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CHANNEL TUNNEL OVERVIEW

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1. History

Proposals for fixed links across the English channel have been put forward at regular intervals ever since Napoleon's time. They have ranged from bored tunnels for horse drawn carriages, suspension bridges, submerged tubes as well as more conventional road and rail tunnels but, until the 1980's they all foundered because of defence or political problems between Britain and France or due to financial constraints.

It is only in the last two decades when Britain and her trade have turned from a worldwide empire towards the Continent of Europe that the need for a fixed link has become more pressing. Now, with some 60% of Britain's trade being with the Continent and with this trade forecast to double in 12 to 15 years, the need for a fixed road and rail connection to supplement the ferries and airlines, caused the Governments, after inviting potential promoters to submit bids for the construction and operation of a fixed link, to award a 55 year concession to Eurotunnel to construct and operate a bored rail tunnel system between Britain and France.

2. The Project

The Channel Tunnel Project is for a rail tunnel system, which will comprise two single track rail tunnels with a central service tunnel, bored mainly through the chalk marl between Folkestone and Calais.

Terminals at Folkestone and Calais will enable cars, lorries and coaches to load on to the shuttle trains which take them across the channel. The terminals will also include customer facilities similar to those available at air terminals or ferry ports, as well as the usual operational and maintenance facilities.

The terminals will be connected directly to the M20 motorway in Folkestone and to three dual carriageways/motorways programmed to be complete on the French side by the time the Tunnel opens.

Rail connections are also to be constructed to link the Channel Tunnel system with the national railways in Britain and France to permit the operation of through passenger and freight trains.

The Channel Tunnel will be operated by Eurotunnel as a private sector transportation project. The whole operation is financed in the private sector, making it not only the largest civil engineering project in Europe but certainly the largest private rail transportation system as well.

3. The Service

The tunnel will provide a means of crossing the Channel for both road and rail traffic.

Road traffic (cars, lorries and coaches etc.) will be carried on special shuttle trains operating between Folkestone and Calais terminals. The intention is to provide a no-booking, on demand, service, with shuttles for cars and coaches leaving every 10 to 15 minutes by day and two every hour at night. Separate shuttles for heavy goods vehicles will operate every 15 to 20 minutes by day and two per hour at night.

The journey time in the shuttle from leaving one platform to arriving at the other is expected to be approximately 35 minutes. The overall time between leaving one motorway, paying the toll, passing through frontier controls, loading onto the shuttles, crossing under the Channel, disembarking and joining the motorway is estimated to be about 75 minutes.

The other main service through the tunnel will be the through passenger and freight trains, to be operated by the railways of Britain, France and Belgium.

Through passenger trains will operate between London, Paris and Brussels, some stopping at intermediate points such as Ashford, Calais and Lille. Similar trains will also be capable of connecting other major centres in Britain and the Continent where the track is electrified. The trains will travel at up to 300 km per hour on the new high speed track to be constructed between Calais, Lille, Paris and Brussels but in the U.K. will travel on the existing Southern Region tracks at more modest speeds. The journey time from London to Paris will be in the region of three hours.

Through freight trains will also be operated, connecting major business and industrial centres of Britain and the Continent.

4. Project Development

Although the Channel Tunnel Project is the largest civil engineering project in Europe, the impact on local residents and the surrounding countryside is perhaps less than might at first thought be expected for such a large project, as a large proportion of the works are underground.

Nevertheless, although the area of the Terminal and the construction site at Shakespeare Cliff is considerably less than, for example, Heathrow or Gatwick airports, they are on greenfield sites, and a considerable amount of consultation with environmental bodies was undertaken before the tunnel alignment and terminal plan was finalised. Another major environmental factor which had to be taken into consideration was the huge volume of spoil arising, (about 4.5 M cubic metres) which had to be disposed of.

Eurotunnel was required to undertake an Environmental Impact Assessment as part of the initial submission to Government. This was the first time that such a requirement had been imposed upon a project, in either the private or public sector, in accordance with the then draft European Community guidelines. Eurotunnel recognised that unless such a requirement was taken seriously and a major consultation and information programme undertaken alongside it, there was a strong possibility that opposition, local or national, to the project would succeed in either delaying it to an unacceptable extent or getting it cancelled completely.

The costs of the work necessary to get the project developed to the extent that legislative approval in both countries was granted and the main construction finance could be raised was in itself several hundred million pounds. The risks of losing this money if the project did not go ahead strongly influenced Eurotunnel's belief that reasonable expenditure on both the Environmental Impact Assessment and the consultation process was money well spent. Similarly, in discussion both in Parliament and outside with petitioners, we had to balance the cost of meeting petitioners' requests compared with the cost and risk of delay to the project.

5. Construction

Formal construction of the Channel Tunnel Project started in December 1987 and it is likely to last some five and a half years until the programmed opening of the Tunnel in June 1993. This is a considerably longer time span than the normal construction time for projects such as motorways and has, in itself, necessitated certain special measures to mitigate the effect of noise, dust and other construction related effects on local residents. In addition, special compensation arrangements were made for those most closely effected by the works.

An effort was made to minimise impact caused by increased lorry traffic moving bulk materials, etc. As a result over 80% of the materials and equipment required for construction on the UK side arrived by means other than road (rail or pipeline). In order to transport the huge volume of sand, over 2 M cubic metres required at the Folkestone Terminal, a pipeline was erected to carry the sand directly from a sea dredger and offshore pumping station to the terminal. This decision is estimated to have saved as many as 200,000 lorry movements. Benefits to the local community have also accrued, as over 7000 construction jobs have been created, 50% of which have gone to people who lived in Kent before starting work on the project.

In the design and the construction of the project, it has been the intention that recommendations included in the Environmental Impact assessment should be incorporated into the design so that, when the project is complete, it may be a positive example of how a very large transportation development can be incorporated in a sensitive landscape and environment, in what are semi-rural settings.

From the formal decision by the Governments to proceed with this Project in 1985, Eurotunnel has maintained an Information Centre in Folkestone. For the first few years, it was in a small building near Folkestone Harbour but, even so, welcomed 50,000 visitors, many of them local residents, who came to find out details about the project and how it might affect them.

In September 1988, Eurotunnel opened a much larger Exhibition Centre opposite the Folkestone terminal. This was in response to concerns expressed in the Select Committee that local roads would be blocked by tourists trying to see the construction. More importantly, pressure on visitor numbers at the smaller information centre made us decide to create an exciting Exhibition Centre to give both local residents and our future customers a taste of what the Channel Tunnel system is likely to mean to them.

On 1st May 1990, we welcomed our 500,000th visitor. Although the public are charged for entry, we continue our local consultation meetings and have a series of "Open Days" for local residents, where we put up a special more technical display, with project staff in attendance. Entry is free for these days and free bus services are run from local areas.

6. Conclusion

Eurotunnel recognised that they are to be long term residents of East Kent and, although the impact of the project is strong locally, we hope that the various initiatives described above have, and will continue to have, a long term beneficial effect on the local economy.

7. Europe's Transport Infrastructure

It is a coincidence that the Channel Tunnel is programmed to open in the first year of operation of the Single Market. Symbolically, it will provide the first land connection between Britain and the Continent for some 10,000 years. More practically, it will provide a means of connecting the road and rail networks of Britain to those of the Community in continental Europe, a potential market of over 300 million people.

Whereas major road and rail developments are taking place in the Continent to link centres of population as well as the Channel Tunnel, there is a growing feeling in the regions of Britain that a tunnel from Folkestone to France will be less effective if there are not adequate road and rail links to cope with the expected growth in traffic, not just across the Channel but within the South East generally. Experiences on the M25 and on Network South-East tend to confirm this view.

Many people will therefore be hoping that during the next decade, a number of major road and rail developments will be constructed to enable the traffic to get around or through London and across the South-East.

If these projects are to have any chance of success, they must be planned and constructed in a way which causes minimum inconvenience to local residents while still satisfying their objective of carrying through traffic.

Whether these projects are undertaken in the private or public sector or a combination of both, it appears that the Channel Tunnel has set a precedent in peoples' expectations about environmental safeguards and in the promoters' willingness and ability to work with the relevant statutory or voluntary groups to achieve an acceptable solution. Much of what has been achieved has probably been done because of the relative freedom that operating in the private sector has permitted.