Transportation Management System Capability Guide

for Shippers

Capability Guide. Shipper Scenario



if you are a Shipper company that manages the transportation process of its sales (and purchase) orders and uses either its own transport with its drivers or hires, as well as uses third-party carriers.

- Order Grouping
- Routes and Zones
- Load Management
- Route Management
- Weight, Volume, Footage Control
- Load Sequencing & Optimization

- Charge Management
- Scheduler
- Drivers
- Vehicles
- Carriers

Capability Guide



Documents

Transport Request

is a transportation request based on internal company documents, such as purchase orders, sales orders, or transfer orders. It defines WHAT needs to be transported, where the goods are to be picked up, and where they need to be delivered, while also specifying the shipper and the consignee.

Logistic Units

is an item of any composition intended for transportation. Logistic units take many forms: a single box containing a limited number of products, a pallet with multiple products, or an intermodal container containing multiple pallets.

Delivery Order

is a document that details HOW the transportation will be carried out. It specifies the carrier, driver, and vehicle. The Delivery Order represents the actual journey of the truck, outlining the stops where loading or unloading will take place.

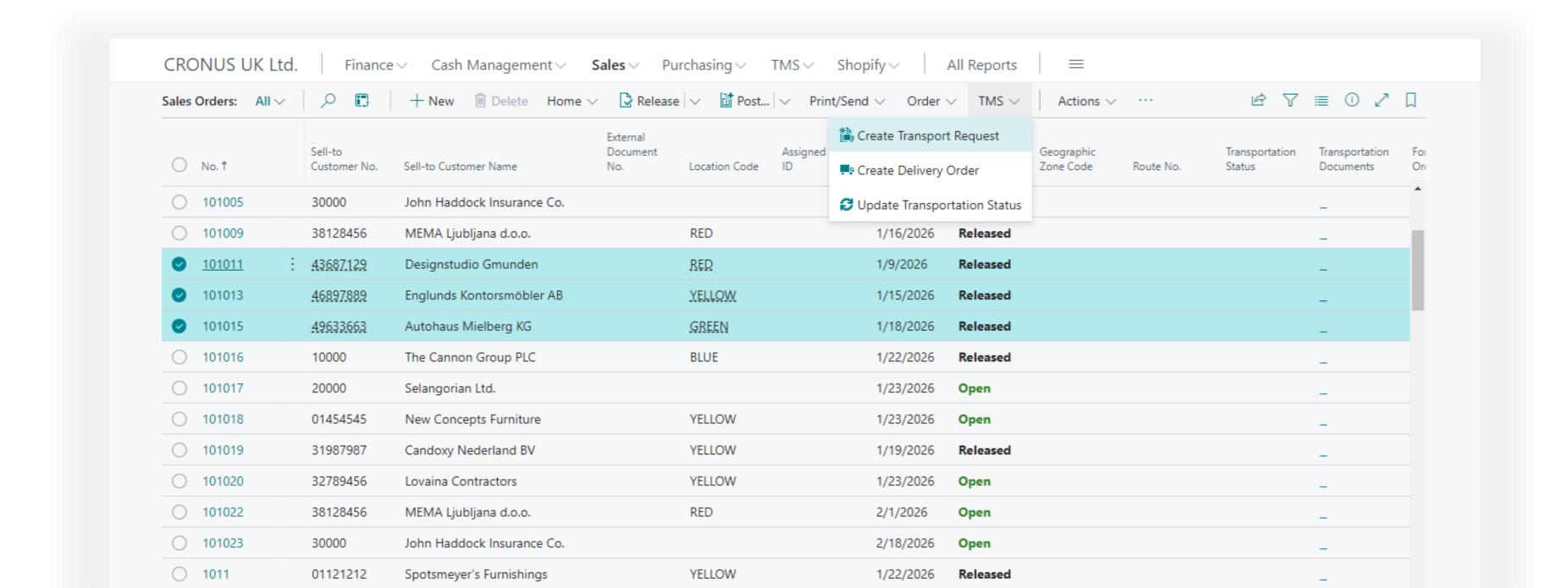
What will be transported?

How will it be transported?

Capability Guide



The simplest way to send orders for transportation is by selecting one or more documents directly from the list of source documents and invoking the appropriate function: Create Transport Request or Create Delivery Order, depending on the objective.



Capability Guide



From any list of source documents, the **Transportation Status** and **Transportation Documents** fields allow you to determine whether the document has been sent to the TMS module for transportation, if a delivery order has been created, and whether this applies to the entire document or only certain lines.

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Transportation Management System

Transport Request



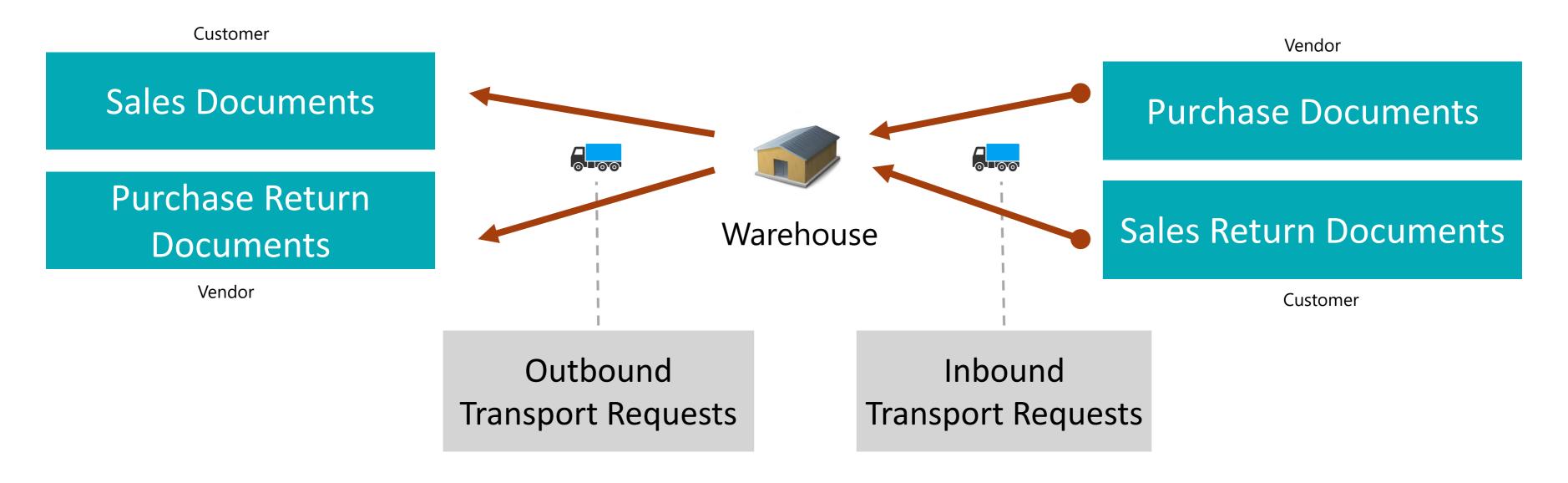
The Transport Request document covers the following functional areas of the TMS.

- Order Grouping
- Routes and Zones
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- Charge Management
- Scheduler
- Drivers
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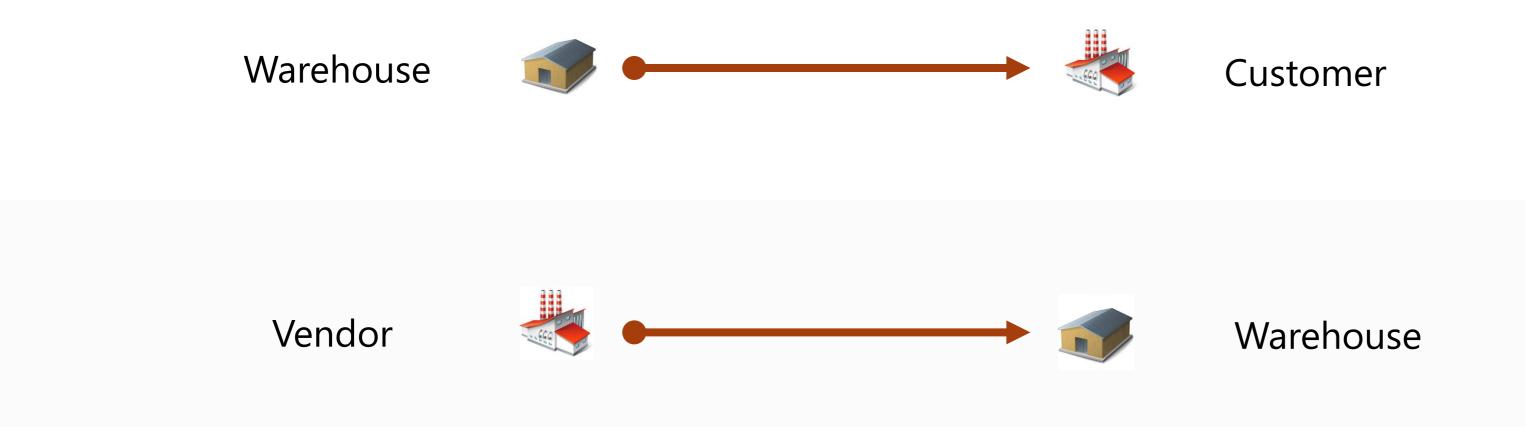


To transport something from one place to another in the TMS module, you need to create a Transport Request. The request can be created for any document, whether it has been posted or not. A Transport Request serves as an assignment or instruction, indicating that these specific items need to be delivered from this location to that destination.



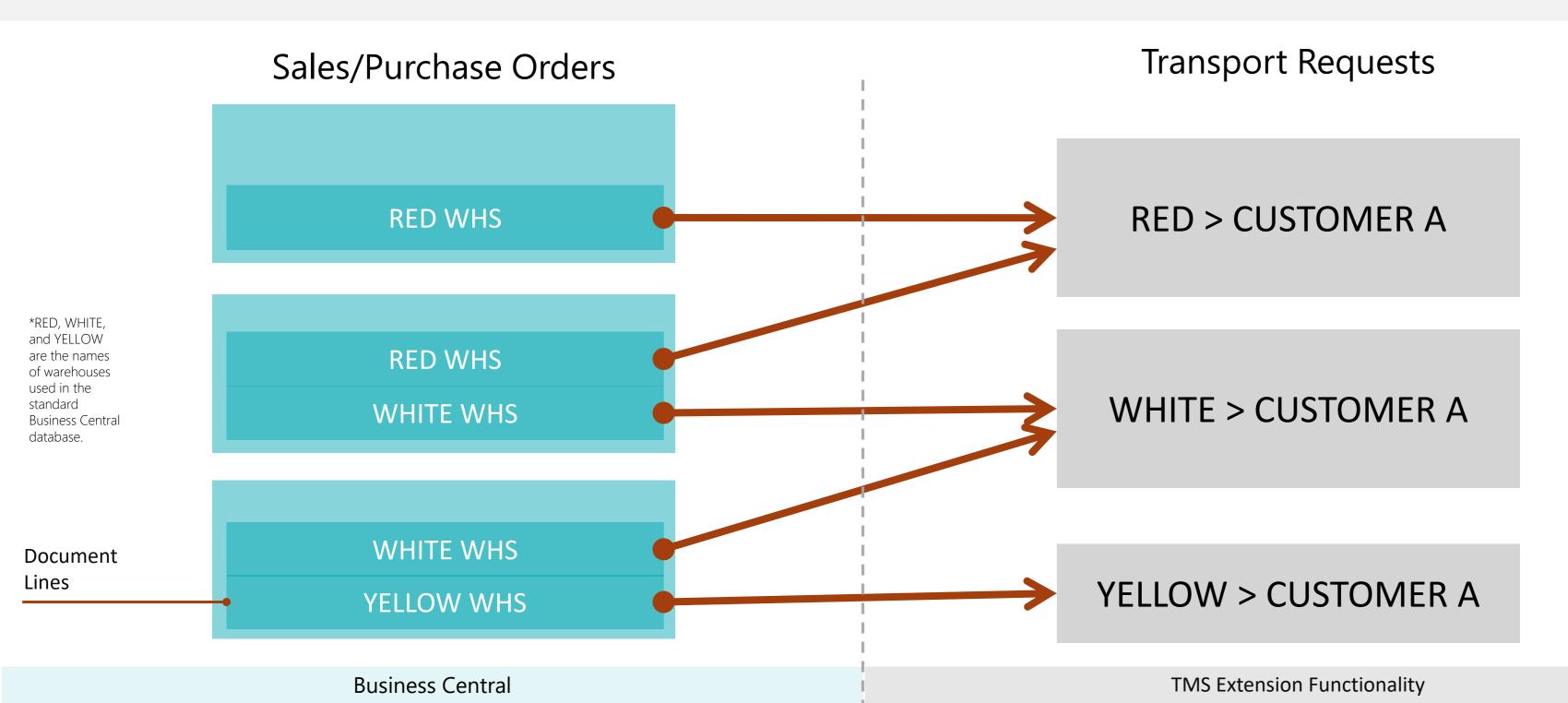


Transport Request is a document used to initiate a request for organizing the transportation of goods from one point to another. It serves as a formal request for transportation services. This document can include line items from various source documents, but they are grouped based on the principle of moving from point **A to point B**. It does not include complex routes or multiple stops, focusing solely on straightforward point-to-point transport requests.



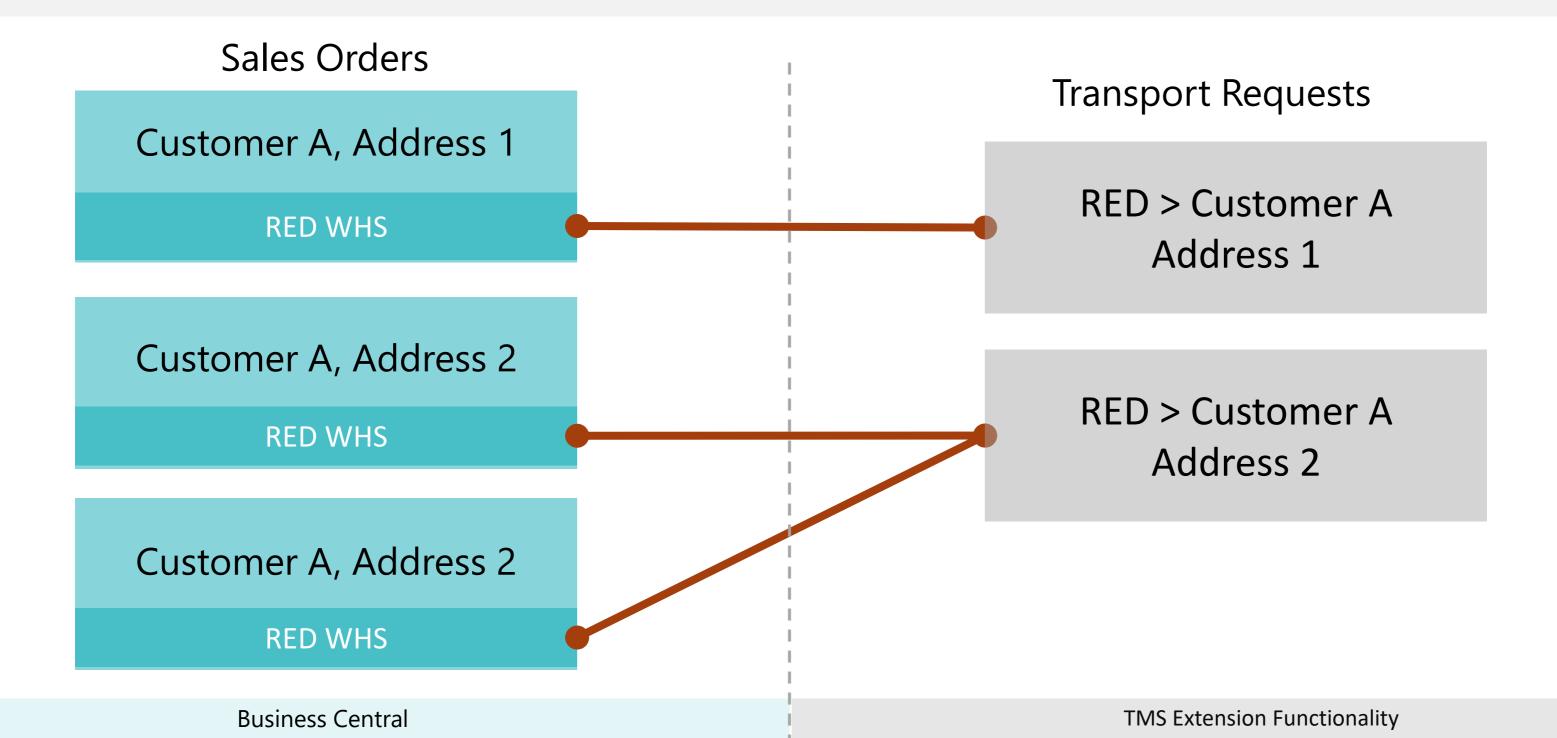


The Transport Request allows grouping source documents based on the warehouse from which goods will be shipped or received. The connection is made at the line level, as in Business Central, different lines within the same document can be associated with different warehouses.





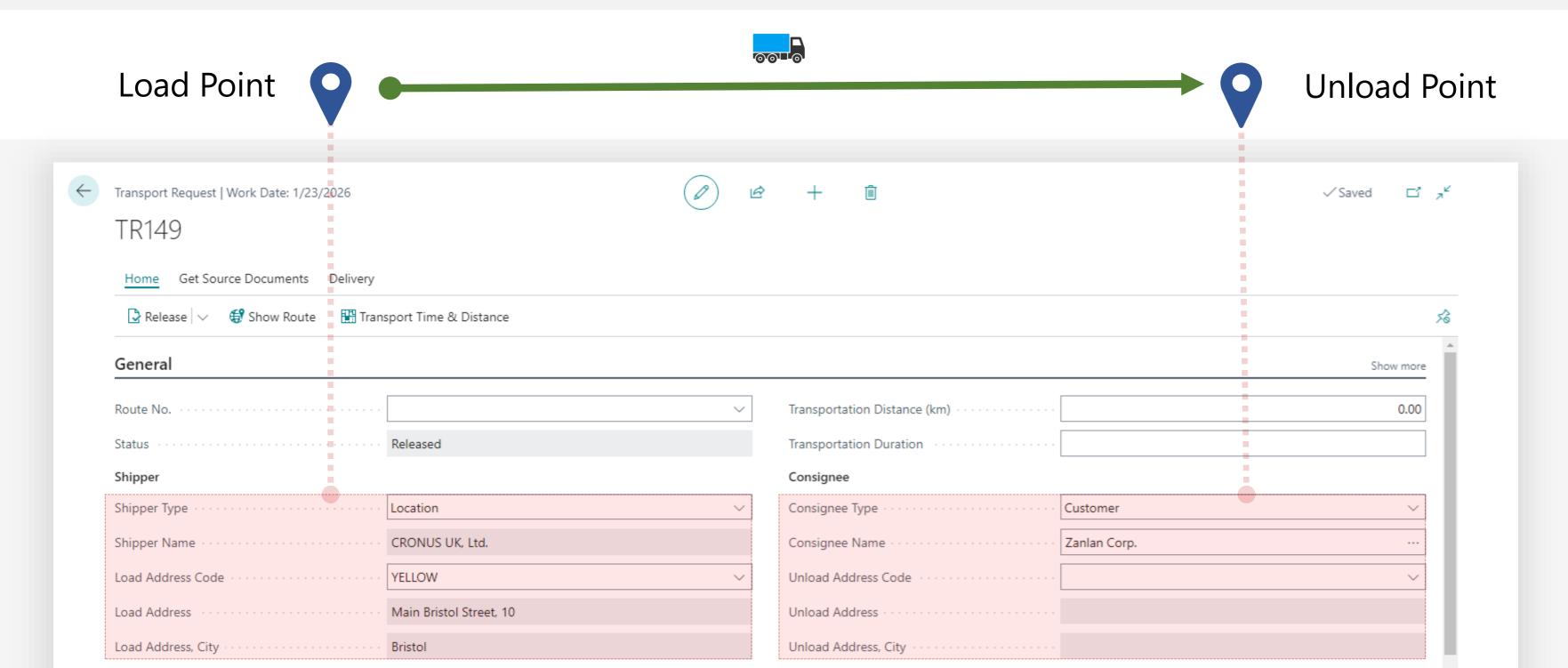
The **Transport Request** allows grouping source documents based on the destination address where the delivery is to be made, within a scenario where goods are shipped from a single warehouse to a single customer, but with different delivery addresses for each order.





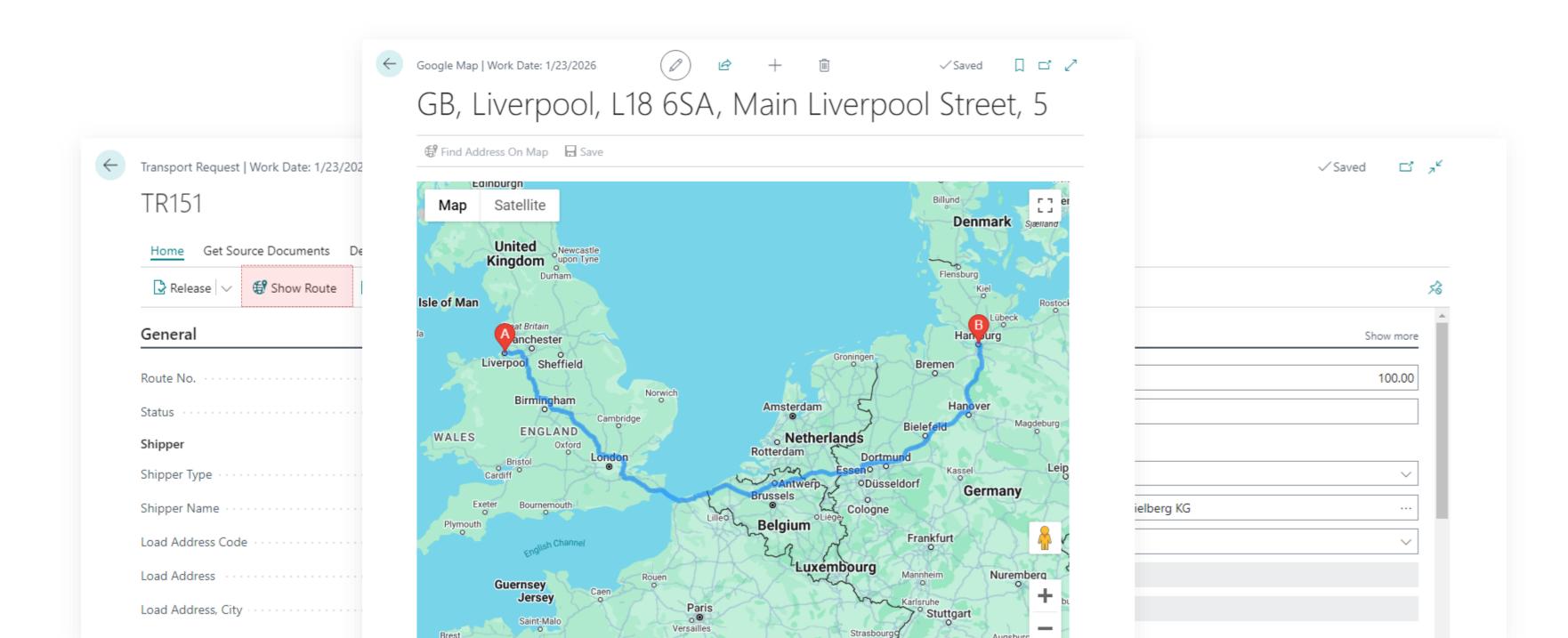


The key parameters of a Transport Request are the pickup and drop-off locations—where the goods are coming from and where they are going. The Shipper and Consignee can be our warehouse, a customer, or a vendor, offering flexibility to meet various transportation needs.



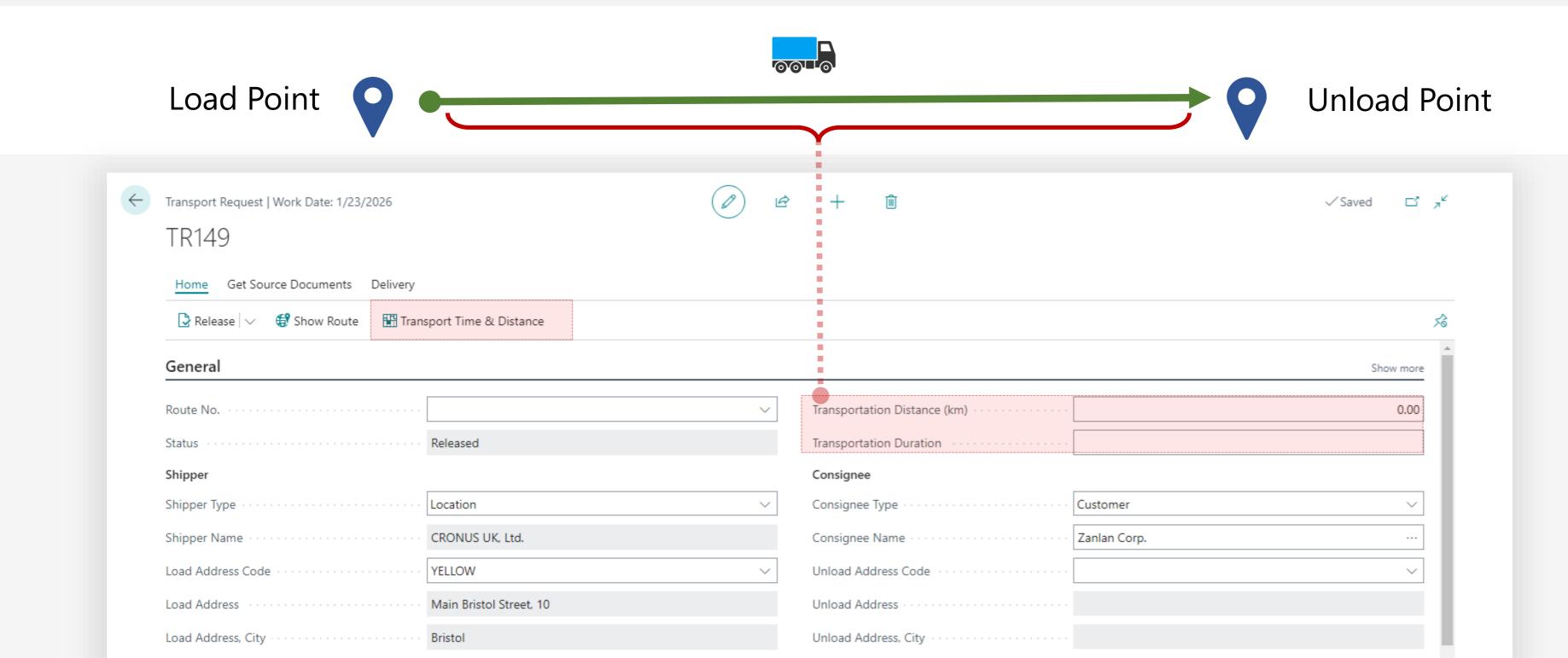


The **Transport Request** leverages MAP Location data, matched with warehouses, suppliers, customers, or client and supplier addresses, to visualize the transportation route. This provides greater clarity and accuracy when planning the route.



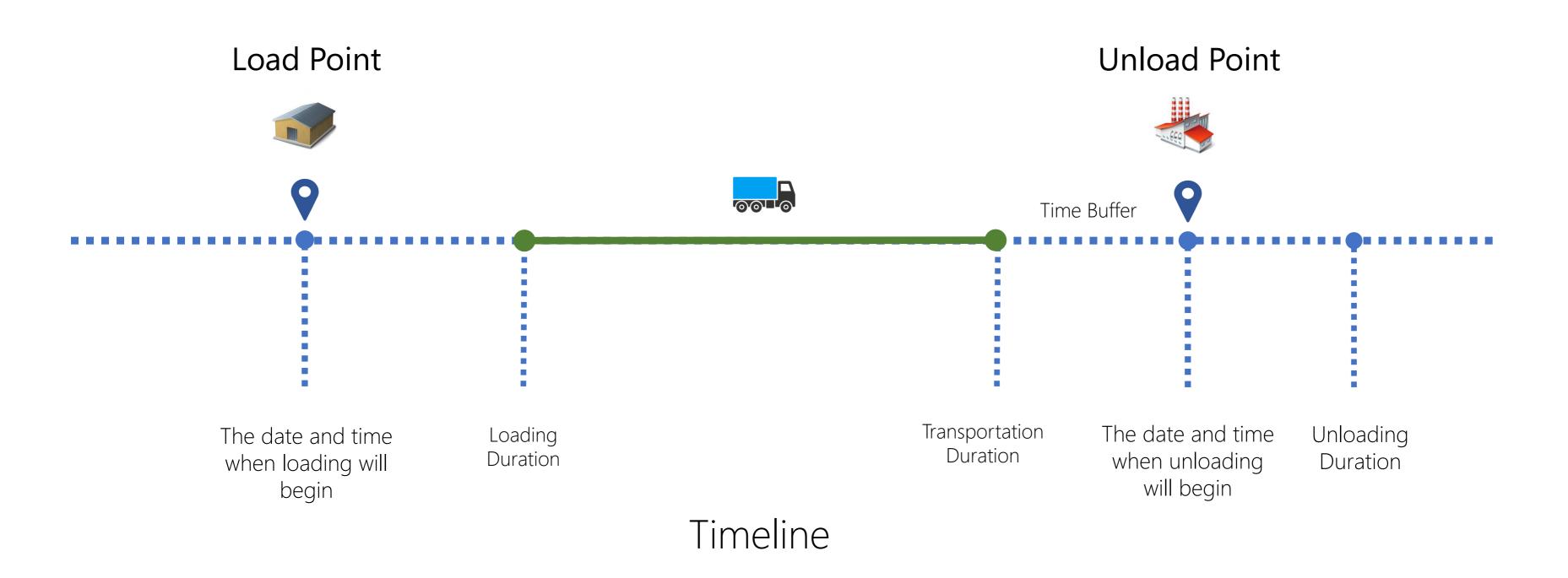


The Transport Request offers powerful tools for estimating both the duration and distance of the transportation, ensuring precise planning and efficient execution.



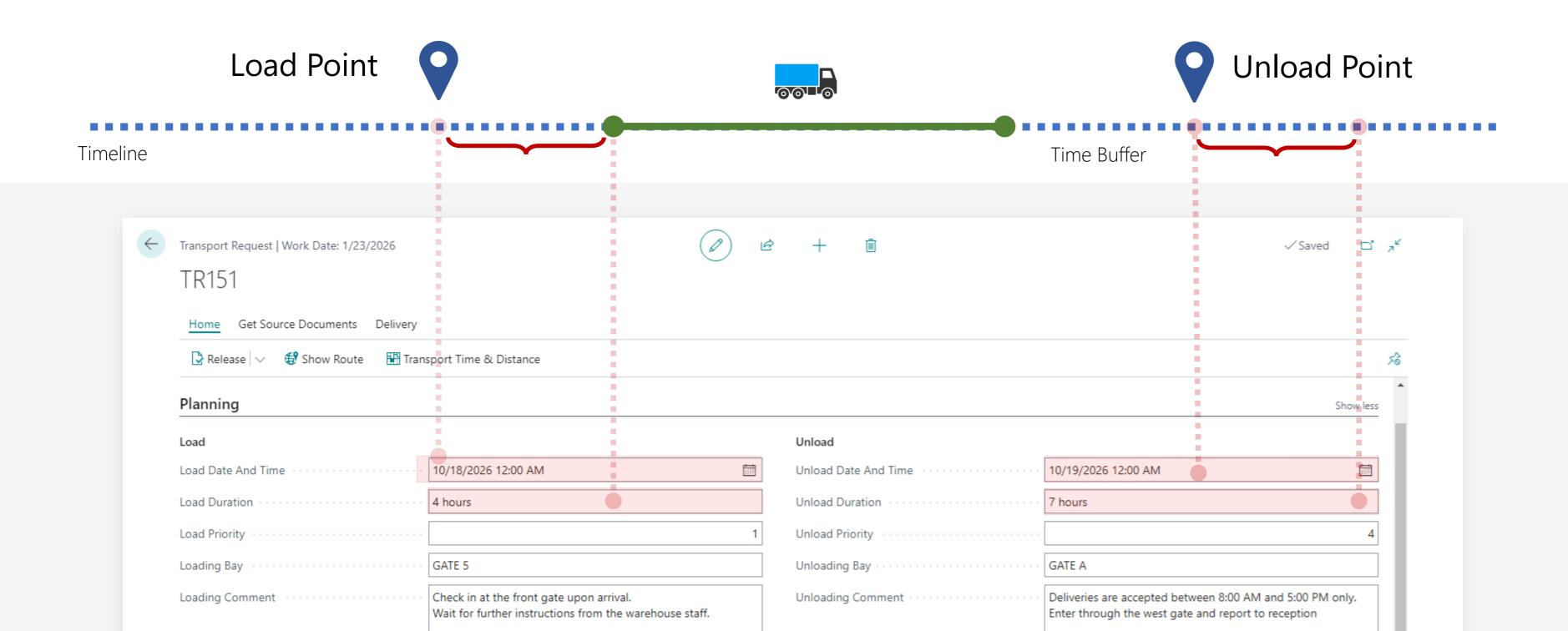


The **Transport Request** allows you to precisely specify the required parameters: location, date, time, and most importantly, the duration of key transportation stages. The transportation duration can be estimated using the Google MAP API.



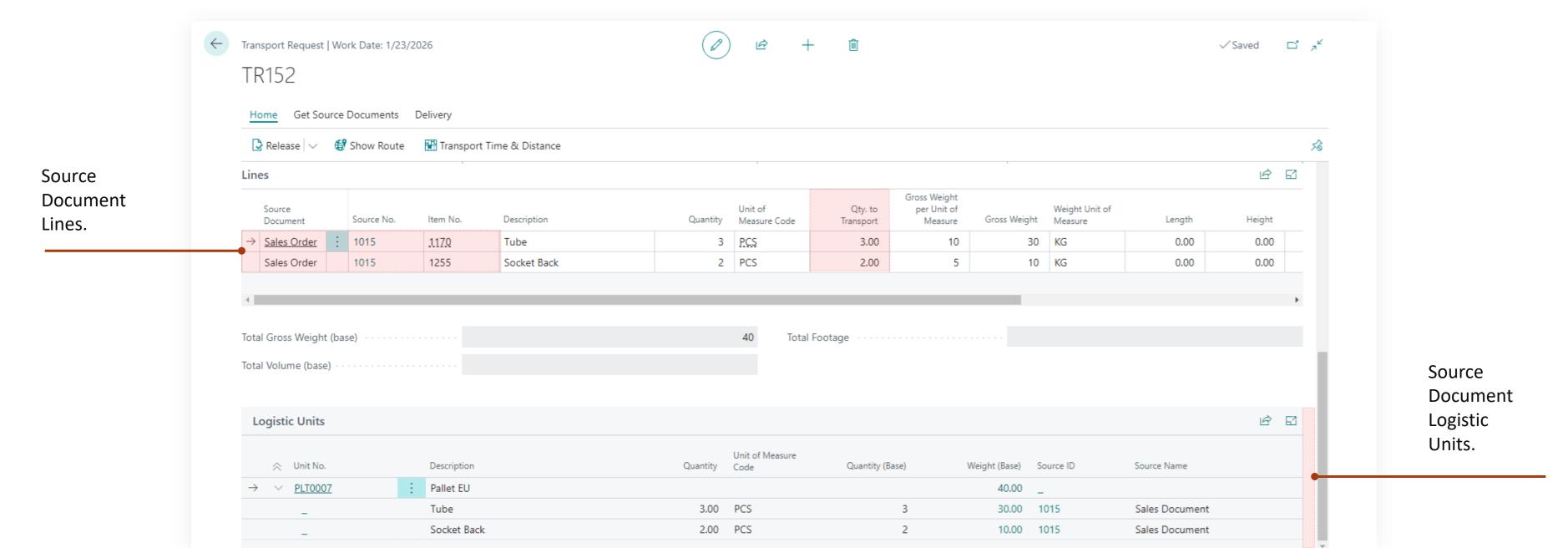


You can provide additional information about the loading and unloading locations that may be useful for the driver, such as the gate and the loading sequence.





The **Transport Request** includes line items from source documents and gives you the flexibility to adjust the quantities for the current transportation, allowing for multiple deliveries when needed by one source document. If the goods are packed into logistical units, that information is clearly displayed, ensuring seamless and organized transportation planning.



Transportation Management System

Delivery Order



The Delivery Order document covers the following functional areas of the TMS.

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- Routes and Zones
- Load Management
- Route Management
- Weight, Volume, Footage Control
- Load Sequencing & Optimization

- Charge Management
- Scheduler
- Drivers
- Vehicles
- Carriers



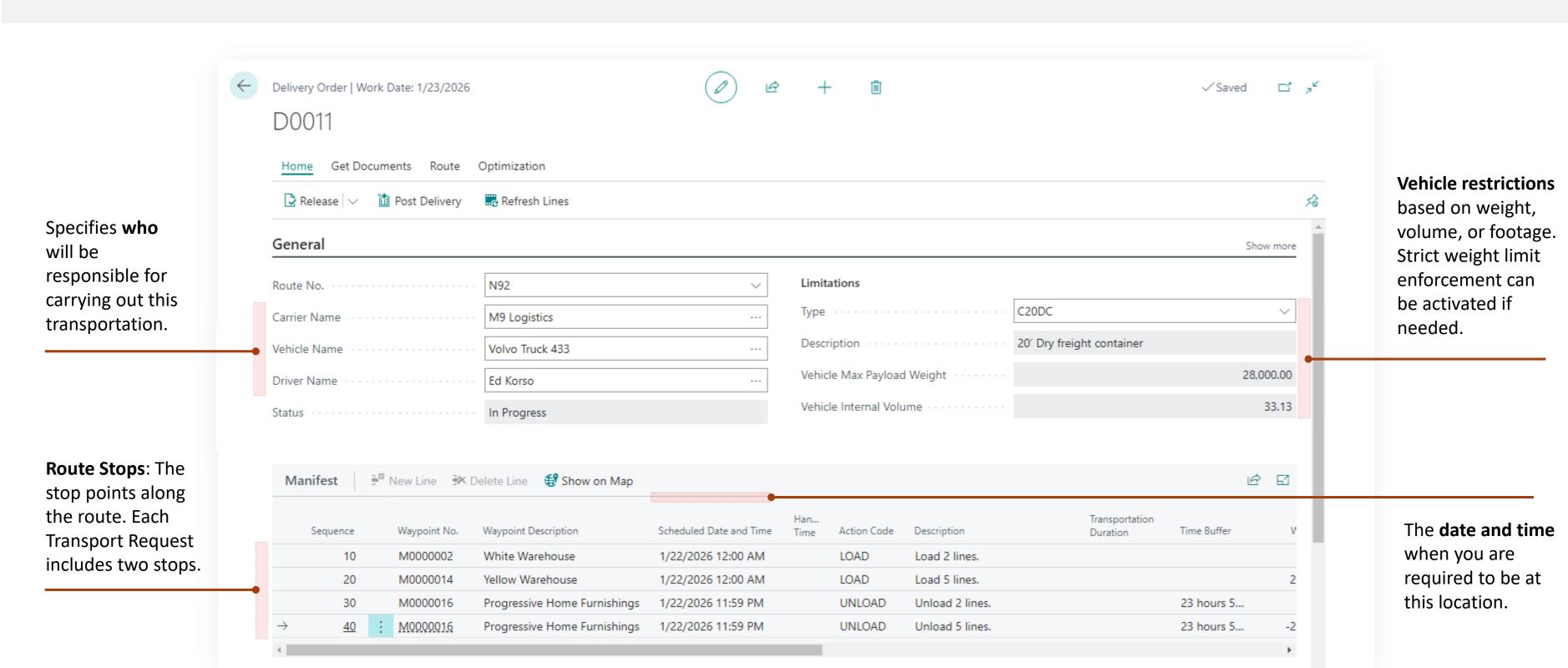
A Delivery Order is:

- a real vehicle run,
- the actual driving route, detailing the order of stops the vehicle must make
- a set of tasks to be completed, such as loading, unloading, or pallet pickup,
- a loading sequence for the truck,
- a tool for control weight, volume, or footage limits at each stop along the route



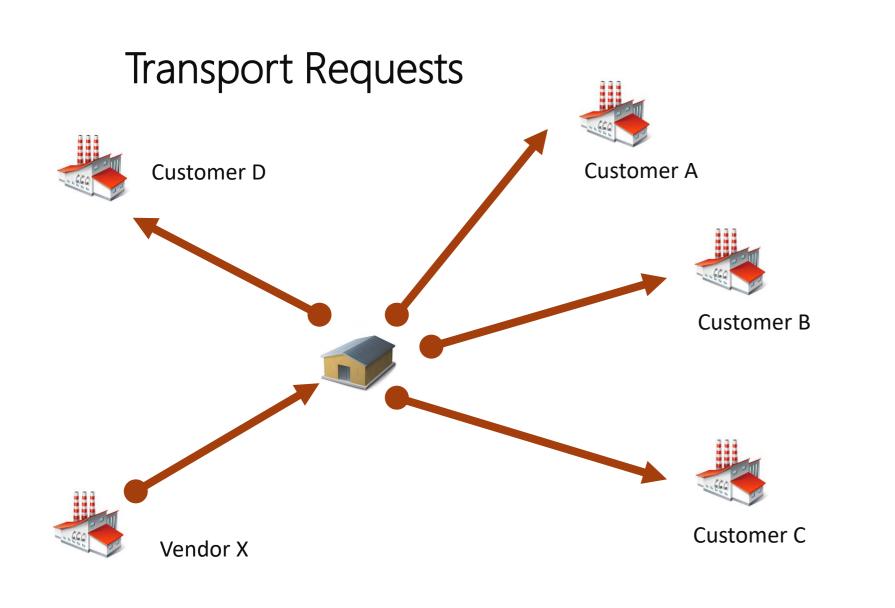


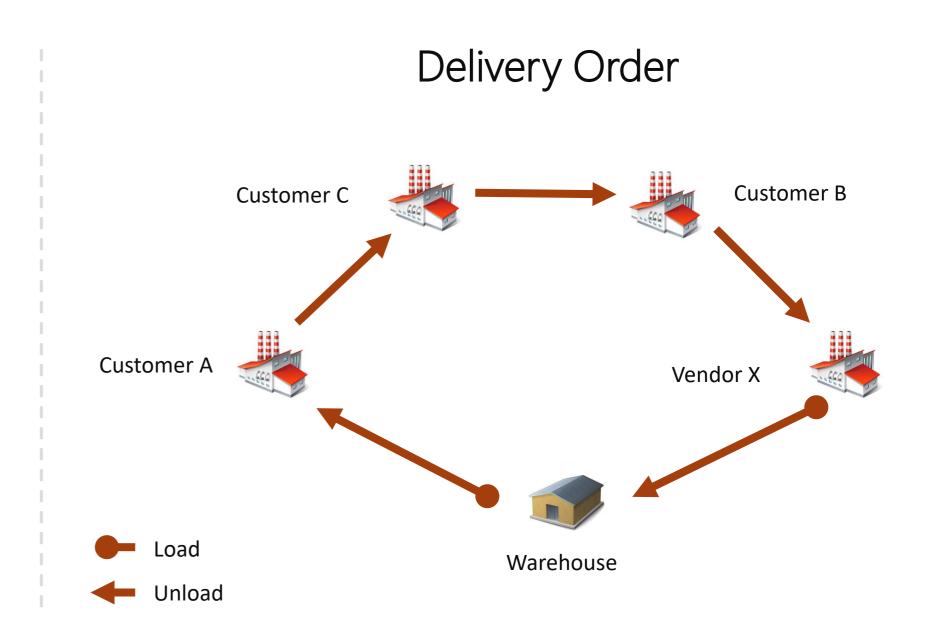
Elements





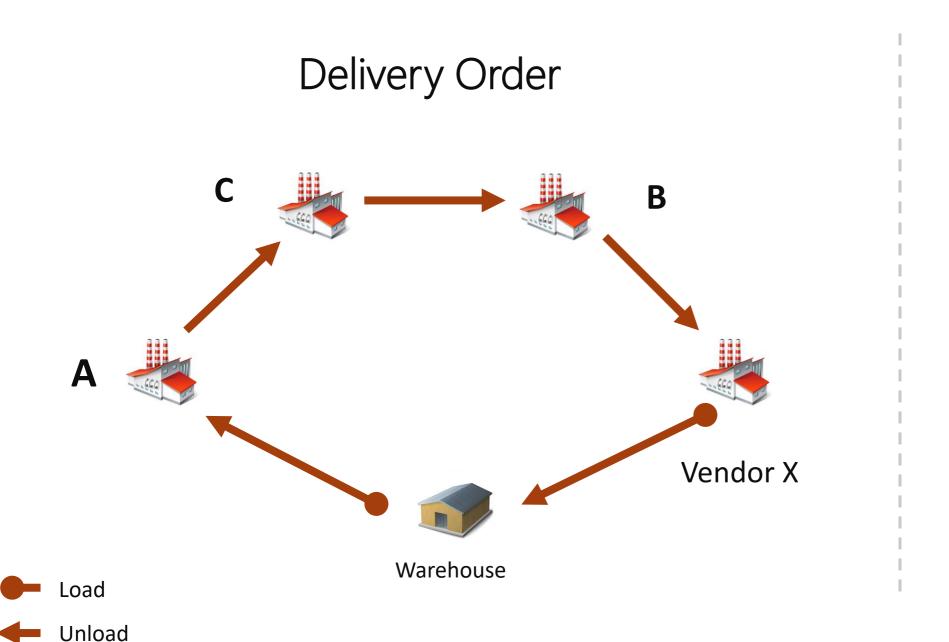
Delivery Order consolidates multiple transport requests into a single document, creating a vehicle route that accounts for weight and volume constraints, while optimizing the route based on distance or duration.

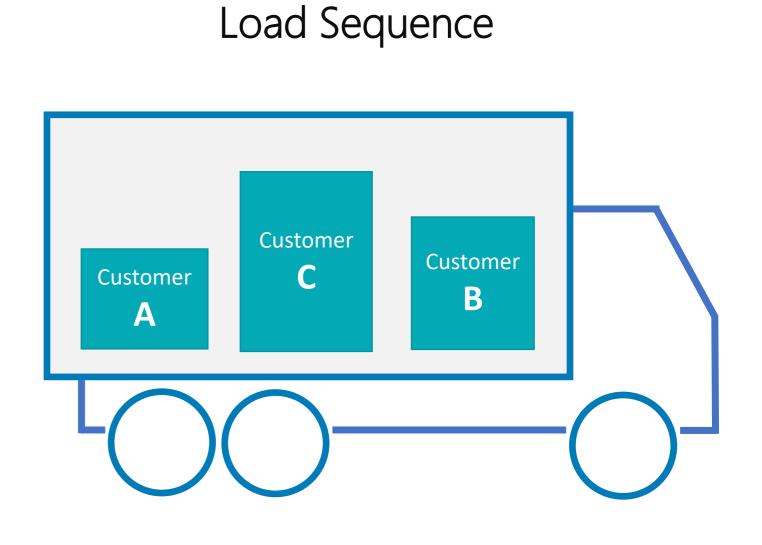






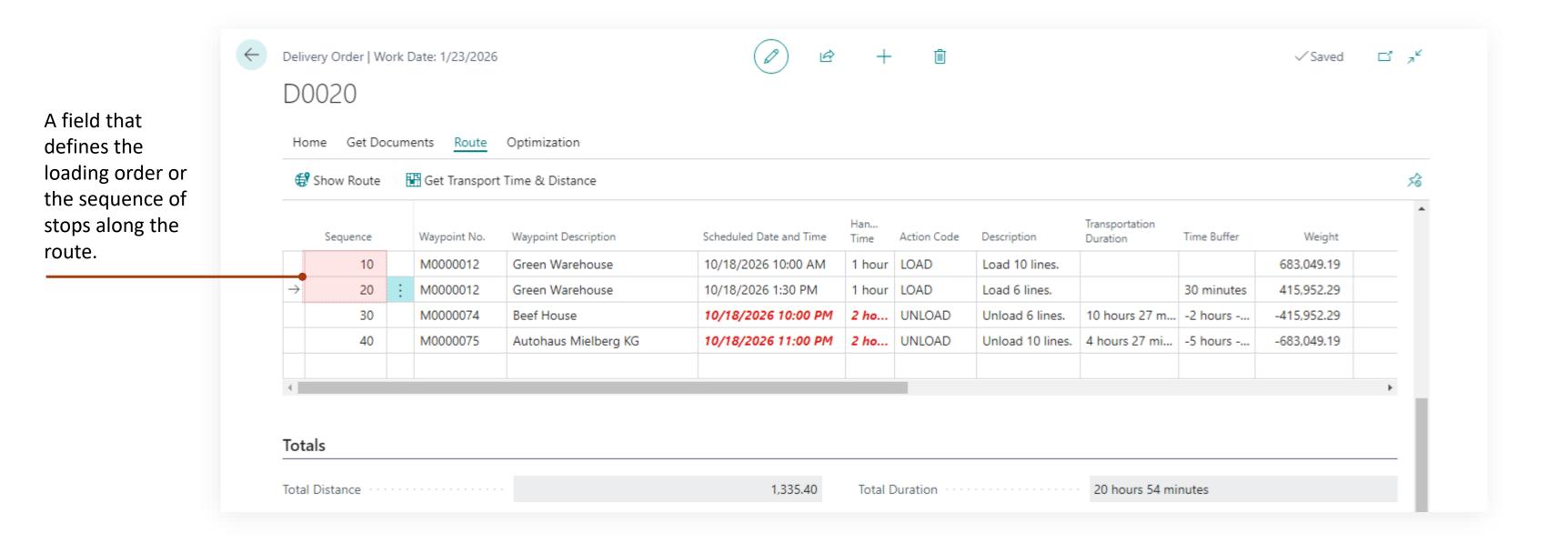
Delivery Order allows for the automatic determination of the vehicle loading sequence at the warehouse, based on the order of the delivery stops along the route.





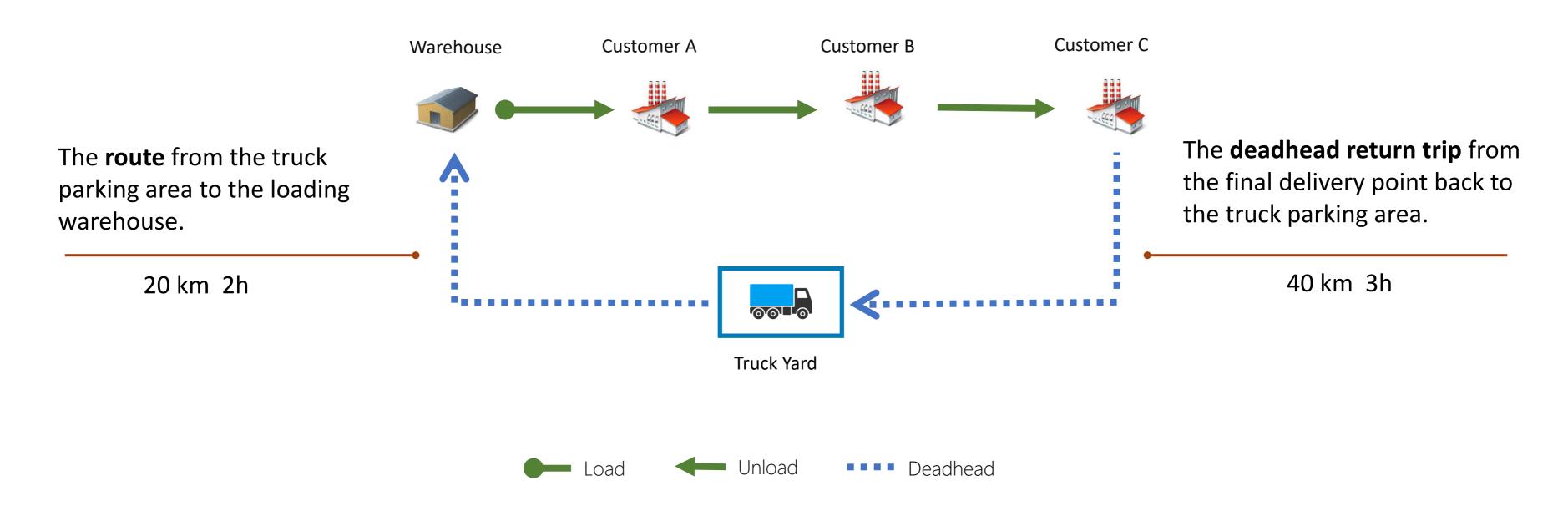


The Delivery Order allows you to manually set the vehicle loading sequence or the order of stops along the route by adjusting the **Sequence** field.



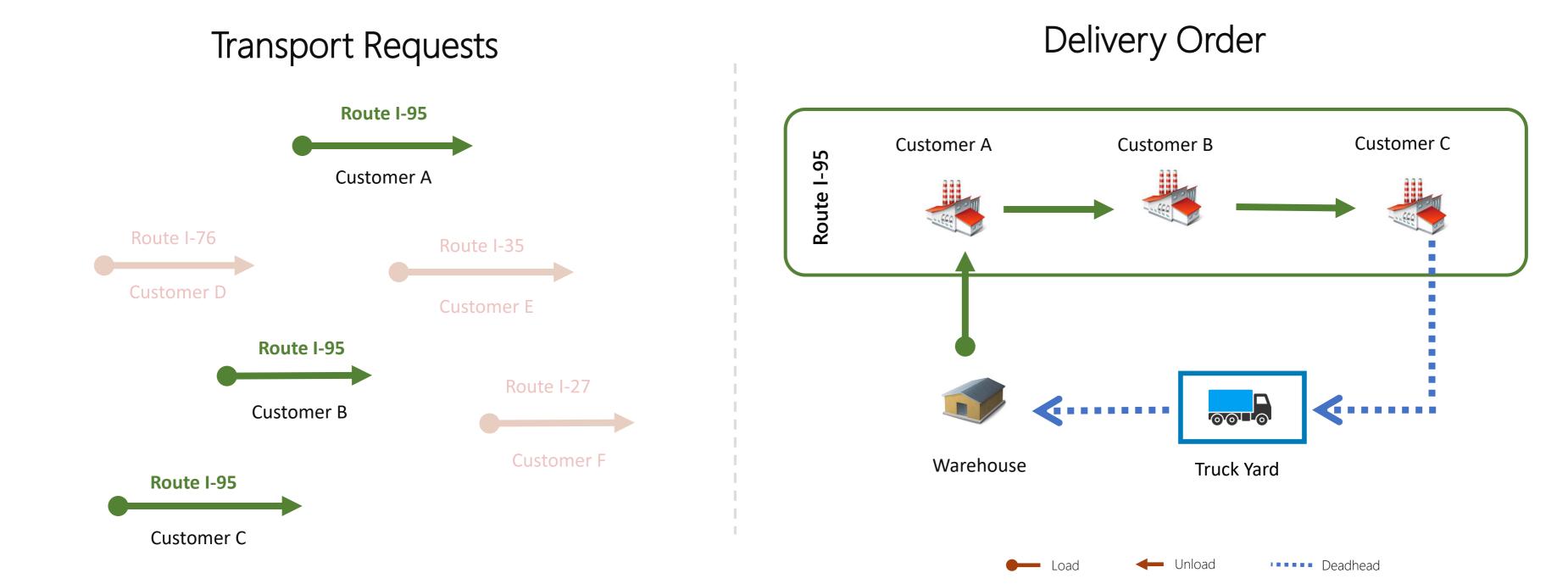


Delivery Order can control for additional route elements, such as the trip to the warehouse or the return journey (distance and duration), which are critical for managing driver work hours or fleet operations for companies with their own vehicle fleets



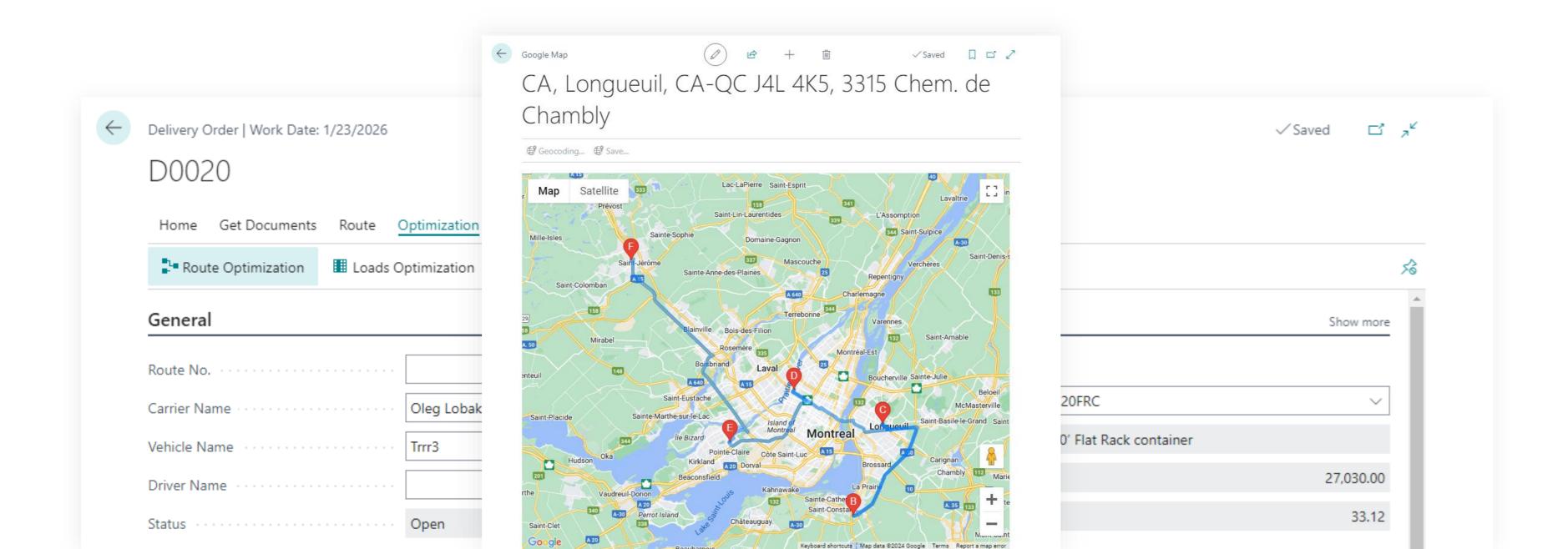


Delivery Order enables the selection of Transport Requests based on route numbers. Each customer can be assigned a route number that corresponds to their delivery address.



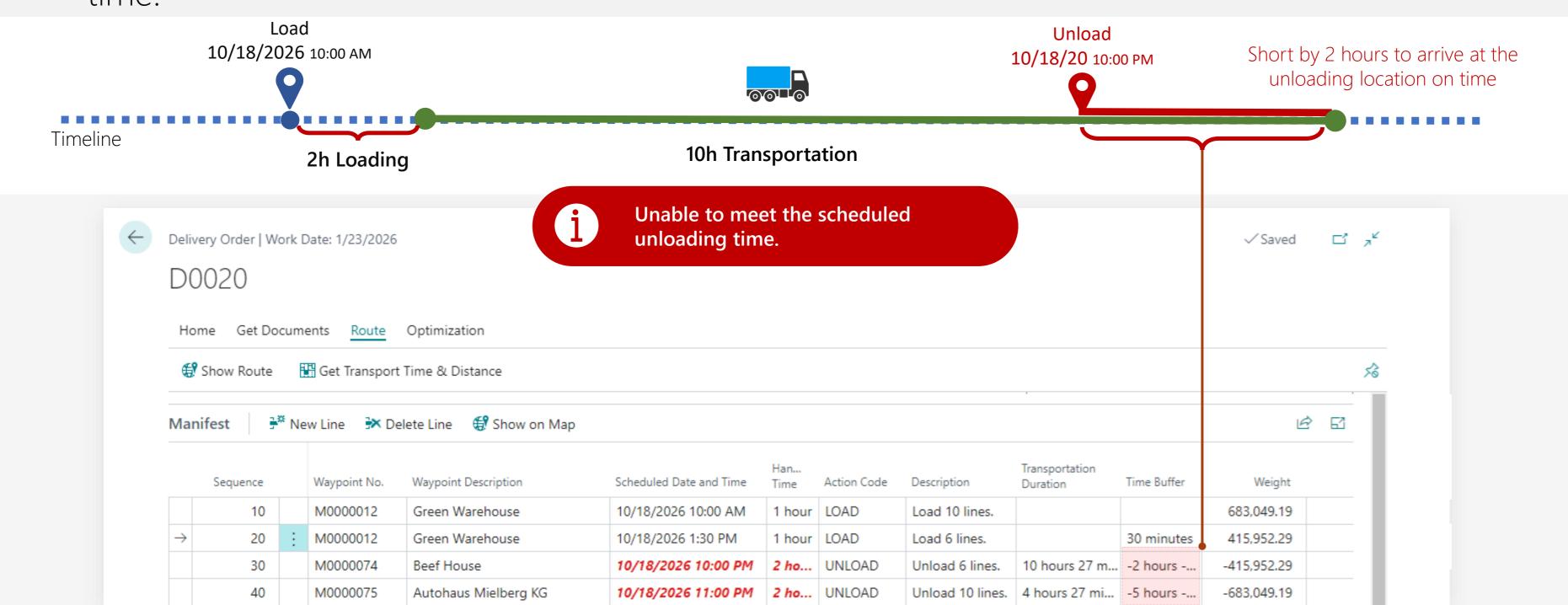


Integration with Google Maps for constructing the optimal delivery route between MAP locations with the capability for optimization based on distance or duration criteria.





Automatically checks the loading and unloading schedule for the entire route, accounting for transportation time, and indicates if it's not possible to arrive at a specific location at the required time.



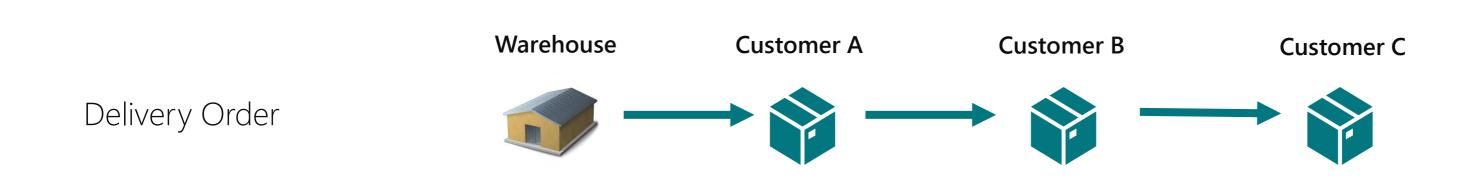
Transportation Management System

Charge Management

Capability Guide. Charge Management



TMS helps allocate transportation charges related to orders in the most cost-effective way, automating and simplifying this process. This is based on the standard Item Charges mechanism in Business Central.

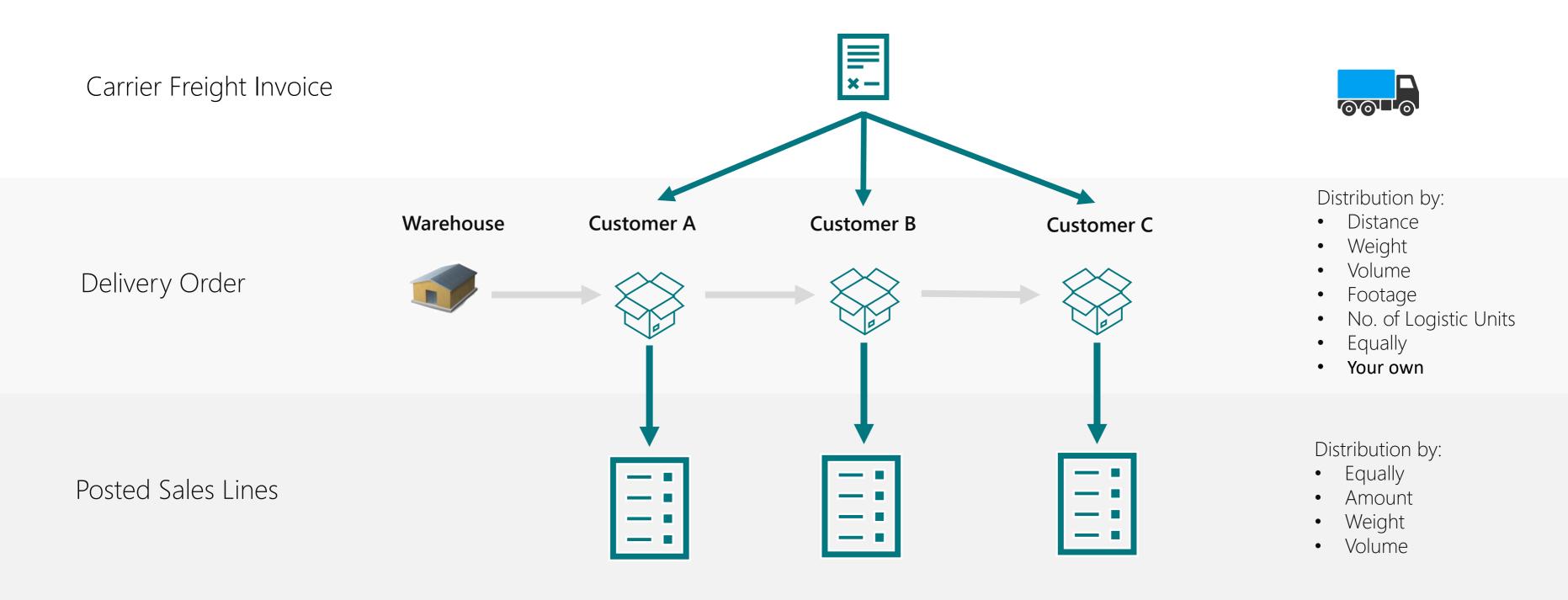


The **Delivery Order** contains all necessary information for allocating costs across orders in one place and enables accurate calculation of delivery costs for the customer.

Capability Guide. Charge Management



TMS offers two levels of charge allocation: the first between transported orders, and the second across item lines within the orders.

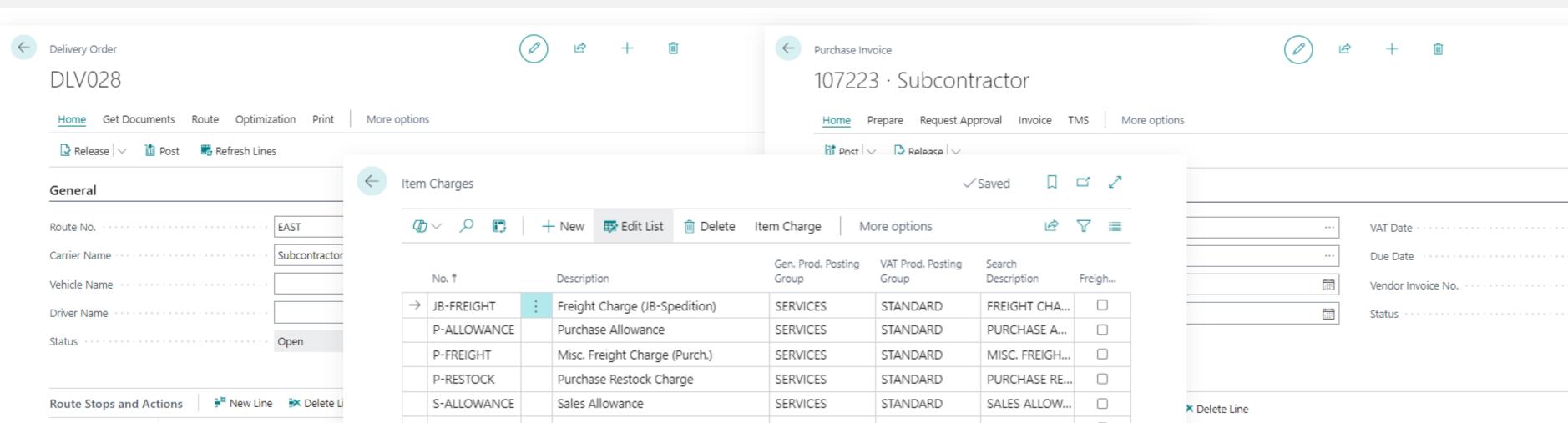


Capability Guide. Charge Management



How it works

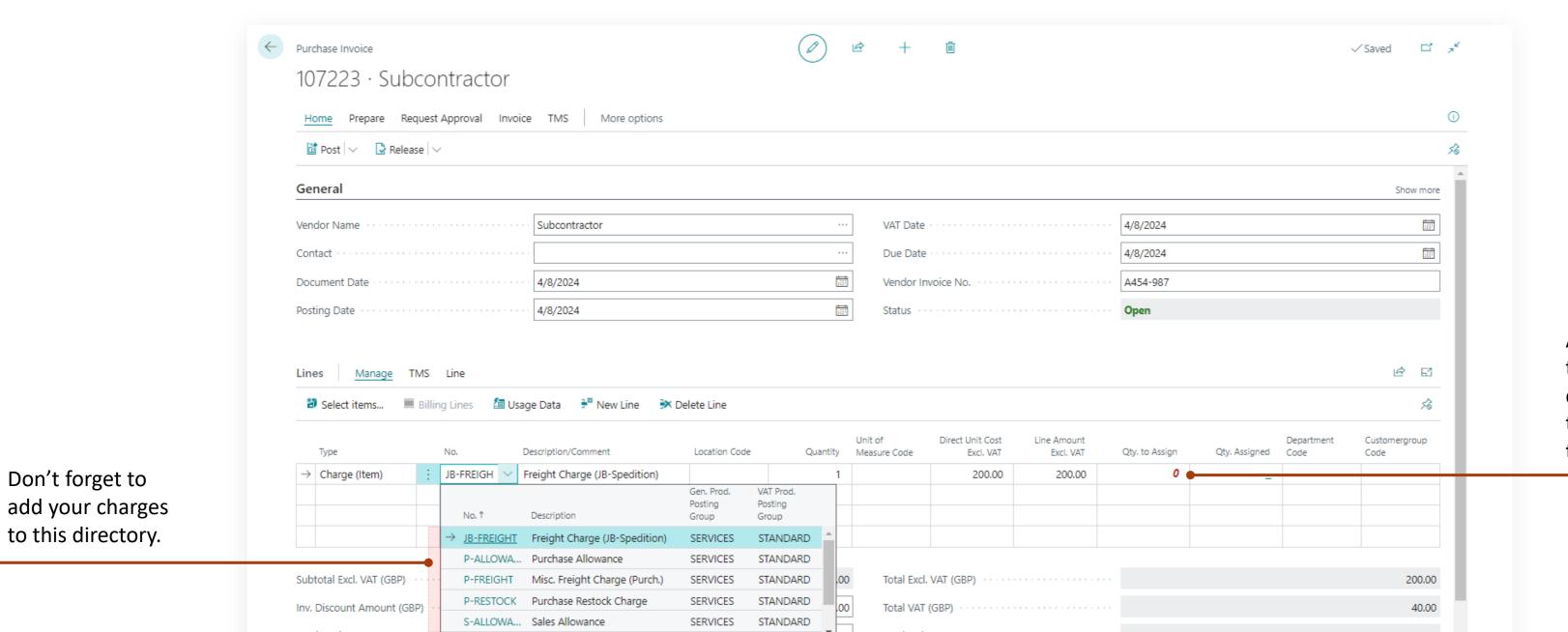
The following system documents are used for controlling and accounting for charges allocation: **Purchase Invoice** for entering the carrier's invoice, **Sales Invoice** for invoicing the customer for delivery, **Delivery Order** as a tool for allocating and controlling costs across orders included in the shipment, and **Item Charges** as an accounting object for all documents.



Capability Guide. Charge Management. How it works



In Business Central, a freight services invoice from the carrier that actually performed the transportation is entered as a standard Purchase Invoice document. The line type must be specified as **Item Charge**.

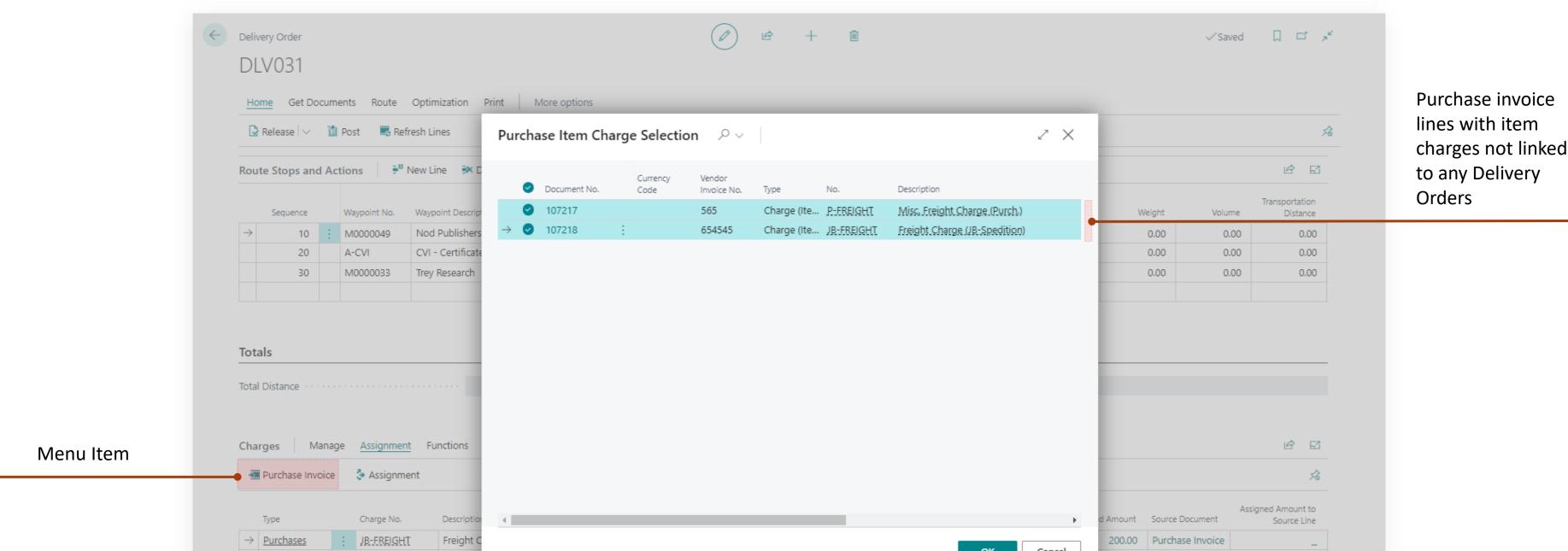


A field indicating that this transportation charge is allocated to the items of transported orders.





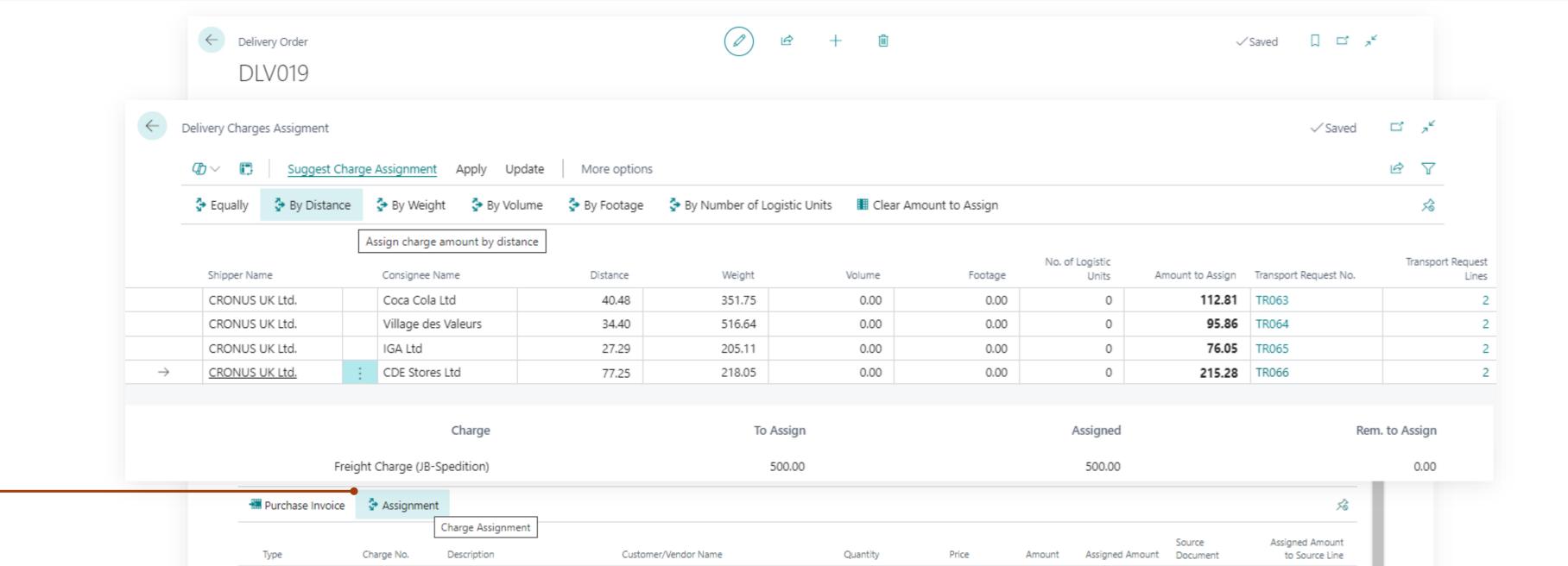
Associates the carrier's invoice with our delivery order. In the **Charges** section of the Delivery Order, select the line or lines from the created invoice to allocate charges to the selected delivery.





Capability Guide. Charge Management. How it works

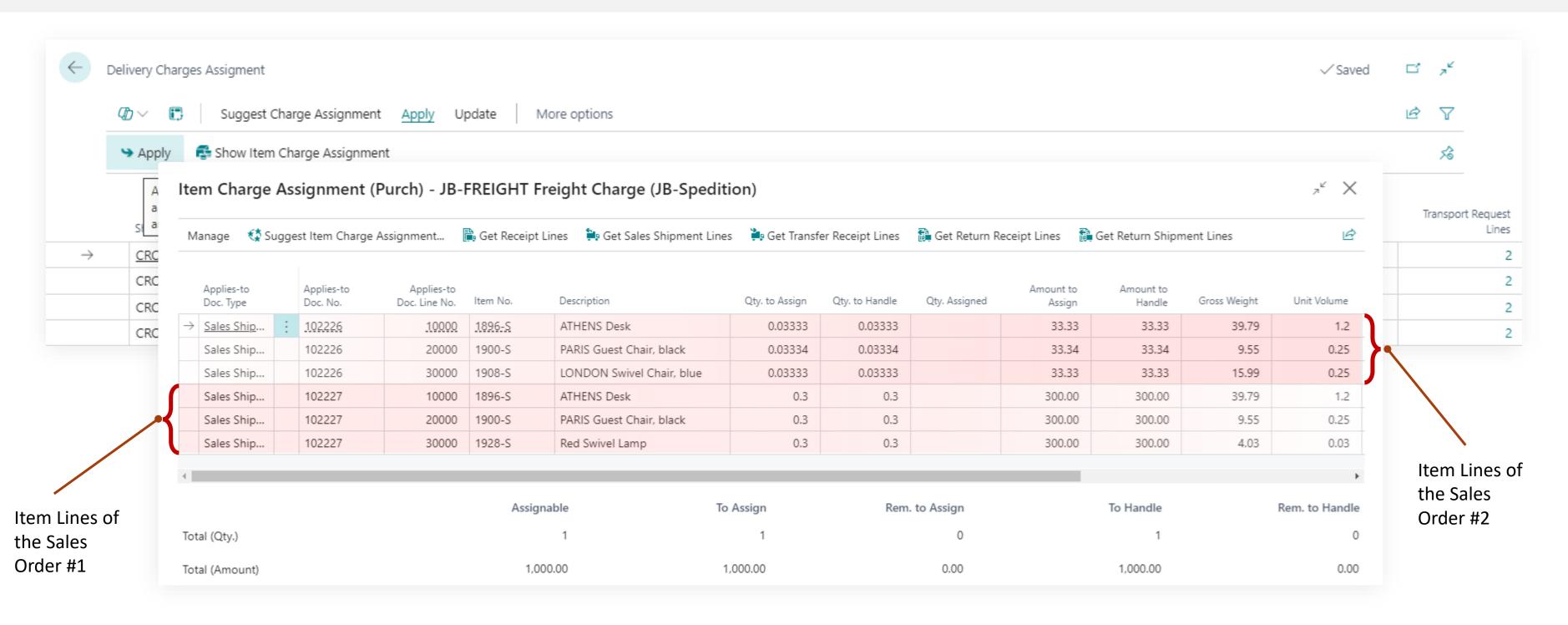
Allocate costs across transported orders. In the **Charges** section of the Delivery Order document, click the **Assignment** menu item to open a window where you can set cost allocation either automatically, based on specific parameters, or manually.



Capability Guide. Charge Management. How it works

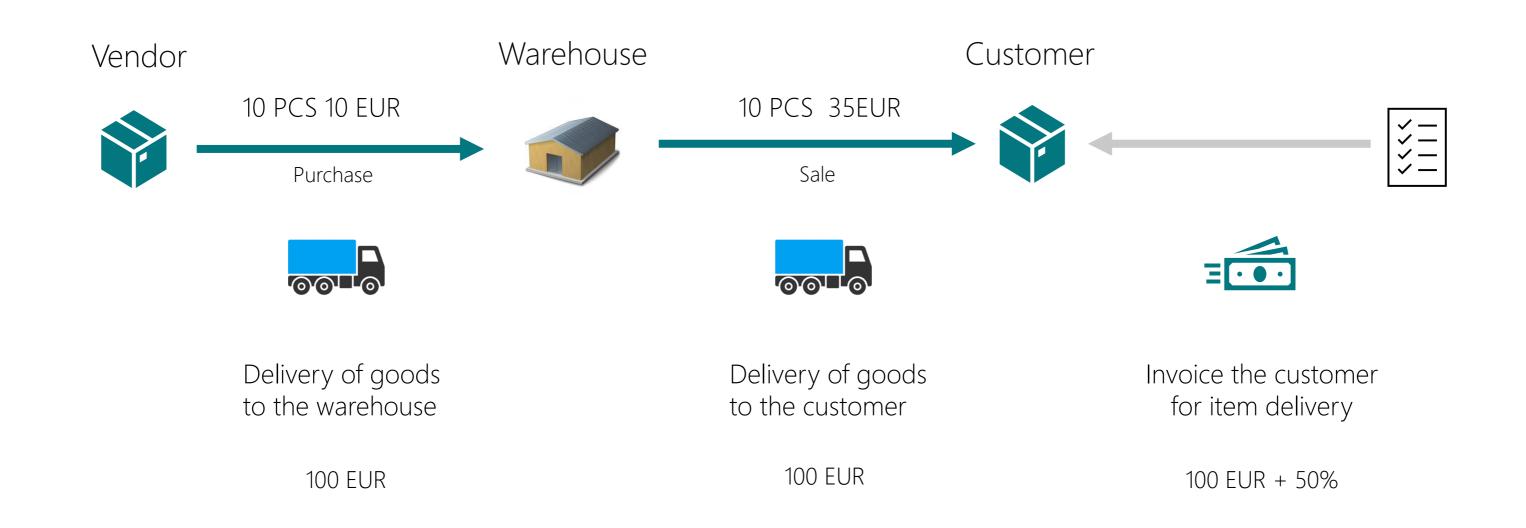


Apply the allocated charger across orders to the items within those orders.



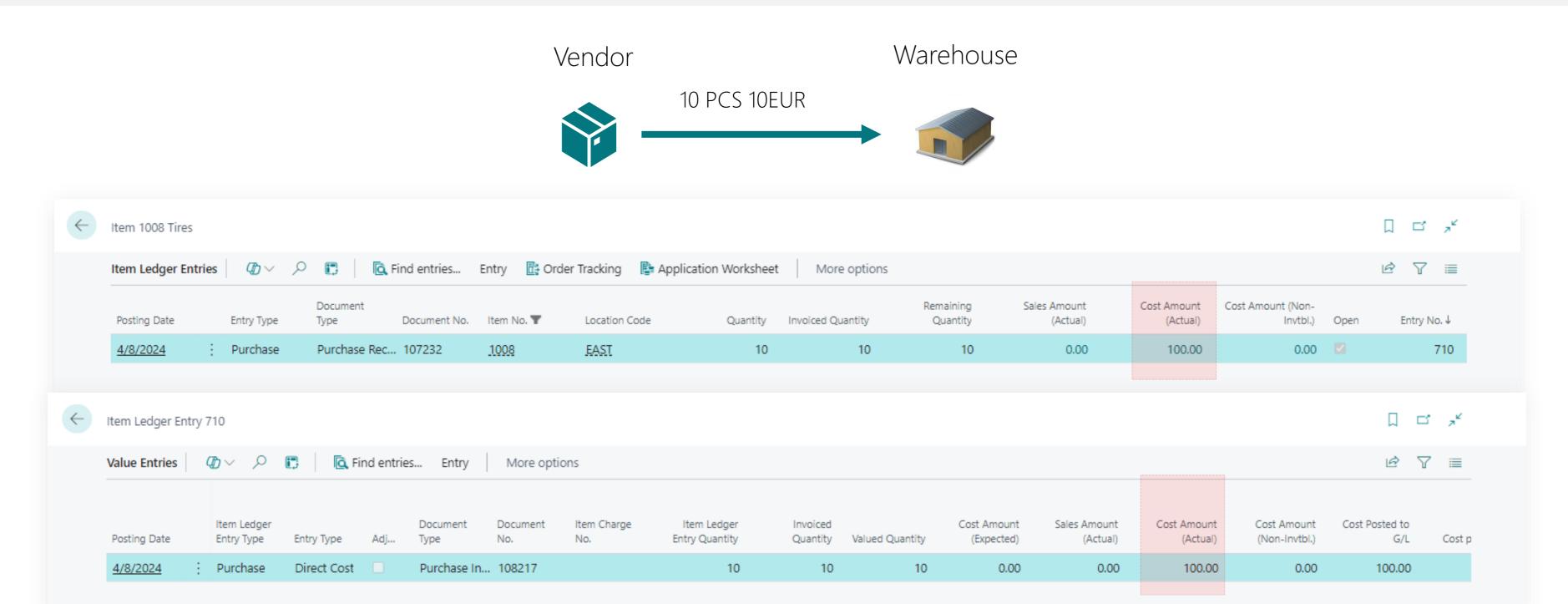


Let's examine the details of the transportation charge allocation process with a simple example of purchasing and selling an item, paying for its delivery to the carrier, and reflecting these transactions in Item Ledger Entries and Value Entries in Business Central.





Step 1. Posting a Purchase Order increases asset value (the cost of goods in inventory), which is reflected in the **Cost Amount (Actual)** field in item transactions and linked value entries.



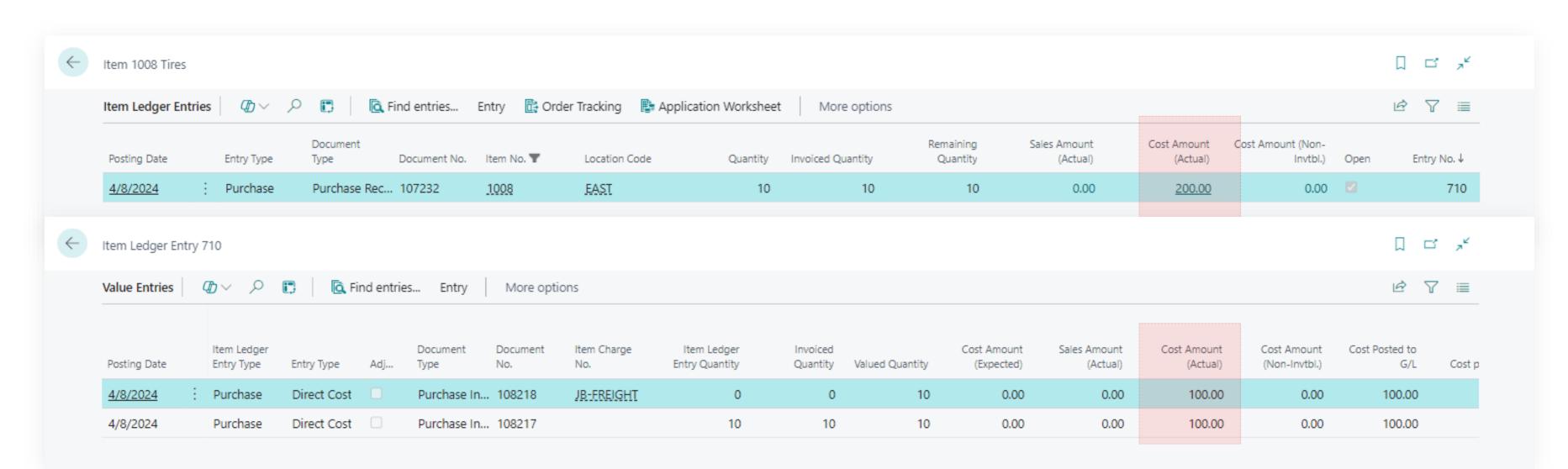


Step 2. Posting a Purchase Invoice from the actual carrier for truck freight services and other transportation costs related to the delivery of the purchased item.



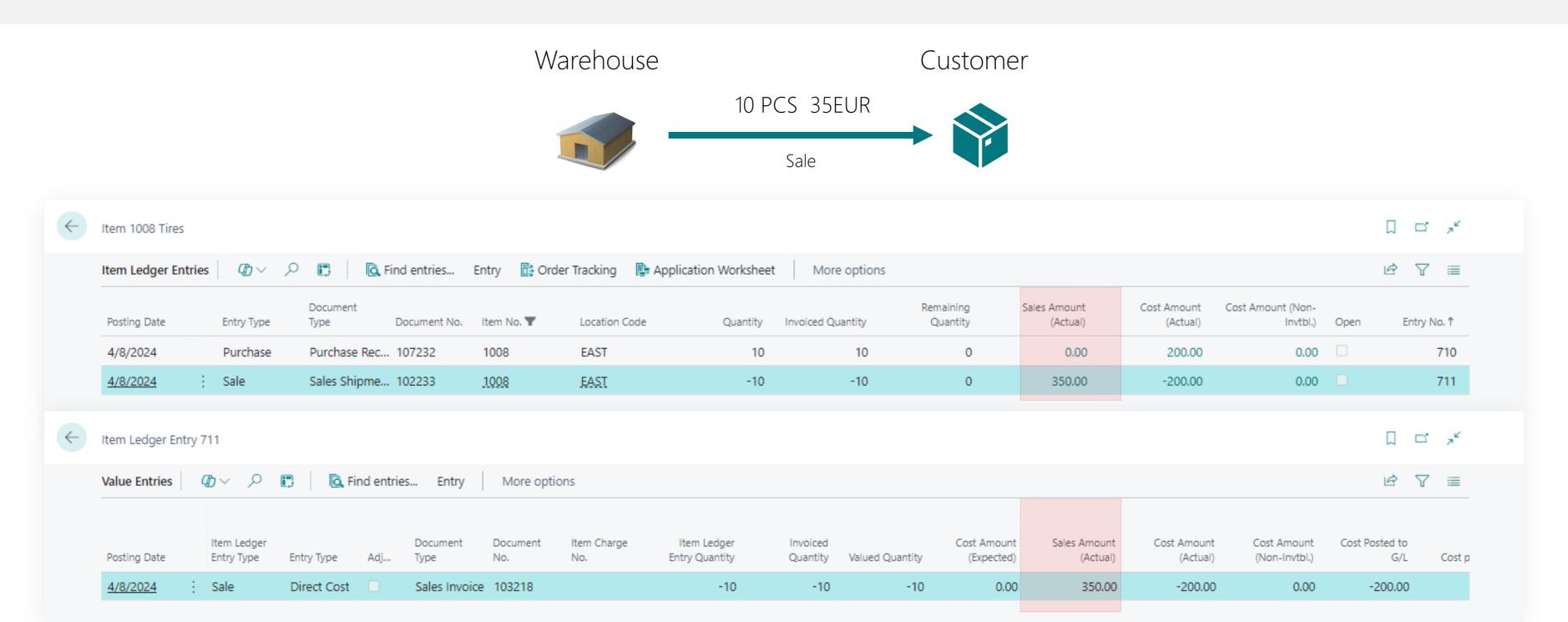
Delivery of goods to the warehouse

100 EUR





Step 3. Sell the item to the customer. Post Sales Order.



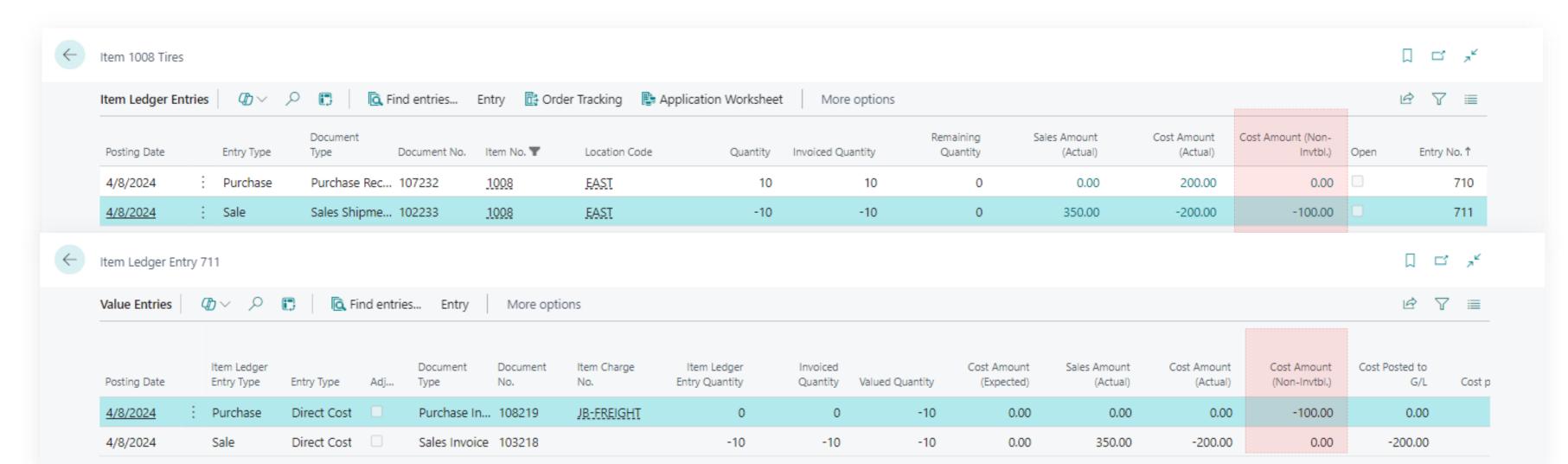


Step 4. Post Purchase Invoice from the actual carrier #2 for truck freight services (transportation costs) related to the delivery of the sold item to the customer. Allocating transportation costs for a sales order does not increase asset value.



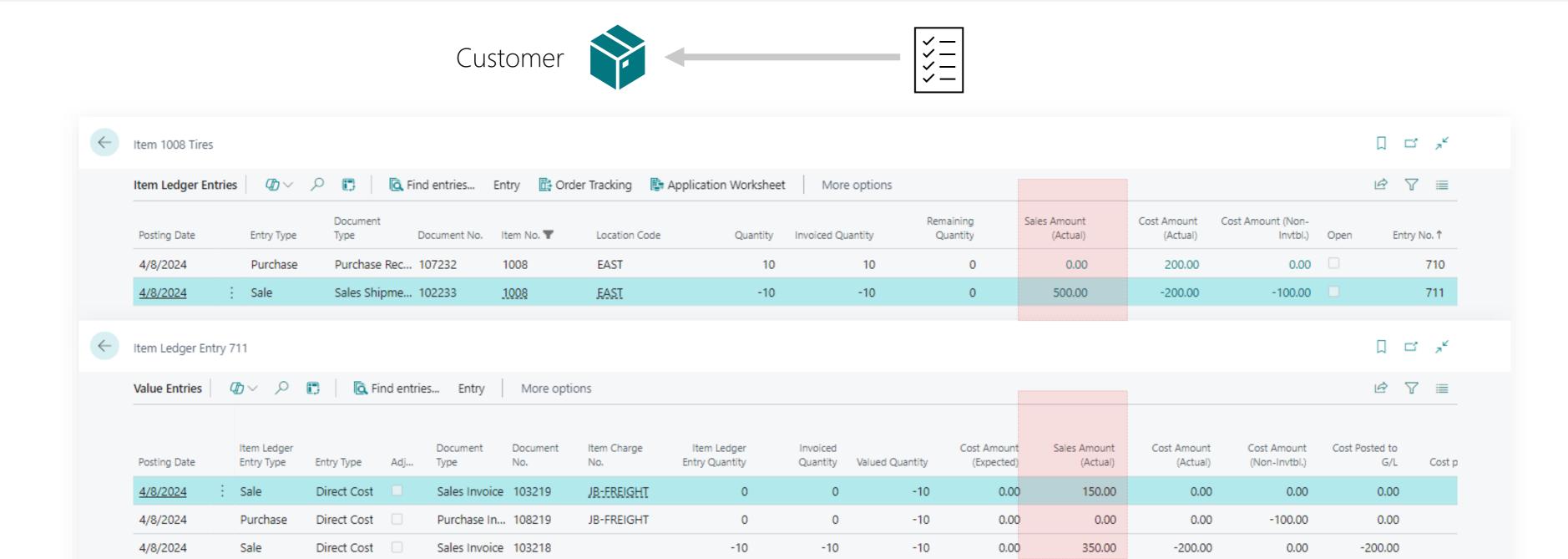
Delivery of goods to the customer

100 EUR





Step 5. Invoice the customer for item delivery by posting a Sales Invoice with charges allocated to the sales order.



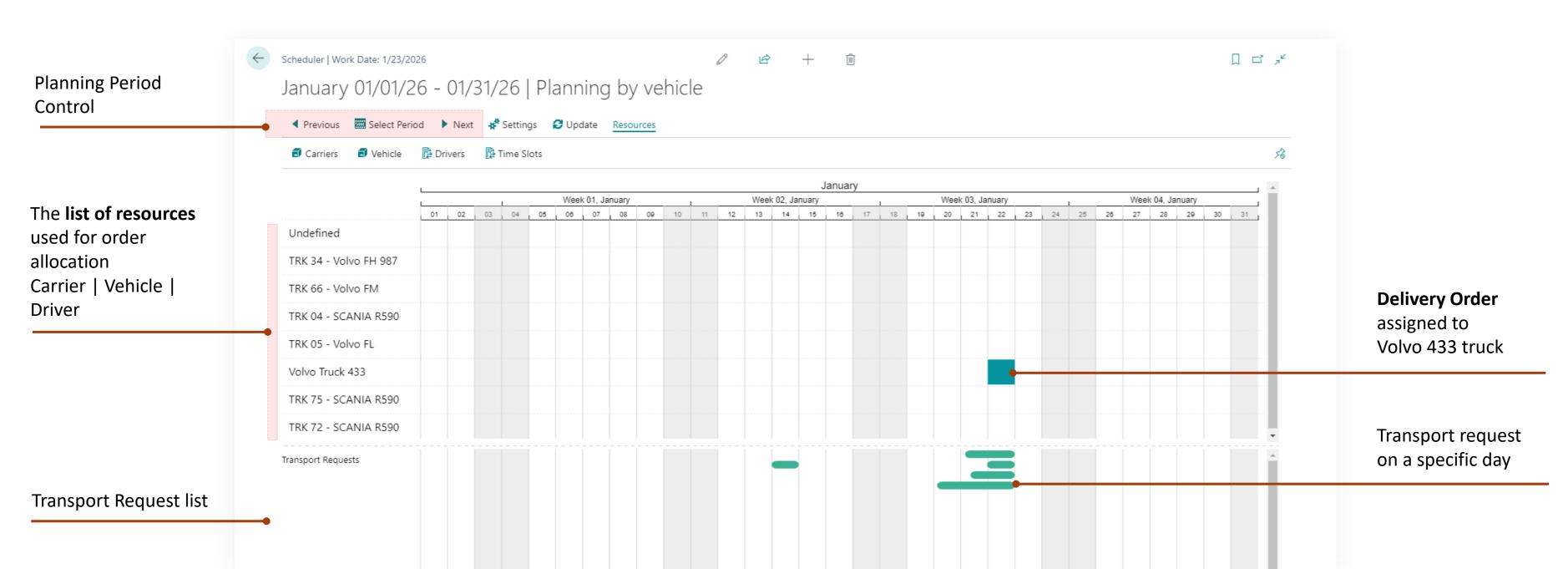
Transportation Management System

Scheduler

Capability Guide. Scheduler



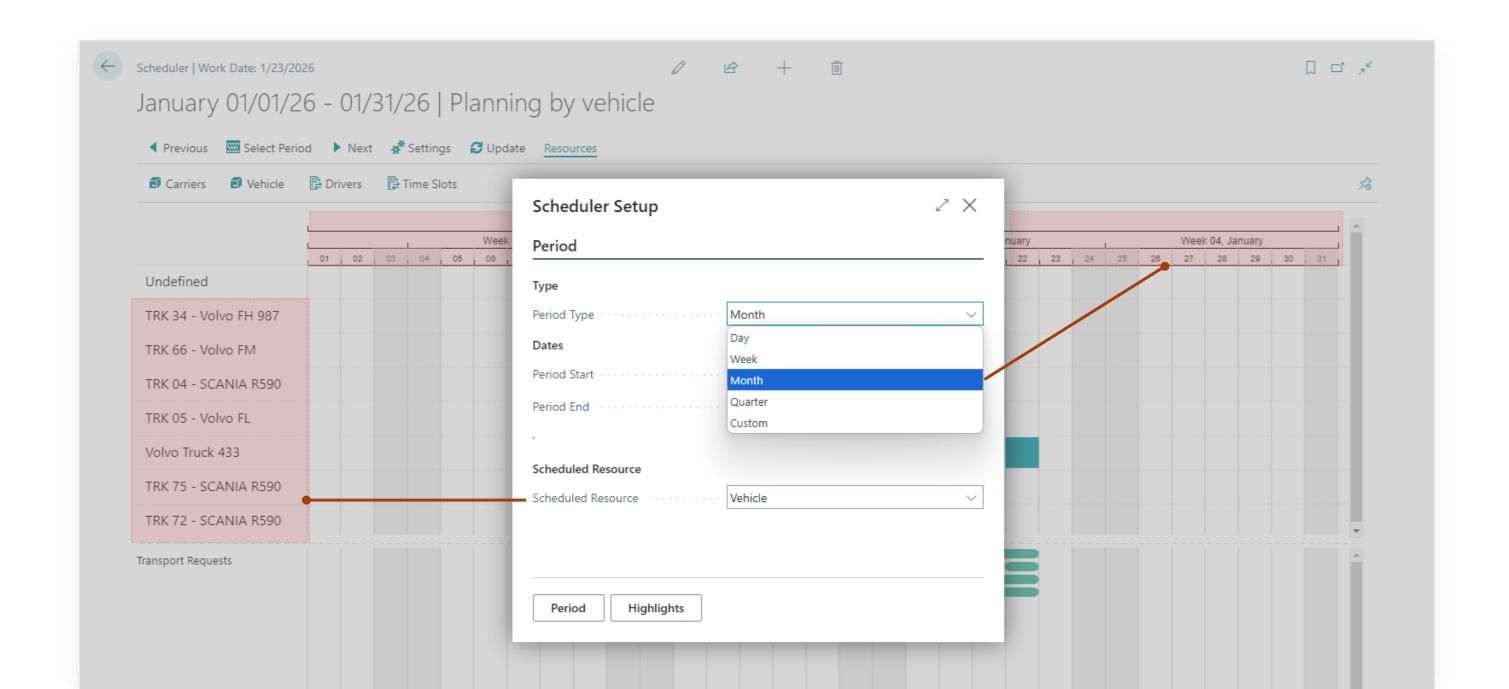
The Visual Scheduler helps allocate requests and orders among available resources, including carriers, vehicles, and drivers.







Planning can be done across various time periods, such as weekly, quarterly, or monthly, and can be applied across different types of resources.



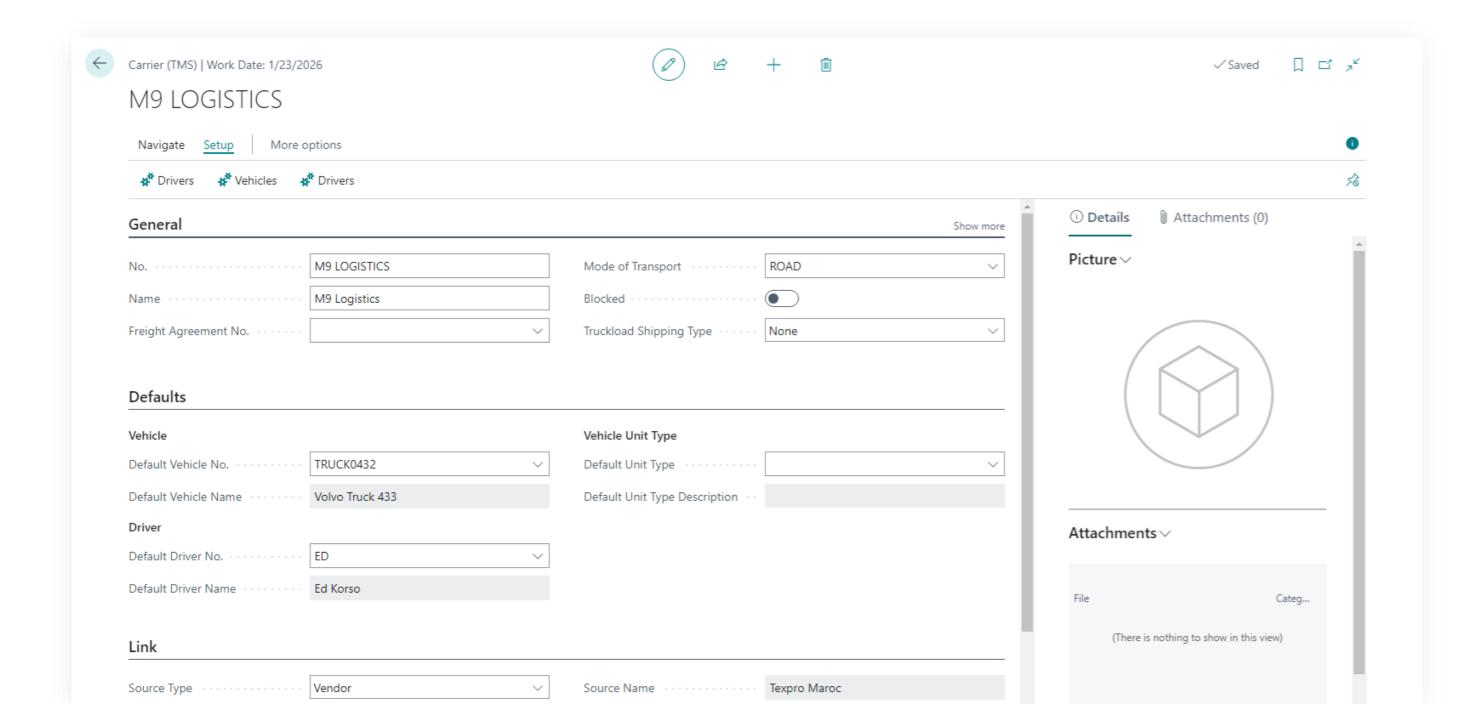
Transportation Management System

Carriers
Vehicles
Drivers





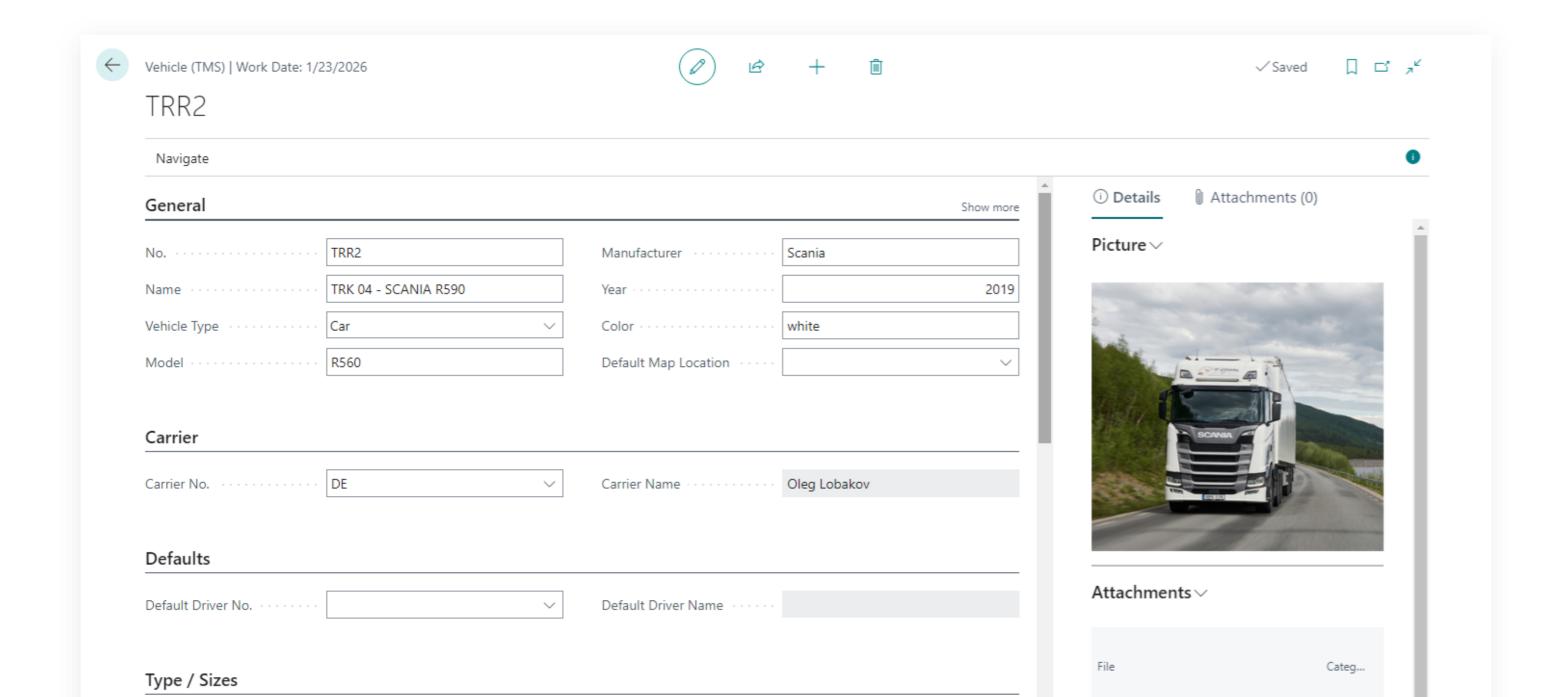
The system allows for managing carriers involved in order planning. Vehicles and drivers are assigned to specific carriers.







The system enables tracking of both company-owned and hired vehicles, as well as recording the mileage of each vehicle based on completed orders.







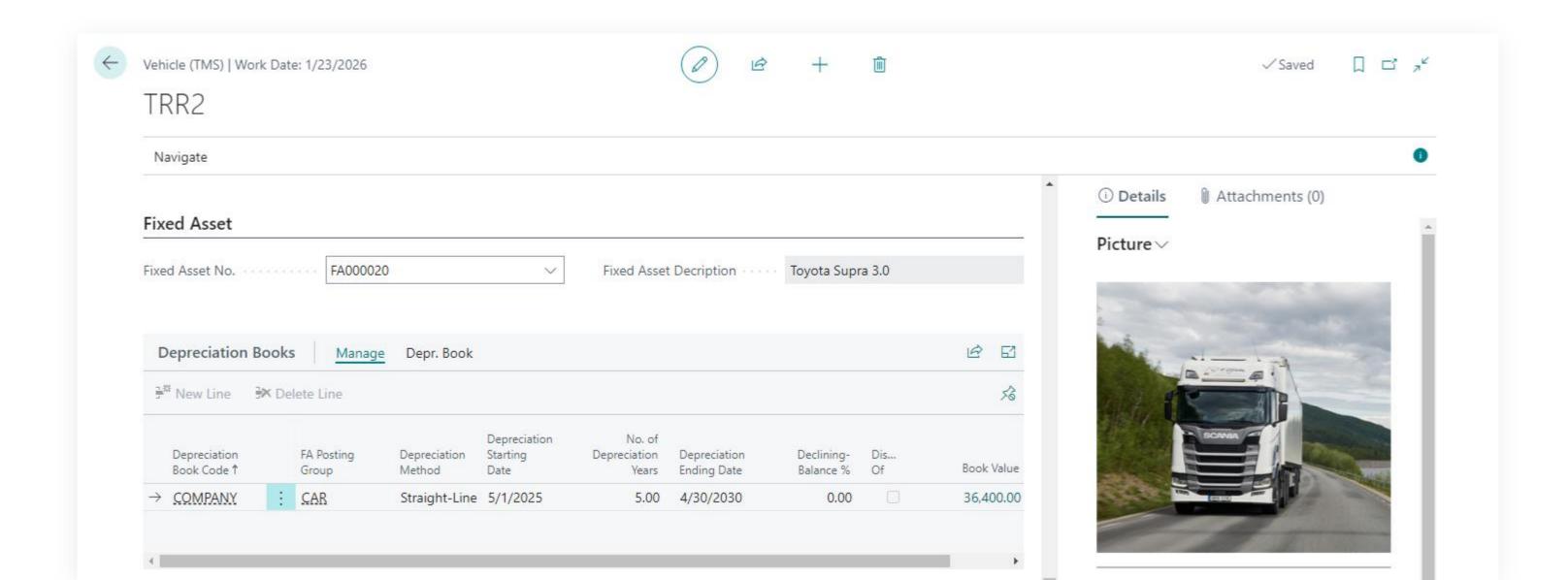
For each vehicle, you can specify its weight and dimensional parameters used for load planning, such as maximum allowable weight, volume, or footage.

Navigate				
Type / Sizes				i Details Attachments (0)
Unit Type Code · · · · C	C20FRC V	Sizes		Picture V
Unit Type Description 2	0' Flat Rack container	Unit Type - Linear UoM · · · · MM		
Unit Type - Volume UoM · · · N	ИЗ	Unit Type - Internal Length	5,935.00	
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Registration				
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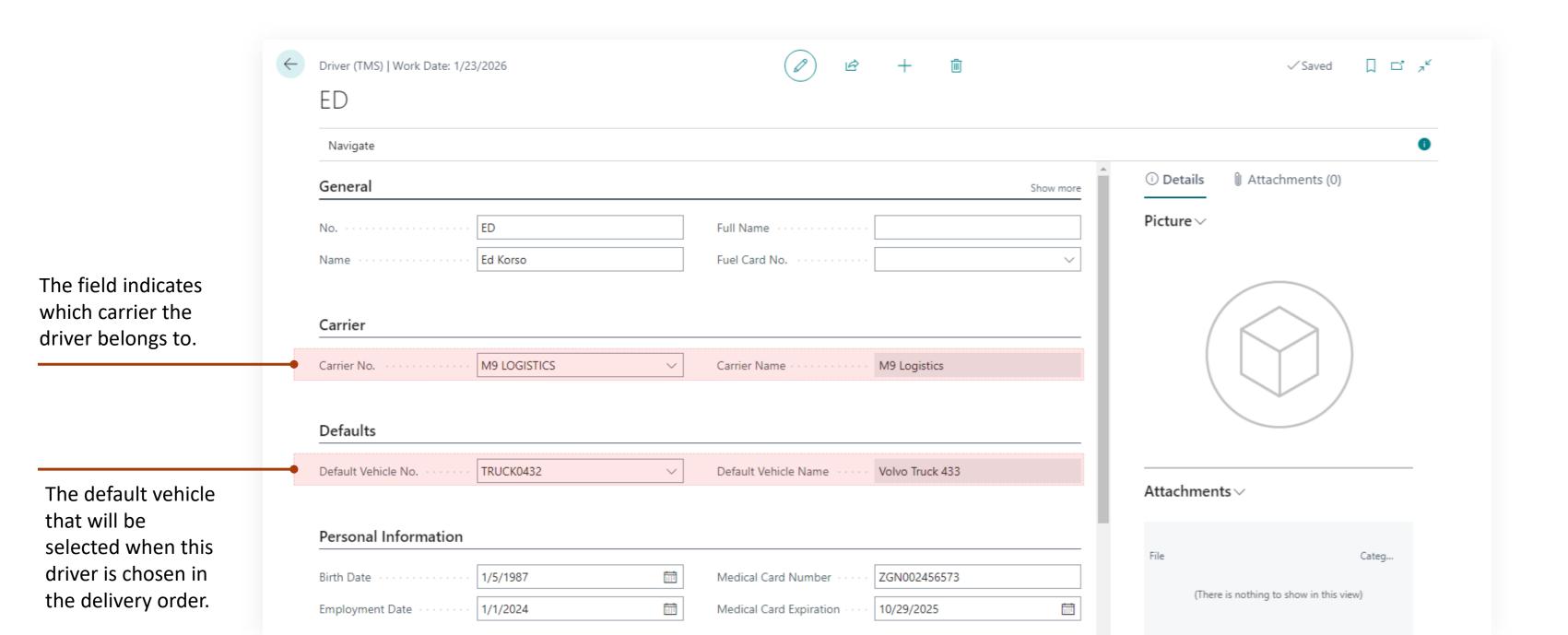
A vehicle can be linked to the fixed assets registry if it qualifies as one, allowing you to track expenses associated with the vehicle, such as repairs or fuel. To do this, you need to set up a separate depreciation book for each type of expense and post purchase invoices by the specific fixed asset.







If the company tracks drivers' working hours and the orders they complete, a profile must be created for each driver.



Thank you

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