



# THE ECOPATROL HANDBOOK

The Future of  
Electrified Law  
Enforcement  
Vehicles



# EcoPatrol

## Table of Contents

- 03 Introduction
- 04 Key Drivers -  
Why EV's Meet the Mission
- 05 Types of Electric Vehicles
- 06 Hybrids: The Bridge to Smarter  
Policing - Ford Interceptor
- 07 Mission Ready Electric Vehicles
  - a. Tesla Model Y
  - b. Ford Mach E
  - c. Ford F150 eLightning
  - d. Chevy Blazer
  - e. Chevy Silverado EV
- 10 On the Radar- New & Niche  
Vehicles
- 11 Pros & Cons of Plug-in Hybrids
- 12 EV Charging: Powering the Mission
- 13 Converting a Fleet from ICE to EV
- 14 Case Study: New York, NY
- 15 Additional Resources &  
Contact Information





# Introduction to EcoPatrol

Police departments nationwide are trading gas-guzzlers for electric vehicles (EVs) and hybrids—vehicles that deliver on patrols, pursuits, and reliability while cutting costs. These options save money long-term, slashing fuel and maintenance bills, and keep officers rolling where it counts. EcoPatrol, a NJ Clean Cities initiative, guides departments to those wins. It's a practical move that keeps officers rolling and budgets tight—built for the beat.

These vehicles hit where it counts: lower operating costs, less downtime, and muscle that doesn't flinch. From urban loops to county sprawls, they trim fuel and maintenance while staying mission-ready. This ebook maps out the tech and strategies to make it work. The result? A fleet that's lean, mean, and ready, no compromise required.



# Key Drivers

## Why EV's Meet the Mission



### 01 Performance

EVs like the Chevy Blazer PPV or Ford Mustang Mach-E deliver instant acceleration and top speeds (as much as 500 HP and top speeds over 137 mph), perfect for pursuits or quick responses. Hybrids, like the Ford Police Interceptor Utility, blend electric power with gas for flexibility on longer shifts.

### 02 Reliability

With fewer moving parts than gas engines, EVs need less maintenance—no oil changes or tune-ups. Hybrids also cut wear on gas engines by using electric power for stop-and-go patrol duties.

### 03 Stealth and Utility

EVs run quietly, aiding in discreet approaches, and often include extra storage (like a "frunk") for gear. Hybrids offer similar perks with added range.

### 04 Fuel Savings

Departments report saving thousands per vehicle annually. For example, switching to EVs can cut fuel costs from \$2,000 to \$600 per year per car. One town saved enough to hire two extra officers!

### 05 Lower Maintenance

EVs can save up to \$4,600 over their lifetime compared to gas cars due to simpler mechanics. EV's and Hybrids also reduce costs by leaning on electric power for routine driving for both acceleration and stopping (regenerative braking).

### 06 Cost Advantage

Some EVs and hybrids now come with lower upfront costs than traditional gas vehicles, and when paired with savings on fuel and maintenance, they deliver immediate and long-term value—freeing up budgets for additional vehicles, staff, or equipment.

# Types of Electric Vehicles



## Hybrid Electric Vehicles (HEVs)

- Vehicles that use both an internal combustion engine and an electric motor, but cannot be charged from an external source.
- The battery is charged through regenerative braking and the gasoline engine.

## Plug-in Hybrid Electric Vehicles (PHEVs)

- Vehicles that combine a conventional internal combustion engine with an electric motor and a rechargeable battery.

## Battery Electric Vehicles (EVs)

- Fully electric vehicles powered entirely by batteries.
- They have no internal combustion engine (ICE) and produce zero tailpipe emissions.

# Hybrids

## The Bridge to Smarter Policing



Hybrids fuse gas engines with electric motors to deliver a practical edge for police fleets. They run on gas, electric power, or both—flexing to fit the job, whether it's a quiet patrol or a long haul. For departments dipping into electrification, they're a no-fuss start: fuel efficiency climbs, emissions drop, and the mission stays intact. They don't need charging stations, so you're not locked into new infrastructure. This makes them a solid pick when you want savings and reliability without a full overhaul—perfect for easing officers into the shift.

These vehicles hit the wallet where it counts. Base model vehicles are now hybrid making them the go to choice, and the payoff comes fast—less fuel burned, especially during idle-heavy shifts that chew through budgets. Maintenance dips too, with electric power easing the strain on gas engines. Over a vehicle's life, savings can stack into thousands, freeing cash for gear or staff. They're not the deepest cut—EVs outsave them long-term—but for mixed urban and rural beats, hybrids trim expenses while keeping the horsepower ready for emergencies.

Every hour of idle time is equal to 33 miles of wear and tear



### Ford Interceptor Vehicle Specs

Specification	Value
Average EPA-Estimated MPG	<b>24 MPG</b>
Police Pursuit Vehicle Rating	<b>The only pursuit rated hybrid vehicle</b>
Potential Fuel Savings	\$3,509 per vehicle per year
CO2 Reduction/Emissions:	Potential 22,560 lbs. of CO2 output reduced per year, per vehicle



# Mission Ready Electric Vehicles



Electric vehicles (EVs) ditch gas for battery power, packing high torque and fast acceleration into a quiet, no-emissions package. They're built for the job—silently stalking streets or surging into action—while slashing fuel costs to pennies per mile. With fewer moving parts, maintenance shrinks; no oil changes, less brake wear, just plug in and go. Departments testing them see thousands saved yearly, turning budget drains into wins. EVs demand charging, but where routes and stations align, they're a powerhouse upgrade—maximum muscle for the mission.

The payoff stacks up fast. Higher upfront costs fade as electricity undercuts gas and upkeep drops—some fleets bank enough to add officers or gear. Urban beats fit best, with short loops and charging access, while longer shifts with 24/7 demands push the limits of vehicle range. Fast chargers and bigger batteries are closing that gap, making EVs tougher to ignore. Start where infrastructure's ready—plug in at depots, track savings, and scale up. It's a bold move, but the numbers and performance prove it: EVs deliver efficiency and edge, shaping policing's future.

## Tesla Model Y - Vehicle Specs

Specification	Value
EPA-Estimated Range	<b>330 miles</b>
Police Pursuit Vehicle Rating	<b>Not Rated</b>
Battery Capacity	<b>Standard Range: 60 kWh</b> <b>Extended Range 75 kWh</b>
Potential Fuel Savings	\$5,500 in fuel costs over 5 years compared to the average new vehicle.
CO2 Reduction/Emissions	10km of driving (using avg USA grid for charging) is equivalent to 0.87kg CO2e



# Mission Ready Electric Vehicles

## Ford Mustang Mach E Vehicle Specs

Specification	Value
EPA-Estimated Range	<b>260 Miles</b>
Police Pursuit Vehicle Rating	<b>Not Rated</b>
Battery Capacity	<b>Standard Range: 73 kWh</b>
Battery Capacity GT	<b>Extended Range: 98 kWh</b>
Potential Fuel Savings	\$4,750 in fuel costs over 5 years compared to the average new vehicle
CO2 Reduction/Emissions	6,173 lbs CO <sub>2</sub> /year



## Ford F150 eLightning Vehicle Specs

Specification	Value
EPA-Estimated Range	<b>240 Miles</b>
Police Pursuit Vehicle Rating	<b>Special Service</b>
Battery Capacity	<b>Standard Range: 98 kWh</b>
Battery Capacity	<b>Extended Range 131 kWh</b>
Potential Fuel Savings	\$4,734 3-year fuel savings
CO2 Reduction/Emissions	11,464 lbs of CO <sub>2</sub> /yr

\*\* Ford F150 is also available as a hybrid



# Mission Ready Electric Vehicles

## Chevy Blazer PPV EV Vehicle Specs

Specification	Value
EPA-Estimated Range	<b>320 Miles</b>
Police Pursuit Vehicle Rating	<b>Pursuit Rated</b>
Battery Capacity	<b>Standard Range: 85 kWh</b>
Battery Capacity	<b>Extended Range 102 kWh</b>
Potential Fuel Savings	\$4,500 in fuel cost savings over 5 years compared to the average new vehicle.
CO2 Reduction/Emissions	13,610 lbs CO2e/year



## Chevy Silverado EV Vehicle Specs

Specification	Value
EPA-Estimated Range	<b>450 Miles</b>
Police Pursuit Vehicle Rating	<b>Not Rated</b>
Battery Capacity	<b>Standard Range: 119 kWh</b>
Battery Capacity	<b>Extended Range 170 kWh</b>
Potential Fuel Savings	\$2,500 in fuel cost savings over 5 years compared to the average new vehicle
CO2 Reduction/Emissions	12,377 lbs CO2/yr



# On the Radar

## New and Niche Vehicles

### ✔ **Chevy Bolt**

The original Chevy Bolt EV is no longer in production, but a next-generation model is set for release in 2026, featuring GM's Ultium battery platform for faster charging and improved range. This compact, affordable EV is ideal for non-pursuit roles like administrative or community policing.



### ✔ **Chevy Equinox**

Arriving in 2025, the Equinox EV promises a versatile SUV platform with solid range and available all-wheel drive. It's a compelling future option for departments seeking a balance between affordability, utility, and sustainability.



### ✔ **Dodge Charger**

The electric reboot of a law enforcement favorite, the upcoming Dodge Charger EV blends classic muscle with modern tech. Expected in 2026, it may be available in pursuit-rated configurations, signaling a bold new chapter in high-performance patrol vehicles.



### ✔ **Ford eTransit**

Ideal for prisoner transport, mobile command, or specialty teams, the Ford E-Transit brings electrification to police van applications. With multiple roof heights and upfit flexibility, it's well-suited for a variety of non-patrol roles.



### ✔ **Westward Industries GO-4 Enforcer**

The GO-4 Enforcer is purpose-built for parking enforcement and urban patrol. Available in all-electric models, it combines zero-emission operation with a compact design ideal for navigating tight city streets.



### ✔ **Polaris Ranger Kinetic**

All-electric and built for rugged terrain, the Polaris Ranger Kinetic is ideal for off-road patrol, park management, and utility work. With instant torque, quiet operation, and zero emissions, it's a smart fit for environmentally sensitive areas and tasks that demand both power and precision.



### ✔ **Zero Police Motorcycle**

A fully electric motorcycle built specifically for law enforcement, the Zero offers stealth, speed, and maneuverability—especially valuable in parks, campuses, and urban environments. Low maintenance and virtually silent operation are key benefits.



# The Pros & Cons of Plug-in Hybrids

Plug-in hybrid electric vehicles (PHEVs) provide law enforcement with a balanced transition toward electrification, offering lower fuel consumption, reduced emissions, and cost savings while maintaining the range and rapid refueling of gasoline vehicles. Officers can rely on battery power for routine patrols, cutting idling emissions, while the gasoline engine ensures reliability in emergencies. However, without strict policies and charging discipline, officers may default to gasoline mode, limiting the intended benefits. The dual powertrain also adds maintenance complexity, and without proper oversight, PHEVs risk functioning more like traditional gasoline vehicles. To maximize their impact, police departments must actively manage charging, training, and operational policies.

## Pros

- ✓ Improved Fuel Efficiency
- ✓ Versatile Range
- ✓ Lower Environmental Impact
- ✓ Mission-Adaptive Power
- ✓ Quick Refueling
- ✓ Cost-Effective Infrastructure
- ✓ Bridge to Full Electrification

## Cons

- ✓ Risk of Gasoline Dependency
- ✓ Charging Consistency Required
- ✓ Increased Maintenance Demands
- ✓ Restricted Electric Range
- ✓ Elevated Initial Costs
- ✓ Partial Infrastructure Needs
- ✓ Training and Policy Hurdles



# EV Charging

## Powering the Mission

Charging a police fleet's electric vehicles (EVs) isn't optional—it's the backbone of keeping them mission-ready. Done right, it's simple, reliable, and cost-effective. Departments must deploy the right chargers, place them strategically, and manage costs to ensure officers are always rolling. Here's what works and how to make it happen.

Level 1 chargers (110V) offer simplicity—plug into a standard outlet at home or the station for a slow, steady charge over 12-20 hours, ideal for take-home vehicles or single-shift schedules. Level 2 chargers (240V) step it up, powering most EVs in 4-8 hours—perfect for overnight at depots or stations with multi-shift rotations. For high-demand cruisers running back-to-back shifts, DC fast chargers (50-350+ kW) deliver a full charge in 20-40 minutes, though they require more planning and time to install. Use Level 1 or 2 where vehicles rest longest, and reserve fast chargers for tight turnarounds. Leverage existing public stations when possible, and scale the setup with 1-2 chargers to start, growing as the fleet expands. Gear up and take charge—plan ahead like a boss and hit up the local electric utility to lock in the juice for those EV patrol cruisers.

Maintenance is minimal, but train staff to spot issues fast. The payoff? EVs stay charged, budgets stay lean, and the mission stays on track.



# Converting a Fleet from ICE to EV

Start with a pilot program—pick one or two vehicles that match your department's daily grind. Track fuel and maintenance savings over a year. If the numbers work (and they likely will), expand gradually. Prioritize charging access and officer training to keep the mission on track. The result? A fleet that's tough, efficient, and budget-friendly.

## Assess the Mission

Match vehicles to your needs—EVs for urban patrols with charging access, hybrids for mixed or rural duties with longer ranges.

## Start Small

Test a few EVs or hybrids in your fleet. Departments like Bargersville, Indiana, began with one Tesla and scaled up after seeing results.

## Plan Charging

Charging can be as simple as using a 110V outlet or 220V dryer plug for take home vehicles. Use existing stations or plan ahead to install Level 2 or DC fast chargers at the base, depending on department size and number of shifts.

## Train Up

Train officers on EV fundamentals, charging procedures, and safety protocols to ensure officer safety.

## Fund Smart

Tap into grants or utility partnerships to cut costs.

# Case Study:

## New York Police Department

### The Mission

The New York Police Department (NYPD), with over 9,000 vehicles, set out to modernize its fleet—swapping gas-guzzling sedans for hybrids and EVs to keep officers on the beat while cutting costs. Starting in 2008 with retrofitted hybrid tests, the NYPD scaled up, adding hundreds of hybrid SUVs by 2019 and rolling out its first all-electric Ford Mustang Mach-Es in 2022. The goal? Boost performance, slash fuel bills, and reduce emission, proving alt-fuel vehicles can handle the toughest urban policing gig.

### The Switch

Hybrids like Ford Explorer SUVs tackled idling-heavy shifts, saving over 900 gallons of gas per car yearly—\$15 million department-wide at peak gas prices. EVs brought silent patrols and near-zero upkeep, with maintenance costs dropping to \$400-\$600 per vehicle annually versus \$1,800 for gas models. An \$11 million investment in 2021 sealed the deal, ordering 184 Mach-Es for patrol and support roles. By 2023, over 3,000 of NYPD's fleet ran on hybrid or electric power, backed by 51 fast chargers and 1,800+ charging ports citywide.

### The Payoff

Fuel savings alone offset hybrid upcharges initially in under two years, while EVs doubled down with 33% better efficiency. Officers gained all wheel drive and higher ground clearance, proving the mission stayed sharp. EcoPatrol's take? NYPD shows hybrids ease the transition and EVs lock in long-term wins—big-city proof that alt-fuel fleets deliver.



# Resources:

Here are some additional resources to help you on your journey. Please reach out if you would like support in navigating the transition to greener policing.

[NJ Clean Cities Coalition](#): Offers tools, webinars, and local expertise on fleet electrification, including the EcoPatrol project's broader initiative

[Alternative Fuels Data Center \(AFDC\)](#): U.S. Department of Energy hub with EV and hybrid fleet case studies, cost calculators, and charging infrastructure guides tailored for public sector fleets like police.

[U.S. Department of Energy: Funding Opportunities](#): Lists grants and incentives for EV/hybrid procurement and charging infrastructure, accessible via the Clean Cities program.

[Sustainable Jersey Purchasing Resource Center](#): Access sustainable equipment and services including directories of cooperative purchasing options and a quote library including alternative fuel vehicles and charging stations.



# THANK YOU

The EcoPatrol Handbook was built through a solid partnership between RSM Consulting and New Jersey Clean Cities, with key input from our Advisory Board—leaders who know what it takes to keep fleets mission-ready. We're also grateful for funding support from the U.S. Department of Energy's Clean Cities Program, backing the tools that help departments drive smarter.

Got questions or looking to take the next step? We're here to back you up. Reach out anytime.

## Robert Martinez



EcoPatrol Consultant & eBook Editor  
Retired Deputy Commission NYPD  
RSM Fleet Consulting  
[rmsfleet@gmail.com](mailto:rmsfleet@gmail.com)

## Chuck Feinberg



eBook Editor  
Executive Director  
New Jersey Clean Cities Coalition  
[chuck.feinberg@gmail.com](mailto:chuck.feinberg@gmail.com)

## Caroline McCallum



eBook Editor & Designer  
Co Director  
New Jersey Clean Cities Coalition  
[caroline.mccallum@njcleancities.org](mailto:caroline.mccallum@njcleancities.org)

## Vaidehi Patel



Intern  
New Jersey Clean Cities Coalition

