



INTERNATIONAL UNION
FOR ROAD-RAIL
COMBINED TRANSPORT

Multimodal Sustainable Transport Conference

INTERMODAL TRANSPORT: THE LOW HANGING FRUIT



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President

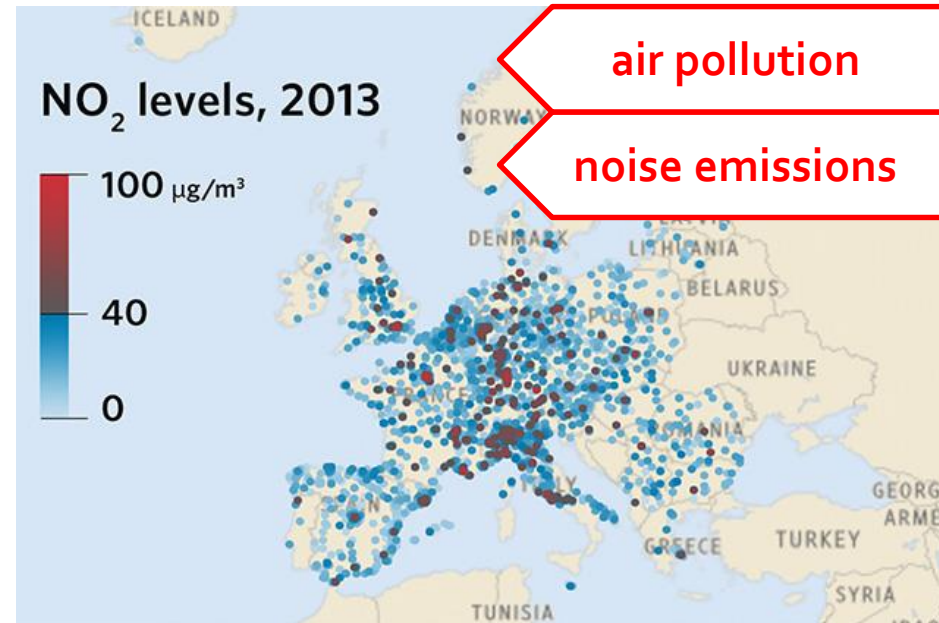
The externality challenge of transport

2



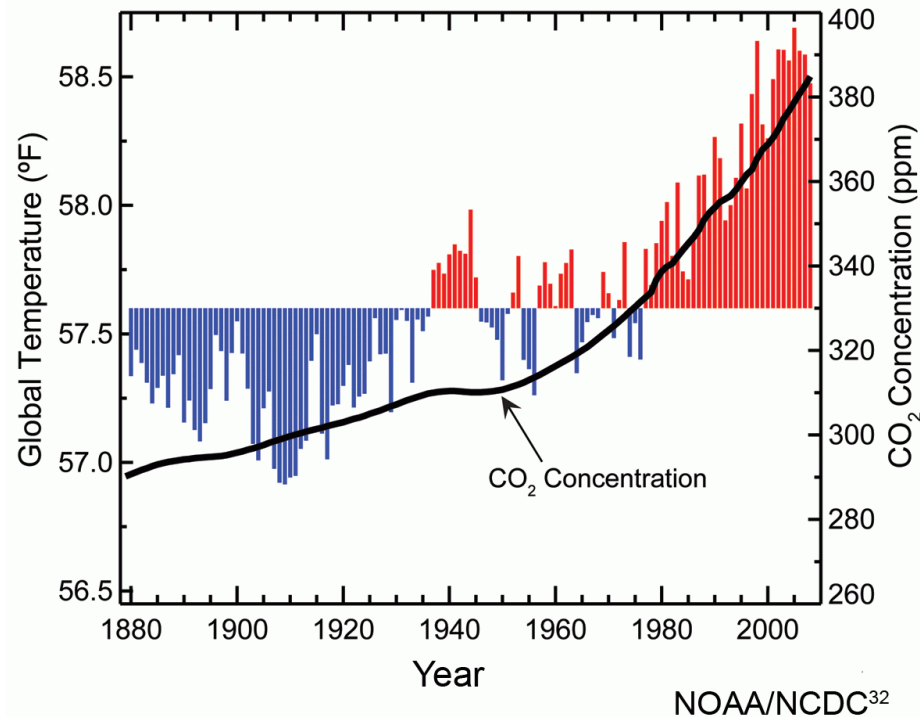
climate change

habitat destruction



air pollution

noise emissions



traffic congestion

accidents

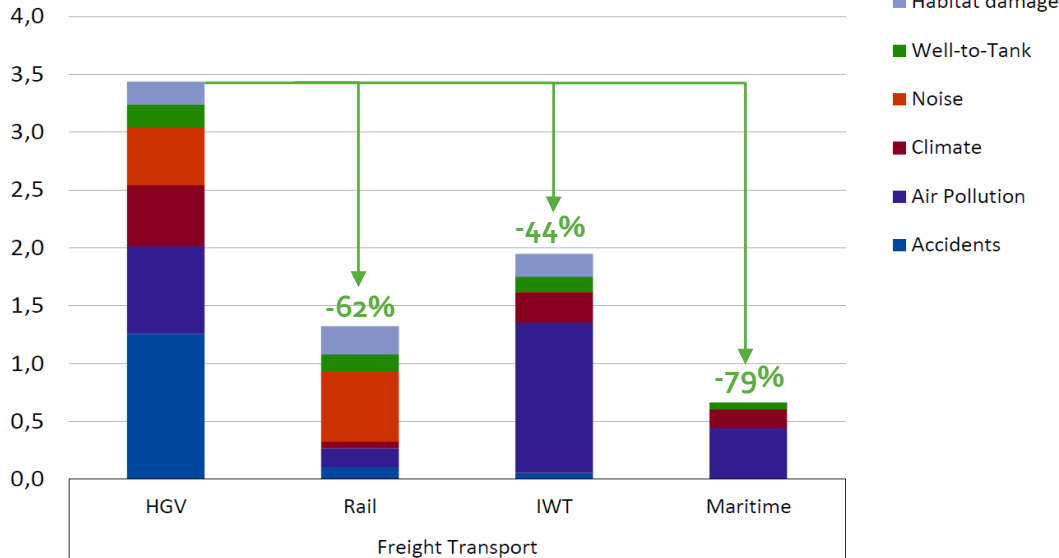
The low hanging fruit: use more of the non-road modalities

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Average external costs per mode at EU28 level - Freight

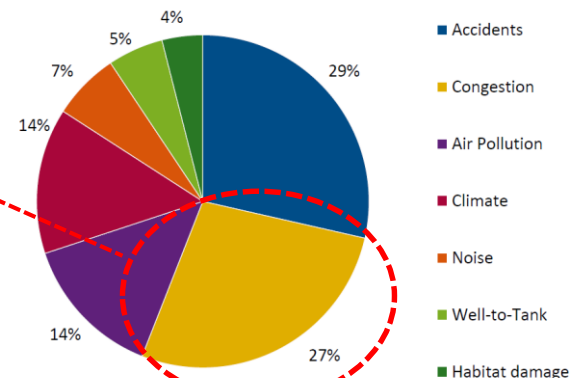
€-ct/tkm



Non-road modes can deliver
an instant benefit of
44-79% fewer
harmful (external) effects
*- even without factoring
road congestion*

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Figure excludes external congestion costs



Multimodal transport

Goods transportation that employs more than one mode of transport.

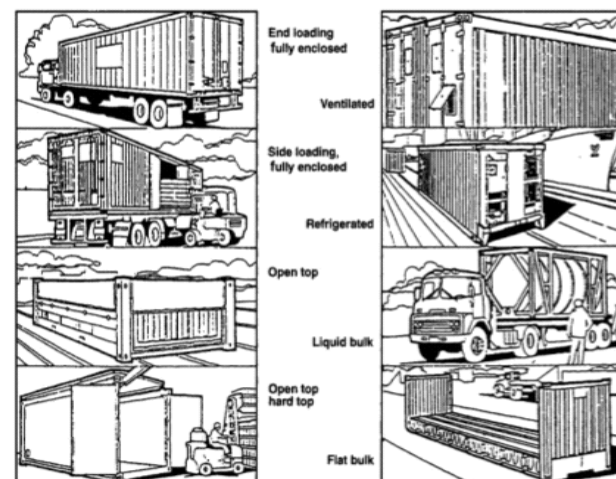
Intermodal transport

Multimodal goods transportation where the cargo is carried in an intermodal loading unit throughout the entire journey.

Combined transport

Intermodal goods transportation where the road legs of the journey are kept to a minimum, while the longest possible section of the distance is covered by non-road modes of surface transport.

- **MULTIMODAL** = more than one mode of transport for a single assignment
- **INTERMODAL** = cargo held in a single *intermodal loading unit* from origin to destination
- **COMBINED TRANSPORT** = intermodal transport where the road legs are the shortest possible



Efficient transshipment:

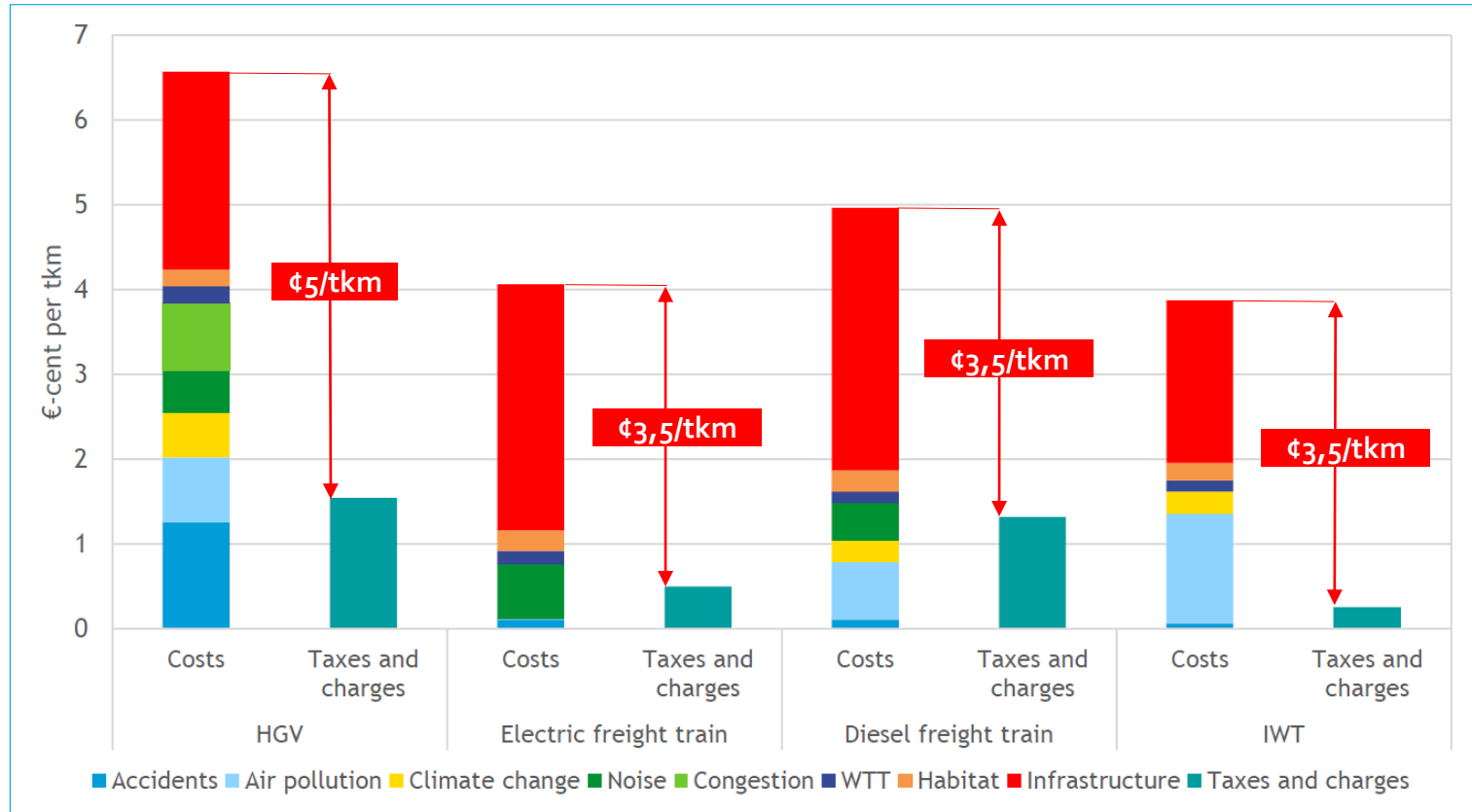
- 4 minutes to unload/load a rail wagon
- Electrically powered
- Superior labour efficiency (automatization possible)
- Safe and secure (no spills, no theft)

Additional benefits:

- Excellent asset utilization
- Low-cost buffer storage possibility (stacking)



Coverage of average cost - freight transport modes (per tkm)



On which mode to spend public money from society's point of view?

The alternatives: which is optimal?

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			TOTAL CO2
2.103 KM	2.103 KM	2.103 KM	810 Kg / CO2
443 Kg / CO2	271 Kg / CO2	96 Kg / CO2	



			TOTAL CO2
0 KM	0 KM	2.800 KM	2691 Kg / CO2
0 Kg / CO2	0 Kg / CO2	2.691 Kg / CO2	



			TOTAL CO2
2.103 KM	0 KM	1.070 KM	1871 Kg / CO2
843 Kg / CO2	0 Kg / CO2	1.028 Kg / CO2	

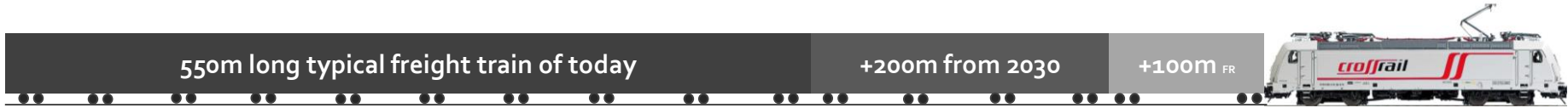


			TOTAL CO2
2.103 KM	2.103 KM	2.103 KM	1210 Kg / CO2
843 Kg / CO2	271 Kg / CO2	96 Kg / CO2	

A good solution: 45-foot palletwide high cube container (with a 34 pallet capacity).
 ---superior even if adding the carbon footprint of the 10kWh energy need of the transshipment

The intermodal perspective: investment promises plenty

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	Today's train	Tomorrow's train
Length	550 meters	750/850 meters
Number of wagons	18	25/28
Slot for 45ft ILU	36	50/56
Number of pallets	1224	1700/1900
Gross weight	1200t	2000t

EU Pallet dimensions

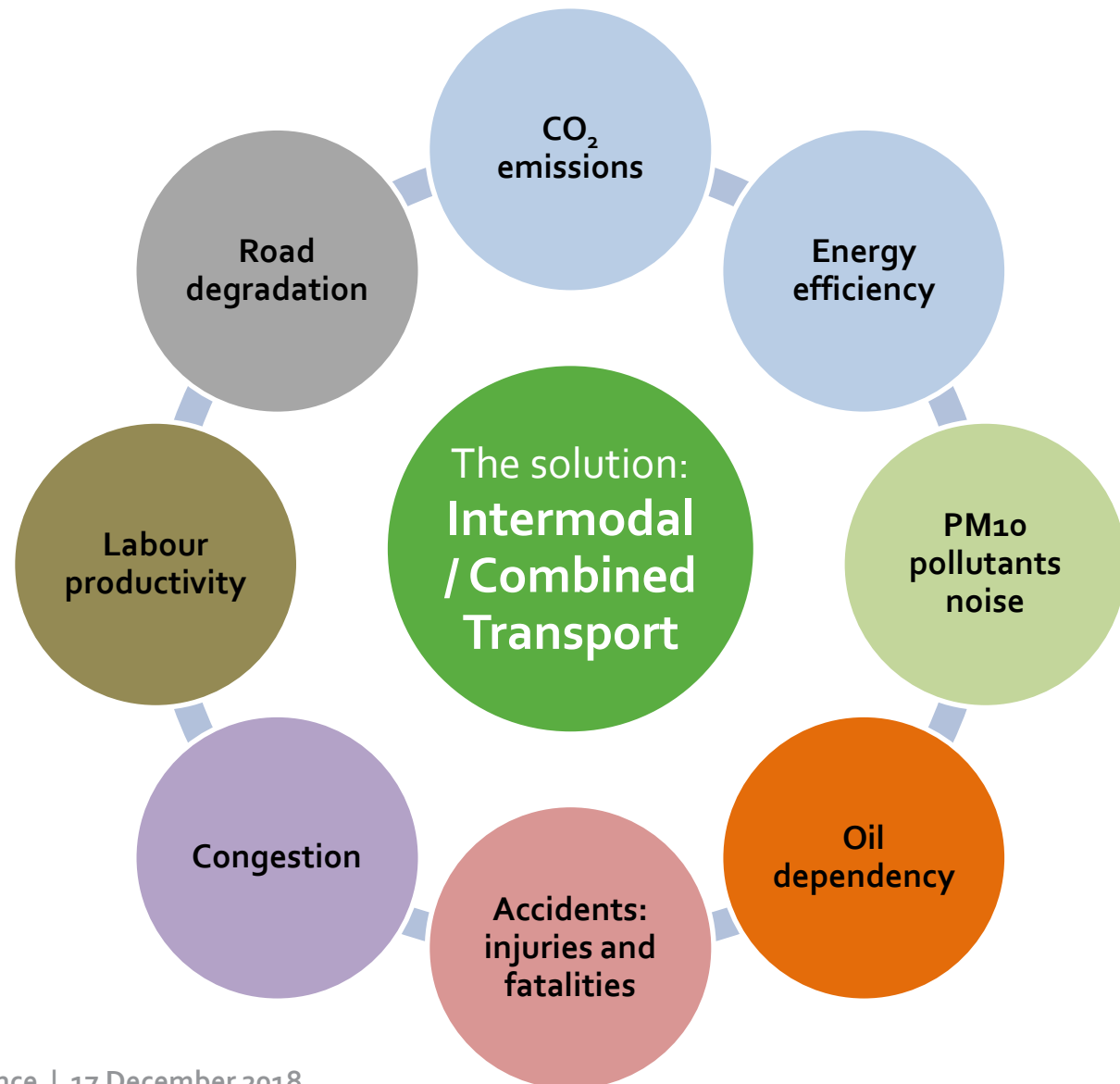


Larger trains guarantee performance, energy savings and even lower carbon footprint.
+ disk brake bogies promise a permanent solution to the rail noise externality.

The challenges and the solution



- **Climate**: CO₂ and energy efficiency
- **Environment**: air and noise pollution, vibration
- **Public security**: oil dependency
- **Safety**: accident injuries/fatalities and material losses
- **The economy**: GDP loss due to congestion
- **Employment**: labour productivity
- **Infrastructure**: road degradation, spatial constraints and habitat destruction





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THANK YOU

For your attention

