

WORKED LANE EXAMPLE • SEPTEMBER 2026

Nuremberg → Birmingham: what a Mega trailer should cost

Four carriers quoted the same lane in the same week. The spread between the lowest and the highest was €1,075 a load. This brief rebuilds the lane from the road up — fuel, labour, tolls, asset and waiting cost — and shows which quotes the road explains, and which it does not.

€2,921

SHOULD-COST / TRIP

€2.435

SHOULD-COST / LOADED KM

€2,875 - €3,950

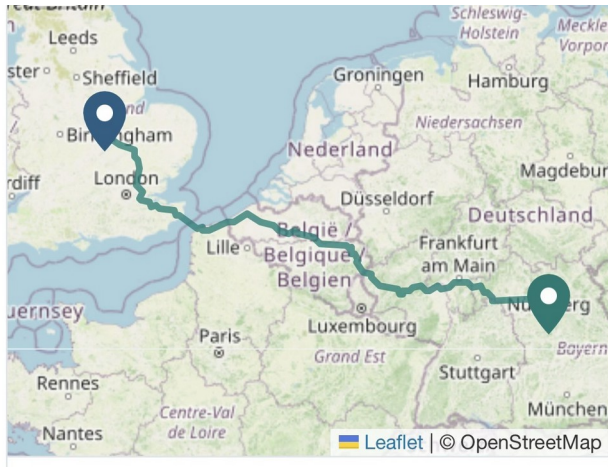
RFQ FIELD, FOUR CARRIERS

+37%

SPREAD, LOW TO HIGH QUOTE

Executive conclusion

The modelled should-cost for this lane is €2,921 per trip, or €2.435 per loaded kilometre, on a German-driver labour base and August 2026 fuel. Two of the four quotes sit within 2% of that figure and are credible as received. Carrier 3 is 19.8% above the model and Carrier 4 is 35.2% above — a €1,029 premium that exceeds the entire fuel bill for the trip. That gap should be reconciled against crossing cost, waiting allowance and backhaul exposure before a target rate is agreed.



Truck-profile routing (OSM · Valhalla). Routed distance 1,130 km against a 1,200 km contracted lane input.

What the road costs before anyone negotiates

14 h 56 drive time · 2.5 driver days**2** border crossings · DE · BE · FR**€612** tolls and Channel crossing per trip**1,041 kg** CO₂ per trip · 31.5 kg per pallet

Of the €612, the €352 Channel crossing is a fixed operator input. The balance is derived from the routed path across Germany, Belgium and France — verifiable, and better treated as pass-through than as linehaul.

Lane, equipment and assumptions

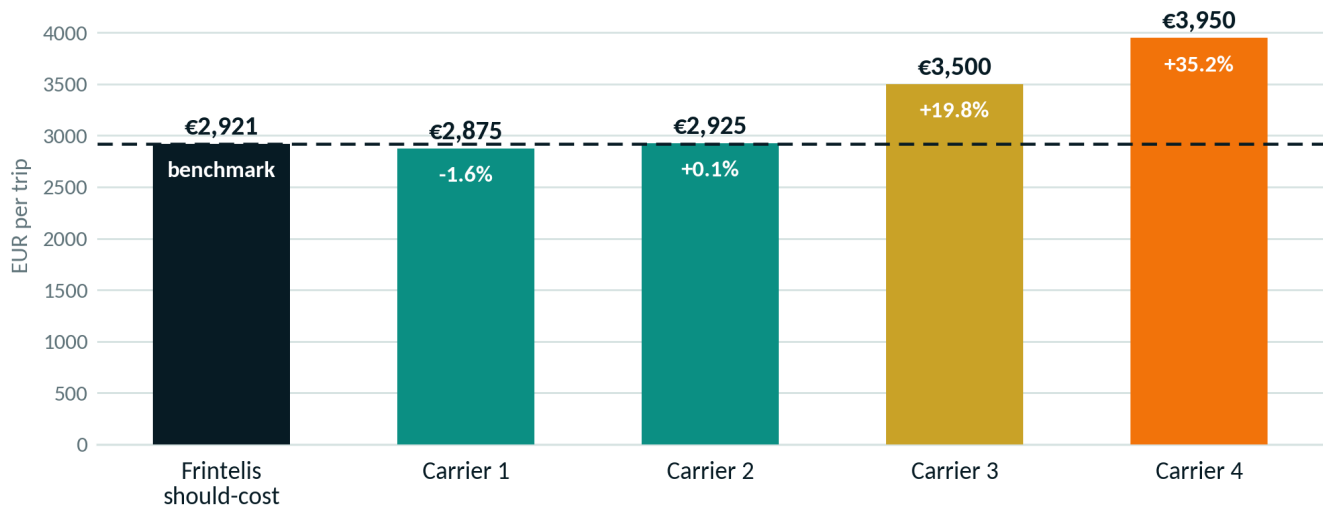
INPUT	VALUE USED IN THE MODEL
Origin → destination	Nuremberg (DE) → Birmingham (UK), Channel crossing by Eurotunnel
Lane distance	1,200 km loaded (planner distance 1,188 km; truck-routed 1,130 km)
Empty running	100 km — 50 km pre-haul before loading, 50 km after tipping → 1,300 effective km
Equipment	Mega curtainsider semi-trailer · 100 m ³ · 33 pallets · 24 t payload · 3 years old
Labour base	German driver · 2.5 driver days · per diem applied separately
Fuel	€2.20 / litre (August 2026 basis) · 29.9 l/100 km · 388 litres per trip
Loading / unloading	2 hours + 2 hours
Waiting	5.0 hours — border, urban congestion and terminal dwell · 2 h free, 3 h chargeable
Tolls	Auto-calculated from the routed path (DE · BE · FR) + €352 Channel crossing entered manually
Speed band	Long range · 80 km/h planning speed

HEADLINE COMPARISON

Four quotes, one road: €1,075 of spread

The quotes were received against an identical specification. Set against the model, they separate cleanly into two that the road explains and two that it does not.

RFQ field against the modelled should-cost • Nuremberg → Birmingham, Mega trailer



SOURCE	€ / TRIP	€ / LOADED KM	€ / PALLET	VS SHOULD-COST
Frintelis should-cost	2,921	2.435	88.53	benchmark
Carrier 1	2,875	2.396	87.12	-1.6%
Carrier 2	2,925	2.438	88.64	+0.1%
Carrier 3	3,500	2.917	106.06	+19.8%
Carrier 4	3,950	3.292	119.70	+35.2%
Field average	3,313	2.760	100.38	+13.4%

Quotes as received in the RFQ; carriers anonymised. Per-pallet figures at the 33-pallet capacity of the Mega trailer.

What the result means

- **Fuel, labour and tolls carry 77% of the cost.** €2,263 of the €2,921 is road cost that any compliant carrier on this lane has to absorb. The commercial conversation really concerns the remaining €658 of asset, overhead and margin — which is a much narrower argument than the €1,075 spread in the field suggests.
- **Two quotes are already at benchmark.** Carrier 1 (-1.6%) and Carrier 2 (+0.1%) are consistent with a German-driver cost base and the routed toll path. They are credible rather than cheap, and they need no further discount to be defensible internally.
- **€1,029 of the top quote is unexplained.** Carrier 4's premium over the model is larger than the entire fuel bill for the trip (€867) and 6.6 times the full waiting and detention cost (€155). No single input in the model reaches it — and, as the next page shows, no plausible combination of inputs does either.

What the difference is worth

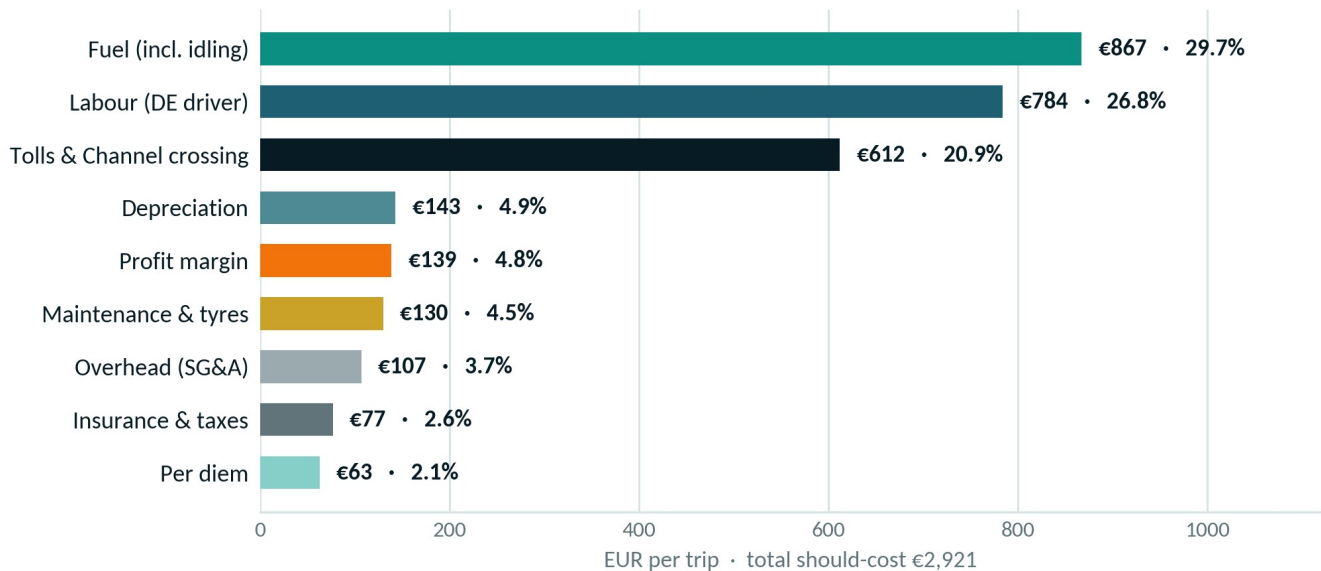
On 100 loads a year, awarding at the benchmark-consistent quote (€2,875) instead of the field average (€3,313) is worth **€43,750**. Against the highest quote in the field it is **€107,500**. The model behind that decision takes minutes to build.

COST COMPOSITION

Where the money goes

The should-cost is built element by element from operator inputs and a frozen European reference set. Every euro in the total is traceable to a stated assumption.

Where the money goes • three elements carry 77% of the cost



Cost breakdown

SHOULD-COST MODEL

COST ELEMENT	€/KM	TOTAL €	SHARE
Labour	0.654	€784	26.8%
Fuel	0.722	€867	29.7%
Tolls & ferries	0.510	€612	20.9%
Maintenance & tyres	0.108	€130	4.5%
Depreciation	0.119	€143	4.9%
Insurance & taxes	0.064	€77	2.6%
Per diem	0.052	€63	2.1%
Overhead (SG&A)	0.089	€107	3.7%
Profit margin	0.116	€139	4.8%
Total should-cost	2.435	€2,921	

Cost breakdown as returned by the Frintelis engine — €/km, total and share for every element.

Reading the stack

- **Fuel €867 (29.7%)** — 388 litres at €2.20/l, including €13 of idling fuel burned during the five-hour wait. A 10% fuel move is worth €90 a trip: index the fuel component rather than re-tendering the lane.
- **Labour €784 (26.8%) plus €63 per diem** — a German driver across 2.5 driver days. The establishment country behind the labour base is the single largest structural lever on this lane and should be stated, not assumed.
- **Tolls and crossing €612 (20.9%)** — €352 of it the Eurotunnel booking. Verifiable pass-through, and worth ring-fencing in the contract.
- **Asset and overhead €457 (15.7%)** — depreciation, maintenance, tyres, insurance, taxes and SG&A on a three-year-old Mega trailer.
- **Margin €139 (4.8%)** — the carrier profit assumption in the model. Two points of margin are worth €54 a trip.

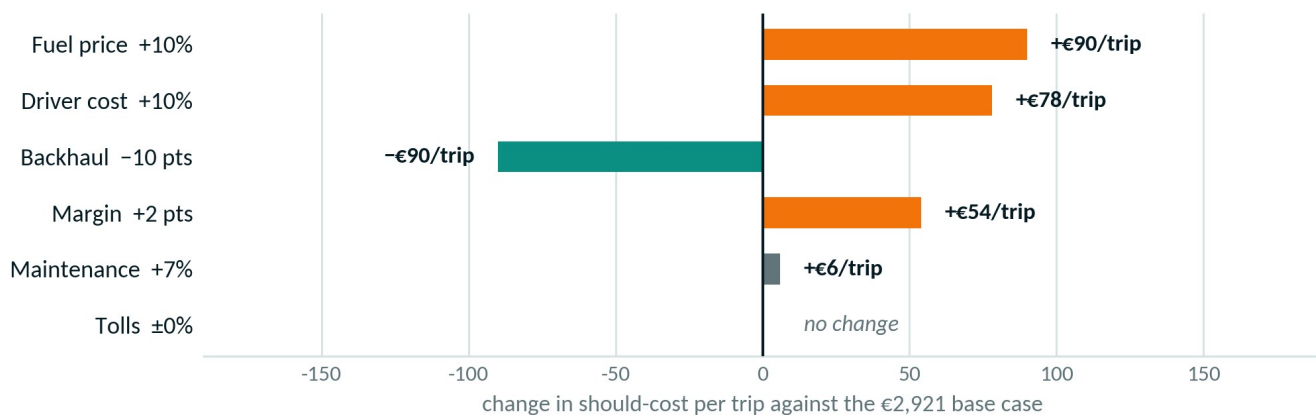
SENSITIVITY AND COMMERCIAL ACTION

Test the assumptions that can change the decision

A should-cost result is only as strong as the inputs behind it. These are the variables worth moving before the rate is fixed — and the question each one puts to the carrier.

VARIABLE	BASE INPUT	TEST RANGE	COMMERCIAL QUESTION
Waiting and dwell	5.0 h (2 h free)	0 to +8 h	What is included, and at what point does detention begin?
Fuel	€2.20 / litre	-10% to +10%	Which index, baseline and adjustment frequency apply?
Channel crossing	€352 fixed	€300 to €450	Is the crossing fixed, passed through or carrier-managed?
Empty running	100 km (7.7%)	0 to 200 km	Can the carrier evidence its backhaul from network data?
Labour base	German driver	DE vs CEE base	Which establishment and posting rules does the offer assume?
Margin	4.8%	3% to 8%	Is margin taken on cost or on revenue, and what does it cover?

Stacked fuel and driver shocks add €168 a trip — the top quote adds €1,029



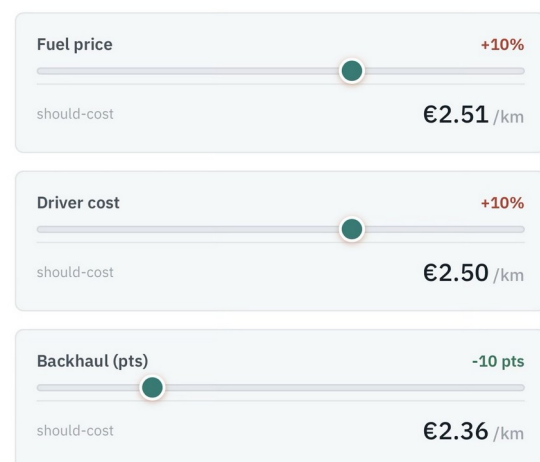
No combination of shocks reaches the top quote

Fuel and driver cost are the two inputs that move the result most, and they move it by €90 and €78 a trip respectively at a 10% shock. Stacked together they take the should-cost to roughly €3,090 — still 22% below Carrier 4.

Put the other way round: to justify €3,950 on cost alone, the fuel bill for the trip would have to more than double. That is not a market condition, it is a pricing decision — and it is a reasonable thing to ask a carrier to explain.

Sensitivity analysis

LIVE WHAT-IF



Live what-if in the app: each slider re-prices the lane instantly.

OPERATIONS AND UNIT ECONOMICS

Waiting time needs evidence, not a contingency

A higher quote may well include a delay allowance. The gap alone does not prove it — and an allowance that is never quantified is paid for twice.

Cost	Negotiation	Carrier	Operations
Waiting & detention			
			3.0 H CHARGEABLE
Waited / free allowance		5.0 h	2.0 h free
Paid driver time		3.0 h	€107
Vehicle holding (asset committed, not moving)			€34
Idling fuel			€13
Detention cost			€155

Already included in the totals above — shown separately so it can be quantified in negotiation. Overhead and margin apply on top.

Waiting and detention, isolated from the trip total so it can be negotiated on its own terms.

Five hours were waited on this lane: border formalities, congestion around the conurbations and dwell at the Channel terminal. Against a two-hour free allowance, three hours are chargeable.

Priced at the model's own rates, those three hours are worth €155 — €107 of paid driver time, €34 of vehicle holding while the asset is committed but not earning, and €13 of idling fuel. That is 5.3% of the trip cost.

Carrier 4's premium is 6.6 times that figure. If the premium really is a dwell contingency, it belongs in a detention clause with a defined free period and an hourly rate — not buried in the linehaul, where it is charged on every load whether the delay happens or not.

On 100 loads a year, three chargeable hours are €15,500. That is usually enough to justify fixing the terminal slot rather than paying for it.

Unit economics that travel into a category P&L

€88.53 per pallet

at should-cost, against €119.70 per pallet at the highest quote — a €31 difference per pallet, or €1,029 a load, before service levels have been discussed at all.

€29.21 / m³ • €0.122 / kg

The same trip expressed against the 100 m³ and 24 t capacity of the equipment, so the lane can be compared with groupage and with alternative modes on a like-for-like basis.

1,041 kg CO₂ per trip • 31.5 kg per pallet

Emissions come from the same routed distance and consumption model as the cost, so the cost case and the carbon case cannot drift apart.

Technical view	Commercial view
COST / KM €2.435	COST / TRIP €2,921
COST / M ³ €29.21	COST / PALLET €88.53
COST / KG €0.122	CO ₂ / TRIP 1,041 kg
CO ₂ / PALLET 31.5 kg	CO ₂ / M ³ 10.41 kg
TOTAL SHOULD-COST PER TRIP €2,921	

Commercial view — the same trip expressed in the units a buyer actually uses.

Three numbers to take into the meeting

€2,921 — what the lane costs on the stated assumptions. **€1,029** — what the highest quote adds on top of it. **€155** — what the waiting genuinely costs, priced separately so it is paid for once rather than twice.

NEXT STEPS

Questions for the carrier

Five questions that convert a rate discussion into a cost discussion. None of them requires the carrier to open its books.

- Which labour-cost base, establishment country and operating schedule does the offer assume?
- Which crossing, loading and waiting allowances are already priced into the linehaul?
- What empty-running or backhaul exposure is specific to this lane, and what network evidence supports it?
- Which items should be fixed, which indexed, and which treated as verifiable pass-through?
- At what point does detention start, at what hourly rate, and who books and owns the Channel crossing?



Mega curtainsider semi-trailer

GVW 40 T

PAYLOAD	VOLUME	PALLETS
24,000 kg	100 m³	33 pal

① Payload is the usable load ceiling; GVW is the fully-laden vehicle weight including tare. Costing uses the frozen engine payload, not this displayed figure.

The frozen equipment profile behind every figure in this brief.

Interpretation note

A should-cost result is a decision anchor, not a price ceiling. Market imbalance, capacity, service conditions and carrier network economics can all justify a rate above the model. The purpose of the exercise is not to drive every quote down to cost — it is to know precisely how much of a quote the carrier is being asked to explain, and to stop paying for assumptions nobody ever stated.

Method and scope

Figures are produced by the Frintelis should-cost engine from operator-entered lane inputs and a frozen European reference set covering fuel, labour, toll, asset, maintenance and overhead cost. Routing is OSM / Valhalla on a truck profile. The model is deterministic: identical inputs return an identical result, and every element in the total is traceable to a stated input. Toll figures are shown net of VAT. Carrier quotes are reproduced as received and the carriers are anonymised.

This is a cost model, not a market price index. It does not observe transacted rates and it does not forecast them. It answers a narrower and more useful question: on this lane, with this equipment and these operating assumptions, what does the work actually cost?

About Frintelis

Frintelis builds should-cost and rate benchmarks for European road freight. Category managers, procurement leads and carriers use it to enter a negotiation with a fact base instead of last year's rate plus an index. Single-lane briefs like this one are produced in minutes; multi-lane tenders are modelled in batch, collapsing a several-hundred-lane exercise from weeks into an afternoon.

Frintelis is currently in an invitation-only pilot. frintelis.com

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