



Advanced Analytics Route Optimization



Challenge

The complexities and higher costs surrounding the logistics and operations of the transportation sector need to be reduced.

Solution

Route optimization software can help identify inefficiencies and provide improvements through an automated, real-time, cloud-based software solution.

How Route Optimization Can Save Time and Costs for Transportation Needs

In today's transportation market, companies are constantly looking for the fastest way to send goods from their pick-up point to their customer's delivery location. Inefficient routing wastes minutes, miles and money, leaving on-time arrivals and important elements of customer satisfaction to chance. At the same time, they are looking to improve efficiency and reduce shipping costs, which cloud-based routing optimization can address.

Current Processes Are Unable to Scale

There are some challenges that route optimization looks to improve, including the ability to scale.

- **In-house logistical operations systems.** Typically, these systems cannot do complex calculations that are needed for route optimization. It is difficult to create and manage an in-house logistical system that has the dynamic ability to consistently update road condition data and other logistical information. Therefore, optimizing through maps is critically important when managing the best routes.
- **Batch model.** This method is used for smaller shipments and may not be optimal for large scale, dynamic shipments. The batch process begins at pre-determined cut-off points, and ends when delivery schedules are finalized.

In-house systems for commercial and logistical operations often lack dynamic route optimization because of the complexity of calculations that are needed, which cloud based solutions offer. Route optimization is valuable for many organizations with a transportation component because it can increase productivity and improve efficiency. Dynamic route optimization improves the timing and routing of shipments over that of the regular batch model.

The Dynamics of the Always-on Model

Routing optimization begins immediately after an order is placed and continues through delivery. This enables more efficient shipments, provides a better customer experience with more choices for delivery options, and potentially requires fewer trucks on the road, further reducing your overall costs of doing business.

Route optimization may include the use of:

- Road mapping sensors
- Fuel consumption monitoring
- Vehicle weight loads
- Time windows
- Meteorology (weather) forecasting
- Historical traffic algorithms

Routing optimization is interactive and constantly available to recalibrate routing, which produces better results. Routes can be updated as new orders are received. Route optimization allows for dynamic delivery appointment with tighter time windows. Same-day delivery is also an option with route optimization. These attributes will likely solve many issues like fewer vehicles on the road, and a lower cost per mile.

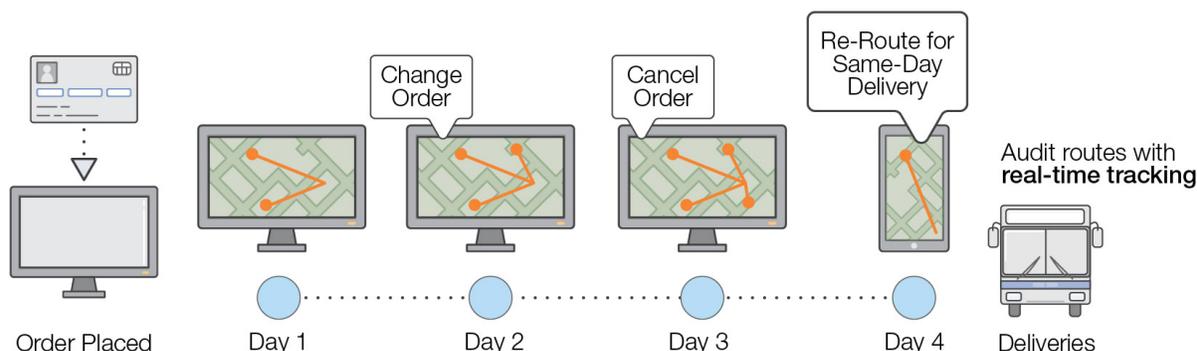
Moving to a Cloud-Based, Always-On Model for Route Optimization

Route Optimization can provide time and money-saving features when you when select a cloud based solution.

- **Saves Processing Time.** Most routing and optimization solutions features tools that will help streamline your business, saving you time in the office and the field.
- **Cuts Operational Costs.** Decrease spending and overhead with an optimized system to manage your customers, employees, work orders, and reports all in the cloud.
- **Reduces Paper.** Store data in the cloud. Schedules, customer records, and other information can be accessed from any device, any place, and at any time.

A Green Technology

An optimized, route-planning solution is also an environmentally friendly or “green” logistics technology. Planning ahead saves time and gas when driving to several different locations. Reduced mileage results in lower fuel usage and maintenance costs, which can mean lower emissions that lead to a cleaner and healthier environment.



Visit <http://aws.amazon.com/mp/routeoptimization> for more information.

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