

REPORT

Data in route optimization

State of play, issues and best practices



Data is at the heart of all logistics processes

Thanks to the digitalization of logistics and the transport industry, it is now far easier to collect and store numerous data. It sits at the heart of every digitalized process, and of route optimization in particular: it links the tasks to be carried out with the resources available. Four families of data feed that calculation.

What data do you really need for route optimization?

01 Data providing details on task orders

Transport orders provide information on every delivery point in the tour:

-  A precise destination address
-  The time slots for delivery
-  The characteristics of the delivery: weight and volume of the package, type of service to be performed

02 Data related to available resources

-  The number of delivery drivers and their work schedules
-  Their locations of departure and end of tour
-  The type of vehicle: size, capacity, loading and unloading constraints

03 Data detailing the specific constraints of an activity

Each industry has very specific constraints that must be taken into account to ensure routes are feasible in the field:

-  Delivery facility constraints: imposed frequencies and schedules, limited simultaneous loading or unloading capacity
-  Specific skills mastered only by certain technicians
-  Regulations to comply with: traffic, schedules, city-centre access

04 Data provided by the software publisher

In addition to the data provided by the customer, a publisher such as Kardinal draws on other data:

-  The geocoding of the addresses to be visited
-  The distances between each point
-  The observed traffic times



The consolidation of all of this data ensures that routes are more relevant and consistent with the reality of the business and with what is happening in the field.

Poor data quality: what is the impact on route optimization?

The challenge is not only to collect as much data as possible, but to ensure that it is of good quality. With poor data, the calculated routes will be unusable.

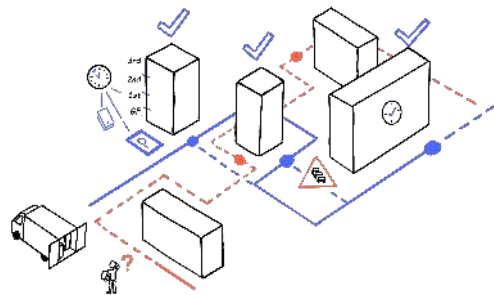
Missing or incorrect data

In logistics, it is very common to have missing or incorrect data: an inaccurate address, interchanged fields, a wrong package weight or size. Manual entry remains widespread, and carriers depend on the data collected by their shipper customers, which is often missing or incomplete.

Data that exists nowhere

Business-specific constraints often live only in the heads of the operational teams, and are recorded in no database:

-  a customer has a preference for a given technician,
-  a driver is late this morning,
-  another is faster in an area he knows better.



In the field: imposed time slots, floors, parking, traffic — constraints rarely found in any database.

If the route optimization software is unaware of this essential information, it won't be able to plan the best routes possible for the operational teams.

Which solutions should be implemented to improve data quality?

For a transportation company, digitizing its processes is a very important project that can quickly overwhelm teams and fail. Three practices limit that risk.

01 Going digital step by step

🎯 OBJECTIVE

To target efforts and start digitizing gradually, beginning with the data already available.

💡 BEST PRACTICE

Start with small projects: few resources, a small dedicated team, local testing, then widen the scope with each iteration.

📈 BENEFITS

Acquiring a true understanding of your data needs, without turning the entire organization upside down.

02 Start with simple and practical use cases

🎯 OBJECTIVE

To simplify the implementation of the project and measure its benefits quickly.

💡 BEST PRACTICE

Identify practical uses of data in the field: telling customers the arrival time of their package in real time, which assumes their phone number or email is known.

📈 BENEFITS

Short projects bring value quickly: employees better understand the usefulness of the approach and integrate it into their work habits.

03 Change management support

🎯 OBJECTIVE

To make teams accept the changes in their daily lives.

💡 BEST PRACTICE

Set up a dedicated team for the project, involve the teams from the start to learn from their feedback, and show them the benefits gained in their daily work.

📈 BENEFITS

Teams are truly involved in a project that matches their business needs, and measure their role in its success.

More than a software provider, a partner on data issues

A route optimization software publisher must be able to support its clients through their digital transition: understanding their data, revealing the constraints of the field and translating them into the route calculation.

This is exactly the role Kardinal plays alongside its clients, to bring any route optimization project to a successful conclusion.





Ten years of logistics optimization, within reach.

Kardinal is a technology company that supports logistics players in the digitization and optimization of their transport operations.

Powered by artificial intelligence, Kardinal provides solutions dedicated to operational performance optimization, for a logistics that is more efficient, more agile and more sustainable.

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