolt with an electric range over 200 miles is sold for less than \$40,000, leads the way for the next generation of affordable EVs with ranges that meet most typical driving needs.*

on the vehicle side of the industry are likely to significantly increase EV ownership in New York State and Tompkins County. While the vehicle incentives are valuable at addressing the higher cost of purchase for these vehicles, which is one significant barrier towards widespread use, consumers need to have places where they can charge and be educated on why EVs might be a good option for them. Therefore, initiatives that expand the charging station network to support EV use, provide outreach to educate consumers about their options, and leverage the rebates and tax credits for vehicle purchases would have the most success at increasing EV ownership.

Analyzing the usage data from current EV charging stations around Tompkins County reveals that EV owners are using public charging and there is likely value to adding more. Increasing the public AC Level 2 charging station sites with universal connectors from the 10 currently in Tompkins County, to 15 or 20 would greatly expand the charging opportunities for EV drivers. This would provide more options for EV owners in case one charging station is occupied or out of service and give them the confidence that they will be able to charge away from their home which lets them rely more on their EV. Similarly, EV drivers wanting to visit Tompkins County would have increased confidence in finding a place to charge and therefore drive their EV when coming to town. For plug-in hybrid electric vehicle owners, these charging stations increase their ability to drive on electricity rather than gasoline which boosts their savings to offset the higher initial cost paid for that vehicle. Coupled with the decreasing cost for EVs, driving more electric miles helps the business case for owning EVs and will entice more people to buy them. The proposed deployment of additional charging stations in Tompkins County based on this project's research (Figure 7) would have a very positive impact on operating EVs in and around Ithaca. Note that the majority of these proposed locations for new EV charging stations are in Downtown Ithaca because that is the prime area for retail, entertainment, restaurant, and hotels where EV drivers are likely to go. Added to the existing stations, these installations will satisfy the needs of many EV drivers that come downtown for business or pleasure.

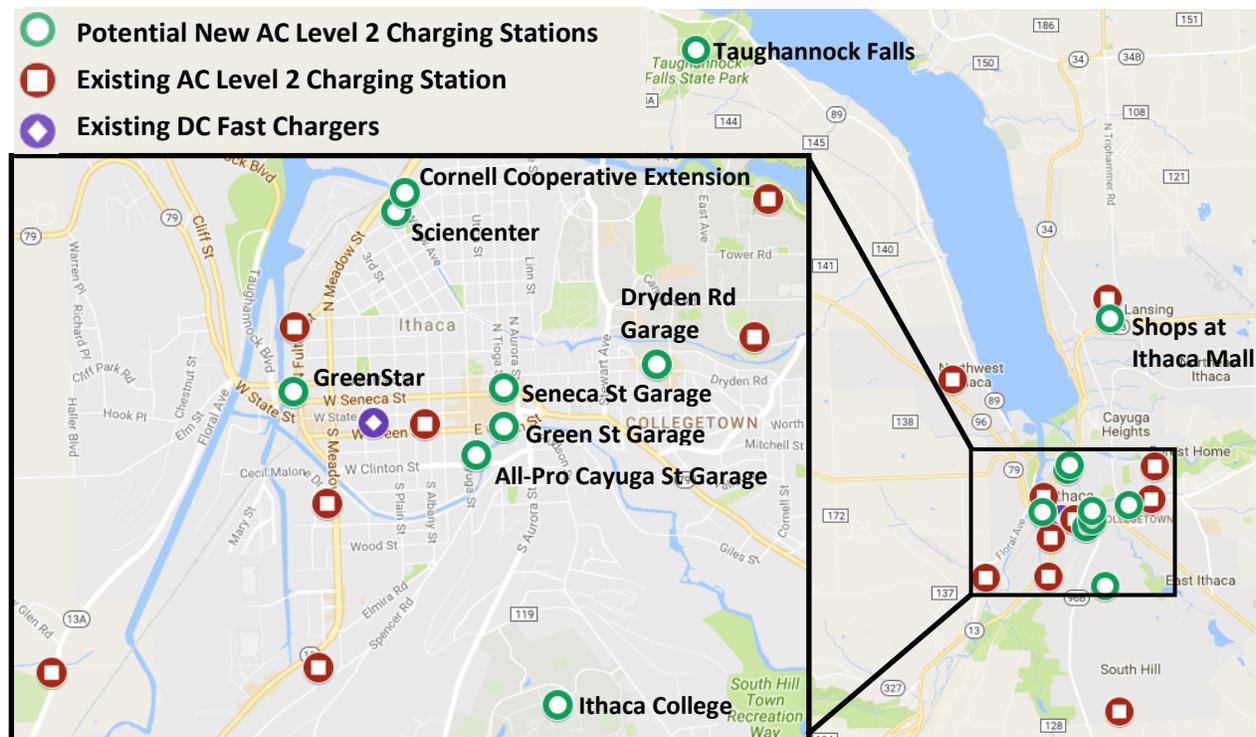


Figure 7. Existing and proposed new sites for EV chargers in Tompkins County

In addition to serving the needs of EV drivers, EV charging stations are a valuable tool in promoting this technology to prospective car buyers. The stations are visible reminders that EV technology is becoming a growing part of our transportation future and that drivers do have opportunities to charge when out in public. By alleviating “range anxiety” and making EVs a feasible option, new car buyers can focus their attention on the many benefits that EVs offer and determine whether they can take advantage of those in their typical driving pattern. However, successfully promoting EVs requires a multi-prong approach that specifically targets prospective EV buyers while also indirectly educating a broad audience about the technology.

In order to facilitate widespread adoption of EV technology, it is critical to engage a broad group of stakeholders in the marketplace and facilitate cooperation in new ways. These stakeholders include county and city governments, charging station providers, electricians, utilities, automobile manufacturers, auto dealerships, service providers, and fleet managers. Technology adoption can be significantly accelerated through the successful creation, by these stakeholders, of an ecosystem in which EV ownership is simple, convenient, attractive, and cost effective. Leadership at the local and county levels should ensure that the infrastructure, zoning, codes, and other needed steps are in place for deployment. Leveraging the lessons learned from more progressive cities and towns, these regulations and policies should be as uniform as possible to ease EV charging station installations. Local car dealerships are a critical stakeholder in the promotion of EVs because increased adoption is not possible if the EVs are not available for purchase. New EV models offering greater electric range and incentives from the federal and state government are renewing consumer interest in this technology. The good reliability of some early EV models that are still on the road today and positive feedback from EV owners has opened the door for a broader group of car buyers to be confident in this technology.

A broad-based consumer education program should be pursued that will take advantage of existing networks to create significant EV recognition, interest, and demand. This should include leveraging the participation of EV advocates, ranging from existing EV owners to environmental interest groups, in a coordinated communications program that would develop an outreach strategy with supporting businesses and organizations that have significant reach in the community (e.g., Colleges and Universities). A contractor or outreach team should be used to conduct direct community outreach, attend community events, coordinate a comprehensive social media strategy, and support other educational program opportunities. Key messages of this outreach campaign should highlight the significant community benefits of EV deployment such as: improved efficiency, decreased emissions, reduced noise, use of domestically produced energy, and fun to drive. The opportunity to drive or ride in an EV will not only help to increase knowledge and interest, but will also provide excellent marketing and outreach opportunities for automakers. Any marketing campaign should include specific ride-n-drive events and hosting ride-along programs at pre-existing events.

### Deployment Phase 3 – EVs are not Unique

Completing a successful EV marketing campaign, expanding the EV charging infrastructure, and establishing the framework to facilitate further adoption of EV technology, will propel EV adoption to much higher levels. Spotting an EV or EV charging station will no longer be exciting as most residents will start to see these multiple times a day during their travels or even walking throughout their neighborhood. In this third deployment phase, EVs become such a normal part of everyone’s lives that they are no longer special to discuss or have events focus on them. Instead of only having one or two EVs on the sales lot, dealerships will start stocking multiple colors and trim levels for EV models similar to the conventional models they now regularly sell.

For charging infrastructure, new houses will eventually run a 220V line to the garage and factor EV charging into the potential electrical load. Any new development, parking lot modification, or significant electrical work will also run conduit, install stations, or factor in excess capacity to accommodate charging stations. In this phase, preparing for EV charging stations would be a standard practice.

In some ways, non-plug-in hybrids have reached this third development phase and it is no longer necessary to educate most consumers on the technology or have them get surprised when the car shuts off at a stop light. EVs still require a lot of effort and time in the second development stage to reach this level, but using other technologies, such as hybrids, as prior examples, it is conceivable that one day selecting a plug-in model will be as common a choice for car buyers as opting for a higher trim level or special features such as a navigation system or high quality audio.

These are the visions for the future, but they won’t happen overnight. However, community support for the efforts described in the second development phase will create opportunities to leverage grant funding and help communities such as Tompkins County reach this last development phase.

#### EV CHARGING STATION DEPLOYMENT UPDATE

The success of this EV infrastructure planning project and commitments of support from Tompkins County stakeholders has enabled Energetics Incorporated to secure funding from NYSERDA that will help fund 11 new charging stations and an outreach campaign that will be launched in 2018 to promote EVs and raise awareness about this technology.