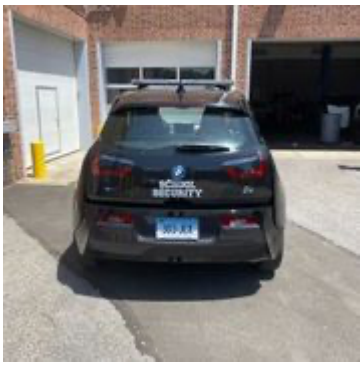
Blue Goes Green – Another EV for the Westport Police

Westport Police Department Receives Donation of Used BMW i3

The local police have been rather busy of late with the protests that have been occurring in the wake of George Floyd's murder at the hands of the Minneapolis PD, and, of course, coping with the stresses of the COVID-19 pandemic.

Not to lose sight of the significance of that, the greening of the municipal police force continues apace. The police department was recently the recipient of a donation of a used BMW i3 from a local resident. It is a 2015 REx model, which translates to an EPA-rated 72 miles of electric range, or up to 150 miles total, including the gasoline range-extender engine.

The vehicle has been customized for its duties and it looks sharp!



The "bimmer" joins a growing family of green vehicles as the police, part of the town's push to net-zero, are testing a variety of vehicles for different use cases. This "new"

addition is being used for security at Staples High School and adjacent Bedford Middle School, where security duty lasts 8-10 hours per day. It replaces a Ford Taurus that was consuming 6 to 8 gallons of gasoline daily, per Chief of Police Foti Koskinas. If we take an average daily usage of 7 gallons and multiply it by 200 service days per year (per the police), it works out to an estimated 1400 gallons of gasoline and 14 tons of carbon emissions annually. (Source for calculation: NASA)

There is a no-idling rule at Staples. Ironically, the most persistent offender has been the police since the patrol vehicle must remain running while on duty. Now they have emission-free idling running off the battery. When it comes to the police, this is why it is important to focus on gallons of gasoline used or saved rather than just MPG. A police vehicle spends thousands of hours idling over the course of its service life.

The low-speed patrolling around the schools means the electric drive will function at high efficiency.

Daily recharging? No sweat. There are two level-2 charging stations at Staples and the vehicle gets plugged in after hours.

Expanding Number of Green Vehicles

Along with the new arrival, the WPD has a Tesla Model 3 that was customized as a police cruiser and went into service during February, 2 plug-in Toyota Priuses that are used for parking and traffic enforcement at the town’s two Metro-North train stations and downtown, and a Ford Explorer hybrid (not a plug-in hybrid) that was also acquired for cruiser duty this year. Before the Tesla and the hybrid Explorer, the standard vehicle for cruisers was a conventional Ford Explorer. The EPA-rated mileage of the hybrid Explorer is 28 MPG, compared to 16 MPG for the standard version. These 5 environmentally friendly vehicles, which comprise a little less than 10% of

the total fleet, will enable the collection of data to refine the department's approach to future acquisitions.

Tesla Model 3 Update

This blog covered the vehicle entering service in February of this year here and here. There was a planned public press event for when the weather turned warmer, which did not happen due to the pandemic. We have a few updates.

According to Chief Foti, the vehicle has been performing as hoped and he describes the ongoing relationship with Tesla as excellent, crediting them with being very responsive and having a continued willingness to work with the PD in terms of making upgrades.

As previously reported, the Model 3 is already making use of the Tesla cameras. The Tesla lights are incorporated into the police emergency lighting, and all of the accessories requiring electricity are wired into the large battery.

Since we wrote about the vehicle in February, there have been two additional upgrades. The default setting for the headlights is that they turn off one minute after the car turns off. This was not enough for the police. Tesla did some software recoding and the lights now persist longer.

The biggest open question at the time the vehicle was put into service was whether the police would be able to use the computer that is native to the vehicle rather than install their own. This is a complex challenge due to the need to have an airtight firewall between the police databases that would be accessed and Tesla's proprietary information. It is still a work in progress but there has been one significant development. Working with Tesla, the police have installed stationary radar, which logs directly into the computer. If they get to the point where the Tesla computer can be fully utilized, it would save between $5-$6,000 in customization

costs.

The i3 donation was not a planned event, but it wouldn't have happened had not Chief Foti, the department, and the town administration not demonstrated a vision for how to move the town forward in an environmentally-friendly way (which also happens to save money). The EV Club applauds and supports that vision.

DEEP EV Roadmap Takes The Scenic Route

EVs = Clean Air

"If I could wave my magic wand and we all had electric cars tomorrow, I think this is what the air would look like," said Ronald Cohen, a professor of atmospheric chemistry at UC Berkeley who has been studying the effects of the stay-at-home orders on air quality, as reported recently in the LA Times.

The Electric Vehicle Roadmap prepared by the Connecticut Department of Energy and Environmental Protection (DEEP) has been recently released. For all the research and policy thought that went into it, and there is quite a lot, the report reads with a striking lack of urgency and overlooks opportunities to start making immediate progress.

It is tragic that it took a pandemic and its collateral economic damage for us to breathe clean air. CT air quality is often poor as detailed in the Roadmap (p. 12). Worse, preliminary findings from a study conducted at Harvard Medical School indicate that breathing polluted air increases COVID

lethality.

As bad as what we are currently enduring may be, it presents an opportunity for us to make changes. If we make the right choices, we can always have clean air, respond to the climate crisis, and create new green jobs. But this requires action. The recommendations in the Roadmap are mostly of a tentative or preliminary nature. These are a few examples.

Demand Charges

If we are to have enough public charging to mitigate range anxiety, we need more public DCFC (fast chargers), particularly along the Interstates. It isn't happening because utility demand charges, which weren't developed with EVs in mind, make commercial installations economically unviable. Note the "out of order" level 3 chargers on I-95 and the Merritt Parkway (our information is that out or order = turned off).

Photo: Matthew Kresch

Demand charges are extra fees imposed if electricity usage exceeds a certain threshold. The purpose is to pay for the infrastructure needed to support peak usage periods and it affects commercial customers. The fees can be substantial.

Pacific Gas and electric in California presented a rate design solution to the regulatory board in 2018 that would use a subscription formula to avert demand charges. The California Energy Commission released an extensive study of how to think about demand charges in an EV world in April 2019.

In contrast, this is the recommendation in the Roadmap: "DEEP recommends exploration of a sliding scale tariff approach for both Eversource and UI that is responsive to DCFC station utilization and EV market penetration."

There is currently a temporary three-year demand charge waiver in place in CT. We're one year into it. Few seem to be aware of it. Regardless, a temporary waiver isn't going to accomplish anything due to the risk of stranded assets. The CT Public Utilities Regulatory Agency has recently issued an RFP for Program Design Proposals with a deadline of July 31. In other words, we're just getting started.

Time of Use

Time of Use pricing (TOU) is an important consideration both for making EV "refueling" cost-efficient as well as for grid optimization. If you have ever visited this Eversource page, you will see how little CT consumers have to work with. Or if you have tried the energy savings calculator on cutmybill.com, the limitation of only using normative data makes it of little use.

Utilities in Vermont, California, New York, and Massachusetts have implemented residential incentive programs that may include paying for a networked level 2 EV charger or moving the charging to a lower rate for off-peak times. It not only saves the customer money; it saves the utility money as well due to avoidance of adding capacity. Con-Edison in New York has an incentive that works with a device that accesses the vehicle's telemetry and awards rebates for charging that occurs during off-peak times (even outside of Con-Ed

territory).

That said, this is a complex and utility-specific topic. It involves considerations of whole-house or EV only. The latter requires either sub-metering or a networked level 2 charger. The recommendations in the Roadmap on page 68 are, "…explore the potential for an active managed charging program that incents EV drivers to charge during off-peak periods." "…current TOU rate tariffs should be optimized…" "DEEP will continue to monitor…programs in other jurisdictions…" DEEP alone can't implement TOU. The utilities must do it. The regulators need to approve it. We would have preferred to have seen more specific recommendations.

State Fleet

CT maintains a fleet of about 3,500 vehicles. The Roadmap recommends, "DAS (Department of Administrative Services) should develop a detailed light-duty fleet transition plan that outlines annual EV procurement targets for the state fleet, beginning with a 5 percent target of eligible state vehicles in 2020…" We assume "eligible" means mainly sedans, since that is the bulk of currently available EVs.

By way of contrast, New York City has replaced a third of its fleet of sedans with EVs as of 2019 and is targeting having 4,000 on the road by 2025. They report a savings of $550 per year per vehicle in fuel and maintenance for an EV sedan relative to its internal combustion engine (ICE) counterpart. And, by the way, they installed 568 charging stations and counting to support this fleet, 65 of which are solar-powered. Finally, the city plans to cut its fleet by 1,000 vehicles as part of an effort to reduce on-road miles traveled. Based on the experience of NY and others, including some municipalities in the state, CT can move much more quickly with low risk.

Heavy-Duty Vehicle Vouchers

As noted in the Roadmap, California and New York have implemented voucher incentive programs to offset the acquisition cost of clean heavy-duty vehicles. CA has used this program to fund the deployment of over 4,000 such vehicles. The Roadmap: “DEEP will continue to monitor the effectiveness of freight truck voucher incentive programs in accelerating the adoption of freight trucks.”

Transit Buses

The Roadmap addresses buses: “on and after January 1, 2030, at least thirty percent of all buses purchased by the state shall be zero-emission buses.” If “at least thirty percent” equals 40% for the sake of argument, that means that the fleet would be 33% electrified by 2040.

New York City plans for its entire transit bus fleet to be zero-emission by 2040.

Purchase Incentives

CT has an EV purchase incentive called CHEAPR. Funding was renewed by the legislature last year at $3 million annually for 5 years beginning with 2020. The incentive plan in New Jersey funds $10 million per year, which translates to 50% higher per capita. And CHEAPR is pacing 75% under budget for this year due to restrictive parameters imposed in October 2019. The MSRP cap should be raised and the rebate levels re-evaluated.

The enabling legislation for the new CHEAPR funding also authorizes an incentive for used EVs with an income cap. Good idea, as there are more than twice as many used vehicles sold each year relative to new vehicles, and it would make EVs more accessible to car-dependent lower-income households. The

Roadmap recommends contracting with a program administrator. It is fine to go outside for needed expertise. We just don't understand why it wasn't done a year ago when the legislation was passed.

Direct Sales – MIA

A glaring omission is direct sales. This refers to what has been known informally as "the Tesla bill," which would allow Tesla to open stores in CT. (It goes beyond Tesla as there are other EV startups looking at this model). This is a politically fraught topic, but what is most disappointing is the way that politics seems to have influenced what is supposed to be a comprehensive policy document. Doing away with the antiquated dealer franchise laws wouldn't cost the state a penny (it would generate revenue) and would accelerate EV sales immediately.

As of January 1, 2020, there were 11,677 EVs registered in CT. The Multistate ZEV (Zero Emission Vehicle) Action Plan that the state has signed onto calls for about 500,000 registered EVs by 2030.

Many of the subject areas covered in the Roadmap involve more than just DEEP. However, other states have already implemented pilot studies or EV-friendly policies. They've run the numbers, and they see that moving to EVs lowers pollution, saves money, and brings benefits to the grid. We can learn from them while simultaneously moving forward. CT is behind the curve, yet this Roadmap takes the scenic route.

The Long and Winding Roadmap

DEEP EV Roadmap Released

The final version of the long-awaited Roadmap was publicly released a few weeks ago. For those of you who are in the weeds with EV policy, at 104 pages, plus 358 footnotes, and an appendix, this is the doc for you!

The report is divided into 16 sections and covers the waterfront in terms of all of the policy areas that could be actioned to support more rapid EV adoption. These include optimizing for grid impact; infrastructure; the role of utilities; incentives; fleets; light, medium, and heavy-duty vehicles; building codes; environmental justice; and others. The large volume of research that went into this provides useful background information and, importantly, descriptions of experiences from other states, particularly with respect to incentives and utilities (or EDCs, for electric distribution companies, in the argot of the report).

We will be diving into some of the sections covered in the report in more detail, but these are some top of mind thoughts.

We have a long way to go. There are 11,677 registered EVs in the state as of January 1, 2020, but the Multi-state ZEV Action Plan that CT has signed onto calls for about 150,000 EVs by 2025 and 500,000 by 2030. ZEV in this context refers to battery electric vehicles (BEV), plug-in hybrid vehicles(PHEV, and fuel-cell electric vehicles (FCEV).

We are behind the curve in many respects when it comes to enacting EV-friendly policy. Even the phrasing of the recommendations is often in very preliminary language. For example, “DEEP will explore pilot programs for EVSE deployment

at MUDs.” Many states have pushed further than CT has. The flip side of this is that CT can learn from them. There just needs to be some urgency about doing this.

The Roadmap notes that the “travel provision” in the ZEV plan was closed in 2018. This allowed manufacturers to earn compliance credits in other states for vehicles sold in California. The closing of this provision is intended to yield a greater number of EV models for sale in CT and the other states in the Northeast.

There are two things that could be done tomorrow (more or less) to increase EV sales that come at no cost.

The first is a glaring omission from the Roadmap, which makes no mention of permitting direct sales, more than likely a landmine upon which they did not want to tread. This refers to the years’ long effort by Tesla to open stores in CT, and the campaign by the legacy automakers and dealers, successful to date, to stop them through the use of the decades-old franchise laws. As has been noted by this blog numerous times, Tesla sells more EVs than all of the other automakers combined, and they could sell more if they were able to open stores and additional service centers.

Also, as has been noted by this blog on numerous occasions, but worth repeating, EV Club of CT is not a Tesla club. We want to see everyone selling EVs, and we wish the other automakers were as effective on the showroom floor as they are with their lobbying. We just call it as we see it.

In order for direct sales to happen, there needs to be legislation. Past attempts to craft a legislative compromise ended up with language that was narrowly tailored so that the

carve-out would only apply to Tesla. We feel the world is changing and that the marketplace should flourish with new ideas. There should be provision for new EV companies, including but not limited, to Tesla, and new means of vehicle ownership (e.g. subscription). New entrants are poised to come online in the next year or two.

The other item that could be done forthwith is adjusting the CHEAPR parameters. The most recent set of changes is causing CHEAPR to pace about 75% under a budget that isn't that large to begin with. There has been language on its website for months stating there could be changes in 2020. The legislature also authorized a rebate for used EVs. The Roadmap recommends contracting with an experienced program administrator to develop and implement such a program, which makes it sound a long way off. More on this in a future post.

Funding

There are various funding-related issues discussed in the report, such as the different funding mechanisms that have been used for incentives and the VW Settlement funds, of which $55 million-plus is being allocated to CT. Also part of the VW settlement is the installation of charging infrastructure under the moniker of ElectrifyAmerica. Of particular importance is the Transportation Climate Initiative (TCI), a major multistate cap and invest initiative to curb tailpipe emissions, which will yield funds (no specific number or date available as yet), some of which can be invested to support EV adoption efforts.

We encourage everyone to read the Roadmap and share comments with the club.

EV Club Presentation to Go Virtual

EV Club president, Bruce Becker, will present to the Humanists and Free-Thinkers of Fairfield County

This is the text of the press release describing the engagement:

HFFC MOVES TO ONLINE MEETINGS – ELECTRIC CARS, APRIL 13

The program on the Future of Electric Cars has been changed from an in-person presentation to an online video presentation, as the host, the Humanists and Freethinkers of Fairfield County (HFFC) has changed all its meetings to online video. Members of the public can get the link for free admission by sending an email to hffc@optimum.net with "EV" as the subject line, and with person's name in the text.

The program will be Monday, April 13, 6:45 enter online, & preliminaries. 7 pm program. The number of participant devices is limited.

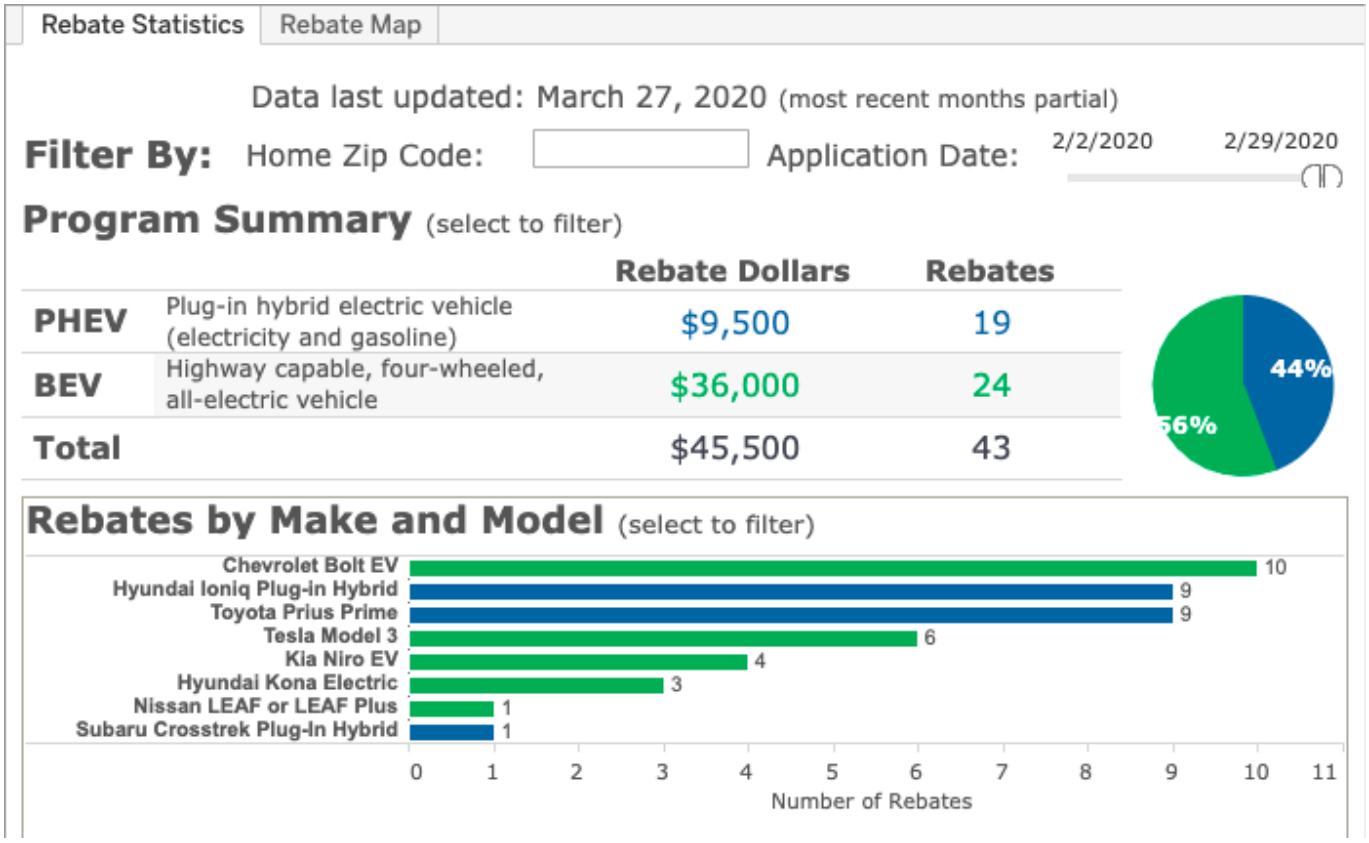
The speaker is Bruce Becker, President of the Electric Vehicle Club of CT, LEED architect, and president of Becker + Becker, an architecture and development firm focusing on sustainable projects (with low or net-zero energy use). In his talk, he will discuss EV infrastructure needs and how planning at both state and town levels can accelerate EV adoption. He will also answer questions about sustainable options for construction and development. Come hear the discussion about sustainability on our roads and in our towns.

CHEAPR Update and COVID Outlook

CHEAPR Rebates – The Doldrums Continue

Given the after-effects of the change in rebate parameters, the numbers seen in the graph were not a surprise. This information dates through the end of February, which is the latest that has been released on the CHEAPR stats page.

The detail for the month is below:



February saw low rebate numbers, continuing the trend from January and Q4, due to the lack of improvements in the CHEAPR

rules. The economic impact of COVID-19 has yet to be visible in this timeframe

The balance tipped slightly to BEVs because Bolt rebates increased while both Ioniq PHEV and Prius Prime rebates decreased. Tesla remains at a very low level since all but the most basic trim level of the Model 3 are now excluded. Deliveries of the Model Y have begun, though we don't know how long it will be before volume ramps. That vehicle runs a few thousand dollars more than the Model 3 so we don't expect it will qualify for rebates.

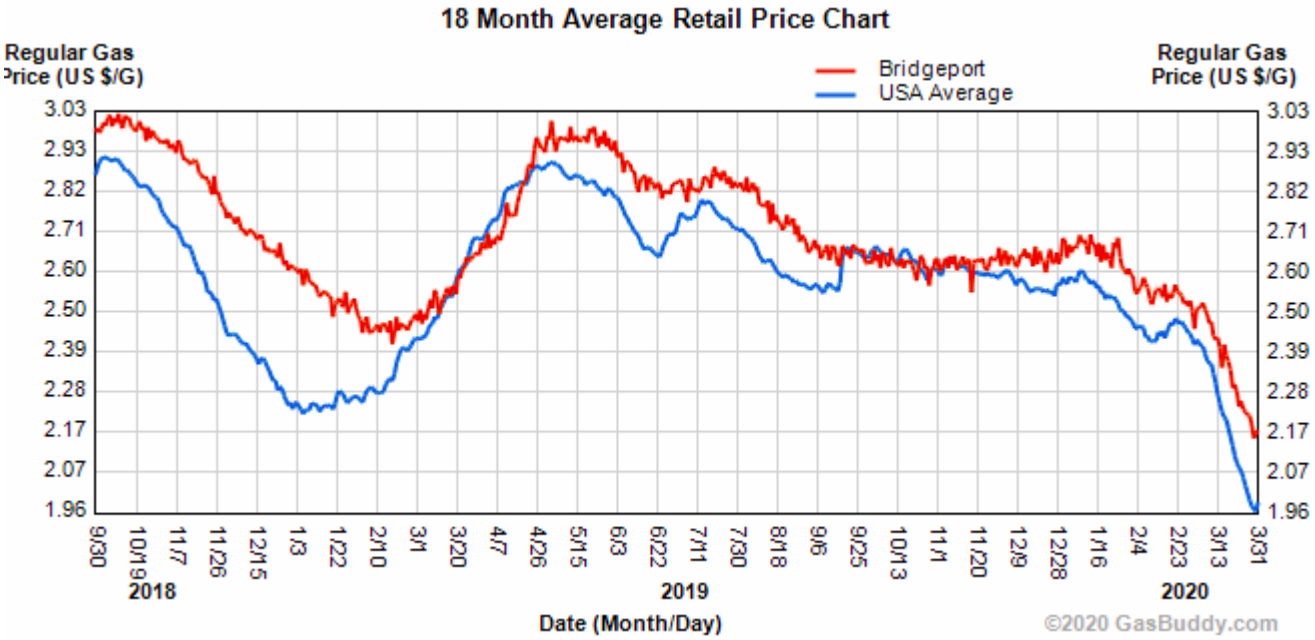
Last we heard, the new CHEAPR board was not completely filled, but they have a quorum. All that's been done has been to extend the same parameters that were in effect in Q4 2019 into 2020. One-quarter of the way into the new year, there is still no news on promised revisions or on used EV purchase incentives.

As can be seen on the screenshot from the CHEAPR stats page, there was a total of $45,500 in rebates that were disbursed. This works out to $546,000 annually on a straight-line basis, against a budget of $3 million.

It is likely to be a difficult road ahead for at least the next few months. We can't rule out the possibility that federal aid meant to counteract the impact of the recession on state finances will be inadequate. Early signs point to that being the case, as evidenced by what Governor Cuomo of NY had to say at a recent press conference. Budget cuts are inevitable and we wonder if CHEAPR will fall victim to that.

Plummeting Oil and Gas Prices

Part of this environment is plummeting gasoline prices. This is a recent chart from Gas Buddy and, well, you get the idea. The blue line is national and the red line is Bridgeport, CT.



Gas prices, or more specifically, the price per barrel of oil, are falling not only because of reduced demand from a recessionary economy exacerbated by social-distancing measures but also because of a price war between Russia and Saudi Arabia. Either one of those things would have caused this, but in this instance, demand began to fall, OPEC wanted to implement production cuts, Russia did not go along with it, and now Saudi Arabia is aggressively cutting prices, presumably to pressure Russia. This has accelerated the fall in the price per barrel. Absent some interim mediation, the next OPEC meeting is in June.

This could have knock-on effects for American (and other) shale oil, which according to Investopedia, has a floor price of anywhere from $40 to $90 per barrel. (This could be part of why Russia wants to do this.) Below is a chart of oil price trends. Shale oil is a heavily leveraged industry, so the impact could conceivably be felt in the bond market.

Source: oilprice.com

This blog is not a fan of shale oil. Fracking is environmentally destructive and produces a tremendous amount of natural gas, most of which is being flared at the well, spewing greenhouse gas emissions.

This week we also had the news of the administration formally implementing the rollback of phase 2 CAFE, though the question of whether the CARB states can return to a separate standard is still being litigated. This move will please the fossil-fuel industry. The rest of us lose. Even the automakers are less than enthused. It will accelerate carbon emissions, cause more sickness and death from air pollution, and, according to a report in the NY Times, and based on the administration's own data, it will impose an economic cost on society as high as $22 billion.

Opportunity, Should Policy Makers Choose to Make Something of it

Despite the headwinds, there is likely more stimulus to come and this could be an opportunity. The first packages rightly focused on stanching the bleeding with unemployment insurance

and support for small businesses. When the outbreak wanes, there will still be a need for fiscal stimulus. It is an opportune moment to craft such legislation so that it includes renewable energy infrastructure and purchase incentives. Wouldn’t it be nice to replace lost shale oil production with renewables and stationary storage?

Renewables and energy efficiency measures were a successful aspect of the 2009 stimulus legislation. And from that previous experience, it follows that there are data. They know what worked. This could help policy-makers to understand how to best incorporate long-term climate change objectives within short-term stimulus needs. Also, the energy-efficiency part of the 2009 stimulus did not include building infrastructure to better defend against severe storms and rising sea levels, which have now become a fact of life. This supports both resiliency and job creation. If this administration does not have the foresight to understand this, then perhaps we’ll have to wait and see if there’s a new sheriff in town in 2021. The passing of more legislation will almost certainly continue into next year.

In the meantime, it falls to us to accelerate EV adoption, one person at a time.

Westport Police Tesla – What’s Next

A Lot Had to Happen to Get Us Here

The Westport Police Tesla Model 3 police cruiser is in its third week of service as of this writing. It has become an international sensation and the introductory splash doesn't show signs of abating any time soon. The Westport Police Department is still fielding inquiries. The car will be exhibited at the New York International Auto Show from April 10 – 19. It will be seen at the Westport Maker Faire and there will be an open house and press event in April. **(Update: The NY International Auto Show has been canceled for 2020. Maker Faire is canceled. The status of the open house is TBD. This is due to taking precautions regarding COVID-19.)**

This post takes a look back on some of the hurdles and questions that had to be faced in order to get to this point, some of which could have scuttled the project.

Politics

Westport Police Chief, Foti Koskinas, has made it a point to thank the First Selectman Jim Marpe and town officials for their support. We want to pause here for a minute because this is not just an obligatory shout-out. Chief Foti was very clear that because of this support, he was spared jumping through bureaucratic hoops with multiple boards. The town was supportive of taking this step, knowing that they were incurring a certain level of risk. The community has ambitious goals to lower emissions and become net-zero. Town leadership understands it is time for action. The fact that there is considerable support in this environmentally-minded community also helps.

Foti told the club that he is aware of police chiefs in a number of municipalities that would like to do the same thing,

but they gave up because of the process. It can be hard to overcome inertia.

Requirements

This was easy. The Tesla exceeds the minimum requirements for safety and performance.

Engineering

There were a number of challenges and questions that flow from this one word.

Would Tesla be cooperative from an engineering perspective? Without their support, the best that Westport and its vendors could hope for would be to muddle through, if it would even have been worth the trouble. Foti stated that at first there were challenges. Tesla was initially unresponsive. But they came around to embrace the project, which has obvious upside for them. Having made it through that, Foti now characterizes them as a great partner.

These are the specific tasks we are aware of:

Integrate Tesla headlights and taillights so they can be used as part of police emergency lighting. Tesla recoded for this.

Access the Sentry cameras for use as dashcam and license plate readers. Tesla worked with the WPD vendors and this is happening. The police can now avoid purchasing new cameras, which they normally have to do. And the Tesla cameras are superior.

Wire the electric accessories such as lights, siren, and radio into the 75kW battery (a.k.a. the large battery). The alternative would have been to add another 12-volt battery, an inelegant solution that could also have scuppered the project. The law enforcement accessories that are powered by the large

battery have had only a de minimus impact on range.

Use the Tesla computer. This is a work in progress and the outcome is still not known. There has to be airtight security for both parties. Foti is cautiously optimistic. For now, they have installed a ruggedized tablet.

One of the questions to be addressed by the test is how well the battery holds up. Tesla has advised WPD to expect 1 – 1.5% degradation per year. Tesla is monitoring the batteries. That level of degradation would not interfere with the ability of the car to be used for many years. After 10 years, the battery would still be 85-90% of what it was on delivery.

Cost. Of course, cost.

Even though replacing a car that gets 16 MPG (on paper, anyway – in actuality, it's lower) with a zero-emission vehicle makes all the sense in a world where climate change represents an existential threat and air pollution is responsible for thousands of deaths each year and billions in added health care costs, the town, and taxpayers, nonetheless, have to pay for it.

In the reporting at the time of the acquisition, it was noted that the cost of the Tesla was $52,290 versus $37,000 for a Ford Explorer and that the savings on fuel and maintenance would make up the differential in less than 3 years. That is all true, except it is more complicated than that.

The new Tesla actually will have cost less to acquire. "Huh?" you say.

Police cruisers require a lot of customization and that is expensive. None of the off-the-shelf parts would fit this new vehicle. This includes the wiring of the accessories into the battery, lights, gun rack, etc. The firms that Westport uses, major players in this particular market niche, are Whelen

Engineering and Fleet Auto Body, the latter company doing the installation. Both of these companies provided their services to outfit the Tesla for free. It was R&D for them. And once they made that offer, it essentially eliminated any financial risk for the town, barring the car being a complete failure and having to be written off. The cost of paying for a one-off customization would have been prohibitive. It wouldn't have happened. Going forward, the cost of the customization will have to be figured into any future purchases, though the cost will be the standard market rate for such a project. And depending upon how much of the native Tesla tech will be repurposed, these costs could be lowered significantly.

Not having to buy cameras saves around $3000. Incorporating the Tesla lights into the police emergency lights helps. If the Tesla computer can be tapped, there would be an additional savings of $3-5000, making the differential in capital costs practically disappear.

Model 3 – Going Forward

It is not uncommon for the actual performance to differ from the officially rated metrics. In the case of the Ford Explorer, while it is rated for 16 MPG, the performance under police-use conditions with all the idling and sudden acceleration is 8-10 MPG.

According to Foti, the Tesla Model 3 has "hit all its marks" during the brief period that it has been in service. So color us optimistic. The performance is there. The officers like it. The range has been adequate. Tesla is monitoring the battery. It is hoped that the life of the vehicle will exceed the service life of conventional police vehicles.

We now enter the period of gathering data. By definition, that will take some time. And we'll be here to report it when that time comes.

Speeders Beware – Westport Police Driving a Superior Car

The Tesla Model 3 police cruiser was the star of the EV Club meeting

Westport Chief of Police Foti Koskinas brought the new, fully customized Tesla Model 3 police vehicle to the EV Club meeting this week to exhibit to a group of roughly 30 attendees. He applauded the support the police received from First Selectman Jim Marpe, Sustainable Westport, the EV Club of CT, and many residents. This car is a tangible step toward the town's objective of reaching net-zero emissions by 2050.

The police department continues to field inquiries about their experience and process to this point from countries all over the world. The chief referenced recent inquiries from Istanbul, Turkey, and New Zealand.

Chief Foti is shown here speaking to the club. He is drinking Pepsi, folks, although he has also drunk the Kool-Aid as evident in his enthusiasm about the Model 3. The vehicle has only been in service for two weeks, which is not much time to gather data, but Foti told the crowd that it is performing as advertised. He looks forward to gathering more data as the department accumulates more experience with it to further analyze the use case.

A police vehicle is normally kept for around 120,000 miles. But those are driving miles and the vehicle will have spent 30,000 hours idling during its time in use. In the stories about the Tesla acquisition that have been published in various outlets, some commenters expressed negative sentiment about police spending time idling in general. For the record, it is required. The computer needs to be kept running, and the officers have to be in a position to respond instantaneously. The combination of the driving and idling equates to 300,000 driving miles, per Chief Foti. The police electronic equipment is being wired directly into the 75 kW Tesla battery. Problem solved with respect to emissions, but it is hoped, and we won't know for a while, that the Tesla will have a longer service life. Tesla is monitoring the battery and advises the police to expect 1% to 1.5% diminishment per year, meaning the vehicle can remain in service a long time without worrying about a battery that becomes meaningfully compromised.

Chief Foti also discussed how the mileage stats that are on paper about a car don't mean a lot with respect to actual performance. The 16 MPG that is the rated performance of the Ford Explorers is closer to 8 – 10 MPG due to the nature of its use for police work. But, that said, and in the service of gathering data, the department is also working with Ford to test a conventional hybrid Explorer police vehicle. The hybrid

would see a gain in rated mileage from 16 to 28 MPG, and would somewhat mitigate the use of the engine while idling.

The Model 3 is not the department's first experience with a plug-in vehicle. It owns two plug-in Priuses, which are used for parking enforcement and mostly run in electric mode.

The Model 3 has been deployed to traffic, where its ability to accelerate quickly from a standing start is valuable from the perspective of officer and public safety, described in more detail in an earlier post here. Chief Foti put more specific numbers to it at the meeting. The police Model 3 will go from 0 to 60 in 3.2 seconds. The faster the police vehicle can accelerate to overtake a speeder and the shorter the distance to catch up to the offender, the lower the risk. Describing the safety issue as "huge," he states that he may only have to drive at 65 MPH with the Tesla instead of 85 MPH, and travel two-tenths of a mile rather than six or seven-tenths of a mile.

Traffic is a big issue locally. There is plenty of it. The department receives numerous complaints of dangerous driving from residents. Chief Foti described Westport as a "cut-through" town, given that I-95 and the Merritt Parkway cross the town, not to mention Route 1 and the two train stations. When there is a backup (which happens all the time), the map apps direct traffic onto local roads. There is a lot of speeding, distracted driving, and incivility.

The Model 3 is being used for either one or two shifts per day, every day. Even if the car has been on duty for 16 hours, there is still plenty of time overnight to fully recharge the battery.

This particular patrol car is not a "black and white." It is dark gray with police decals, a design that "doesn't stick out until you want it to stick out."

Custom Model 3 Equipment Spec

Whelen engineering developed a lot of custom equipment for this car due to its being the first of its kind project. They didn’t charge the town since they view it as a pilot. In order to show their work to other prospective municipal customers, they have purchased their own vehicle. They spent about 200 hours working on this customization, but once this is in regular production, that is expected to be reduced by 80 to 90 percent. This vendor already has another order, though it is for a fire chief’s car.


HSBC

BMW i8 Cabriolet

The Tesla wasn’t the only interesting vehicle to make an appearance. Club member Joe Stroll brought his gold BMW i8 Cabriolet.

EV Club to be at New York International Auto Show

Electric Vehicle Test Track at the New York Auto Show

UPDATE: This show has been postponed due to COVID-19 and is now scheduled for August 28 – September 6, with press days Aug. 26, 27.

Con Edison, the New York utility, is sponsoring the Electric Vehicle Test Track, as well as booth space for non-profit EV organizations from the tri-state area. Drive Electric Long Island is spearheading this, along with some of its coalition partners. The EV Club of CT has been invited to participate.

There will be a lot of EVs present and we look forward to the chance to speak with some of these companies about their plans and exchange experiences and ideas with other EVangelist groups.

A ticket to the auto show costs $17 for an adult. Club-members who volunteer for a shift at the booth will get a free ticket to the exhibition.

Tesla Model 3 Police Vehicle Appearance

The Tesla Model 3 police vehicle, as has been reported previously, has drawn an unbelievable amount of attention, whether at the CT Conference of Municipalities, inquiries from around the world, or local interest. It is safe to say that the Westport Police, supported by town leadership, have gotten way more than 75 kWh worth of mileage as a result of their innovative move. We have learned that the Police Model 3 will be making an appearance at the NY Auto Show. Tesla is covering the cost. We'll publish more detail when available.

The show runs from April 10 through 19th, from 10 AM to 10 PM

at the Jacob Javits Center on 11th Avenue in New York City.

It’s Official: Tesla Open for Leasing in Milford

Open for Business – Tesla leasing in Milford

Tesla held its official kickoff of leasing vehicles directly to customers from its service center in Milford, CT.

The festivities opened with Mayor Ben Blake of Milford touting that the town has more EV charging stations than any town in

CT and is the supercharger capitol of the state.

Bruce Becker, president of the EV Club of CT, moderated the event, noting that Tesla accounts for the majority of the increase in EV registrations year over year.

There were also speakers from CT DEEP, The Sierra Club, and the CT League of Conservation Voters.

Prospective leasing customers are permitted to take a test drive.

It is technically called a demonstration drive, and the wording in the liability release is a little different reflecting the fact that it is in the service of a prospective lease, but it's a test drive.

The first step to direct sales?

Tesla is still not permitted to sell directly to consumers, unlike in our neighboring states of New York, Massachusetts, Rhode Island, and, for that matter, the majority of the country. What prevents Tesla from doing so are the so-named dealer franchise laws that were written decades ago to protect the dealerships from their own affiliated manufacturers. Those old laws did not address leasing which didn't exist. Nonetheless, Tesla was careful, making sure they were legally buttoned up before taking this step. To be sure, this is only a first step, a foot in the door toward changing the law to permit direct sales. With other EV companies preparing to sell directly to consumers, if we in CT want to make a significant impact on emissions reduction, if consumers are to be given choice, it is only a matter of time.

Further coverage can be found in this article in the New Haven Business Journal.

Westport Police Tesla Model 3

Now Officially on duty

New Tesla Police Squad Car is on Duty

Today, Feb. 5, 2020, marks the official entry into duty for the recently acquired Tesla Model 3 police cruiser.

The vehicle was acquired in early December and since then has been undergoing the necessary customization for law enforcement, followed by a period of testing by the police. The information below comes from a phone call with Chief of Police, Foti Koskinas.

The customization, performed by Whelen Engineering and Fleet Auto Supply, in cooperation with Tesla, while a lot of work, has turned out extremely well and the testing has exceeded expectations. The car has racked up about 600 miles during the testing phase.

Use of Native Tesla Tech Has Saved Money and Improved the Model 3 Police Vehicle

The police are able to make use of the Tesla headlights and brake lights. The other electrical gear, such as the police lights and siren, has been wired directly into the 75-kilowatt-hour battery (as opposed to the 12-volt battery). This means that adding another 12-volt battery to support those items will not be required. (A conventional police vehicle comes with an oversize battery and heavy-duty alternator).

One of the questions about going this route was how much of a reduction in range would be caused by this. And the answer, based on the testing, is that it turns out to be negligible. With today's technology, such as LED lights, the power drain is small.

With Tesla's cooperation, the police are using the sentry cameras that come with the Tesla, meaning that they will be spared the approximately $3,000 expense that is normally incurred to add this to a police cruiser. And the Tesla cameras are of superior quality than what they would otherwise get.

When we wrote an earlier blog post that discussed these things, the outcome was still speculative. We are happy to report that it is now a done deal.

There remains an open question about whether the WPD will be able to use the Tesla computer for their purposes. It is the most complex part of the integration and will simply take more time to figure out if and how it can be done with adequate protections for each party. In the meantime, the vehicle is outfitted with a tablet and a modem.

Tesla Model 3 Police Vehicle Safety Advantage

A speeding driver passes a stationary patrol car. This is a common enough occurrence and the average person may not give it much thought. But the police do. The patrol car has to accelerate rapidly, move into traffic, possibly cross lanes, and drive at a speedier speed than the speeder in order to overtake and then pull over the driver. All of which carries with it an increased level of hazard for the officer and the public. With instantaneous EV torque, and of course, Tesla building very fast EVs, less time is needed to reach the offender, and lower average speed is necessary, thus reducing the degree of hazard during these maneuvers.

This safety advantage of the Model 3 was characterized by the police as a big win. (Also, in a conventional car, when the accelerator is “pinned,” the fuel-efficiency drops to around 8 miles per gallon.)

We have been advised that Elon Musk himself has seen and praised the modification, saying this is what a Tesla Model 3 police vehicle should look like.

In case you were wondering…

The response from the officers has been enthusiastic with requests to be assigned to this car.

No autopilot. The insurance company won’t go there.

The vehicle has been equipped to make a noise while driving at low speeds as a pedestrian precaution. If you would like to know what a spaceship sounds like when it is powering up, come listen to this car. We have also heard other descriptions of it. Listen for yourself on Feb. 20.

The Westport Police will be bringing the vehicle to the club meeting on Feb. 20. See the home page for details.