Lyon-Turin rail link:
key element of the Lisbon-Kiev trans-European corridor

REALISTIC TARGET:
1 MILLION LESS LORRIES THROUGH THE ALPS

The Lyon-Turin Transalpine link is a reality and on track: first set of work completed, people on board, funds committed, schedules to meet.

More than that, it represents an environmental necessity in order to relieve asphyxiated valleys and protect an alpine heritage that is under threat. It also represents a geographical necessity which goes way beyond the strictly national framework and in fact concerns all of Europe, further strengthening its east-west dynamics. It is also an economic reality in terms of its ability to offer a less expensive means of transport and actively contribute to the European economic recovery.

These challenges can be summed up in just one figure stabilising the number of heavy goods vehicles travelling between France and Italy of three million and reducing this figure by one million vehicles when the Transalpine link opens in 2023. In itself this concrete and precisely quantified objective illustrates the choice of a society that may or may not be taking shape before our very eyes: a sustainable European society, creating wealth and employment. This objective is attainable, as long as the national governments concerned give themselves the means to implement a genuine modal switch policy, founded on means of transport that effectively complement one another. The addendum to the 2001 Treaty will set out an appropriate framework for this.
High-capacity freight and passenger rail line

The Lyon-Turin Transalpine link represents an European initiative with more than 200 km of new lines between Lyon and Turin, as well as several civil engineering works and tunnels, including the 57 km base-level tunnel. This combined freight and passenger link is designed to transport 40 million tons of goods and 5 million passengers each year.

After more than 15 years of constant and unanimous backing and support, its development is being staggered over time. This gradual rollout will make it possible to accompany the development of passenger numbers and tonnage levels transported on the Lyon-Turin route.

With work to start on the base-level tunnel by 2013, the Lyon-Turin link is expected to be brought into service in 2023.

Tripartite financing

The international tunnel’s overall cost is €7.6 billion (2006 value - excluding impact due to the change of the Italian section). The European Union has decided to fund 27% of the international section of this programme, representing an initial amount of €671.80 million for the period from 2007 to 2013. In this respect, the French and Italian governments have committed to a schedule for developing the infrastructure. France’s participation represents around €2 billion, or the equivalent of 100 km of high-speed line.

A minority portion of private financing, based on a public-private partnership (PPP), will be needed to finance and manage the “rail infrastructure” part of the project. The delivery on time of the Perpignan-Figueras high-speed line, another section of the Southern European corridor, has demonstrated the effectiveness of such a partnership.

Work on track

Choosing efficiency, performance and safety
**KEY DATES**

2001
Franco-Italian treaty signed for the construction of the new Lyon-Turin Transalpine link. Lyon Turin Ferroviaire (LTF) created to carry out studies and preliminary works.

2004
Lyon-Turin link confirmed as one of the priority projects listed by the European Parliament.

2007
Decree signed confirming the French part of the international Lyon-Turin section’s status as a public utility. Award by the European Union of €671.80 million funding for the Lyon-Turin base-level tunnel over the period from 2007 to 2013.

2009
Addendum to the 2001 international treaty negotiated (setting up of bi-national developer to manage the construction and running of the international section).

2023
Lyon-Turin Transalpine link brought into service.

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**EXTENDED ALPINE ROLLING MOTORWAY**

Launched in 2003 as a test, AFA service (alpine rolling road) carries more than 20,000 heavy goods vehicles between Aiton (Savoie) and Orbassano (Turin Province) each year.

While the service’s quality and efficiency need to be further improved, AFA’s success has encouraged the French and Italian authorities to continue running this service after 2010. Until the Lyon-Turin Transalpine link is brought online, it will be enhanced to transport annually 100,000 lorries.

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**FIRST PHASE OF EXCAVATION WORK COMPLETED IN FRANCE**

Work on the Lyon-Turin Transalpine link began in 2003 with the digging of three access shafts on the French side. These survey galleries run for a total of 8.9 km. To achieve this, one million m³ of earth have already been excavated.

To be completed in 2010, the first phase of work will provide an opportunity to develop digging techniques that can be reproduced on the major work to come, as well as to measure its corresponding environmental and socioeconomic impacts in the areas concerned.

The second phase of the work is being launched in 2009 with the first acquisitions of land, on the French side, on the route of the future Lyon-Turin line. On the Italian side, a new access route is currently being finalised. Overall LTF’s activities represent a financial commitment of around €716 million between 2001 and 2009.
INFRASTRUCTURE DRIVING ECONOMIC DEVELOPMENT

Supporting growth, boosting the regions

**COMPETITIVE, EFFICIENT, SAFE AND RELIABLE MEANS OF TRANSPORT**

With its high capacity, the Lyon-Turin Transalpine link will offer a quality of service in line with market constraints and consumer expectations: rail freight performs particularly well over medium and long distances (over 600 km) and unquestionably represents the safest means of transport. It also offers the best energy-efficiency-sustainable development ratio over long distances: it consumes 2.5 times less energy than waterways, 5.5 times less than heavy goods vehicles and 24 times less than aircraft. This argument is even more attractive since oil prices are continuing to rise and oil resources will become increasingly scarce in the long run.

**INTEROPERABILITY SERVING RELIABILITY**

This competitiveness only makes sense if rail traffic is massively developed and interoperability between national rail networks is optimised: harmonisation of signalling and power supply systems, of cross-border procedures and pricing, easy access to terminals and stations, etc.

The deregulation of the rail sector since 2007 is contributing towards this. Indeed, it represents a unique opportunity to drive the sector forward and establish an ambitious corridor focused primarily on freight, based on stringent technical standards. The fluidity of the supply chain requires the various means of transport to fit together effectively with one another. Equally, the future loading and unloading platforms must be set up near a labour pool, close to production and consumption sites, consulting with transport professionals and users.

**DRIVING DEVELOPMENT FOR THE AREAS CONCERNED**

An essential infrastructure programme, the Lyon-Turin Transalpine link is contributing to the economic development of the regions it crosses. Work on the survey tunnels alone has generated a strong level of activity, primarily with local companies. The number of direct jobs for carrying out the work over the next 10 years has been estimated at 4,800.

In order to plan ahead for these requirements, a “Major Project procedure” has already been set up in France. It aims to accompany the development of the Lyon-Turin programme: training, equipment, housing, land management, environment, life on the work site. Meanwhile it capitalises on opportunities to further strengthen economic activities and tourism in the areas concerned.
ENSURING FINANCING FOR TRANSPORT INFRASTRUCTURES IN FRANCE

Since 2005, France has had a dedicated financing tool: the agency for financing transport infrastructures in France (AFITF). Its resources were initially generated by dividends from the motorway companies. In 2006, their privatisation marked the end of the AFITF’s main recurrent resource. Since then, the Grenelle environment forum has adopted the principle for introducing an eco-fee on heavy goods vehicles weighing over 3.5 tonnes on the national toll-free road network. This use-based charge, which will come into force in 2011, will make it possible to generate new resources which will be allocated to the AFITF. A first step forward with the general review looking to secure its financing over the long term.

EUROVIGNETTE SERVING THE MODAL SWITCH

The European Parliament has given its green light for the revision of the Eurovignette directive. While there is still a long way to go before it comes into force in the various member states, the principle for an Eurovignette incorporating, in addition to the actual cost of using ground infrastructures, all or part of the external costs when calculating the fees to be paid by transport firms, both rail and road, seems to have been clearly set out. To ensure a fair approach their amount will be proportional to the distance covered and tonnage transported (like the Swiss RPLP system). The revenues generated must be allocated exclusively to the transport sector. This reflects a change of mindset, looking to tax means of transport based on their impact on the environment, in this way contributing to rebalancing road and rail.
TUNNEL BRINGING PEOPLE AND REGIONS TOGETHER

Embodying the European ambition with the Lyon-Turin programme

Lyon-Turin rail link, key element of the Lisbon-Kiev corridor

Corridor’s east-west rail route
Lyon-Turin Transalpine link
Other major routes (London - Paris - Rome)

Work on track, three major challenges
European regions united around the Lisbon-Kiev corridor

An unanimous position, first established at the Udine conference in 2006, was once again set out in Chambery in 2009 around the Lisbon-Kiev Corridor project: backing from Europe’s regional administrative bodies first, then from the French, Italian, Slovenian, Hungarian and Ukrainian national executives. The European Union has included this project among its priorities since 2004, in line with what is at stake for the 21st century.

East-west corridor focused in priority on freight

One of the priority projects for the trans-European network backed by the European Commission, the Lyon-Turin Transalpine link is the missing section, on both sides of the Alps, in the only east-west mass freight corridor in Southern Europe, able to carry flows from both the north and south of France to Italy. It makes it possible to establish a network using 5,000 km of existing lines, from the Iberian Peninsula to Central-Eastern Europe, passing through the Po Valley, and represents a counterbalancing axis of prosperity to the south of the Alpine Arc.

This freight corridor only makes sense if other barriers come down at the same time: physical barriers, pricing barriers and technical barriers, notably with the European rail traffic management system (ERTMS), as well as better harmonisation of technical standards (train lengths, tonnages, etc.) throughout the corridor.

High-speed European passenger network

At a time when passenger transport is opening up to competition, the Lyon-Turin Transalpine link is part of a high-speed network that is crossing down physical barriers and bringing 350 million Europeans closer together. It represents the essential link between current and future infrastructures: the Milan-Rome-Naples line (end of 2009), the French high-speed train network, Spanish and Portuguese high-speed lines with Perpignan-Figueras (2012).

European coordinator serving the corridor

One essential figure is leading the European scale of the Lyon-Turin Transalpine link, and, more generally, the entire priority project: the coordinator. Following on from Mrs. Loyola de Palacio, Laurens J. Brinkhorst is striving to embody the programme’s transversality and smooth out any border effects. He is one of the key figures, helping to improve how the rail corridor operates, developing it and ensuring the overall consistency of all networks, as well as compliance with the schedules mapped out.
Safeguarding the Natural Environment

International Concern
Protecting the environment and combating global warming lie at the heart of the key challenges for the 21st century. In France, the Grenelle environment forum in 2007 made this one of the national priorities. At the end of 2009, the entire international community came together in Copenhagen to follow on from the Kyoto Protocol and define common goals. A broad consensus is expected to take shape around the need to reduce the percentage of long-distance road freight and promote alternative means of transport: rail, river, sea.

Less Costly Means of Transport for the Environment and the Community
Rail freight is one of the least harmful and costly means of transport for the environment by some way. Consuming less energy than road and air transport, rail transport also has less consequences in terms of external costs for the environment: fewer accidents, less greenhouse gas emissions, less air, ground or water pollution, etc. Even if significant progress still needs to be made in order to reduce noise pollution, rail freight is, in terms of external costs, 10 times cheaper than road freight and 15 times cheaper than air transport. Once the cross-border tunnel is operational, the Lyon-Turin link will make it possible to achieve estimated savings of €500 million each year.

External costs: costs that are not included when determining the market price but are borne by other stakeholders. In the transport sector, this concerns air, water, ground and noise pollution, accidents, contribution to global warming, etc. (Transalpine Committee study, based on the DELFT/IMPACT 2008 handbook).

Work on track, three major challenges

Cheaper Rail Freight
The external costs generated by one million lorries on medium and long-distance cross-border journeys between France and Italy are shown on the left.

On the right, the external costs equivalent to rail costs are shown.
Response to growing network congestion

The southeast of France is suffocating, with certain road sections in Vintimiglia and the Alpine Valleys close to saturation. While traffic from northern Europe is down, Franco-Italian exchanges are continuing to grow, with three quarters of journeys exceeding 600 km: 2.2 million heavy goods vehicles in 1994, 3 million in 2007. The existing infrastructures – the historical Mont-Cenis rail tunnel, which dates back to 1871, and AFA service – do not have the capacity to significantly reverse this trend. Only the Lyon-Turin Transalpine link represents a competitive alternative, paving the way for a lasting modal switch.

Shared consensus around the modal switch

The Grenelle environment forum is targeting a 25% increase in the percentage of rail freight by 2012. To achieve this, the number of heavy goods vehicles on the roads must be stabilised – initially capped at three million lorries through the Alps each year – with the ultimate goal of doubling the percentage for rail within 15 years. This objective is achievable, as long as it is accompanied by strong regulatory measures and political decisions, qualitative and quantitative improvements in the existing rail offering, and the building of new infrastructures, such as the Lyon-Turin Transalpine link.

This modal switch policy only makes sense if it is implemented in a concerted way with the various countries in the Alpine Arc. In view of this objective, the Alpine Agreement was signed in 1991 by six Alpine states and the European Community, followed by Monaco and Slovenia in 1993 and 1994. For reference, the contracting parties have made a commitment to refrain from building any new high volume roads for transalpine traffic.

At the same time, the Zurich Group, made up of the German, Austrian, French, Italian, Slovenian and Swiss transport ministers, has been looking into solutions for effectively managing transalpine road traffic, including the creation of an Alpine crossing exchange in time.
Work on track,
three major challenges

CONSISTENT TRANSPORT POLICIES BETWEEN FRANCE AND EUROPE

Improving the rail offering for freight and passengers

**Programme serving key national transport issues**

Although it is an European programme, helping establish a logic for freight corridors between member states, the Lyon-Turin Transalpine link is fully in line with the outlook and stakes for transport in France.

In 2003, the French interministerial development committee validated the Lyon-Turin project and approved the layout for the international base-level tunnel. Then, in 2007, the Grenelle environment forum focused more generally on the development “of a specialised or predominantly freight rail network by 2025”. Within the French network, the Lyon-Turin Transalpine link is naturally integrated into the national transport programme.

In synergy with the multimodal platform close to Lyon airport (Saint-Exupery), it connects up perfectly with:

> The Valence-Grenoble-Maurienne alpine line, which is currently being electrified and modernised in order to facilitate access for flows from the south of France and heading for Italy;
> The Lyon agglomeration rail bypass, which will make it possible to connect Lyon-Turin up to the French network, giving priority to freight;
> In the south, the Nîmes and Montpellier rail bypass, the first stage in a mass expansion of the rail traffic from Spain, connecting up to the new Montpellier-Perpignan line;
> In the north, the Rhine-Rhone high-speed line (Southern Branch);
> Other cross-border passenger links being looked into over the long term within Briançon area, and the Provence-Alpes-Côte d’Azur high-speed line.
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