SOLUTION BRIEF

Vehicle Routing and Scheduling (VRS) for High-Volume Fleet Owners

Last-mile delivery is where transportation plans collide with real-world constraints: traffic, time windows, exceptions, and changing customer expectations.

For fleet owners operating private or dedicated fleets, these daily variables directly impact cost, service levels, and customer experience.

E2open Vehicle Routing and Scheduling (VRS) helps fleet owners execute reliably in dynamic conditions by combining route optimization, dispatch, driver execution, and customer visibility in a single, continuous optimized environment. The result is greater control across daily operations, with fewer manual interventions and more consistent on-time performance. Typical outcomes include:

- **Reduced cost per stop** through optimized routing and higher fleet utilization
- **Improved on-time delivery** performance and SLA adherence
- **Increased stops per driver** through better route efficiency
- **Lower dispatcher workload** through automation and exception-based management

The last-mile challenge for fleet owners

For fleet owners, last-mile operations are a daily balancing act between high delivery volumes, tight margins, and rising service expectations, often supported by lean dispatch and operations teams. This is especially true for brand owners, BCOs, and shippers running private or dedicated fleets to protect service and customer experience. These operational pressures typically manifest in several common challenges:

Fragmented planning and execution: Route plans, driver activity, scanning, and customer updates often live in disconnected tools or spreadsheets, limiting control and creating inefficient handoffs.

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Manual, inconsistent dispatch processes: Teams may rely on paper, phone, or radio to coordinate drivers and changes, creating delays and avoidable errors.

High cost per stop: Sub-optimal routing, manual workflows, and limited data insight increase fuel, labor, and service failure costs.

Limited real-time operational visibility: When dispatch can't see live progress, exceptions, and proof of delivery, operations become reactive firefighting instead of proactive management.

The complexity spikes when the day changes. Traffic delays, failed delivery attempts, urgent same-day orders, and shifting delivery windows all force route updates, yet operations must adapt quickly while still protecting service levels.

At the same time, customers increasingly expect accurate ETAs, real-time shipment visibility, proactive communications, and reliable on-time delivery, making visibility and promise management an operational requirement, not a "nice to have."

Introducing e2open Vehicle Routing and Scheduling (VRS)

E2open Vehicle Routing and Scheduling (VRS) automates planning, loading, tracking, and routing processes to maximize driver-vehicle utilization and improve on-time delivery performance, boosting client satisfaction.

VRS uses a combination of historical execution data and real-time inputs (such as traffic conditions, new orders, and delays) to continuously evaluate and improve routes throughout the day.

Backed by real-time visibility and dispatcher-to-driver communication, VRS helps teams respond quickly to disruptions and keep operations running smoothly with data-driven decision support and intelligent prioritization of service risks.

How VRS manages dynamic route updates and exception management

VRS removes manual work from planning by automating daily planning and dispatch, while still giving dispatchers control. Dispatch teams can plan by territory, use advanced allocation to select the best driver based on factors like location, working hours, and appointment time, and then optimize stop sequencing to calculate updated ETAs.

Routes are continuously evaluated and refined without requiring full replanning, allowing new jobs and disruptions to be incorporated dynamically. VRS addresses these challenges in several key ways:

Continuous route optimization: Incorporate new jobs into the best route as conditions change.

Manage by exception: Automated planning and allocation save dispatcher time so teams can focus on exceptions, with system-highlighted risks and priorities helping dispatchers act faster.

Real-time dispatcher-to-driver communication: Built-in messaging supports faster decisions when a driver is behind schedule or an exception occurs.

Earlier issue detection: Dashboards and alerts help teams see service risks before they occur.

How VRS meets customer expectations for visibility and on-time delivery

VRS provides comprehensive visibility across the delivery lifecycle. Dispatchers can monitor live vehicle progress and job status with dashboards that support predictive ETAs and exception notifications, helping teams intervene earlier.

Customers and internal stakeholders can receive shipment progress updates through notifications and a tracking portal, including in-transit notifications with updated ETAs.

VRS enables a branded customer experience with proactive notifications, real-time tracking, and two-way communication, helping reduce "Where is my order?" enquiries and improve customer satisfaction.

VRS also enables digital proof of delivery (e.g., signature capture) to close the loop quickly and reduce customer enquiries.

Data-driven decision support in VRS

VRS applies data-driven optimization and real-time operational intelligence to help fleets execute reliably in dynamic conditions.

In practice, this includes:

- Continuous route optimization using historical and live operational data
- Predictive ETAs to support accurate promise management
- Automated identification of service risks and priorities for dispatch teams

Solution capabilities

Plan and optimize deliveries:

- Route optimization and stop sequencing
- Territory planning and driver allocation
- Full and partial optimization

Execute and manage in real time:

- Dispatch portal for monitoring and exception management
- Driver mobile application with navigation, scanning, and status updates
- Real-time communication between dispatch and drivers

Engage customers and stakeholders:

- Customer notifications and tracking portal
- Delivery updates and ETA communications
- Two-way interaction and delivery instructions

VRS integration and deployment

VRS is designed to integrate seamlessly into existing transport and supply chain ecosystems.

- Pre-built integration patterns with ERP, OMS, WMS, and TMS platforms
- Supports real-time data exchange for orders, status updates, and proof of delivery
- Run as a standalone solution or connected into e2open Transportation Management environments

Why VRS: execution depth for fleets that operate at scale

Unified dispatch planning and execution workspace: A single operational view that brings together route optimization, live tracking, job status, exceptions, and customer commitments.

Execution depth, not just planning or visibility: End-to-end workflow from optimization through driver mobility, dispatch, and customer portals, reducing handoffs and operational blind spots.

Continuous optimization vs static planning: Routes evolve dynamically throughout the day, rather than relying on batch planning cycles.

Operationally proven at scale: Supports high-volume, high-density delivery environments across large fleets and multi-region operations.

Transforming last-mile operations

Before VRS:

- Static route plans and manual dispatch
- Limited visibility and reactive operations
- High cost per stop and inconsistent service

With VRS:

- Dynamic, continuously optimized routes
- Exception-based management with real-time visibility
- Improved efficiency, lower costs, and higher service reliability

Executing reliable last-mile delivery at scale

In last-mile operations, every stop is a moment of truth—for cost control, service reliability, and the customer experience your brand promises. E2open Vehicle Routing and Scheduling (VRS) brings planning, dispatch, driver execution, and customer visibility into one continuously optimized workflow, so teams can respond to change in real time without adding manual effort.

The result is a fleet operation that scales—more stops per route, fewer service failures, and better outcomes for dispatchers, drivers, and customers alike by improving on-time performance while lowering cost per stop.

Turn planning into consistent execution.
Speak with an e2open expert to see how VRS helps high-volume fleet operations reduce costs, improve on-time performance, and respond faster to real-world disruptions.

Request a **meeting**

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