



# Data-Driven Policing

Leveraging telematics for optimized police fleet performance

# Intro



Advances in technology have changed how police safety teams deal with more sophisticated criminal activity and keep themselves and the communities they serve well-protected. Telematics has evolved beyond GPS to a rich data source, helping optimize a police fleet and underpin data-driven policing.

As police vehicles become an office on wheels for many officers, first-class fleet management is essential. Fleet management solutions help power that change, creating data-connected fleets that generate operational efficiencies and safety benefits for both the public and officers.

This ebook highlights what telematics can unlock for a police fleet and how a data-driven approach to fleet management supports smarter policing.

# Table of Contents

CHAPTER

# 01

Harnessing data for peak police fleet performance

CHAPTER

# 02

Prioritizing officer safety

CHAPTER

# 03

Amplifying community protection

CHAPTER

# 04

Simplifying sustainability strategies

CHAPTER

# 05

Building the digital future of policing



01 **Harnessing data for peak police fleet performance**

---

02 Prioritizing officer safety

---

03 Amplifying community protection

---

04 Simplifying sustainability strategies

---

05 Building the digital future of policing

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## CHAPTER 01

# Harnessing data for peak police fleet performance

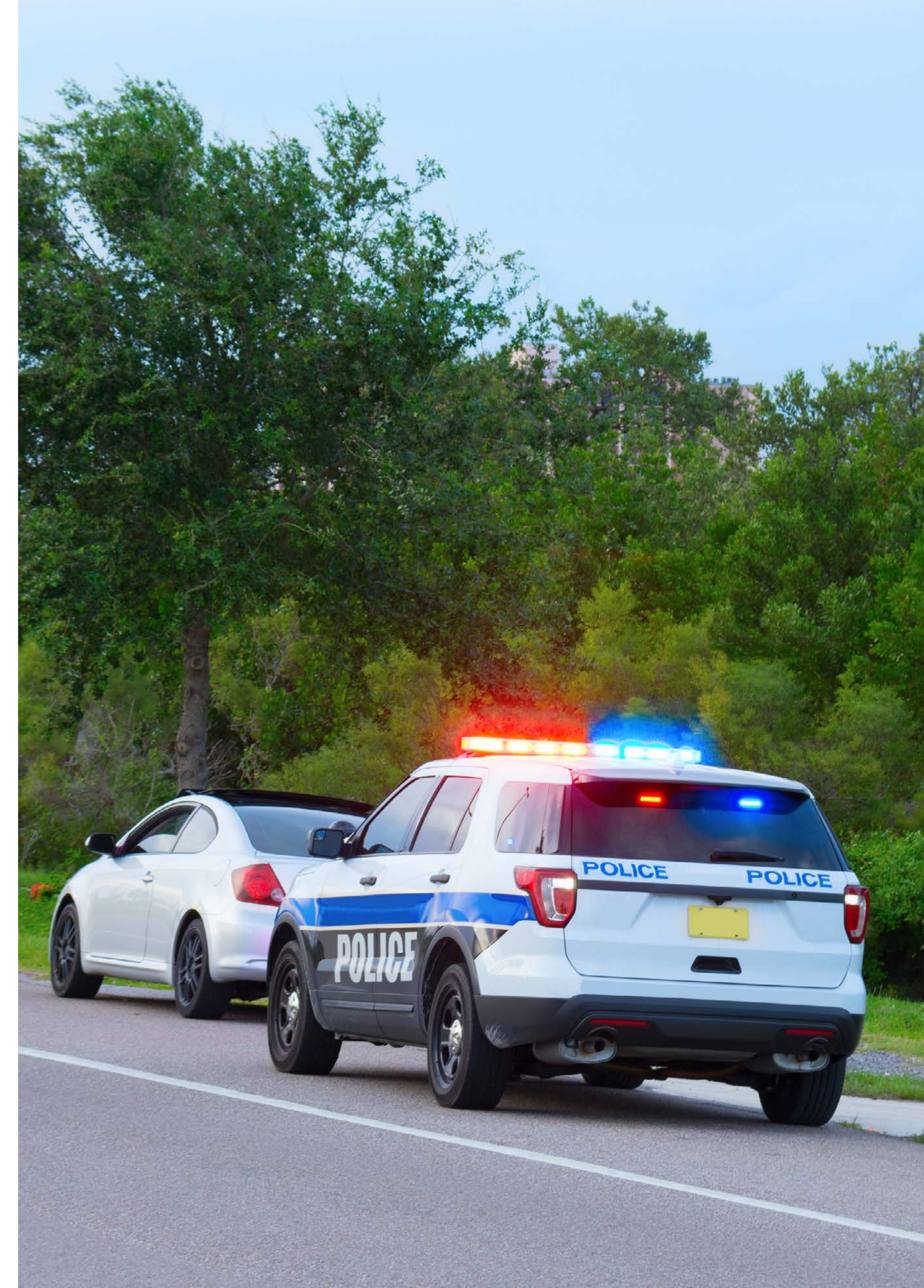
Telematics may have originated to connect GPS and real-time tracking to vehicles, but it has transformed into a cutting-edge technology that gathers intelligence on a fleet's health and performance. The actionable insights from a modern fleet management solution are key in maintaining a healthy fleet and right-sizing the vehicle mix to have the best assets available.

## How to take a proactive approach to fleet maintenance

Whether patrolling neighborhoods for suspicious activity or quickly responding to emergency calls, police officers rely on their equipment, and their vehicles are critical front line tools. As a result, keeping vehicles healthy and performing optimally is crucial.

Police vehicles are driven more miles and more harshly than civilian vehicles. They must be in top condition to enable officers to reach incidents quickly and safely. Proactive fleet maintenance means peace of mind for the front line. The impact of a car breaking down when responding to a critical call would be catastrophic.

Fleet management solutions act as a diagnostic tool, providing a firsthand account of what is under the hood. These platforms allow fleet teams to pinpoint faults, helping them understand with meticulous precision the condition of every vehicle in their convoy. Studying vehicle health allows you to maximize vehicle uptime and only assign vehicles that you know are in proper working condition to your officers.



01 **Harnessing data for peak police fleet performance**

02 Prioritizing officer safety

03 Amplifying community protection

04 Simplifying sustainability strategies

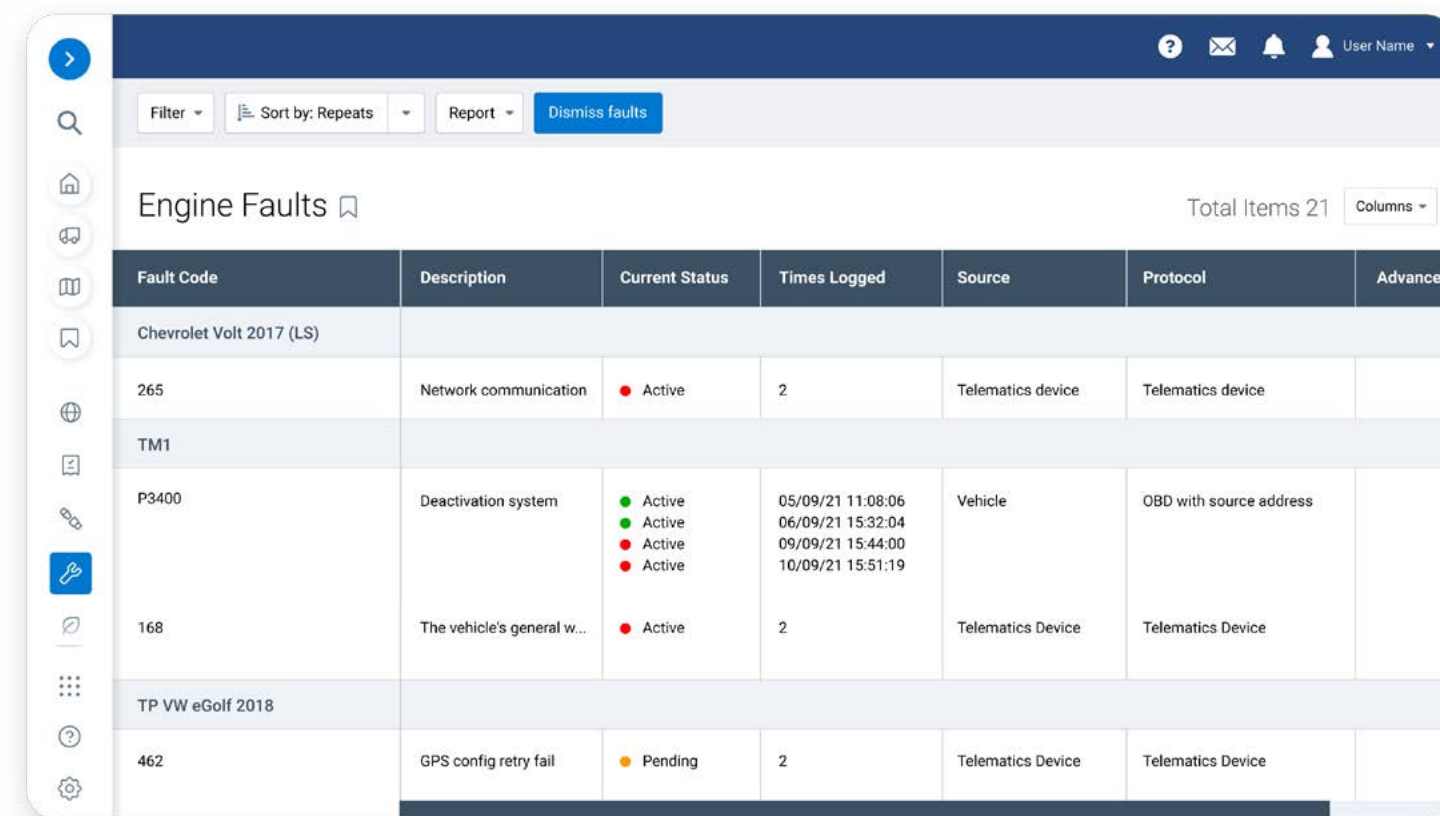
05 Building the digital future of policing

**With the right telematics platform powering your fleet maintenance practices, you can enable:**

- Remote monitoring of key vehicle performance characteristics (like warning lights, brake pads, fuel economy, battery charge and health, tire pressure, etc.)
- Fleet inventory tracking to see when vehicles have been serviced.
- Predictive maintenance scheduling and custom in-system reminders.
- Seamless work order management, including maintenance cost reports.
- Custom pre-and post-shift vehicle inspections via **driver vehicle inspection reports** (DVIRs) for specific sensors and equipment on-board your police vehicles, such as sirens, lights, first aid kits or traffic cones.

By actively monitoring the need for maintenance on a vehicle, law enforcement agencies can keep their vehicles in good condition while saving money on unnecessary repairs. Supply chain issues are hindering new vehicle purchases for police fleets that can't afford to be short of vehicles. Maintaining vehicles in the fleet and keeping them healthy equates to longer vehicle life expectancies.

Geotab's Maintenance Center serves as a one-stop place that police fleets can visit within our platform to survey all their vehicles' service needs. Pinpoint vehicle maintenance costs at a glance and monitor service dates in an easily digestible format. You're also able to view which of your vehicles have the most expensive upkeep, helping you make sense of what's necessary to maintain and when it might be time to replace a vehicle in your fleet. By relying on predictive maintenance schedules that factor in vehicle use, time since last service and diagnostic data, take better care of your police vehicles.



Fault Code	Description	Current Status	Times Logged	Source	Protocol	Advanced
Chevrolet Volt 2017 (LS)						
265	Network communication	Active	2	Telematics device	Telematics device	
TM1						
P3400	Deactivation system	Active	05/09/21 11:08:06 06/09/21 15:32:04 09/09/21 15:44:00 10/09/21 15:51:19	Vehicle	OBD with source address	
168	The vehicle's general w...	Active	2	Telematics Device	Telematics Device	
TP VW eGolf 2018						
462	GPS config retry fail	Pending	2	Telematics Device	Telematics Device	



**TIP**

Geotab has a comprehensive list of **Diagnostic Trouble Codes (DTC)** for quicker and more accurate diagnosis of vehicle issues. With Engine Status Reports, you can even detect early signs of vehicle engine health issues to help reduce breakdowns and avoid costly repairs down the road.



**IMPACTFUL INSIGHT**

The maintenance team with the Belleville Police Services noted that before adding Geotab to their technology stack, it was a challenge to stay on top of oil changes and routine maintenance of their vehicles. **"We're now proactive with Geotab, staying ahead of oil changes and keeping the fleet in the best shape it's ever been in,"** says Police Inspector Sheri Meeks.

01 Harnessing data for peak police fleet performance

02 Prioritizing officer safety

03 Amplifying community protection

04 Simplifying sustainability strategies

05 Building the digital future of policing

## A right-sized police fleet has all the right moves

Fleet maintenance is a top priority, as it impacts costs and fleet performance. Knowing how your police vehicles are used allows for predictive and preventative maintenance as well as other opportunities to improve the fleet. With fleet usage data, teams can highlight which cars get driven more frequently, allocating more maintenance time to these (rather than the lesser-used vehicles). This data provides actionable insights and supports moderated vehicle usage. More balanced use across the fleet helps to increase the longevity of these vehicles.

Armed with an understanding of how the fleet is used, managers can quickly reallocate assets and identify right-sizing opportunities. Right-sizing can help reduce costs and improve overall fleet efficiency.

Utilization Report (Previous 30 Days)						
Most Utilized Vehicles						
	Vehicle	Days Driven	Vehicle	Drive Time	Vehicle	Mileage
1	Vehicle 1	1	Vehicle 76	20:21:47	Vehicle 109	119.32
2	Vehicle 3	1	Vehicle 93	20:08:51	Vehicle 93	116.15
3	Vehicle 5	1	Vehicle 71	20:02:37	Vehicle 76	111.51
4	Vehicle 6	1	Vehicle 87	19:46:35	Vehicle 87	105.80
5	Vehicle 8	1	Vehicle 77	19:18:41	Vehicle 77	105.79
Least Utilized Vehicles						
	Vehicle	Days Driven	Vehicle	Drive Time	Vehicle	Mileage
1	Vehicle 2	0	Vehicle 2	00:00:00	Vehicle 2	0.00
2	Vehicle 4	0	Vehicle 2	00:00:00	Vehicle 2	0.00
3	Vehicle 9	0	Vehicle 2	00:00:00	Vehicle 2	0.00
4	Vehicle 10	0	Vehicle 2	00:00:00	Vehicle 2	0.00
5	Vehicle 11	0	Vehicle 2	00:00:00	Vehicle 2	0.00



### TIP

Geotab's **Asset Utilization** report is customizable to see at a glance which vehicles are the most and least utilized. It can be broken down by vehicle type, days driven and mileage.



### DID YOU KNOW?

The State of Utah's **Department of Corrections (DOC)** was able to **downsize its fleet by 60 vehicles, freeing up much-needed budget space for other essential expenses.** They used our solution to determine that their fleet was bloated with low-mileage vehicles and chart a course to improved utilization. Geotab also enabled them to implement lights and sirens integrations, **helping their fleet managers easily distinguish between pursuit and non-pursuit vehicle activities.**

01 Harnessing data for peak police fleet performance

02 **Prioritizing officer safety**

03 Amplifying community protection

04 Simplifying sustainability strategies

05 Building the digital future of policing

## CHAPTER 02

# Prioritizing officer safety

Police officers face many dangerous and stressful situations every shift. Telematics helps to enhance officer safety significantly while keeping the police fleet reliable and safe. Fleet management solutions provide the necessary location-based data for increased patrol efficiency. They also help to improve lines of communication with dispatchers who are giving directions on the best routes to take. Real-time visibility allows officers to monitor each vehicle's location, offering teams an extra measure of security.

Telematics technology works hand-in-hand with dispatchers to streamline emergency response. Pinpointing vehicle locations helps dispatchers send backup quickly for emergency response calls or reported collisions. Every second counts, and telematics technology can help provide that much-needed situational awareness of where all the nearby vehicles are located to coordinate a faster response.

Tracking police vehicles helps maximize productivity and efficiency while boosting officer safety. Live GPS tracking with telematics coupled with zone management also helps to improve safety by monitoring when and where patrol cars enter high-risk areas. Fleet technologies are powerful tools for improving officer safety. Amid the unpredictability of policing, these solutions represent a significant step forward in building a safer future for law enforcement personnel.



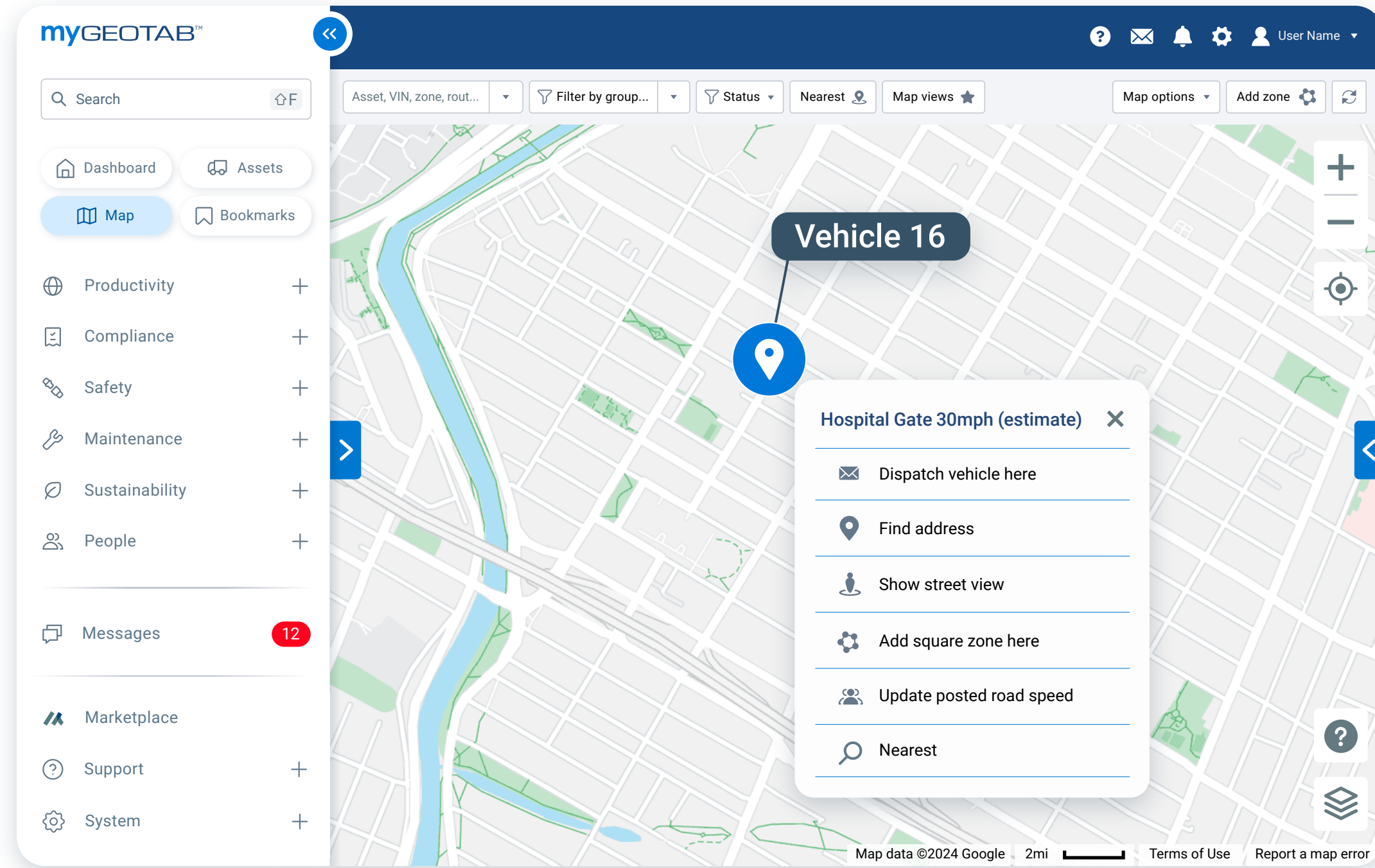
01 Harnessing data for peak police fleet performance

02 **Prioritizing officer safety**

03 Amplifying community protection

04 Simplifying sustainability strategies

05 Building the digital future of policing



As more routine calls from members of the public turn into heightened threat scenarios, having clear information about the whereabouts of an officer and their vehicle promotes a rapid and accurate support response from dispatch or other officers nearby. It can also aid in identifying the quickest escape route and help in coordinating the response from other emergency teams that may need to reach the scene.



**TIP**

**Active tracking exclusively from Geotab** allows dispatchers to follow the live movements of a police vehicle, helping them verify that it quickly and safely arrived at the scene.





01 Harnessing data for peak police fleet performance

02 **Prioritizing officer safety**

03 Amplifying community protection

04 Simplifying sustainability strategies

05 Building the digital future of policing

## Promoting safer driving

Keeping officers safe behind the wheel is one of a police department's highest priorities. Motor vehicle-related incidents were the **leading cause of line-of-duty deaths for law enforcement officers from 2011 to 2020**, and in 2022, **42,514 people died from vehicle collisions** across the entire United States. These sobering statistics underscore the critical need to prioritize safety behind the wheel whenever possible.

While the general public might think most collisions occur during high-speed pursuits, those in the field know that several behavior-related hazards increase the risk of collisions and associated injuries - from not wearing a seatbelt to speeding through intersections or being distracted by in-cabin electronics.

Fleet data provides a window into driver behavior, providing police fleet managers with information about seat belt usage, speeding or harsh cornering and braking by officers. Using driving characteristic data, supervisors and fleet managers can identify opportunities to coach drivers on safer driving practices. Data-driven safety programs can help protect your officers on the road. Leveraging the actionable insights from telematics data, police chiefs are able to reinforce the need for safer driving habits among officers and help adjust safety-related behavior to reduce the risk of collisions or lawsuits.



### TIP

Geotab's Safety Center offers a bird's-eye perspective of all your police fleet's safety metrics, helping you easily uncover where safe driving stands in your workforce. Using tools like safety benchmarking, you can compare your fleet's safety standing to other similar anonymized fleets, then make adjustments based on the findings. Our predictive analytics also help you develop more anticipatory fleet safety strategies. By using historical data and AI-driven calculations to help you proactively measure risks, predictive insights offer a more reliable and precise picture of collision probabilities. Enable your police fleet to embrace a forward-thinking safety approach and better protect your officers as they do their jobs.



### IMPACTFUL INSIGHT

Users of Geotab's Safety Benchmarking see average decreases of **6.4%** in speeding, **19.1%** in collision rates and **11.8%** in harsh braking.



01 Harnessing data for peak police fleet performance

02 **Prioritizing officer safety**

03 Amplifying community protection

04 Simplifying sustainability strategies

05 Building the digital future of policing

## Limiting liability

Police officers have roughly **double the rate of motor vehicle crashes** per million vehicles driven than the general public. To protect officers from facing liability claims when a collision occurs, it is essential to be able to rebuild as much information as possible for insurance purposes. Collision reconstruction can significantly help limit an officer's liability.

Telematics data can depict the events before, during and after a collision. Go beyond hearsay testimonies from bystanders and instead get the facts with collision reconstruction insights, such as:

- GPS locations with map coordinates and satellite views.
- Speed and acceleration data.
- Engine speeds before the collision and at the time of impact.
- Vehicle systems that were in use (e.g. lights and sirens).

The screenshot displays the Geotab Accident Reconstruction interface. The main content area is titled "Accident Reconstruction" and includes a "BETA" badge. It is divided into several sections: "Device Information" with fields for Vehicle Name (Vehicle 38), Driver (John Smith), VIN (5NPEB4AC2CH481461), Vehicle (Mercedes-Benz Sprinter Crew Van), and Time of Collision (Friday, June 10, 2024 08:40:30 PM); "Point of Impact" featuring a 3D wireframe model of a vehicle with a red and yellow impact zone on the roof; and "Map View" showing a map with a location pin and a "Time of accident" pop-up for Friday, June 10, 2024 08:40:30 PM. On the right side, there is a "Vehicle" section with a dropdown menu set to "Mercedes-Benz Sprinter Crew Van", a "Show Historic Devices" button, a "Select Vehicle Type" dropdown set to "Let Geotab Decide", and date fields for "Start date" (01/01/2024 00:00) and "End date" (10/06/2024 23:59). At the bottom of this section are buttons for "Find Latest Accident" and "Export to PDF".

Fleet data also makes it possible to gain a broader perspective by looking at the historical driving patterns for a specific officer or vehicle. All this information connects to provide bias-free context to a collision, which can protect an officer from unnecessary litigation.



### IMPACTFUL INSIGHT

Fleets equipped with Geotab's integrated fleet safety technologies saw their **collision rates drop by 40%** in 2023.

01 Harnessing data for peak police fleet performance

02 Prioritizing officer safety

03 **Amplifying community protection**

04 Simplifying sustainability strategies

05 Building the digital future of policing

## CHAPTER 03

# Amplifying community protection

Police departments work tirelessly to create safer communities, developing safety initiatives and advocating for resources to help those communities address local crime. With technological advances, police services can react faster to emergencies in the community and proactively plan to help reduce future incidents. Data-driven policing also shows the public the amount of police activity taking place and a positive presence, demonstrating the ever-increasing need to be highly transparent and accountable.

Here is how fleet insights aid in more efficient and transparent policing for the community:



**More accurate dispatching** of nearby officers means resources are allocated faster and more efficiently to emergency calls.



**Route completion** reporting by zone demonstrates that highly volatile areas are being patrolled by police vehicles.



**Time and date stamps** show when and where there was a police presence and in what zones.



**Historical pattern tracking** shows where police vehicles were in relation to crime hotspots and by location.

Telematics data can also aid in creating a new level of transparency between police departments and their communities. For example, vulnerable communities can see comprehensive reports of miles patrolled in their neighborhood. This data-based accountability can help restore trust in police action and engage members of the public through open lines of communication.



### IMPACTFUL INSIGHT

Being able to see the live location of vehicles nearest to a call is a surprise benefit that dispatchers are enjoying with Geotab telematics, according to the **Director of IT Services for Belleville Police, Joe Myderwyk**.

Another benefit has been the amount of vehicle data captured, helping to quickly answer public inquiries about how often police cars were patrolling in certain areas of concern.

01 Harnessing data for peak police fleet performance

02 Prioritizing officer safety

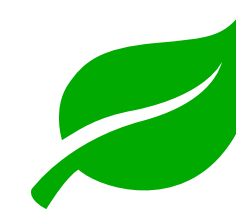
03 Amplifying community protection

04 **Simplifying sustainability strategies**

05 Building the digital future of policing

## CHAPTER 04

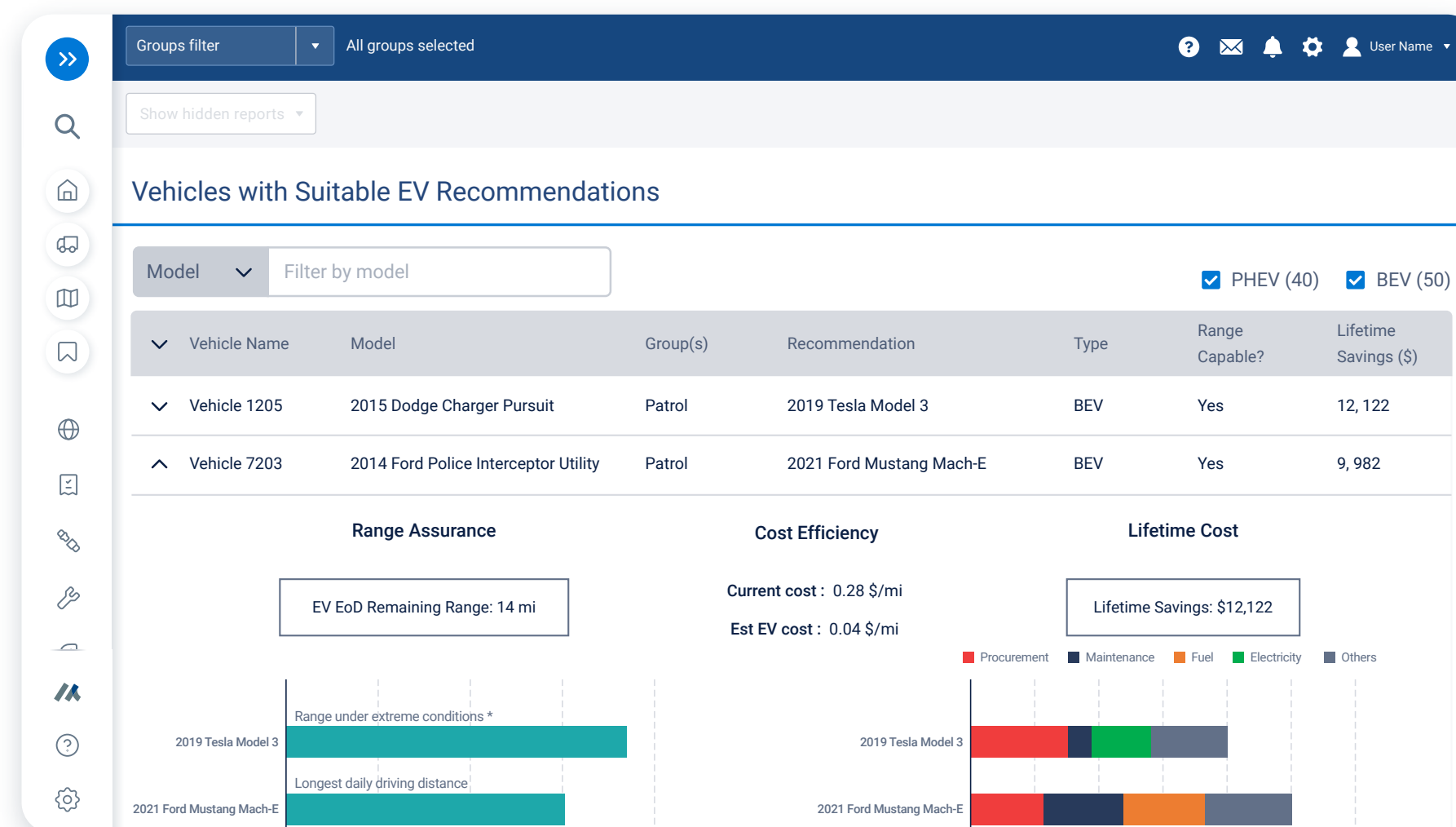
# Simplifying sustainability strategies



Public service fleets are looking to lead the way in sustainable practices, with many new green fleet government mandates being rolled out. Police fleets are keen to move towards more sustainable fleet practices, and a data-driven approach is the best way to reap the benefits of a greener fleet.

Telematics helps fleets drive their sustainability efforts forward with unparalleled insights into how a green fleet operates. Through comprehensive reporting, telematics data can help a police fleet:

- Reduce fuel usage and improve fuel efficiency.
- Set and achieve CO<sub>2</sub> emission reduction targets.
- Identify quality vehicle candidates for electrification.



### TIP



**Geotab's Electric Vehicle Suitability Assessment** is an excellent tool for fleets that are first exploring options to replace fuel cars with EVs. The assessment analyzes a fleet's unique driving profiles and patterns to identify suitable vehicles to switch to electric. Each fleet receives an electrification blueprint, which explores the total cost of ownership and reveals the potential cost-savings of switching to EVs.

### DID YOU KNOW?



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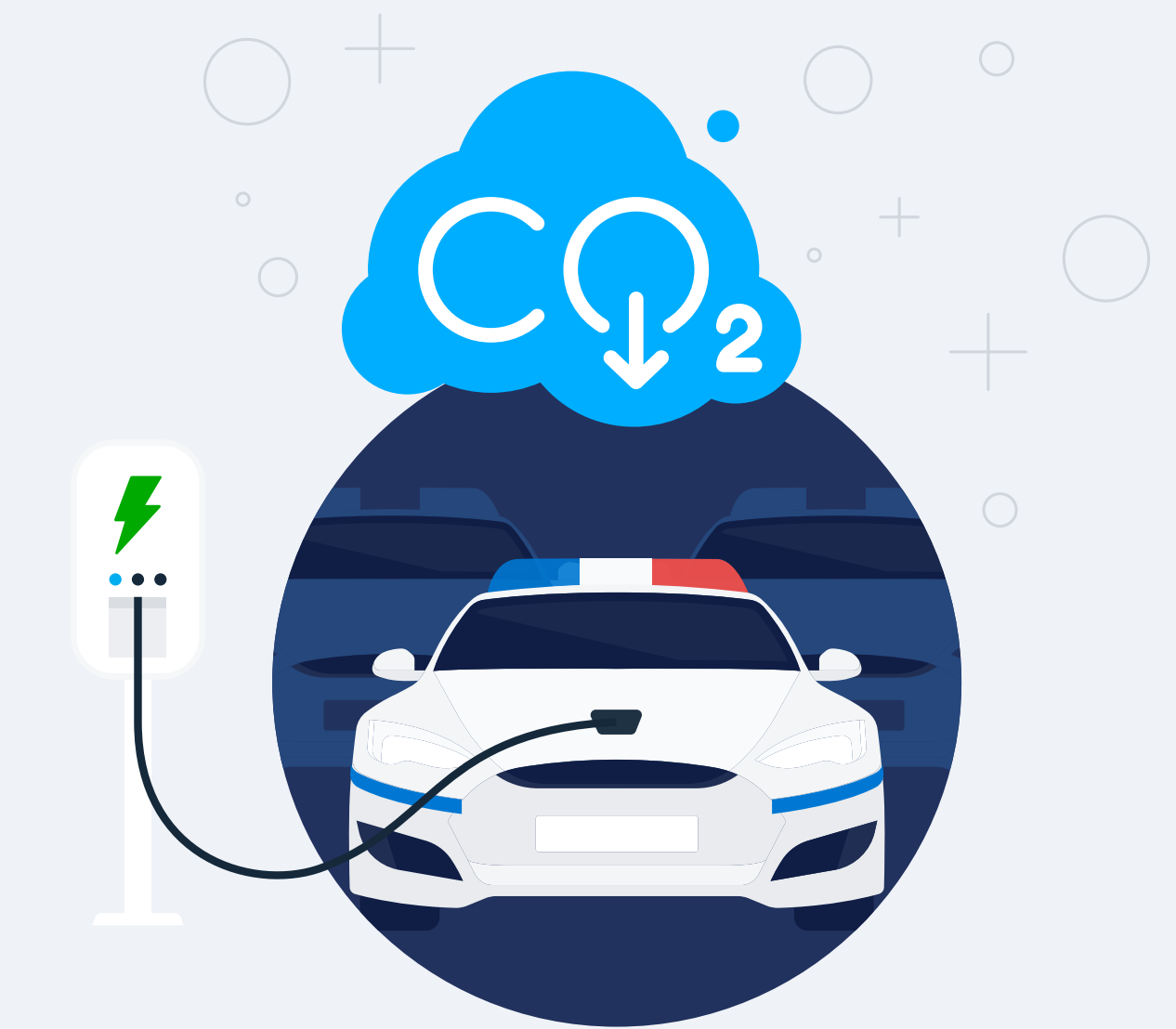
01 Harnessing data for peak police fleet performance

02 Prioritizing officer safety

03 Amplifying community protection

04 **Simplifying sustainability strategies**

05 Building the digital future of policing



## Charging police fleets forward

Many police fleets recognize the benefits of adding electric vehicles to their lineup. Despite the higher upfront costs of acquiring an electric vehicle, they offer a lower total cost of ownership in the long run, especially for heavily utilized vehicles like police vehicles.

In addition to fuel savings, electric vehicles in a police fleet also have the potential to reduce maintenance costs. Compared to their internal combustion engine (ICE) counterparts, electric vehicles don't require oil changes, and with regenerative braking, brake servicing also becomes less frequent. Overall, EVs require less maintenance and represent a cost-effective option for police fleets on their sustainability journey.

### DID YOU KNOW?

Here are some of the **latest police fleets adding zero-emission vehicles** to their fleets:

- **Cambridge, Massachusetts**, rolled out its first electric vehicle in 2023. With it, the fleet expects to reduce fuel usage by 2,800 gallons per year.
- **Somerset, Wisconsin**, took delivery of a new Tesla Model Y, stating it was because repair costs on ICE vehicles were getting out of hand.
- **The Minnesota Police Department** added its first EV to its patrol fleet, running a two-year test cycle to monitor its performance during Minnesota winters.

01 Harnessing data for peak police fleet performance

02 Prioritizing officer safety

03 Amplifying community protection

04 Simplifying sustainability strategies

05 **Building the digital future of policing**

## CHAPTER 05

# Building the digital future of policing

Today's police need all the available technology and tools to keep their communities safe. The road to digital transformation in policing is complex to navigate, and teams are carefully weighing up their options in the process. A path that includes telematics unlocks many operational efficiencies:



### Automated inspection reporting

Performing digital driver vehicle inspection reports or DVIRs gives fleet managers real-time post-trip and pre-trip inspections quickly. Immediate alerts on unsafe vehicles or equipment can be sent to speed up repairs. Digital DVIRs also save time and resources, eliminate unnecessary paperwork and streamline maintenance efforts.



### Expedited expense reimbursements

After emergency efforts on the ground have wrapped up, police services start the manual process of compiling expenses to submit to the Federal Emergency Management Agency (FEMA). Emergency crews seek quicker reimbursement for their time spent aiding in disaster relief. With automated reporting of fuel usage, vehicle hours and records of personnel on-site, FEMA rebilling becomes much easier and standardized.



### Objective investigations

Incident reporting becomes more fact-based and evidential with telematics accurately building a picture of events. By gaining access to vehicle speeds, braking, cornering and acceleration data, more transparent and data-driven reporting is possible. This helps build public trust and shows that teams are acting impartially. Guesswork and opinions are replaced with facts that show the public that the police service can be held accountable.



### Faster, more coordinated responses

Advancements in coordination with other emergency response teams are achievable with telematics technology that boosts interoperability. The situational awareness provided with telematics helps emergency responders provide a better and faster service. Control rooms and dispatchers get access to real-time information to monitor locations, personnel and equipment properly, allowing them to deploy an optimal response across teams.



### Connected insights with platform integrations

Import data from compatible third-party solutions into MyGeotab for a holistic view of all your operational insights. For correctional transport vehicles and K-9 units, integrate temperature monitoring systems using our police fleet platform to verify that vehicle cabins remain at comfortable levels. Use an IOX-AUXM harness to extend the **Geotab GO device's** capabilities to detect lights, siren and gun rack usage.



### Protecting officers and your department's reputation

Retain a detailed account of the context behind officers' activities using supporting fleet data. Corroborate body cam footage that's recorded in the field using GPS-based insights that provide factual operational evidence. With Geotab's FedRAMP authorization and stringent security and data privacy controls, keep your department's data truly secure, increasing public trust.

01 Harnessing data for peak police fleet performance

02 Prioritizing officer safety

03 Amplifying community protection

04 Simplifying sustainability strategies

05 **Building the digital future of policing**

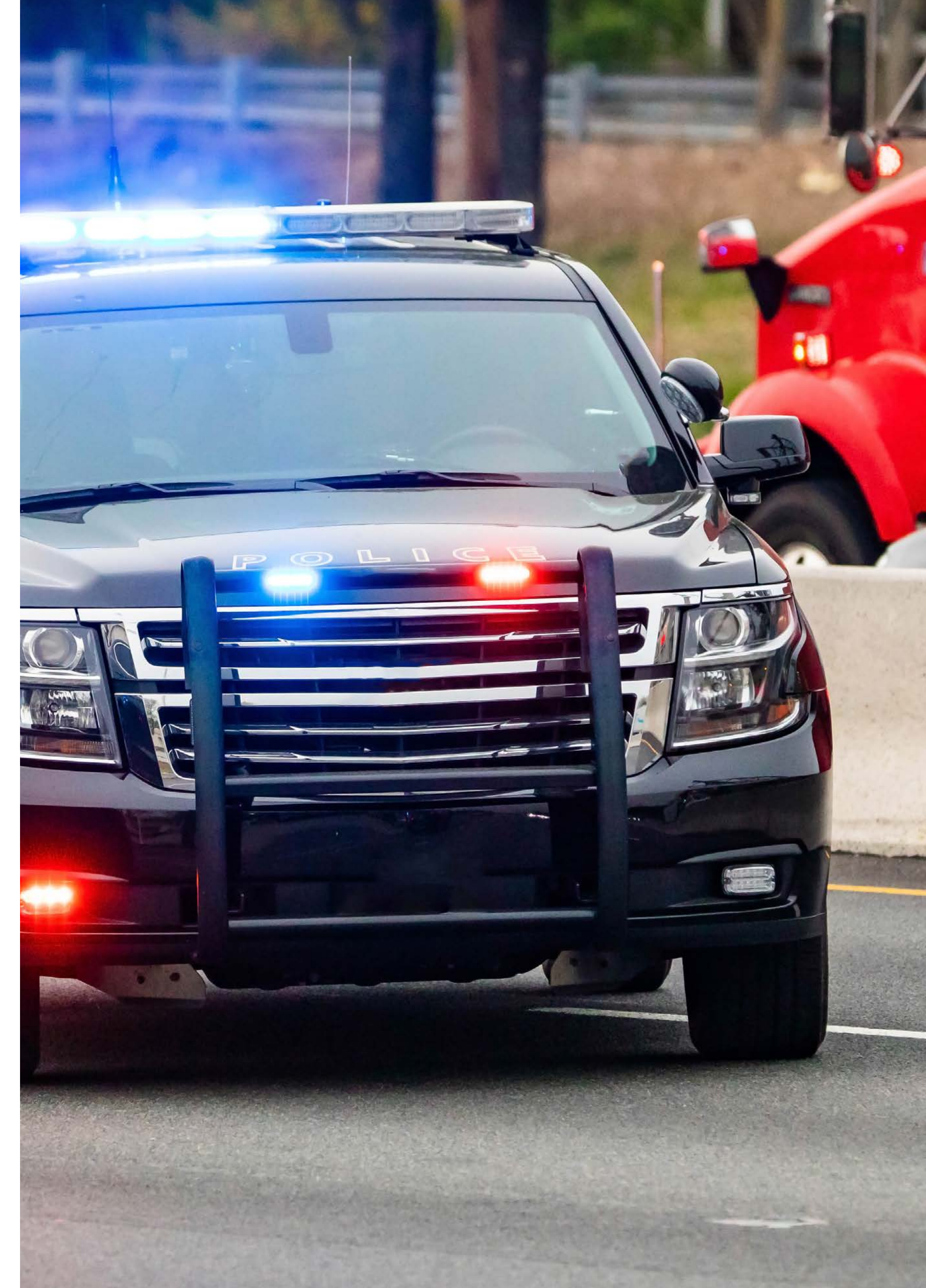
A true game-changer for more efficient policing, a quality fleet management solution provides more than simple GPS or real-time tracking. Today's fleet insights help supervisors optimize vehicle performance while keeping the community and officers safer. They're a key part of every police fleet's technological journey toward increased transparency and data-driven policing.

Learn more about how Geotab's solution for police fleets can help you increase officer safety, trust and accountability by **connecting with one of our experts** today.

“

The tech journey is one, I think, that every police service should be looking at and moving down towards, because at the end of the day, we have to be accountable.

**Mike Callaghan, Chief of Police**, Belleville Police Service



# About Geotab

Geotab is advancing security, connecting commercial vehicles to the internet and providing web-based analytics to help customers better manage their fleets. Geotab's open platform and Marketplace, offering hundreds of third-party solution options, allows small and large businesses to automate operations by integrating vehicle data with their other data.

The in-vehicle device provides additional functionality through IOX add-ons as an IoT hub. Processing billions of data points a day, Geotab leverages data analytics and machine learning to help customers improve productivity, focus on sustainability, optimize fleets by reducing fuel consumption, enhance driver safety and achieve strong compliance to regulatory changes. Geotab's products are represented and sold worldwide through Authorized Geotab Resellers.

To learn more, please visit [www.geotab.com](http://www.geotab.com) and follow us [@GEOTAB](https://twitter.com/GEOTAB) and on [LinkedIn](https://www.linkedin.com/company/geotab).

This ebook is intended to provide information and encourage discussion on topics of interest to the telematics community. Geotab is not providing technical, professional or legal advice through this white paper. While every effort has been made to ensure that the information in this white paper is timely and accurate, errors and omissions may occur, and the information presented here may become outdated with time.

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