

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.