Committee on Future of Transport
European Commission

Brussels, 5th March 2009

Dear Sir/Madam,

In a press release you have invited interested parties to submit their ideas on the future of transport in the European Union. In this letter you will find a contribution from the European Rail Infrastructures Managers (EIM). Attached you will find further elaboration of these ideas in the so-called European Railway Technical Strategy. This strategy is based on EIM's view on the future of the railway, incorporating input from other actors that collaborate in the complex railway system.

The exercise asked by you stimulates us to develop our European Railway Technical Strategy (ERTS) further in the next years. As stated in EIM's ERTS, "The vision is based on EIM's interpretation of what business needs will be 30 years from now. It is EIM's belief that by 2035 the European railways will have increased their market shares from air and road transport in both passenger and freight traffic. This will result from making the railways more efficient".

The reality of this statement will depend on the interface capabilities between all railway actors and the capability of the railway system to cope with quickly changing economic and societal developments, such as today's economic crisis. We hope that ERTS can provide a positive input to the discussion of EC's Future of Transport Conference and to guiding today's actions. In addition to the ERTS, we plan to present in 2009 a line of thought on the future development of safety management in the railways – with the working title "European Railway Safety Strategy".

Below you will find developments that have been taken into consideration in our ERTS or will be in future updates of the ERTS. EIM is of the opinion that the European Commission should consider these developments as well in any strategy aimed at the realisation of a more effective, efficient and sustainable European transport system.

Developments that impact public transport demand and supply and technologies that help develop the public transport mode

Societal developments

- Population aging in a large part of the European Union is becoming a reality, with people getting older thanks to improved health conditions and people getting fewer offspring and at a later age.
- More diverse ethnic population in the European Union; studies have shown that there are differences in eagerness to use public transport among ethnicities.

- The progress of individualisation in the society and the wish of people to live in suburban areas where more living space is available, leading to less people per square km in urban areas. This development is a big threat for the viability of traditional public transport.
- Terrorism, the need to protect transport systems and thus being a potential threat to increase costs of management of public transport systems and increased queuing for security checks.
- The economic/credit crisis may lead to a lack of investment in car ownership, which may trigger increased use of public transport. The economic crisis causes at the same time a reduction in freight transport, affecting all transport modes. Air travel may become more expensive in the near future if oil demand rises again, this may lead to the need for more domestic and international rail services.
- Future oil crisis, peak oil, the need for other energy sources. For public transport including railways this causes the need to develop alternative sources for supply (IM) and traction on board (RU) e.g. fuell cells.
- Although being a sustainable mode, improved sustainability is also in railways needed in the face of climate change: lowered cost of maintenance, less empty cars running, energy meters, stronger materials and longer trains may all help to improve sustainability. Sustainability can also be applied to other areas of public transport e.g. e-ticketing as a solution for a paperless society.
- Climate change leading to increased vulnerability of infrastructure systems and more extreme weather conditions such as storms and flooding. Preparing infrastructure to cope with many possible conditions may again increase the costs of upkeep.
- People near tracks have increased awareness of vibrations and noise as more and more trains are running. Technologies have become available to reduce noise, but often require investment.
- Increasing resistance to changes of national rules and introduction of European treaty and legislation makes clear that the public demands explanations for increased regulation.

Market developments

- Government investment in environmentally friendly transport modes is (slowly) increasing; in urban areas this can be seen in a number of tramtrain development projects. In freight transport it is shown in investment in co-modality and sea/road/rail terminals.
- A clear trend is the liberalisation of freight and later on passenger rail traffic, which causes greater interest of expanding services into neighbour countries (competition) and which will lead to mergers and larger international carriers (e.g. DB Schenker)
- Demand for increased axle loads, speeds, clearance gauges on specific railway connections, often requiring significant public investments (e.g. TEN-T networks).
- Demand for time sensitive freight through rail, that can possibly be accommodated by high speed rail (e.g. flowers from Aalsmeer, Holland via the High Speed Line South) requiring more advanced rail logistics.

- Carbon footprint awareness among the public is another trigger helping sustainability.

Technological capabilities

Technology can help to resolve sustainability and fuel problems and to develop more efficient and effective public transport systems. We list some technologies that will help improving performance of rail transport, some technologies more developed than others:

- Increasing computer software and hardware capabilities for traffic control, ticketing, information services, real time traffic information, tracking and tracing etc.
- Availability of low maintenance tracks (for new infrastructure) e.g. ballestless track
- Wheel flange lubrication to reduce maintenance needs of tracks and thus increase infrastructure and vehicle life
- ITS / intelligence on board of trains instead of on track. ERTMS Level 2 and particularly Level 3 will lead to the better utilisation of existing tracks by reducing lead times between trains, allowing changed infrastructure layouts and more flexible speed regimes for switches and crossings and curves. European satellite system Galileo will help in increasing accuracy of track and trace.
- RFID identification technology making easy tracking and tracing possible in infrastructure and vehicle maintenance and operation, thus improving efficiency in system operation.
- New information services for the public can be developed, such as telecommunications and internet on the move, partly through existing railway telecom infrastructure.
- Biofuels and fuel cell technology, although yet in a preliminary stage. More research and tests are needed particularly in rail transport.
- European standardised interlocking (INESS) and other harmonisation and standardisation developments led by the European Railway Agency and Standardisation Organisations should lead to easily interchangeable and well maintainable components and systems, thus facilitating the internal European railway market and reduced costs of ownership and operation.
- Monitoring technology to measure quality of (specific) railway vehicles and tracks has the ability to limit damage on tracks and thus increase life of the infrastructure and the vehicles through early warning. It also allows accurate user charging, incorporating the ‘damager pays‘ principle.
- Multicurrent rolling stock and the installation of ERTMS reduce problems with crossborder operations for European railways, further facilitated by appropriate legislation. Greater efficiency and reliability of new locomotives reduce delays in (inter)national traffic.
- Labour safety is an important cost and societal factor as track maintenance cannot be easily done anymore during heavy traffic operations. Technology is being developed to help solve this problem, for instance through mobile workshops and guaranteeing trackside labour safety through systems that directly allow (re-)claiming worksites

through interlocking (e.g. tests on Dutch Betuweroute). Professional maintenance management techniques such as Total productive maintenance and Risk-based safety management further help to establish efficient operations, and keeping track of costs.

Important developments to be stimulated by the EC

All systems need an engine, energy and good dynamics. Within the EU, the EC and European Railway Agency should be the engine along with good governance in the member states and good co-operation with the railway sector bodies. We answered for ourselves the question "What do we need from Europe / the European Commission in the coming years?"

As EIM we consider it most important that a number of developments are stimulated at EU level, in a random order:

- Auto-localisation for ERTMS. Incentives are needed for the industry to develop ERTMS Level 3 research, as so far little efforts have been undertaken. The true impact of ERTMS in terms of capacity enhancement and an optimum level of functioning of the railways may be expected to come from Level 3 where trains can run based on their actual characteristics and with optimum lead times.
- Stimulating E-ticketing as a way to improve access to public transport and to contribute to a paperless society.
- Stimulating the introduction of 'low cost operators' on high speed lines. When travel times are less than 3 hours, it may well be possible to have less comfort provided to passenger for sharply reduced prices. A liberalised market should allow the entry of low cost operators.
- Stimulating the introduction of improved maintenance technologies, environmentally friendly products and components and robust modular systems, through EC funded research or test projects, in order to reduce the life cycle cost of railway systems.
- Strong freight corridors with green waves planning for freight traffic (achieving 80 km/h on average, with sufficient passing tracks for passenger trains). In addition, stronger traffic co-ordination may be necessary than currently provided through the one-stop shops of Railnet Europe. This may also include agreements on (differentiated) reliability levels for different railway corridors or routes (in relation to the user charge on those corridors). Co-ordinated track works along European lines for freight trains.
- ERTMS deployment and TSI Rules facilitating increased track usage (e.g. on braking performance of rolling stock) and freight traffic within the EU.
- Further development of a European environmental management (carbon emissions) to guide the policy for railways (and road) in the member states including disposal of old materials.
- The EC and railway sector itself may better promote the image of safety and environment-friendliness of the railways to the public, in order to attract ridership from more diverse groups in the European society.

First things first
This previous list is not intended to serve as a comprehensive and static set of developments, other stakeholders will have additional views and suggestions. However, in order to make the rail public transport system in the European Union function better, we propose a number of measures that need to be made before any significant progress is possible'.

- Having a better grip on cost and benefit analysis for European legislation as being developed by the European Railway Agency is critical. All costs including administrative burdens of new regulation have to be traded off against the potential benefits. Regulation is only needed where the market fails. An "arbitration committee" or platform to discuss the implementation of TSI's could be installed in due time, in order to guide the process of trading off costs and benefits of Interoperability and Railway Safety regulation in practical railway projects and to collect data for improved legislation, as practical experiences from application on the high-speed and conventional rail networks become available. The railway sector, the European Railway Agency and the EC should participate in such a body.
- Before proceeding in regulation, it should be made sure that a level playing field exists between road, railways, air, and waterways, including the costs and benefits to the environment of the different transport modes. Without that being assured sub-optimisation of societal costs and benefits is being pursued. The discussions on Eurovignette have been illustrative and need not be repeated here.
- It is crucial to make the 1st, 2nd and 3rd railway package come true, before extending or refining this legislation or developing new legislation. Regulation should be implemented in the member states as it has been intended otherwise we will see a distorted market between member states and unfair competition. Interoperability is a useless concept if there is no real market liberalisation. In that case practical, bilateral agreements between countries are a better solution. The new commission should worry about the full implementation of the Railway Packages in the coming years.
- We suggest that the results of the first TSIs is first analysed for today's TEN lines before increasing the scope of Interoperability to a larger area. It should be investigated at a general level of which benefits versus costs can be expected from standardisation in the railways. Is standardisation needed at EU level or can sub-markets within the EU be identified which may reach standards easier and with less costs? Avoiding complicated requirements for tram train products should be a priority of the EC, as it will hinder the development of urban public transport and seamless mobility. Some standards including safety could be welcome, unless they do not hinder flexibility that is needed to deal with the wide variety of local situations and consider the impact of regulation on small operators and infrastructure managers
- EC guidance on issues where market is working insufficiently such as the current ERTMS deployment plan is welcomed by EIM and should receive continuous attention from the EC in the years to come. IM's are dependent on the industry for some specific equipment e/.g/

interlocking and ERTMS. Speciality products should not be used by the industry, only standardised components. The EC should check regularly whether markets are functioning as they should and monopoly positions are not in place in the industry.

- Interface management between the current railway TSI's for the technical subsystems is needed for making Interoperability come true and closing the open points in the TSIs. Research is needed on areas such as the Electrical-Magnetic Compatibility (EMC) and cross acceptance of rolling stock. It will need investing in research and investing in scarce expertise.

The importance of having a continuous policy and vision on dynamic societal and economic processes is critical in adapting to future transport needs and conditions. As complex as it seams to be, the future of the European railway system depends on the capability of putting all these considerations together into a guiding policy. We hope that this letter and the attached ERTS will support the Commission further develop its governance and finding answers and feasible methods for the creation of a better, safer, efficient and sustainable public transport system.

We wish you an enjoyable further read into our European Railway Technical Strategy. Please see the website www.eimrail.org for more information and contact addresses,

Yours faithfully,

Michael Robson
Secretary-General of EIM