



The Town of Wethersfield

# NET ZERO FLEET ELECTRIFICATION & SOLAR CANOPY PROJECT



*Funding Request:* \$5,449,184

*Sectors:* (1) Transportation  
(2) Electricity Generation

*Brief Description of GHG Measures:*

(1) Transportation: The Town of Wethersfield's project proposes the replacement of 24 gas powered vehicles with their electric counterparts. Two dual Level 2 chargers and one dual Level 3 chargers are proposed to be installed at both Town Hall (505 Silas Deane Hwy.) and at Physical Services (100 Marsh St.) to power the municipal fleet. Two additional dual Level 2 chargers are proposed to be installed at the Wethersfield Library (515 Silas Deane Hwy.) for public usage.

(2) Electricity Generation: Regarding this sector, the Town proposes the building and usage of a solar canopy at the High School (411 Wolcott Hill Rd.). It is proposed that the solar energy harvested will be fed back into the grid and used to power the new electric fleet, thus creating a net zero fleet. There is sufficient capacity from the solar generation to more than offset the expected future electric consumption of the new vehicles after replacement. It is expected that the size of the system will be able to capture roughly 900 kW/year in energy.

*Estimated Cumulative GHG Reductions  
for 2025 - 2030 (in metric Tons): 138.169 MTons*

*Estimated Cumulative GHG Reductions  
from 2025 - 2050 (in metric tons): 1,474.20 MTons*

*Type of Application:* Individual

*Location:* Town of Wethersfield, CT

*Applicable Priority Climate Action Plan (PCAP) on which Measures are Based*

*PCAP Lead Organization:* Capital Region Council of Governments (CROC)

*PCAP Title:* Hartford - East Hartford - Middletown Priority Climate Action Plan

*PCAP Website:* <https://crocog.org/regional-planning-and-development/regional-climate-action-plan/>

*List of GHG Reduction Measures and PCAP Page Reference for Each Measure:*

E2) Install solar panels, add battery storage and develop microgrids on buildings and properties owned by municipalities (e.g. schools, town halls, parking lots) p. 25

T1) Convert light duty municipal fleets to EV/hybrids; install municipal charging infrastructure; switch municipal gas-powered equipment to electric p. 25

T2) Install Public EV charging infrastructure and fund maintenance of EV charging infrastructure p. 25

*Primary Contact:* Frederick J. Presley

*Phone Number:* 860-721-2805

*Email Address:* fred.presley@wethersfieldct.gov

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# EXECUTIVE SUMMARY

*The Town of Wethersfield's proposed Net Zero Fleet Electrification & Solar Canopy Project directly supports the Administration's call to advance environmental justice through Executive Order 14096.*

## PROJECT SUMMARY & DESCRIPTION OF GHG REDUCTION MEASURES

*The Net Zero Fleet Electrification & Solar Canopy Project addresses two GHG reduction measures;*

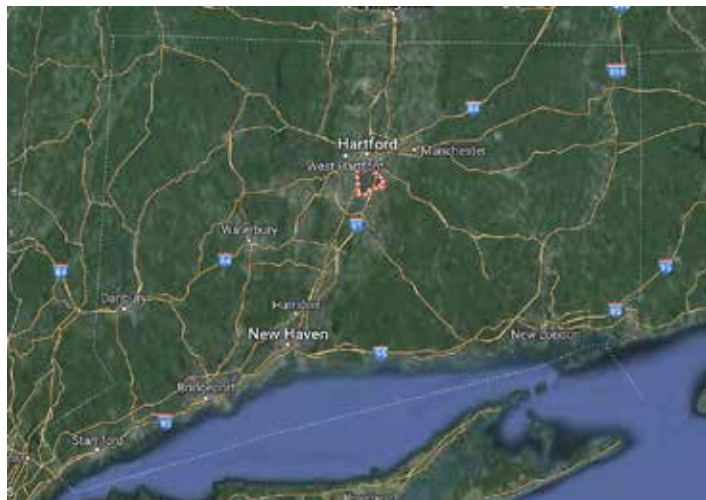
**(1) Transportation Sector:** The project proposes to replace 24 municipal light and medium duty gas-powered vehicles currently in use and on the road, thereby removing their emissions from entering the environment. This will directly decrease gas emissions resulting from municipal fleet usage in the region. It is proposed that 24 vehicles, listed in detail in the table on p.7, will be removed and replaced with their electric counterparts, based on availability at the time of purchase. It is proposed that two dual Level 2 chargers and one dual Level 3 charger be installed at both Town Hall (505 Silas Deane Hwy.) and Physical Services (100 Marsh Street) in order to power the municipal fleet. It is also proposed that two dual Level 2 chargers also be installed at the Wethersfield Library (515 Silas Deane Highway) for public usage, to promote the adoption of electric vehicles by residents, neighbors, and visitors.

**(2) Electric Power Sector:** It is proposed that a solar canopy be installed at Wethersfield High School for the purpose of collecting solar energy which will power the municipal electric fleet and offset additional electric consumption.

The project also puts into action several priority actions referenced within the Capital Region's Council of Government's (CROG) Priority Climate Action Plan (PCAP), including E2) Install solar panels, add battery storage and develop microgrids on buildings and properties owned by municipalities (e.g. schools, town halls, parking lots), T1) Convert light duty municipal fleets to EV/hybrids; install municipal charging infrastructure; switch municipal gas-powered equipment to electric, and T2) Install Public EV charging infrastructure and fund maintenance of EV charging infrastructure. Our project considers the urgency in reducing Green House Gas (GHG) pollutants and demonstrates sustainability characteristics that are in line with the CPRG program created to protect human health and the environment as the United States faces the increasingly harmful impacts of climate change.

Wethersfield's Net Zero Fleet Electrification & Solar Canopy Project supports the goals of the Environmental Protection Agency's (EPA) Strategic Plan. The presented project follows the science, follows the law, is transparent, and also aims to advance justice and equality, which we will speak to throughout our application (EPA Strategic Plan Overview). For the first time, the 2022-2026 Strategic Plan also has a goal to advance environmental justice and civil rights. The agency's goals aim to accomplish mission outcomes through collaboration with new partners, such as municipalities. In order to accomplish the projects' goals. Wethersfield will also need to build new partnerships and pursue creative solutions. We welcome the challenge because it is the right thing to do for our community and the region.

## PROJECT LOCATION: WETHERSFIELD, CT 06109



The Town accepts, supports, and strives to meet the EPA's goals through this project along with other ventures that we are undertaking. For example, during the 2024 calendar year, Wethersfield will be completing a tree inventory and tree management plan, supported by a grant funding from the Department of Energy and Environmental Protection (DEEP). The purpose of this project is to provide a safe and healthy environment for the community, our visitors, and neighbors. Part of the project encompasses locating 500 new tree planting sites. The Town consistently looks to leverage science-based decision making, considering the health of all, especially vulnerable users, while looking to safeguard and revitalize both within the Town and in adjacent communities and the region. At the time of this writing, Wethersfield is also currently contracting with Federal Highway for an award through the Safe Streets and Roads for All grant program for a planning study of the Silas Deane Highway corridor where we have partnered with the Town of Rocky Hill. Through this funding we are looking to improve safety, assess and better plan for land use, support multi-modal transportation and promote walking and biking as a healthy and safe driving alternatives, and safeguard vulnerable users while promoting local businesses and thoughtful development.

Furthermore, in January 2024, the Department of Physical Services also applied for Diesel Emission Reduction Act (DERA) funding through the EPA for the purchase of a Class 8, multipurpose dump truck. This grant provides 25% funding for clean diesel truck replacements/purchases. Although the application is still pending, if awarded, the Town would be able to take advantage of \$76,243.81 of funding to purchase the truck, whose total cost is \$304,975.25. We wanted to share this to show that we are pursuing other grant opportunities to pursue lower emitting vehicles and machinery through means outside of the CPRG program as well.



# NEED FOR GHG REDUCTION

*Across the globe and locally it can be seen that the climate is changing.*

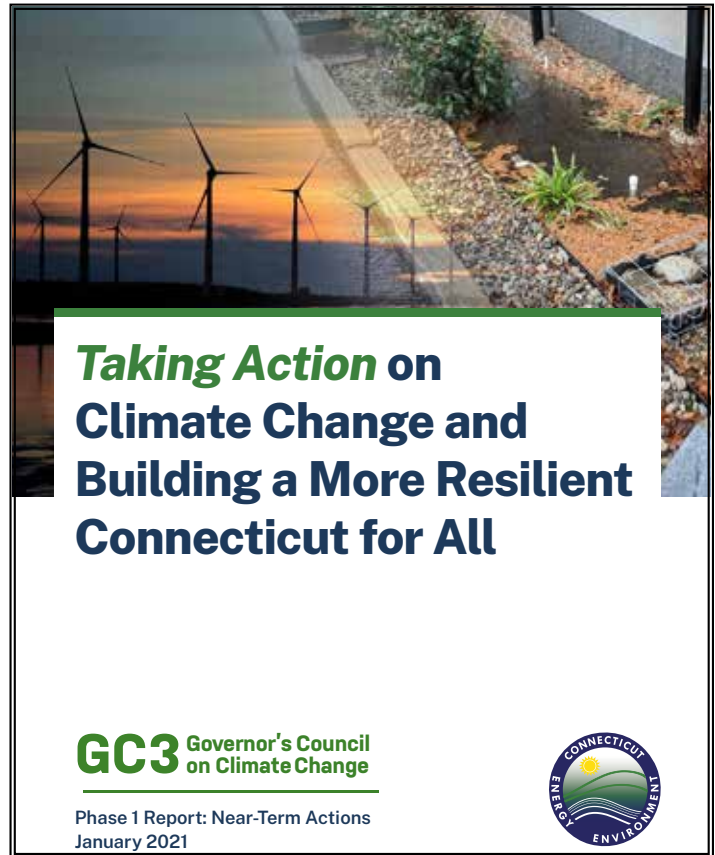
## THE NEED TO ACT IS NOW

In Connecticut, the “Mean sea level in Long Island Sound could be up to 20 inches above the National Tidal Datum Epoch (1983-2001) by 2050” (O’Donnell, 2018). As a result, it is predicted that the frequency of flooding along the Connecticut coast will increase, and may do so by a factor of 5 to 10, even if there is no change in storm conditions (Taking Action on Climate... p. 30). To put this in perspective, flooding severity, like that which occurred during Superstorm Sandy, could be expected to happen every 5 to 10 years. Furthermore, compared to the 1970-1999 baseline, average temperatures could also increase by 5°F (2.7°C) by 2050 in the state. With that said, “Connecticut’s temperature has already risen more than the global average in part because temperature changes tend to increase in middle and high altitude” (Taking Action on Climate... p. 30).

Due to climate changes in Connecticut, indices of hot weather days 90°F and higher are expected to increase from an average of 5 days per year, as seen statewide from 1970 to 1999, to an average of 25 days between the years of 2040 and 2069. In addition, the expectation of drought risk is also expected to grow.

As a matter of fact, the likelihood of extreme events, such as very low annual and summer water availability, in addition to very high 1-day and 5-day precipitation are probable to rise by a factor of between 2 and 4 by 2050 (Taking Action on Climate... p. 30). There has also been a rise in the occurrence of hurricanes. The frequency of hurricanes that are in category three or greater has grown since 1980.

Such events will affect the people of our state adversely and often disproportionately, often affecting those that are categorized as underserved, overburdened, and marginalized. Extreme heat and cold events also is known to affect both the young and elderly disproportionately. There is much to be done to combat climate change and improve sustainability efforts in our state. We believe that implementing sustainable infrastructure improvements will have a large impact in putting our community on the right track to fighting climate change and decreasing GHG emissions.



On September 3, 2019, Governor Ned Lamont issued Executive Order No. 3, which re-established and expanded membership and responsibilities of the Governor’s Council on Climate Change, also known as the GC3. More information and this document can be found on the Department of Energy & Environmental Protection’s website at: <https://portal.ct.gov/DEEP/Climate-Change/GC3/Governors-Council-on-Climate-Change>

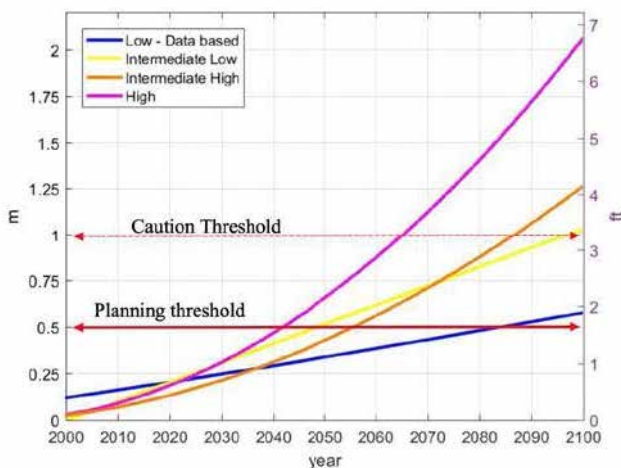


Figure 3. Sea-level Rise Scenarios for Connecticut. O’Donnell, J. 2019.

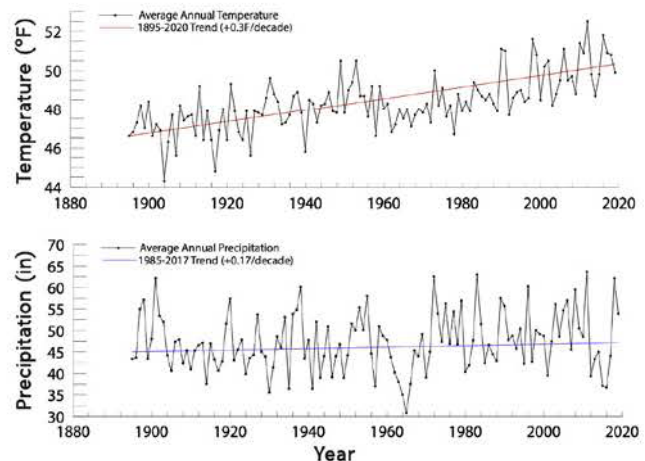


Figure 4. Average annual temperature and precipitation in Connecticut. Seth et al., 2019 (as adapted by CIRCA fact sheet).



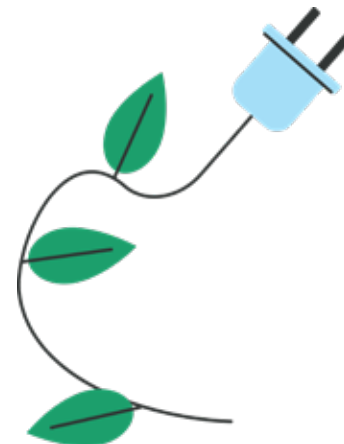


# PROJECT PLANNING PROCESS & HIGH-LEVEL COST ESTIMATES

Wethersfield has been working with Eversource and the NV5 consulting group to clearly plan and estimate costs for the Net Zero Fleet Electrification & Solar Canopy Project. The project has three main portions 1. EV Charger Installation, 2. Solar Canopy Implementation, and 3. Vehicle Acquisition.

## 1. EV CHARGER INSTALLATION

Through the Net Zero Fleet Electrification & Solar Canopy Project the Town expects to take a leap toward decarbonization. This project will both remove carbon emissions and also create a blueprint for how to attack solar and fleet electrification projects and further expand the EV charger network. The process of developing this project has been new to Town staff and to Eversource, our local electricity provider. Staff have been working closely with Eversource representatives to understand infrastructure requirements in order to provide the necessary power increases to locations so that they are able to support the necessary loads for the level and number of chargers desired. Staff have been working with Eversource to either confirm or update as-built drawings, by conducting site visits, that reflect current power located at each location. This is one of the most necessary steps to be able to understand how best to move forward. Through this process the Town has obtained cost estimates to upgrade the level of service for each site to power the desired EV chargers.



### Summary of Desired Chargers & Levels by location

Name of Location	Address	Dual Level 2s	Dual Level 3s	Cost Per Site	Rebate
Town Hall	505 Silas Deane Hwy.	2	1	\$200,000	Up to \$170,000
Physical Services	100 Marsh St.	2	1	\$200,000	Up to \$170,000
Wethersfield Library	505 Silas Deane Hwy.	2	-	\$100,000	Up to \$20,000
<b>Totals:</b>				<b>\$500,000</b>	<b>\$360,000</b>

Location	EV Charger Type	Per Site Maximum Rebate Amounts
Baseline	Level 2	Up to \$20,000
	DCFC	Up to \$150,000

Image from  
Eversource  
EV Rebate  
Program flyer.

The charger installation process will involve four key steps, outlined below, for successful completion.

**A. Site Assessment:** Wethersfield staff have been working with Eversource to plan for power upgrades at each location. Staff and Eversource representatives have already completed site visits.

**B. Power Upgrades & Potential Circuit Study:** Based on type, number of chargers, and load estimates, Eversource has recommended initial upgrades that are estimated to cost roughly \$100,000. Eversource has also advised that a circuit study may be needed, which may cost up to \$30,000 and may take 8-12 weeks. Furthermore, once work begins it has also been advised that funding be available for capacity issues in the amount of \$700,000. It is possible that a fraction of this amount will be needed. This won't be known until the circuit study is complete and it is known how the additional load will be accounted for, therefore we would like to account for this what-if now. It is possible that current transformers will either be replaced, or additional transformers may need to be installed at any of the locations.

**C. Charger Selection:** Ultimately, the brand of EV charger will be selected when this portion of the project goes out to bid. The Town has decided on the number, level, and quantity of chargers. An uncertainty is the load of the chargers since different brands have different loads. To account for this uncertainty, Wethersfield has been working with Eversource to estimate for the highest possible loads to power the desired chargers.

**D. Installation:** The cost to purchase a Level 2 dual charger with installation is estimated not to exceed \$50,000, and the cost for a Level 3 dual charger is not to exceed \$100,000. Wethersfield has been working with Eversource to plan for rebates for the project totaling up to \$360,000 out of the total cost to purchase and install of \$500,000. After Eversource's rebates, this portion of the project is expected to cost roughly \$140,000.



# PROJECT PLANNING PROCESS & HIGH-LEVEL COST ESTIMATES

The Town has been interested in implementing a solar canopy at the Wethersfield High School for several years. But, due to financing needs the project did not move forward in 2023. There was a Request for Proposals (RFP) issued in September of 2022. Although the project did not move forward previously, the Town is excited to take advantage of the CPRG program opportunity to bring this project to completion.

## 2. SOLAR CANOPY IMPLEMENTATION

Wethersfield has been working with NV5 to work through budgeting, the project timeline, and estimated electric production calculations for the system. Each panel is expected to capture 500 watts, or .5kW, and the total systems is estimated to encompass 1,344 modules. This results in a system size of approximately 900,000 watts, or 900 kW. It is estimated that almost 1,000,000 kilowatt hours (kWh) will be captured over the course of a year. Please refer to the separate calculations attachment to see a how estimates were determined.

### Expected Energy Output for Solar Canopy System

Month	kWh	MWh
Jan	40484	40.5
Feb	51824	51.8
Mar	84349	84.3
Apr	99568	99.6
May	118566	119
Jun	126623	127
Jul	128414	128
Aug	113394	113
Sep	90417	90.4
Oct	63660	63.7
Nov	43766	43.8
Dec	33620	33.6
<b>Total</b>	<b>994,685</b>	<b>995</b>

The annual benefit supplied by the solar panel system is expected to offset the Town's electricity cost by roughly \$135,000 per year and rise slightly from year-to-year. This amount is calculated by multiplying the total kWh expected to be generated by the system by the energy rate and incorporating the demand savings. Debt service and maintenance costs are expected to begin at roughly \$114,000 and expected to rise several thousand from year-to-year. A possible cash flow of roughly \$20,000 is possible and will be useful in case there are additional incidental costs.

The expected cost of the solar canopy project is \$2,700,000. This cost includes a 10% markup due to the cost of acquiring materials that are produced domestically. This is a necessary requirement to be able to take advantage of the 30% reimbursement rate of the Inflation Reduction Act. The Town will likely use Tax Exempt Financing which equates to an expected 15% penalty, resulting in an expected tax credit of 34%.

In terms of pricing and cost breakdown for the entirety of the project, please see the below (more information regarding costs and assumptions can be seen within the budget breakdown and in the supplemental budget attachment):

### Estimated Cost & Financing for Solar Canopy System

Funding Components	Amount
Financing	\$1,282,000
Inflation Reduction Act	\$918,000
CPRG Ask	\$500,000
<b>Total Cost of Solar Canopy</b>	<b>\$2,700,000</b>

### Estimated Solar Canopy Project Timeline

Activity	Start	Duration	End
Procurement of Solar Developer	Feb 2025	2 months	Apr 2025
Development of site specific design	Apr 2025	3 months	Jul 2025
NRES Bidding Period	Assumed September 2025 – Historically this has been February and September each year.		
Initiate Construction	Fall 2025		
Construction Duration	12 Months		
Complete Construction (Interconnect & Close-out)	Fall 2026		



# PROJECT PLANNING PROCESS & HIGH-LEVEL COST ESTIMATES

## 3. VEHICLE ACQUISITION

There are 24 gas powered vehicles that the Town proposes to replace through this project. Below is a list describing the vehicles the Town wishes to substitute with their electric counterparts. It is estimated that roughly 7-10 vehicles could be replaced per year, and potentially more, if it is feasible and available. Replacement will have to wait until infrastructure improvements to increase the power supply to locations is completed and EV chargers are installed. Eversource has advised that power upgrades take place at one site at a time.

If possible, vehicles will be purchased in order of their original suggested replacement year, but it may make more sense to order by replacement year by site dependent on the

upgrade timeline and shipping estimates. The replacement year takes into account the age, mileage, and overall condition of the vehicles. Purchasing will also be determined by availability of vehicles, which may also slightly affect the make/model of the intended replacement.

Staff plans to check on the estimated delivery of vehicles throughout the process to best understand when to place car orders for appropriate and timely delivery. At this time, it is difficult to predict the vehicles that will be available at the time when infrastructure upgrades and EV charger installation will be completed. If there are changes staff plans to discuss them with CPRG representatives and receive approval prior to purchase. As you can see, about 50% of the suggested vehicles are behind on replacement.

### Summary of Vehicles to be Electrified

Current Vehicle	Department Usage	Parking Location	Emissions (g/mile)	Purchase YR	Original Suggested Replacement YR	If funded - Updated Replacement YR
FORD F-150 with LIFT	Schools	Physical Serv.	592	2007	2017	2027
FORD EXPLORER	Custodial	Physical Serv.	523	2010	2020	2027
FORD TRANSIT	School	Physical Serv.	386	2006	2021	2027
HONDA CIVIC	Building	Town Hall	287	2012	2022	2027
HONDA CIVIC	Assessor	Town Hall	287	2012	2022	2027
FORD ESCAPE	Physical Serv.	Physical Serv.	386	2012	2022	2027
FORD TRANSIT	School	Physical Serv.	386	2008	2023	2027
HONDA CIVIC	Building	Town Hall	279	2013	2023	2028
FORD TRANSIT	Social Serv.	Town Hall	386	2013	2023	2028
FORD TRANSIT	Parks & Rec.	Town Hall	386	2013	2023	2028
FORD ESCAPE	Senior Cent.	TBD	363	2014	2024	2028
FORD TRANSIT	School	Physical Serv.	384	2014	2024	2028
FORD TRANSIT	School	Physical Serv.	384	2014	2024	2028
FORD ESCAPE	Physical Serv.	Physical Serv.	382	2015	2025	2029
FORD FOCUS HATCHBACK	Building	Town Hall	285	2016	2026	2029
FORD EXPLORER	Engineering	Town Hall	474	2016	2026	2029
FORD FOCUS	Engineering	Town Hall	289	2017	2027	2029
FORD FUSION	Blight Offic.	Town Hall	343	2013	2028	2028
FORD TAURUS	Parks & Rec.	Town Hall	347	2014	2029	2028
FORD TRANSIT	Board of Ed.	Physical Serv.	384	FORD	2029	2028
FORD F150	Fire Marshal	Town Hall	498	2019	2034	2029
FORD EXCURSION	Engineering	Town Hall	684	2004	2016	2027
F150	Landscaping	Physical Serv.	561	2007	2022	2027
FORD F350	Schools	Physical Serv.	687	2013	2028	2029



# PROJECT PLANNING PROCESS & HIGH-LEVEL COST ESTIMATES

## Estimated vehicle Purchase Cost Breakdown

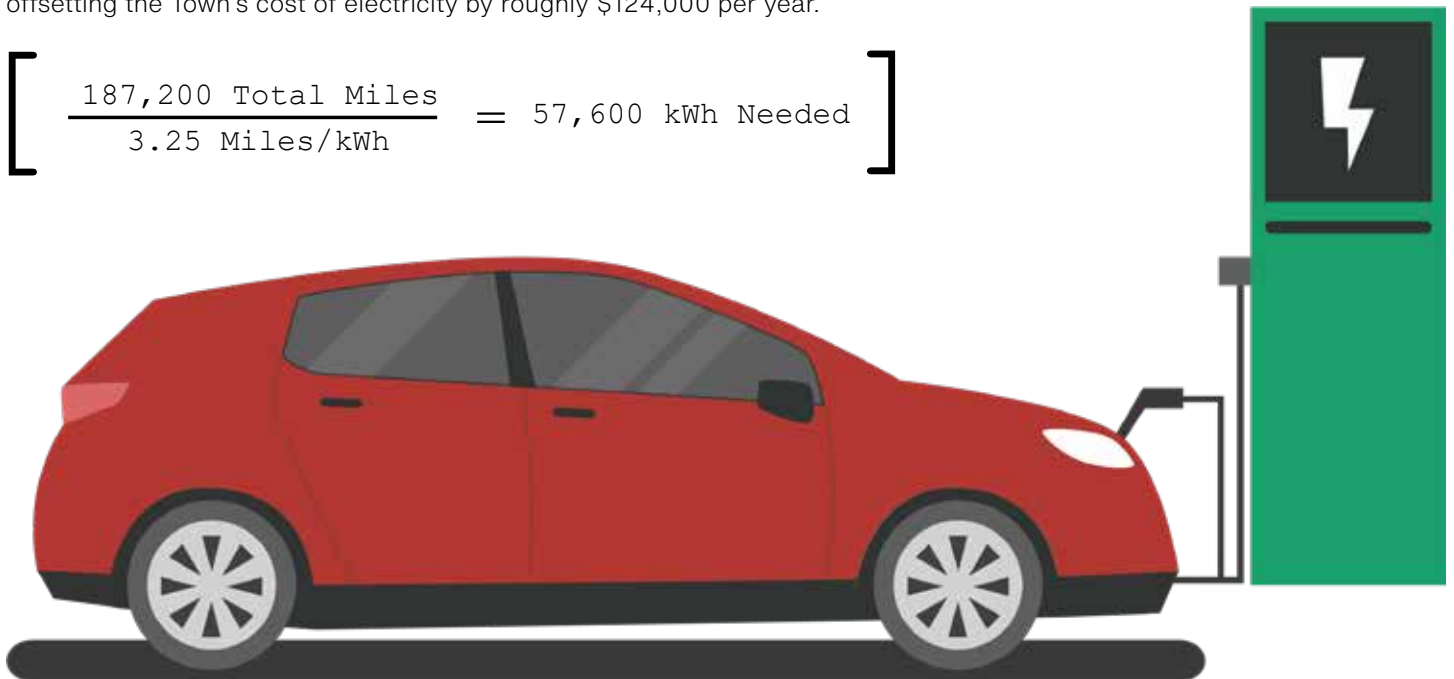
Quantity	Make/Model	Cost to Replace Make/Model	Total Cost by Quantity
1	Ford Expedition	\$55,000	\$55,000
3	Ford F150	\$ 70,000	\$210,000
2	Ford Explorer	\$55,000	\$110,000
7	Ford Transit	\$70,000	\$490,000
3	Ford Escape	\$ 55,000	\$165,000
3	Honda Civic	\$55,000	\$165,000
1	Ford Fusion	\$55,000	\$55,000
2	Ford Focus	\$55,000	\$110,000
1	Ford Taurus	\$55,000	\$55,000
1	Ford E350	\$70,000	\$70,000
		<b>Total Cost:</b>	<b>\$1,485,000</b>

The above table is a summary of quantities of each make/model that Wethersfield proposes to replace with their electric counterpart.

## Calculating Energy Needed to Power Electric Fleet

The amount of energy expected to power the proposed 24 vehicle electric municipal fleet is estimated to be roughly 60,000 kWh. This was calculated by summing the amount of expected total miles driven by all vehicles, roughly 187,200 miles, and then dividing the total annual mileage by the expected average EV efficiency, 3.25 miles per 1 kWh. This calculation comes out to 57,600 kWh, but can be rounded to 60,000 kWh. Therefore, it can be estimated that the cost to power 24 electric vehicles, each traveling 7,800 miles a year, would cost roughly \$7,500 (calculated using \$0.125/kWh). The energy supplied by the solar panel system is expected to offsetting the Town's cost of electricity by roughly \$124,000 per year.

$$\left[ \frac{187,200 \text{ Total Miles}}{3.25 \text{ Miles/kWh}} = 57,600 \text{ kWh Needed} \right]$$



The cost to replace the 24 proposed vehicles in the Wethersfield municipal fleet is estimate to be \$1,485,000. Although it is possible, and likely, that vehicles may be acquired at a lower price, given the price fluctuations that have been seen in the car market over the last several years it is believe that there should be funding that accounts for variance in costs. Currently, it is also unpredictable what the cost of EVs will be due to the need to acquire additional materials for the production of batteries. According to a March 2023 J.D. Power article "The materials used to produce EV batteries are the root cause of their high cost, as they include manganese, cobalt, and lithium, which aren't cheap," and can cost anywhere from \$4,000 to \$20,000 per battery (Hawley, 2023).





# DEMONSTRATION OF FUNDING NEED

The Town of Wethersfield is excited for the possibility to leverage the CPRG program opportunity, along with other available funding opportunities reimbursement/grant programs, to invest in a cleaner infrastructure and economy.

## HIGH-LEVEL SUMMARY OF COSTS

### Electric Vehicle Chargers Purchase & Installation

Required Eversource Site Upgrades.....	\$100,000
2 x Emergency Generators due to Power Upgrades .....	\$400,000
1000 Feet of Conduit at \$105/10ft.....	\$10,500
Miscellaneous Other Materials .....	\$100,000
3 Transformer Pads .....	\$150,000
Potential Capacity Issues.....	\$700,000
Circuit Capacity Study .....	\$30,000
505 Silas Deane Hwy Chargers.....	\$200,000
(2 Dual Level 2, 1 Dual Level 1)	
515 Silas Deane Hwy Chargers .....	\$100,000
(2 Dual Level 2)	
100 Marsh St Chargers .....	\$200,000
(2 Dual Level 2, 1 Dual Level 1)	

**Total Electric Vehicle Chargers & Install** **\$1,990,500**

Less Rebates .....

(\$360,000)

**Grant Ask** **\$1,630,500**

**Solar Canopy** **\$2,700,000**

Financing.....

\$1,282,000

Less Inflation Reduction Act Reimbursement .....

(\$918,000)

**Grant Ask** **\$500,000**

**Electric Vehicles** **\$1,485,000**

**Construction Manager** **\$300,000**

**Personnel** **\$265,457**

**Fringe** **\$45,128**

**Estimated Project Cost** **\$6,786,085**

20% Contingency/Escalation .....

\$1,223,100

**Project Cost with Contingency/Escalation** **\$8,009,185**

**Grant Ask** **\$5,449,184**

The Town of Wethersfield is excited that the CPRG Program is able to fund transformative projects such as the one we are submitting. As mentioned, the Town has had an interest in building a solar canopy for some time and attempted to move forward between 2022-2023 with a solar canopy at the high school, but the cost to fund the project costs was not feasible. In regard to the solar canopy, we are proposing to finance almost 50% of this piece of the project knowing that this will only be possible due to the cost savings offset by electricity production. We are also taking steps now to ensure that this project will qualify for the Inflation Reduction Act to ensure we will be able to take advantage of the reimbursements once completed. This will mean paying up front \$918,000 before receiving reimbursement.

Furthermore, in regard to the electric vehicle replacements, this is a cost we are asking to be fully funded since the Town does not have money in the budget to finance the replacement of 24 vehicles ourselves. As you can see by the suggested replacement dates, many of the vehicles are far past those dates and that is due to our lack of funding. Since the Town is struggling to keep up with replacement costs already, it is not possible that we would be able to fund this through other means and are asking for assistance.

Lastly, the Town has been working with Eversource to keep them abreast of this project to ensure we are following all of their appropriate steps to take advantage of their EV charger rebate program.

Wethersfield has several high-ticket projects coming down that pike that will require bonding. Due to the level of need in many other areas it is likely that this project may not be funded through other means for many years or at all.

Therefore, Wethersfield has been working carefully review and plan out costs to set this project up for success, but need funding support from the CPRG program to bring this project to fruition. We appreciate this wonderful opportunity and hope our project is awarded.



# TRANSFORMATIVE IMPACT

*The proposed project will be transformative for the municipality. It will electrify 38% of the entire Town's fleet, including several Board of Education vehicles. By utilizing a solar canopy the project will result in a net zero emission EV fleet with additional capacity to offset part of the campus load. The Town will also be installing 8 dual electrical vehicle chargers, 2 of which will be available for public use, further supporting the reduction of gas-powered vehicles through infrastructure investment.*

## PROPOSED PROJECT IMPACT

The Town of Wethersfield believes that this project will be impactful from greenhouse gas reducing, sustainability, and financial standpoints. It is not only a good project environmental, but also financially for all involved.

In fact, this project is an expansion of the Fall 2023 EV charger installation project at the Police Department. Wethersfield was the second municipality in the state, behind New Haven, to utilize EVs for its PD. The Town has seen great success from the one dual Level 2 charger and 2 electric vehicles used by the department and is excited to expand our EV and charger network. The project we are presenting is both ambitious and attainable and will provide substantial community benefits for residents, visitors, and neighbors.

There has recently been a push within the region to pursue impactful initiatives and projects, and we believe that as a strong contributor to these efforts, Wethersfield will be able to demonstrate meaningful best practices when it comes to building a sustainable and renewable infrastructure, beginning with these efforts. Solar canopies and the use of natural resources have long been discussed as a means of building infrastructure and reducing emission and, in time, potentially providing residents with relief from the high tax burden.

The Town of Wethersfield has long been known for having high taxes both within the region and in the state. In fact, according to raw data located on Connecticut's Office of Policy and Strategy webpage, Wethersfield is ranked in the top 6.5% of towns in terms of having the highest mill rate, out of the 169 towns.

Currently, Wethersfield closely partners with the towns of Rocky Hill, Newington, Berlin, Glastonbury, Vernon and others on numerous and varied grant opportunities and projects related to road safety, road infrastructure improvements, shared trail maintenance equipment. We foresee growing the EV network and further pursuing solar and wind energy procurement projects within the CROG network and further within the state.

We are excited to submit this project for review and build on the success of the September 2023 Police Department EV vehicle purchase and EV charger installation. We are already thinking about future possibilities for other sustainable projects. It is expected that this sustainability project will be able to be scaled and replicated. It will demonstrate a large-scale sustainable infrastructure improvement within Wethersfield and will serve as an example for future endeavors undertaken within the municipality and by neighboring communities and the region.

## CT Top 11 Highest Mill Rate Rankings

Town	Mill Rate (High to Low)	Mill Rate
Hartford	1	68.95
Hamden	2	56.38
Waterbury	3	54.19
Torrington	4	47.9636
Woodbridge	5	45.08
Naugatuck	6	44.75
Bolton	7	43.82
Bridgeport	8	43.45
East Hartford	9	42.54
Norwich	10	41.85
Wethersfield	11	41.78

Mill Rate data pulled from the Office of Policy & Management's webpage (<https://portal.ct.gov/OPM/IGPP/Publications/Mill-Rates>).

## Neighboring 4-Towns Population and Mill Rate Comparison

Town	Population	Mill Rate
Wethersfield	27,129	41.78
Newington	30,356	38.36
Rocky Hill	20,712	35.92
Berlin	20,197	29.7

Population data pulled from raw data spreadsheet located on the Connecticut Department of Health's webpage (<https://portal.ct.gov/DPH/Health-Information-Systems--Reporting>). Mill Rate data pulled from the Office of Policy & Management's webpage (<https://portal.ct.gov/OPM/IGPP/Publications/Mill-Rates>).



# IMPACT OF GREENHOUSE GAS REDUCTION MEASURES

*As a result of the Net Zero Fleet Electrification & Solar Canopy Project there will be a reduction in the amount of GHG due to the replacement of 24 gasoline powered vehicles with their electric counterparts.*

## ESTIMATES & CALCULATIONS

In order to determine estimates of GHG reductions there were several calculations that took place. Once the vehicles that the Town proposed to replace were selected, estimates were gathered regarding their emissions rates per mile from fueleconomy.gov, an EPA recommended resource. Since we estimated that each vehicle travels roughly 7,800 miles per year, this was then multiplied by each vehicles estimated g/mile emissions, which can be viewed on the table shown on p.7. **Annually, emissions are estimated to be roughly 77.711 metric tons** (MTons) for the totality of the 24 proposed vehicles that would be replaced.

## MAGNITUDE OF GHG REDUCTIONS FROM 2025 THROUGH 2030: 138.169 MTons CO<sub>2</sub> Emissions

Using annual emissions calculations and then the “If Funded, Updated Replacement Year” calendar, also seen on the p. 6 table, emissions reductions were determined. It is estimated that ordering and installation of the EV chargers and solar canopy will occur during 2025 through 2026. It is only in year 3 that vehicles will begin being replaced, starting with those that are backlogged, and based on availability. Using this order, emissions were calculated for each year as vehicles were replaced from 2027 through 2030.

If no vehicles were replaced and emissions continued, it is estimated that emissions would be 388.555 MTons (77.711 MTons/Year) for the 2025 up to 2030 period. Based on our replacement calendar, 2025 and 2026 would also produce 77.711 MTons each, and then in 2027 we expect to decrease emissions to roughly 49.904 MTons, 2028 is expected to further be decreased to 30.967, and 2029 to go down to roughly 14.093 MTons when all vehicles are replaced.

Therefore, it is expected that emissions between 2025 to 2030 will be 250.386 MTons. Emissions reductions are estimated to be roughly 138.169 MTons for this period. This is roughly a 35.6% decrease in emissions over the 5 years.

## MAGNITUDE OF GHG REDUCTIONS FROM 2025 THROUGH 2050: 1,272.36 MTons CO<sub>2</sub> Emissions

We are accounting for 14.093 MTons of emissions annually to the replacement vehicles, which is attributed to emissions sourced from the utility provider charging the EVs. The total emissions expected after completing the project between 2030 through 2050 is estimated to be roughly 295.950 MTons (with 546.337 MTons being emitted 2025 to 2050). If the vehicles were not changed out it is estimated the total emissions would be roughly 2020.50 MTons. Therefore, the estimated reductions in CO<sub>2</sub> emissions from 2025 through 2050 is 1,474.20 MTons. This is an 73% reduction in emissions.

## CALCULATED EMISSIONS OFFSET:

This is the calculated quantity of electricity bypassed from acquisition through the Town’s current electrical utility provider utility provider. By applying a conversion factor to quantify the region’s average lbs. of CO<sub>2</sub>e per MWh, the annual equivalent lbs. of CO<sub>2</sub>e that were avoided by utilizing the solar field is determined.

Year Range	Metric Tons of CO <sub>2</sub> Emission Reduction
2025-2030	966.19
2025-2050	5,516.97

Current Vehicle	Emissions (MTons/Year)
FORD F-150 with LIFT	4.618
FORD EXPLORER	4.079
FORD TRANSIT	3.011
HONDA CIVIC	2.239
HONDA CIVIC	2.239
FORD ESCAPE	3.011
FORD TRANSIT	3.011
HONDA CIVIC	2.176
FORD TRANSIT	3.011
FORD TRANSIT	3.011
FORD ESCAPE	2.831
FORD TRANSIT	2.995
FORD TRANSIT	2.995
FORD ESCAPE	2.980
FORD FOCUS HATCHBACK	2.223
FORD EXPLORER	3.697
FORD FOCUS	2.254
FORD FUSION	2.675
FORD TAURUS	2.707
FORD TRANSIT	2.995
FORD F150	3.884
FORD EXCURSION	5.335
F150	4.376
FORD F350	5.359

**Total Emissions: 77.711 MTons/Yr**

*Above is a list of the 24 gasoline powered vehicles that Wethersfield proposes to replace with their electric counterparts.*



# COST EFFECTIVENESS OF GHG REDUCTIONS

Overall, the GHG reduction measures the Town of Wethersfield is proposing will be cost effective as well as sustainable and environmentally friendly.

## SOLAR CANOPY

As seen on the project funding breakdown on p. 8, the Town proposes to fund the solar canopy project by financing \$1,282,000, then submitting \$900,000 for reimbursement through the Inflation Reduction Act, and funding the remaining \$500,000 with the CPRG program.

It is expected that there would be an energy savings of roughly \$124,400 and \$10,000 in demand rate savings for the first year, which comes out to roughly \$134,400. This amount is expected to fluctuate based on energy rates from year-to-year. Meanwhile, debt service payments are expected to be roughly \$73,500 beginning the first year, and increasing year-over-year to roughly \$129,000 in year 20 until the canopy is paid off. Maintenance costs are also expected to start at about \$40,500 in year one, and to increase annually until the canopy's end of life to about \$73,300. Overall, cash flow after maintenance and debt service is estimated to equal roughly \$20,000/year until the loan is paid off in year 20. This cash is expected to be used for incidental costs, or to potentially contribute toward the cost of our Head Electrician's time for overseeing the project, or potentially to be used toward an additional electrician sometime in the future.

## ELECTRIC VEHICLES

The Town is excited to potentially begin powering a large segment of our municipal fleet through clean and sustainable means. This will mean that roughly 7,800 miles per vehicle will no longer need to be powered by gasoline. If 24 vehicles travel roughly 7,800 miles this comes out to 187,200 miles total in one year. If gasoline costs roughly \$3.30/gallon and roughly 20 miles are travelled per gallon, then this would come out to 9,360 gallons used per year, or potentially a savings on gasoline per year of \$30,888.

## ELECTRIC VEHICLE CHARGERS

As mentioned earlier, Wethersfield is looking to leverage the Eversource EV charger rebate program, which allows for up to \$20,000 in rebates for Level 2 chargers and up to \$150,000 per site for Level 3 chargers.

It is believed that the Town's efforts to manage and oversee the project will certainly provide widespread benefits to residents, neighbors, and to the Town itself both through sustainability efforts and financially.



October 2022 proposal for the solar canopy project at the Wethersfield High School from Greenskies Clean Energies. This is a smaller system with less panels than we are looking to implement for our project submission. This image is also meant to show consistent interest in this project. We are excited to pursue this long-time goal and to expand the project.





# ENVIRONMENTAL RESULTS

*Outputs, outcomes, & performance measures. We will speak to the full project's timeline and estimated and expected milestones, as well.*

## OUTPUTS, OUTCOMES, & BENEFITS

When thinking about outputs and outcomes it is important to point back to the emissions reductions estimates and estimated kWh produced by the solar canopy, in addition to the calculated emissions offset. Through the Net Zero Fleet Electrification & Solar Canopy Project we estimate that 1,474.20 MTons emissions will not enter the atmosphere as a result of replacing 38% of the Wethersfield municipal fleet to their electric vehicle counterparts between 2025 and 2050.

**How much is one metric ton of CO<sub>2</sub>?** Since it is difficult to picture one metric ton, please take a look at the image to the right see a representation of a 33-foot-tall sphere that encapsulated a metric ton. For perspective, a ton is also the equivalent weight of 400 bricks.

"The average American produces enough CO<sub>2</sub> each year to fill 15 of these enormous" spheres (Tso, 2023). In fact, just one sphere can fill over three Olympic-sized swimming pools. Although it is true that the Earth can reabsorb much of the CO<sub>2</sub> through trees, its oceans, and other processes, much of the carbon stays in the atmosphere and contributes to global warming. Surely, removing 24 gas-powered vehicles and replacing them with their electric equivalents will make a dent in GHG emissions and the project as a whole will contribute to larger sustainability efforts for Wethersfield.

**Calculated Emissions Offset:** The estimated emissions offset as a result of the solar canopy is estimated to be roughly 5,516 Metric Tons CO<sub>2</sub>e between 2025 and 2050 (solar canopy is not expected to be completed until 2026).

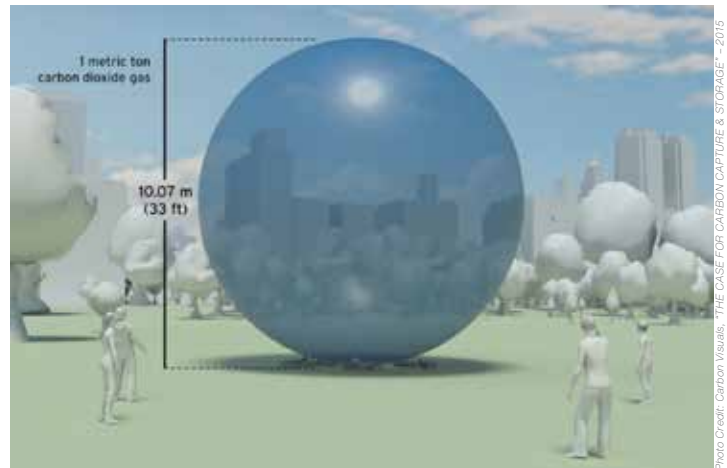
**Performance Measures** may be tracked several ways. For instance, reviewing miles driven by the replacement vehicles will help us calculate how many CO<sub>2</sub> MTons were not emitted as a result of converting to EVs. Furthermore, reviewing the metered production of kWhs absorbed monthly or annually will demonstrate the performance of the solar canopy.

## OTHER BENEFITS

Wethersfield will also be able to take advantage of the decreased cost to power the municipal fleet given that energy will be harvested through the solar canopy and sent back into the grid, offsetting the cost needed to power the electrified fleet. This is an indirect benefit to the residents and may allow for the funding that would have otherwise had to be spent on gasoline for the fleet to be reallocated to support another worthy project in the community.

The overall project will also provide new workforce training opportunities. Town mechanics and electrician will need to learn how to trouble shoot electric vehicles, electric vehicle chargers, and the canopy. Town staff have been discussing the importance of such training and look forward to the possibility of taking part in it to grow their skills.

It is difficult to quantify health benefits since there are many other contributors, including the many other vehicles on the road and other emission producing activities occurring locally.



A metric ton of CO<sub>2</sub> is difficult to picture, but envisioning a sphere that is 33 feet in diameter might help.

**According to the EPA's Greenhouse Gas Equivalencies Calculator 1,474.20 metric tons is the equivalent of CO<sub>2</sub> emissions from:**

**1,624,681**

pounds of coal burned



**291**

homes' electricity use for 1 year



**19.5**

tanker trucks worth of gasoline



**97,321,796**

number of smartphones charged



**This is also the equivalent of the below GHG emissions avoided or sequestered by the below actions:**

**64,033**

trash bags of waste recycled



**24,376**

tree seedlings grown for 10 years



**9.5**

acres of U.S forests preserved from conversion to cropland in one year



*All estimates are dependant on availability, shipping times, and contractor schedules and availability.*

Net Zero Fleet Electrification & Solar Canopy 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# LOW-INCOME & DISADVANTAGED COMMUNITIES IMPACT

*According to the Inflation Reduction Act Guidebook, “the transportation sector is the largest source of greenhouse gas emissions in the United States, accounting for 27 percent of all emissions in 2020” and “is a major source of smog-forming nitrogen oxides and particulate matter, which can trigger asthma attacks and other health problems for the most vulnerable among us.”*

## PROJECT EFFECTS

The Net Zero Fleet Electrification Through Solar Project proposes to remove 24 municipal vehicles off the road in order to reduce the gas emissions that enter the environment resulting in roughly 138.169 MTons tons of reduced emissions by 2030 and roughly 1,474.2 MT reduced gas emissions by 2050. Impact is expect to effect Wethersfield, neighboring communities, and visitors.

The census tracts listed below reside within the City of Hartford, Wethersfield's northern neighbor. Although they are not located within Wethersfield's border, those living

within the listed census tracts will be directly impacted by the presented project.

*Census Tracts: 5001, 5002, 5003, 5004, 5005, 5009, 5012, 5013, 5014, 5015, 5017, 5018, 5023, 5024, 5025, 5026, 5027, 5028, 5029, 5030, 5031.01, 5031.02, 5033, 5035, 5037, 5038, 5041, 5042, 5043, 5045, 5048, 5049, 5244, 5245.01, 5247, 9801*

Furthermore, during the 2023-2024 school year, there are also 123 students enrolled in the Wethersfield Open Choice program through the school district. Students in the program reside in Hartford and attend school within Wethersfield.

## PRIORITY CLIMATE ACTION PLAN (PCAP) APPLICATIONS

According to the CRCOG PCAP, the climate risks and vulnerabilities impacting the above-mentioned census tracts are (1) need for sustainable/ clean energy, (2) excessive heat, (3) air quality, (4) emission reductions, (5) food security, (6) severe storms and wind events (tornadoes & hurricanes), (7) severe winter weather, (8) flooding, and (9) minor risk of wildfire. At least two of the nine vulnerabilities listed above (air quality and emission reductions) will be directly affected by the proposed project. It is proposed that as the Town removes and replaces gas-powered vehicles with electric vehicles that emissions will decrease and the surrounding environment will contain less CO<sub>2</sub> than it otherwise would. Furthermore, the project may spur action toward other sustainable measures, as the addition of two EVs did at the Police Station to this project.

Persons living in the mentioned census tracts may also either work within Wethersfield or travel through the town. Furthermore, Town vehicles often travel along major roadways and on the Silas Deane Highway, a corridor that has a traffic counts as high as 26,000. It is widely known that people who live, work, or attend school near major roadways have higher rates of asthma, cardiovascular disease, impaired lung development, and a slew of other health abnormalities. By decreasing the amount of GHG emitting vehicles in town and on a major roadway will be a benefit. Although we are only talking 24 vehicles, if this project is successful it is expected that additional infrastructure upgrades and electric vehicles will be purchased to reduce even more emissions. It is also thought that by Wethersfield investing in EV chargers at the Library more individuals may purchase electric vehicles since they know that the town is building out infrastructure to support their cars. The EV chargers at the library will be an amenity that is not currently available in town for public use, though it is expected that there will be a charge to use them.

Furthermore, the canopy installed at the high school for solar power generation will lead to other positive impacts outside of only providing a renewable resource. It is thought that as vehicles park underneath the solar canopy that their vehicles will be shielded from the weather, which may lead to shorter idling times, and thus lower gas emissions. It is possible that in the summer months, since vehicles will not be in direct sun light that they may remain cooler, and in the winter, they will not be as impacted by snow events, thus there being less need for longer idle times for the vehicle to reach optimal driving and occupancy temperatures. Of course, this is difficult to both estimate and capture.

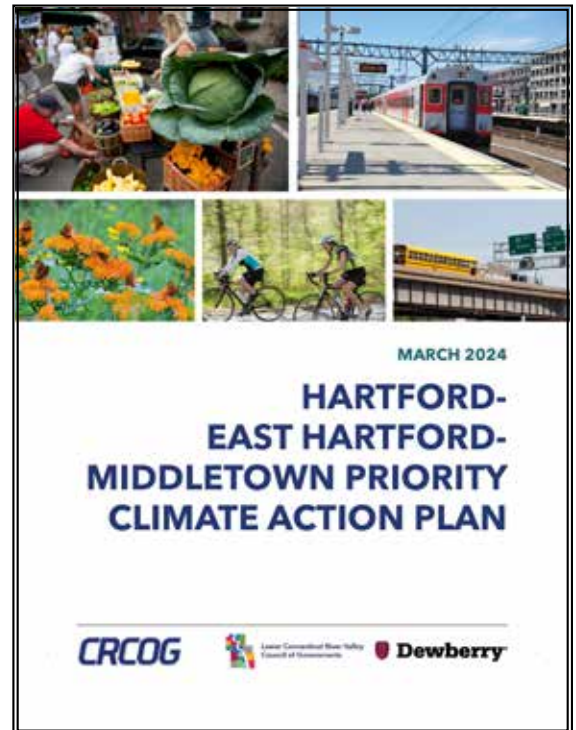


Image of the CRCOG PCAP location: <https://crocog.org/document/2024-priority-climate-action-plan-pcap/>



# COMMUNITY ENGAGEMENT

Clear and thoughtful communication with the public is of utmost importance to ensure understanding and support of the project. The Town looks forward to further engaging with our constituents regarding this opportunity.

## COMMUNICATION WITH THE COMMUNITY

It is of utmost importance that the community be involved and kept abreast of this project. Town staff understand the merits to sharing the project's potential impact for several reasons. First, residents are interested and want to know about such undertakings and often look to many different channels to find out what's going on. Second, the Town believes that the community will benefit from the public chargers, therefore it will be important to communicate once the project has been funded and a timeline is solidified regarding having the chargers installed. There will also be several areas under construction that are public facing, therefore it will be necessary to communicate these developments to prepare people for potential disruptions. Given that one such location will be the high school, some will be affected in regard to parking or pick-ups and drop-offs.

During the March 18, 2024 Town Council meeting the CPRG grant application was on the agenda regarding a request to apply from Town Council. During discussion of the item there was an overview of the project and a preliminary timeline was shared. Potential benefits were

also discussed. If/when funding is secured for the project there will be a detailed presentation given to the public. It is expected that updates will be provided to the community during key milestones and developments throughout the project. The Town expects to share communications regarding these informational sessions through the bi-weekly Management Report, during Town Council meetings, potentially through social media posts and other means. The Town is also currently in the process of updating the Town website. Considerations will be given to how best to communicate, incorporating various linguistic considerations and abilities. The school district also has a communications system. If the project is funded and moves forward, it is expected that communications will be shared through this channel to ensure that those that have students attending the high school will be made aware. The school district provides guidance on how to translate communications through Google Translate for those that are not English speaking.

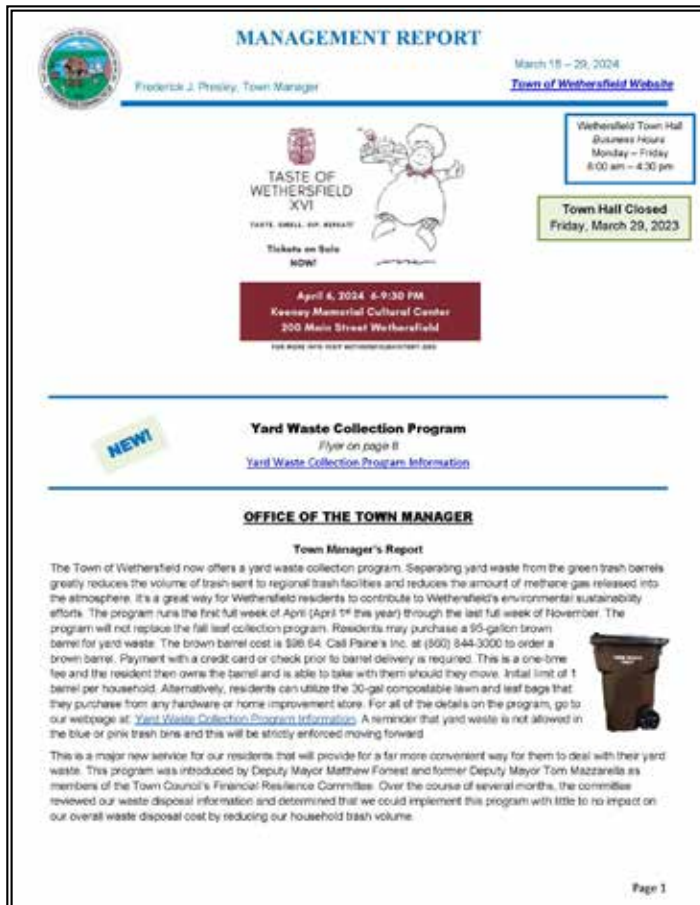


Image of March 25, 2024 edition of the Town Management Report. Link can be found here: <https://wethersfieldct.gov/>



The above image shows that Town Council meetings where project updates will be presented to the public are accessible and can either be streamed or viewed at a later time from any location. Recordings are also available for those that unable to attend meetings of view in real time at: <https://wethersfieldct.gov/government/tc>



Screen grab from the March 18, 2024 Town Council meeting where the project was presented and approval to apply to the grant program was given by the council.: <https://wethersfieldct.gov/government/tc>



# **JOB QUALITY**

*This project is expected to support high-quality jobs both within the Town's workforce in addition to consultants the Town will work with to complete the project.*

## **JOB QUALITY**

As mentioned, it is expected that additional training will be needed for the internal workforce in areas of servicing electric vehicles, EV chargers, and the solar canopy. The Town and staff are both excited about this opportunity. Staff is interested in learning how to service the new solar and electric technology. Town also actively works to recruit and hire qualified applicants.

In addition, during 2023 the Town of Wethersfield worked with Evergreen Solutions Inc. and Government Leadership Solutions to conduct both a Class & Compensation Analysis of all positions, and to conduct an Organizational Culture Assessment, respectively. Overall, the Class & Compensation Study suggested increasing earning potential for staff which resulted in the Town doing away with its two-tier system (Tier 1 for internal employees, and Tier 2 for newly hired employees) to allow for those new to the organization to earn on the same pay scale as those already employed. The change took place during the first quarter of 2024. This has allowed the Town to be able to attract and retain highly qualified individuals.

Employees outside of those that are appointed, that work in Wethersfield are in a union. They can engage in protected, concerted, activity without being afraid of retaliation. Senior leadership has been working to have an organizational culture that shows all workers that they are valued and

meaningful contributors through appreciation events and opportunities to share feedback. The Town strives to make all workers feel empowered, respected and treated fairly. There are opportunities for career advancement and tools to learn new skills and to learn on the job.

In regard to the Organizational Cultural Assessment survey, the response rate was 47%. The survey was telling that many employees find their work both challenging but feel personally accomplished. Most (80.6%) also agreed that the organization's purpose is meaningful, and most everyone knows what is expected of them. Of course, there are areas of improvement noted, such as room for development across department silos. Since receiving these results, and with new staff, new positions, and new projects coming online since January 2023 when the survey was taken, it can already be seen that a culture shift is happening in this area. Leadership is also working to encourage collaboration and information sharing. All are very excited about next steps.

The Town also has a local preference ordinance, allowing for the option to select a vendor that resides in town if they are able to match the lowest bid. This option allows us to support local businesses. Furthermore, if/when the Town is awarded funding we will follow our procurement process to vet bids and select the most appropriate submitter for each portion of the project.





# PROGRAMMATIC CAPABILITY & PAST PERFORMANCE

*The Town of Wethersfield has been working diligently to pursue grant funding to accomplish impactful projects within the community.*

## AWARD MANAGEMENT

The Town has been able to manage assistance agreements through both internal coordination and clear communication with awarding agencies. Staff have been working to lay out responsibilities for project tasks and keep detailed records of expenses, task owners, and reporting requirements. Internal project teams also work to meet regularly and as there are developments to keep projects moving forward.

Wethersfield has also recently begun using a Strategic Plan and project management software, called ClearPoint, which will further assist with project management and

task tracking. Furthermore, in 2022 the Town Manager recognized the need for a project/grant administrator and created the role of Capital Improvement Projects Administrator. This role assists, and at times leads, grant applications and helps to manage projects. This is the individual that has been working to setup the ClearPoint interface. It is expected that system will be ready for staff training by summer 2024. Having the software in place will make project management that much more straightforward. Although Town staff have been successful moving projects from application through completion, it is expected that this tool will improve clarity and efficiency.

### 1. PROJECT TITLE: HERITAGE WAY TRAIL IMPROVEMENTS ALONG GREAT MEADOW RD AND MARSH ST - PHASE 1

**Assistance Agreement #:** Local Transportation Capital Improvements Program (LOTICIP) #L159-0003

**Agency:** Connecticut Department of Transportation

**Brief Description:** This project includes survey, design, permitting and construction of a new, off-road, multi-use trail along Great Meadow Road between the state's Putnam Bridge Trail Project (State Project No. 53-190) and Hart St

**CRCOG Contact:** Satoria Montanari, LOTCIP Program Coordinator (smontanari@crcog.org) who serves as the liaison between the Town and CT DOT

**Awarded Funding:** \$1,032,000

**Reporting Requirements:** Quarterly reports on the projects are required to be sent to the CRCOG Program Coordinator, who serves as the liaison between the Town and CT DOT. Reports consist of spreadsheets detailing expenditures to date and a list of remaining tasks with their expected completion date. There was an initial kickoff meeting with Town staff, our CRCOG Program Coordinator, and DEEP once contracting was completed. Reporting has been completed in a timely manner and the Town has been quick to respond if there have been questions.

### 2. PROJECT TITLE: HERITAGE WAY TRAIL IMPROVEMENTS ALONG GREAT MEADOW RD AND MARSH ST - PHASE 2

**Assistance Agreement #:** Local Transportation Capital Improvements Program (LOTICIP) #L159-0004

**Agency:** Connecticut Department of Transportation

**Brief Description:** This project includes survey, design, permitting and construction of a new, off-road, multi-use trail along Marsh St between Hart Street and Main Street in Old Wethersfield

**CRCOG Contact:** Satoria Montanari, LOTCIP Program Coordinator (smontanari@crcog.org) who serves as the liaison between the Town and CT DOT

**Awarded funding:** \$1,294,00

**Reporting Requirements:** Quarterly reports on the projects are required to be sent to the CRCOG Program Coordinator, who serves as the liaison between the Town and CT DOT. Reports consist of spreadsheets detailing expenditures to date and a list of remaining tasks with their expected completion date. There was an initial kickoff meeting with Town staff, our CRCOG Program Coordinator, and DEEP once contracting was completed. Reporting has been completed in a timely manner and the Town has been quick to respond if there have been questions.



The image to the right shows the boundary of the Great Meadow Road Phase 1 & 2 projects.



# PROGRAMMATIC CAPABILITY & PAST PERFORMANCE

## 3. PROJECT TITLE: MAIN STREET RECONSTRUCTION AND SAFETY IMPROVEMENTS - PHASE 1

**Assistance Agreement #:** Local Transportation Capital Improvements Program (LOTICIP) #TBD

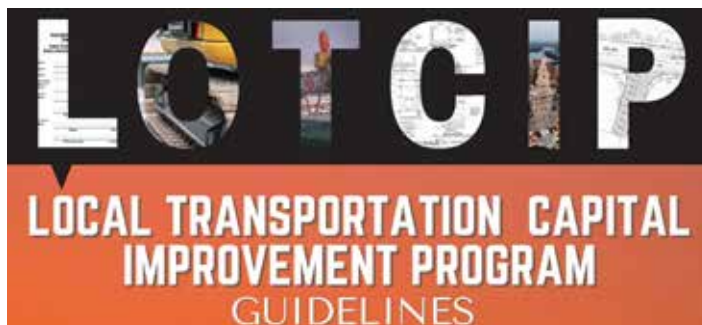
**Agency:** Connecticut Department of Transportation

**Brief Description:** This project includes reconstruction of approximately 1,600 linear feet of Main Street from Garden Street to the north side of the Marsh Street and Church Street intersection in Wethersfield, and installation of 1,650 linear feet of off-road, multi-use trail that will extend between the Keeney Memorial Cultural Center and the Hart Street intersection. The project has been recommended for funding by CRCOG and the application been submitted to DOT for issuance of a final Commitment to Fund letter. Due to LOTICIP funding limitations, improvements along Main Street will be split into multiple phases to meet maximum program funding requests. An application for LOTICIP funding was submitted to CRCOG for Phase 2 of this project in February 2024, which is still being reviewed.

**CRCOG Contact:** Sotoria Montanari, LOTICIP Program Coordinator (smontanari@crcog.org) who serves as the liaison between the Town and CT DOT

**Amount:** \$3,944,400

**Reporting Requirements:** Quarterly reports on the projects are required to be sent to the CRCOG Program Coordinator, who serves as the liaison between the Town and CT DOT. Reports consist of spreadsheets detailing expenditures to date and a list of expected tasks with their projected completion. There was an initial kickoff meeting with Town staff, the CRCOG Program Coordinator and DEEP to discuss the project and reporting requirements. Staff reaches out to our assigned Program Coordinator if questions come up and continues to submit quarterly reports. As of the first quarter in 2024, per CRCOG Transportation Committee direction, all municipalities with LOTICIP projects have also begun attending CRCOG LOTICIP Quarterly Review Meetings. The main purpose of the meetings is to help ensure that projects are delivered in a timely manner and that CRCOG maximizes use of its allocated LOTICIP funding. This requirement is new and Wethersfield welcomes these check-ins since they will ensure clear communications regarding the project.



Clipping from the LOTICIP Guidebook Cover page, that can be found here: <https://portal.ct.gov/DOT/Office-of-Engineering/Highway-Design-Local-Roads-LOTICIP>

## 4. PROJECT TITLE: PUBLIC ASSISTANCE (PRESIDENTIALLY DECLARED DISASTERS) – STORM ISAIAS

**Assistance Agreement #:** FEMA-DR4580-FP0251

**Federal Agency:** Federal Emergency Management Agency

**Brief Description:** Federal assistance was provided for remediation efforts to due the destructive nature of Tropical Storm Isaias. Funding was spent on debris management services.

**FEMA Contact:** Dana Conover, Public Assistance Coordinator; dana.conover@ct.gov or 860-833-3904

**Amount:** \$406,135

**Reporting Requirements:** There was an initial required meeting once funding was awarded to review the program, reimbursement, and reporting requirements. Only a final list of reimbursable expenses was required. The Town performed all necessary compliance actions under this program and submitted final close out materials in October 2021.

## 5. PROJECT TITLE: TREE MANAGEMENT PLANNING PROJECT

**Assistance Agreement #:** DEPA00002011213

**Agency:** Department of Energy and Environmental Protection

**Brief Description:** This project encompasses the Town of Wethersfield working for a consulting firm to complete a town-wide tree inventory of street trees and 500 new tree planting locations. Town staff will use this information to create a town-wide tree management plan.

**Organization Contact:** Danica Doroski; Danica.Doroski@ct.gov

**Amount:** \$17,253

**Reporting Requirements:** Town staff had an initial kick-off meeting with DEEP staff in January, 2024 after contracting for the award was completed. Timeline and reporting requirements were discussed. Quarterly progress reports are required, in the form of a paragraph summary regarding the status of the project and reimbursements may be submitted on a monthly basis, or less recurrently. The final deliverable will be the final tree management report. Staff keeps in regular contact with their DEEP contact regarding the project.



Cover of the Tree Management Plan Project Application.





# STAFF EXPERTISE & RESOURCES

## PROJECT PLANNING & TEAM

Department that will be supporting the Net Zero Fleet Electrification Through Solar Project include the Town Manager's Office, Physical Service, Economic & Community Development, Engineering, Finance and Building.

Staff has been closely working with Eversource to plan infrastructure updates to be able to support this project. The project team has also been working closely with NV5, a consulting group, to clearly plan out the project timeline, emission calculations, logistical requirements,

and cost estimates regarding the project. Staff has also been utilizing both internal and external resources regarding product information and lessons learned from the Police Department's installation of two dual Level 2 chargers in September of 2023. All involved have been closely scoping out the project and speaking with industry professionals to best understand the process of implementation and have developed a clear plan, which accounts for uncertainties. All are very excited of the possibility to move this project forward.

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## KEY STAFF

### Frederick Presley, Town Manager

- Staff oversight, high-level financial management, and town planning.
- Provide status updates to the Town Council, elected officials, state officials and the community regarding the project.

*Experience:* Proven government executive with strong managerial background and over 20 years of senior/executive level government experience. Great strategic appreciation and vision, able to build and implement sophisticated plans with a proven track record explicitly supporting community needs. Mr. Presley served as the County Administrator for Stafford County, VA where he was responsible for all day-to-day functions of municipal government. Stafford County has over 1000 employees that provide a full range of services to a population of just under 160,000. He as also served as the Town Manager for the Town of West Warwick, RI and as the Town Planner and Economic Development Coordinator for the Town as well.



### Michael O'Neil, Director of Finance:

- Oversee contracting, payment and billing approvals, and assist with the bid process for all aspects of the project.

*Experience:* Mr. O'Neil has been the Director of Finance for the Town of Wethersfield for over 10 years. Prior to his current role Mr. O'Neil was employed as the City Controller for the City of New Haven where he acted as the chief financial executive for the second largest municipality in Connecticut, and the sith largest in New England. He has extensive experience overseeing the financial management and reporting of a multitude of projects.



### Derrick Gregor, Town Engineer:

- Coordinate civil engineering requirements, where applicable.

*Experience:* During his 26 years working as a Civil Engineer, Derrick's experience has included supervision of engineers, surveyors, inspectors, GIS personnel and consultants for a broad range of both private and municipal engineering projects from conceptual design through final construction. Responsibilities have included project administration, financial management, preparation of contract documents, quality control, public presentations, subdivision and site plan reviews; coordination with residents, utility companies, and federal, state and local agencies; oversight of various construction activities; and development of engineering standards, policies and procedures.







# STAFF EXPERTISE & RESOURCES

## Jared Spang, Head Electrician:

- Oversee electrical outfitting for electric vehicle charger installation and power upgrades and may assist in permitting if/when necessary.
- Coordinate electrical requirements between Eversource and consulting firm(s).
- Provide guidance and expertise through RFP and contractor selection process.

*Experience:* Mr. Spang has been working as the Head Electrician for the Town of Wethersfield for roughly two years and has over 10 years of experience working as an electrician. Prior to his employment in Wethersfield he worked as an electrician at Higgins. Mr. Spang is an Army veteran.



## Sally Katz, Directory of Physical Services

- Oversee consultants and staff involved with EV purchases and power upgrades
- Oversee coordination of solar canopy construction.
- Oversee project and coordinate with long term maintenance and operations sustainability.
- Provide guidance and expertise through RFP and contractor selection process

*Experience:* Experienced Director of Facilities with 33 years of extensive experience in all aspects of operations and maintenance of buildings, assets, and renovation and construction services. Focused on strategic investment planning with demonstrated success inspiring and mobilizing teams, effective communication, and achieving high operational standards to deliver quality services in an efficient and effective manner. Ms. Katz currently manages over 100 employees and a \$14MM budget and oversees planning, organization, and day-to-day along with long term maintenance needs and long-range projects.



## Justin LaFountain, Town Planner

- Review plans for compliance with zoning regulations.
- Assist in coordinating permitting with town commissions, building department and Engineering/Building Department.
- Ensure project follows and meets recommendations of Town Plan of Conservation and
- Development, land development policies and standards to meet and respond to community needs.
- Facilitate and promote community and stakeholder engagement throughout process, where necessary.

*Experience:* Mr. LaFountain began working as the Town Planner in Wethersfield in February 2024, but is a long-time resident, and served as the Zoning Enforcement Officer for Wethersfield between September 2015 through January of 2018. After leaving Wethersfield in 2018 Mr. LaFountain worked as Planner II and then Planner III for the Southeastern Connecticut Council of Governments until November 2022. Following these roles, Mr. LaFountain served as the Town Planner for the Town of Bloomfield until joining the team in Wethersfield. He comes to us with much experience with technical assistance regarding land use.



## Vlada Shelkova, Capital Improvements Project Administrator

- Assist in coordinating agency and town contracting along with the RFP processes and consultant and Town contracts.
- Assist with overall project management and detailed tracking of tasks, deadlines, and deliverables.
- Assist and act as liaison between the town and granting agency to provide reports and updating in a timely manner.

*Experience:* Ms. Shelkova is an experienced project manager with a background in SEC compliance, communications, marketing/graphic design, and has assisted with financial reporting. She has worked on a variety of projects within several industries, managing a range of projects and producing insightful and analytical reports where necessary.



# UNCERTAINTIES

*Although the Town has been doing our best to plan out the project, there are uncertainties, which is to be expected. Until funding is secured we are unable to officially bid out the different portions of the project to receive final cost figures, but have done our due diligence to ensure all site upgrades, equipment, personnel, and other costs are accounted for to the best of our ability.*

## UNCERTAINTIES AS THEY RELATE TO THE PROJECT

**Site Upgrades:** There are currently several unknowns related to site upgrades and necessary infrastructure improvements that must be completed prior to EV charger installation. It is possible that a circuit study may need to be completed that will guide next steps of the project. We currently do not know if transformers need to be upgraded or replaced, therefore our budget accounts for the worst-case scenario.

**Exact placement of the EV chargers:** Although the sites have been walked by staff and Eversource it is not yet decided the precise location where chargers will be installed. Based on location, and several other factors, the cost of installation may fluctuate. This will be a result of running wire and pole and transformer placement. In working through our costs, we have made sure to consider worst case scenarios so that the project does not go over budget.

**Exact Load of EV Chargers:** Since the Town has not yet gone out to bid for the chargers it is currently unclear what exact load requirements will be for the locations. Given that we do know the number and level of chargers that we would like on each site we were once again able to go through a worst-case scenarios to determine the needs to upgrade the highest load that we would need.

**Precise timing of the project:** Timing is always quite tricky when it comes to construction and will ultimately be determined by factors such as the timing to contract the award, number of replies received to proposal requests, the length of time Town Council takes to review and approve recommended consultants, lead time to receive equipment, consultant availability to complete the work, availability of materials and equipment, and of course weather for construction and installation.

**Vehicle Purchasing Order/Timeline:** It is unclear the make/models that will be available at the time it is appropriate to begin purchasing the electric vehicle replacement cars. Although we would like to purchase in the presented order, this may not be the case. This would skew the emission assumptions.

**Miles travelled:** Of course, emissions or emission reductions calculations that involve gas-powered vehicles involve miles driven. It is not possible to predict exactly the number of miles the proposed vehicles to be replaced will be driven from year-to-year. But, based on past miles driven we are able to predict what the following years will look like.

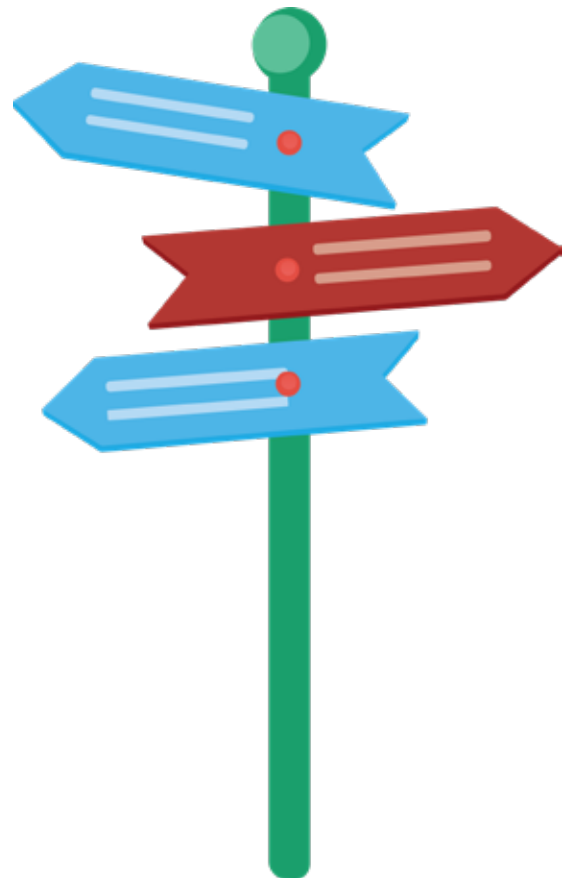
**Solar Canopy Electricity Production:** The estimates for solar benefits are based off of proposals from vendors who utilized various SolarPV modeling software such as PVWatts, PVsyst, and Helioscope which utilize the Typical Meteorological Year (TMY) to estimate the potential production from solar arrays based upon technology, location, and historical weather patterns.

**Estimated Gas-Vehicle Emissions:** The associated grams/mile of emissions for the specific vehicle model were cited from fueleconomy.gov, which was referenced by the EPA's website for emissions values. This value could be different for each individual vehicle in practice.

There is a certain risk in assuming the existing fleet would remain static from current through 2050 as the base emissions case (ie, all individual units most likely would be swapped out through attrition during that timeframe, and the newly acquired model would most likely be more efficient than the demo'd model from the 2010's, etc). However, we can't project which models would be replaced when, and what emissions those theoretical new models would generate.

The swapped models acquired during the 2027/2028/2029 timeframe would be zero emissions generators; however, the electricity used to power those new models would not be. An estimate of what that utility grid emissions component would look like could be calculated, but not without indicating what EV models would be intended for acquisition- determining the kWh/mile factor for these proposed EV's.

Energy prices are also assumed, and that negotiations typically occur in September and February. Both the costs we have provided and timeframe of negotiations may differ.





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