



Tipping Point: Rethinking Route Optimization

How a Global Crisis is Pressuring Supply Chains

Tipping Point: Rethinking Route Optimization

Businesses in 2020 look nothing like the past. The pandemic and resulting customer behavior shift have put traditional fleet-based distribution networks under tremendous pressure. This created huge volatility in order volume that shows no sign of slowing. The pandemic has forced companies to rethink how they plan and execute their fleets.

Traditional Static & Master Routes Are Too Rigid

The widely divergent customer demand caused by Covid-19 has shown that using static or master routes to plan deliveries is no longer the most effective strategy. While the pandemic has made it abundantly apparent that companies needed to be more agile, customer behavior had been chipping away at the static or master route model for years. Customer expectations are increasing; they want more flexibility in ordering; their order sizes vary more; and there are more “off schedule orders”. Coupled with these demands, they still expect greater visibility and a high level of customer service. The challenge is to balance these new demands while reducing costs. Static and master routes are not able to keep up with the degree of change, resulting in higher fleet costs, uneven customer service and highly stressed manual efforts to address them.

Covid-19 Forcing Companies to Rethink Route Planning

There are three approaches to improve route planning performance: (1) incremental improvements, which requires frequent updates to static and master routes; (2) a fundamental switch to a dynamic route model; and (3) a hybrid approach where the top tier customers are served through master routes, while lower volume customers are scheduled dynamically.

Incremental improvement to master routes is a more conservative approach (i.e. less change management) and has its own set of challenges such as how often to re-plan the routes to address changes in customer demand in a cost-effective way. For many distribution companies, becoming more agile at planning is an impossible task as the traditional process includes multiple steps that take too long, resulting in less frequent updates and new routes that were already outdated. Moreover, without the proper tools, the quality of the output is heavily dependent on the individual's judgment and critical thinking skills. This makes it difficult to scale and repeat in a consistent manner. A more effective and repeatable approach is to use strategic route modeling to quickly create efficient static and master routes that meet customer



Covid-19 Forcing Companies to Rethink Route Planning (cont'd)

Dynamic route planning is the best approach to address today's changing demand and provide the flexibility for tomorrow's uncertainties. With dynamic route planning, deliveries are optimized based on actual orders. No longer constrained by fixed routes or territories, the fleet can be optimally deployed to best serve customers and operating at the lowest cost. However, with dynamic route planning there is more business process change management required to get all customers to be more flexible about the dates and times they can be serviced.

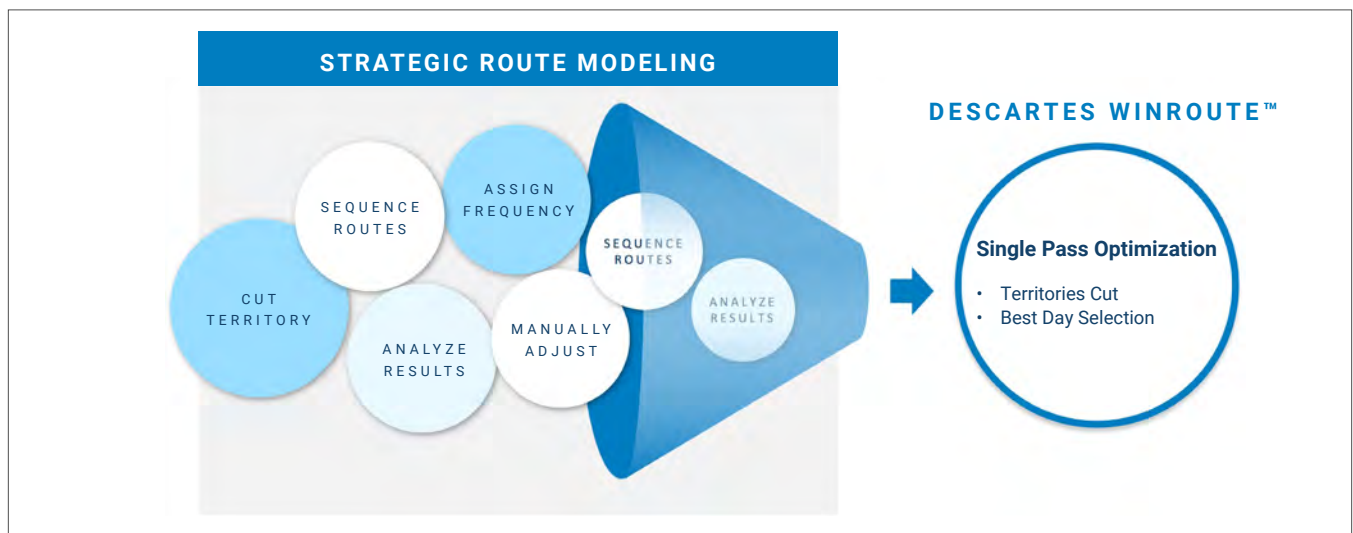
Many distribution customers have been reticent to adopt dynamic planning because it didn't create a regular visitation environment between the customer and the driver. Much of that rationale is gone, but there are still key accounts that demand it. Hybrid planning combines the power of dynamic planning with the ability to service anchor accounts on a regular basis. Dynamic planning creates more efficient routes than static or master routes and can handle variable demand much better. By adding the ability to plug in anchor accounts, distribution companies can get the benefits of dynamic planning and keep key customers happy. Anchor accounts can be seeded within the schedule and dynamically assigned other customer orders. This approach is much more cost effective than static and master routes, and automatically adapts to changes in demand.

More Flexible Route Planning Requires Next Generation Technology

Route planning and optimization software has changed dramatically over the past 10 years, and selecting the right solution is critical for transformation and success. The capabilities needed include:

Strategic Route Modeling

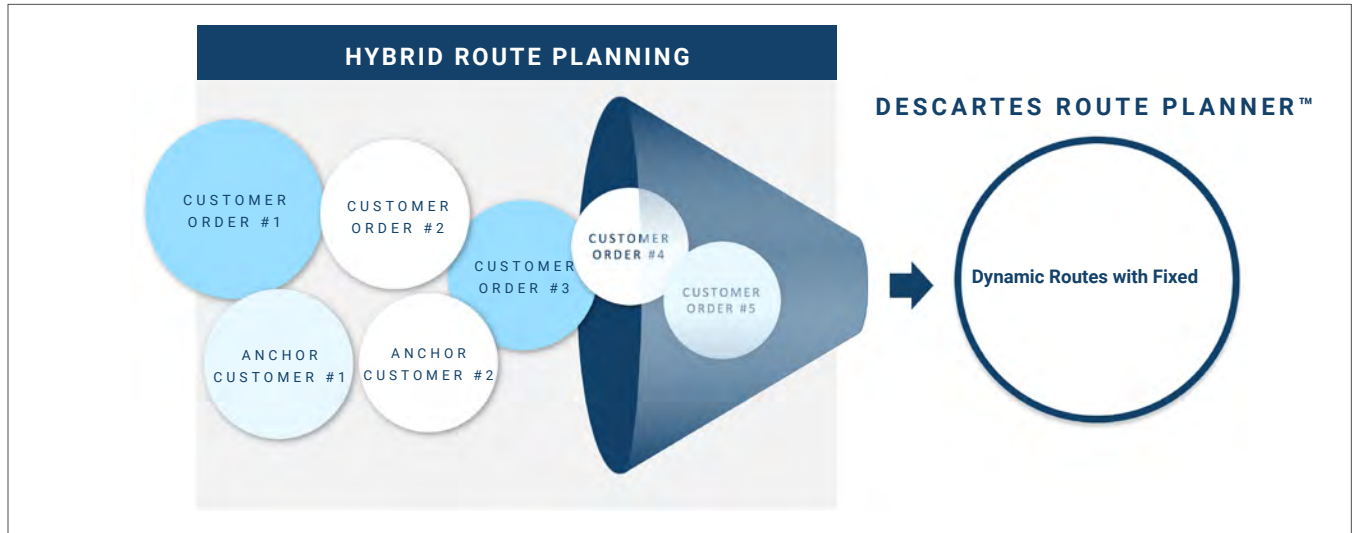
Descartes route planning software uses a single pass approach to strategic route modeling, which is a quick and powerful way to reset distribution operations. These kinds of tools have been around for a while, but Descartes has next generation optimization technology that further speeds up the process and produces superior results versus traditional sales and territory planning solutions. Traditional tools require multiple steps to get to an answer. First, territories have to be cut, then assign delivery frequencies and delivery days selected and finally sequence routes. In each step, an analysis must be completed to see if that step violated any conditions of the previous step. Also, frequency is a trial-and-error exercise. With Descartes WinRoute™, all 3 steps occur in a single pass and the optimal frequency is an output, not an input. This approach is much faster and more effective especially for distribution organizations that are trying to be more agile to react to today's changing demand and need to pivot to new business models.



More Flexible Route Planning Requires Next Generation Technology

Hybrid Route Planning

With Descartes Route Planner™, distribution businesses can execute dynamic and hybrid planning in a single solution. Descartes software has a unique approach to optimization that allows there to be different customer types with attributes that the optimization engine uses to best plan routes. The continuous optimization capabilities of the solution provides the ability to plan orders as they are booked and seed anchor orders for key customers. Built to be “lights out”, planners only have to review the results as they are being planned and focus on exceptions.



Thriving in the New Normal

The pandemic has changed the way we think about supply chains and companies are transforming the way they do business. Industry-leading distribution companies are taking the opportunity to recast their business and make strategic changes by asking themselves these tough questions:

- Are we adjusting master routes fast enough to meet rapidly-changing customer order volume and delivery locations?
- How much productivity will we gain with dynamic route planning?
- Can we use hybrid planning to address key customers and reduce transportation costs?

Becoming more flexible and productive is key to thriving in the new normal — is your organization doing enough?



When evaluating route planning software, it is important to ensure you validate that optimization capabilities cover all of your use cases, as explained in more detail in the following blog: [Advanced Route Optimization Solutions Are Not Built Overnight.](#)



About Descartes Systems Group

Descartes (Nasdaq:DSGX) (TSX:DSG) is the global leader in providing on-demand, software-as-a-service solutions focused on improving the productivity, performance and security of logistics-intensive businesses. Customers use our modular, software-as-a-service solutions to route, schedule, track and measure delivery resources; plan, allocate and execute shipments; rate, audit and pay transportation invoices; access global trade data; file customs and security documents for imports and exports; and complete numerous other logistics processes by participating in the world's largest, collaborative multimodal logistics community. Our headquarters are in Waterloo, Ontario, Canada and we have offices and partners around the world.

Learn more at www.descartes.com and connect with us on [LinkedIn](#) and [Twitter](#).

Uniting the People & Technology That Move the World.