

New Charging Station Site Suitability

Tompkins County

Plug-in Electric Vehicle Infrastructure Plan



NYSDERDA

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Clean Communities of Central New York

The Ithaca-Tompkins County Transportation Council



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Introduction

An electric vehicle (EV) charging station Site Suitability Criteria Tool (“Tool”) was developed to help compare the viability for installing alternating current (AC) Level 1 or 2 EV charging stations (used by plug-in hybrid electric vehicles [PHEV] and all-electric battery electric vehicles [BEV]) in various locations, but primarily for sites with public access. Direct current (DC) fast charging can quickly replenish an EV’s battery (~80% charge in 20 minutes), but were not accounted for by this Tool because they are very costly which would limit their installations to sites with convenient EV access for short charge durations and sufficient electrical power capacity. Every location is unique and it is not possible to accurately account for all circumstances. The ratings are based on best practices and analysis of prior EV charging station installations. Each answer has a comment to explain the impact of each selection. This provides added insight to the user and educates potential site owners while scoring site suitability. The Tool is best used to compare relatively similar sites (e.g., public access locations in the same county), the same installation approach (e.g., just commercial AC level 2 stations rather than a mix of Level 1 and Level 2 stations), and identical criteria importance factors (i.e., value to EV drivers, cost, exposure).

The Tool’s questions are grouped by topic area: Site Ownership and Zoning; Site Location and Surrounding Environment; Expected EV Charging Station Users and Accessibility; Parking Lot or Garage Characteristics; Existing Electrical Infrastructure; and EV Charging Station Selection. The first question asks for input on site suitability factor importance to determine which are most critical for the site host or station sponsor, depending on who is using this Tool. The results impact the weighting of factors that influence the overall site suitability score. Shown in Figure 1, the various components of the suitability score (smaller green gauges to the right) contribute to the overall site suitability score (larger blue gauge on the left).

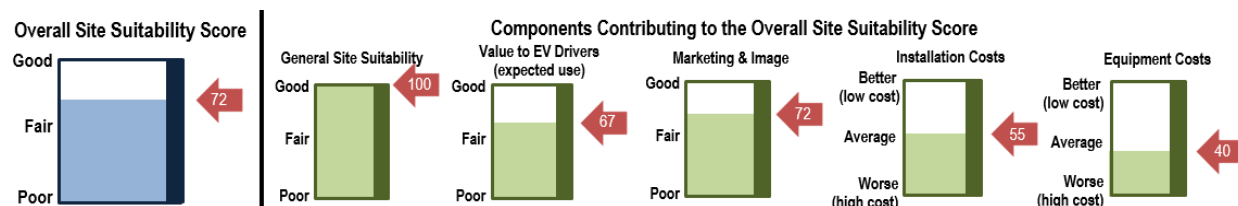


Figure 1. Site Suitability Criteria Tool Score Gauges

For the EV Infrastructure Plan in Tompkins County, the Tool was used to compare and rank potential sites for new charging infrastructure. Since the focus of this effort is primarily public accessible stations, an AC Level 2 networked station was selected for every site to conduct this comparison based on site characteristics and not station selection (therefore, the equipment cost score is not shown for the top sites profiled in this report). The project’s steering committee also set the site suitability factor importance for all sites to maintain a level comparison, as follows:

- Likelihood of a newly installed charging station to be used by current EV drivers is *Very Important*,
- The purchase and installation cost of the charging station is also *Very Important* (and is influenced by site characteristics, not just the station selection which was set),
- The charging station providing a positive image for the organization is *Important*, and
- The use of the charging station to serve as marketing for potential EV buyers is *Slightly Important*.

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The questions and answers impacting the component scores are listed in Table 1, which do not necessarily align with the topic areas (for which the questions are numerically ordered). Also shown on this table is the weight or influence of that individual question to that component score, with a greater weight indicating a more critical element of the installation.

Table 1. EV Charging Station Site Suitability Criteria Tool Questions

Questions Pertaining to General Site Suitability	Weight
2. Do you own or lease the parking lot where the EV charging station will be installed?	25%
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	20%
4. What is the Zoning classification for the EV charging station site?	20%
13. How many parking spaces are in the lot or garage?	15%
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	5%
20. Would the EV charging station be located in a covered parking space?	5%
21. Would the EV charging station need to be placed where it would obstruct plowing?	10%
Questions Pertaining to the Value for EV Drivers	Weight
5. Which venue best describes the proposed EV charging station location?	30%
6. How long do drivers typically park their vehicles at this location?	20%
9. Which potential EV drivers are expected to use the charging station?	10%
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	5%
11. Is there a fee to access the parking lot where the charging station would be located?	10%
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	10%
14. Typically, how full is the parking lot or garage?	5%
22. Would the EV charging station be in a preferred parking space?	5%
23. Are there lights illuminating the parking lot at night?	5%
Questions Pertaining to the Exposure and Image Benefit for the Site Owner	Weight
7. Is this location used for any special event parking?	20%
8. How far is this location from the nearest US or State road (NY Route X)?	20%
15. Is there fluctuation in parking lot use by season?	20%
16. Is there fluctuation in parking lot use by day of the week?	10%
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	30%
Questions Pertaining to the Installation Costs	Weight
17. Are there parking spaces next to the building that would be used for EVs to charge?	40%
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	30%
26. How recently has electrical work been performed at this location?	10%
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	20%
Questions Pertaining to the Station Equipment Costs	Weight
28. Which EV charging station type would be installed at this location?	30%
29. Could the EV charging station be mounted to an existing structure or be installed as a stand-alone pedestal?	40%
30. Would the charging station be networked and connected to a charging management company's software platform?	30%

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Examples of completed Site Suitability Criteria Tools with responses typical for a very good site to install an EV charging station and another with responses typical for a very poor site to install an EV charging station are included in Appendix A. The informational note accompanying each response explains why the selected site characteristic is better or worse for installing an EV charging station.

A list of potential new charging station locations in Tompkins County was compiled by looking for key site attributes. Input was provided by the Tompkins County EV Infrastructure Plan Steering Committee and the Tompkins County Electric Vehicle Network. The list included more than 90 sites from around the county, each varying in lot size and site use. Locations included:

- Tompkins County tourist destinations
- Sports and Recreation facilities
- Tompkins County state parks
- Hotel and lodging sites
- Ithaca City parking garages
- University and College campuses in Tompkins County
- Major shopping centers
- TCAT bus stops outside the Ithaca city limits

The list of potential sites for new charging stations was separated geographically into five geographical areas shown on Figure 2 that included the City of Ithaca, Cayuga Heights/Village of Lansing, Northwest Tompkins County, Northeast Tompkins County, and Southern Tompkins County. Individual maps for each geographical area with the potential sites labeled are included in Appendix B. Survey responses by the Tompkins County EV Infrastructure Plan Steering Committee and the Tompkins County Electric Vehicle Network were used to rank the desirability of each potential location for installing a new charging station. The final rankings of all the potential sites are shown in Table 2 and Table 2: Potential Location List (cont.).



Figure 2: Tompkins County Potential and Existing EV Charging Station Locations by Area

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Table 2: Potential Location List

Possible sites	Venue types	Parking spaces	Survey Rank	Address
Tompkins-Cortland Community College	Education	1000+	9.3	170 North Sreet, Dryden
Ithaca College	Education	1000+	9.0	953 Danby Rd, Ithaca
All Pro Parking Garage S Cayuga Street	Parking	200+	9.0	235 S Cayuga St, Ithaca
Green Street Garage	Parking	N/A	9.0	120-126 E Green St, Ithaca
Seneca St. Parking Garage	Parking	200+	9.0	215 N Tioga St, Ithaca
Shops at Ithaca Mall	Retail	1000+	8.0	40 Catherwood Rd, Village of Lansing
Ithaca- Tompkins Regional Airport	Transit hub	150	8.0	1 Culligan Dr, Ithaca
Triphammer Marketplace	Retail	200	7.9	2255 N Triphammer Rd, Ithaca
Taughannock Falls State Park	Parks/Recreation	N/A	7.9	1740 Taughannock Blvd., Trumansburg
GreenStar Cooperative Market	Retail	40	7.9	301 W Court St, Ithaca
Cornell Lot A - near Childcare Facility	Education	400+	7.7	150 Pleasant Grove Road, Ithaca
Wegmans	Retail	450+	7.6	500 S Meadow St, Ithaca
East Hill Plaza	Retail	300+	7.5	E Hill Plaza, Ithaca
Cornell Lot B - near Vet Medical Center	Education	950+	7.4	B lot, Campus Road, Ithaca
Robert H. Treman State Park	Parks/Recreation	150+	7.3	105 Enfield Falls Rd, Ithaca
Ithaca Shopping Plaza	Retail	300+	7.3	222 Elmira Rd, Ithaca
Freeville Public Lot	Parking	20	7.2	46 Main Street, Freeville
Village of Dryden Municipal Lot	Parking	60	7.2	2 George St, Dryden
Island Health and Fitness	Parks/Recreation	40	7.2	310 Taughannock Blvd #1, Ithaca
TST BOCES	Education	200+	7.1	555 Warren Rd, Ithaca
Kendal at Ithaca	Retirement Commu	100+	7.1	2230 N Triphammer Rd, Ithaca
Cayuga Mall	Retail	500+	7.1	2309 N Triphammer Rd, Ithaca
The Statler Hotel at Cornell University	Hotel	N/A	7.0	130 Statler Dr, Ithaca
Stewart Park	Parks/Recreation	30	6.9	1 James L Gibbs Drive, Ithaca
The Rink	Parks/Recreation	120	6.9	1767 E Shore Dr, Ithaca
Ithaca Farmers Market	Retail	180	6.8	Steamboat Landing, 545 3rd St, Ithaca
Cass Park Rink and Pod	Parks/Recreation	N/A	6.7	701 Taughannock Blvd, Ithaca
Community Corners	Retail	100	6.6	903 Hanshaw Rd, Ithaca
Hilton Garden Inn	Hotel	N/A	6.6	130 E Seneca St, Ithaca
Lansing Meyers Park	Parks/Recreation	N/A	6.6	1 Lansing Park Rd, Lansing
Tops Plaza	Retail	500+	6.5	700 S Meadow St, Ithaca
Homewood Suites	Hotel	300+	6.5	36 Cinema Dr, Ithaca
Ithaca High school	Education	40	6.4	1401 N Cayuga St, Ithaca
Gateway Plaza	Parking	100+	6.4	401 E State St, Ithaca
Sciencenter	Entertainment	70	6.3	601 1st St, Ithaca
Lower Buttermilk Falls State Park	Parks/Recreation	100	6.3	112 E Buttermilk Falls Rd, Ithaca
Cornell Cooperative Extension	Education	20	6.3	615 Willow Ave, Ithaca
Fairfield Inn and Suites	Hotel	N/A	6.3	359 Elmira Rd, Ithaca
Shure-Save, Trumansburg	Retail	150	6.2	2085 NY-96, Trumansburg
Kohls	Retail	500+	6.2	410 Elmira Rd #2, Ithaca
Ithaca Beer Company	Entertainment	100	6.2	122 Ithaca Beer Dr, Ithaca
Allan H Treman State Marine Park	Parks/Recreation	300+	6.2	805 Taughannock Blvd, Ithaca
NYSEG offices	Workplace	200	6.2	1387 Dryden Rd, Ithaca
Hampton Inn	Hotel	35	6.1	337 Elmira Rd, Ithaca
Dewitt Middle School	Education	50	6.0	560 Warren Rd, Ithaca
Atlas Bowl	Entertainment	150+	6.0	61 W Main St, Trumansburg
Brooktondale Community Center	Parking	25	5.9	524 Valley Rd, Brooktondale
Greater Ithaca Activities Center	Parks/Recreation	3	5.9	301 W Court St, Ithaca
Walmart Supercenter	Retail	500+	5.9	135 Fairgrounds Memorial Pkwy, Ithaca
Renovus Energy	Workplace	20	5.9	1520 Trumansburg Rd, Ulysses
Hangar Theatre	Entertainment	40	5.9	801 Taughannock Blvd., Ithaca
Country Inn & Suites	Hotel	30	5.8	1100 Danby Rd, Ithaca

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Table 2: Potential Location List (cont.)

Possible sites	Venue types	Parking spaces	Survey Rank	Address
Cayuga Heights Elementary School	Education	50	5.8	110 E Upland Rd, Ithaca
Taughannock Farms Inn	Hotel	20+	5.7	2030 Gorge Rd, Trumansburg
Lansing Town Hall	Parking	80	5.7	29 Auburn Road, Lansing
Cardine Town Court	Parking	30	5.7	2670 Slaterville Rd, Slaterville Springs
Rodeway Inn and Suites	Hotel	40	5.7	654 Elmira Rd, Ithaca
Cardine Elementary School	Education	50+	5.7	2439 Slaterville Rd, Slaterville Springs
Trumansburg Village Town Hall	Parking	40	5.7	11 Elm Street, Trumansburg
Cayuga Nature Center	Parks/Recreation	20	5.7	1420 Taughannock Blvd, Ithaca
Northeast Elementary School	Education	N/A	5.7	425 Winthrop Dr, Ithaca
Danby Town Clerk	Parking	10	5.6	1830 Danby Rd, Ithaca
Newfield Town Clerk	Parking	15	5.6	166 Main St, Newfield
Boyton Middle School	Education	50	5.6	1601 N Cayuga St, Ithaca
Greyhound/Trailways Bus Station	Transit hub	20	5.6	710 W State St, Ithaca
Fall Creek Elementary School	Education	25	5.4	202 King St, Ithaca
Lansing Village Clerk	Parking	15	5.4	2405 N Triphammer Rd, Ithaca
South Hill Elementary School	Education	N/A	5.4	520 Hudson St, Ithaca
Enfield Elementary School	Education	50	5.3	20 Enfield Main Rd, Ithaca
The Dock parking lot	Entertainment	100	5.3	415 Old Taughannock Blvd, Ithaca
Lehman Alternative County School	Education	30	5.2	111 Chestnut St, Ithaca
Belle Sherman Elementary School	Education	N/A	5.2	501 Mitchell St, Ithaca
Groton City Court House	Parking	30	5.2	204 Conger Boulevard, Groton
Newman Municipal Gdf Course	Parks/Recreation	25	5.2	10 Pier Rd, Ithaca
Dryden Hotel	Entertainment	15	5.1	42 W Main St, Dryden
Cayuga Heights Village Court	Parking	15	5.1	836 Hanshaw Rd, Ithaca
Trumansburg Farmers Market	Parking	25	5.1	4 Corey St, Trumansburg
Kinney Drug Store, N Cayuga Street	Retail	10	5.0	513 N Cayuga St # A, Ithaca
Dryden Town Clerk	Parking	30	4.9	93 E Main St, Dryden
Colonial Laundrymat	Parking	25	4.9	16 E Main St, Trumansburg
Short Stop Deli	Entertainment	20	4.8	200 W Seneca St, Ithaca
Danby Fire Station	Parking	20	4.8	1780 Danby Rd, Ithaca
Six Mile Creek	Entertainment	15	4.8	1551 Slaterville Rd, Ithaca
Dryden Village Clerk	Parking	15	4.8	16 South St, Dryden
Trumansburg Fairgrounds	Parking	N/A	4.7	2150 Trumansburg Rd, Trumansburg
Plantation Bar and Grill	Entertainment	30	4.7	1285 Dryden Rd, Ithaca
Enfield Town Hall	Parking	30	4.7	168 Enfield Main Rd # 7, Ithaca
Trumansburg Fire Station	Parking	25	4.6	74 W Main St, Trumansburg
Lansing Fire Company No. 4	Parking	50	4.5	1189 Auburn Road, Lansing
Juniper Hill Bed and Breakfast	Hotel	N/A	4.5	16 Elm St, Trumansburg
Lansing Fire Department No. 3	Parking	60	4.4	80 Ridge Road, Lansing
Nice n Easy Grocery, Dryden Rd	Retail	20	4.4	1321 Dryden Rd, Ithaca
Ithaca Yacht Club	Parks/Recreation	N/A	3.9	1090 Glenwood Rd, Ithaca
Chamber of Commerce/Visitor Bureau	Parking	25	N/A	904 E Shore Drive, Ithaca

The Site Suitability Criteria Tool was shared with the top potential locations for new charging stations, plus a few others highly recommended by the project committee. Site hosts then used the Tool to examine the appropriateness of their location for installing an EV charging station.

Highly Suitable Sites for New Charging Stations in Tompkins County

The sites that completed a site analysis using the Tool are ranked in Table 3 based on their score from the highest to lowest scores. Note that the Tool rank is based on specific site characteristics whereas the survey results were opinion based. The top 10 are highlighted in this section as highly suitable sites for new charging station installations and shown on the Figure 3 map along with the existing EV charging station in the county. Answers for all the completed responses are found in Appendix C.

Table 3. Ranking of Potential Sites for EV Charging Stations Based on Site Suitability Criteria Tool

#	Possible sites	Address	Tool Rank	Survey Rank	Venue
1	Cornell Cooperative Extension	615 Willow Avenue, Ithaca	83	6.32	Education
2	Seneca St. Parking Garage	215 N. Tioga Street, Ithaca	78	8.95	Multi-use Parking
3	Sciencenter	601 1st Street, Ithaca	78	6.33	Attraction
4	Ithaca College	953 Danby Road, Ithaca	76	9.00	Education
5	Shops at Ithaca Mall	40 Catherwood Road, Lansing	73	8.00	Retail
6	Dryden Road Garage	120 Dryden Road, Ithaca	73	N/A	Multi-use Parking
7	Green Street Garage	120-126 E. Green Street, Ithaca	72	9.00	Multi-use Parking
8	GreenStar Cooperative Market	301 W. Court Street, Ithaca	69	7.89	Retail
9	Taughannock Falls State Park	1740 Taughannock Blvd, Trumansburg	68	7.89	Parks/Recreation
10	All Pro Cayuga Street Garage	235 S. Cayuga Street, Ithaca	67	9.00	Multi-use Parking
11	Ithaca Shopping Plaza	222 Elmira Road, Ithaca	65	7.29	Retail
12	East Hill Plaza	327 Pine Tree Road, Ithaca	65	7.53	Retail
13	Tompkins County Visitor Bureau	904 E. Shore Drive, Ithaca	63	N/A	Attraction
14	Freeville Public Lot	46 Main Street, Freeville	62	7.18	Multi-use Parking
15	Ithaca Farmers Market	545 3rd Street, Ithaca	60	6.78	Retail
16	Tompkins-Cortland Com. College	170 North Street, Dryden	56	9.28	Education
17	Cass Park Rink and Pool	701 Taughannock Blvd, Ithaca	56	6.74	Parks/Recreation
18	Buttermilk Falls State Park	112 E. Buttermilk Falls Road, Ithaca	55	6.30	Parks/Recreation
19	Stewart Park	1 James L Gibbs Drive, Ithaca	51	6.89	Parks/Recreation
20	Ithaca-Tompkins Regional Airport	1 Culligan Drive, Ithaca	48	7.95	Transit hub

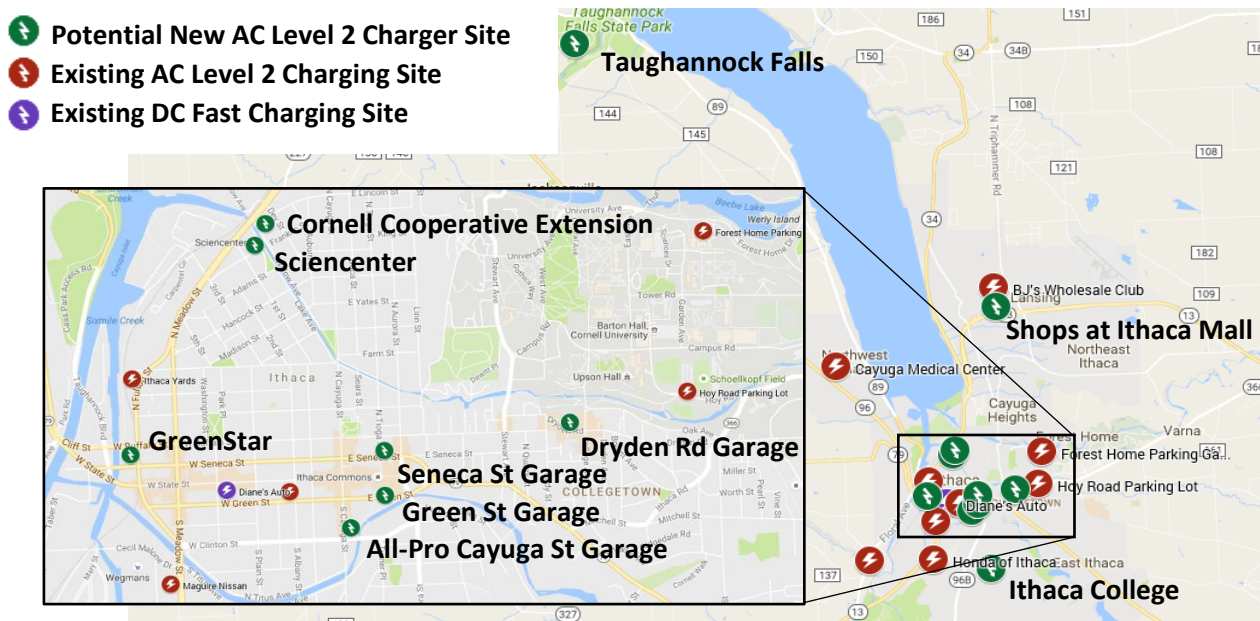


Figure 3. Existing and Highly Suitable New Sites for EV Chargers in Tompkins County

Cornell Cooperative Extension Association of Tompkins County

The Cornell Cooperative Extension Association of Tompkins County has existed since 1913 and provides local resident with information and education. Their facility (Figure 4) is also available for public or private meetings and programs. A major construction project is planned for 2017. This presents a great opportunity to incorporate an EV charging station into their plans.

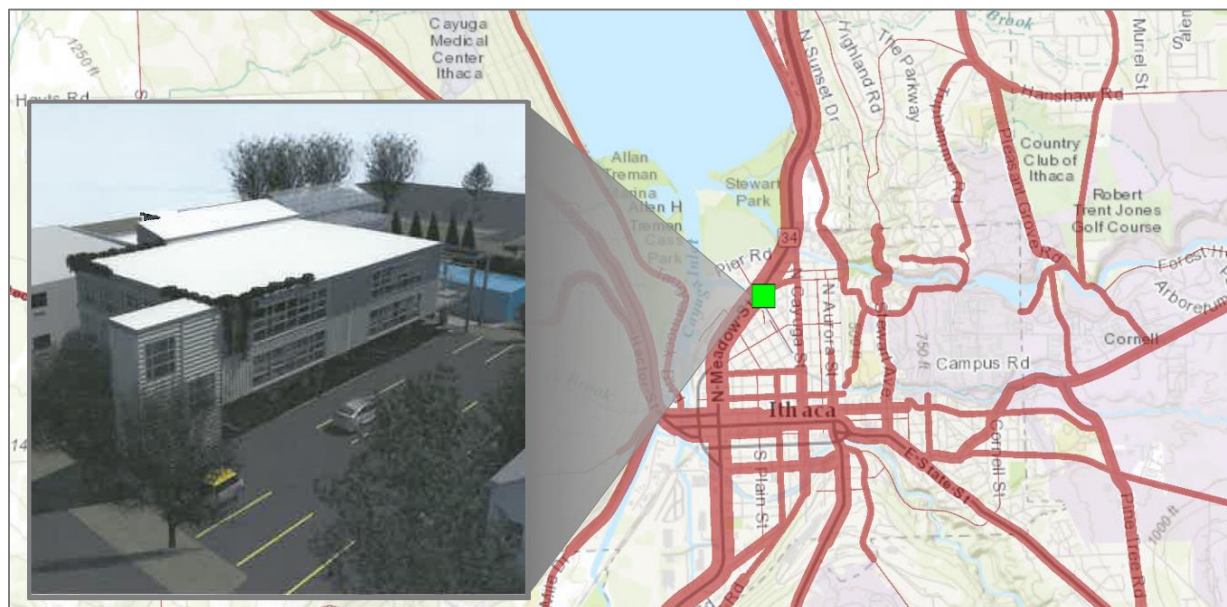


Figure 4: Cornell Cooperative Extension Association of Tompkins County Location in Ithaca, NY

This location scored very high for overall suitability for EV charger installations (Figure 5) because it experiences consistent use year-round with typical parking periods lasting 2-4 hours. The parking lot, which is owned by the Cornell Cooperative Extension Association has spaces for about 35 vehicles and there will be a structure in their new addition going in next year (2017) to which the charging station could be mounted. It is close enough to Route 13 so other EV drivers may also find it to be a convenient location to charge. There were no concerns raised about the electrical infrastructure and the capability to support the charging station load.

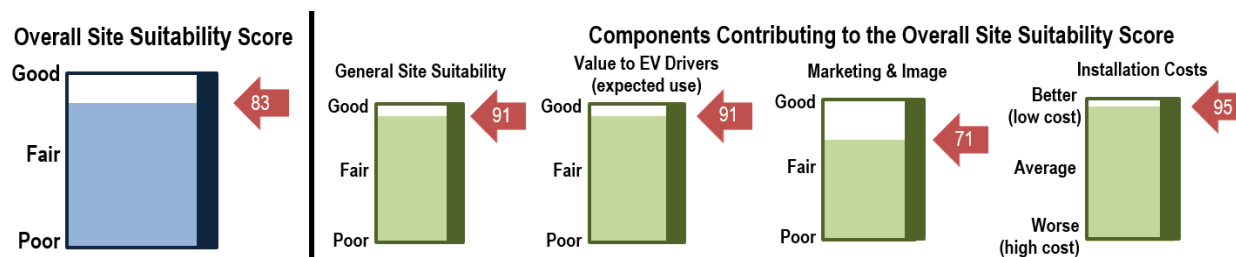


Figure 5: Cornell Cooperative Extension Association of Tompkins County Site Suitability Score

The marketing and image suitability factor was slightly lower at the Cornell Cooperative Extension Association is because it would have less exposure to the general public. This is because it is not directly on a main road and doesn't host large events that draw a big crowd. Otherwise, this appears to be a very good location for installing a charging station.

Seneca Street Parking Garage

The City of Ithaca’s Seneca Street Parking Garage located at 215 North Tioga Street is open 24 hours daily and is a short walk from the Ithaca Commons with its many shops and restaurants (Figure 6). Other destinations near this garage include: Town Hall, Hilton Garden Inn (25% of this garage is reserved for the Hotel), and TC3 Ithaca Extension Center. This garage has a \$7 weekday maximum fee for visitors and free weekend parking, along with some long term permit parking.

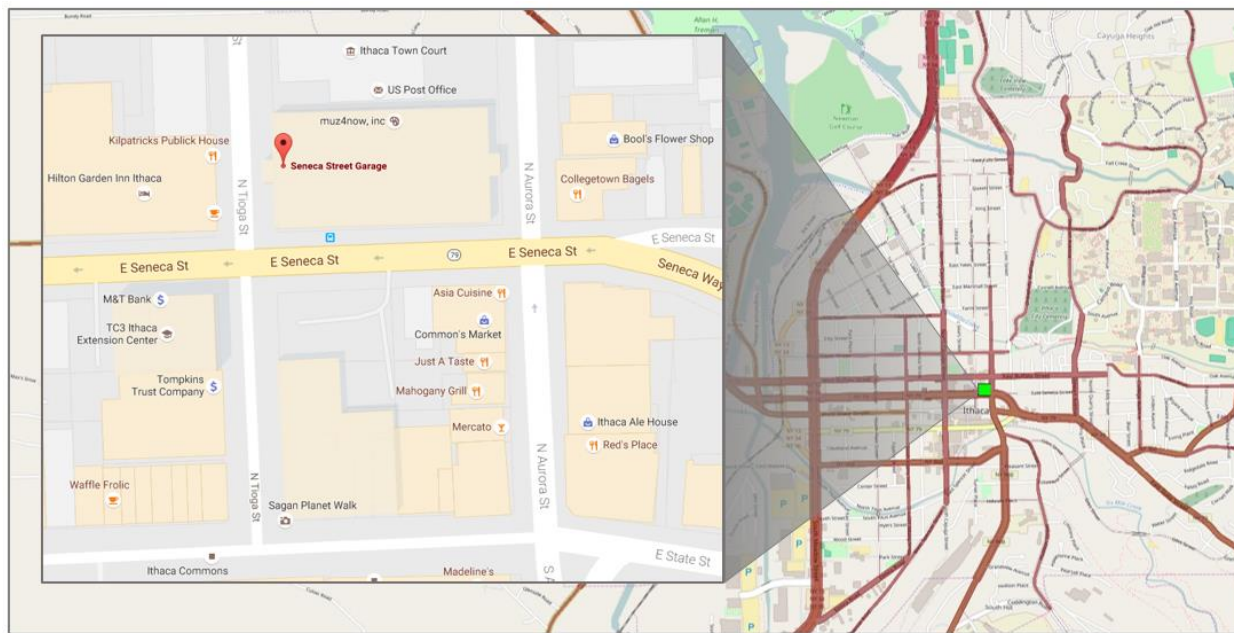


Figure 6: Seneca Street Parking Garage in Ithaca, NY

Besides its convenience to downtown destinations, this parking garage has several attributes that make it a good location for a new charging station (Figure 7). This location is also used special events throughout the year that take place in downtown Ithaca. There is sufficient electrical capacity to support the installation of EV chargers and a charger could be wall mounted with convenient access to electricity. This is a covered garage that would protect the charging station from inclement weather.

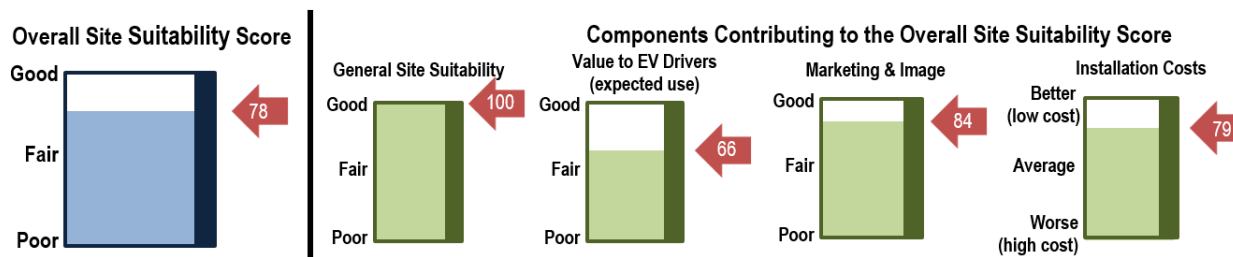


Figure 7: All Pro Parking Garage Site Suitability Score

A quarter of the parking garage is reserved for hotel guests, so the average parking duration is between 4 and 8 hours, although this varies depending on the purpose of their visit. EVs parked here for a long time may pose an issue if an EV was left plugged in, making the charger unavailable to other users (although this could be managed by increasing costs for long connections). Additionally, the use of this garage comes with a small fee which might deter EVS drivers just looking for a chance, but would likely not deter other users since it is prime parking for the downtown area.

Other Parking Garages in the City of Ithaca

Several other parking garages in the City of Ithaca (Figure 8) have good site suitability for a new charging station because they share similar characteristics as the Seneca Street Parking Garage. The Green Street Parking Garage and the All-Pro managed Cayuga Street Garage are near Ithaca Commons with its many shops and restaurants. The new Marriot Hotel will utilize a quarter of the Green Street Parking Garage once it is completed. The Dryden Street Parking Garage in Collegetown is predominantly used by Cornell students and staff, but there are also several restaurants in the area along with Cornell's Schwartz Center for the Performing Arts. All of these garages have daily parking fees of \$1 per hour and offer permits for long term parking.

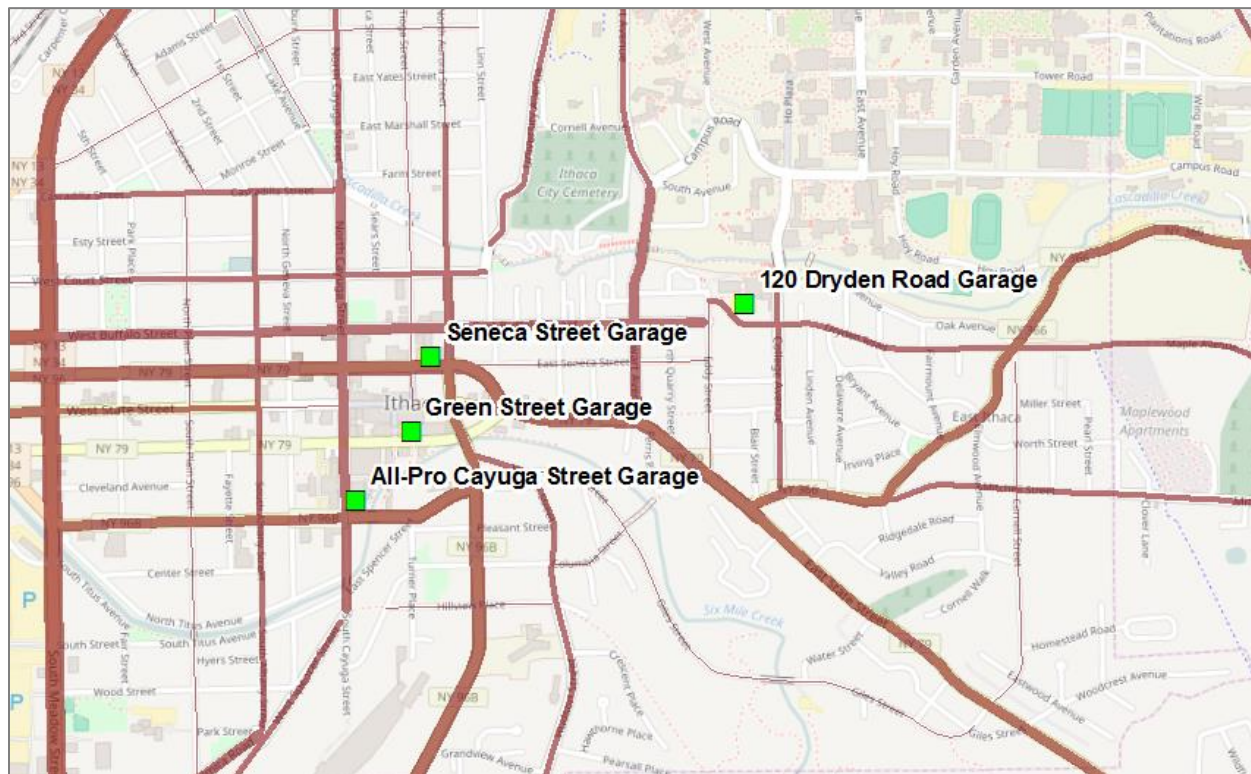


Figure 8: Parking Garage Locations in Ithaca, NY

All of these parking garages have sufficient and readily accessible electrical capacity to support charging stations, are well-lit for driver safety, and provide protection from the weather. A fee to access the garage and use the charging stations should not deter EV drivers already coming to these locations, but it might not attract EV drivers passing through that just need a charge. The biggest challenge with these garages will likely be managing the station so it is not occupied too long after an EV has finished charging. A networked station that charges higher fees for use after an initial charging period would encourage those parking for longer to move their vehicle after it is charged. However, it must be enforced that EVs are plugged into the station when parked there, otherwise an EV might unplug to avoid higher fees, but remain parked in that space. The Cayuga Street Parking Garage is managed and leased by All Pro Parking which might complicate the installation process, but due to their relationship with the City this is likely not a big concern.

Sciencenter

The Sciencenter is a hands-on, children’s science museum located in downtown Ithaca (Figure 9). It was founded in 1983 and has a number of educational programs with over 250 exhibits. The museum is typically open from 10 am to 5 pm, except for Sundays (12pm – 5pm) and Monday (closed). Visitors typically stay for 2-4 hours.

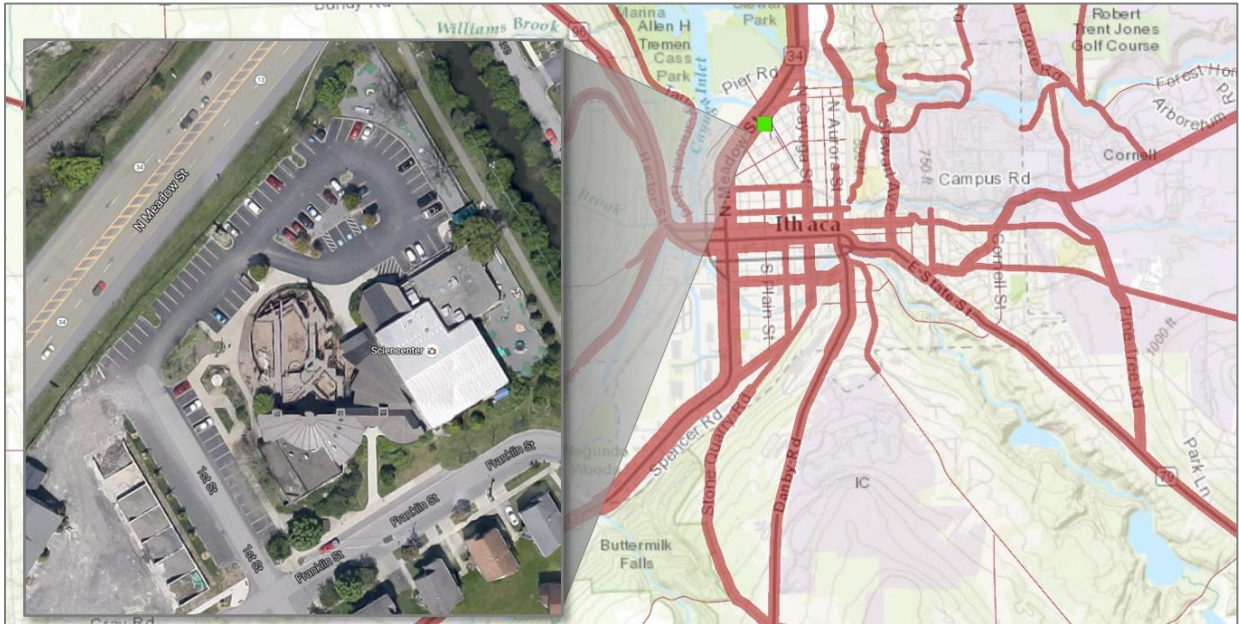


Figure 9: Sciencenter Location in Ithaca, NY

This location scored very high for overall suitability for an EV charger installation (Figure 10) because it owns a large parking lot (over 50 vehicles) and experiences consistent year-round use. Its proximity to Route 13 also makes this a convenient location for other EV drivers to stop and charge. The existing electrical infrastructure appears to have sufficient capacity and should accommodate the additional charging station load without major electrical upgrades. Site operators would be willing to provide this service free of charge and could serve public and employee EVs.

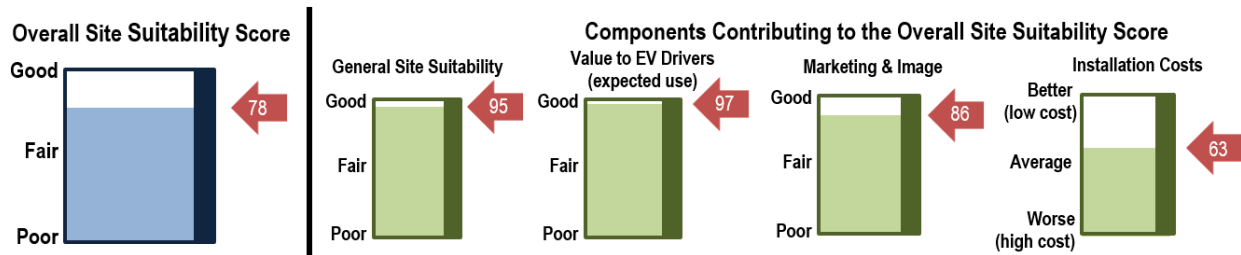


Figure 10: Sciencenter Site Suitability Score

The only complication at this location is the inability to mount a charger on an existing structure and the requirement of a pedestal which would slightly increase installation costs. The parking lot is also not covered and experiences some fluctuation in use during the week (limited hours or closed some days).

Ithaca College

Ithaca College (Figure 11) has been active since the early 1900s and provides education combining theory and performance. The college is currently attended by over 6,600 students and has sporting events and performances that attract the general public. Over 1,700 staff are currently employed by the college as well, adding to the transportation load. The selected location analyzed is the current lot “U” near the “Campus Center” which is scheduled to be reconfigured in May 2017.

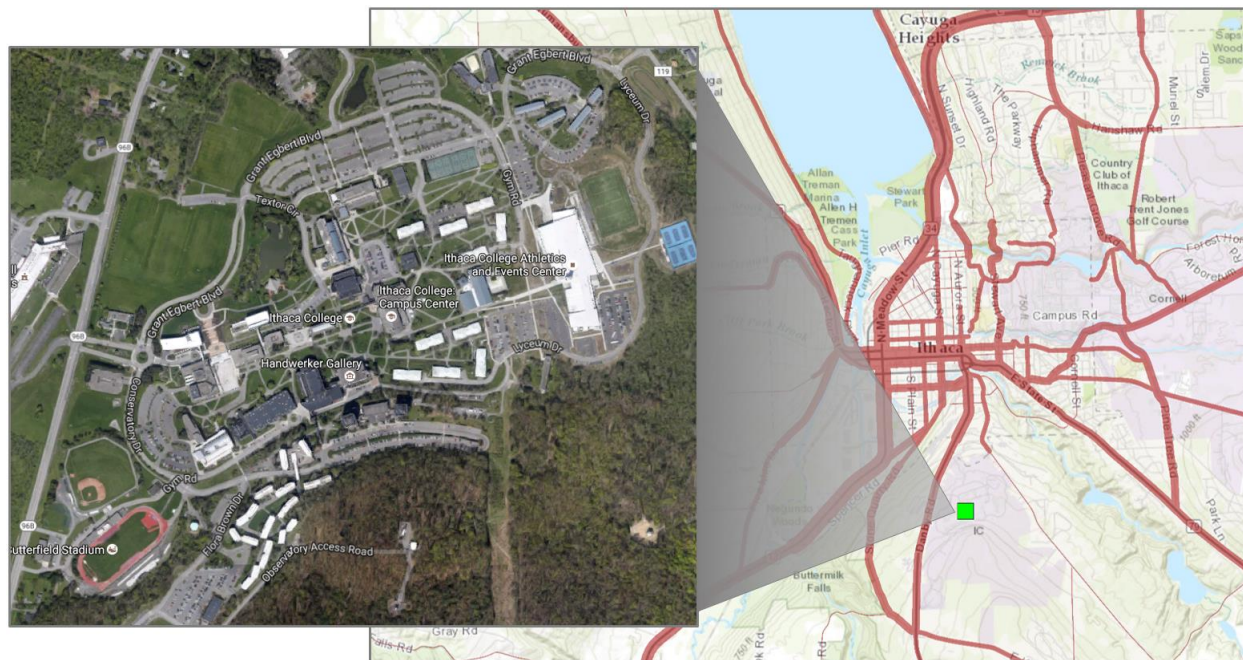


Figure 11: Ithaca College Location in Ithaca, NY

Ithaca College offers a good opportunity for EV charging by faculty, staff, and students. It was predicted to be a good location for a new charging station installation by the Tool (Figure 12), because typical parking durations are 2-4 hours in the profiled lot. It is a fairly large parking lot and is used for over 100 special events throughout the year which increase the overall traffic flow. Electrical capacity is not a concern and the spaces would be in a preferred parking space that is paved and lit at night.

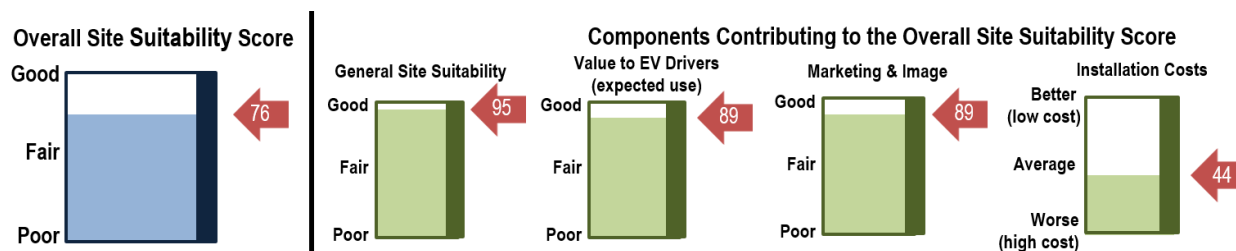


Figure 12: Ithaca College Site Suitability Score

One slight drawback of this site is that EV users would be required to pay a fee to access the lot where the charger would be placed and it is a slight distance from highly traveled roadways which would not be good for serving EV drivers that are not visiting the College. Also, a stand-alone pedestal charger with a long electrical run would be required which would increase installation costs.

Shops at Ithaca Mall

The Shops at Ithaca Mall, previously known as Pyramid Mall Ithaca, is located north of Ithaca at the intersection of NY Route 13 and N Triphammer Road (Figure 13). The mall's largest tenants currently include Target, Bon Ton, Best Buy, Dick's Sporting Goods, Regal Theater, and a couple of fitness centers.

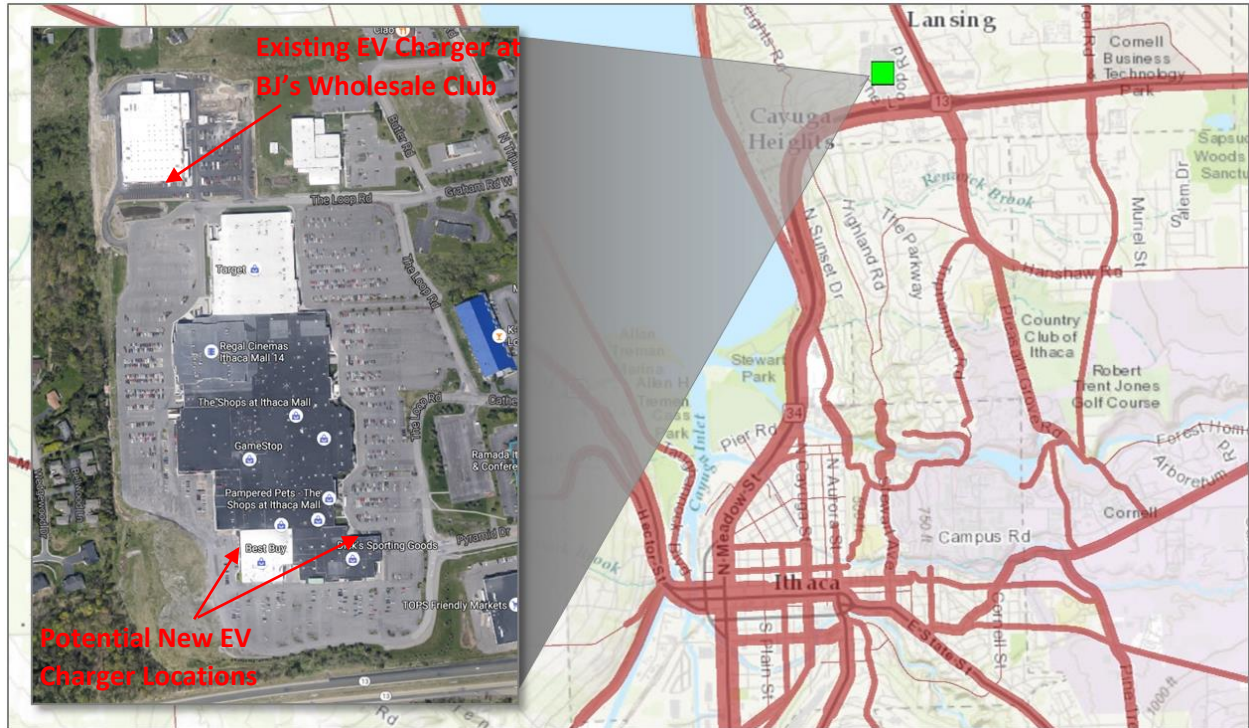


Figure 13: Shops at Ithaca Mall Location in Ithaca, NY

This location has a lot of parking and visitors typically spend 1-2 hours at this location during which time an EV could receive a meaningful charge. The mall's proximity to a major roadway also presents the opportunity for EV drivers to charge while in route to another location. Contributing to the mall's good overall site suitability score (Figure 14) are several retail options being available in one location, including a theater, would serve a broad audience of drivers, some of which likely have EVs. They stated the charging station can be mounted on an existing structure near a power supply.

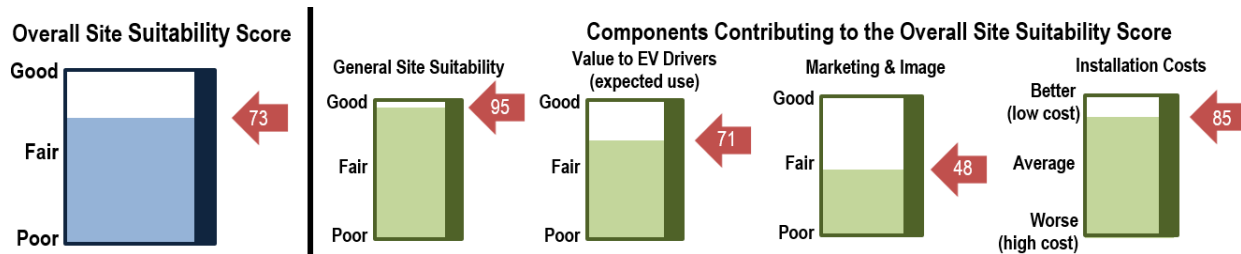


Figure 14: Shops at Ithaca Mall Site Suitability Score

The Ithaca Mall's parking is reported to be typically fully utilized which could limit the potential for spare spaces dedicated to EVs. This location also does not host any special events, but is visited by many people. A few parking spaces are next to the Mall's exterior wall, but these are not preferred parking locations. There currently is a public charging station adjacent to Ithaca Mall at BJ's Wholesale Club.

GreenStar Cooperative Market

The GreenStar Cooperative Market is located near downtown Ithaca where NY Routes 13 and 79 intersect (Figure 15). GreenStar is a natural foods and fair trade market that prioritizes the purchase of local and organic goods. This site is one of three GreenStar locations throughout Ithaca.



Figure 15: GreenStar Cooperative Market Location in Ithaca, NY

GreenStar is ideally located in downtown Ithaca along major state roads. It caters to environmentally conscious people that are also more likely to drive EVs. It was stated that the charging station could be located on a building and the electrical panel was near this location which resulted in a good suitability score (Figure 16). However, it was not clear from a satellite image where a parking spot is currently marked out adjacent to the building. There would be no charge to park in this lot or use the charging station.

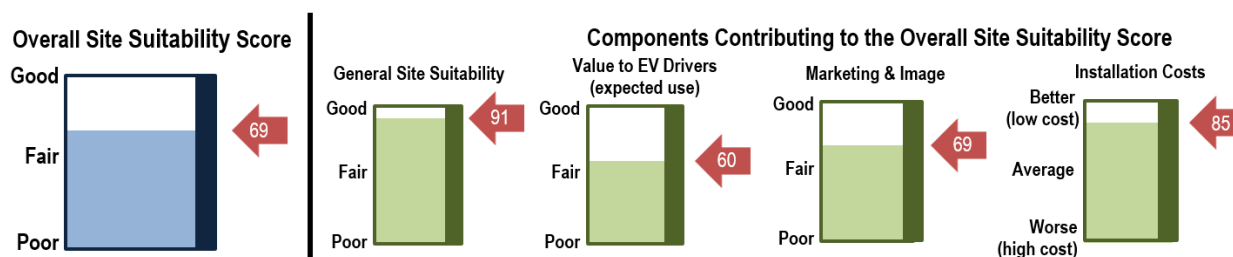


Figure 16: GreenStar Cooperative Market Suitability Score

Parking lot capacity is an issue since it is often full and would be hard to allocate 2 spaces for EV charging. Customers also typically stay less than 2 hours which doesn't provide a significant time to charge. If the station must be placed out in the parking lot, costs would increase and the suitability score would likely cause it to fall out of the top options. Another installation option is with nearby businesses that do have parking adjacent to their building (Finger Lakes Electrical, Tompkins Trust, and Alternatives Federal Credit Union) and might be an alternative host for an EV charging station in this Ithaca neighborhood.

Taughannock Falls State Park

Taughannock Falls State Park's namesake waterfall is one of the outstanding natural attractions of the Northeast. Gorge and rim trails offer spectacular views from above the falls and from below at the end of the gorge trail. Campsites and cabins overlook Cayuga Lake, with marina, boat launch and beach nearby. A multi-use trail--hiking, cross-country skiing--winds past sledding slopes and natural skating ponds.



Figure 17: Taughannock Falls State Park Location in Ithaca, NY

Taughannock Falls State Park has many visitors each year that would see the EV charging station and many visitors enjoy nature which might align with a desire to own an EV. A visitor's typical length of stay between 2 and 4 hours, along with the ability to mount an EV charging station on the side of an existing building to lower costs, resulted in a good suitability score (Figure 18).

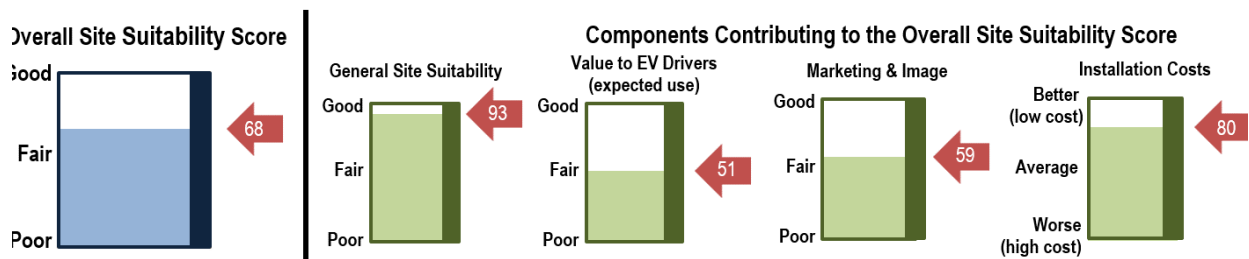


Figure 18: Taughannock Falls State Park Site Suitability Score

The limitations of this site for being a really good site for installing a new charging station are its limited hours and cost to access the parking area. Any visitor with an EV coming to the park would come during open hours and plan on paying the access fee, so this would not deter them, but it would not be an ideal location for most EV drivers transiting through Tompkins County. This park also experiences a lot of fluctuation in use during days of the week and seasons of the year, so that might not facilitate regular charging use. This might frustrate EV drivers on very popular days if they find the chargers occupied by others on that day even though the charger's profile shows a history of very minimal use.

Other Sites Investigated for New Charging Stations in Tompkins County

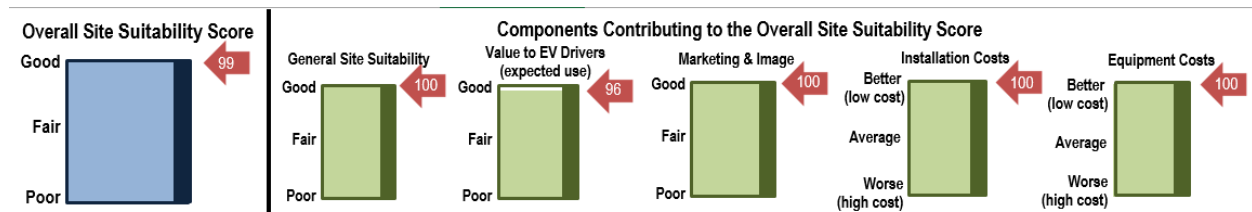
A number of other locations also completed this Tool but did not score favorably due to a number of factors. The sites that were not selected as ideal candidates for new EV charging station installations include:

- The **East Hill Plaza** at 327 Pine Tree Road in Ithaca (Suitability Score of 65) would have a relatively high cost to install a charger because it would require a pedestal mount and a longer electrical run. It is also not known if there is sufficient electrical capacity for a charger at this location and major upgrades might be needed. Additionally, it was reported that most vehicles only park 1-2 hours which may limit the potential value of a charge.
- The **Ithaca Shopping Plaza** at 222 Elmira Road in Ithaca (Suitability Score of 65) has retail space and fast food restaurants along Route 13 south of the Ithaca City center with tenants that include Five Guys, Northside Wine and Spirits, Hobby Lobby, T.J. Max, Five Below, Staples, and Petsmart. Unfortunately, Route 13 splits the shopping plaza into two sections that would not be convenient to walk between for an EV driver that had to park at one charging station location. Some visitors, particularly those at the fast food restaurants, might stay for less than one hour which is not enough time for a meaningful charge.
- The **Tompkins County Chamber of Commerce/Visitor Bureau** at 904 E. Shore Drive in Ithaca (Suitability Score of 63) sees heavy fluctuation during the week and is not used for any special event parking. Overall, this smaller parking lot is only about 50% full on a regular basis. The charging station installation will require a pedestal mount and longer electrical run that increases costs.
- The **Freeville Public Lot** at 46 Main Street (Suitability Score of 62) is next to the U.S. Post office and across the street from an elementary school and church. The lot is relatively small (10-25 cars) and may not have existing infrastructure to support the installation of chargers. This location also sees varying usage depending on the day of the week with average use only about 50%.
- The **Ithaca Farmers Market** at 545 3rd Street in Ithaca (Suitability Score of 60) is a seasonal use area that would likely see very little use in off seasons and non-market days which limits its potential. When there is activity, this parking lot is very active and likely attracts EV owners, but they wouldn't stay parked for a very long time. EV drivers not going to the market would unlikely park in this lot for a charge.
- A charging station at **Tompkins-Cortland Community College** at 170 North Street in Dryden (Suitability Score of 56) would likely be regularly used by faculty, staff, or visitors and would complement the large solar power installation on campus. Unfortunately, the design of the parking lot does not support a cost effective installation. There are no parking spaces adjacent to the campus buildings, so the EV charging station must be a pedestal mount out in the parking lot. The wiring run from the electrical panel to the charging station would be long and require larger electrical conductors and cutting through pavement. The charger's placement would also likely interfere with snow plowing during the winter.
- **Cass Park Rink and Pool** at 701 Taughannock Boulevard in Ithaca (Suitability Score of 55) also has some geographical features that might cause issues for a cost-effective charging station installation. The area is prone to flooding and a long electrical run would be required. The duration of stay for visitors here is typically shorter than needed for an ideal charge and the use of the park varies significantly from day to day and season to season.

- **Buttermilk Falls State Park** at 112 East Buttermilk Falls Road in Ithaca (Suitability Score of 55) is another park and recreational area in Ithaca that draws a large crowd which include environmentally-friendly people that tend to purchase EVs. While the required electrical run is not as long as some other sites, the fee to access the park, limited hours of operation, and significant fluctuation in use might not result in a worthwhile investment to support EV use in the county.
- **Stewart Park** (Suitability Score of 51) experiences heavy seasonal fluctuation and a charging station would be unlikely to experience consistent use. The proposed lot also has the potential to flood and existing infrastructure may not be suitable for additional load that an EV charger would add. The installation would be a pedestal mount in the parking area which is more costly. Visitors also typically stay for shorter periods of time (1 – 2 hours) which might not provide a significant charge.
- The **Ithaca-Tompkins Regional Airport** (Suitability Score of 48) has limited potential for installing AC Level 2 chargers due mostly to the lack of electrical capacity and extensive electrical work needed to install a charger. Users also typically park here for long periods of time that may limit the number of EVs that could cycle through a charging station. Additionally, the charger would be located in a pay lot and the use of the charger would also cost drivers. AC Level 1 charging stations are more appropriate for this application and there is likely adequate power to support a few of these.

Appendix A: Sample Site Suitability Criteria Tool

Typical Responses of a Very Good Site for an EV Charging Station



Electric Vehicle (EV) Charging Station Site Suitability Criteria Tool

Version Date: 9/2/2016

Site Name: _____

Address: _____

Site Suitability Factor Importance

1. How important are the following factors to the site owner for an EV charging station installation?

(1A) Likely to be used by Current EV Drivers: Not at All Important Slightly Important Important Very Important Most Important

(1B) Marketing for Potential EV Buyers: Not at All Important Slightly Important Important Very Important Most Important

(1C) Positive Image for the Organization: Not at All Important Slightly Important Important Very Important Most Important

(1D) Purchase and Installation Cost: Not at All Important Slightly Important Important Very Important Most Important

Site Ownership and Zoning

2. Do you own or lease the parking lot where the EV charging station will be installed?

(2) Own Lease *Owning the parking lot simplifies the EV charging station installation process*

3. Do you own or lease the building where electricity will be drawn for the EV charging station?

(3) Own Lease *Owning the building and paying the electricity bill simplifies the EV charging station installation process*

4. What is the predominant land use for the EV charging station site?

(4) Residential Business Industrial Institutional Government Other *Installing a public EV charging station at an institution (such as a university or medical campus) should be allowed in all jurisdictions*

Site Location and Surrounding Environment

5. Which venue best describes the proposed EV charging station location?

(5) Business/Office Educational Services Hotel Medical Facility Park/Recreational Facility Multi-dwelling Unit Transportation Hub Municipal Lot or Garage On-street Parking Retail Outlet Entertainment Facility Restaurant Other *Higher education campuses employ staff that are likely EV drivers and host events that typically draw large crowds. Campuses with multiple parking lots that have different purposes should prioritize EV spaces for staff or visitors (not students)*

6. How long do drivers typically park their vehicles at this location?

(6) Less than 1 hour 1 - 2 hours 2 - 4 hours 4 - 8 hours More than 8 hours *This is a good duration to charge for most EV drivers; with PHEVs likely obtaining a full charge and BEVs able to get a substantial charge away from home*

7. Is this location used for any special event parking?

(7) Yes No *Special events provide significant exposure to the charging station and may draw EV drivers interested in charging, but the events might attract more EVs than available charging ports*

7B. Approximately how many special events per year? **More than 100**

8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?

(8) On a State Road 0.1 - 0.5 miles 0.5 - 1 mile 1 - 2 miles 2 - 5 miles More than 5 miles *This location would likely be very convenient for and provide good exposure to many EV drivers traveling between cities*

Typical Responses of a Very Good Site for an EV Charging Station (con't)

Expected EV Charging Station Users and Accessibility

9. Which potential EV drivers are expected to use the charging station?
 (9)
 Employees Visitors General Public All
Employees park at the same location every workday and may be encouraged to purchase an EV and become a regular user of the charging station

10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?
 (10)
 Yes No
Visitors or the general public will use a station more when there aren't additional restrictions, but it might also allow non-employees to use stations designed for only their use

11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?
 (11)
 Only a fee to access the parking lot Only a fee to use the charging station
 Fee to access the parking lot AND to use the charging station No fees for access or use
Visitors or the general public will use a station more when there are no costs to access or use the station and the host might find that the benefit of attracting EV drivers is more valuable than collecting fees

12. Would the charging station be located in a parking lot or garage with limited hours of operation?
 (12)
 Yes No
Visitors or the general public will use a station more when there aren't additional restrictions to access the station

Parking Lot or Garage Characteristics

13. How many parking spaces are in the lot or garage?
 (13)
 Fewer than 10 10 - 25 25 - 50 More than 50
Larger parking lots or garages should have less concerns about reserving 1 or 2 spaces for EV charging and have a large enough population of cars to ensure some would be EVs

14. Typically, how full is the parking lot or garage?
 (14)
 25% 50% 75% 100%
Less than capacity occupancy indicates that conventional vehicles should still have places to park and not occupy the charging spaces, while still being a popular place for drivers to park

15. Is there fluctuation in parking lot use by season?
 (15)
 Minimal Fluctuation Some Fluctuation A lot of Fluctuation
Consistent use of the parking lot or garage will likely lead to regular charging station users and good exposure to others

16. Is there fluctuation in parking lot use by day of the week?
 (16)
 Minimal Fluctuation Some Fluctuation A lot of Fluctuation
Consistent use of the parking lot or garage will likely lead to regular charging station users and good exposure to others

17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?
 (17)
 Yes No
Installation costs can be significantly lower if the EV charging station can be mounted on a building and no trenching in a parking lot is required

18. Is the parking lot paved?
 (18)
 Yes No
Trenching and repairing an unpaved parking lot for a charging station placed away from a building is easier and less costly

19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?
 (19)
 Yes No
While all areas are susceptible to an occasional severe weather event, as long as this parking lot is not especially prone to them, the station should hold up well and be used by EV drivers

20. Would the EV charging station be located in a covered parking space?
 (20)
 Yes No
Although not necessary, shading and protection from the weather is more desirable for EV drivers and may provide better protection for the charging station

21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?
 (21)
 Yes No
Proper station placement can help reduce potential damage, maintenance requirements, and ensure access for EV drivers in all weather conditions

22. Would the EV charging station be in a preferred parking space?
 (22)
 Yes No
EV charging stations in preferred parking spaces increase exposure and have an added benefit to EV drivers, but the installation costs may increase if electricity has to be run a longer distance

Typical Responses of a Very Good Site for an EV Charging Station (con't)

23. Are there lights illuminating the parking lot at night?

(23)

Yes No

i A lit parking lot is safer for EV drivers to use at night and there may be potential for using the same electric source powering the lights for AC Level 1 charging

24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?

(24)

Yes No

i An easily visible charging station is valuable by increasing exposure to all drivers and helps EV drivers locate it easily when they need a charge, however it is still good practice to identify the station with signage

Existing Electrical Infrastructure

25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?

(25)

Yes No Don't Know

i Breakers, conduit, and wire will all be needed for the installation, but costs will be lower without needing any electrical panel upgrades

26. How recently has major electrical work been performed at this location?

(26)

Within 10 years Within 20 years More than 20 years ago Don't know

i The existing electrical system should be up to code and no additional electrical infrastructure cost should be required when adding the charging station

27. How far is the electrical panel from the point of the building closest to where the charging station would be located?

(27)

Fewer than 10 feet 10 - 50 feet 50 - 100 feet More than 100 feet

i Short electrical runs require less materials and are easier to install which results in low costs

EV Charging Station Selection

The most common charging station type for commercial settings is AC Level 2, which operates on 240 VAC and will result in 10 to 20 miles of added electrical range per hour of charging time. This is appropriate when EVs can charge for 1-4 hours. Most EVs parked for longer than 4 hours would occupy the station longer than they need to charge. An AC Level 1 charging station that operates on 120 VAC and provides 2-5 miles of added electrical range per hour of charging might be more appropriate for settings where EVs are parked for 6 hours or longer at a time. AC Level 1 charging stations are less expensive and require less than half of the required electrical demand of AC Level 2 charging stations. However, AC Level 1 charging stations are very basic and don't offer networked features such as energy monitoring, payment, reservations, host notifications, and other useful tools to help manage the station use.

28. Which EV charging station type would be installed at this location?

(28)

AC Level 2 AC Level 1

i AC Level 1 charging stations, which operate on 120 VAC and result in 2 to 5 miles of added electrical range per hour of charging time, are a simple lower-cost options for EVs parked for more than 6 hours

29. Could the EV charging station be mounted to an existing structure or be installed as a stand-alone pedestal?

(29)

Mounted on an Existing Structure Stand-alone Pedestal

i Mounting the charging station on an existing structure can lower the purchase and installation costs, but the structure must be sturdy enough and located in a convenient location close to the parking space

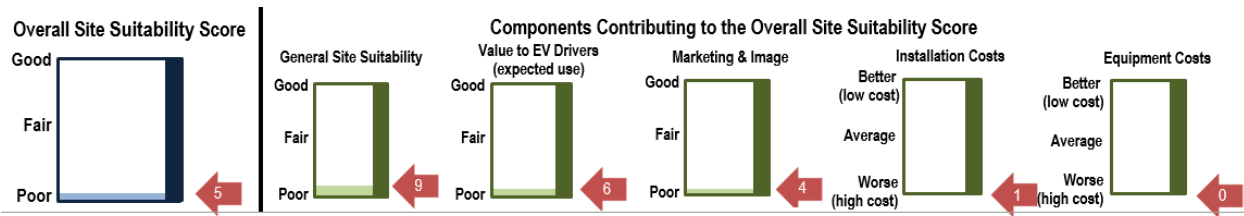
30. Would the charging station be networked and connected to a charging management company's software platform?

(30)

Networked Non-networked

i A non-networked station has no annual subscription cost, but also no added features, so it can't impose a fee to use the station and will not notify the host of any issues. There are energy monitoring devices that can be used for collecting data on station energy use which have an initial cost, but no annual networking fee.

Typical Responses of a Very Poor Site for an EV Charging Station



Electric Vehicle (EV) Charging Station Site Suitability Criteria Tool

Version Date: 9/2/2016

Site Name: _____

Address: _____

Site Suitability Factor Importance

1. How important are the following factors to the site owner for an EV charging station installation?

(1A)	Likely to be used by Current EV Drivers:	<input type="radio"/> Not at All Important	<input type="radio"/> Slightly Important	<input type="radio"/> Important	<input checked="" type="radio"/> Very Important	<input type="radio"/> Most Important
(1B)	Marketing for Potential EV Buyers:	<input type="radio"/> Not at All Important	<input checked="" type="radio"/> Slightly Important	<input type="radio"/> Important	<input type="radio"/> Very Important	<input type="radio"/> Most Important
(1C)	Positive Image for the Organization:	<input type="radio"/> Not at All Important	<input type="radio"/> Slightly Important	<input checked="" type="radio"/> Important	<input type="radio"/> Very Important	<input type="radio"/> Most Important
(1D)	Purchase and Installation Cost:	<input type="radio"/> Not at All Important	<input type="radio"/> Slightly Important	<input type="radio"/> Important	<input checked="" type="radio"/> Very Important	<input type="radio"/> Most Important

Site Ownership and Zoning

2. Do you own or lease the parking lot where the EV charging station will be installed?

(2)

Own Lease

i A leased parking lot will require an agreement with the owner which adds complications but is still feasible

3. Do you own or lease the building where electricity will be drawn for the EV charging station?

(3)

Own Lease

i A leased building or sub metered electricity will require an agreement with the owner which adds complications but is still feasible

4. What is the predominant land use for the EV charging station site?

(4)

Residential Business Industrial

Institutional Government Other

i Other zoned districts, such as historic or special use, may require special permission to install an EV charging station

Site Location and Surrounding Environment

5. Which venue best describes the proposed EV charging station location?

(5)

Business/Office Educational Services Hotel

Medical Facility Park/Recreational Facility Multi-dwelling Unit

Transportation Hub Municipal Lot or Garage On-street Parking

Retail Outlet Entertainment Facility Restaurant Other

i Most eating experiences are shorter than the required time to charge an EV and would only be used at certain times during the day, but if the restaurant was around other retail businesses, there could be options for the EV driver to stay parked longer

5B. How many individual venues (e.g., stores or businesses) are within 500 feet of this location?

1 - 5 other venues

6. How long do drivers typically park their vehicles at this location?

(6)

Less than 1 hour 1 - 2 hours 2 - 4 hours

4 - 8 hours More than 8 hours

i This is likely too short of a charging period to provide value to the EV driver, since most AC Level 2 stations provide only 10 miles of added electrical range per hour

7. Is this location used for any special event parking?

(7)

Yes No

i There will be no increased exposure of the charging station for special events, but charging station use is typically influenced more by regular users than occasional users

8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?

(8)

On a State Road 0.1 - 0.5 miles 0.5 - 1 mile

1 - 2 miles 2 - 5 miles More than 5 miles

i This location would likely be significantly less convenient for and have much less exposure to EV drivers travelling between cities

Typical Responses of a Very Poor Site for an EV Charging Station (con't)

Expected EV Charging Station Users and Accessibility

9. Which potential EV drivers are expected to use the charging station?

(9)

Employees Visitors General Public All

i Stations accessible to the general public would likely see the most fluctuation in use and not serve any individual EV drivers on a regular basis

10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?

(10)

Yes No

i These requirements could hinder station use by visitors or the general public, but could be a valuable way to manage station use by employees

11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?

(11)

Only a fee to access the parking lot Only a fee to use the charging station Fee to access the parking lot AND to use the charging station No fees for access or use

i Costs to access and use the station will limit station use by the general public, but EV drivers that already use the garage will pay a reasonable cost for using the parking space and getting a charge

12. Would the charging station be located in a parking lot or garage with limited hours of operation?

(12)

Yes No

i Additional restrictions to access the charging station parking space could prevent station use by an EV driver that needs a charge

Parking Lot or Garage Characteristics

13. How many parking spaces are in the lot or garage?

(13)

Fewer than 10 10 - 25 25 - 50 More than 50

i This is a small number of parking spaces for a public lot, which likely means less demand for parking and less likelihood to have EVs looking for a charge unless the demographic aligns well with the typical EV owner

14. Typically, how full is the parking lot or garage?

(14)

25% 50% 75% 100%

i Parking lots that experience full capacity have a greater likelihood that conventional cars would park in charging spaces or become aggravated that charging spaces are empty and taking up valuable space

15. Is there fluctuation in parking lot use by season?

(15)

Minimal Fluctuation Some Fluctuation A lot of Fluctuation

i Seasonal venues that have minimal use during certain months will have more limited exposure to the public and experience inconsistent station use that is hard to manage

16. Is there fluctuation in parking lot use by day of the week?

(16)

Minimal Fluctuation Some Fluctuation A lot of Fluctuation

i Parking lots or garages used only on weekends or weekdays will experience inconsistent use which is hard to manage and has less exposure to the public

17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?

(17)

Yes No

i Installing an EV charging station out in a parking lot will require trenching and repair, along with a foundation to mount on, which increases the costs

17B. How far from the building would the charging station be placed? **100 - 200 feet**

18. Is the parking lot paved?

(18)

Yes No

i Trenching and repairing a paved parking lot for a charging station placed away from a building is more costly

19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?

(19)

Yes No

i This is a concern for potential damage to the station or vehicles that are charging and may lead to costly repairs or resistance from EV drivers to use this charging station

20. Would the EV charging station be located in a covered parking space?

(20)

Yes No

i Most EV charging stations are installed in open lots and are made to handle outdoor conditions, but it will require some maintenance and care in the winter months to keep the area around the station clear

21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?

(21)

Yes No

i Stations placed in the middle of parking lots are more likely to be hit and can be a hindrance to plowing, but you also don't want the station where snow is piled during winter

22. Would the EV charging station be in a preferred parking space?

(22)

Yes No

i To reduce costs, the charging station might be placed along the side or in back of the building, but that be inconvenient to the EV driver and harder to find if there isn't good signage

Typical Responses of a Very Poor Site for an EV Charging Station (con't)

23. Are there lights illuminating the parking lot at night?

(23)

Yes No

i If charging will primarily occur during the day, lights are not essential, but lighting is a nice amenity that encourages charging station use any time the EV drivers need a charge

24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?

(24)

Yes No

i If a charging station is not easily visible there is no added exposure to the general public and signage will be needed to direct EV drivers to the location

Existing Electrical Infrastructure

25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?

(25)

Yes No Don't Know

i A subpanel may need to be added to accommodate the two additional 240VAC breakers required for a dual port charging station, but increasing electrical capacity would require a costly upgrade from the utility

26. How recently has major electrical work been performed at this location?

(26)

Within 10 years Within 20 years More than 20 years ago Don't know

i It is possible that some major electrical work may be required to bring the existing electrical system up to code when adding the charging station

27. How far is the electrical panel from the point of the building closest to where the charging station would be located?

(27)

Fewer than 10 feet 10 - 50 feet 50 - 100 feet More than 100 feet

i Long electrical runs require more materials, may need to pass through multiple walls, and could need larger wire or a subpanel that results in high costs

EV Charging Station Selection

The most common charging station type for commercial settings is AC Level 2, which operates on 240 VAC and will result in 10 to 20 miles of added electrical range per hour of charging time. This is appropriate when EVs can charge for 1-4 hours. Most EVs parked for longer than 4 hours would occupy the station longer than they need to charge. An AC Level 1 charging station that operates on 120 VAC and provides 2-5 miles of added electrical range per hour of charging might be more appropriate for settings where EVs are parked for 6 hours or longer at a time. AC Level 1 charging stations are less expensive and require less than half of the required electrical demand of AC Level 2 charging stations. However, AC Level 1 charging stations are very basic and don't offer networked features such as energy monitoring, payment, reservations, host notifications, and other useful tools to help manage the station use.

28. Which EV charging station type would be installed at this location?

(28)

AC Level 2 AC Level 1

i AC Level 2 charging stations, which operate on 240 VAC and result in 10 to 20 miles of added electrical range per hour of charging time, are most appropriate when EVs park for 1-4 hours

29. Could the EV charging station be mounted to an existing structure or be installed as a stand-alone pedestal?

(29)

Mounted on an Existing Structure Stand-alone Pedestal

i A charging station pedestal is slightly more expensive to purchase and must be secured to a sturdy concrete foundation which might need to be poured during the installations

30. Would the charging station be networked and connected to a charging management company's software platform?

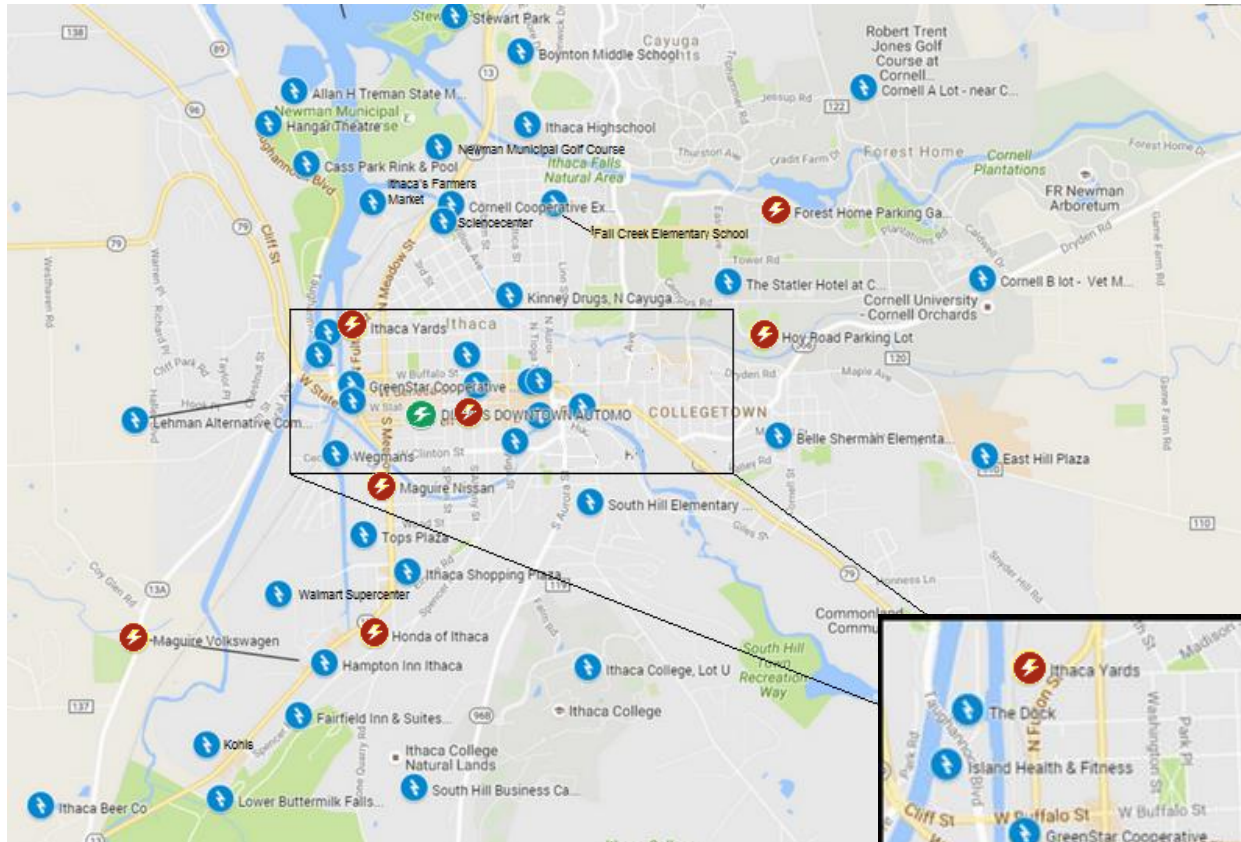
(30)




Networked Non-networked

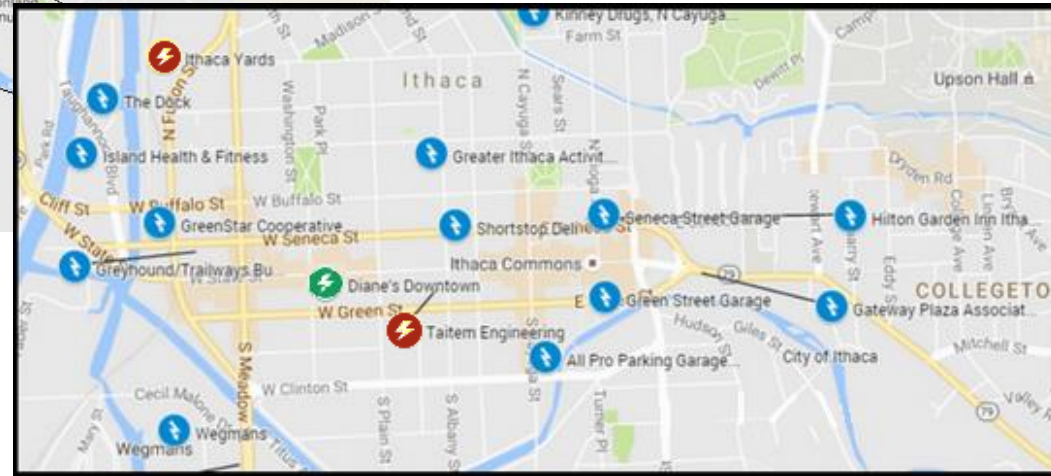
i A networked station can lock the connector when not in use, monitor use, impose a fee for charging, notify the owner of issues, and automatically appears on station locator maps, but requires an annual subscription

Appendix B: Area Maps of Locations Considered for a New Charging Station in Tompkins County

City of Ithaca Sites Considered for a New Charging Station



-  Potential New AC Level 2 Charger Site
-  Existing AC Level 2 Charging Site
-  Existing DC Fast Charging Site



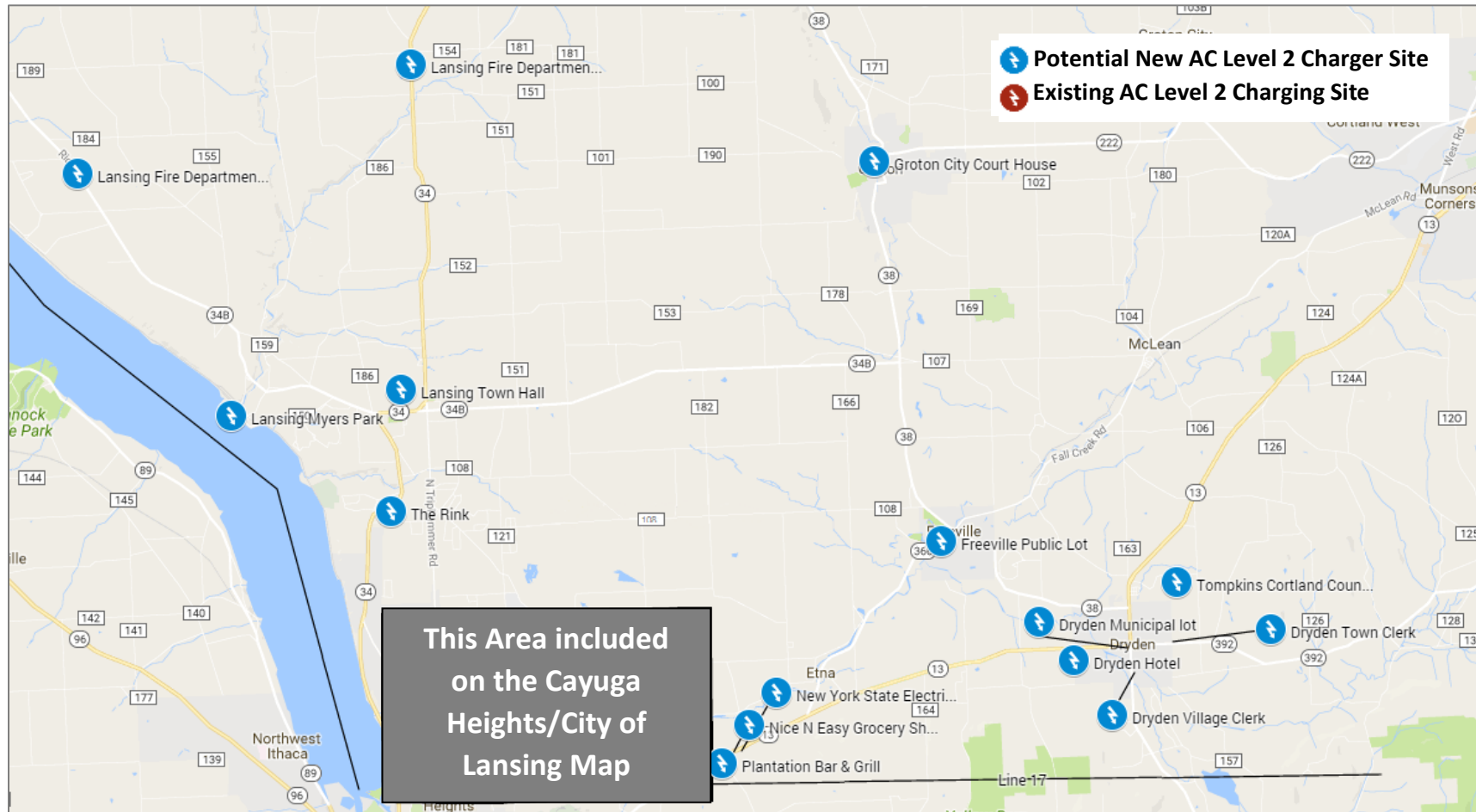
Cayuga Heights and Lansing Sites Considered for a New Charging Station



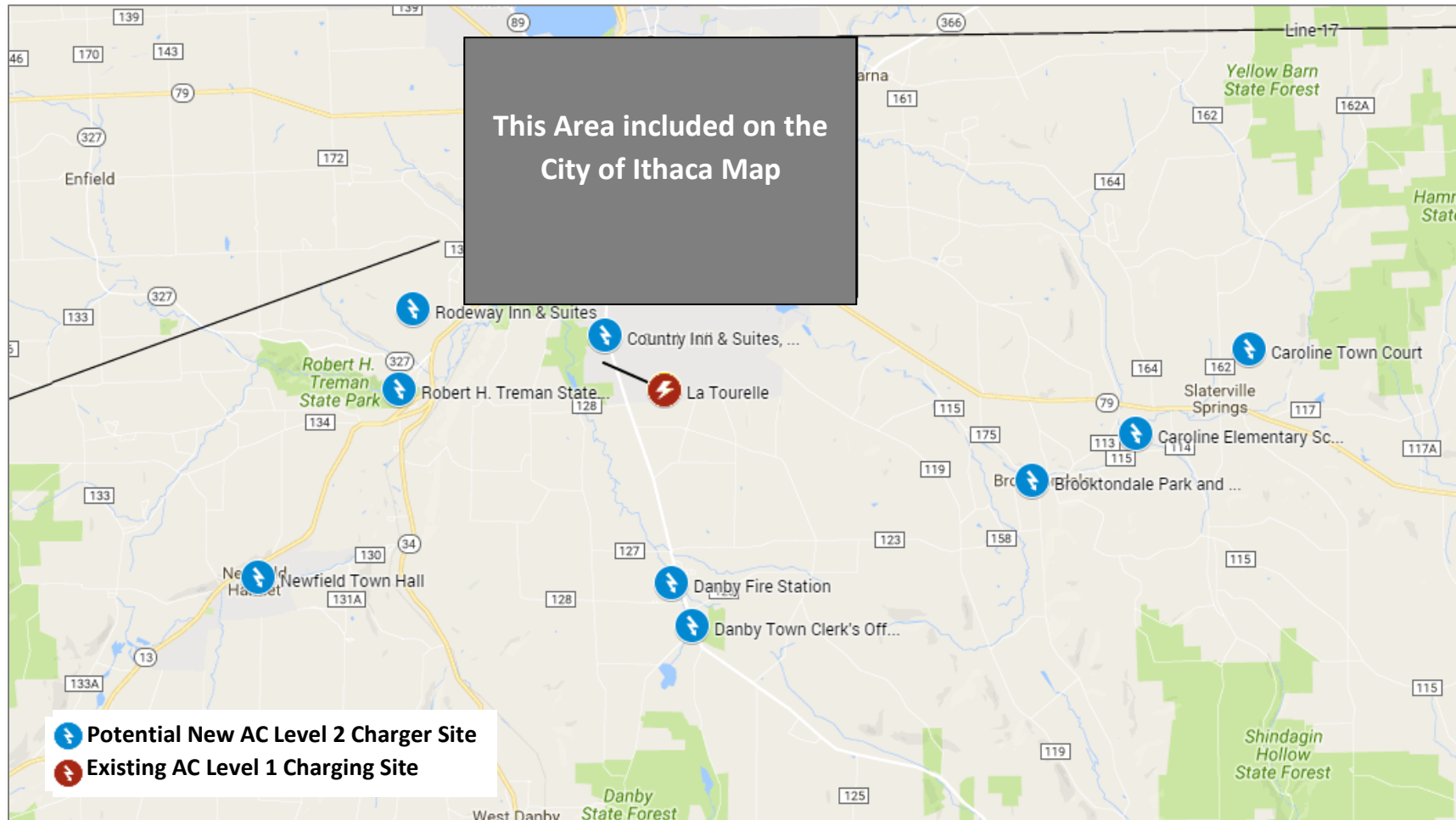
Northwest Tompkins County Sites Considered for a New Charging Station



Northeast Tompkins County Sites Considered for a New Charging Station






Southern Tompkins County Sites Considered for a New Charging Station



Appendix B: Site Suitability Criteria Tool Responses from Site Owners

Cornell Cooperative Extension (83)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Business	
5. Which venue best describes the proposed EV charging station location?	Educational Services	
6. How long do drivers typically park their vehicles at this location?	2 - 4 hours	
7. Is this location used for any special event parking?	Yes	
7B. Approximately how many special events per year?	25 - 50	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	0.1 – 0.5 miles	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	Only a fee to use the charging station	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	25 - 50	
14. Typically, how full is the parking lot or garage?	75%	
15. Is there fluctuation in parking lot use by season?	Minimal fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Minimal fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	Yes	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	Yes	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	Yes	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Yes	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	10 - 50 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Seneca Street Garage (78)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Business	
5. Which venue best describes the proposed EV charging station location?	Business/Office	
6. How long do drivers typically park their vehicles at this location?	4 – 8 hours	
7. Is this location used for any special event parking?	Yes	
7B. Approximately how many special events per year?	0 - 25	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	On a State Road	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	Yes	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	Fee for access and use	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	75%	
15. Is there fluctuation in parking lot use by season?	Some fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Minimal fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	Yes	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	Yes	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	Yes	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	Yes	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Yes	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	More than 100 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Sciencenter (78)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Business	
5. Which venue best describes the proposed EV charging station location?	Educational Services	
6. How long do drivers typically park their vehicles at this location?	2 - 4 hours	
7. Is this location used for any special event parking?	Yes	
7B. Approximately how many special events per year?	0 - 25	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	On a State Road	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	No fee	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	75%	
15. Is there fluctuation in parking lot use by season?	Minimal fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Some fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	No	
17B. How far from the building would the charging station be placed?	Less than 50 feet	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	Yes	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	Yes	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Yes	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	10 - 50 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Ithaca College (76)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Institutional	
5. Which venue best describes the proposed EV charging station location?	Educational Services	
6. How long do drivers typically park their vehicles at this location?	2 - 4 hours	
7. Is this location used for any special event parking?	Yes	
7B. Approximately how many special events per year?	More than 100	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	0.1 – 0.5 miles	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	Only a fee to access the parking lot	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	75%	
15. Is there fluctuation in parking lot use by season?	Some fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Some fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	No	
17B. How far from the building would the charging station be placed?	50 – 100 feet	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	Yes	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	Yes	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Yes	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	More than 100 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Shops at Ithaca Mall (73)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Business	
5. Which venue best describes the proposed EV charging station location?	Retail	
5B. How many individual venues (e.g., stores or businesses) are within 500 feet of this location?	10+ other venues	
6. How long do drivers typically park their vehicles at this location?	1 - 2 hours	
7. Is this location used for any special event parking?	No	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	On a State Road	
9. Which potential EV drivers are expected to use the charging station?	General Public	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	No fees for access or use	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	50%	
15. Is there fluctuation in parking lot use by season?	Minimal fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Some fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	Yes	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	No	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	No	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Don't know	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	Fewer than 10 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Dryden Road Garage (73)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Business	
5. Which venue best describes the proposed EV charging station location?	Municipal Garage	
5B. How many individual venues (e.g., stores or businesses) are within 500 feet of this location?	10+ other venues	
6. How long do drivers typically park their vehicles at this location?	4 – 8 hours	
7. Is this location used for any special event parking?	Yes	
7B. Approximately how many special events per year?	0 - 25	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	0.1 – 0.5 miles	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	Yes	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	Fee for access and use	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	100%	
15. Is there fluctuation in parking lot use by season?	Some fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Minimal fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	Yes	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	Yes	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	Yes	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	No	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Yes	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	More than 100 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Green Street Garage (72)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Business	
5. Which venue best describes the proposed EV charging station location?	Business/Office	
6. How long do drivers typically park their vehicles at this location?	4 – 8 hours	
7. Is this location used for any special event parking?	Yes	
7B. Approximately how many special events per year?	0 - 25	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	On a State Road	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	Yes	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	Fee for access and use	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	75%	
15. Is there fluctuation in parking lot use by season?	Some fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Minimal fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	Yes	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	Yes	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	Yes	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	No	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Yes	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	More than 100 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer




GreenStar Cooperative Market (69)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Business	
5. Which venue best describes the proposed EV charging station location?	Business/Office	
6. How long do drivers typically park their vehicles at this location?	1 – 2 hours	
7. Is this location used for any special event parking?	No	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	On a State Road	
9. Which potential EV drivers are expected to use the charging station?	General Public	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	No fees for access or use	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	25 - 50	
14. Typically, how full is the parking lot or garage?	100%	
15. Is there fluctuation in parking lot use by season?	Minimal fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Some fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	Yes	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	No	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	Yes	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Don't Know	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	Fewer than 10 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer


Taughannock Falls State Park (68)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Government	
5. Which venue best describes the proposed EV charging station location?	Park/Recreational Facility	
6. How long do drivers typically park their vehicles at this location?	2 – 4 hours	
7. Is this location used for any special event parking?	Yes	
7B. Approximately how many special events per year?	0 - 25	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	On a State Road	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	Yes	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	Only a fee to access the parking lot	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	Yes	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	50%	
15. Is there fluctuation in parking lot use by season?	A lot of fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	A lot of fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	Yes	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	Yes	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	Yes	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Don't Know	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	10 - 50 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

All Pro Parking Garage on Cayuga Street (67)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Lease	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Lease	
4. What is the predominant land use for the EV charging station site?	Business	
5. Which venue best describes the proposed EV charging station location?	Garage	
5B. How many individual venues (e.g., stores or businesses) are within 500 feet of this location?	10+ other venues	
6. How long do drivers typically park their vehicles at this location?	4 - 8 hours	
7. Is this location used for any special event parking?	Yes	
7B. Approximately how many special events per year?	0 - 25	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	0.1 – 0.5 miles	
9. Which potential EV drivers are expected to use the charging station?	General Public	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	Only a fee to access the parking garage	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	50%	
15. Is there fluctuation in parking lot use by season?	Minimal fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Minimal fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	Yes	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	Yes	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	Yes	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	No	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Yes	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	10 - 50 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

East Hill Plaza (65)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Business	
5. Which venue best describes the proposed EV charging station location?	Retail Outlet	
5B. How many individual venues (e.g., stores or businesses) are within 500 feet of this location?	6 - 10 other venues	
6. How long do drivers typically park their vehicles at this location?	1 - 2 hours	
7. Is this location used for any special event parking?	No	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	0.5 - 1 mile	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	No fees for access or use	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	75%	
15. Is there fluctuation in parking lot use by season?	Minimal fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Minimal fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	No	
17B. How far from the building would the charging station be placed?	50 - 100 feet	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	Yes	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	Yes	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Don't Know	
26. How recently has major electrical work been performed at this location?	Don't Know	
26B. How old is the building where the charging station electricity would come from?	30 – 40 years old	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	50 - 100 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Ithaca Shopping Plaza (65)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Business	
5. Which venue best describes the proposed EV charging station location?	Retail	
5B. How many individual venues (e.g., stores or businesses) are within 500 feet of this location?	1 - 5 other venues	
6. How long do drivers typically park their vehicles at this location?	Less than 1 hour	
7. Is this location used for any special event parking?	No	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	On a State Road	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	No fees for access or use	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	75%	
15. Is there fluctuation in parking lot use by season?	Some fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Minimal fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	No	
17B. How far from the building would the charging station be placed?	50 – 100 feet	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	No	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	Yes	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Yes	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	10 - 50 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Tompkins County Visitor Bureau (63)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Business	
5. Which venue best describes the proposed EV charging station location?	Business/Office	
6. How long do drivers typically park their vehicles at this location?	4 - 8 hours	
7. Is this location used for any special event parking?	No	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	0.1 – 0.5 miles	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	No fees for access or use	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	25 - 50	
14. Typically, how full is the parking lot or garage?	50%	
15. Is there fluctuation in parking lot use by season?	Some fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	A lot of fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	No	
17B. How far from the building would the charging station be placed?	Less than 50 feet	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	Yes	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	Yes	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Don't Know	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	50 - 100 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Freeville Municipal Lot (62)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Government	
5. Which venue best describes the proposed EV charging station location?	Municipal Lot	
5B. How many individual venues (e.g., stores or businesses) are within 500 feet of this location?	1 - 5 other venues	
6. How long do drivers typically park their vehicles at this location?	4 - 8 hours	
7. Is this location used for any special event parking?	Yes	
7B. Approximately how many special events per year?	50 - 100	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	2 - 5 miles	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	No fees for access or use	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	10 - 25	
14. Typically, how full is the parking lot or garage?	50%	
15. Is there fluctuation in parking lot use by season?	Minimal fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	A lot of fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	No	
17B. How far from the building would the charging station be placed?	Less than 50 feet	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	No	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	Yes	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Don't Know	
26. How recently has major electrical work been performed at this location?	Don't Know	
26B. How old is the building where the charging station electricity would come from?	30 – 40 years old	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	Fewer than 10 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Ithaca Farmer’s Market (60)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Business	
5. Which venue best describes the proposed EV charging station location?	Retail Outlet	
5B. How many individual venues (e.g., stores or businesses) are within 500 feet of this location?	1 - 5 other venues	
6. How long do drivers typically park their vehicles at this location?	1 - 2 hours	
7. Is this location used for any special event parking?	Yes	
7B. Approximately how many special events per year?	0 - 25	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	0.1 – 0.5 mile	
9. Which potential EV drivers are expected to use the charging station?	Visitors	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	No fees for access or use	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	100%	
15. Is there fluctuation in parking lot use by season?	A lot of fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	A lot of fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	Yes	
18. Is the parking lot paved?	No	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	No	
23. Are there lights illuminating the parking lot at night?	No	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	No	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Don't Know	
26. How recently has major electrical work been performed at this location?	Don't Know	
26B. How old is the building where the charging station electricity would come from?	10 - 20 years old	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	10 - 50 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Tompkins-Cortland Community College (56)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Institutional	
5. Which venue best describes the proposed EV charging station location?	Educational Services	
6. How long do drivers typically park their vehicles at this location?	2 - 4 hours	
7. Is this location used for any special event parking?	Yes	
7B. Approximately how many special events per year?	0 - 25	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	0.5 - 1 mile	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	No fees for access or use	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	75%	
15. Is there fluctuation in parking lot use by season?	Some fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	A lot of fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	No	
17B. How far from the building would the charging station be placed?	100 – 200 feet	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	Yes	
22. Would the EV charging station be in a preferred parking space?	No	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	No	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	No	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	More than 100 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Cass Park (55)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Government	
5. Which venue best describes the proposed EV charging station location?	Park/Recreational Facility	
6. How long do drivers typically park their vehicles at this location?	1 - 2 hours	
7. Is this location used for any special event parking?	Yes	
7B. Approximately how many special events per year?	50 - 75	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	On a State Road	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	No fees for access or use	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	75%	
15. Is there fluctuation in parking lot use by season?	A lot of fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Some fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	No	
17B. How far from the building would the charging station be placed?	100 – 200 feet	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	Yes	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	No	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	Yes	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Don't Know	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	More than 100 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Buttermilk Falls State Park (55)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Government	
5. Which venue best describes the proposed EV charging station location?	Park/Recreational Facility	
6. How long do drivers typically park their vehicles at this location?	2 - 4 hours	
7. Is this location used for any special event parking?	No	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	On a State Road	
9. Which potential EV drivers are expected to use the charging station?	All	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	Yes	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	Only a fee to access the parking lot	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	Yes	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	75%	
15. Is there fluctuation in parking lot use by season?	A lot of fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Some fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	No	
17B. How far from the building would the charging station be placed?	50 – 100 feet	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	Yes	
23. Are there lights illuminating the parking lot at night?	No	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	Yes	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Don't Know	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	10 - 50 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Stewart Park (51)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Government	
5. Which venue best describes the proposed EV charging station location?	Park/Recreational	
6. How long do drivers typically park their vehicles at this location?	1 - 2 hours	
7. Is this location used for any special event parking?	Yes	
7B. Approximately how many special events per year?	0 - 25	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	On a State Road	
9. Which potential EV drivers are expected to use the charging station?	Visitors	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	No fees for access or use	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	50%	
15. Is there fluctuation in parking lot use by season?	A lot of fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	A lot of fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	No	
17B. How far from the building would the charging station be placed?	Less than 50 feet	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	Yes	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	Yes	
23. Are there lights illuminating the parking lot at night?	No	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	No	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	Don't Know	
26. How recently has major electrical work been performed at this location?	Within 10 years	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	10 - 50 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer

Ithaca-Tompkins Regional Airport (48)

2. Do you own or lease the parking lot where the EV charging station will be installed?	Own	
3. Do you own or lease the building where electricity will be drawn for the EV charging station?	Own	
4. What is the predominant land use for the EV charging station site?	Government	
5. Which venue best describes the proposed EV charging station location?	Transportation Hub	
6. How long do drivers typically park their vehicles at this location?	More than 8 hours	
7. Is this location used for any special event parking?	No	
8. How far is this location from a busy road used to travel between cities (typically an interstate, US highway, or State route)?	0.5 – 1 mile	
9. Which potential EV drivers are expected to use the charging station?	General Public	
10. Would an EV driver require a permit, sticker, or card to access the parking lot where the charging station is located?	No	
11. Is there a fee to access the parking lot where the charging station would be located or would there be a fee to use the charging station?	Fee to park and to use the station	
12. Would the charging station be located in a parking lot or garage with limited hours of operation?	No	
13. How many parking spaces are in the lot or garage?	More than 50	
14. Typically, how full is the parking lot or garage?	75%	
15. Is there fluctuation in parking lot use by season?	Minimal fluctuation	
16. Is there fluctuation in parking lot use by day of the week?	Some fluctuation	
17. Would the EV charging station be mounted on the wall of a building where the cord could run to the EV and not interfere with a pedestrian walkway?	No	
17B. How far from the building would the charging station be placed?	More than 200 feet	
18. Is the parking lot paved?	Yes	
19. Is the parking lot prone to flooding or other events that might damage a charging station or plugged-in EV?	No	
20. Would the EV charging station be located in a covered parking space?	No	
21. Would the EV charging station need to be placed where it would obstruct plowing or in a location where snow is stored in the winter?	No	
22. Would the EV charging station be in a preferred parking space?	Yes	
23. Are there lights illuminating the parking lot at night?	Yes	
24. Would the EV charging station and parking space be visible from the road or entrance to the parking lot or garage?	No	
25. Does the existing electrical panel have 4 extra slots and 80 amps of available capacity for a dual port Level 2 charging station?	No	
26. How recently has major electrical work been performed at this location?	More than 20 years ago	
27. How far is the electrical panel from the point of the building closest to where the charging station would be located?	More than 100 feet	
 Highest Scoring Answer	 Lowest Scoring Answer	 Mid-range Scoring Answer