Is state aid justified ?
→ case for Belgium

October 22, 2020

BELGIAN RAIL FREIGHT FORUM

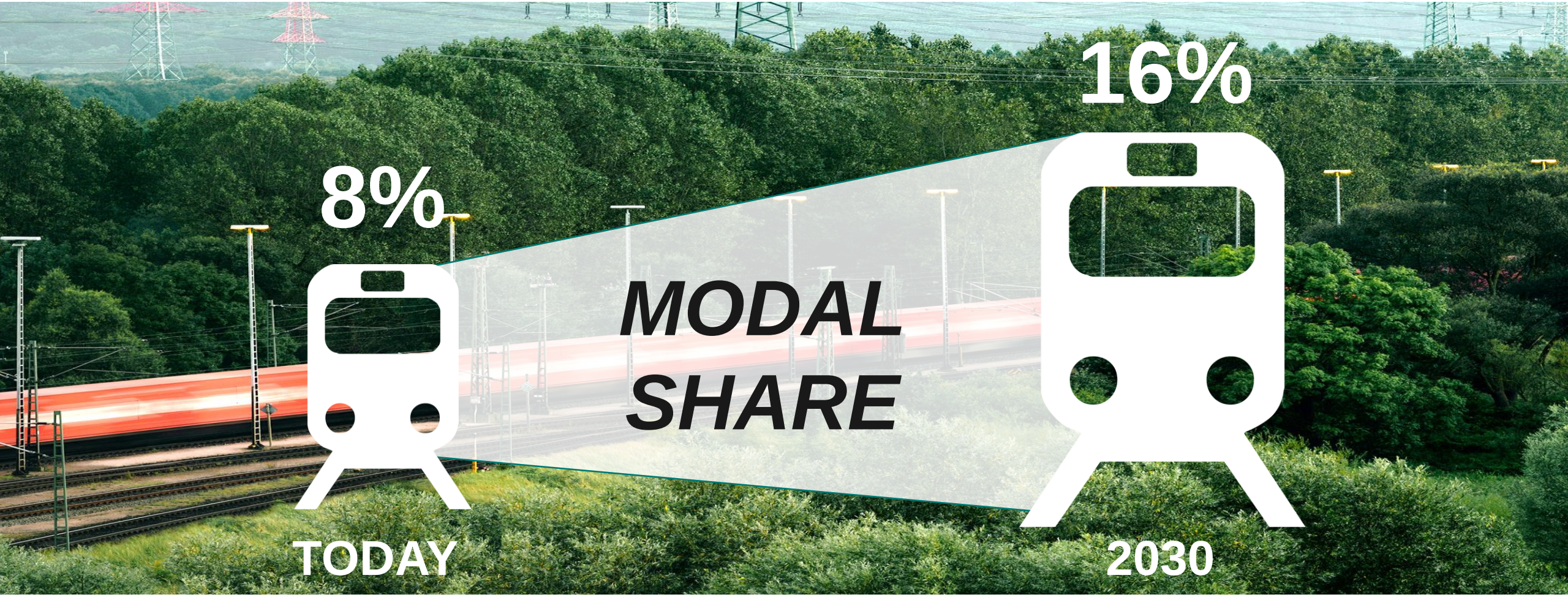
The current transport model in Belgium … and the EU

AS-IS TRANSPORT MODEL IS NOT SUSTAINABLE

IMPACT ON CLIMATE, MOBILITY AND HEALTH

IMPACT WILL GET WORSE CETERIS PARIBUS

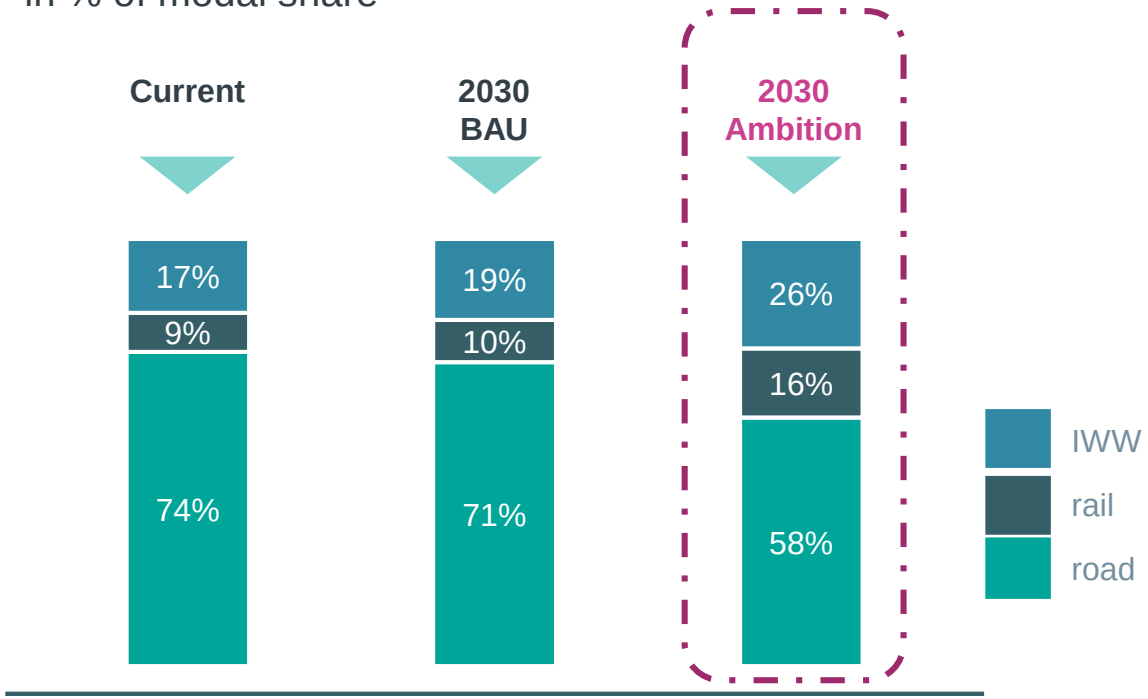
26% GROWTH REQUIRES JOINT AMBITION FOR THE T&L SECTOR, A NEW TO-BE TRANSPORTMODEL



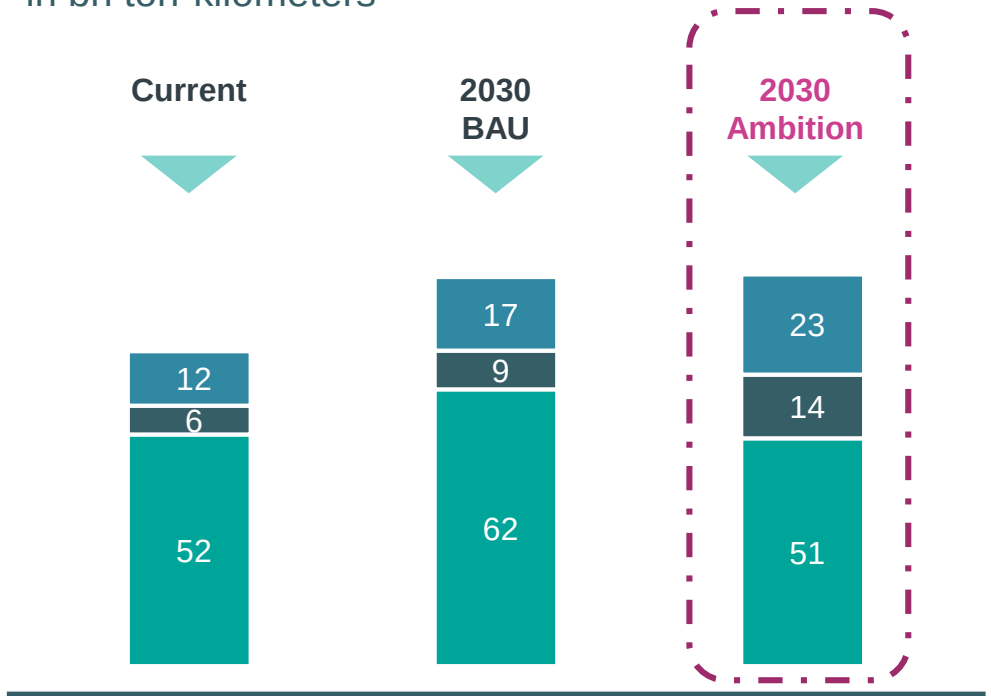
KEEPING NUMBER OF TRUCK TRIPS AT CURRENT LEVELS

Rail freight wants to realize a modal share of 16% in 2030 which would double as-is volumes and would keep current road traffic volumes at a stable level

Traffic evolution
in % of modal share



Traffic evolution
in bn ton-kilometers



note: simulation by Lineas based on the projections of the Federal Plan Bureau

SAVING SAFETY, CLIMATE & ENVIRONMENTAL GOALS

AVOID +90.000
TRUCKS

AVOID +1.5
MILLION TONS
OF CO_2 / YEAR

AVOID +2.000
TONS OF FINE
PARTICLES

+ 1 BILLION € OF ECONOMIC GAINS

1.a. Is there market failure ?
BRAIN-TRAINS research

BRAIN-TRAINS

Belgian **r**esearch **a**ction through **i**nterdisciplinary **n**etworks – **tr**anversal **a**ssessment of **i**ntermodal **n**ew **s**trategies

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Workshop BRFF, 24/9/2020

Universiteit Antwerpen

LIÈGE université

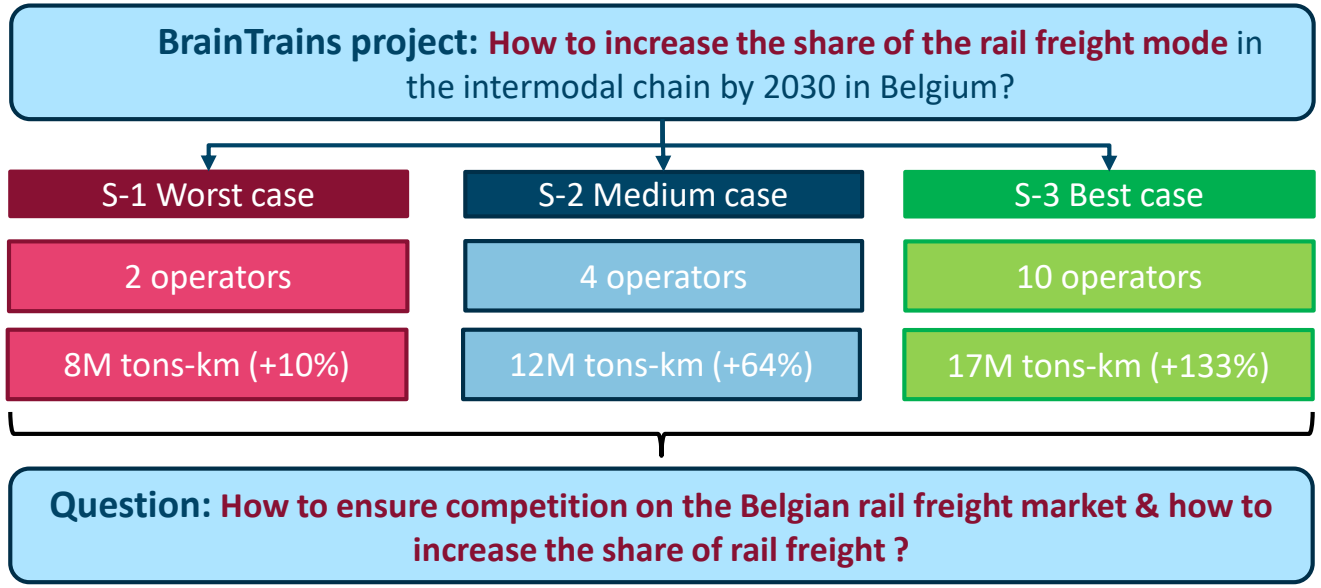
Introduction – Problem statement

- European Commission White Paper 2011:

  Roadmap to a Single European Transport Area –
  Towards a competitive and resource efficient transport system

- Goal:
  - 30% of road transport over 300 km towards rail and inland waterways by 2030 (50% by 2050)
  - In a context of growing transport demand
  - With a 60% emission reduction target

Scenario's of modal share o



Best case:
Main conclusions

- Order of economic preference/affordance: road, IWWs then rail -> *high rail fixed costs*.
- Positive effect of *road costs*, *IWWs costs* and *road taxes* parameters in the best case. However, overall application yields a more costly position.
- A directly proportional relation exists between the intermodal market share and the corresponding competition's trucking price and market size.
- Positive effect of rail subsidies in the first stages; stagnation reached if continued, particularly in the best case.
- The competitiveness of intermodal transport is sensitive to the paths' structure; namely, the distance limits imposed on the road parts -> *pre- and post-haulage*.

Worst case: Main conclusions

- Worst-case scenario: intermodal market share depends on economic and environmental optimizations

- The followed policy influences the modal split:
  - Economic optimization: road transport
  - Environmental optimizations: intermodal rail transport
  - Different modal transfers from the reference to the worst-case scenario:
    - Economic optimization: between road and intermodal transport
    - Environmental optimizations: within intermodal transport

- Takeaways
  - Influence of the policy on modal split
  - Expected increase of the road market share if the objectives of the White Paper are not taken into account
  - Necessary to adapt the tax instrument to the economic conditions under study

Conclusion (environmental optimisation)

- Intermodal electric rail freight transport represents an opportunity to attain a more environmentally and energy-efficient transport system

Impact category	Difference of environmental impact compared to lorry 24-40 t Euro VI	
	Electric train	Diesel train
Climate change	-29%	-9%
Ozone depletion	-36%	-27%
Human Toxicity, non-cancer effects	-1%	+2%
Human Toxicity, cancer effects	+43%	+43%
Particulate matter	-48%	-17%
Ionizing radiation HH	+79%	-6%
Ionizing radiation E (interim)	+43%	-18%
Photochemical ozone formation	-34%	+42%
Acidification	-26%	+37%
Terrestrial eutrophication	-20%	+60%
Freshwater eutrophication	+35%	+20%
Freshwater ecotoxicity	-53%	-52%
Land use	-75%	-65%
Resource depletion	-43%	-40%

Regulation: Policy paths

Reach the best target under low concentration in Belgium (scenario 3)

Transport policy	Specific target & long term Incentive scheme for shift from road to rail (taxes)
Contract of performance	Indicators for implementation of the transport policy Indicators for IM performance
Network statement	Incentive schemes towards the market for performance (noise, environmental, ERTMS)
Regulatory body	Extension of skills to: - All of the mode of transportation - Monitoring of the transport policy - Monitoring of the contract of performance - Observatory of the market and competition monitoring

Reach the best target under high concentration in Belgium (scenario 1)

Policy path similar to the previous one

+

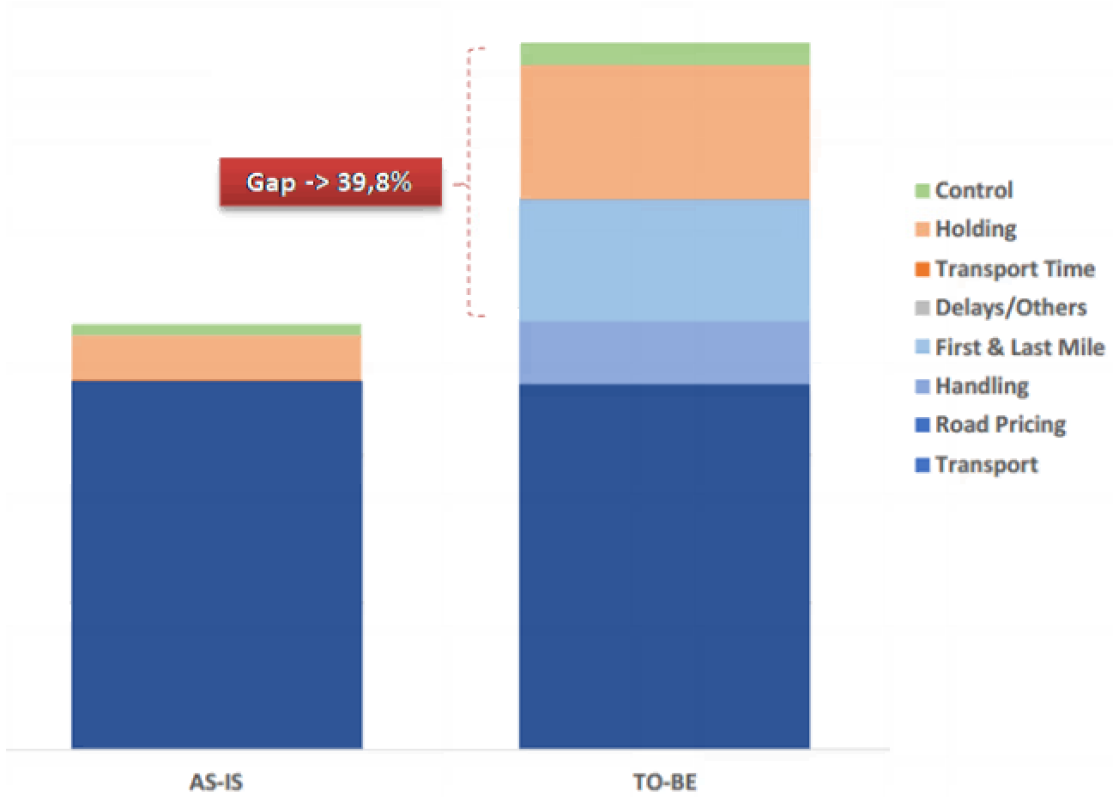
Positive discrimination for access charges

Creation of a specific European agency for regulation

1.b. Is there market failure ?

a. *Current & to-be cost difference for short distance traffic (distances within Belgium)*
b. *What if external cost were considered ?*

a. the cost GAP between door-to-door road transport and intermodal rail transport is considerable…

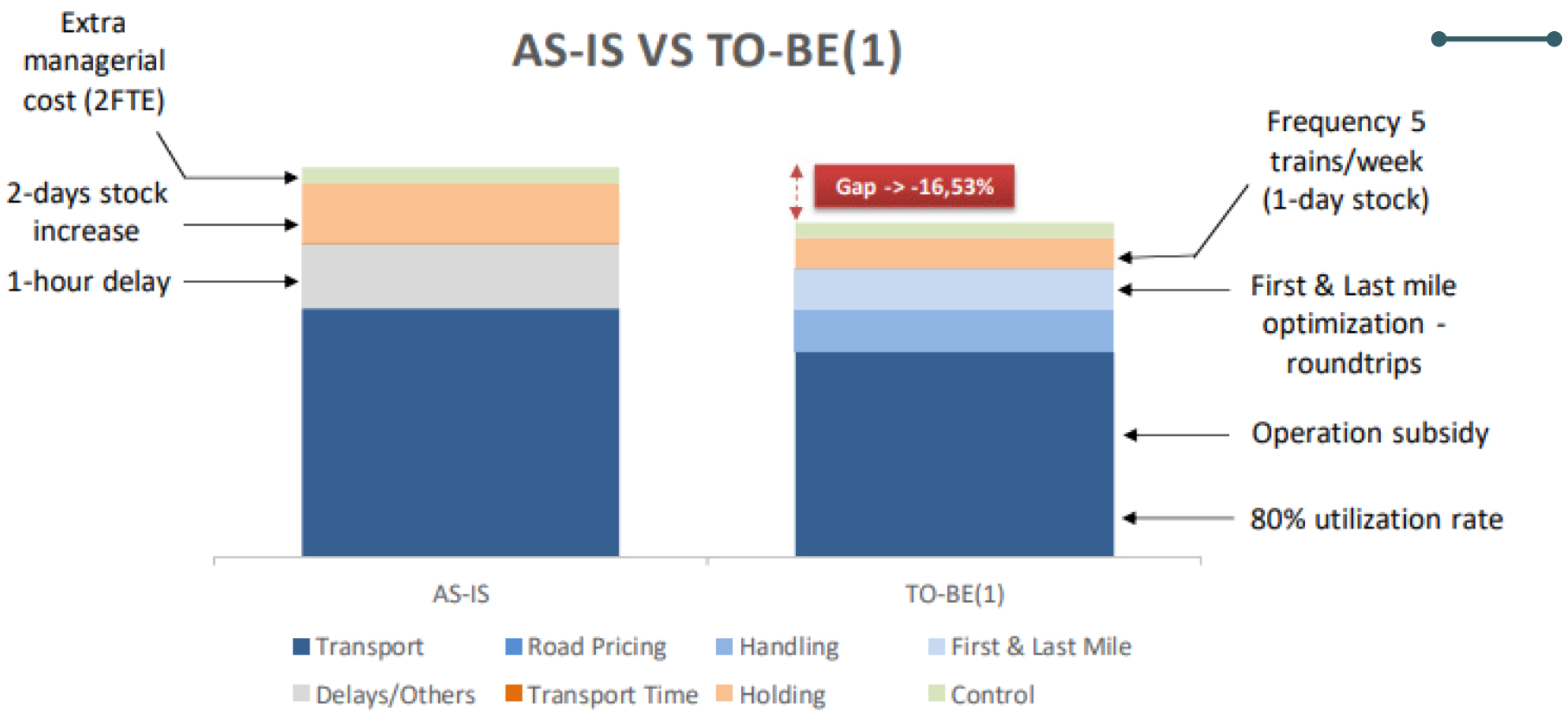


… when an ideal road solution is compared to a suboptimal rail solution. Suboptimal here means :

- frequency of 2 trains per week
- stock as a buffer
- average utilization of train capacity: 70%
- sub-optimal utilization of equipment (rolling stock: locos and wagons)
- managerial time substantially higher than with road transport
- pre-transport and post-transport sub-optimal - empty return journey
- extra transhipment at the pre- and post stage
- no operating subsidies

Source: 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.I

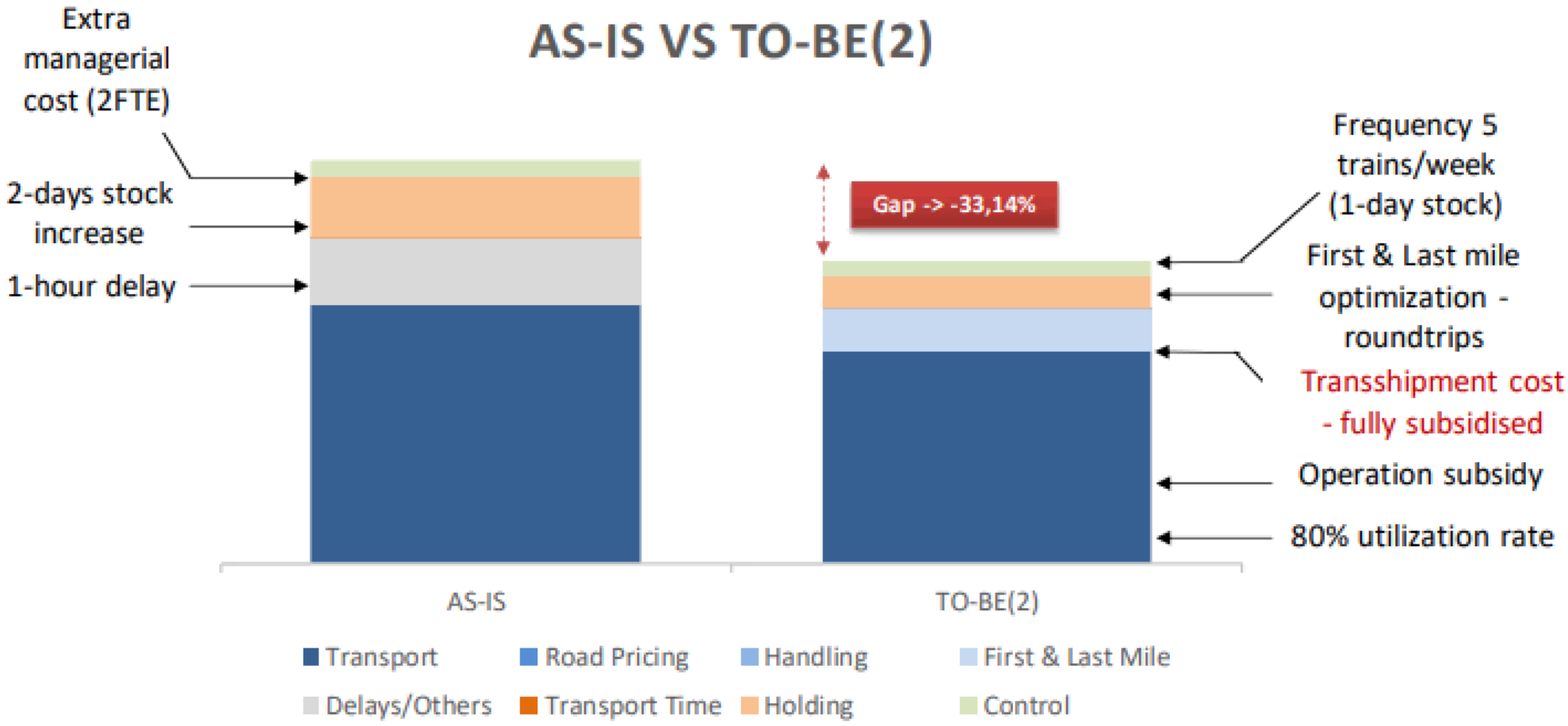
a. however… this cost GAP can be decreased by (i) optimizing the intermodal solution and (ii) combined with foreseen cost increases for road transport (e.g. congestion)



The comparison traditionally made, is flawed because the current road transport solution is increasingly getting under pressure due to congestion and other capacity issues. Via the total logistics cost calculation it was demonstrated that the proposed measures can significantly reduce the initial rail cost relative to road transport

Source: 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.I

a. but… a real modal shift will require a 'cost reversal' that can only be realized by a compensation of the transhipment cost



Source: 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.I

b. internalize external costs… the delta between external costs and the actual taxes and charges paid in the transport sector, imply an implicit subsidy

Variable social costs vs. variable taxes and charges, for EU28 – in bn € per year (2016) :

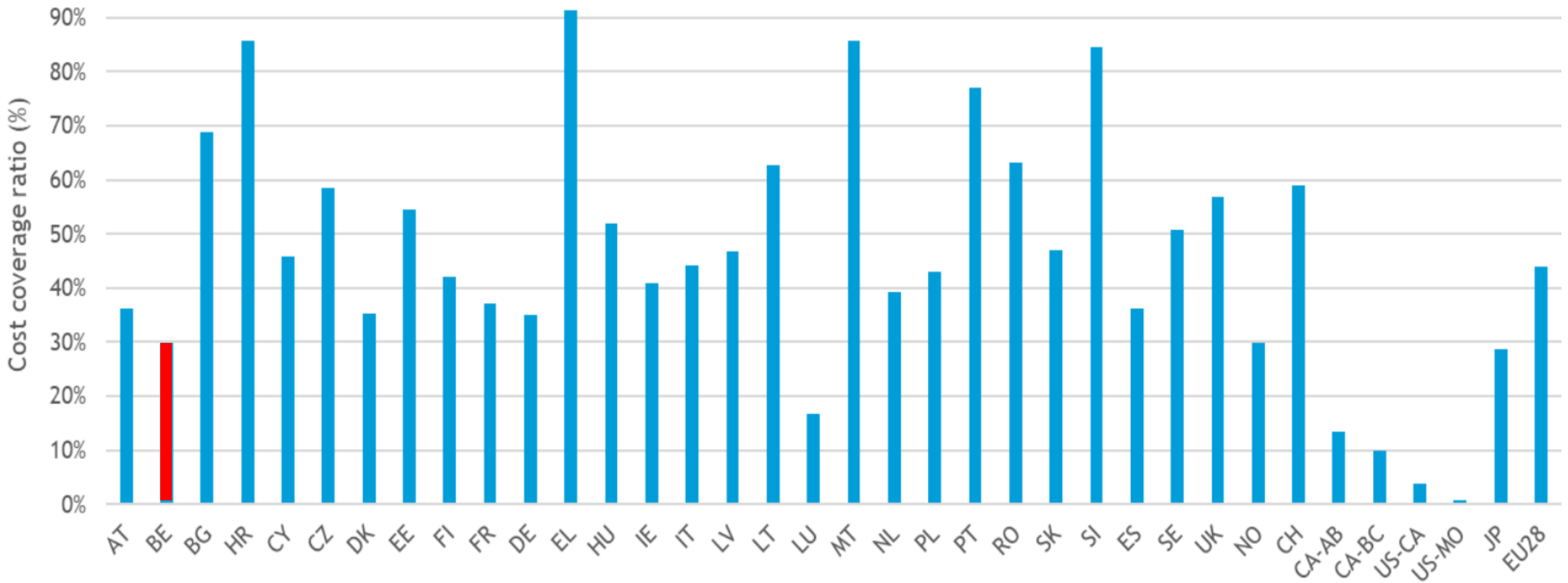
	Road	Rail	Inland shipping	Maritime shipping	Aviation	Total
Social costs	592	25	2.8	44	37	700
Taxes & charges paid	269	20	0.4	2	14	305
Difference (= subsidy)	323	5	2.4	42	24	396

for road transport this totals up to more than €300bn for Europe per year

Source: This chart is taken from DG Move's study (2019), "State of play of Internalisation" part, p. 52. The underlying subtotals in the table can be found in an Excel annex (file "Annex D Final_total_avg_Cross Modal Comparisons.xlsx", sheet "Variable_ext_infra_CC", area A3:K18).

b. furthermore… Belgium performs very poor concerning internalization of external costs for road freight transport

Overall external cost coverage ratio for road freight transport in the EU28, Switzerland, Norway, the US, Canada, and Japan :



DG Move - State of Play of Internalisation in the European Transport Sector Annexes A-C – May 2019, p. 12

3. How can state-aid support rail without distortion to competition ?

Investment / Capex

Horizontal non-discriminatory programs with objective criteria

- Terminals (example Germany) : Beneficiary : terminal developer
- Intermodal equipment (containers, truck bodies, loading / unloading equipment) : Beneficiary : (road) transport companies
- Railway connections to industrial & logistic sites (example road sector) : Beneficiary : final client
- Rolling stock (ETCS OBU's, Silent Wagons …) Beneficiary : RU's, wagonkeepers, leasing companies
- Digitalisation (EU data platfrom, Digital Capacity Management, …) Beneficiary : IM's, RU's & other transport providers

Operational / Opex

Horizontal non-discriminatory programs with objective criteria

- Combined transport subsidies : Beneficiary : combined transport provider / terminal developer,
- TAC reductions : Beneficiary RU’s
- Transhipment check : Beneficiary : (road) transport companies
- …

EXAMPLE OPEX & CAPEX AID : FROM ROAD TO INTERMODAL

OPPORTUNITIES

- A sustainable transport for long distance and a solution to drivers shortage
- Enlarge portfolio of customers and enter new markets

CHALLENGES

- Invest in intermodal equipment semi-trailers or swap bodies
  higher investment costs
- Switching from a driver-accompanied operational set-up to non-accompanied transport
  more complex and labour intensive operations
- Need for a reliable partner or own subsidiary in destination countries
  right partner choice
- A truck is flexible to join his next loading point after a delivery (back load). An intermodal transport unit must find his next cargo nearby the terminal of arrival
  less flexibility for a next load
- Exposure to delays by the rail operator in intermodal
  exposure to quality & service level

FUTURE

- Intermodal can support solutions to traffic congestion in Flanders
- Short-distance regional shuttles to by-pass congestion zones (Antwerp-Brussels)

EXAMPLE OPEX & CAPEX AID : FROM ROAD TO INTERMODAL

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

€40
Handling cheque

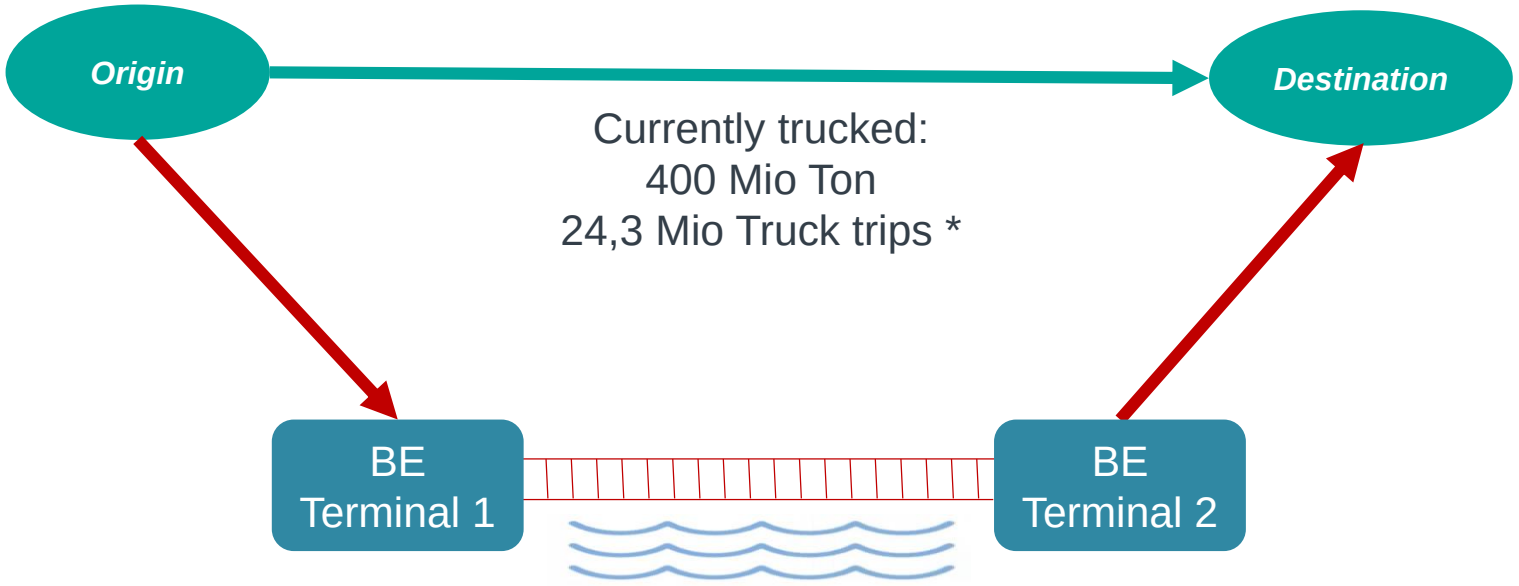
EXAMPLE OPEX & CAPEX AID : FROM ROAD TO INTERMODAL

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



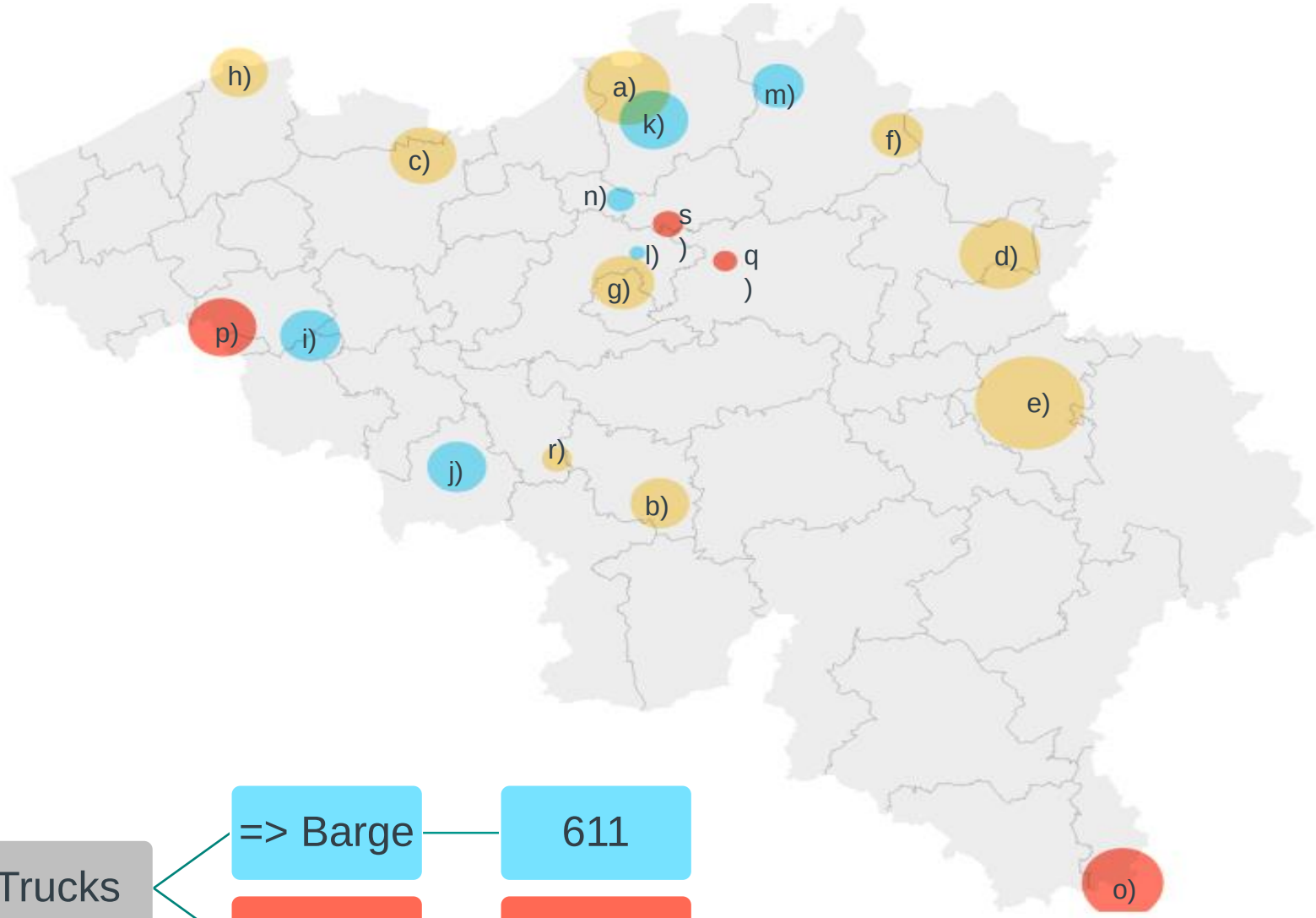
** Excluding transhipments*

Methodology

- Trucked traffic data 2015 per NST & NUTS 3 (Statbel).
- Distances calculated based on the NUTS3 latitude & longitude coefficients
- Load factors per NST (TEU 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:
  - High affinity 60 %
  - Affinity 30 %
  - Grouped goods (NST 18) 10 %
  - Low affinity 0 %

EXAMPLE OPEX & CAPEX AID : FROM ROAD TO INTERMODAL

THE POTENTIAL



Trucks		
	=> Barge	611
	=> Rail	690

Trimodal

- a) Antwerp
  - •Rail: 120 / 113
  - •Barge: 26 / 14
- b) Charleroi
  - •Rail: 29 / 39
  - •Barge: 16 / 37
- c) Ghent
  - •Rail: 41 / 41
  - •Barge: 53 / 21
- d) Genk
  - •Rail: 61 / 51
  - •Barge: 62 / 66
- e) Liège
  - •Rail: 108 / 103
  - •Barge: 34 / 195
- f) Mol & Meerhout
  - •Rail: 32 / 30
  - •Barge: 18 / 12
- g) Brussels
  - •Rail: 29 / 38
  - •Barge: 44 / 27
- h) Zeebrugge
  - •Rail: 26 / 31
  - •Barge: 33 / 26

Barge

- i) Avelgem 66 / 61
- j) Ghlin 63 / 59
- k) Deurne 120 / 48
- l) Grimbergen 3 / 3
- m) Beerse 54 / 37
- n) Willebroek 19 / 6

Rail

- o) Athus 137 / 116
- p) Rekkem 75 / 89
- q) Herent 7 / 10
- r) La Louvière 12 / 16
- s) Muizen 14 / 15

DIRECT STATE AID SHOULD NOT BE ALLOWED

because

HIGH RISK OF
market distortion,
increase market barriers
set-back for liberalization, competition and innovation,
waste of taks payer’s money

But the day …

the markets are perfect and all costs are reflected in the price

NO STATE AID

Thanks for your attention

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