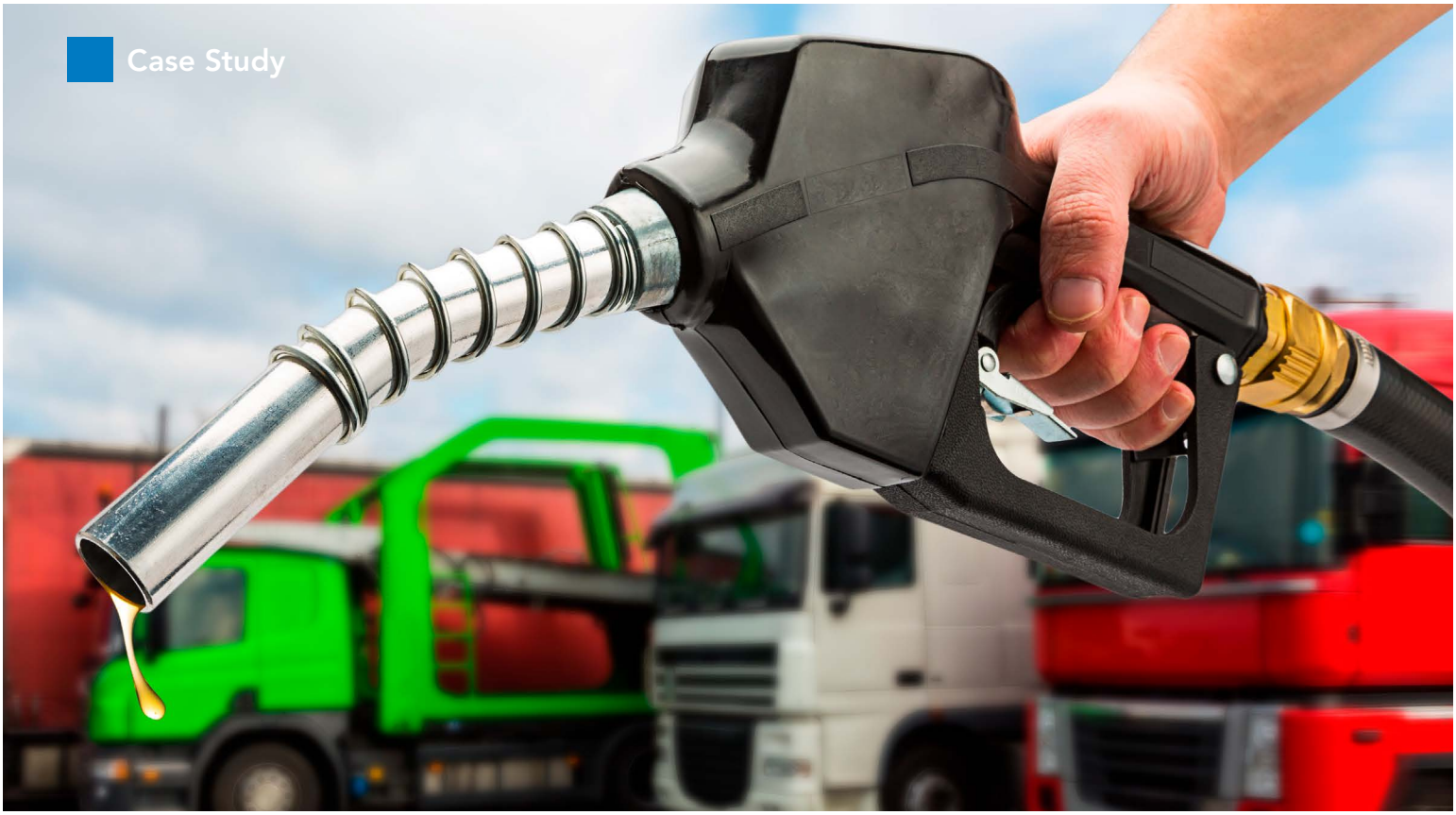
Case Study



INDUSTRY

User

The United States Postal Service Office of Inspector General (USPS OIG)

Challenge

Carefully monitor contracted drivers to detect fuel card fraud.

Solution

ArcGIS® Network Analyst
StreetMap™ Premium for ArcGIS

Results

Monthly analysis and map reports have saved the USPS $5 million.

Analysis and Maps Prevent Fraud

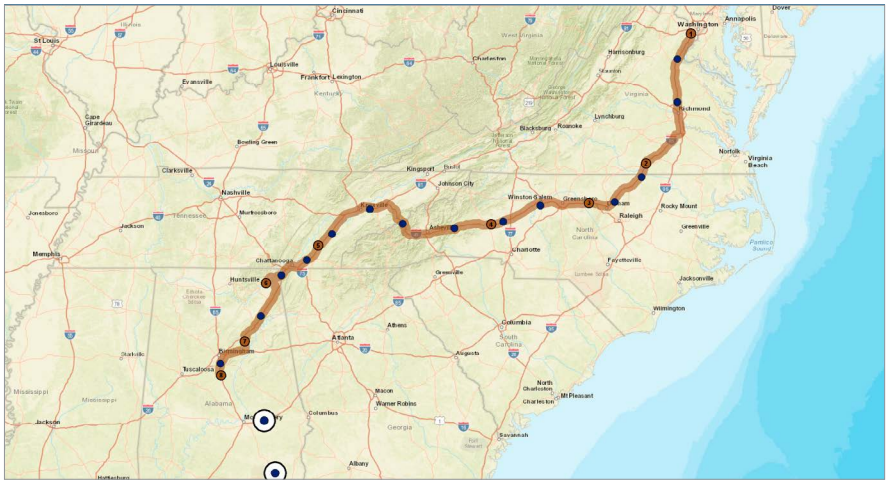
The United States Postal Service Office of Inspector General plays a key role in maintaining USPS integrity and accountability and overseeing revenue, assets, and employees. The USPS OIG conducts independent audits and investigations to help prevent and detect fraud, waste, and misconduct, and to deter postal crimes.

The Challenge

For local mail delivery, the USPS relies on its own mail carriers and vehicles. For long-distance delivery of bulk mail, the USPS contracts with long-haul carriers. The USPS supplies each of its contracted truck drivers with P-Fleet Voyager fuel card—a credit card that can be used to purchase fuel at more than 230,000 locations including retail brand and independent gas stations and truck stops.

The USPS OIG needed a way to carefully monitor contracted drivers to detect fuel card fraud such as using the card to fill an unauthorized vehicle or using fuel purchased on the card to travel outside the USPS delivery route.

"We deal with hundreds of stops and routes and hundreds of thousands of datasets and records on a monthly basis," said Erin Grimm, a geographic information system (GIS) specialist with USPS OIG. "When combing through all of this, it's difficult to identify just the few bad drivers."



The Solution

The USPS OIG selected ArcGIS Network Analyst, an ArcGIS Pro extension that provides network-based spatial analysis tools for solving complex routing problems, and StreetMap Premium for ArcGIS to display, geocode, route, and deploy street data on-premises, behind a firewall.

Geocoding ready-to-use street network data in StreetMap Premium and routing with ArcGIS Network Analyst enable USPS OIG to model each driver's sequence of stops that includes refueling point locations and a five-mile buffer. If the driver purchases fuel outside the buffered area, the usage is recorded in a database, and the fuel card is flagged for potential fraud. If abuse is found, the carrier is dropped by the USPS.

"I don't know of any other product that has such accuracy in geocoding and bulk routing analysis capabilities."

Erin Grimm
USPS
OIG

The Results

Grimm and her team perform monthly analysis of suspected fuel card fraud and use it to create map reports for other agencies inside the USPS and for entities in law enforcement. A static PDF map includes a table view showing each gas transaction's location compared to its distance from the carrier's route. An interactive web map, shared via ArcGIS Enterprise, allows agents to turn certain routes on or off for further review and analysis. So far, this approach to fraud prevention has proved successful.

"For one contractor, we were able to save $5 million by identifying fuel card fraud," Grimm said. "On a monthly basis, we geocode 20 million records. We rely on StreetMap Premium for geocoding and real-time data. We need Network Analyst to create and analyze hundreds of optimal routes that include buffering and restrictions. I don't know of any other product that has such accuracy in geocoding and bulk routing analysis capabilities."

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