Route Optimization for Logistics Companies

A Glance at Clean Freight Strategies

CASE STUDY

One operator that delivers frozen food implemented route optimization software. Within months, the operator achieved a $400,000 reduction in monthly transportation costs, 12% improvement in on-time delivery, 90% fewer brokered loads, and a 10% smaller fleet.

$400,000
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per month

90%
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12%
better
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rate

Carriers and third-party logistics providers (3PLs) can use route optimization to minimize truck miles of travel. Optimization software can take many factors into account, including the orders that need to be shipped, delivery time windows, vehicle characteristics, route restrictions, and hours of service limitations to create the most efficient delivery routes.

WHAT IS THE CHALLENGE?

When 3PLs plan shipping routes, they must weigh many factors, including vehicle capacity, driver availability, customer preferences, delivery windows, road speeds, and weather. Route planning is a complicated process that is prone to human error. Even with a small number of drivers and stops, the number of possible delivery schedules can be huge, making it challenging to optimize. Planning gets even more complicated with bigger fleets, more customer preferences, and tighter delivery windows. Not only is the manual planning process prone to human error, but it is also more time-consuming and harder to adapt as last-minute changes in weather, traffic, and customer orders arise. For 3PLs and their clients, route optimization technology can generate significant productivity and efficiency gains.

WHAT IS THE SOLUTION?

Route optimization software:

- **Considers a variety of factors.** Software tools can input factors such as location of orders and distribution centers, vehicle characteristics, and product requirements, in order to calculate the best route.

- **Provides real-time data.** Many platforms track fleets in real time and use information about traffic conditions and driver availability to dynamically adjust routes. They may also provide alerts if there is a route deviation.

- **Tracks data over time.** These technologies can provide analytics to inform decisions about bids and fleet purchases. One company's software uses machine learning to continue refining routes over time. Another software tool allows companies to conduct a "cost to serve" analysis to determine how profitable a bid might be. These systems estimate costs with high accuracy by assessing required miles, trucks, and drivers. Companies can also use this software to run scenarios with different vehicle capacities, delivery days or customer locations.

- **Improves the customer experience.** One software allows customers to track orders and choose a delivery date and time that works for them.

COSTS

The costs of this strategy include the price of software licenses and the necessary hardware, such as radio-frequency identification (RFID) transponders or smartphones. Implementation also involves onboarding drivers, planners, and sometimes customers (if the technology includes a customer interface).

10-30%

One software company reports that its customers tend to experience an ROI of 10-30% using route optimization.

SAVINGS AND BENEFITS

Companies of all sizes tend to experience a quick return on investment (ROI) and substantial long-term benefits from route optimization software. One software company reports that its customers see an ROI of 10 to 30%. Its customer, an event-planning company, saw a payback in three months.

Increased transparency. These systems enhance transparency, creating more accurate cost projections and providing real-time tracking. Shippers can better predict delays with these tools and proactively communicate with customers.

Improves customer service. A major brewing company reduced its rates of missed time windows by 85% after implementing route optimization software. The software also allows shippers to be more flexible and adaptive, making it easier to respond to last-minute requests.

Improves planning. This strategy saves time for planning staff and limits opportunities for human error. The systems collect data over time and provide historical records to track performance and refine routes. Strategic modeling scenarios also help companies consider a range of opportunities.

Environmental. Route optimization can reduce travel by about 2,500 miles a year for the average driver—equivalent to 3 metric tons of carbon dioxide.

NEXT STEPS

1 Assess current systems, looking at the time, labor, and capital costs of the current process and identifying areas for improvement.

2 Consider the range of available solutions. Factors to consider include scale and complexity of the supply chain, IT infrastructure, and projected ROI. After selecting a software option, companies can run trials to understand how the technology works in a variety of scenarios.

3 Pilot the program. For successful implementation, it is important that the planning, transport, and customer service teams do not work in silos. Active communication with the customers can help further optimize the process. For instance, customers may be flexible regarding time or frequency of delivery; this information can help planners further refine orders.

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