wejo

Using Connected Vehicle Data to optimize routing and planning for Fleet & Logistics

Table of Contents

wejo

Consumer demand both online and in-store is putting immense pressure on the fleet and logistics sector. From supply chain service providers to regional and long-haul trucking and last-mile delivery, the entire network is being asked to stretch further and do more than ever. The pandemic has only amplified and accelerated demand, making it critical to ensure the smooth running of transport operations. The need to get items across the country in record time, meet customer expectations and keep up with competitors is increasingly complex, and access to reliable historical and real-time data is foundational to success.

While there are many data sources available for fleet and logistics professionals today, they are not all created equal when it comes to accuracy, speed of visibility and operational efficiency. This eBook will explore how Connected Vehicle Data (CVD) compares to mobile data sources for the fleet and logistics industry and its unique value when applied to intelligent routing and optimizing the first and last miles.

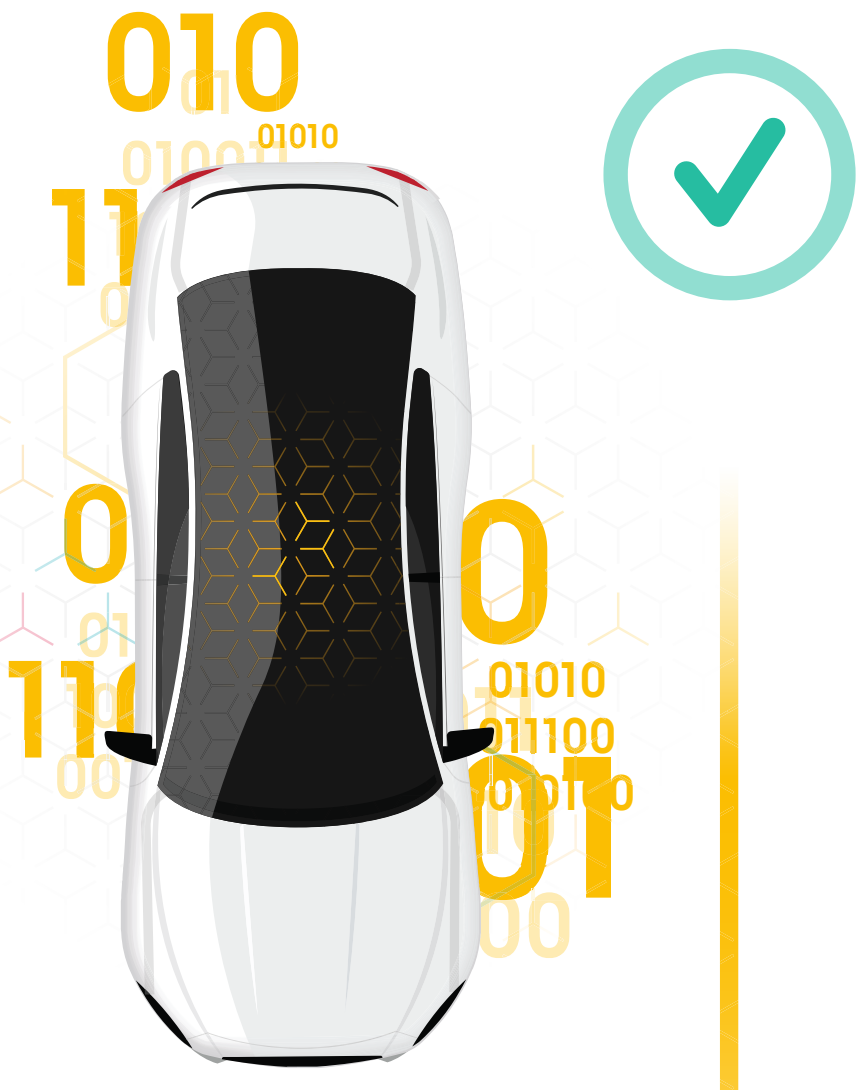
What is Connected Vehicle Data (CVD)?

CVD is the information generated from connected vehicles. Connected vehicles are cars with an internet connection. Hundreds of in-car sensors send data streams to the cloud that represent everything from vehicle speed to when the windshield wipers are used. The richest CVD insights come when this data is collected and anonymized across millions of connected vehicles out on the roads. Speed analysis can shed light on traffic flow and flag road incidents in near-real-time. Weather patterns and road conditions can be gleaned from looking at windshield wiper data. And that's just the tip of the iceberg.

Fleet and logistics professionals can use CVD to optimize routing and planning from the first to the last miles. By better understanding commuter patterns and what is really happening out on the roads, you can meet and exceed customer expectations and drive efficiency at scale. From identifying an incident and proactively rerouting drivers to ensure safety and avoid delays to rolling out convenient points of interest (POIs) or package pickups based on trends in journey data, CVD has the potential to transform your business and make customers happier and drivers safer and more efficient.

The Automotive Data Exchange

wejo



Why is CVD different?

CVD is unique in its ability to provide insight specifically into connected vehicles and their journeys at scale. By directly accessing data from sensors built into the car, CVD is distinct from other sources, including mobile phone data, and the insights it generates in many cases cannot be accessed anywhere else.

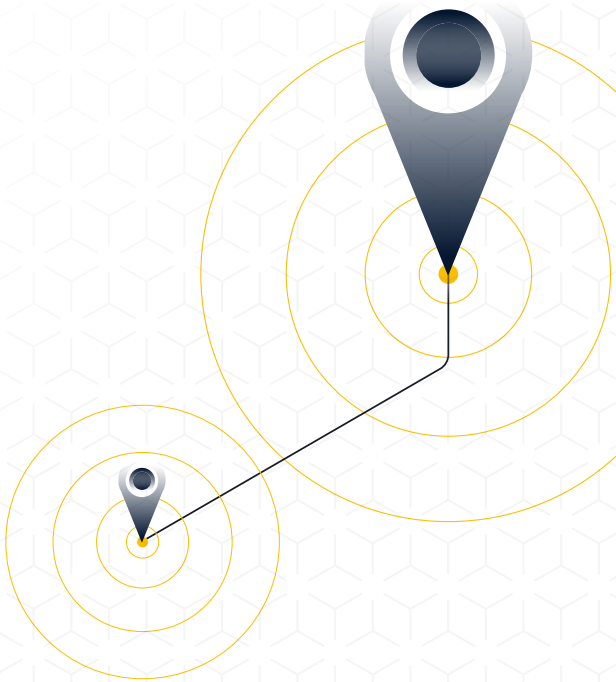
Accuracy

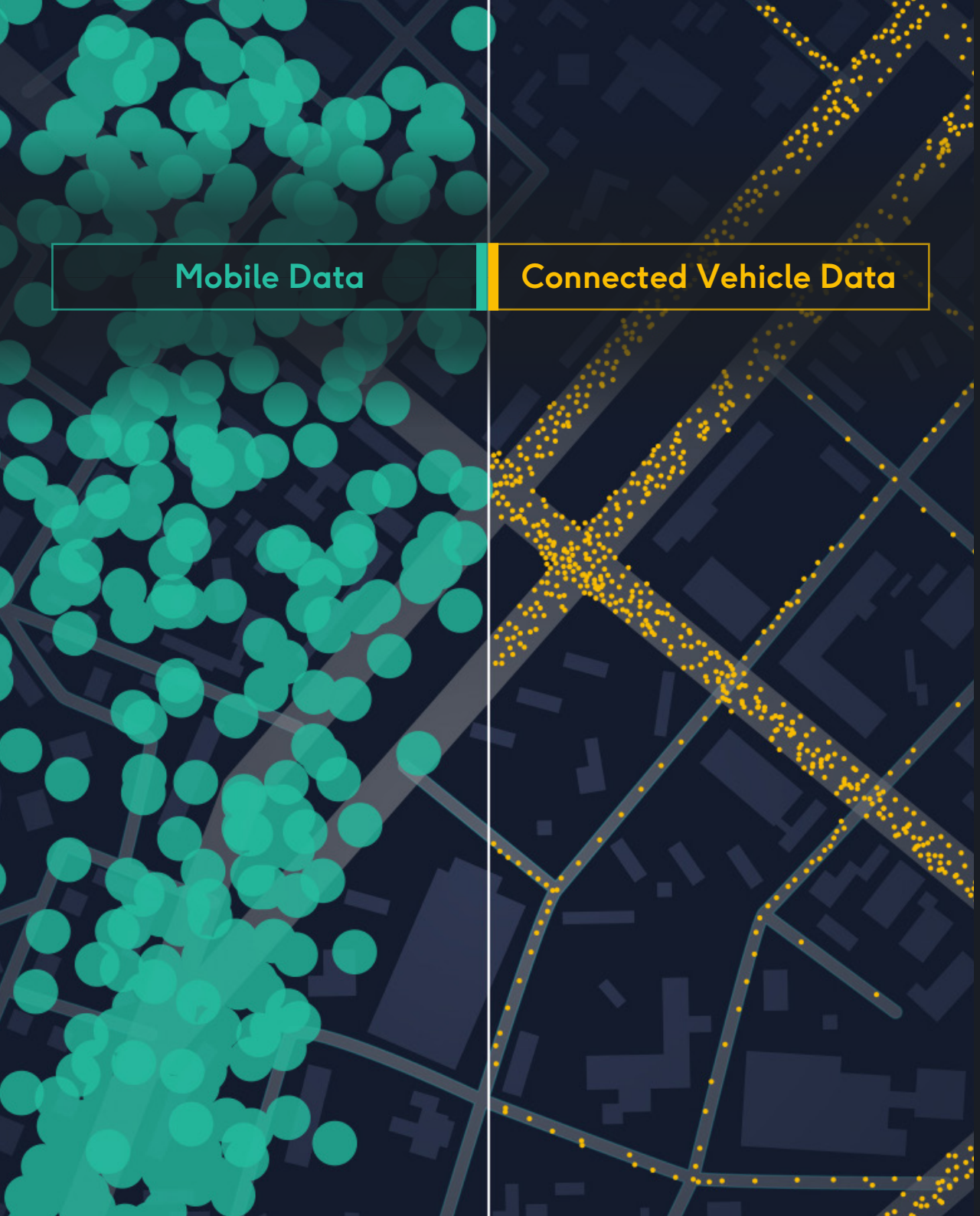
CVD is unique in that it comes directly from the head unit of millions of active connected vehicles. Wejo's CVD has an accuracy of between 0-3 meters, meaning it provides a detailed view into vehicle locations down to which lane the vehicle is traveling in of a highway – something other data sources can be challenged to do.

Compared to mobile phone data, CVD can be both more accurate and reliable for illustrating trends related to vehicle journeys. The GPS device itself embedded in the car is larger than an entire smartphone in many cases. It is also not limited by mobile phone service signals, and supporting sensors to supplement. With CVD, you're relying on accurate reads of the road from the cars that know it best. While mobile phone data may be a great source for applications like understanding footfall into a restaurant, it can require resource-intensive filtering to use for road-related insights.

You don't want to pay for data you don't need; never mind invest to cleanse and remove that costly data to view what's relevant to you. While roadside sensors and other infrastructure can be useful in getting a picture of roadway trends, they require constant maintenance and upkeep.

With CVD, you can rest assured that the information you're getting is accurate, unbiased, and specific to your objectives: intelligent routing, getting packages delivered on time, and more. And it's only getting better. As connected vehicles, 5G networks and embedded sensors advance, CVD is poised to grow in its ability to provide the most accurate view of what's happening on the roads.





Data source comparison

Both mobile data and CVD offer significant volumes and support a multitude of use cases across many sectors.

Of the images on the left, which is clearer for intelligent routing? CVD, filters out the noise that can come with mobile phone data, as seen on the left, to get you to the right information quickly and accurately. Is there an incident you should reroute your drivers around? Are there times of the day that are busier than others on certain roadways? How can you strategize your route planning to optimize the last mile? These are questions CVD can answer

wejo

Speed of Visibility

A key aspect of CVD is that it is easily accessible and current. When it comes to fleet and logistics, speed of visibility is important. Using data from weeks or months ago may be useful for understanding historical trends, something CVD can provide, but with that, it's critical to also have a view of current traffic patterns.

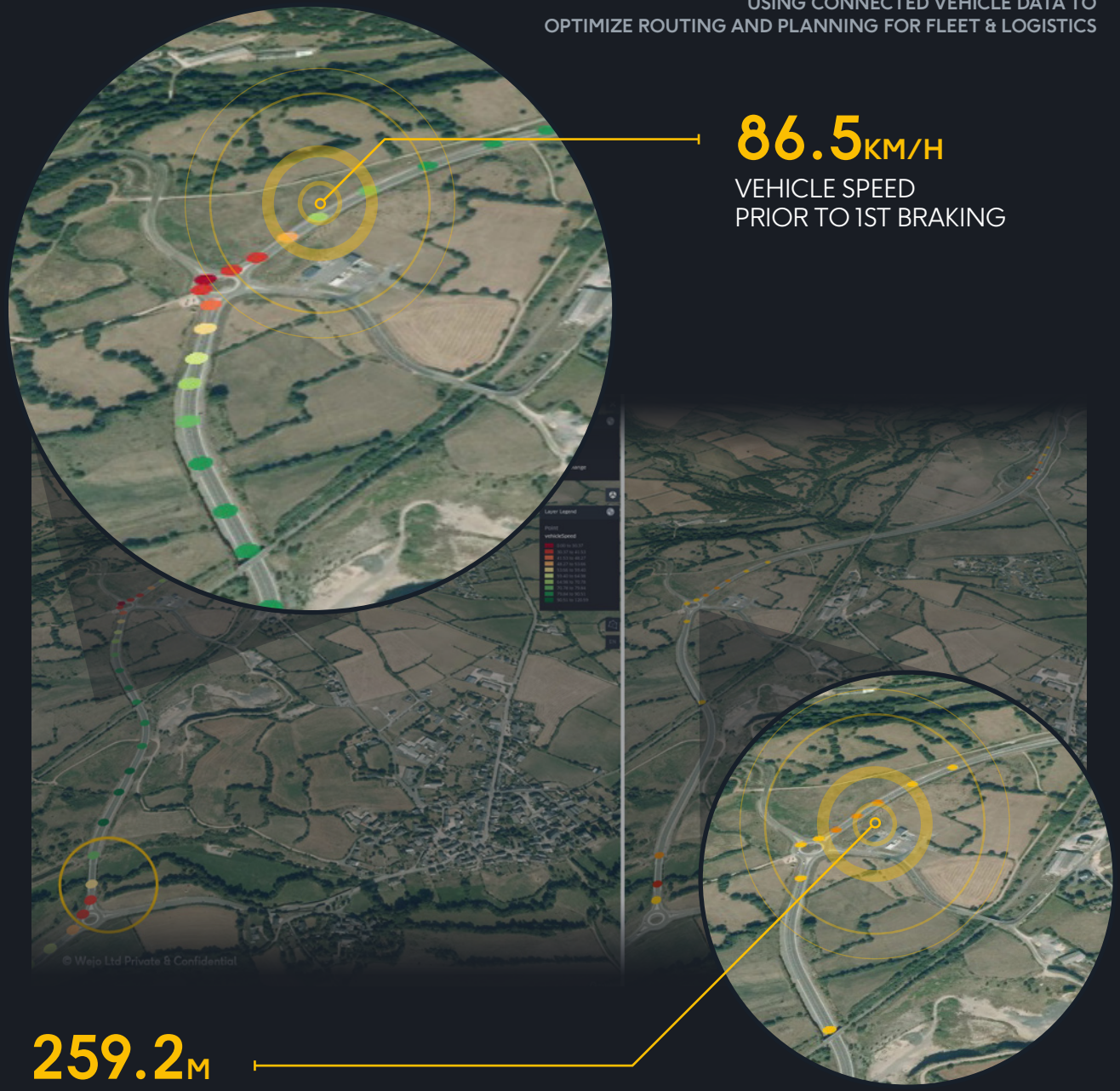
By seeing in near-real-time where an incident or backup has occurred or where there are dangerous weather conditions, route planners can re-direct their vehicles to mitigate delays and ensure driver safety. Wejo data is updated every 3 seconds. Intelligent route planning must balance predictive analysis based on historical journey trends with current real-world events.

CVD provides both sides of this coin, giving logistics and delivery professionals the power to predict and understand in near-real-time how to change routes to meet customer expectations and delivery ETAs. And it's reliable. We have experienced situations where telephone networks go down due to weather or other issues and CVD data is still available.

Wejo data is updated every 3 seconds

Analyzing Sensor Data

Sensors embedded in the car are foundational to the accuracy and reliability of CVD. In this image, sensors tracking vehicle speed and hard braking, or situations when the driver quickly needs to hit the brakes, are shown. These insights are valuable in identifying incidents on the road to keep drivers safe and delays to a minimum. It could also inform how you plan routes and calculate ETAs in the future- for example, knowing which junctions and intersections tend to cause backups during certain times of the day or bad weather.



wejo

Operational Efficiency

The best data is the kind that can help you not only better understand trends related to your business but make informed decisions to optimize it. With the rise in consumer demand for front door deliveries, combined with growing supply chain complexities, operational efficiency has never been more important for fleet and logistics providers. Certain pieces of the supply chain can be hard to manage and can be unpredictable.

Nobody expected the Suez Canal to be blocked for six days in March of 2021, after the grounding of a container ship – an incident that cost billions in logistics costs due to the delays. Because of those aspects of the supply chain that can't be controlled, it is very important to automate and invest in the parts that can be. By becoming a data-driven organization and using CVD to inform route planning, you can optimize from first to last mile to ensure that even if there are unexpected barriers to overcome in between, you are in the best possible position to meet delivery deadlines.

CVD Applied

Fleet & logistics

Identify crash events and road incidents:
Monitor road conditions in near real-time to reroute drivers around congested areas and avoid delivery delays.

Expand in-car delivery options:
Confidently give customers more choice for contactless delivery and receiving packages on their own time.

Plan optimal pick-up and delivery routes:
Use historical traffic data and consumer travel trends to inform intelligent route planning.

Improve driver safety:
Identify areas of high incident rates and dangerous road conditions to optimize route-planning with driver safety front of mind.

Avoid dangerous or difficult roadways:
Gain insight into areas with high incident rates or challenging conditions to design routes that keep drivers safe.

Optimize staging plans:
Determine the best locations for parking vehicles to stage them. CVD can help uncover where it makes the most sense to have stops throughout a journey leverage real time traffic analysis and POIs throughout a route.

Keeping maps current with CVD

While new car models often have updates related to incident warnings, points of interest and live traffic, the underlying maps often go unchanged for years. These outdated maps can pose a risk to your delivery cycle and routing, causing unexpected delays. Effective route planning requires having the most up-to-date mapping and navigation information, and CVD is the most accurate and real-time source of road data to inform that. CVD can ensure you have the latest traffic flow information to direct your fleet and help uncover new roads and routes as soon as they are available.

In the past, updating maps would require intensive resources and a large volume of cars on the roads with cameras to record data and report back. With CVD, maps are updated in real-time and down to lane level precision. One of our customers reported finding 30% more roads using Wejo CVD for route maps. Using the most current and robust maps to determine intelligent routes saves time and results in fewer miles traveled, less vehicle maintenance, less fuel needed, and more on-time deliveries.

// One of our customers reported finding 30% more roads using Wejo CVD for route maps //

wejo

wejo

Using Connected Vehicle Data to optimize routing and planning for Fleet & Logistics

Wejo provides accurate and unique journey data curated from millions of connected vehicles.

Our data helps fleet and logistics organizations unlock a deeper understanding of mobility trends to optimize logistic capabilities, better understand populated urban areas, and create a better experience for drivers.

To learn more about Wejo and how we can support your business needs, get in touch at **info@wejo.com**