



24H Economy 24h Transport Nightmare or solution ?

Evaluation of General impacts

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Presentation Outline

1. Impacts on transport flows and environment
2. Social aspects



Impacts on Transport Flows and Environment (CSST Survey)

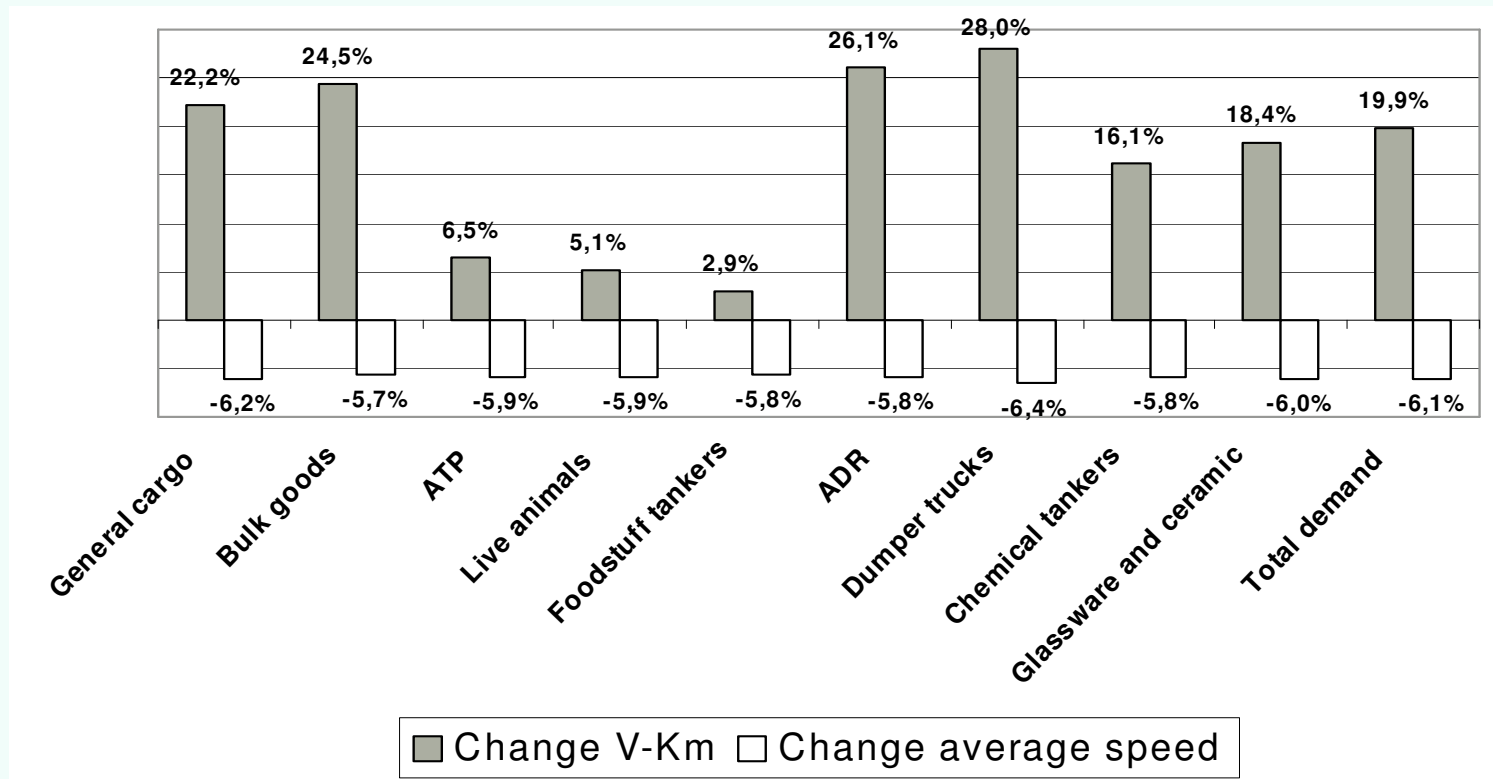
Trends relative to traffic and emissions:

- 2 scenarios of demand transferred to night time (respectively low and high shifts)
- 2 applications, one for European routes (**ER**) and the other for urban traffic (**UT**)



Reference scenario (transport demand increase)

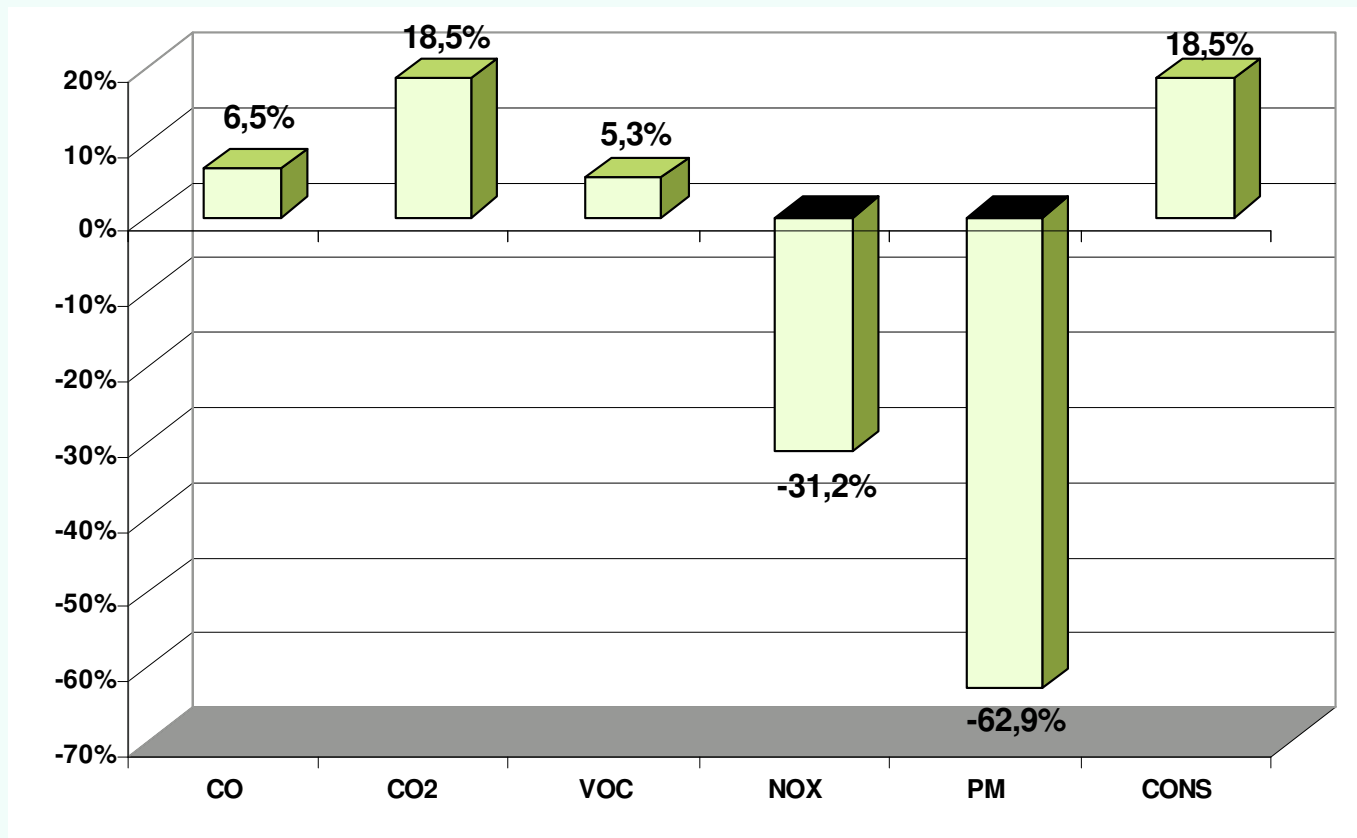
The evolution of vehicles/km and speeds in the 2005 reference scenario with respect to the current daytime situation (1998)





Reference scenario

Changes in emissions in the 2005 reference scenario
compared to the current situation (1998)





Intervention scenarios

Impact of the intervention scenarios (daytime traffic)
Differences with respect to the 2005 reference scenario

Low scenario (8% shift)

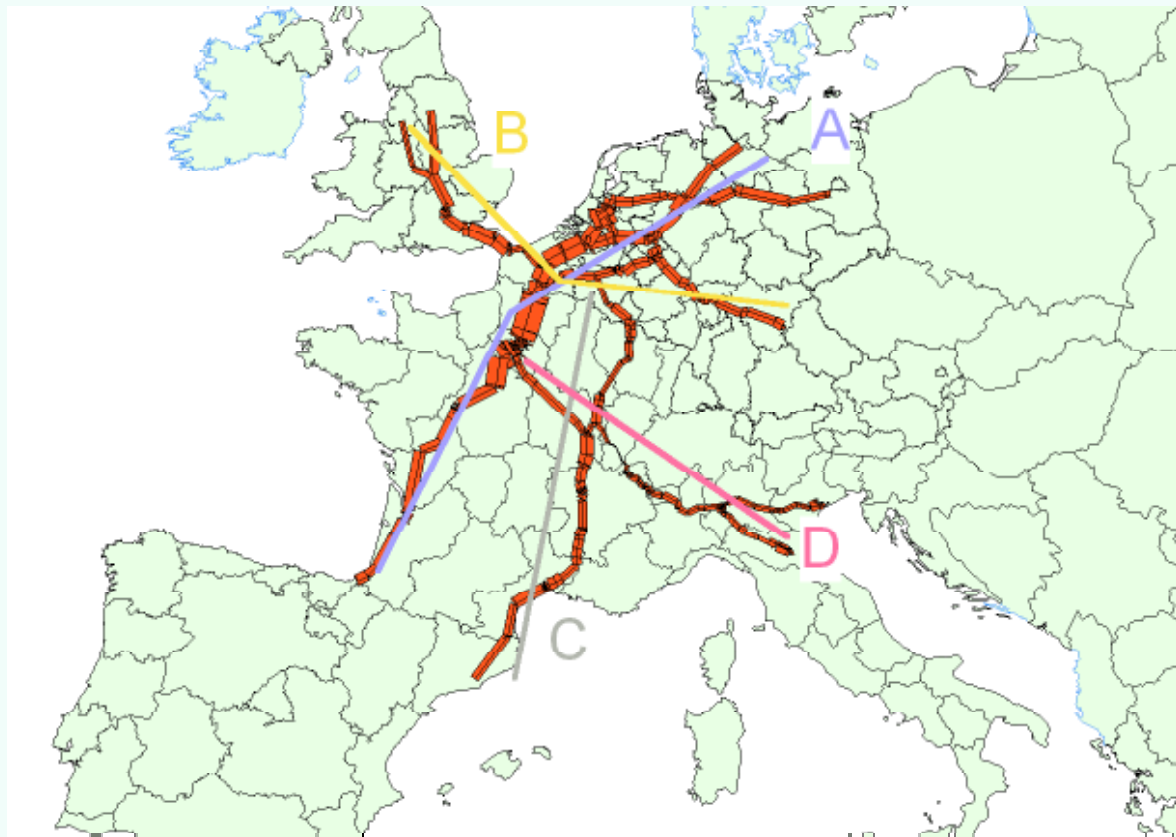
High scenario (13% shift)

Vehicles*Km (day)	- 8.5 %	- 12.6 %
Vehicle*hours (day)	- 12.7 %	- 17.4 %
Average speed	+ 5 %	+ 5.8 %

ER



The main routes of the “General Cargo” category



The 38% of the traffic (vehicles*Km) is concentrated on the 10% of the road network





Intervention scenarios "General Cargo" category

Impact of intervention (daytime traffic) for the main
routes of the "General Cargo" category

Differences with respect to the 2005 reference scenario

	<u>Low scenario</u> (8% shift) shift)	<u>High scenario</u> (13% shift)
Vehicles*Km (day)	- 9.6 %	- 14.5 %
Average speed	+ 5.7 %	+ 6.0 %

ER



Intervention scenarios

Total emissions (day + night) in the two scenarios and % change with respect to the 2005 reference scenario

Pollutant	Low scenario		High scenario	
	Total Emissions	% Change	Total Emissions	% Change
CO (Kton./day)	18.22	- 0.53%	18.17	- 0.80%
CO2 (Mton./day)	5.24	-0.38%	5.23	-0.57%
VOC (Kton./day)	11.21	- 0.88%	11.16	- 1.32%
NOx (Kton./day)	22.82	-0.13%	22.79	-0.26%
PM (Kton./day)	0.94	- 0.50%	0.93	- 0.74%
Consumption (Mton./day)	1.42	-0.38%	1.41	-0.57%



Some Figures

Medium and long distance transport:

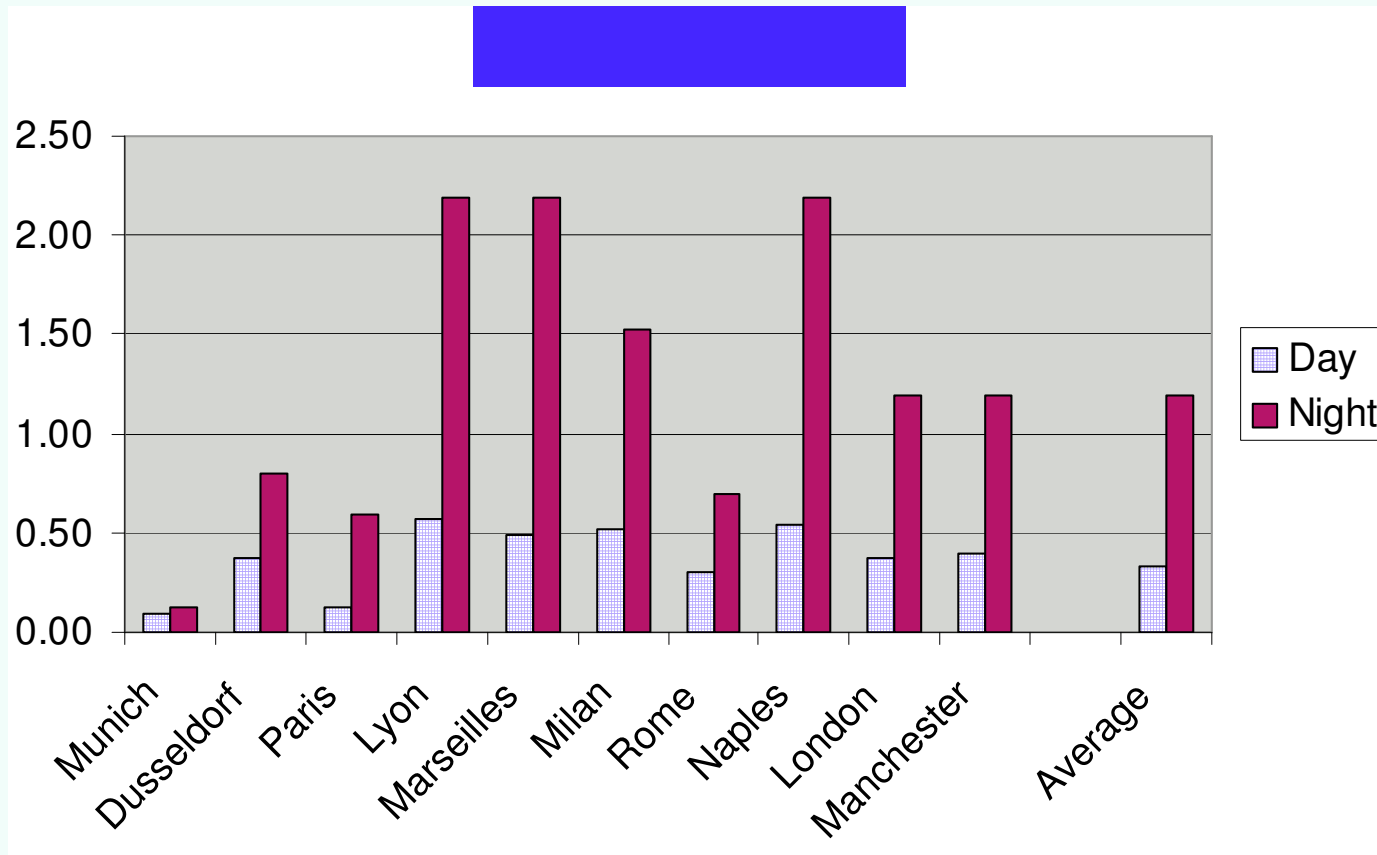
- + 5/6% increase in commercial speed of CVs
- 100 million CV-hours reduction
- 3-3,5 bio. EURO savings per year
- same savings for passenger cars
- TOTAL: 6-7 bio. EURO savings
- An overall pollutants and CO₂ reduction





Urban traffic

Average time (minutes) saved by one vehicle to cover 1 Km in the low scenario (10% shift) with respect to the 2005 reference scenario





Some Figures

Urban transport:

- 4 bio. Passenger-hours reduction
- 500.000 LCV-hours reduction
- 50 bio. EURO savings





Urban traffic

Low hypothesis: pollutants % savings per vehicle-Km

<i>Pollutant</i>	<i>Low hypothesis</i>		
	<i>Freight day</i>	<i>Freight night</i>	<i>Passengers day</i>
CO	2.89%	14.41%	6.05%
CO2	2.10%	10.27%	2.89%
VOC	2.58%	13.61%	4.43%
NOX	2.86%	13.73%	2.66%
PM	3.47%	16.85%	
Consumptions	2.10%	10.27%	2.89%





Urban traffic

High hypothesis: pollutants % savings per vehicle-Km

<i>Pollutant</i>	<i>High hypothesis</i>		
	<i>Freight day</i>	<i>Freight night</i>	<i>Passengers day</i>
CO	5.79%	14.41%	12.03%
CO2	4.20%	10.27%	5.78%
VOC	5.20%	13.61%	8.87%
NOX	5.72%	13.73%	5.28%
PM	6.93%	16.85%	
Consumptions	4.20%	10.27%	5.78%





Some Figures

Environment:

- increase in LCV and cars commercial speed by 20%
- 6-7% reduction in total urban transport emissions
- 4-5% reduction in CO₂ emissions





Social Aspects

- Social aspects and working conditions : risks or opportunities ?
- Policy packages



Policy Packages for 24H Society

- Harmonisation (and control) of working conditions, social dialogue for reorganisation of the entire Supply Chain
- Intermodal approaches, protection against noise and green technologies for equipment (e.g. CNG)
- Land use planning and time-use planning in urban transport



Opportunities and Threats

Potential expected benefits:

- Better use of infrastructure
- Improved quality of logistics services
- Reduction in traffic volumes
- Increase in reliability
- Increase in efficiency

Potential expected problems:

- Working conditions
- Traffic safety
- Noise



Conclusions

GRAND TOTAL

- 55-60 bio. EURO potential savings

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- 0,5% of the European Union GDP

- Substantial emissions reduction

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- Environmental Benefit