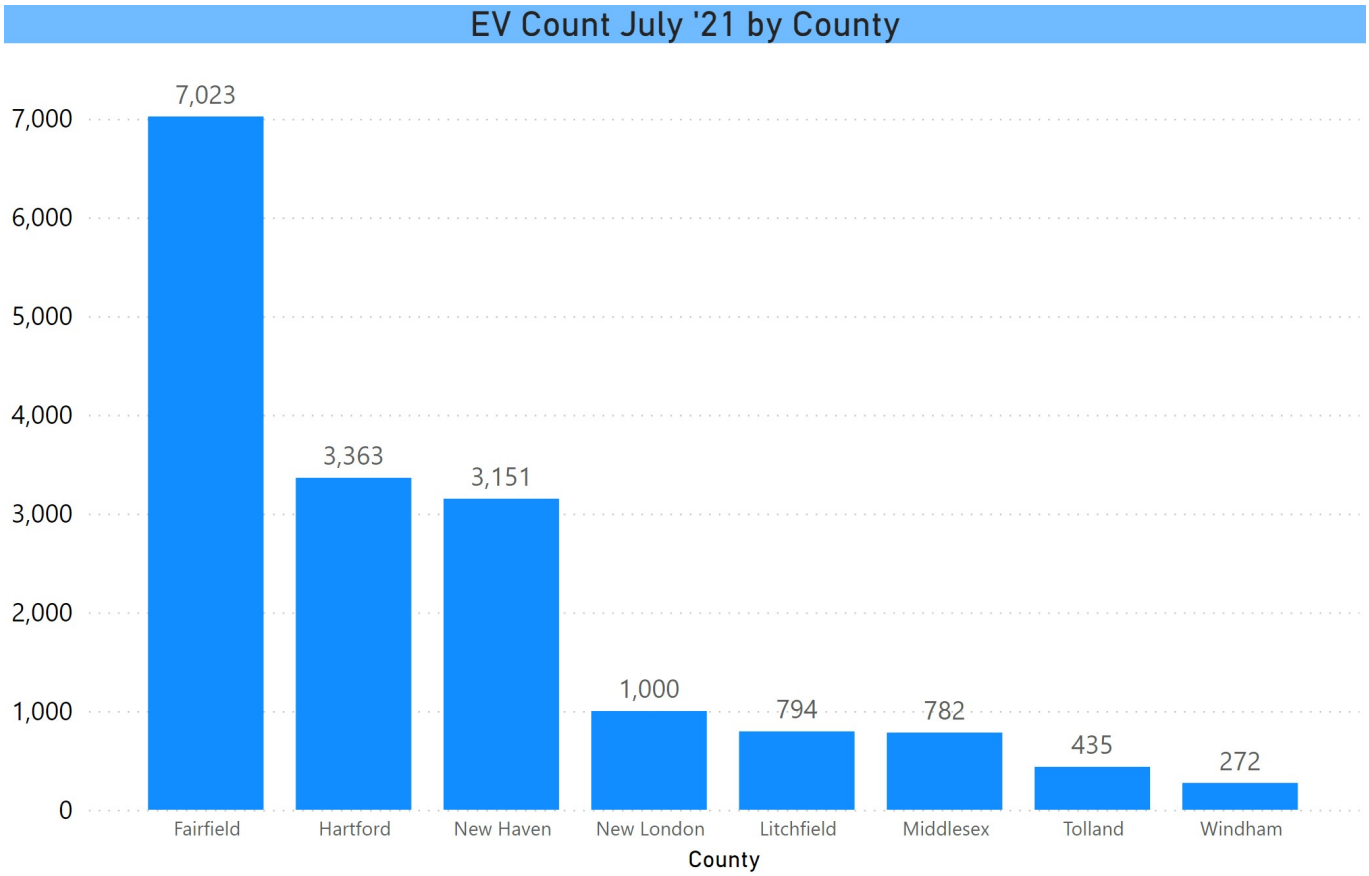
Governor Lamont Meets with EV Club

The photo above shows the governor meeting with Bruce Becker, Analiese Paik, and Barry Kresch of the EV Club of CT. This was a meeting about how the environmental community can more effectively mobilize to support a progressive environmental agenda.

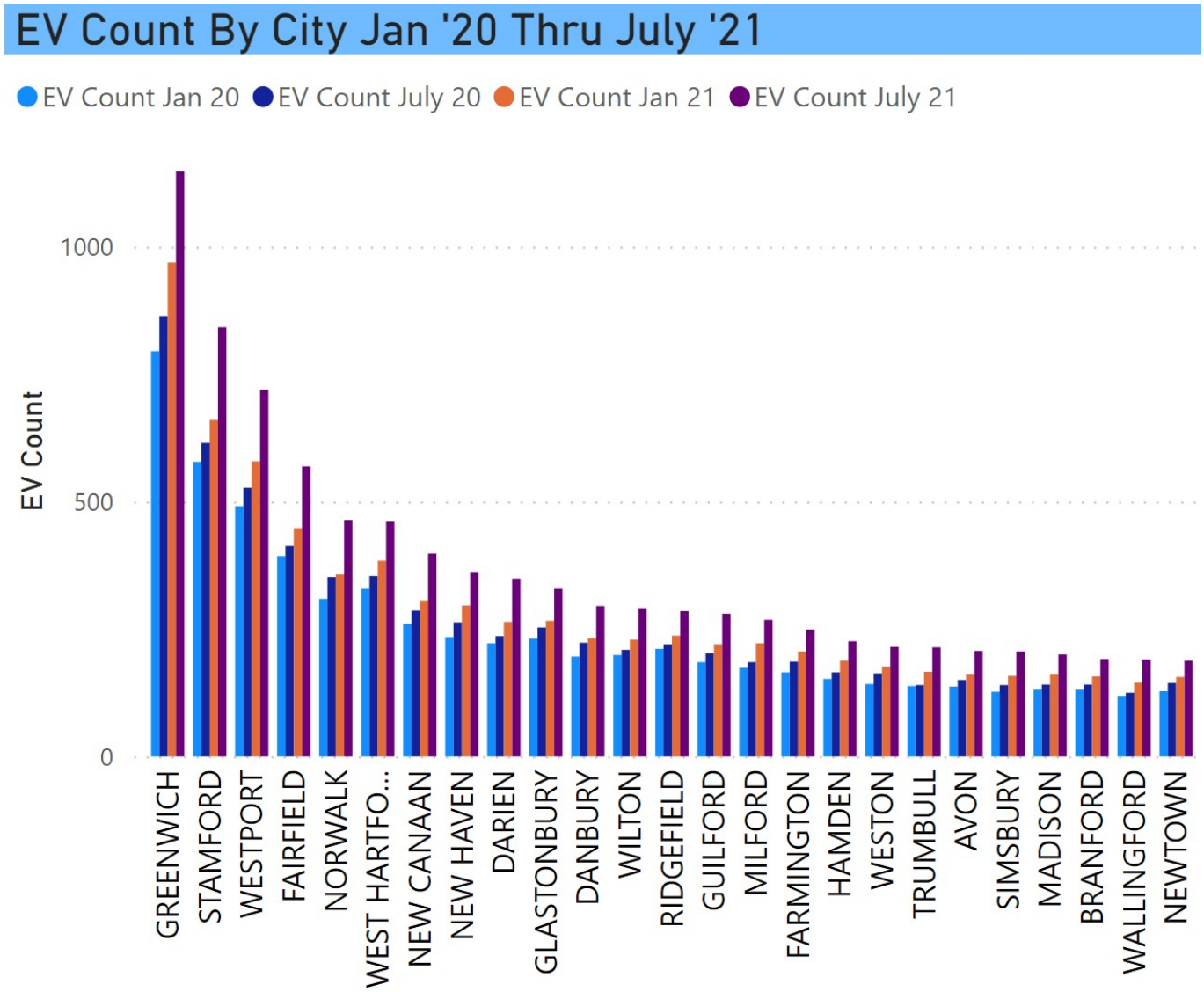
Where The EVs Are – July 2021

Fairfield County is Home to 41% of EVs

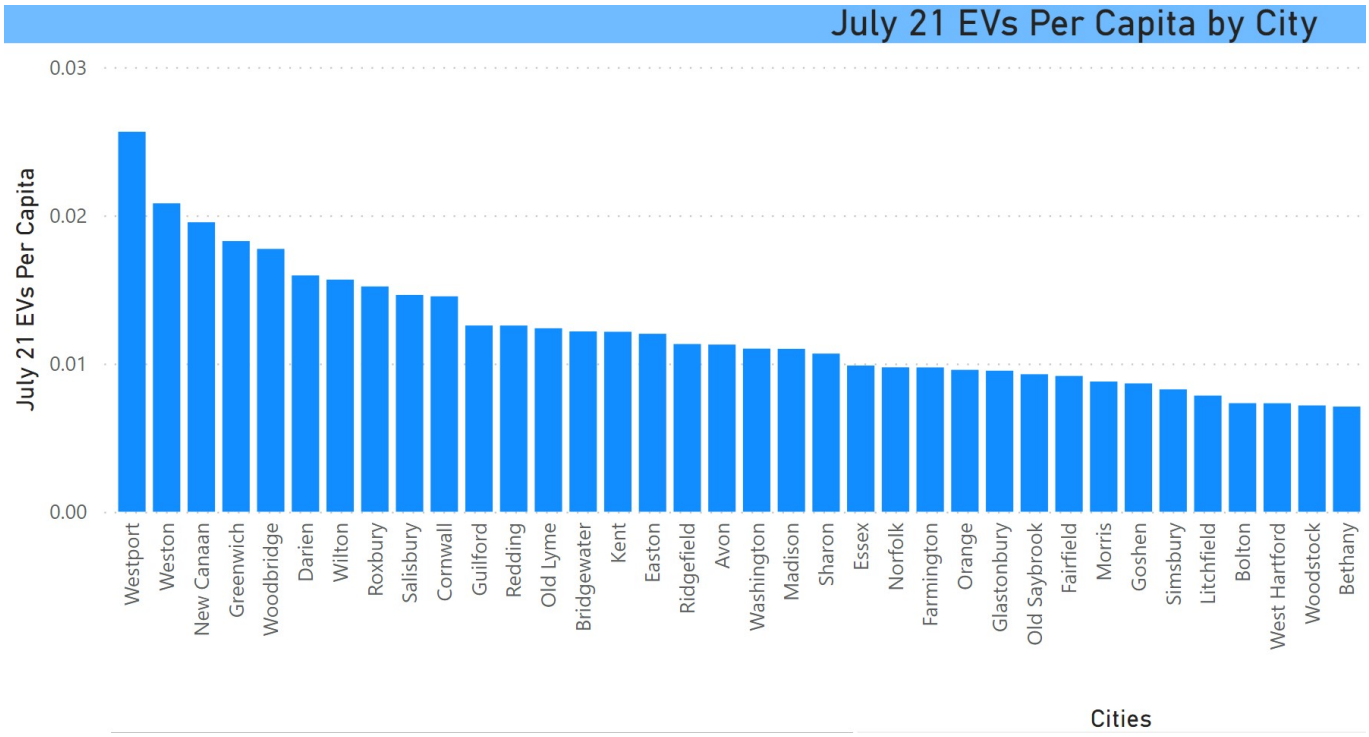
7023 of 17,217 EVs in the state are registered in Fairfield County.



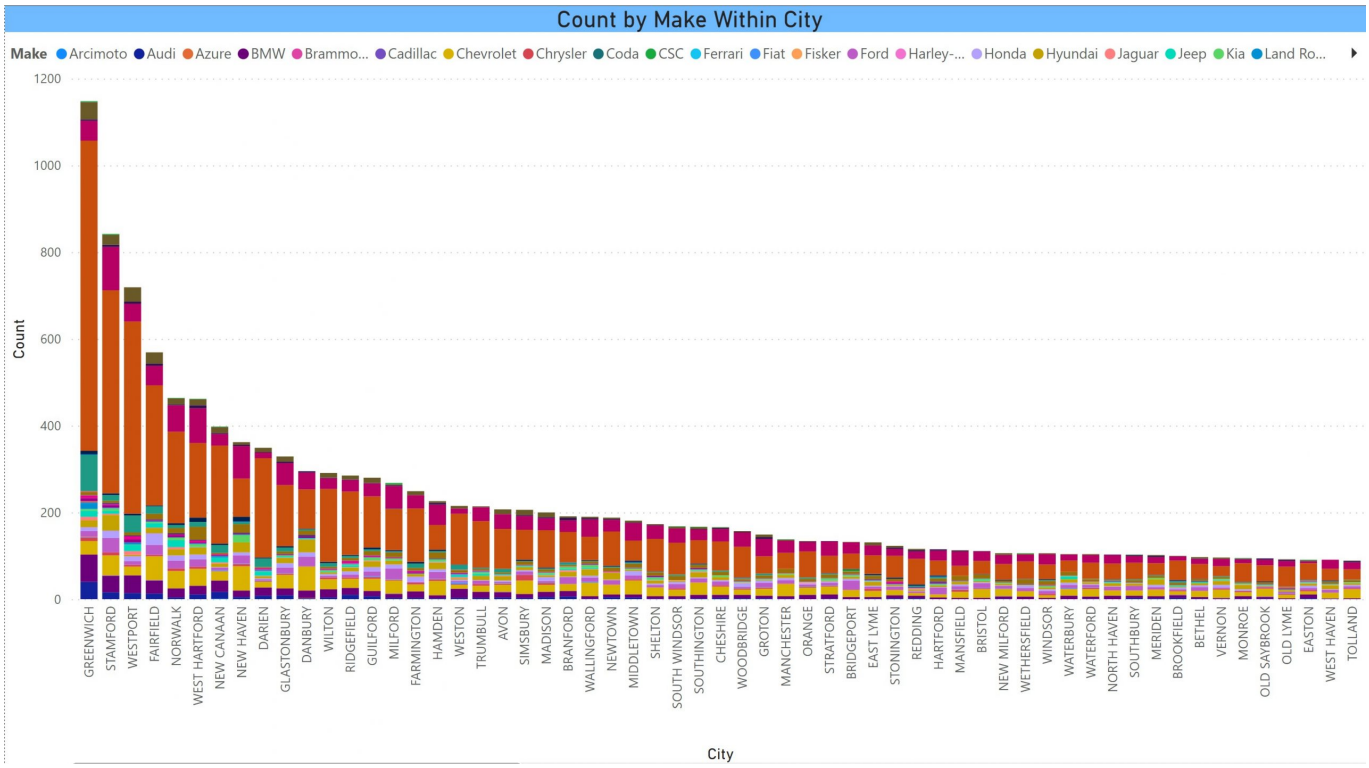
The map at the top of the post shows the distribution of EVs across cities. The larger the bubble the greater the number of EVs, with the top cities being Greenwich, Stamford, Westport, Fairfield, Norwalk, West Hartford, and New Canaan. These ranks don't change that quickly but Norwalk has overtaken West Hartford. There is nowhere near enough room to display all cities in the static screenshot of the recent trend below. In the interactive dashboard, there is both a slider and a slicer to help navigate the larger charts.

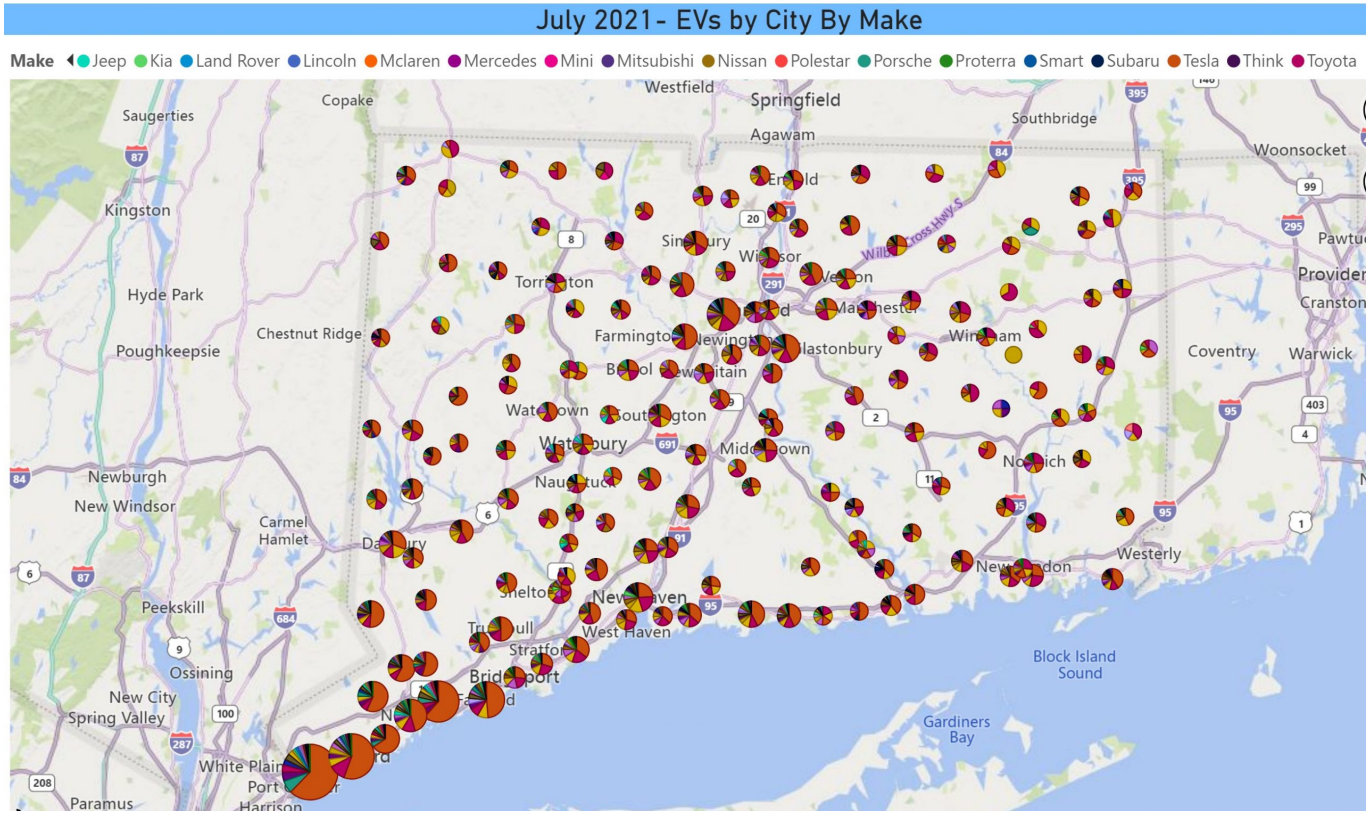


Adjusting for population reveals a different rank with mostly smaller towns in Fairfield County dominating: Westport, Weston, New Canaan, Greenwich, Woodbridge, Darien, and Wilton.



The two charts below show EVs by make by city. These do not come directly from the DMV because the DMV separates the geo from the other information. I have created my own estimates based on the available data. Again, the screenshot is not large enough to display all cities and all of the makes in the legend. The dominant orange color is Tesla. Below the bar chart is the same data in map form with bubbles sized to overall EVs and the wedges representing each make. Again, it looks better in the dashboard which has more visual flexibility.





If anyone has any questions about a particular city, please email EVClubCT@gmail.com.

EV Make and Model Movers

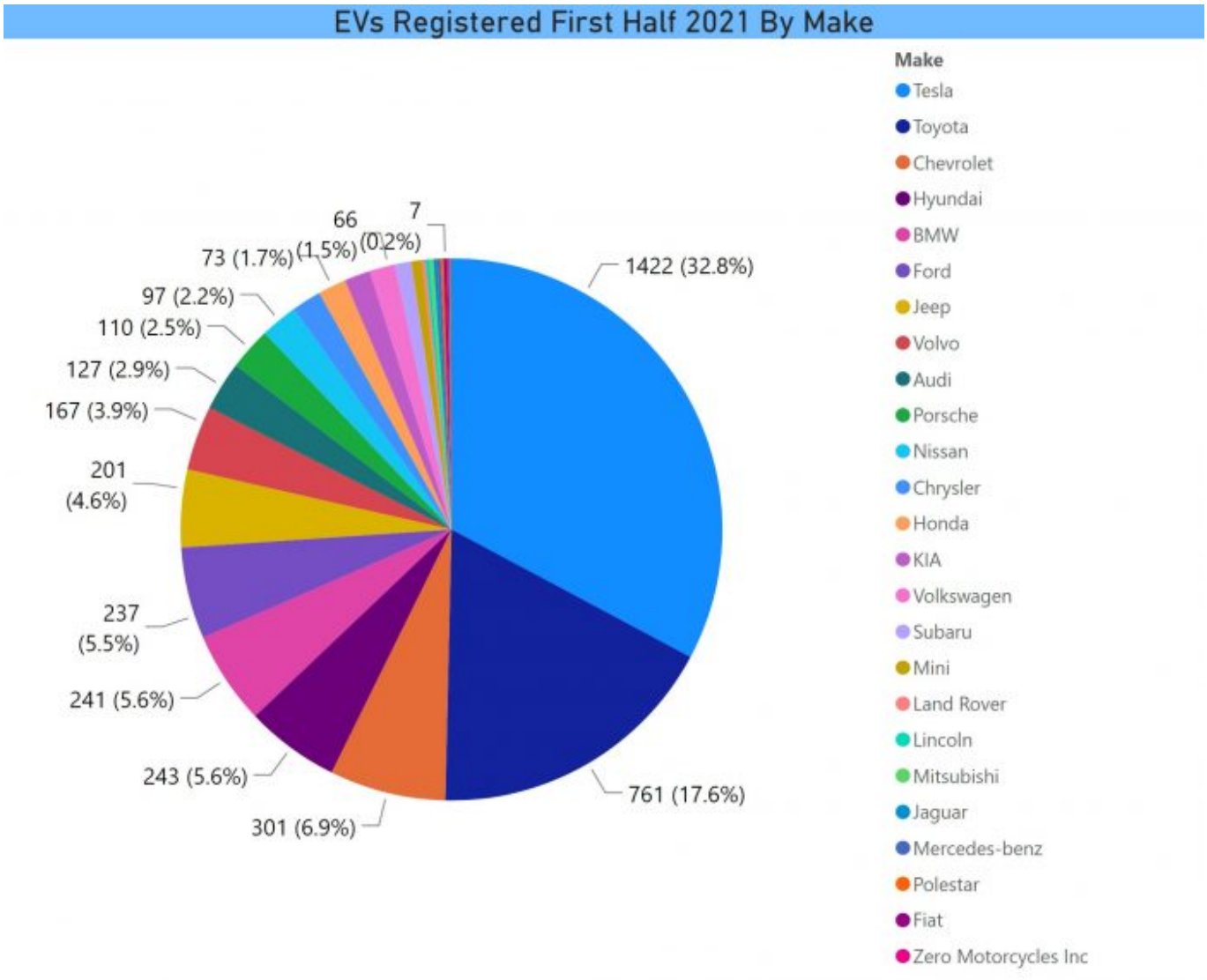
Post by Barry Kresch

Tesla Continues to Lap the Field

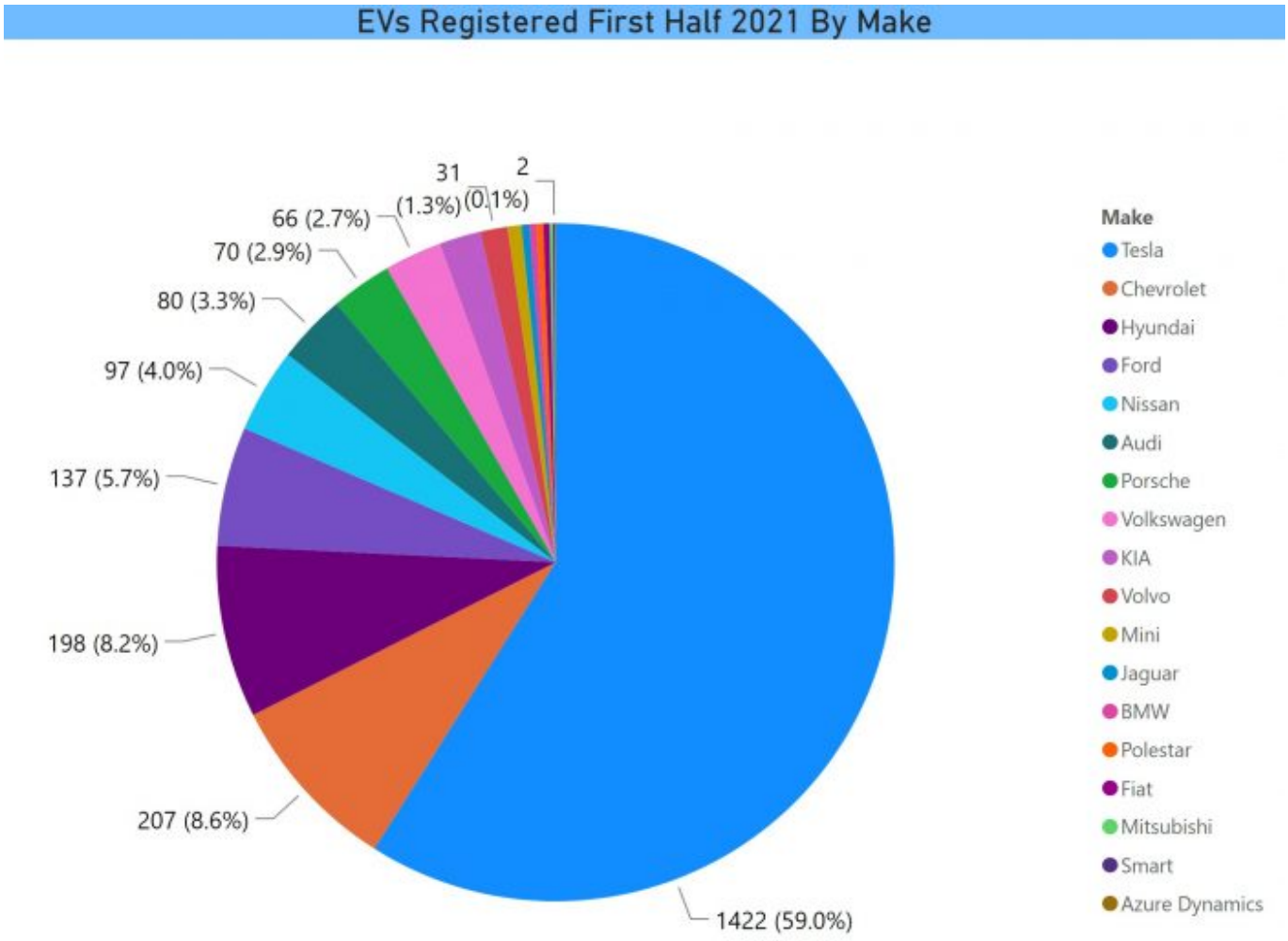
The chart at the top of the post shows the trend of all EV makes and shows net registrations at each point in time. It makes very obvious the fact that registrations are largely concentrated among a small number of companies. This trend begins with 2017, which was the first year we received data from the Department of Motor Vehicles (DMV), and covers every data point we have through July 2021. Beginning with January 2020, updates have been provided semi-annually as that frequency is driven by the statutory requirements for EV reporting imposed upon the DMV.

Tesla has continued to have substantial increases. Toyota had a notable pop. Chevrolet reversed the negative momentum and gained modestly. Ford, BMW, Hyundai, Honda, Volvo, Porsche, Chrysler and Jeep all had modest increases. Other makes had very small increases or were flat. I will look at the vehicles that were added and drill down to models to see what caused the changes.

The pie chart below shows the vehicles added by make for the first half of the year. Tesla, with 1421 adds, was double the nearest competitor, Toyota, though the latter still had a strong period with 761 adds. The other makes with over 200 adds were Chevrolet, Hyundai, BMW, Ford, and Jeep.



This second pie chart is filtered for BEVs (the title of the chart does not change when the filter is applied), where Tesla accounted for 6 in 10 vehicles added followed by Chevy, Hyundai, and Ford.

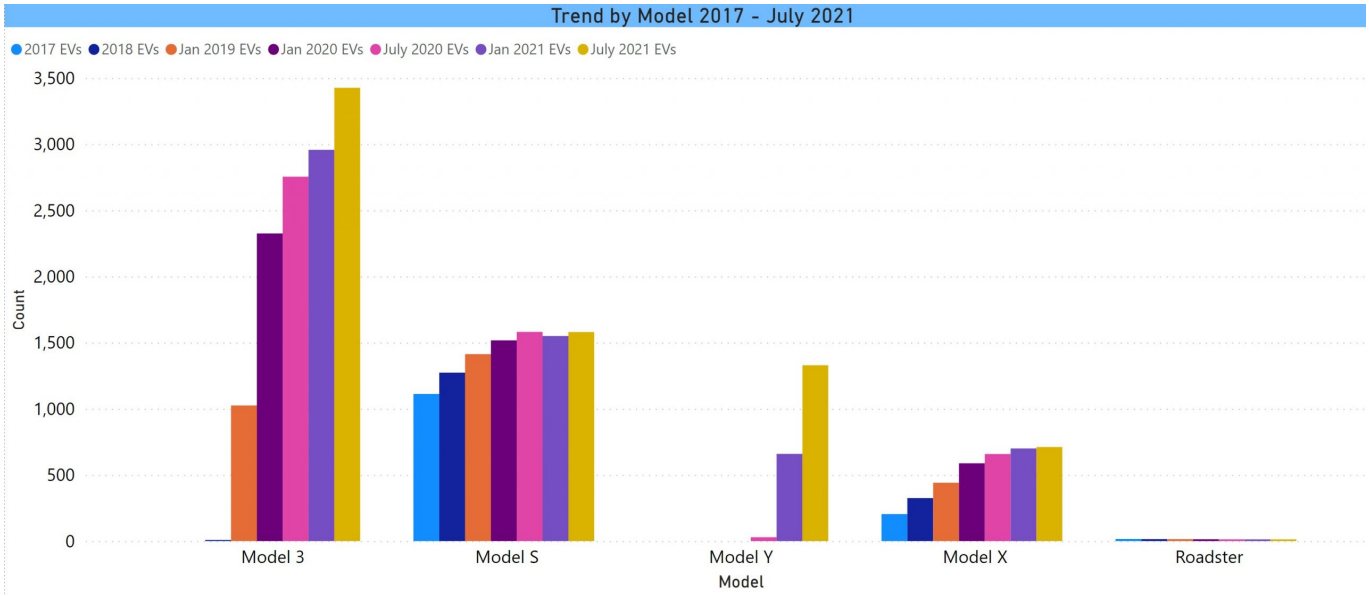


The charts below are a filtered review of net registration trends by model within make (i.e. net cumulative registrations). This provides some context to how lineups and model impact have evolved over time. There is some degree of a rising tide lifting all boats, but there are some new models that are decidedly making a difference. They are presented in order of the number of registered units for the make.

Tesla

Starting with Tesla, while the Model 3 continues to register significant gains at each data point, and remains the most widely registered model with 3,426 vehicles, the momentum has shifted to the Model Y. The first bar, the small one, for the Model Y is small due to lack of supply. While Tesla still can’t seem to build them fast enough (as of this writing, we

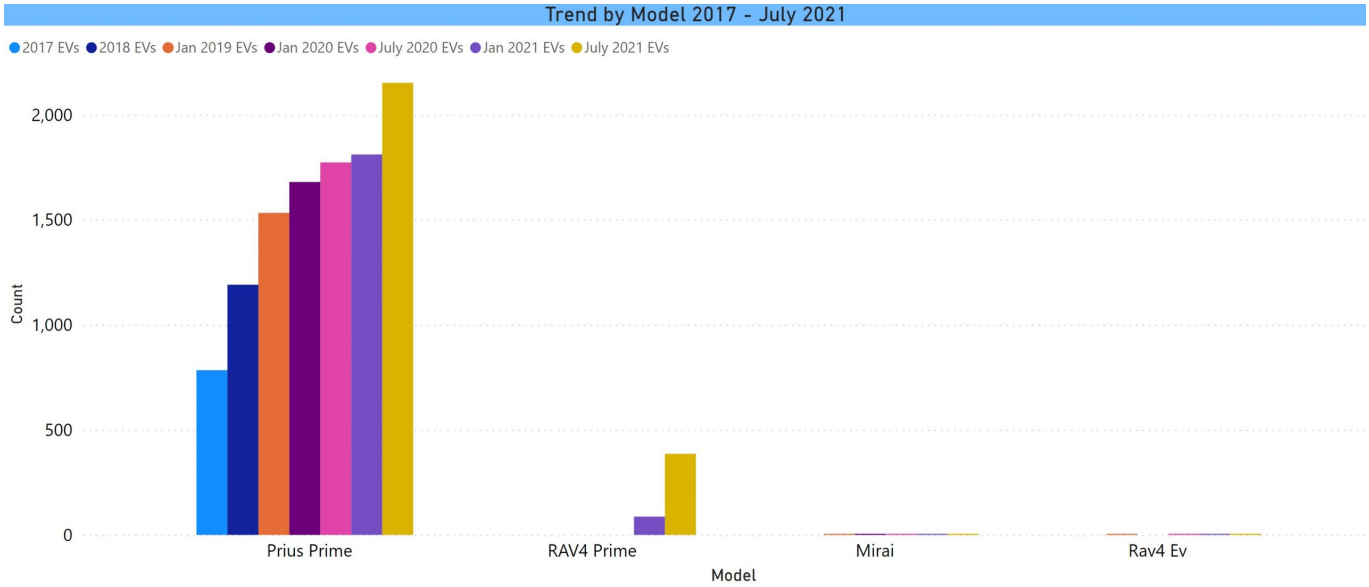
are advised of a ~6 month wait for most orders), the delivery count is now substantial at 1,329, approaching that of the Model S at 1,580, which it will certainly pass when we receive our next update in January 2022. Again, we are looking at registrations, but it indicates that the Model Y is outselling the Model 3. Tesla has a new plant under construction in Texas and a new battery design (the 4860) forthcoming. These developments should speed the production of the Model Y and enable Tesla to begin deliveries of the Cybertruck. Inside EVs reports Tesla having over 1.25 million pre-orders for the Cybertruck as of early August.



Toyota

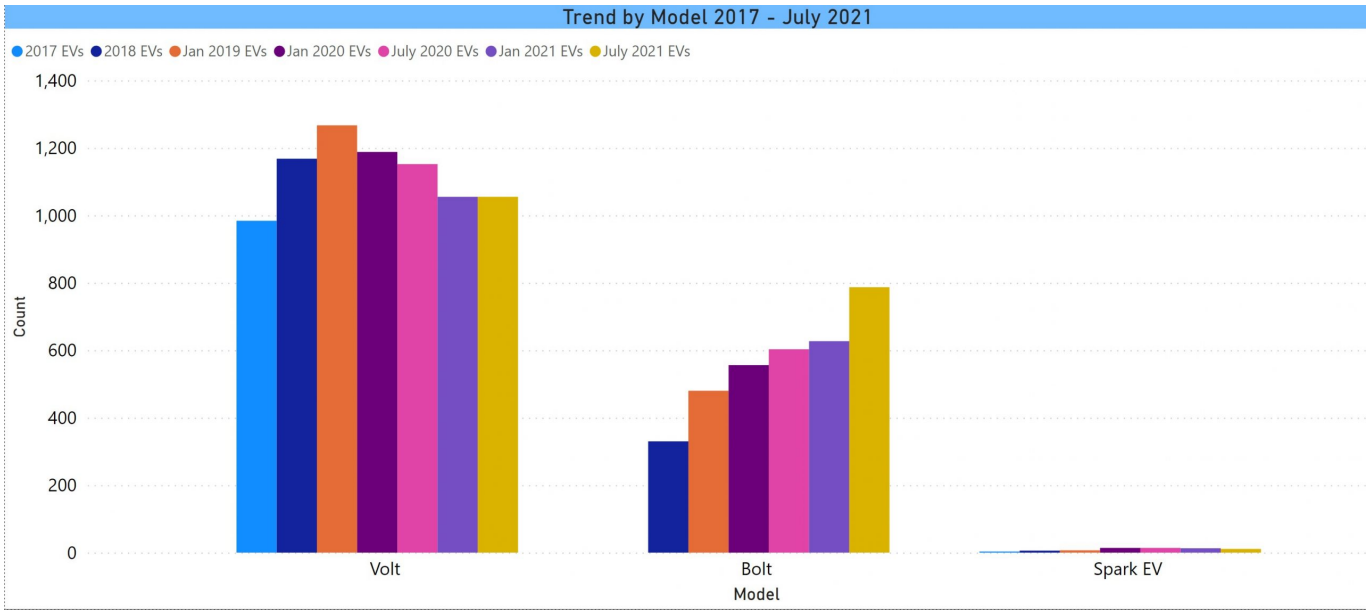
The next largest make is Toyota. The Prius Prime PHEV has been around a while and had displayed a flattening trend, but registrations jumped in the first half of 2021 to 2,152. This makes it the second most widely registered model. Added to that is a decent start for the new RAV4 Prime, also a PHEV, but with one of the higher electric ranges in its class at 42 miles. There are 386 of them registered and there have been reports of their being supply-constrained. Toyota briefly made a BEV RAV4 in limited quantities. There are 2 of them in CT. The other vehicle here, the Mirai is a fuel cell car. There are 3 of those.

Toyota has been resistant to BEVs for lack of any obvious reason. They introduced a concept SUV this year, the bZ4X, and have announced a plan for 15 BEV models by 2025 (not necessarily all of them for the USA).



Chevrolet

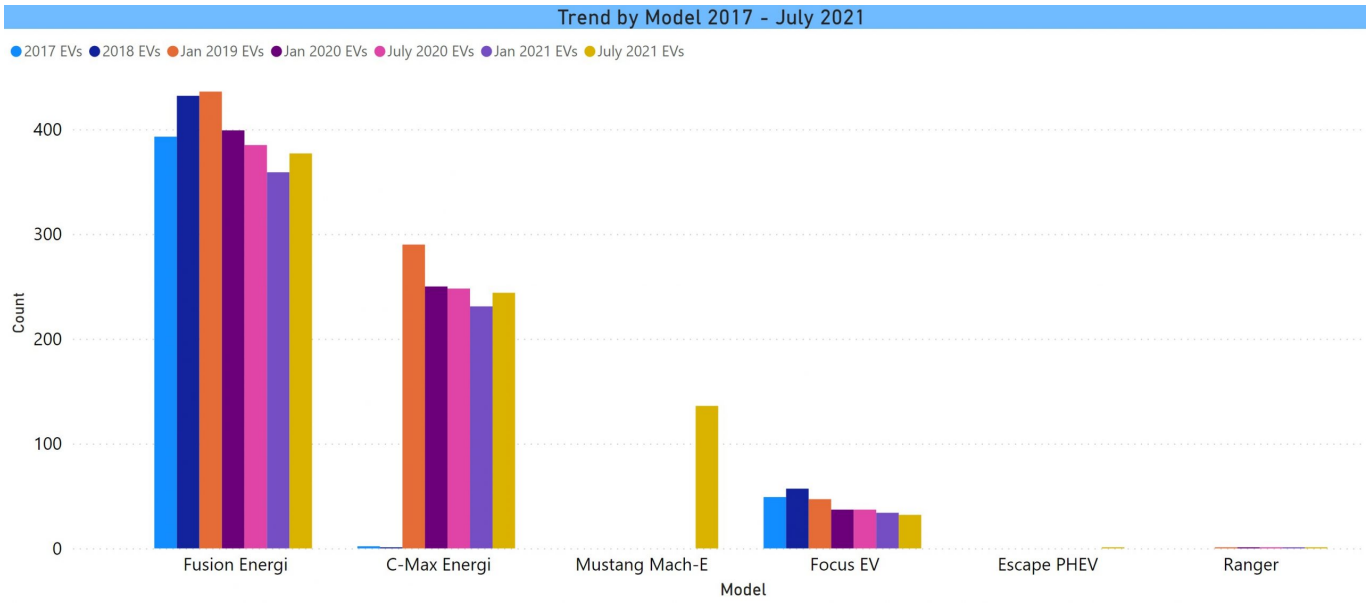
The third most widely registered make is Chevrolet. The most widely registered Chevy is still the Volt (PHEV) that was discontinued in 2019. For a time, before the Model 3, it was the most widely registered model in the state. The decline over the last 4 data points is pretty gradual, considering the discontinuation, and could reflect a presence as a used vehicle. Chevy re-introduced the Bolt in 2021 and significantly reduced the price (possibly due to GM phasing out of the federal tax incentive). The Bolt has been a lethargic presence since its introduction, but the combination of the new model and lower price enabled it to register a jump to 787 units registered. The new EUV version of the Bolt was not yet available during the analysis period.



Ford

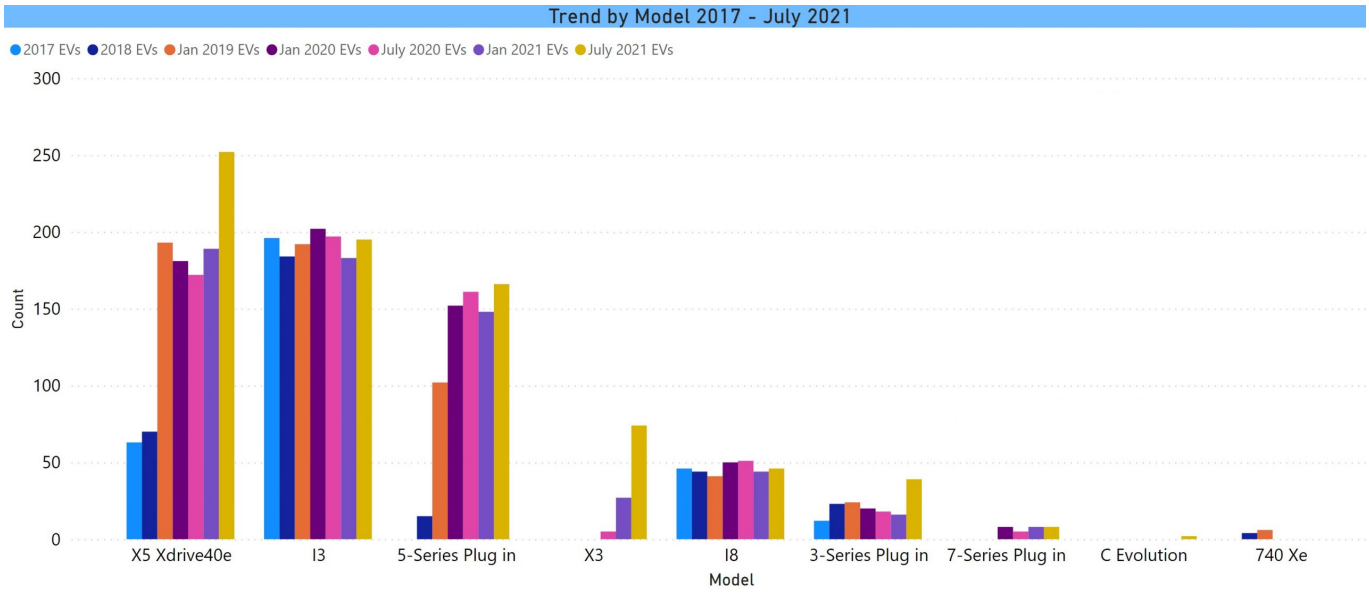
Ford jumped into fourth position among EV makes, very clearly on the strength of the new Mustang Mach-E. Ford has been manufacturing EVs, both BEV and PHEV, for some time without any models getting traction. More recently, they have switched to a strategy of building an EV version of their most iconic brands, the Mustang and the F-150. In the case of the Mustang, it is more a case of branding as the electric Mustang is an EUV. The F-150 Lightning really is an electric F-150 pickup.

The Mach-E BEV has 136 units, enough to make a difference for Ford overall. It has been a supply constrained vehicle and dealers have been selling them above MSRP. The Escape is a successful compact SUV and Ford has introduced a PHEV version. There is only one registered, but it is only just about to be rolled out. The F-150 BEV is not scheduled to begin deliveries until second quarter 2022. Reports are that Ford has pre-orders for over 100,000 units.



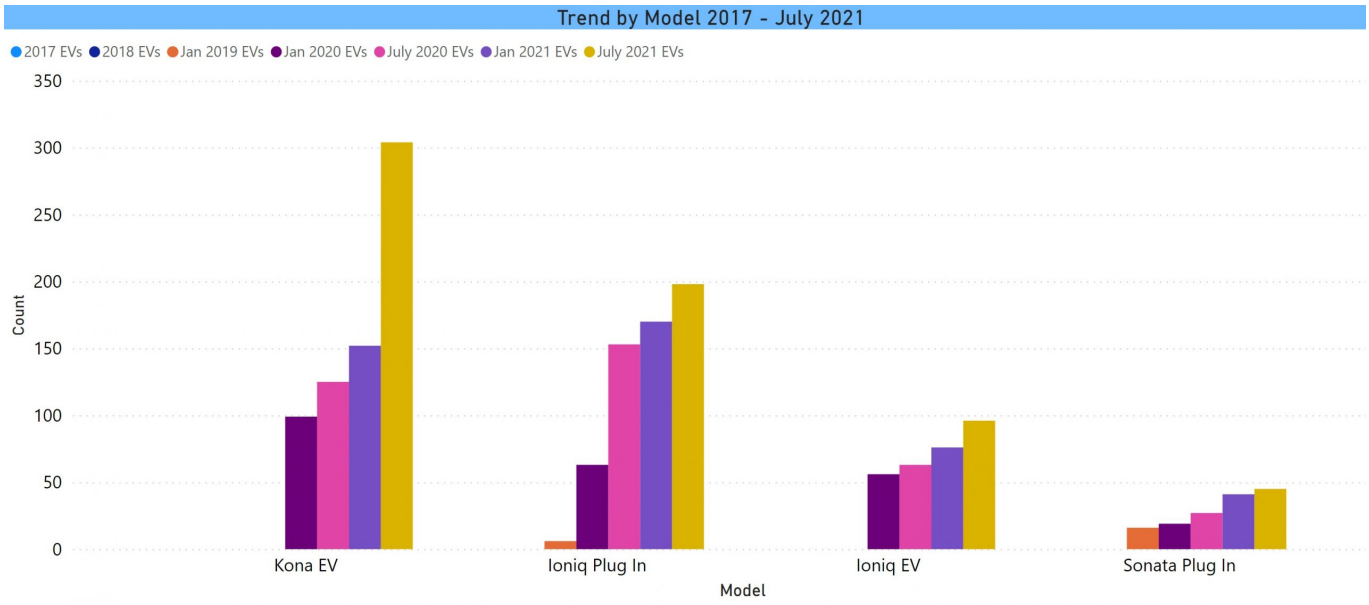
BMW

The next ranking make is BMW. As you can see, they have quite a few plug-in models. After initially building the stubby, though fun to drive i3, which is primarily a BEV, though there is an option for a small gasoline range-extender engine, BMW has pivoted to PHEV versions of its ICE lineup. The notable model here is the X5 Xdrive40e. The 2021 version boasts a substantial electric range improvement from only 14 miles to 50 miles, plus a 6-cylinder gas engine. It has become BMW's top plug in with 252 units. There was also a jump for the X3, though only to 74 units. The C Evolution is a motorcycle.



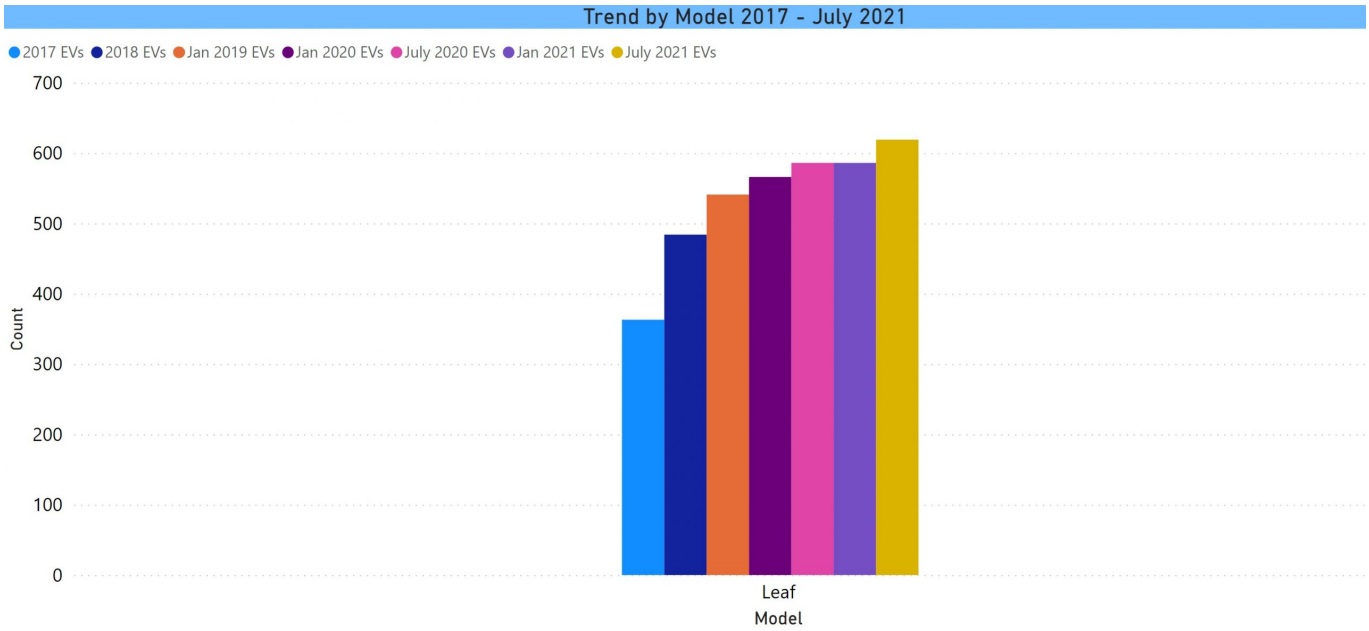
Hyundai

Hyundai is next and the Kona compact EUV is what is driving sales for them. There are 304 Kona vehicles registered. Hyundai announced that Ioniq will become its EV sub-brand, though the Kona is branded Hyundai.



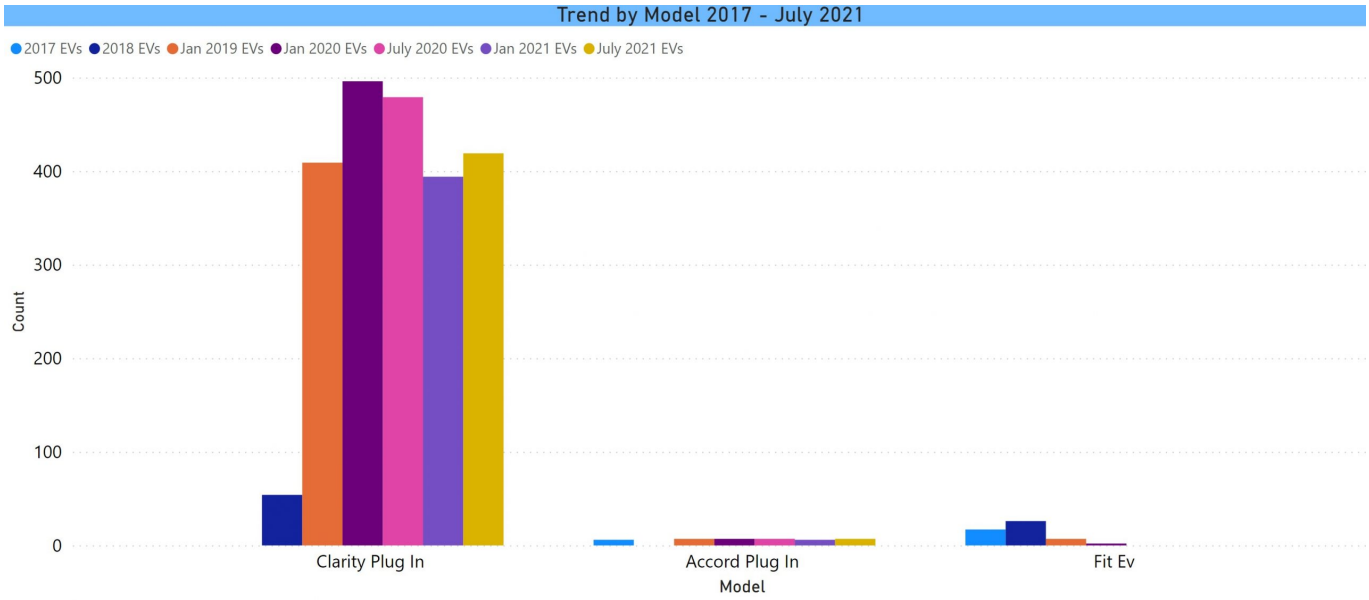
Nissan

Nissan was one of the first entrants into the EV market with its BEV Leaf in 2010. It’s registration stats have been flat since 2019. As of today, the Leaf is still their only entry, though they have expanded the number of trim levels and improved the range. They are planning to launch an EUV model called the Ariya in 2022.

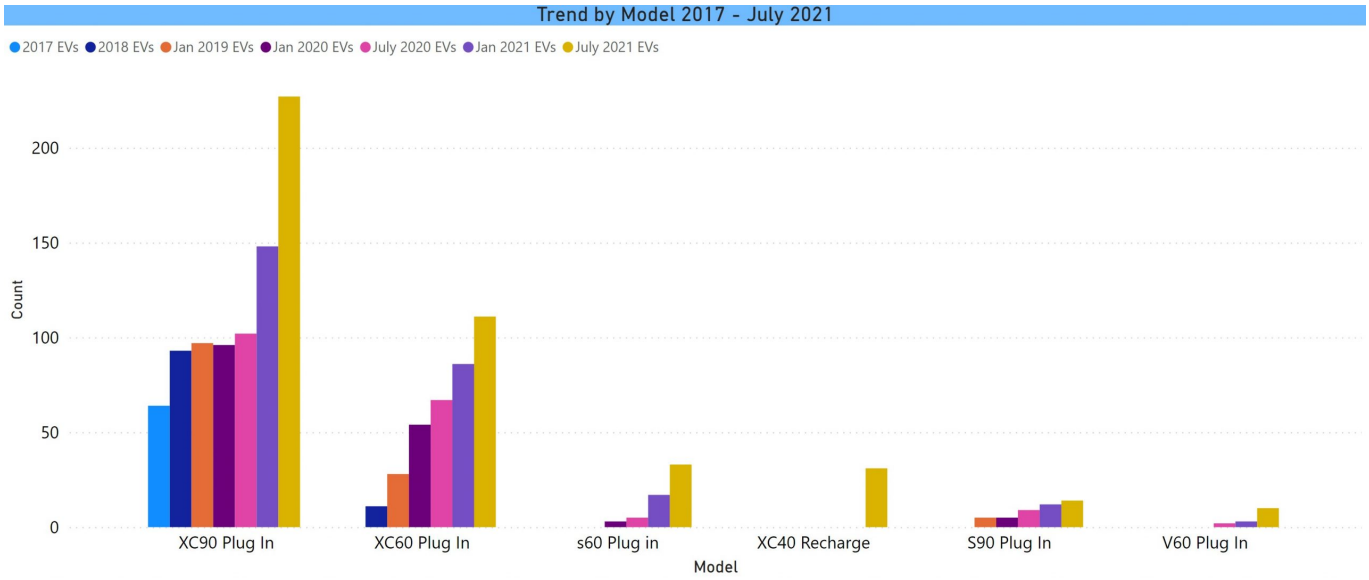


Honda

Honda is a major automaker that has been largely MIA in the EV space. A few years ago, they introduced the Clarity PHEV. Club members who own one have reported a good experience with it and the electric range is among the highest in the category at 47 miles. Due to Honda pulling back on distribution, the number of registered Claritys has been declining. A small increase this year offered some hope, but I read in the publication, EV Adoption, that Honda has canceled the Clarity PHEV and fuel cell models. Honda has announced a BEV EUV called the Prologue for a model year 2024 introduction, along with an Acura stablemate.



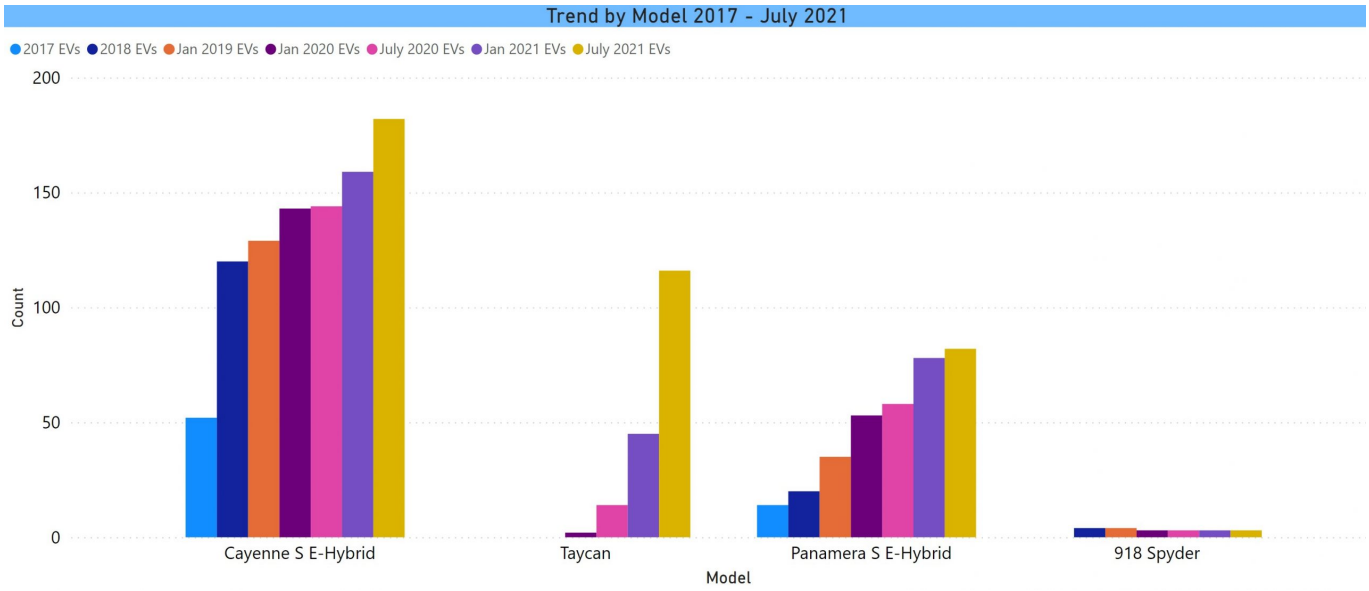
Volvo



Volvo has several EVS, mostly PHEVs plus the new BEV, XC40 Recharge. The company saw a spike from its XC90 PHEV to 227 units registered. This high-end, large SUV only gets 18 miles of electric range. The new XC40 Recharge is off to a slow start with 31 units. Volvo has announced an aggressive pivot to EVs with an all-electric lineup by 2030 and has moved EV sales to its online portal.

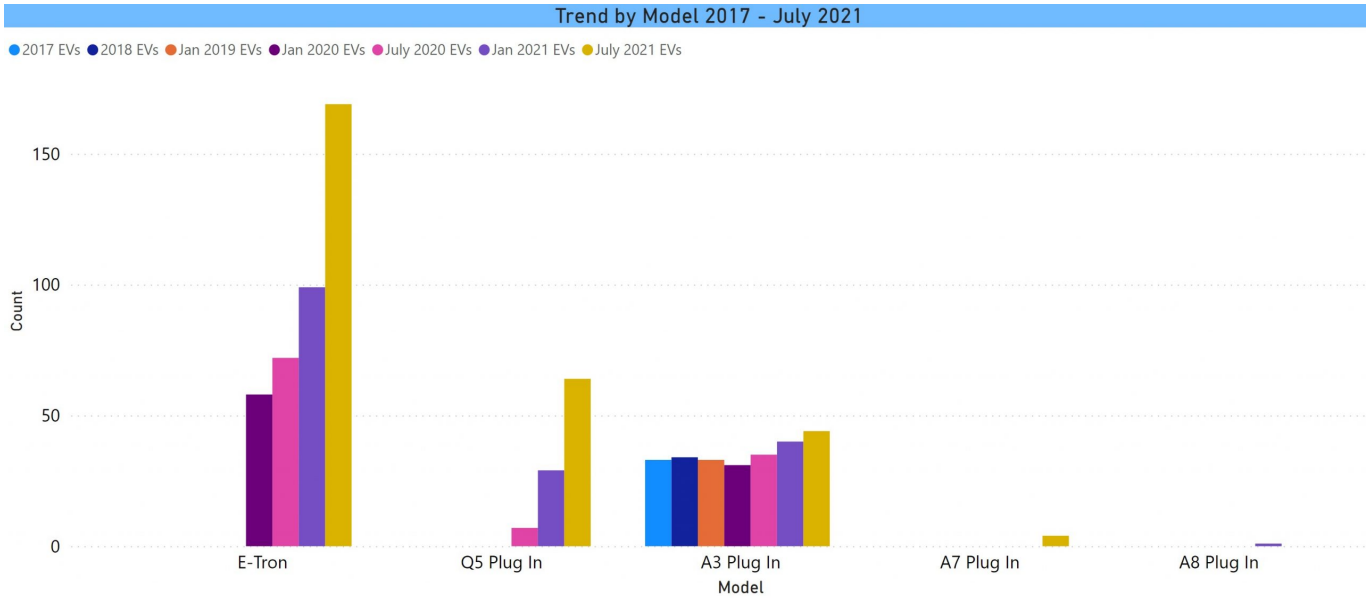
Porsche

Porsche has also been in the game for a while and is a leader among high-end automakers not named Tesla. Their newest introduction, the BEV Taycan sports car, had the biggest increase to 116 units.



Audi

Audi got into EVs with the A3 PHEV. It didn’t get traction, but the newer BEV E-Tron has been growing, now at 169 units, as well as to a lesser degree the Q5 PHEV compact EUV with 64 units.



Everyone Else

At this point, we start getting into some very small numbers, but I will mention a few others.

Chrysler, which has only one EV, the PHEV Pacifica minivan, rose to 214 units.

Jeep introduced its first EV, the PHEV Wrangler, which had a decent first year at 202 units.

New luxury carmaker Polestar (part of Geely, the owner of Volvo) has only 8 units for its Polestar 2 hatchback. (There were no Polestar 1 vehicles, an expensive, high performance PHEV.)

Mercedes has announced upcoming BEVs, the EQ series, with the EQS (like its S series), EQE (like its E series), and EQB, and electric EUV. The EQS is scheduled to arrive this year. The others will be 2022. Up to this point, Mercedes is another example of a major manufacturer that sells very few EVs. There are 8 models with registered units in the state with the highest being the GLC 350e at a measly 61 units.

Volkswagen, which has also announced aggressive targets for EVs, introduced the ID.4 in this country following a successful introduction of the smaller ID.3 in Europe. At this point, there are only 57 of these registered in CT, but it is still in a rollout phase.

Every screenshot here is taken from the Interactive EV Dashboard, July 2021 on the website. Using the slicers (checkboxes) enables drilldown to individual makes and models as I have done here.

Mid-Year 2021 Dashboard Update

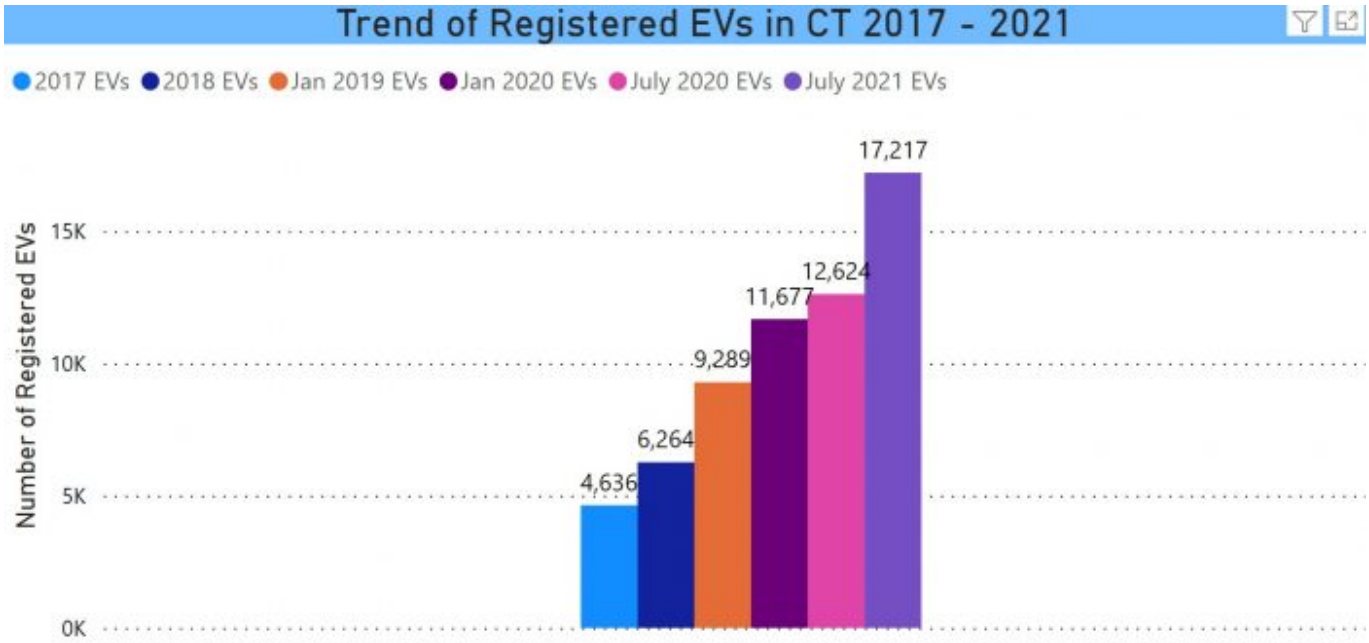
July 1 EV Registration Data

Post by Barry Kresch

Overall Trends

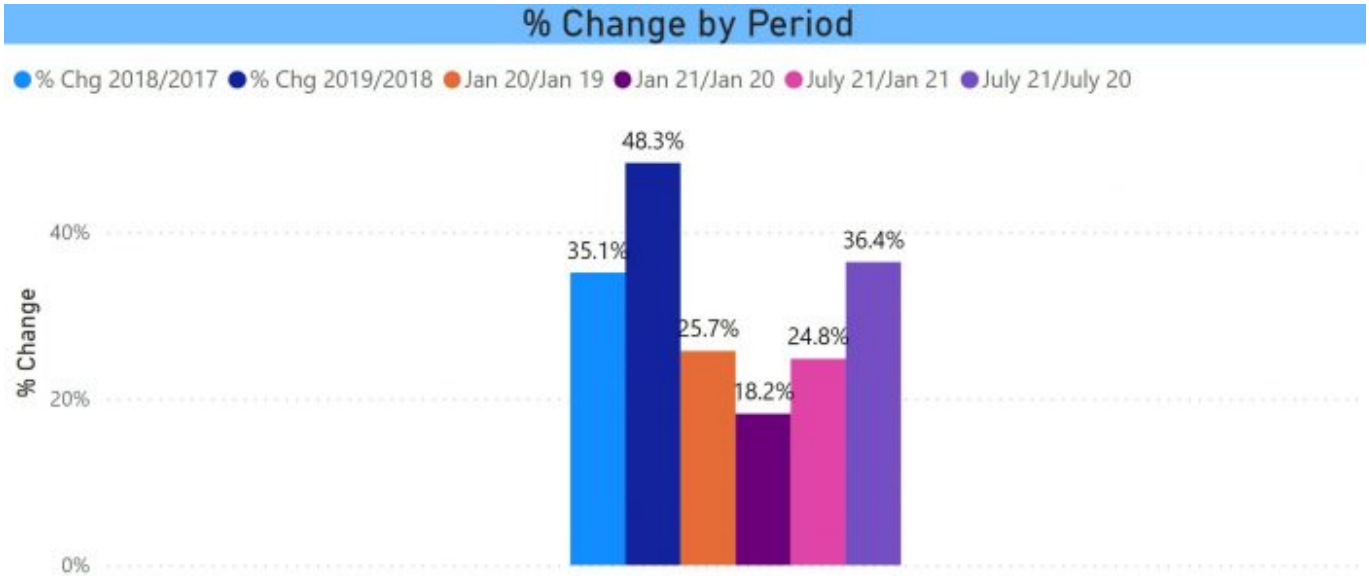
Following an earlier blog post updating topline registration data, I have now been through the details and will cover them over the course of several more posts.

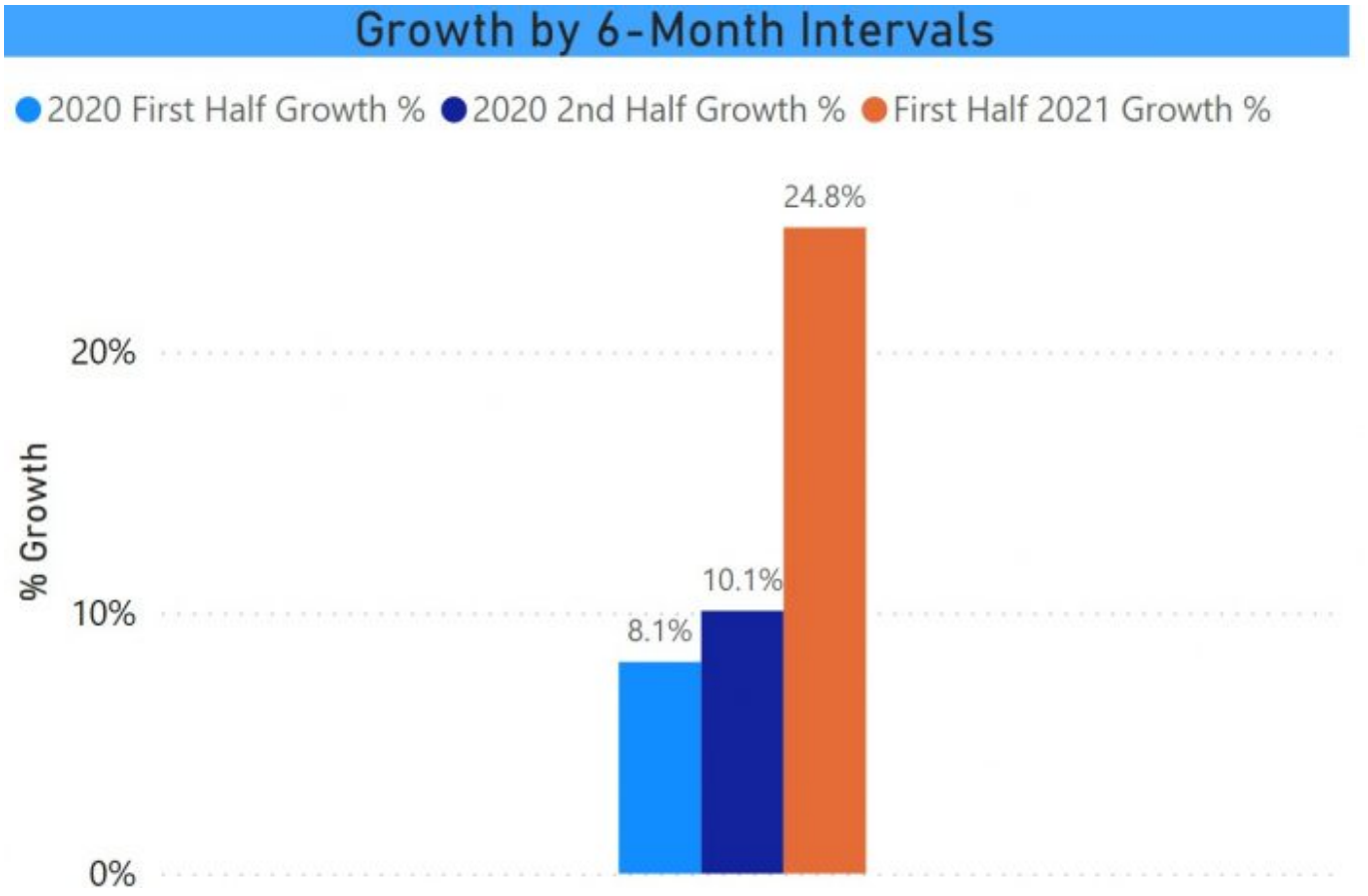
As earlier reported, total electric vehicle registrations now total 17,217. This represents an increase of 36% over July 2020.



Definitely an improvement, but we need more on a sustained

basis. The glimmer of good news is that, not surprisingly, the bulk of the growth was recent. The last 6 months are growing at close to the pace we need. The chart below looks at semi-annual growth for the past 18 months.



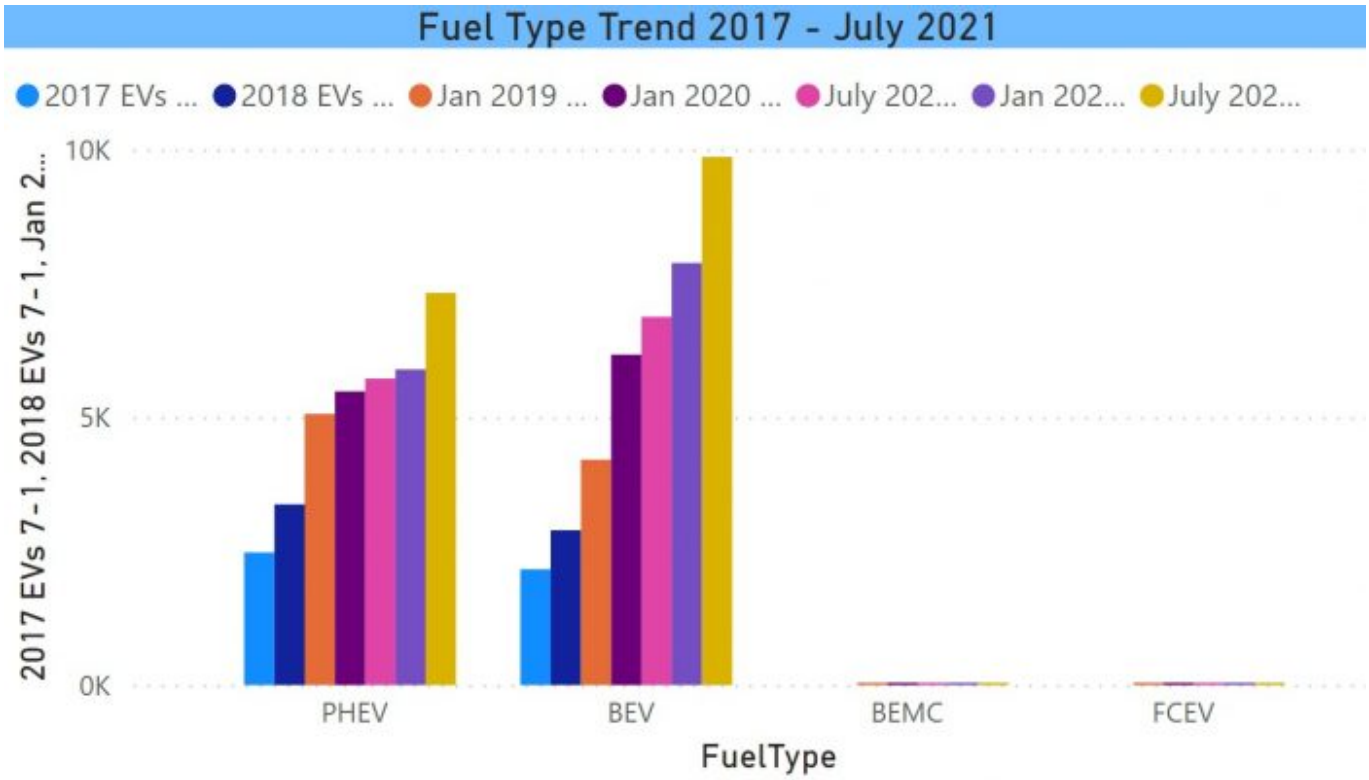


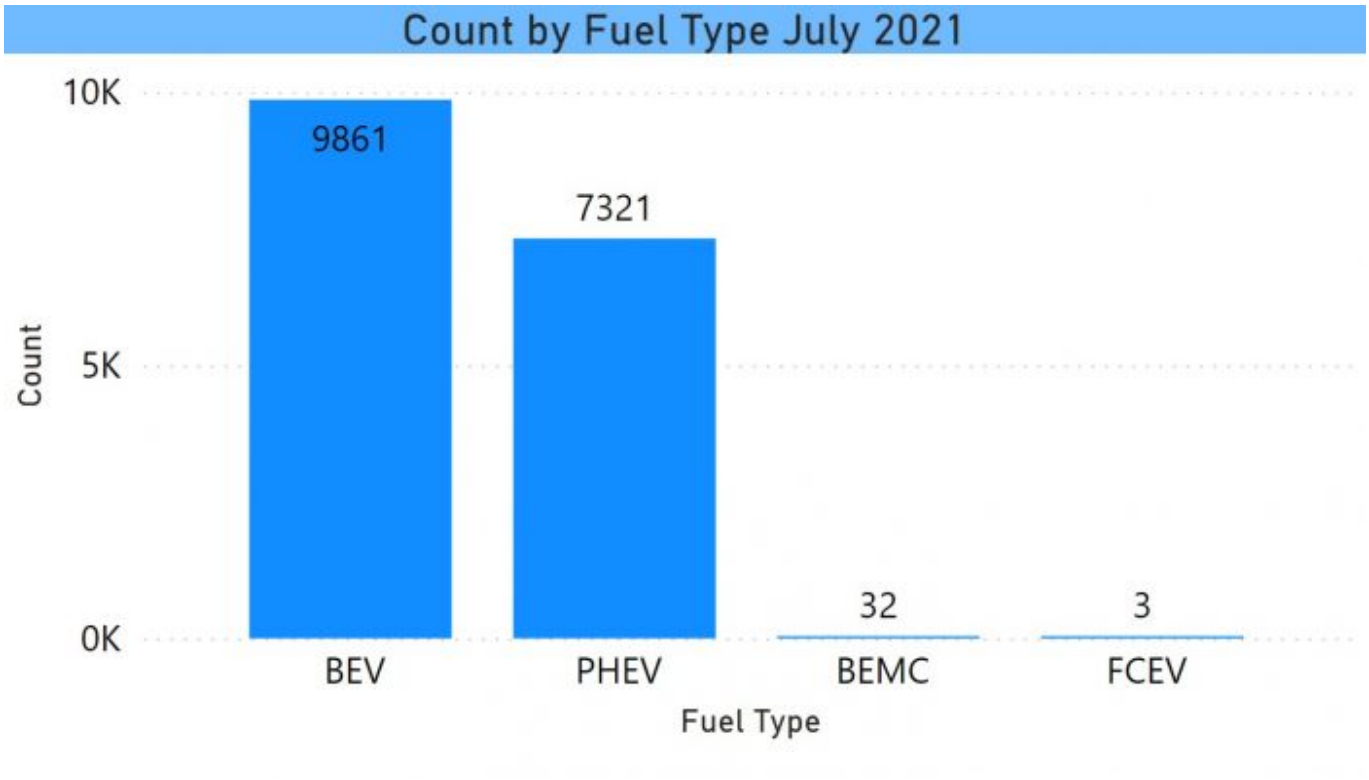
Fuel Type

Below is the trend by fuel type from 2017 through July 2021. For those new to the lingo, BEV = battery electric vehicle, PHEV = Plug-in Hybrid EV, BEMC = battery electric motorcycles, FCEV = Fuel Cell EV. BEVs have continued to outpace the other major category, PHEV.

BEVs outpaced the field. I will get into more detail in a subsequent post, but the big difference-maker was the Model Y. PHEVs, having been flat pretty much since the demise of the Chevy Volt, rebounded this year on the strength of two Toyota models: Prius Prime and the new RAV4 Prime.

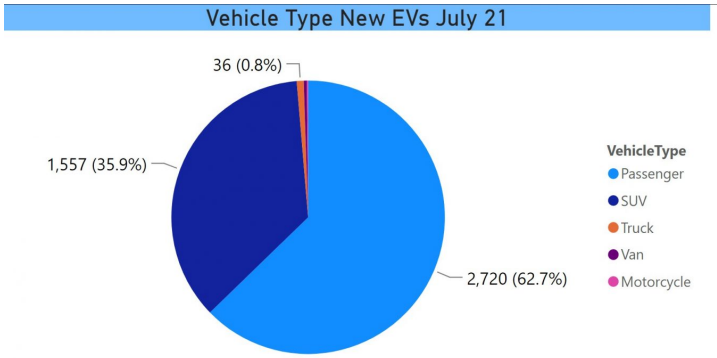
When I have discussed the information on this project with reporters over the years, the first thing they ask is how many fuel cell vehicles there are. There are 3, as there have been. These vehicles are not currently available to buy in the state.

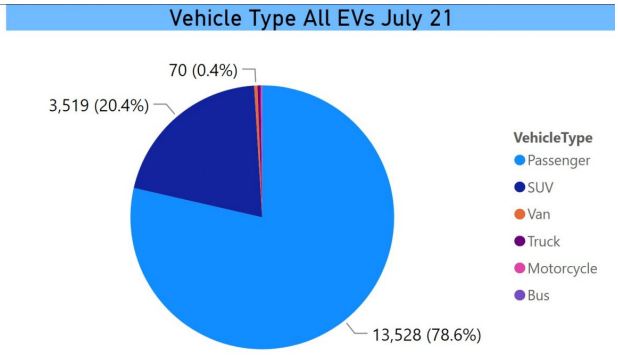




Vehicle Body Type

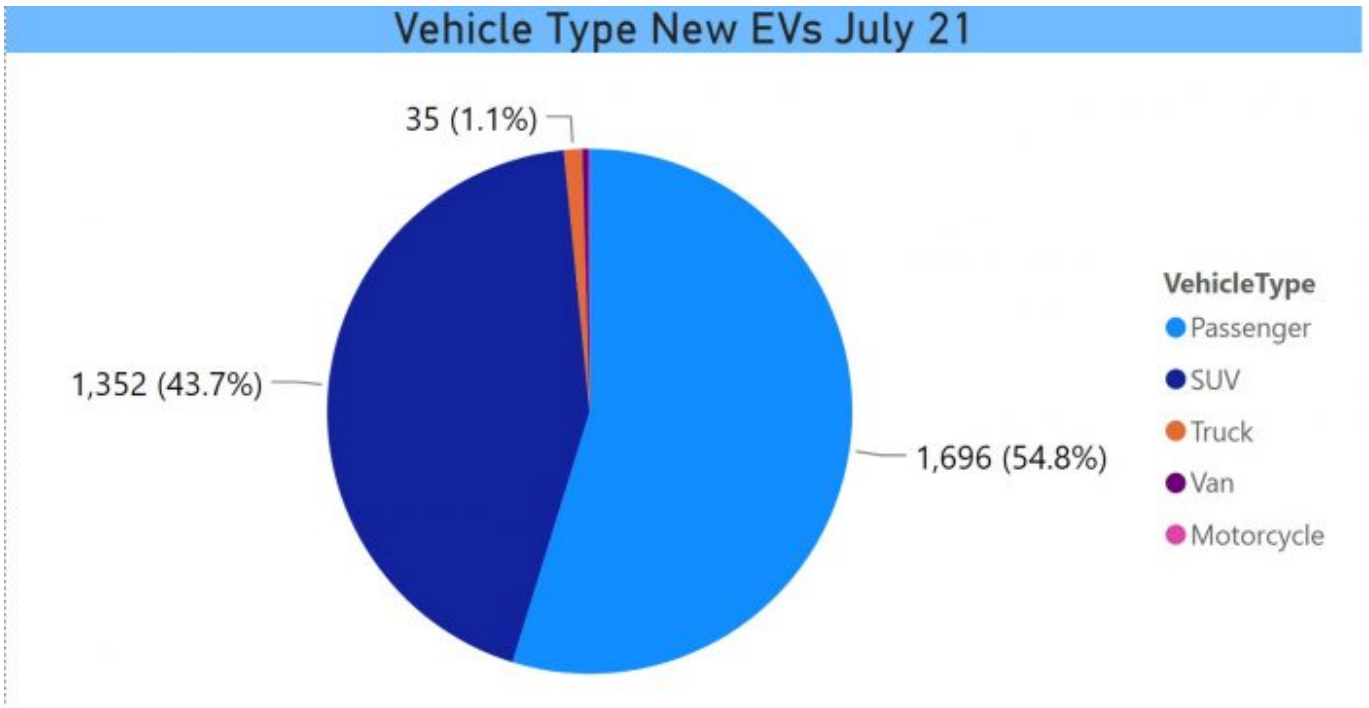
A new field in the dataset this year is vehicle body type. An imponderable: Will I continue to receive it? The two pie charts below show the vehicles that were new to the file in first-half ’21 and all EVs as of July 1. So the vehicles in the first chart are included in the second and comprise about 25% of the total. With the Model Y and some other new models, the SUV percentage of the fleet is growing rapidly. 36% of the adds were SUVs, bringing the total file to 20%.





This probably understates how popular these vehicles are

becoming. Keep in mind that this file is registrations and not sales. If I restrict the new vehicle chart to the most recent vehicles, MY 2021 and 2022, the SUV percentage goes to 44%.



All data in this post come from the [Interactive EV Dashboard](), July 2021

Call for EV Owners for Electric Car Guest Drive

Get Paid for Sharing Your EV Enthusiasm

A lifetime ago (okay, 2 years) in pre-pandemic days, the club participated in several EV ride and drive events, called Electric Car Guest Drive, staged by the publisher of Electric

Car Insider. My blog post about the first event is here. These events, typically sponsored by a utility or power authority, involve EV owners bringing their vehicles to be used for test drives (or guest drive) with the owner in the passenger seat. The drive is over a pre-planned route about 1.5 – 2 miles in length on local roads. No highway driving. Owners are paid $300 for each day they participate. Arrival is 9AM and the event runs from 10-4. Lunch is provided, as well as an optional dinner.

The test drive is casual with no dealerships or salespeople on site. Owners explain the vehicle, describe the ownership experience, and answer questions. Just conversation, no sales pressure of any kind. These events have been demonstrably successful at promoting EV ownership with 31% of test drivers buying an EV within 6 months.

Members of the public taking the drives are pre-registered and pre-screened.

If you are concerned about Covid, so are we! The event will only happen if it is safe. The organizer and the utility are watching developments closely. Drivers must be vaccinated. We await final word on protocol for the public and will update this space once we know. If you are interested, register to save the date.

Dates and locations:

September 23, 24, 25 – Middletown, NY (Orange County)

October 16 – Utica, NY

October 23 – Niagara Falls, NY

October 29, 30 – Middletown, NY

Those Utica and Niagara Falls locations are a bit far from CT, but there are a small number of folks on our list in upstate NY.

This is a link with more background information: www.electric-car-insider.com/evpresenters/

There is a registration link on that page. Or contact the publisher, Chris Alan, directly at Chris@electric-car-insider.com

Register for as many or as few days as you like. It's a fun day!

Time for Ludicrous Mode

Post by Barry Kresch

An Opportunity for Large Cuts in Emissions Along With Major Budgetary Savings.

When the Westport Police were doing their diligence in advance of the purchase of a Tesla Model 3 for use as a patrol car, they worked with Sustainable Westport (SW) to run a set of estimates for the payback time period. After running the numbers, they were confident that within 3 years, the purchase premium would be recovered.

The vehicle entered service in February 2020. This spring, the EV Club approached the Westport Police about their interest in doing a deep dive on the financials: purchase, customization, operation, and maintenance. The police shared granular details of costs, including a maintenance schedule, which is the basis for the analysis. The completed analysis showed that full payback happens in year one and considerable savings are

realized by year 4.

When I initially started the analysis, my expectation was that the SW numbers were reasonable and we would end up somewhere in that neighborhood. I hadn't thought the financials would end up being such a slam-dunk with savings of $52,000 over 4 years, enough to buy a new Tesla.

Police fleet vehicles offer a bigger opportunity than initially expected.

This Tesla Pilot was only a test, but it begs the question: with such strong results, is there any reason not to go all-in for EVs, and forget gradualism?

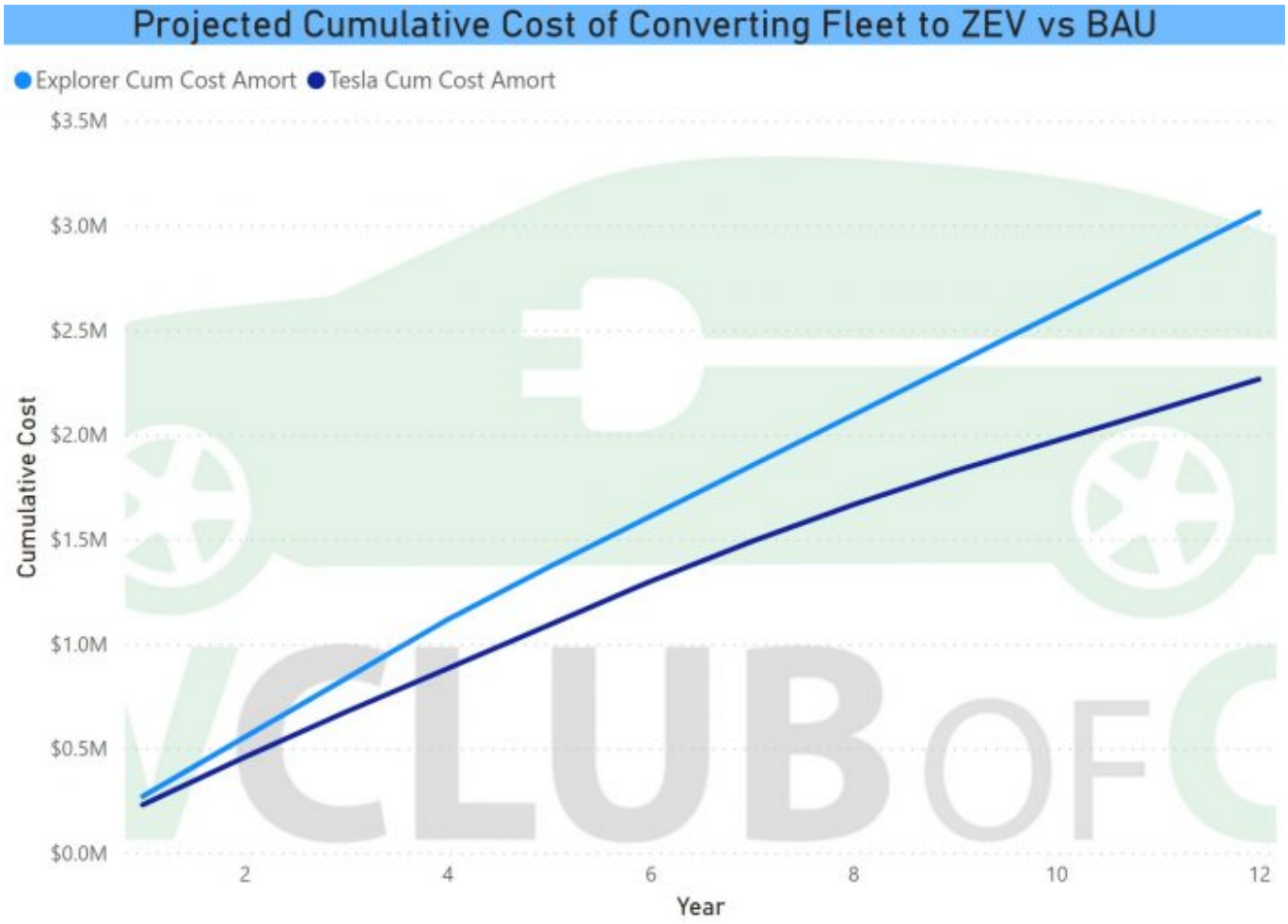
To help understand what the financial ramifications look like, I used the information I had learned about the Tesla and the Ford Explorer comparison vehicle to model what a transition might look like. This is a general, somewhat macro exercise, and not specific to Westport or anywhere else. I would need more data for that. Nevertheless, I believe it is possible to generate directional numbers with the information at hand. The scenario, which is for a fleet of 12 vehicles, is obviously not New York City, but the basic findings wouldn't change if it were larger.

Scenario

- A starting fleet of 12 patrol cars, 4 Ford Crown Victorias, and 8 Ford Explorers. The Crown Vic was a ubiquitous patrol car before Ford discontinued them. Many are still around, including in Westport.
- It is assumed the price for the Crown Vic and the Ford Explorer are the same. They probably aren't but doubt the difference is that much.

- Service life is 4 years for the Ford patrol cars and 3 vehicles are turned over each year. The Tesla service life is 6 years. The service life is what is used in Westport.
- In the business as usual (BAU) scenario, each vehicle is replaced by a new Ford Explorer.
- In the ZEV scenario, each car is replaced by a Tesla Model 3.
- All cars are fully customized for law enforcement. When a new car replaces a like car, it is assumed that customization is reused and a zero cost is assigned in those instances. (This is most certainly understating the cost as the customization presumably does not install itself. If I had those costs, it would narrow the customization differential between Ford and Tesla due to less frequent turnover of the Teslas.) Also, in real life, if there is a model refresh, that can cause customization parts not to fit. Based on history, that is likely to happen more frequently with the Ford. But for the sake of keeping it simple for this exercise, all customization is treated as 100% re-usable.
- It is assumed that the first 6 Teslas will have to incur full customization costs and in the BAU case, the same goes for the Explorers that replace Crown Vics. But in general, the BAU scenario has a lesser degree of customization.

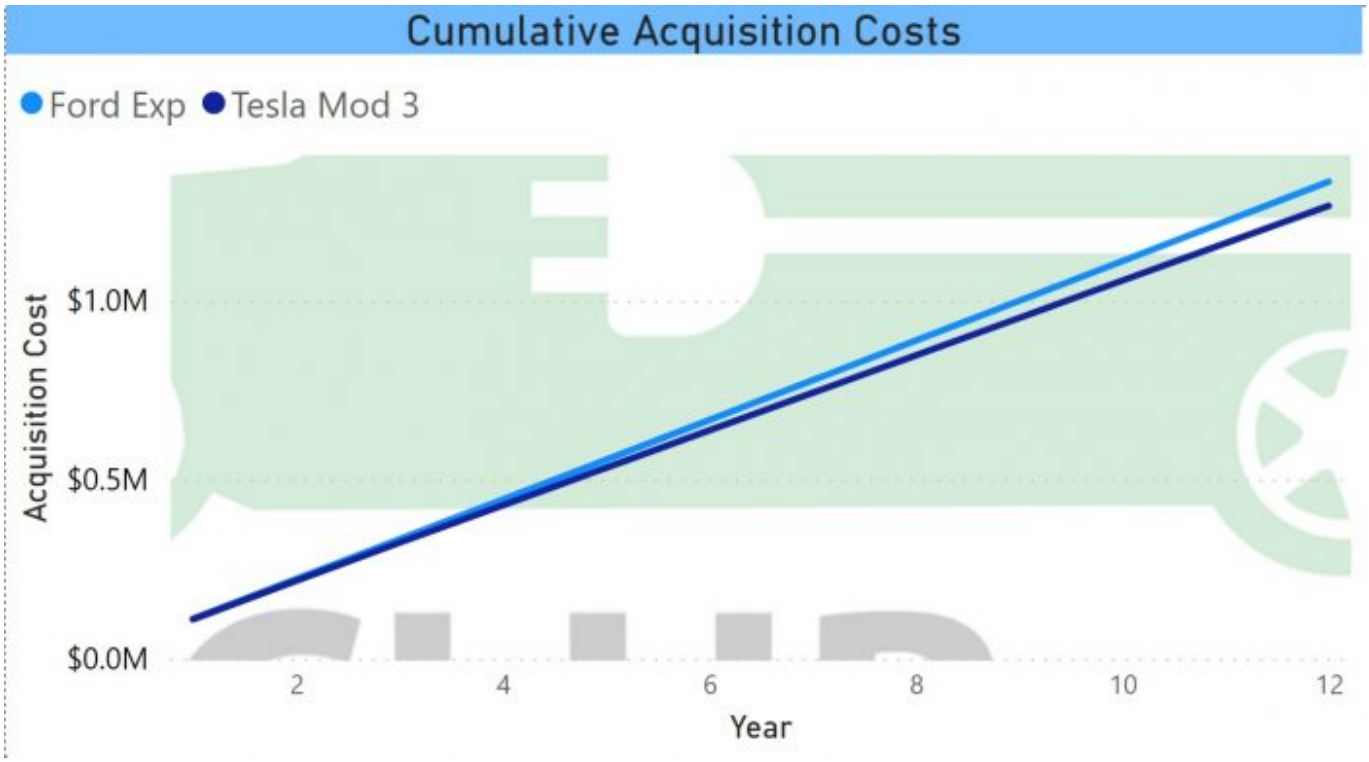
The chart at the top of the post depicts the cumulative savings in this hypothetical example of 12 patrol cars over 12 years with staggered turnover. It comes in just a whisker short of $800,000. The charts below show the cumulative cost lines by year for each scenario. The charts for the fixed costs are calculated on an amortized basis with fixed costs divided by the respective service life of each vehicle.



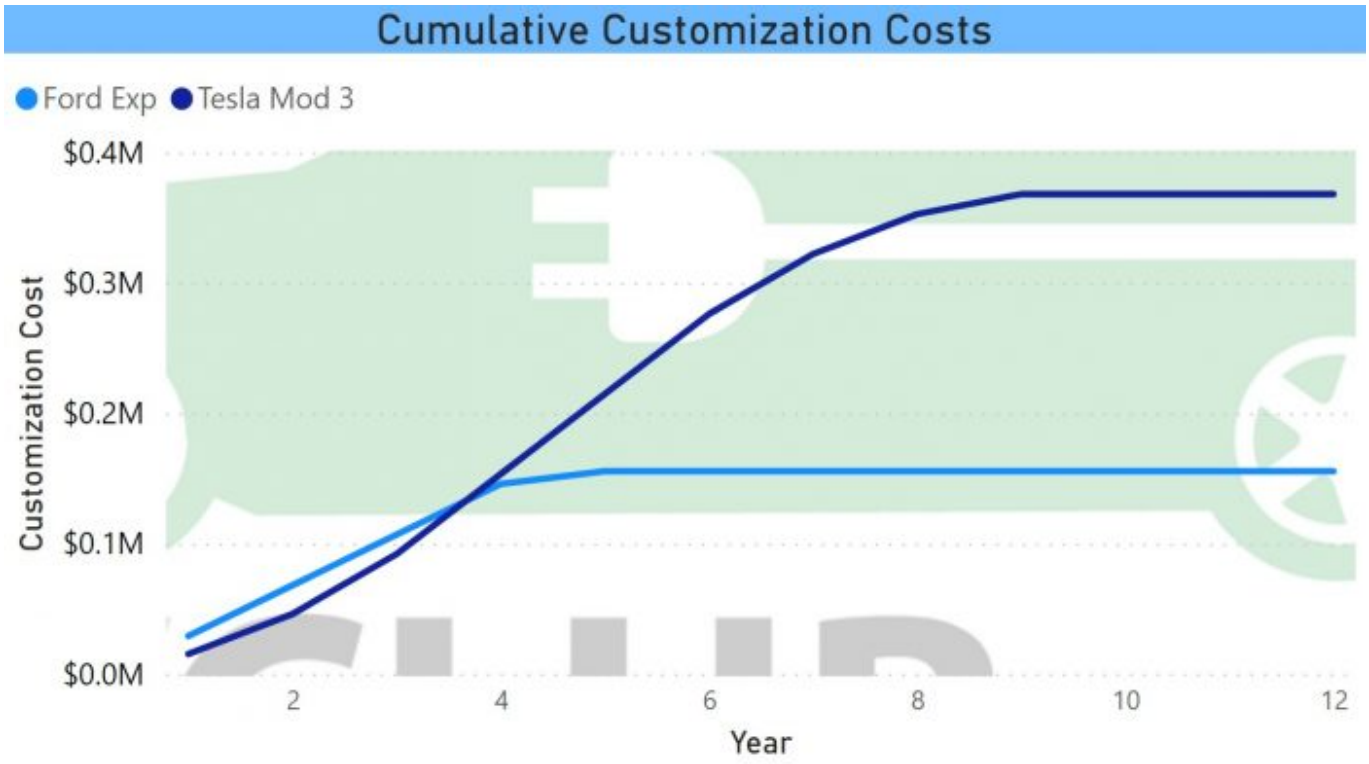
Components

The three charts below break this up into the 3 categories of expense: acquisition, customization, and ongoing costs (fuel and maintenance).

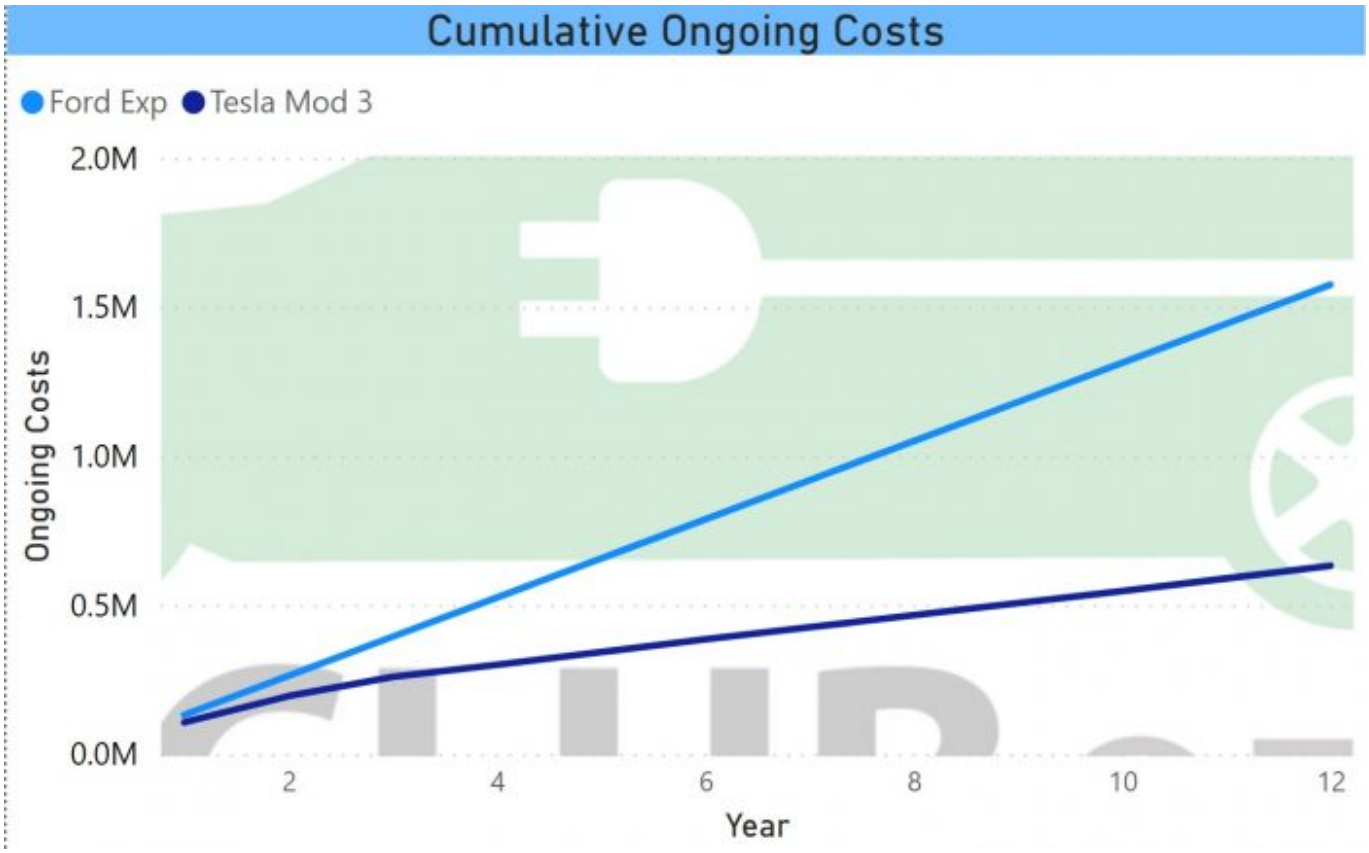
Acquisition – This chart illustrates cumulative acquisition costs. Keep in mind that acquisition is staggered as neither scenario does envisions retiring vehicles before their normal service life ends. The cost curve slightly favors Tesla because, on an amortized basis, the annual cost of a Tesla is slightly lower. The longer this comparison is extended, the greater the differential would be.



Customization – The customization costs are somewhat lower in the BAU scenario. This is due to the fact that replacing the 8 incumbent Ford Explorers does not incur customization costs in this model. Customization costs are a bit lower for a Tesla, so in the early years as Teslas are customized and Explorers replace Crown Vics and require customization, the Tesla cost curve is lower. It catches up once the Crown Vics are fully replaced. Once the fleet is fully Tesla, that part of the curve flattens out. As noted earlier, if there are any costs incurred in the re-use of customization, it would narrow the differential as the service life is shorter for the Explorers.



Ongoing Costs – As we saw in the earlier Model 3 patrol car analysis, there are large savings in fuel and maintenance for an EV. Electricity is more efficient than gasoline and these vehicles need much less maintenance. This category saves around $940,000.



This makes manifest the ramifications inherent in the Westport Analysis. There are major savings to be had. This is not to underestimate the complexities of the budget process and the need to deal with upfront acquisition costs. However, as noted in the earlier analysis, the upfront purchase premium is recovered within one year, so it isn't that big a burden.

We have data on the police patrol vehicles, but the same logic applies to other vehicles on the force and for a municipality in general. With savings this substantial, to borrow a Tesla term, it pays to up the pace of acquisition to Ludicrous Mode.

CHEAPR Does Double Duty

2 Rebates per Licensed Driver

That is the double-duty reference. A major, and welcome, change is that drivers can get the rebate twice, as opposed to the previous limit of once. There has to be a minimum of 24 months separation between the rebates. Also, June 7th starts with a clean slate. For anyone who has previously gotten a CHEAPR rebate, the count resets and you can get 2 more.

Data Appear to be in a Transitional Phase

As CHEAPR transitions to the new program (all that has preceded until now has been the “pilot) with new incentives and new rules, effective June 7th, the monthly publication of the data set looks a little stunted. We are assuming this is due to reporting changes that will need to be implemented to accurately track the new program.

For June, there were only 31 reported rebates and none after June 15th. Also, the rebates occurring after June 7th were not at the new rebate levels. We do not know if that is an artifact of moving away from the old system. I have a feeling there will be numerous corrections next month. May numbers were restated to 131 rebates.

17 of the 31 rebates were for the Tesla Model 3. The next highest model was the Toyota Prius Prime with 4.

Rebate+

There were no Rebate+ incentives awarded. This could be due to the aforementioned questions about the data or it (likely) is that the program is still working out the kinks and just beginning outreach.

I have seen some chatter on social media questioning why the

incentive for a used EV is higher than for a new car. The answer lies in the population that is being targeted. Lower-income folks need more help and this was the recommendation of the consultant. CHEAPR itself does not get into the income verification business. That is something that is invasive and the program seeks to avoid that. So a proxy is used, which is receiving benefits from one of the designated public assistance programs. It remains to be seen whether this sets the bar in the right place. For very low-income people, buying even a used EV may still be a stretch. And due to the process of the buyer submitting the information and waiting for approval, they have to float the cash until they get reimbursed.

Webinar – EV Purchase incentives and Free Charging

EV Purchase Incentives, EVSE (charging equipment) Subsidies, Free Charging

This past Tuesday, July 27th, the EV Club presented a webinar jointly sponsored with Sustainne, LLC, Sustainable Westport, and the Town of Westport on how to save money when buying and charging an EV.

The speakers were Analiese Paik, CEO of Sustainne, Paul Vosper, CEO of JuiceBar, and Barry Kresch, President of the EV

Club. These were the areas we covered:

- Latest changes to CT CHEAPR program of EV purchase incentives
- Update: There is a recent change to the CHEAPR program not reflected in the webinar. EV buyers can now receive 2 rebates beginning with June 2021, meaning if you had previously received a rebate, you can receive 2 more. They must be spaced at least 24 months apart.
- Federal purchase incentive
- Newly release EV Rate Design from the Public Utilities Regulatory Authority (PURA) that directs the utilities to offer a range of subsidies for residential, Multiple Dwelling Units, commercial, fleets, and municipalities. These include subsidies for the purchase and installation of level 2 or level 3 chargers and discounts on electric rates.
- Many automakers offer some level of free charging with the purchase or lease of a new EV. They vary a lot and are either miles or time-limited. There are also numerous options for free level 2 public charging.

A written summary of the PURA program is here.

Link to the blog post with the latest CHEAPR rebates is here.

We have been receiving positive feedback. The webinar was recorded and is now available on our YouTube channel.

New EV Rate Design Released

by PURA

Public Utilities Regulatory Authority (PURA) Directs Utilities to Offer EV Charging Incentives

The final rate design adjudication was released on July 14th. Even though it is the final version, it actually isn't quite final yet. We now know a lot about the program, but the document creates working groups to fill in unfinished gaps on some important details, such as some rates, approved equipment, etc. The PURA doc is uploaded to the website as a blog post here. It doesn't exactly read like Jurassic Park, but we need this kind of thing if we are to wean ourselves off "dino juice."

The program is quite comprehensive, containing incentives for residential and commercial, the latter including workplace charging and fleets, and which also applies to municipalities. The incentives cover hardware, service upgrades, make-ready, demand charge mitigation, and discounted electric rates.

It is important to note that this program takes effect in January 2022. It is not retroactive. If you purchase a charger tomorrow, it will not be eligible for the subsidies.

Below is a summary of the incentives referenced in the chart at the top of the blog post. These are hardware and installation-related discounts:

- A residential incentive of up to $500 for the cost of an EV charger. This incentive is for a smart charger, which is a WiFi-connected charger. EV charger prices vary, in part depending upon how many amps are drawn by the charger, but according to MYEV.com, the range for a

smart charger is $600-$800. If you take advantage of this incentive, you are required to participate in a managed charging program. The point of the connected charger is to enable the utility (which is also known as an Electric Distribution Company or EDC) to see and communicate with the charging unit.

- Also for a residence, there is a subsidy to help with the cost of an electric service upgrade if that is necessary if your current panel does not have the capacity to accommodate the added amperage of an EV charger. The amount of the subsidy is not yet determined.
- There is no mention in the chart of a subsidy specifically for installation, so we assume for now that the $500 applies to both hardware and installation. Installation costs can vary considerably depending on how far your panel is from your garage. It could be as much as $1,000.
- There are similar incentives offered for multi-unit dwellings (MUD), workplace chargers, and make-ready. The incentive is 50% of the cost of the charger subject to a cap for the site and a minimum number of charging ports. Note that this is ports, not chargers. There are dual-port charging units. There are higher site caps for MUDs, public level 2, and DCFC charging in underserved communities.
- There is a 100% make-ready incentive, which means the EDC will pay to bring the power to where the chargers will be installed. This is a big deal.
- Finally, there is a subsidy of 50% for the installation of a DCFC charger, which is short for DC current fast charger, also known as a level 3 charger. These are commercial, high voltage units that can quickly charge an EV capable of accepting a fast charge, which applies to most battery electric vehicles.
- There will be a list of specific approved charging equipment. This is necessary for the utilities to be

sure they are able to get the information they need from the charger. This list will be finalized later in the year.

Residential Incentives for Electricity Usage

As noted in the first bullet about residential charging, a household can receive an incentive for participating in a managed charging program. There are 2 levels, called basic and advanced. As mentioned earlier, receiving the incentives for the hardware require participation, along with giving the EDC permission to capture data from the charger.

- Basic incentive. In this program, a consumer will be notified of an upcoming demand response event (i.e. when the EDC is expecting there to be a high demand for electricity and they need to take measures to avoid brownouts or blackouts). The consumer has the option to decline participation. However, the default setting is opt-in. Incentives are awarded for participation. The particulars are still being developed, but there is a cap of $200 per year, which will be sent as a direct payment to the consumer.
- Advanced (direct load control). The consumer will set charging sessions (via app, web portal, email or text) and the EDC has the right to throttle the rate of charge. The particulars of the incentive are still under development. Your participation level will influence the size of your incentive. We hope this is not too burdensome a level of admin for the consumer.
- The Authority has directed the EDCs to submit recommendations for EV rates for MUDs, which could involve sub-metering.

Note: A common way of protecting the grid, which is used in other places but is not part of this program, is time of use

(TOU) charging. We are disappointed that this isn't part of the program because it is a very simple, easy to understand, no maintenance approach. If you charge during off-peak hours, you get a lower rate. Easy. The adjudication specifically states that it doesn't foreclose moving that way at some future point. There are regular evaluation points built into this 9-year program. And there is nothing to say that TOU can't be combined with managed charging. Theoretically, if every EV (assuming many more of them than there are today) started a charging session at the first minute of the off-peak period, there could be a demand surge, but managed charging could mitigate that.

There is an existing installed base of EV chargers, and many of these, my guess is almost all of them, are so-called dumb chargers. They are not WiFi enabled so the EDC can't see or interact with them. The program tasks the utilities to develop a workaround to include these chargers as it could jumpstart program participation. There are existing programs at other utilities, Con-Ed comes to mind, that do just that. With Con-Ed, the driver gets a flash-drive type device to install in the car's USB port, or with some manufacturers, there is the ability to connect directly to the telematics of the vehicle with the owner's permission, and incentives will be developed to reward off-peak charging. This actually comes a little closer to time of use. Finally, a recent development is that there is equipment coming on the market that can add connectivity to a dumb charger. PURA is aware of this, as well as developments in better accessing vehicle telematics, and there is the potential for this part of the program to evolve.

The $200 cap on residential demand response rebates seems low to us. The concern is the lack of differentiation between one and two (or more) EV households. We want to see all vehicles participating.

Demand Charges

Demand charges affect commercial establishments. If the demand for electricity spikes for a period of time above normative levels, electric rates increase substantially. Demand charges have been a barrier to the installation of level 3 charging stations. The adjudication directs the EDCs to maintain a temporary rate-rider to mitigate demand charges while taking the time to develop a more permanent and sustainable solution. Demand charges were originally developed so that those putting the most strain on the grid contribute disproportionately to necessary upgrades. These rules were developed long before the modern EV and definitely need to be re-thought.

Outreach

On balance, this is a strong program. We look forward to seeing, and if possible, being a part of, how it evolves. We intend to keep our members informed and hope the outreach, in general, is effective so it hits the ground running in January!

New EV Rate Design – Final Adjudication from PURA

The Public Utilities Regulatory Authority has released the final

version of the EV Rate Design

This program provides incentives for off-peak and managed charging, subsidies for EV chargers, and make-ready (bringing the electricity to where the chargers will be located). This is a dense document and we will be doing in the coming months to explain the details. Also, even though it is the final version, there are still some portions that aren’t finished. Working groups have been assigned to do that and report to PURA by Oct. 15th. The plan will take effect in January 2022.

Final EV Rate Design 171203RE04-071421