

Modal Shift in highly congested regions

Role of Combined Transport

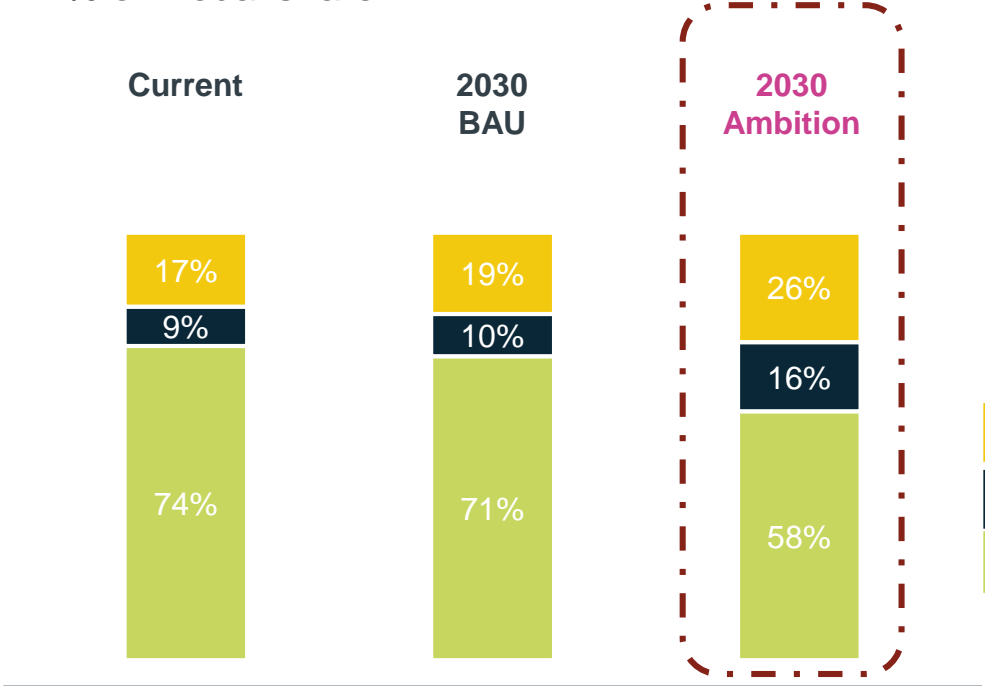
8th Florence Intermodal Forum, June 4th, 2021



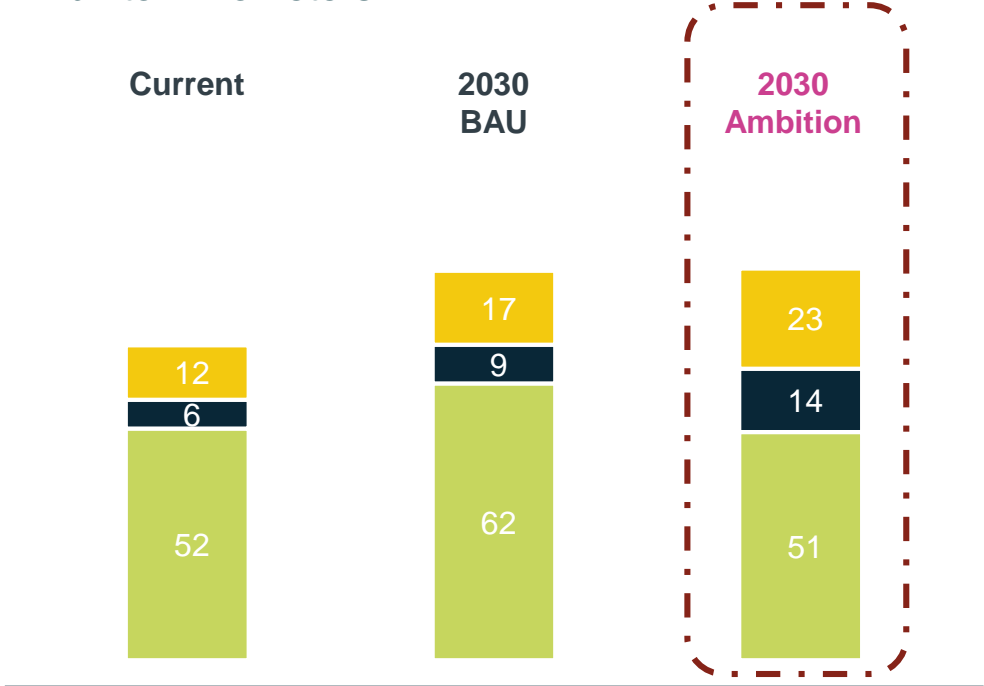
Joint ambition for the transport & logistics sector

Still, the rail sector believes it is possible to raise its modal share to 16% by capturing a larger share of the forecasted growth in demand

Traffic evolution
in % of modal share



Traffic evolution
in bn ton-kilometers



IWW
rail
road



Rail is better macro economic solution

9x

LESS CO2
EMMISSION

8x

LESS AIR
POLLUTION

40

TRUCKS LESS
IN TRAFFIC
WITH 1 TRAIN

6x

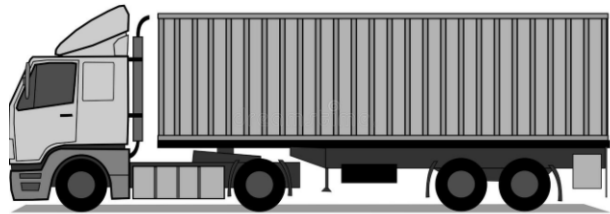
LESS ENERGY
CONSUMPTION

85x

LESS ROAD
CASUALTIES

TO ENABLE OUR CLIMATE, ENV. & SAFETY GOALS

USP of rail freight transport



X 50 =



Great for large volumes, very energy efficient, mobility, environmental & climate friendly,

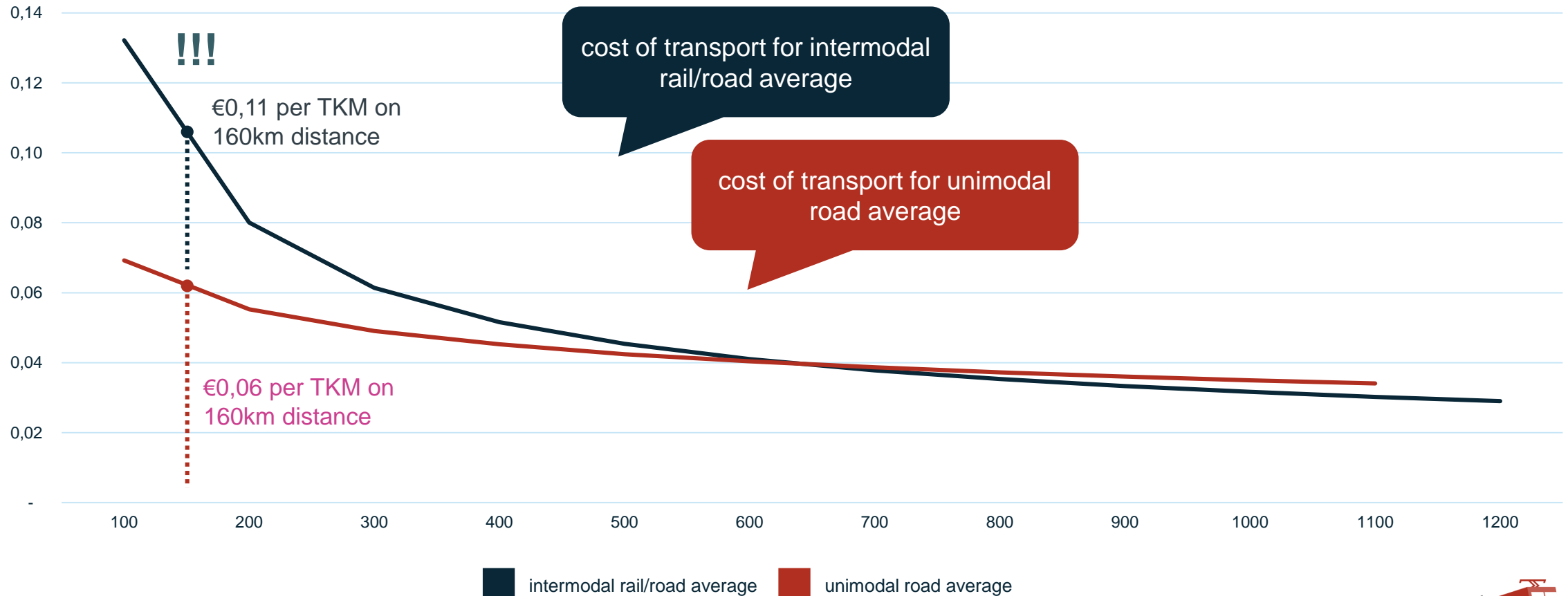
BUT



requiring consolidation/massification to get large volumes with extra costs for last/first miles, feeder network, shunting, transshipment

Cost GAP on the short distance between multimodal and trucking in EU

cost functions by distance
in € per ton-kilometer & km



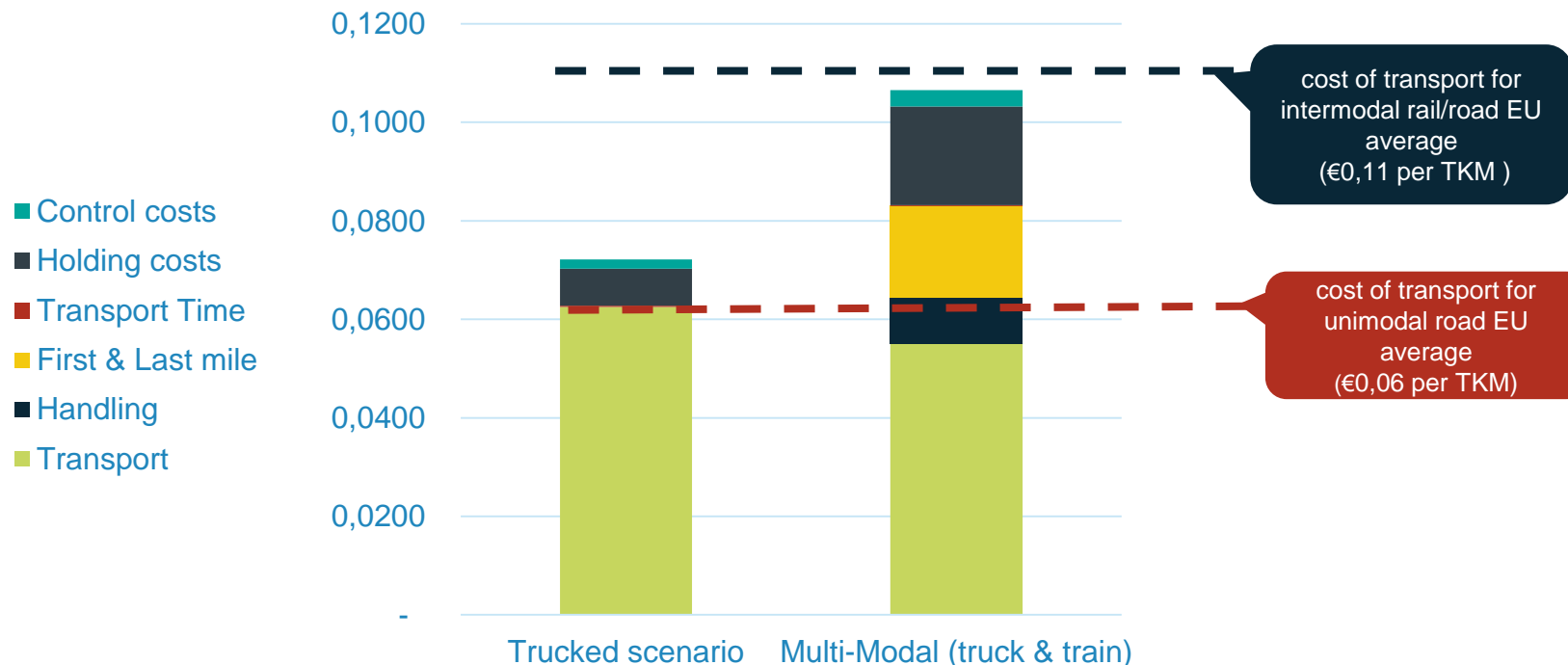
Source: Calculated based on Zgonc et al., (2019), The impact of distance on mode choice in freight transport, European Transport Research Review



Cost GAP in BE due to the consolidation cost

Total logistics cost - In € per Ton KM

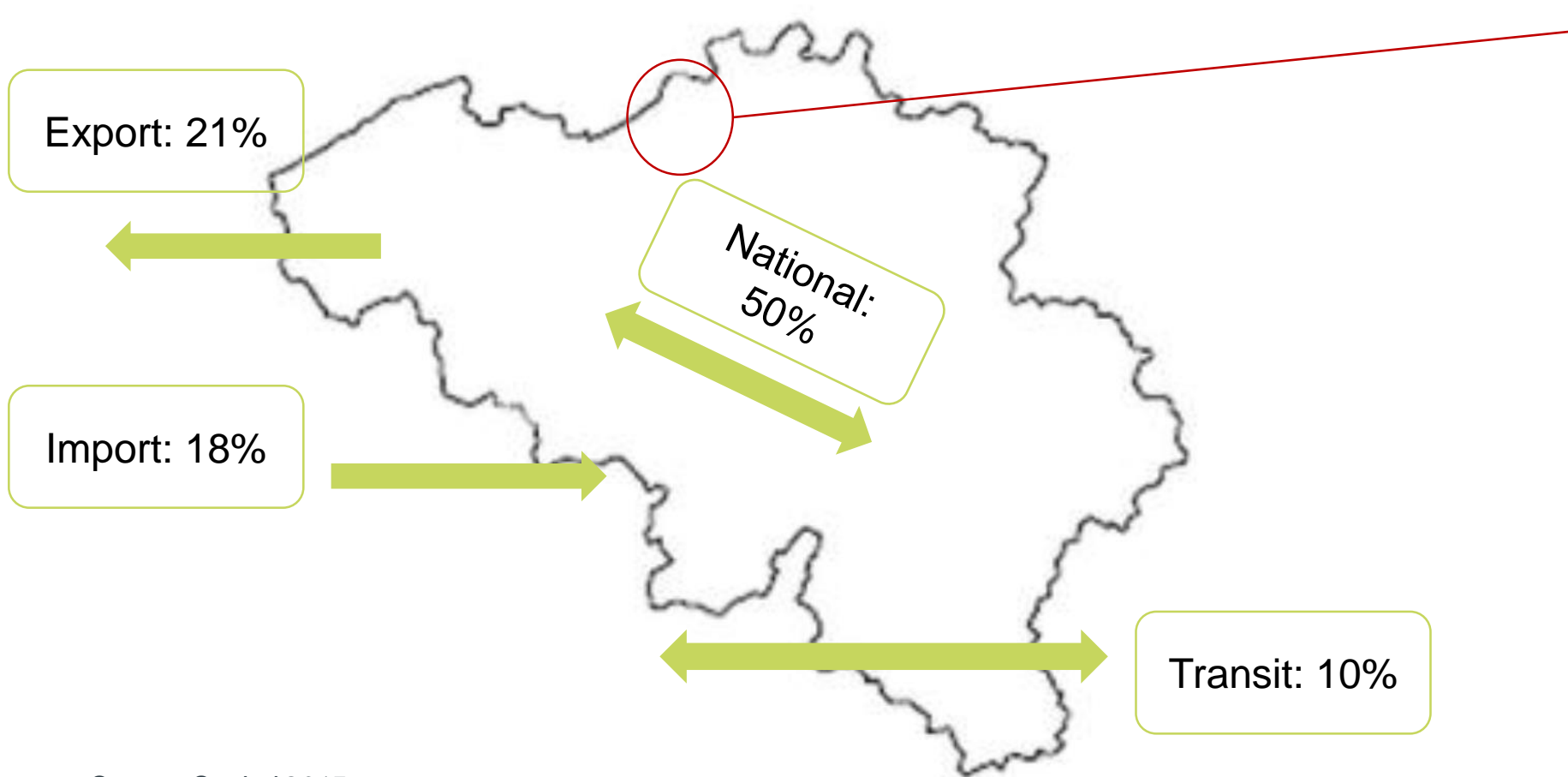
Intermodal ⁽¹⁾ – Average distance of 160 km



Average cost gap in Belgium smaller than in EU (probably) due to dense network of rail & roads

(1) Based on Vannieuwenhuyse, B., et al, (2019), Haalbaarheidsstudie maatregelenpakket voor een versnelde modal shift naar het goederenspoorvervoer, in opdracht van de Vlaamse overheid, Departement Mobiliteit en Openbare Werken, Afdeling Beleid, ir. Ilse Hoet.

Yet current road transport in Belgium is primarily < 300 km...



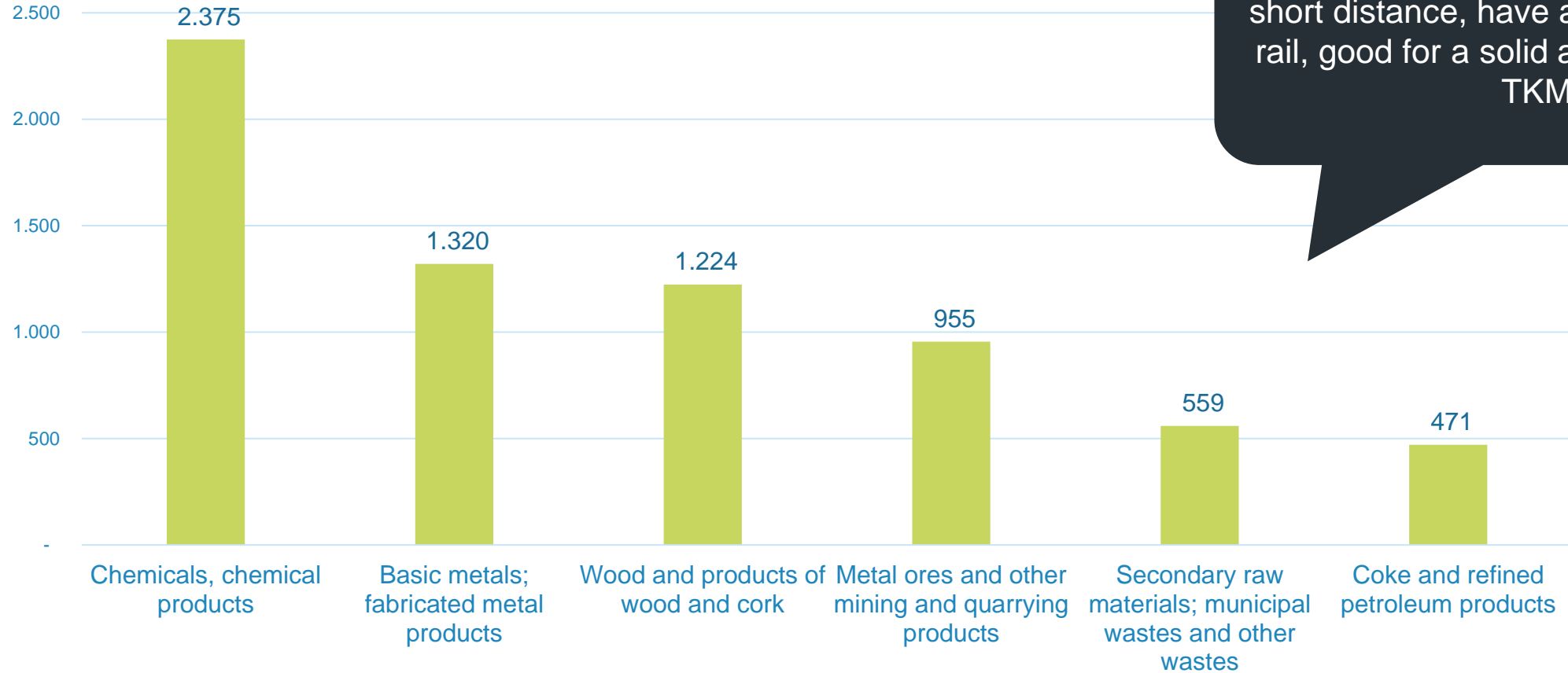
For instance, 69 % of the maritime containers trucked from the Port of Antwerp stay in Belgium :

Belgium	69%
France	10%
Germany	9%
Netherlands	8%
Luxemburg	1%
Other Europe	3%

Destination of containers loaded on trucks at the maritime quays – Count in TEU by the Port of Antwerp (2017)

12% of BE road transport is on short distance with high rail affinity

Product transported by road within the 100 - 300 KM distance category Mio Ton KM



12% of products, transported on the short distance, have a high affinity with rail, good for a solid amount of 6,9BN TKM

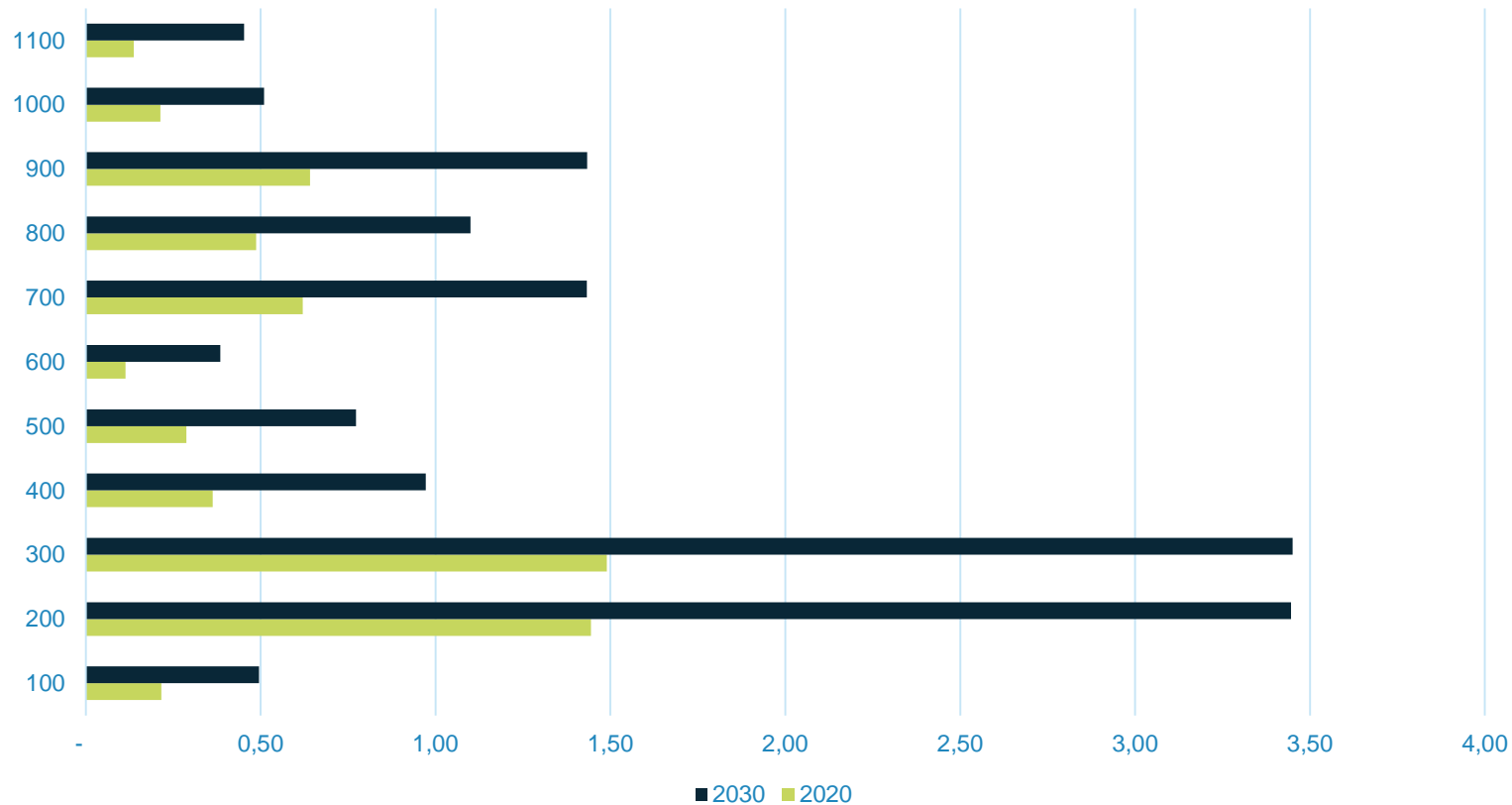
* TKM = Ton Kilometer
** by NST

The short distance trains are the engine for growth

Highest potential and feeder to growth on the long distance

Estimated traffic evolution by distance category based on the observed evolution over the past 5 years

Evolution per distance category - In Bln TonKM



The situation today

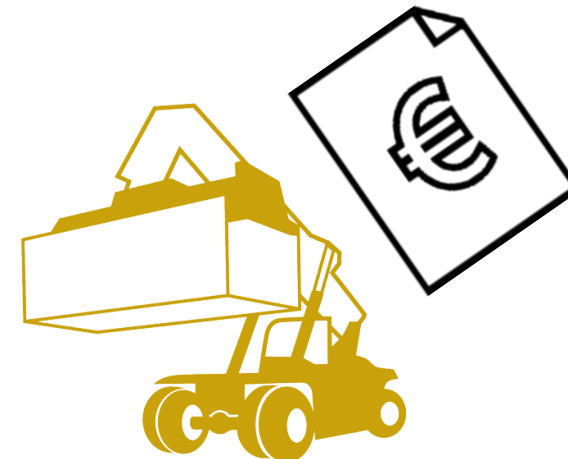


99%
of the time, cost
drives choice of
transport mode

€€€
Rail is competitive
once the cargo is on
rail

The surplus cost comes
from the cargo handling
between transport
modes

Our proposal

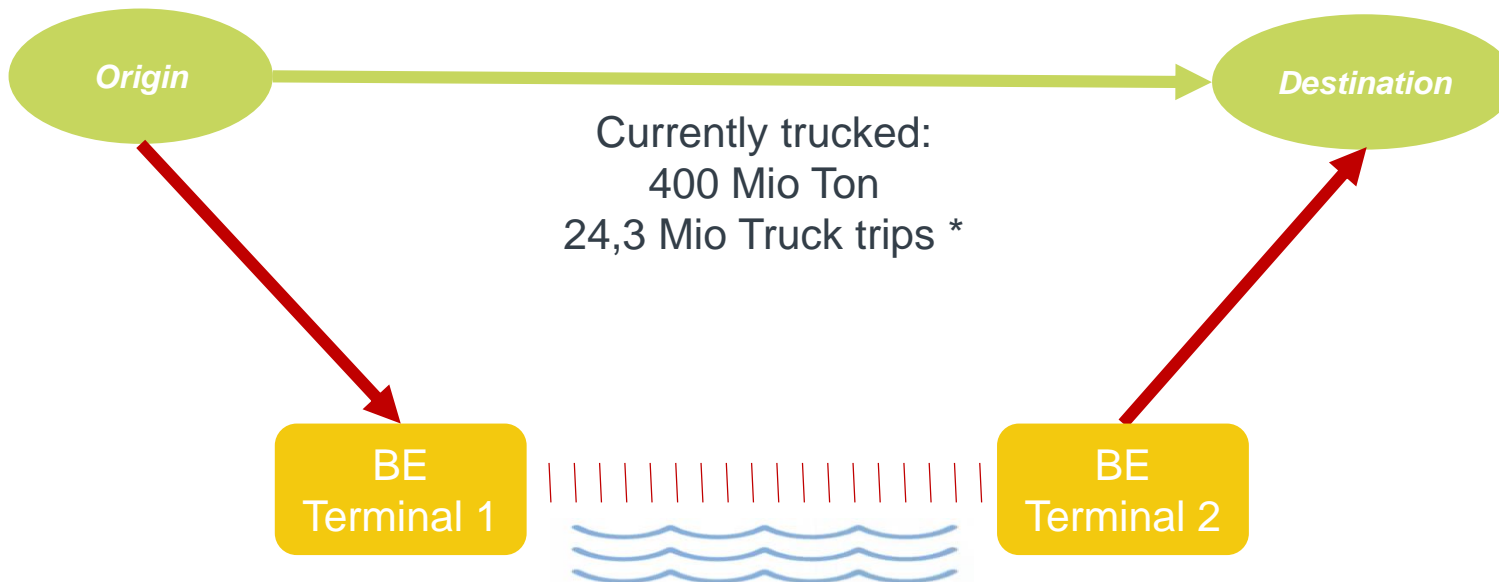


The concept & data analysis

First & last miles (f& l M) are trucked, the long haul is put on rail or barge

→ *Trucked scenario*

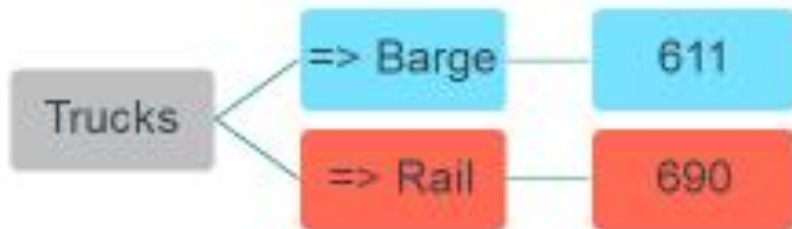
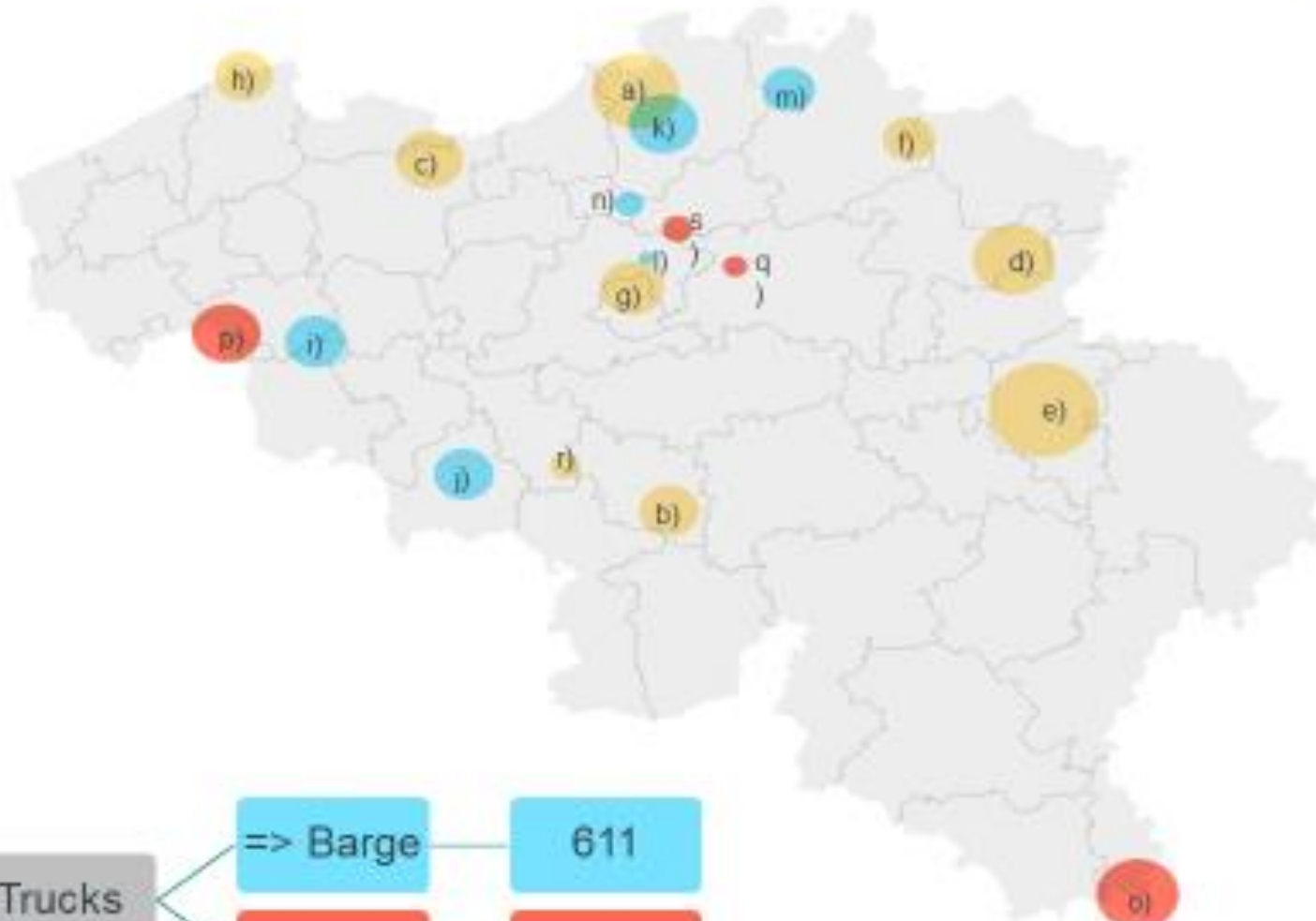
→ *Modal shifted scenario*



Methodology

- Trucked traffic data 2015 per NST & NUTS 3 (Statbel).
- Distances calculated based on the NUTS3 latitude & longitude coefficients
- Load factors per NST (TU Delft) used to derive the number of trucked trips
- Assumed degree of containerisation potential based on OakTrees' assessment of affinity with rail per NST code:

THE POTENTIAL



Trimodal	Barge	Rail
a) Antwerp •Rail: 120 / 113 •Barge: 26 / 14	i) Avelgem 66 / 61	o) Athus 137 / 116
b) Charleroi •Rail: 29 / 39 •Barge: 16 / 37	j) Ghén 63 / 59	p) Rekkem 75 / 89
c) Ghent •Rail: 41 / 41 •Barge: 53 / 21	k) Deurne 120 / 48	q) Herent 7 / 10
d) Genk •Rail: 61 / 51 •Barge: 62 / 68	l) Grimbergen 3 / 3	r) La Louvière 12 / 16
e) Liège •Rail: 108 / 103 •Barge: 34 / 196	m) Beerse 54 / 37	s) Muzen 14 / 15
f) Mol & Meerhout •Rail: 32 / 30 •Barge: 18 / 12	n) Willebroek 19 / 6	
g) Brussels •Rail: 29 / 38 •Barge: 44 / 27		
h) Zeebrugge •Rail: 26 / 31 •Barge: 33 / 26		

The return on investment to society

We can take **1.300.000 truck trips** off the road with a **handling cheque of € 40 per unit** put on rail or barge

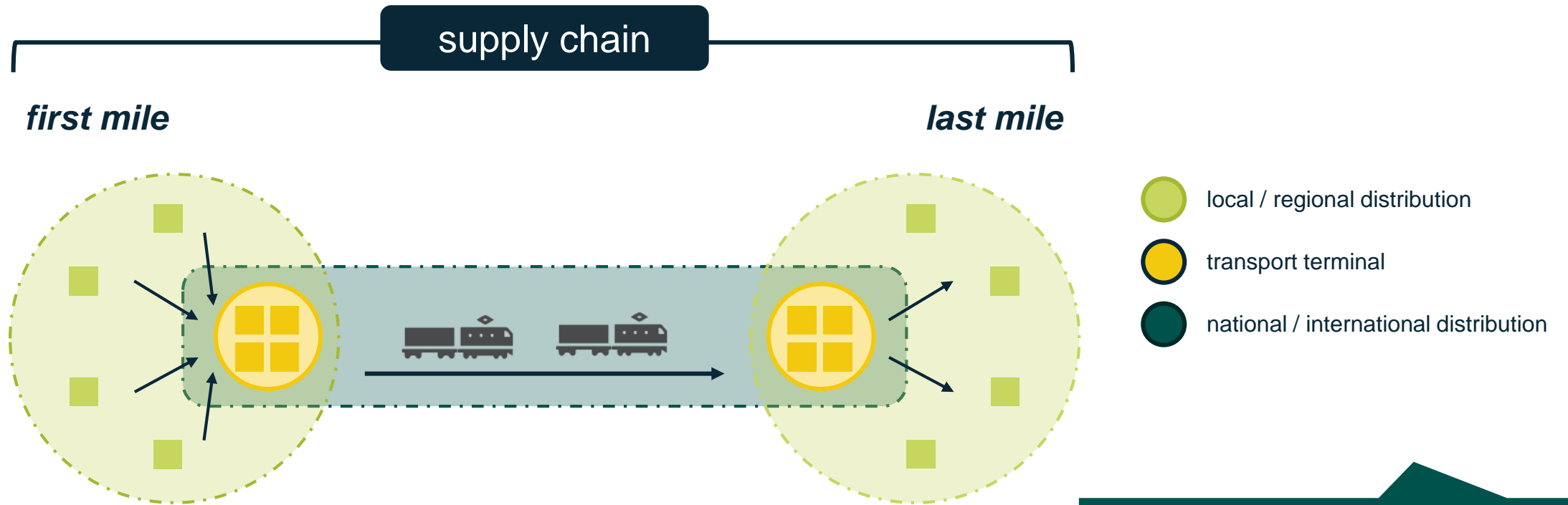
**+1.919 million
TonKm shifted
per year**

**(8% of all
trucked
volumes)**

**1.000 hours of
traffic saved
per day**

**€ 160 million
external costs
saved**

End-to-end approach for government support



- support road transport with stimuli that compensate the cost of transshipment

- support trucking and shippers by co-financing inv. in trimodal assets and equipment

- support the offer of RU's with stimuli that focus on transport that covers < 300km distances

Thank you