



Municipal EV Readiness Toolkit 12-Week Program

Module 12: First Responder Fleets

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Transportation Electrification Plan Foundational Insights

Why should you start planning now for a Transportation Electrification Plan?

- Connecticut passed statutes that requires a reduction of greenhouse gas (GHG) emissions 80 percent below 2001 levels by 2050 (Public Act 08-98), with an interim target of 45 percent below 2001 levels by 2030 (Public Act 18-82).
- Transportation makes up 38% of GHG emissions, the largest source of GHG emissions. In order to reach those goals, transportation will need to become zero-emission.
- For 2030 target: The [report](#) from the GC3 recommends reducing transportation emissions 29% from 2014 levels to stay on target.
- December 2015 – CT joined the [International zero emission vehicle \(ZEV\) alliance](#) that says: no later than 2050 – strive to make all new passenger vehicles in their jurisdictions ZEVs
- July 2020 – CT joined the [multi-state Medium and Heavy-duty ZEV memorandum of understanding](#) that commits states will work toward ensuring that: by 2050 – 100 percent of all new medium- and heavy-duty vehicle sales be ZEVs, with an interim target for 2030 having 30 percent ZEV sales

Lead by Example: Emergency Service Vehicles

First responder fleets require the flexibility to be ready and available at all times and spend large amounts of time idling. The nature of these fleets poses a challenge for transitioning to current PEVs, but there are still steps that can be taken with either idle reduction systems, hybrid vehicle models or all electric models.

Police Vehicles

Police cruisers spend much of their time parked and running while officers are performing tasks for their job, which commonly require lights, radios, computers, radar, and video cameras. One report about police vehicle fuel consumption, found the cruiser monitored idled 60 percent of the time during normal operation and used 21 percent of its total fuel while parked.[1]

Vehicle manufacturers offering options for police departments, such as Ford, have added hybrid versions for police vehicles including the Police Interceptor hybrid and the Police Responder hybrid. Since 2011, police departments have been proving the application of hybrids and PEVs for non-patrol work such as administrative or parking enforcement as well as for patrol vehicles. The Chevrolet Volt and Bolt have been added to police departments in New York City[2], Asheville, NC[3], and Hyattsville, MD[4]. Police departments in Bargersville, Ind[5], Brookhaven, Ga[6], and Westport, Conn[7] have added Tesla models to their fleets.



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Fire Engines and Trucks

Fire engines and trucks respond to fires only a fraction of the time they are dispatched; most are for medical emergencies or accidents. While dispatched the vehicle is idling to provide power for emergency lights and other accessories. Both battery-powered and diesel APUs are available. In early 2020, Los Angeles announced it plans to introduce the first electric fire truck in North America in 2021.[8]

Ambulances

Ambulance engines are idled to maintain lighting, communications equipment, computers, refrigeration for medication, and life-support equipment, as well as the vehicle's heating and cooling systems. On-board battery-powered APUs that can supply power for all needed functions are available for ambulances. While not the first, Nissan and the Tokyo Fire Department recently announced the deployment of an electric ambulance.[9]

Preparing to Transition a Fleet to ZEVs

Emergency vehicles are just starting to electrify, but as these vehicles have long lifecycles, the options may substantially progress by the time towns are ready to replace their current models.

Local leaders can establish targets to electrify the fleet which save taxpayer dollars while reducing pollution and providing healthier outcomes for its citizens and the environment. The economic benefits of transitioning to electric fleets is an increasingly compelling reason for many municipal leaders. Further savings may be achieved by leveraging funds available for fleet procurement from the CHEAPR program, the Diesel Emissions Reduction Act funding opportunities or the VW diesel emissions settlement grant.

Political and Organizational Buy-in

- Successful EV deployment projects involve numerous job descriptions and personalities. Transparency and buy-in throughout the chain of command is critical.

- **Elected Officials** – Legislative and Executive – must be on the same page. “Politics” can derail any project even if the benefits are otherwise in everyone’s best interest.
- **Emergency department leaders** need to be sure that their capabilities are not adversely reduced
- **Fleet Managers** are the first line of defense. You can’t get it done without them.
- Fleet is one of many demands on **procurement** officials, who may be limited by bureaucracy
- **Facilities & maintenance** staff must prepare for major changes to their status quo
- Familiarize **drivers** with varying use cases across dozens of organizations with the new technology



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Financial and Budgetary Considerations

Existing procurement policies and procedures may not be well suited for a long-term EV deployment program. Understand where procedural roadblocks could exist so they can be addressed up front.

- Review status quo fleet procurement practices, determine the impact on an EV implementation
- Do separate capital and operating budgets create conflicting interests?

Operations

Providing multiple benefits, idle reduction technologies reduce fuel consumption, engine wear, and costs, in addition to reducing emissions. Several idle reduction systems, with varying capabilities and costs, are available. Power-management systems can significantly reduce idling. Heat-recovery devices work to heat the passenger compartment after the engine has been shut off. Battery auxiliary power units (APUs) store power when the engine is running and supply it to the vehicle's electrical devices for some time when the engine is off.

[1] Rask E., et al. Final Report: Police Cruiser Fuel Consumption Characterization, for the Illinois State Toll Highway Authority. Argonne National Laboratory. February 2013.

[2] Valdes-Dapena, P. Chevy Volt newest New York City police car. CNN Money. July 13, 2011. Retrieved December 17, 2019 from https://money.cnn.com/2011/07/13/autos/chevy_volt_police_car/index.htm.

[3] Avladmin. Plugged in with the APD's hybrid electric car. The City of Asheville. June 24, 2013. Retrieved December 17, 2019 from <https://www.ashevilenc.gov/news/plugged-in-with-the-apds-electric-car/>.

[4] Voelcker, J. Is this the country's first Chevrolet Bolt EV police car? Green Car Reports. February 28, 2018. Retrieved December 17, 2019 from https://www.greencarreports.com/news/1112212_is-this-the-countrys-first-chevrolet-bolt-ev-police-car.

[5] Ryckaert, V. Bargersville chief turns heads in Indiana's first Tesla police car. Indianapolis Star. January 3, 2020. Retrieved June 19, 2020 from <https://www.indystar.com/story/news/crime/2020/01/03/bargersville-chief-turns-heads-in-indianas-first-tesla-police-car/2606866001/>.

[6] GF staff. Ga. PD buys Tesla using confiscated funds. Government Fleet. April 3, 2019. Retrieved December 17, 2019 from <https://www.government-fleet.com/328901/ga-pd-buys-tesla-using-confiscated-funds>.

[7] Westport police gets first Tesla squad car. Westport News. December 10, 2019. Retrieved December 17, 2019 from <https://www.westport-news.com/news/article/Westport-police-gets-first-Tesla-squad-car-14896586.php>.

[8] Descant, S. Los Angeles buys in to the promise of the electric fire truck. Government Technology. February 25, 2020. Retrieved June 19, 2020 from <https://www.govtech.com/fs/transportation/Los-Angeles-Buys-in-to-the-Promise-of-the-Electric-Fire-Truck.html>.

[9] Edelstein, S. Nissan electric ambulance curbs the tailpipe emissions. Green Car Reports. May 20, 2020. Retrieved on July 24, 2020 from https://www.greencarreports.com/news/1128219_nissan-electric-ambulance-curbs-the-tailpipe-emissions.