Outbound transport planning and carrier booking

Process Definition Document (PDD): template and worked example

Example company (fictional): Betonfix Materiały Budowlane Sp. z o.o., a building materials supplier in Łódź, Poland (about 320 employees, three regional depots).

Document control

Field	Value
Process name	Outbound transport planning and carrier booking
Process owner	[Name, role]
Prepared by	[Name]
Reviewed by	[Names of the people who do the work]
Approved by	[Name, date]
Version	1.0 (as-is)
Status	Draft

How to use this template

This is a complete process definition document (PDD) for outbound transport planning and carrier booking, also called freight booking, load planning or the transport order process. It describes the process as it runs today at a fictional building materials supplier, with the roles, systems, steps, decisions and controls you would expect in a real transport planning office.

Use it as a starting point. Replace the company details, keep the sections, and walk through each step with the planners and depot dispatchers who do the work. Most companies change the carrier selection rules, the spot rate approval limit and the load planning cut-off times. The structure stays the same.

- Replace the company, depots and systems with yours. If you plan in a transport management system instead of Excel, name the screen where each step happens.
- Set your own limits in steps 6 and 8: the maximum weight per load and the spot rate threshold that needs approval. These differ between companies and between regions.
- Check the percentages with real data. A month of shipments usually shows how many bookings are rejected and how many loads change after booking.
- Separate the carriers with a portal from the ones without. The email and phone path is where most of the waiting and retyping happens.
- Add your own special cases: dangerous goods, temperature control, oversize, or customer-specific delivery rules.
- Keep the as-is version even after you redesign the process. It is your baseline for measuring the change.

1. Purpose and scope

This procedure describes how Betonfix plans and books road transport for outbound customer shipments, from the moment a sales order is released for shipping to the moment the carrier has collected the load and pickup is recorded in SAP. It gives the order desk, transport planning, the depots and the carriers one shared description of who does what, so that loads leave full, on the right truck and at a fair price.

In scope

- Outbound customer shipments carried by external road carriers
- Grouping deliveries into loads by region, vehicle type and depot

- Carrier selection from the contracted rate matrix and spot bookings
- Booking by carrier portal, email or phone, and creating the shipment in SAP
- Pickup, CMR signature and goods issue

Out of scope

- Deliveries on own trucks
- Freight invoice checking
- Customs formalities
- Changes to the carrier rate matrix itself

2. Process at a glance

Item	Description
Trigger	A sales order is released in SAP because stock is confirmed and credit is cleared.
Starts when	The Transport Planner exports the released deliveries into the Excel load plan.
Ends when	The carrier has collected the load, goods issue is posted and the customer has the tracking link.
Inputs	Released sales orders and deliveries, Carrier rate matrix, Customer delivery address and requested date, Unloading window confirmed by the customer, Depot stock and picking status
Outputs	Booked carrier and vehicle, Shipment in SAP with deliveries assigned, Transport order sent to carrier and depot, Signed CMR, Goods issue and actual pickup time, Tracking link for the customer
Volume	About 38,000 outbound shipments a year by external carriers, roughly 150 per working day
Working hours	Monday to Friday, 06:00 to 16:00. Order cut-off is 14:00 for next-day pickup.

3. Roles and responsibilities

Role	Responsibilities
Order Desk Clerk	Releases sales orders for shipping once stock and credit are cleared, contacts customers about addresses and unloading windows, and passes tracking information on.
Transport Planner	Exports released deliveries, checks them, groups them into loads, selects and books the carrier, creates the shipment in SAP and sends the transport order.
Depot Dispatcher	Checks that the goods for a load are ready, reports shortages, loads the truck, signs the CMR and posts goods issue.
Transport Manager	Approves spot bookings above the contract rate and decides on oversized loads and other exceptions to the carrier rules.
Carrier Dispatcher (external)	Accepts or rejects the booking and assigns a truck and a pickup time.
Customer (external)	Confirms the unloading window and site access for the delivery.

4. Systems

- SAP ECC: sales orders, deliveries, shipments and goods issue
- Carrier portals: web booking for the main carriers
- Excel: carrier rate matrix and the daily load plan
- Email and phone: booking with carriers that have no portal

5. Process map

Process diagram goes here

Draw one lane per role from section 3, the steps from section 6 in order, and a diamond for each decision in section 7.

6. Procedure, step by step

#	Step	Who	What happens	System	Output
1	Release sales orders	Order Desk Clerk	Releases sales orders for shipping when stock is confirmed and credit is cleared. This happens throughout the day.	SAP	Released deliveries
2	Export released deliveries	Transport Planner	Exports the list of released deliveries from SAP into the Excel load plan at 08:00, 11:00 and 14:00. It takes about 5 minutes.	SAP, Excel	Load plan with open deliveries
3	Check delivery data	Transport Planner	Checks weight, volume, delivery address and requested date for each delivery. A batch of 20 takes 10 to 15 minutes.	Excel	Checked deliveries
4	Resolve missing address or window	Order Desk Clerk	When the address is incomplete or the customer has not confirmed the unloading window, the planner emails the Order Desk Clerk, who contacts the customer. This applies to about 18% of deliveries and can take up to 1 working day.	Email, phone	Complete address and confirmed window
5	Group deliveries into loads	Transport Planner	Groups deliveries into loads by region, vehicle type and depot, aiming for at least 85% truck fill. Each load takes 20 to 30 minutes.	Excel	Planned loads
6	Split heavy loads	Transport Planner	A load with cement or other heavy goods above 24 tonnes is split into two loads. This affects about 10% of loads.	Excel	Loads within weight limit
7	Select the carrier	Transport Planner	Selects the contracted carrier for the region from the rate matrix. It takes 3 to 5 minutes.	Excel	Proposed carrier and rate
8	Compare with spot price	Transport Planner	If another carrier quotes a spot price more than 10% below the contracted price, the planner asks the Transport Manager to approve the spot booking. Otherwise the contracted carrier is used. About 12% of loads go this way.	Excel, email	Approval request, or contracted carrier confirmed
9	Approve the spot rate	Transport Manager	Reviews the load and the spot rate and approves or rejects by email. The review takes 5 minutes, but the reply often takes 1 to 3 hours. If rejected, the planner goes back to step 7 and books the contracted carrier.	Email	Approval or rejection
10	Enter the booking request	Transport Planner	Enters the booking request in the carrier portal, or emails it where the carrier has no portal. It takes 8 to 12 minutes.	Carrier portal, email	Booking request sent
11	Accept or reject the booking	Carrier Dispatcher	Accepts or rejects the booking and assigns a truck. A portal reply takes 30 to 90 minutes,	Carrier portal, email	Accepted booking, or rejection

#	Step	Who	What happens	System	Output
			an emailed reply 2 to 4 hours.		
12	Rebook after a rejection	Transport Planner	If the carrier rejects (about 15% of bookings), the planner books the next carrier on the matrix and repeats steps 10 and 11. This loop adds 2 to 4 hours.	Carrier portal, email	Accepted booking with another carrier
13	Create the shipment in SAP	Transport Planner	Creates the shipment and assigns the deliveries to it, copying carrier, vehicle type and planned pickup time from the portal or the email. It takes 6 to 10 minutes.	SAP	Shipment in SAP
14	Send the transport order	Transport Planner	Prints the transport order from SAP and sends it to the carrier and to the Depot Dispatcher. It takes about 3 minutes.	SAP, email	Transport order sent
15	Check load readiness	Depot Dispatcher	Checks that the goods are ready and reports any shortage to the planner by phone. It takes about 10 minutes per load.	Phone	Load ready, or shortage reported
16	Adjust the load	Transport Planner	If goods are short or not yet picked, the planner moves the pickup slot or reduces the load and informs the carrier. About 9% of loads change after booking.	Excel, phone	Updated slot or load
17	Load and sign the CMR	Depot Dispatcher	When the carrier arrives, checks the pallets against the delivery note and signs the CMR. This takes 15 to 20 minutes.	Paper CMR	Loaded truck, signed CMR
18	Post goods issue	Depot Dispatcher	Posts goods issue in SAP. The planner records the actual pickup time in the Excel plan. Together this takes about 5 minutes.	SAP, Excel	Goods issue, actual pickup time
19	Inform the customer	Order Desk Clerk	Receives the tracking link from the planner and tells the customer. It takes about 3 minutes.	Email	Customer informed

7. Decision points and business rules

- Is the delivery address complete and the unloading window confirmed? No: the Order Desk Clerk contacts the customer (steps 3 and 4).
- Is the load heavier than 24 tonnes? Yes: split it into two loads (step 6).
- Is the contracted price more than 10% above a spot quote? Yes: the Transport Manager must approve the spot booking. Otherwise the contracted carrier is used (steps 7 and 8).
- Does the Transport Manager approve the spot rate? No: return to the contracted carrier (step 9).
- Did the carrier accept the booking? No: book the next carrier on the matrix and repeat the request (steps 11 and 12).
- Are the goods complete and ready at the depot? No: move the slot or reduce the load and tell the carrier (steps 15 and 16).

8. Exceptions

- Carrier does not show up at the slot (about 3%): the planner rebooks the same day with a spot carrier, at higher cost.
- Customer changes the delivery date after booking (about 8%): the planner cancels or amends the booking. Late cancellations carry carrier fees.
- Oversized loads such as roof trusses (about 2%): the Transport Manager selects one of two qualified carriers.
- Urgent same-day orders (about 5%): the planner books directly, without waiting for the next load plan.
- ADR dangerous goods: the load must go with an ADR-certified carrier, checked against the carrier list.

9. Controls

- Rate matrix changes need Transport Manager sign-off.
- Spot bookings more than 10% above the contract rate need Transport Manager approval.
- Segregation of duties: planners book transport but do not approve carrier invoices.
- Dangerous goods are only booked with ADR-certified carriers, checked against the carrier list.
- The signed CMR and the SAP goods issue are kept for 10 years as proof of dispatch.

10. Known issues today

- Carrier responses by email are copied by hand into SAP, and mistakes in vehicle type or time are common.
- The Excel load plan exists in several copies, and the depot sometimes works from an outdated one.
- Spot approvals wait in the Transport Manager's inbox when the manager is at a depot.
- Customer unloading windows are known late, so bookings are changed afterwards.
- Carrier rejections are discovered only after a long wait, especially for emailed bookings.

11. RACI matrix

R = responsible (does the work), A = accountable (owns the outcome), C = consulted, I = informed.

Activity	Order Desk	Planner	Depot	Transport Mgr	Carrier
Release orders for shipping	A/R	I			
Check delivery data and customer window	R	A			
Group deliveries into loads		A/R	C		
Select carrier and approve spot rates		R		A	C
Book the carrier		A/R		I	R
Create shipment and send transport order		A/R	I		I
Check load readiness		C	A/R		
Load, sign CMR and post goods issue		I	A/R		R

12. KPIs

KPI	Definition	Target
Truck fill rate	Average share of vehicle capacity used per load. Target is 85% or above.	[set]
First-carrier acceptance rate	Share of bookings accepted by the first carrier asked. Today about 85%.	[set]
Loads changed after booking	Share of booked loads where the slot, quantity or date was changed before pickup.	[set]
On-time pickup rate	Share of loads collected within the agreed pickup slot.	[set]
Spot bookings above contract rate	Number and value of spot bookings per month that cost more than the contracted price.	[set]

13. Revision history

Version	Date	Author	Change
1.0	[date]	[name]	First as-is version

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