

ROAD TRANSPORT CONTRIBUTING TO A SUSTAINABLE SOCIETY: *VISION OF THE FUTURE*

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Greener, safer
and smarter
road transport
for Europe



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ECTRI

The notion of “Sustainability”

"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"

A sustainable transport is safe, efficient, community-oriented, environmentally friendly, and integrated.



Three dimensions of sustainability

- Economic (economic efficiency)
- Environmental (ecological stability)
- Social (distributional/social equity)



Our basic position:

Transport, not only can be compatible with the aims of economic, environmental, and social sustainability but it can also become a means of helping to achieve such sustainability.

Road transport as an integral part of the overall transport system, should also be subject to complicity with the overall goals of Transport sustainability.

E C T R I

The elements of a “sustainable” road transport system

- **Safe:** i.e. with reduced frequency, severity and cost of road accidents to the community.
- **Efficient:** i.e. one that offers equity, accessibility, choice, reliable service and less congestion.
- **Community-Oriented:** i.e. meeting basic human needs for health, services, comfort, and convenience, and satisfying wider cultural and social issues.
- **Economic:** i.e. affordable, compliant to basic economic principles (e.g. viability, and productivity), and at the same time supporting Economic Development and Vitality.
- **Environmentally Friendly:** i.e. compatible with the needs of the local and global environment, complying with the requirements of reduced energy consumption and minimum land use intrusion, with low level of noise and vehicle emissions.
- **Integrated:** i.e. working as a whole and offering many alternatives by combining modes and networks, but also integrated harmoniously with the development of other transport related systems such as the land use system, the other services systems (such as e.g. tourism, emergency / health services, etc).
- **Well Enforced:** i.e. with efficient legislation, targeted law enforcement, reliable data and analysis systems (observatories), improved user training, education, and testing, improved vehicle standards and inspection, sufficient resources and qualified (i.e. properly trained) operating staff.
- **Well Managed:** by using efficient management practices (for all aspects of the system e.g. traffic, as well as travel demand management), surveillance and communications capabilities, proper interagency / community coordination, sufficient planning, etc.



**DEFINITION AND SCOPE OF *ECTRI*'s
LONG - TERM STRATEGY**

**THE *ECTRI* VISION
OF A SUSTAINABLE MULTIMODAL
TRANSPORT SYSTEM IN THE
EUROPE OF THE FUTURE**

October 2003

(Approved in *ECTRI*'s Assembly
Budapest, 28th October 2003)

REPORT *ECTRI* 2003-01



The ECTRI Vision

(ECTRI Strategic Vision Document)

... to work towards a
“sustainable” European Transport system
by ...



... promoting work by way of priority on
the following areas:

- Sustainable transport system, including alternative fuels.
- Intelligent transport systems, including ICT and Galileo.
- Traffic and transport safety and security.
- Behavioural and societal aspects of traffic and transport
- Transport economics

The Policies of “sustainability” (1/5)

“Spatial” measures: Controlling the land-use in urban areas to promote sustainable transport objectives (e.g. more public transport use, etc). Examples:

- ▶ Defining car-restricted, pedestrian-friendly zones in city centres,
- ▶ Locating high density land uses along main public transport corridors,
- ▶ Locating high density development near major public transport stations,
- ▶ Promoting mixed land use development, etc.

The Policies of “sustainability” (2/5)

Economic measures: Economic incentives or disincentives for a specific form of transport or element. They include:

- ▶ Higher taxes on car ownership of more than (e.g.) two vehicles per household,
- ▶ Higher parking fees in the CBD area,
- ▶ Congestion pricing around the CBD area,
- ▶ Subsidization of public transport in order to keep fares affordable (on the principle of PSOs),
- ▶ Consideration of the external costs in the evaluation of new projects, and so on.

The Policies of “sustainability” (3/5)

Technological measures: Intelligent Transportation System (ITS) of the future, development of new fuels, more efficient engines, etc. Examples :

- ▶ Construction of reduced emission vehicles,
- ▶ Better traffic management and info mobility services through ITS systems,
- ▶ Telecommuting, and teleworking,
- ▶ Increasing parking space in the CBD area by more use of more automated parking, etc.

The Policies of “sustainability” (4/5)

Operational measures: Examples:

- ▶ Integrated and inter-working inter-modal schedules focusing at inter-modal Terminals,
- ▶ Timely, accurate, and dynamic travel and transport information to users (time tables, different means of travel, fastest path from-to destination, etc),
- ▶ Building or business operation licenses on the basis of the provision of adequate parking spaces or public transport services for employees, and so on.

The Policies of “sustainability” (5/5)

Social and behavioural measures: Education - training - and public information necessary in order to make the citizens more informed and more actively involved in the provision and operation of “sustainable” transport systems.
Examples:

- ▶ Information about the negative external effects of transportation on the environment,
- ▶ Information about how telecommuting can reduce the number of trips,
- ▶ Educational programs to increase public transport ridership and car pooling,
- ▶ Public awareness and participation campaigns, etc.

The 2001 Transport White Paper :

- ▶ Promoting the 'modal shift'
- ▶ Developing infrastructure charging
- ▶ Promoting the use of cleaner cars and fuels
- ▶ Road safety action programme
- ▶ Rethinking air transport
- ▶ Promoting the use of public transport
- ▶ Promoting Transport research

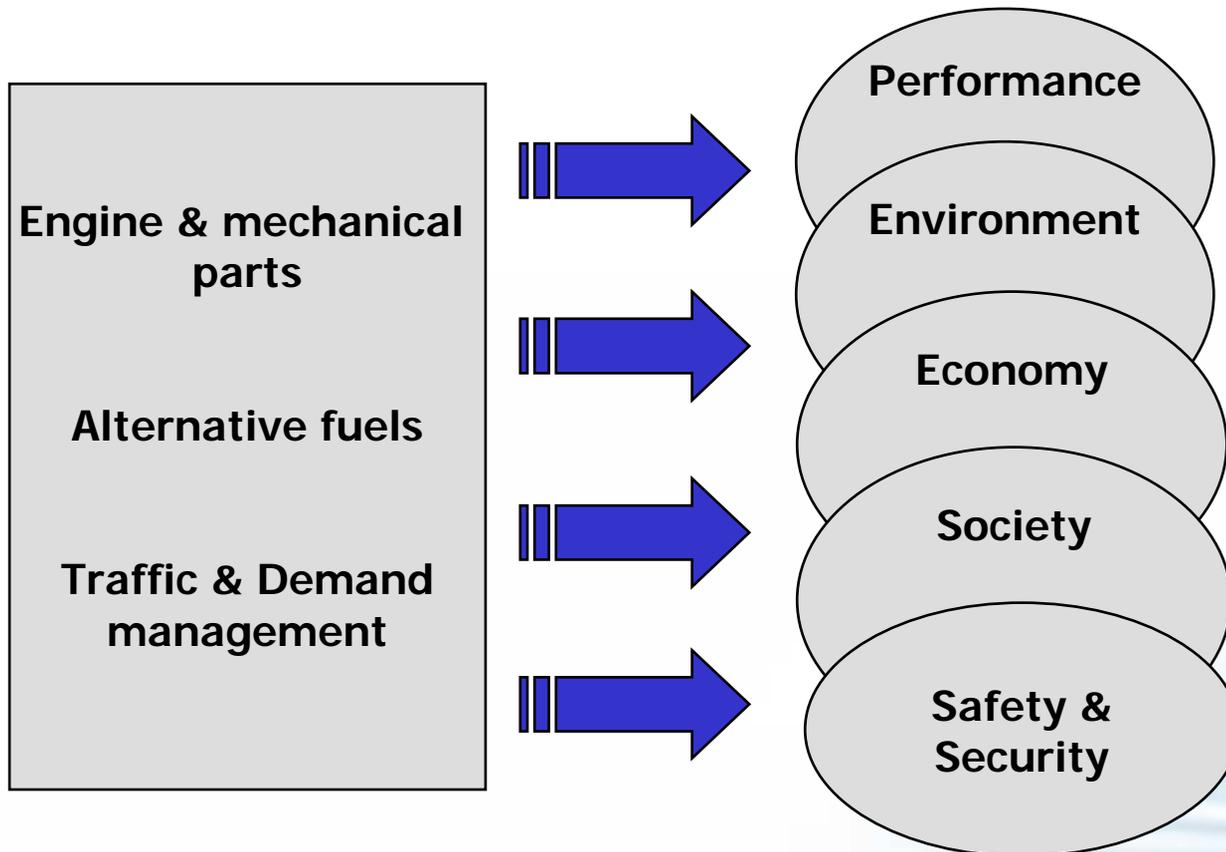
The ERTRAC vision

- Enhanced mobility, optimised, efficient, and seamless (road) transport of people and goods
- Safe and secure system
- Cleaner, quieter, and more energy efficient
- Highly competitive and sustainable systems for (automotive) products and services.

The ECTRI vision - A “war” on three fronts ...

1. Improvements to the Internal Combustion Engine and other mechanical parts of the vehicles.
2. Implementation of alternative fuels.
3. “Sustainable” ways of using road vehicles through “eco- traffic management”, demand management, etc.





Improvements to the IC Engine

- Continuous such improvements are expected until well into the 2010 decade.
- However, these will be marginal...
- The conventional fuel engine is reaching the maximum of its efficiency

Hybrid vehicle technologies offer substantial improvements BUT they are not the ultimate goal. They are an intermediate stage towards the final transformation of the engine to its future hydrogen based form

ALTERNATIVE FUELS (1/2)

Natural gas. Has a clear CO₂ advantage over gasoline and is comparable to diesel today.

In future, the advantage of natural gas vehicles is expected to surpass diesel. With 2010+ technology, natural gas vehicles are projected to have 16% lower CO₂ emissions compared with gasoline vehicles and 13% lower CO₂ emissions compared with diesel vehicles.

ALTERNATIVE FUELS (2/2)

- **Liquefied petroleum gas (LPG)** is an established alternative motor vehicle fuel with scope for additional market share, possibly up to 5% by 2010+.
- **Biofuels and Biomass-to-Liquid (BTL)** fuels could capture a market share of approximately of 6% for 2010+ (EU target)
- Maximum technical potential for all biomass-derived fuels is estimated at about 15%.
- Major advantage of biofuels is that their use does not imply any modification to the existing internal combustion motors of the vehicles.

Alternative Fuels ...

... have the technical potential to gain significant market share within the next decades, even exceeding the 20% substitution target suggested by the Commission for 2020.

Key to success: a solid network of supply



The Hydrogen factor !

Hydrogen is the potential future main energy carrier. The choice of production pathways will be essential.

Research and technological development programmes should be intensified to provide the basis for decisions on possible routes to mass market production of automotive systems as well as large scale hydrogen production and supply after 2015.

A new cycle begins

- The cycle of development for the clean automobiles of the future using “clean” fuels is JUST beginning. It will be based on Hydrogen.
- The importance of this cycle is to the cycle that started 100 years ago with the development of the Internal Combustion Engine itself...

Let's hope the “hydrogen” cycle will not take another 100 years to reach full maturity ...

Managing the Use of Road Vehicles

- Management of traffic flows in networks
- Management of travel demand.

There is substantial potential which will be largely untapped when the new ITS infrastructure is in place and new services are offered to users by way of intelligent traffic management, driving assistance, and demand management applications.

In Conclusion:

There is no simple and straight-forward path
to sustainable road transport !

It will be the combined and integrated use
of many policy actions and measures, that
will make road transport truly
"sustainable"

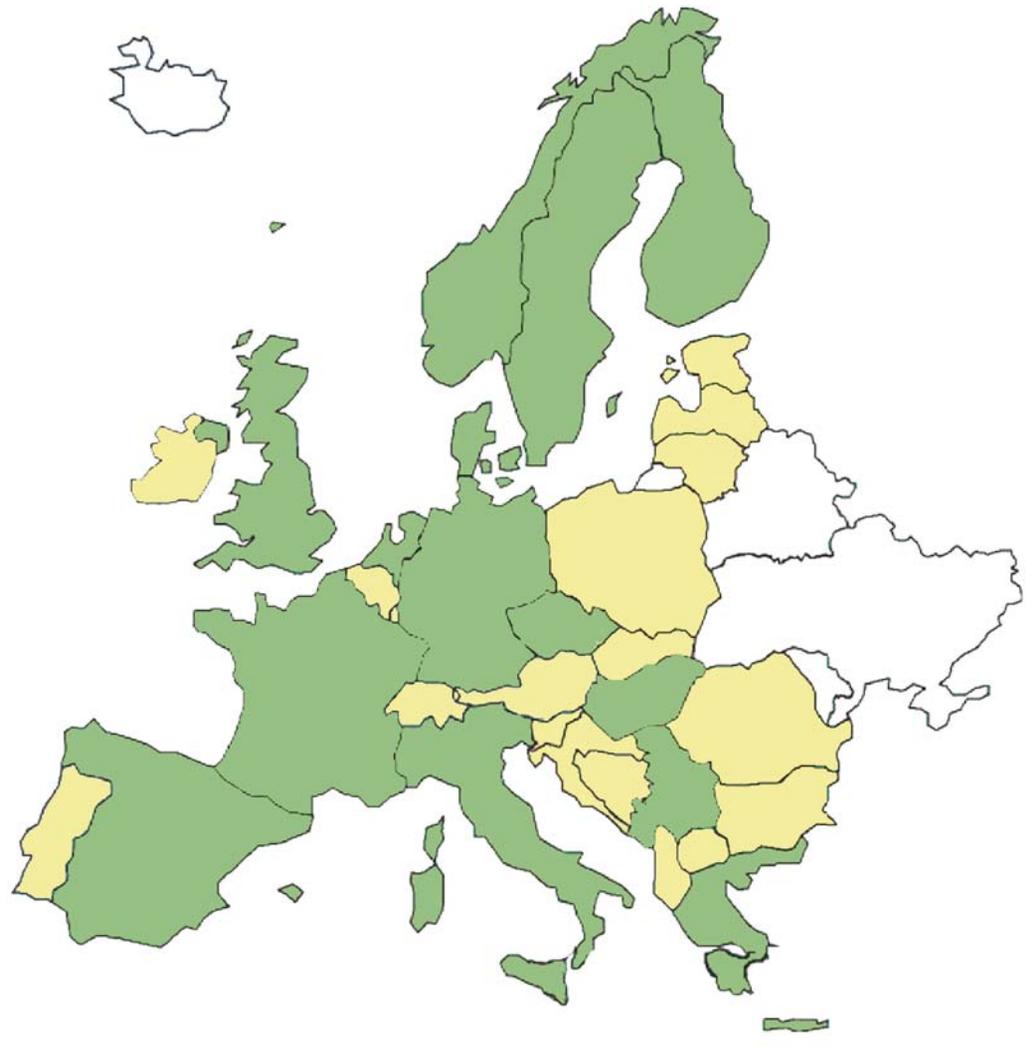




THANK YOU !

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-  Countries with ECTRI members
-  Targeted Countries where membership is in discussion