



# Dynamic Route Optimization for the United States Postal Service

## THE CHALLENGE

The United States Postal Service, one of the largest logistics organizations in the country, wanted to improve its end-to-end business process performance while simultaneously reducing costs. Meanwhile, its network complexity was soaring, and customers were demanding increasingly sophisticated services such as just-in-time supplies, tracking and delivery updates, and dynamic shipment routing. Addressing these varied obstacles would require a data-driven transformation, so the organization outfitted its entire fleet with location tracking capabilities, which emitted location data once per minute for hundreds of thousands of vehicles.

Making use of this data meant moving away from batch processing, ingesting data in small chunks, a method that leaves analysts days or weeks behind the real-life picture. To cut costs while improving service, the USPS would need to make fast business decisions based on live data. However, popular in-memory relational databases proved prohibitively expensive and complex. The USPS wanted a streamlined solution that could analyze and react quickly to streaming geospatial data from multiple feeds, without breaking the bank.

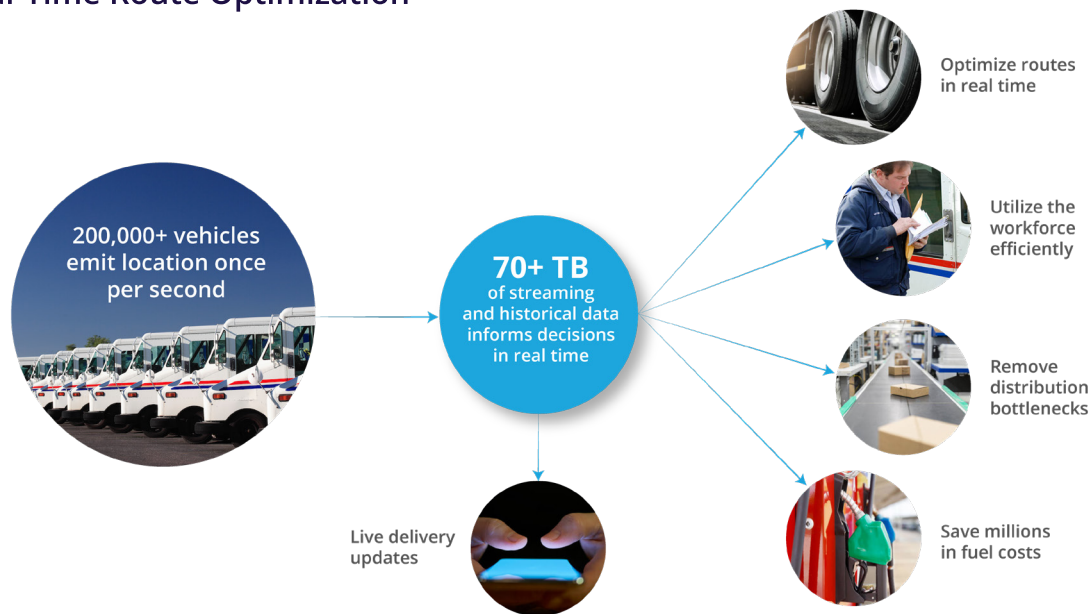
## ACTIVE ANALYTICS SOLUTION

With Kinetica, the USPS is able to save millions of dollars while delivering more sophisticated services, and achieving increased operational efficiency.

Kinetica makes this possible by combining millions of streaming location events from vehicle transmitters with billions of historical events, all available for immediate analysis. This allows managers and analysts to make intelligent data-driven decisions that are instantly reflected in their workforce. Managers at each post office are able to use Kinetica to optimize routes in real-time, applying graph analytics for shortest point analysis to maximize driver efficiency.

USPS has used this new data-powered capacity to streamline operations and remove inefficiencies such as overlapping coverage, uncovered areas, and distribution bottlenecks. The result is millions of fewer miles driven, reducing gas consumption and carbon emissions, all while delivering more items than ever before.

### Real-Time Route Optimization



Previously, the USPS couldn't determine how many items were entering particular distribution centers. Batch processing meant these figures would have taken days or weeks to work out. Leveraging Kinetica to visualize and analyze location data allowed the USPS a live look at individual items and its mobile workforce for the first time.

This opened up new avenues to improve services and operations. Determining actual delivery and collection points enabled status and delivery notifications for customers. Greater insight into the workforce enabled improved contingency planning for when workers were unable to complete routes, and improved workforce utilization by aggregating point-to-point worker performance data. USPS could then perform more accurate ROI planning and better strategic decision-making.