



# Trafalgar House

PUBLIC LIMITED COMPANY

1 BERKELEY STREET · LONDON W1A 1BY

Telephone 01 499 9020  
Cables TRAFULGENT  
Telex 921341

NB/SAL/TH/ER3

Prime Minister 4 NBM

The photos inside the  
front and back covers are  
worth a glance.

Rt. Hon. Margaret H. Thatcher, MP,  
10 Downing Street,  
London,  
SW1A 2HB.

DRW BY HAND

1/11  
31st October 1985

Dear Prime Minister,

## EuroRoute

I have pleasure in enclosing a copy of the EuroRoute Summary which was given to Nicholas Ridley on Tuesday. The full formal submission is being delivered this afternoon.

I hope you'll have the chance to examine the Summary and that you'll let me know if you'd like to hear any more about our proposals.

Yours sincerely,  
Mr. P. S. ...

enc.



# The Channel Fixed Link

SUMMARY OF PROPOSAL



## Contents

Paragraph 1-4	Introduction
5-6	The EuroRoute Consortium
7-8	Terms of Concession
9-11	Organisation of EuroRoute
12-19	Motorway link operation
20-23	Rail link operation
24-27	Construction of the links
28	Tourist potential
29-33	Environment and inland infrastructure
34	Maritime implications
35-42	Employment and other economic implications
43-44	Finance
45-47	Capital costs
48-49	Operating costs
50-56	Traffic and revenue forecasts
57-61	Rail link
62	Risk management
63-64	Funding plan
65-67	Financing prospects
68-70	Viability of project
71-75	Public consultation

## EUROROUTE Summary of Channel Fixed Link Proposal

### INTRODUCTION

1. The EuroRoute consortium, composed of 15 French and British companies, seeks a concession from the Governments of the French Republic and the United Kingdom to build and operate motorway and rail links across the English Channel. Its proposal has been developed in accordance with the Invitation to Promoters issued by the two Governments in April 1985.
2. A decision to proceed with a Channel fixed link is needed for two main reasons:
  - a. The rapid and continuing growth of cross-Channel traffic is providing a market which will enable a fixed link to be built without any Government finance and without any need to monopolise cross-Channel transport. In 1984 nearly 22 million passengers and 27 million tonnes of unitised freight crossed the Channel. Traffic volumes are double those before Britain joined the EEC and are forecast to double again in less than 20 years. There is no longer any need for this traffic to be wholly reliant on crossing the 23 miles of Channel by sea, with the attendant problems of loading and unloading the ferries as well as crossing the main international shipping lanes of the busiest seaway in the Western world.
  - b. Both the French and British economies are in need of major employment-creating projects which do not require Government expenditure. A fixed link offers such an opportunity, not only on a unique scale during its construction but also on a permanent basis through the stimulation of trade, tourism and ancillary activities when it is in operation.
3. EuroRoute's proposal for motorway and rail links provides the most natural and complete solutions for a 21st century fixed link, principally because:
  - a. Separate road and rail links provide the maximum freedom for the individual user, the fastest possible crossing times for both road and through rail services, and the least risk of total disruption of cross-Channel transport.
  - b. Proven technology is now available for a motorway as well as a rail link. Using prefabrication methods and well-tried offshore installation techniques to minimise risk, a road solution can be built combining bridges from the coasts with a tunnel under the international shipping lanes, thus avoiding both the ventilation problems of an all-tunnel solution and the need for international agreement to place permanent structures within those lanes.
  - c. EuroRoute will generate considerably more employment in Britain and France – approximately 300,000 man-years of work during the construction period – than can be demonstrated for any other financially viable fixed link.
4. EuroRoute's shareholders have demonstrated their confidence by spending £11 million already on the design and validation of the project in order to present this detailed proposal to the two Governments. They have undertaken to maintain the validity of this

proposal for the 100 days which the Governments have provided to reach their decision. The EuroRoute proposal does, however, contain a considerable degree of flexibility to allow adjustments in response either to specific Governmental requirements or to other factors such as further consultation with local interests.

#### THE EUROROUTE CONSORTIUM

5. The EuroRoute consortium comprises the following British and French companies:

Alsthom	GEC
Associated British Ports	GTM Entrepose
Banque Paribas	John Howard
Barclays Bank	Kleinwort Benson
British Shipbuilders	Société Générale
British Steel	Trafalgar House
British Telecom	Usinor
CGE	

In total they have nearly one million employees world wide. The total assets of the four banks – Banque Paribas, Barclays Bank, Kleinwort Benson and Société Générale – were some £200 billion in 1984, and the total turnover of the remaining 11 industrial companies was more than £25 billion. Between them, the shareholders have world wide experience of, and expertise in, all the relevant aspects of the fixed link project including:

- major bridge and tunnel construction projects
- major electrical contracting
- steel production and fabrication in shipyards
- marine construction
- fabrication of offshore installations
- construction and operation of toll motorways
- railway equipment manufacture
- international freight handling
- communications and information technology
- organisation of major project financing

6. In addition, the EuroRoute consortium has drawn extensively on external advisers, not only to supplement shareholders' own expertise but to ensure that essential aspects of the project are independently validated. For example, 15 firms of technical consultants have been employed; the revenue forecasts are directly drawn from reports by Coopers & Lybrand and Transroute; and further independent experts have been involved in studies of the employment and environmental impact.

#### TERMS OF CONCESSION

7. EuroRoute is seeking concessions from the two Governments to build and operate motorway and rail links which would last initially for a minimum of 50 years after the links come into operation. The main structures have been designed in accordance with the Invitation to Promoters to last for at least 120 years. EuroRoute seeks the protection against arbitrary Government intervention which is already envisaged in the Invitation to Promoters and would also wish to be compensated if the Governments decided prematurely to build a second fixed link. The proposal assumes that compulsory

purchase powers will be available as necessary in the UK for the land needed for the project, which will be owned by the Governments but available for development by the holders of the concession.

8. EuroRoute does not make the grant of duty-free facilities a condition of its proposal but strongly requests that there should be equality of treatment between competing modes of transport on the availability of duty-free concessions. In addition, EuroRoute wishes to be able to build and operate all the normal passenger service facilities at its land terminals or on the artificial islands which are part of the motorway link – or to franchise other companies to do so. These sources of revenue should assist in keeping down the basic charges for crossing the road and rail links.

#### ORGANISATION OF EUROROUTE

9. There will be two main EuroRoute companies in each country – a Concession company and a Construction company. The British and French Concession companies have agreed to form a joint venture which would hold the concession jointly from the two Governments and would be responsible for the financing and operation of the links. The British and French Construction companies have formed a joint venture which would be responsible for undertaking and allocating the total work of designing and constructing the link, under a single contract from the Concession joint venture. Both the Concession and the Construction joint ventures will have unitary Franco-British management teams. The Concession joint venture will appoint as Project Manager a company of international standing to supervise implementation of the construction contract on its behalf and to report as necessary to the two Governments.

10. In outline, the composition of the Concession companies is:

<u>EuroRoute France</u>	<u>EuroRoute Limited (UK)</u>
Alsthom	Associated British Ports
Banque Paribas	Barclays Bank
CGE	British Steel
GTM Entrepose	British Telecom
Société Générale	Kleinwort Benson
Usinor	Trafalgar House

Revenue, capital costs and operating costs are to be shared 50/50 between the national companies wherever they arise.

11. The composition of the Construction companies is:

<u>Scoltram (France)</u>	<u>EuroRoute Construction Limited (UK)</u>
Alsthom	British Shipbuilders
GTM Entrepose	British Steel
Usinor (CFEM)	GEC
	John Howard
	Trafalgar House

The Construction joint venture will offer a minimum of 30% of the total value of the contract by means of competitive tender to companies which are not at present within the Consortium.

## MOTORWAY LINK OPERATION

12. EuroRoute's motorway across the Channel consists essentially of:
  - cable-stayed bridges extending 8.5km and 7km from the British and French coasts respectively, over the inshore waters to artificial islands in the Channel;
  - a large shallow spiral within each island enabling vehicles to descend at a gradient of less than 4% (travelling some 2km on each island) from the bridges to the tunnel under the main international shipping lanes;
  - an immersed tube tunnel of 21km joining the two islands and additionally ventilated from a central shaft located in the separation zone between the shipping lanes and in line with natural sandbanks. (The tunnel is less than 5km longer than the St Gotthard Tunnel which is used by 3.5m vehicles per annum.)
13. The two carriageways of the motorway will be separated throughout (apart from emergency cross-over points), but exit and entry will be possible on both islands each of which will have substantial parking facilities. There will be two lanes and a hard shoulder per carriageway on the bridges and in the tunnel. On the islands, additional lanes and increased lane widths will be provided to enable capacity and safety to be maintained on the curves.
14. The speed limits proposed by EuroRoute for normal vehicles are 100km per hour on the bridges, 80km per hour in the tunnel and 50km per hour on the islands. These limits will enable motorists to cover the 41km from coast to coast in 30 minutes.
15. The maximum capacity of the motorway link is approximately 4000 cars per hour in each direction but in practice is reduced towards 3000 vehicles per hour in each direction according to the share taken by freight and coach traffic. EuroRoute's revenue forecasts assume less than 20% capacity utilisation in the early years (some 4.5 million vehicles per annum at the outset), and peak-hour traffic in the summer is unlikely to approach capacity levels until well into the 21st century.
16. Great emphasis is being placed on safety. EuroRoute will install a sophisticated traffic management and control system using closed-circuit TV cameras, excellent lighting throughout the link, frequent patrols and 24-hour assistance teams to provide fast response to breakdowns or any other emergencies. Detailed meteorological research has been undertaken on conditions in the Channel. Wind deflectors will be fitted on the bridges, enabling cars to cross safely throughout the year and restrictions on unladen high-sided vehicles to be applied for less than 3% of the time. If, exceptionally, a closure or restriction were required, radio communications and warning signs on approach motorways would be used to regulate traffic flow. Emergency parking is also provided. In the tunnel, there will be escape ducts and cross-over points to allow contraflow in case of accidents or heavy maintenance periods. Two independent driver psychologists have reviewed EuroRoute's road link and have reported that driving conditions on the bridge and tunnel sections will be as good if not better than on existing roads and that careful attention to the detail of design and equipment on the islands will ensure safer than average driving conditions there.
17. The UK landfall of the motorway will be into the cliffs to the west of Dover, reaching the main terminal in the Farthingloe valley via a tunnel. The 66-hectare landscaped site will contain the main toll, Customs, immigration and link control facilities. Traffic will

connect immediately with the new A20/M20 road already planned by the Department of Transport, without needing to use existing local roads. Motorway services such as fuel, refreshments, shops and parking will be provided on a 15-hectare site at Cheriton, 8km to the west along the A20/M20. Subject to further consideration of the alternative sites, full Customs clearance for heavy goods vehicles will be provided at a 50-hectare site suitable for development near Ashford.

18. At the French coast, the motorway's landfall will be 1km south-west of Sangatte, and all terminal facilities will be provided some 5km inland at a 70-hectare site designated previously for fixed link development. The motorway will then connect with the south ring road around Calais and then on to the A26.
19. Formalities at the terminals will be kept to the minimum. EuroRoute intends to offer pre-payment facilities for its tolls, possibly through franchised agencies and/or service areas on the approach motorways. The development of electronic funds transfer will also speed toll collection. The Governments have agreed that Customs, immigration and plant and animal health controls may be combined into a single set of controls for travel in either direction. EuroRoute would prefer to locate these controls on exit from the link – hence travellers from Britain to France will encounter the controls only at the French terminal and vice versa. Security controls, however, will operate on entry to the link.

## RAIL LINK OPERATION

20. The rail link will be in 6-metre twin tubes under the Channel, with a central service duct, and is designed to a standard European (UIC-B) loading gauge, thus being capable of handling traction units and rolling stock from both the UK and France. It is designed for through passenger and freight trains (including motorail) but not for vehicle shuttle services. The twin tubes will have two crossover points to allow trains to change tracks.
21. From the UK rail terminal at Cheriton, an 8km length of open and bored-tunnel line will lead to the coast 200-300m south of the motorway link, where the railway will enter a 38km tunnel across the bed of the Channel, emerging at Sangatte and proceeding in a further 8km of cut-and-cover tunnel to join the SNCF network. The rail link is not functionally connected with the motorway link, but air/access shafts will connect it to the main offshore islands for the motorway link, providing additional ventilation capacity and increased safety.
22. Since the rail link is dedicated to through trains connecting the BR and SNCF national networks, EuroRoute would wish to hand over the operation of the link to BR and SNCF. The operational regime and the nature of the connection with national networks will therefore be primarily for them to determine. However, EuroRoute has designed the link to allow for a maximum train speed of 160km per hour, and at average express speeds the link could be crossed from terminal to terminal in less than 25 minutes.
23. It is believed likely that a Channel rail link would provide sufficient revenue potential to justify the extension by SNCF of the TGV Nord not only to Lille and Brussels but to Calais. On this basis, and assuming no significant improvement in the BR line from London to Dover, the through rail journey time between London (Waterloo) and Paris could be reduced to not more than 3 hours 25 minutes, and between London and Brussels to about 3 hours. There would be major intermediate stations at Ashford Kent and at Frethun near Calais to connect with other destinations. Through passenger trains

would have electric traction capable of transferring from overhead pantograph to the BR Southern Region third rail system, and would have the narrower British-gauge rolling stock. Freight trains hauled by Continental-gauge locomotives could run through the link to the Cheriton terminal, a 25-hectare site where locomotives could be changed and Customs checks carried out.

#### CONSTRUCTION OF THE LINKS

24. EuroRoute has designed its links for repetitive, almost production-line manufacture and assembly. The major elements are:
  - 31 all steel 500-metre span cable-stayed bridges
  - 84 250-metre steel and concrete road tunnel sections
  - 152 steel and concrete rail tunnel sections
  - 2 main island cores plus a ventilation island
  - 31 sets of bridge foundations and protective caissons
  - 34 protective caissons for the islands.
25. Prefabrication, assembly and finishing of all these units can thus be carried out at a large number of sites around the UK and France, and much of the work spread through depressed engineering regions. Many of the units will then be floated round to coastal finishing sites close to the link – principally Dunkerque in France and Dungeness in the UK. This system allows simultaneous manufacture (saving time), greater quality assurance and reduced risk of disruption to the programme, compared with concentrating construction at one or two sites.
26. Installation in the Channel will employ techniques proven in the North Sea, the USA and many other parts of the world. Over 60 immersed tube tunnels have been built since 1894. A large dredger is used to create a trench for the tunnel, and after the units are installed and joined, the trench is back-filled for protection. The cable-stayed bridges are also of conventional design, with each section being independent to avoid any risk of progressive collapse. The protective caissons around the main islands will form an artificial harbour which will be important for construction vessels during much of the construction period.
27. The timetable for construction of the link is partly conditioned by when legislation is enacted to enable an inter-Governmental Treaty to be ratified together with a concession agreement. On the assumption that this is achieved by mid-1987, the road link will be operational in early 1993 and the rail link in 1995. EuroRoute is discussing with BR and SNCF possible technical alternatives to achieve earlier completion of the rail link.

#### TOURIST POTENTIAL

28. The EuroRoute road link is certain to be a major tourist attraction in itself during its early years. The presence of artificial islands as a key element in the project offers potential for the development of tourism, and a possible lay-out for such a development has already been designed to include duty-free shops, restaurants and other facilities. The development would need to be self-financing and has not therefore been included in the basic project at this stage. EuroRoute therefore wishes to keep open the option

either of limiting the scope of the islands to what is strictly necessary for the operation of its road and rail links or, at an appropriate time, of developing their tourist potential.

#### ENVIRONMENT AND INLAND INFRASTRUCTURE

29. EuroRoute has commissioned detailed and independent studies of the environmental impact of its proposal, both marine and terrestrial, and has consulted representative local and national organisations concerned with the environment. The provisional findings have been made available to the Governments, and to the local authorities and other organisations principally involved, and the environmental impact assessment will be developed and refined after further consultation with these bodies.
30. As regards the marine environment, no adverse long-term effects from the construction programme have been identified e.g. in tidal patterns, sandbank distribution or sea-life. However, studies on hydrology will continue throughout the detailed design period to determine the best means of handling the dredging process.
31. The main questions on the terrestrial environment have arisen on the British side. The coastal finishing site at Dungeness is located close to a power station but is sensitive on scientific and nature conservation grounds. EuroRoute intends to minimise disturbance of the shore-line; to avoid any large shore-based camp for its construction workers; and to take any other mitigating measures which prove to be appropriate after further consultation with the relevant organisations. The feasibility of Dover as an alternative will be further examined.
32. EuroRoute also looked carefully at five alternative sites for its main road terminal before deciding on Farthingloe, which emerged as the most favourable on all grounds including environmental impact. Its valley location on the existing A20 means that the terminal will not be visually intrusive, particularly after the landscaping which EuroRoute has proposed.
33. EuroRoute's proposal has a number of distinct environmental advantages:
  - a. It will keep traffic away from local roads and avoid the congestion around the ports which would build up in the absence of a fixed link.
  - b. Its construction methods will create only a small quantity of spoil on land.
  - c. It does not require any large concentration of marshalling facilities, as does any vehicle 'batching' system whether for ships or for trains. EuroRoute's total land requirements for the road link on both sides of the Channel will be approximately 200 hectares, with the minimal extra requirements for the rail link to be agreed in detail with BR and SNCF. Fewer than a dozen homes are likely to be directly affected.

#### MARITIME IMPLICATIONS

34. EuroRoute has fully investigated the maritime implications of its proposal and consulted the relevant authorities. International Maritime Organisation approval is not required

since EuroRoute will have no permanent structures in the main shipping lanes. The following are the principal maritime safeguards within the EuroRoute proposal:

- a. The bridge deck will be 50 metres above high water level and will have appropriate warning lights and buoys for mariners. The distance between the pylons will be 500 metres.
- b. The caissons protecting the bridge supports and islands will be equipped to withstand collision from large vessels travelling at up to 17 knots. The central ventilation island is in line with natural sandbanks in the separation zone and could act as a navigational aid.
- c. During the construction period, there will be a carefully-worked out installation programme, with all ship movements closely controlled.
- d. A traffic separation scheme will be proposed for the English inshore traffic zone in order to regulate the relatively small number of coastal ships and ferries which would pass under the bridges and not use the main international shipping lanes. Traffic in the French inshore zone is negligible.

In the absence of a fixed link, an increase in the number of ferries would in any case heighten the risk of collisions in the Channel.

#### EMPLOYMENT AND OTHER ECONOMIC IMPLICATIONS

##### a. Construction

35. Based on independent studies of employment effects in both the UK and France, EuroRoute estimates that its road and rail links will create approximately 300,000 man-years of work in the two countries. This figure cannot easily be converted into numbers of jobs per annum, because many different industries will be involved, not all of them for the whole construction period. However, during the peak periods of construction, around 75,000 people could be employed on work generated by the project. Employment will be divided equally between the UK and France.
36. The regional impact of EuroRoute is even more important. The prefabrication method of construction enables employment to be spread to more distant and depressed regions. Particular beneficiaries from very substantial volumes of work will be many Scottish plants, shipyards and offshore yards; North-East England's steel and shipyard facilities; and coastal facilities in France such as Dunkerque and St Nazaire. Every industrial region of the UK and France should obtain substantial orders for materials or equipment.
37. Kent and the Pas-de-Calais will secure extra employment in the construction period, but EuroRoute will not need to swamp the local labour forces with thousands of migrant construction workers, because its construction activities will not be too heavily concentrated in these areas. For example, the Dungeness site will only require some 600 workers.
38. As the largest construction project in Europe this century, EuroRoute will give a tremendous boost to both national economies during the construction period, not only through the direct jobs created but through the savings in public spending on unemployment benefit and through the stimulus to many local economies around the UK and France from the extra purchasing power created by EuroRoute work.

#### EMPLOYMENT AND OTHER ECONOMIC IMPLICATIONS – continued

##### b. Operation

39. For the longer term, EuroRoute will directly employ approximately 1000 people when it comes into operation, to staff its own facilities such as tolls, emergency services, and maintenance. Over 7000 further jobs will be directly created beyond EuroRoute's own payroll in Kent and the Pas-de-Calais on such activities as Customs and immigration controls, catering, freight forwarding and contract maintenance. This total of over 8000 permanent jobs is likely to increase to over 11,000 within a few years as traffic volumes build up.
40. Furthermore, the stimulation to trade and tourism provided by EuroRoute's links will in turn encourage such activities as distribution centres, industrial and office development, restaurants and hotels. Coopers & Lybrand have estimated that a total of 4000 – 7000 additional permanent jobs could be created in Kent as a result of these broader effects of EuroRoute. Similar numbers are achievable in the Pas-de-Calais. EuroRoute itself will work with local organisations in Kent and the Pas-de-Calais to stimulate tourism and other activities which could at the same time benefit the local economies and increase revenues from the link.
41. A large proportion of these jobs will be available in the localities closest to the ports, such as Dover, Folkestone and Calais, where the greatest fears about loss of employment related to the harbours and ferries are being expressed. EuroRoute cannot give estimates of any such loss of employment because it does not have access to the present employment figures, nor can it reliably predict at this stage the competitive response of the ferries to a fixed link. Based on its own traffic and revenue forecasts, EuroRoute believes that the growth of the overall market – further stimulated by EuroRoute itself – will be sufficient to leave the cross-Channel ferries with an overall volume of business which will not be much lower in the mid-1990s than now, and will start to grow again thereafter. The short sea-routes can expect a greater reduction, but EuroRoute believes that, not only during the construction period but also when in operation, it will prove to be a net benefit to local employment compared with the present position.
42. The EuroRoute consortium also believes that, on completion, the motorway link in particular will provide a showcase for British and French technology and could attract further major orders for transport infrastructure projects elsewhere in the world, with long-term employment benefits to the construction, steel and other related industries.

#### FINANCE

43. The EuroRoute project is financially viable and within the capacity of private sector financial markets to fund commercially without any recourse to the two Governments. The positive response which EuroRoute has received from banks and financial institutions, not only in London and Paris but internationally, gives EuroRoute's shareholders every confidence that they can demonstrate this to the two Governments.



44. There are five major components in the financial evaluation of the project:

- a. Capital costs
- b. Operating costs
- c. Revenues
- d. Risk management
- e. Funding plan

Since the motorway and rail links are functionally separate, and distinct also in time, they have been evaluated separately for financing purposes.

#### CAPITAL COSTS

45. EuroRoute's capital cost estimates have been compiled using procedures designed to secure the most accurate figures that are possible more than two years in advance of any construction work being commenced:

- all prices from contractors or suppliers have been cross-checked between the British and French construction companies;
- technical viability and costings have been further checked by independent advisers to the French and British Concession companies;
- appropriate contingencies have been applied, e.g. for delays in completion.

46. On this basis, the capital costs of the EuroRoute project are estimated, at 1985 prices, to be:

Motorway link—£3.7 bn  
Rail link —£1.5 bn

The discussions with BR and SNCF referred to in paragraph 27 above may lead to reductions in the cost of the rail link.

47. Allowing for inflation at 6% per annum, interest payments during the construction period and special financing provisions totalling some £0.9bn for cost overruns beyond the capital cost estimates, EuroRoute has approached lenders and equity investors on the assumption that total financing facilities for constructing the motorway link will be up to £7.2bn. These requirements are spread over a period of 6 years and shared equally between the British and French companies. The total financing requirement for the rail link on a similar basis will be some £3.5bn.

#### OPERATING COSTS

48. EuroRoute has estimated the operating costs of its motorway link on the basis both of studies by specialist consultants and of experience within EuroRoute France of operating toll motorways. Generous allowance has been made for safety in providing for link control staff, patrols, emergency services and maintenance. Total operating costs are estimated to amount to some £40m at 1985 prices in the first year of the motorway's operation, rising at 2% per annum in real terms thereafter to allow for certain costs such

as staff and energy for tunnel ventilation which are partly related to the volume of traffic. The motorway link has been designed to the specifications of the Invitation to Promoters, including a life of more than 120 years for key parts of the structure, and maintenance costs are not therefore expected to escalate heavily during the concession period.

49. Operation and maintenance of the rail link (other than structural maintenance and associated insurance) will be a matter for BR and SNCF.

#### TRAFFIC AND REVENUE FORECASTS

50. Coopers & Lybrand, who have been the leading consultants on cross-Channel traffic for many years, have surveyed the market in detail and have reported to EuroRoute on traffic and revenue forecasts in conjunction with the French consultants, Transroute.

51. Cross-Channel passenger traffic has increased at an annual compound rate of 5.8% since Britain joined the EEC, while the annual growth rate for loaded freight vehicles has been 10%. The forecasts used in the financial evaluation have prudently assumed a fall in these annual growth rates to an average of 3.5% for passengers and 4.5% for freight over the next 20 years. This deceleration of growth is partly offset in EuroRoute's forecasts because the introduction of a fixed link would generate new passenger traffic in addition to normal market trends — particularly, in the case of EuroRoute, for day trips and other short-stay trips.

52. EuroRoute's future share of the cross-Channel market will of course be related to the prevailing tariff levels and structure, and EuroRoute cannot answer for the reaction of ferry operators to a fixed link 8 years in advance of the motorway's operative date. EuroRoute has adopted for planning purposes the assumption that its tariffs would be broadly equal to those of the ferries, at the levels prevailing today, adjusted for inflation.

53. This produces toll revenues of just over £300m (1985 £) in the motorway's first year of operation, increasing thereafter with the overall growth of the market to amount to over £450m (1985 £) 10 years later. With inflation, toll revenues are forecast to be over £530m in 1993 and over £1300m in 2003.

54. These figures, which give a satisfactory commercial return on the capital invested in financing the motorway link, have been analysed on many different scenarios relating to traffic and market growth. EuroRoute's return is robust against the less favourable scenarios — not only because of the long timescale for generating a return but because lower tariffs may generate more new traffic.

55. In the longer term, a fixed link should bring down the cost, and improve the value for money, of crossing the Channel compared with what it would otherwise be if Channel ports and Channel shipping lanes were allowed to become more and more congested. However, it would not be EuroRoute's intention to provoke a price war with the ferries simply in order to fill its capacity in the early years. Its financing plans are based on capacity utilisation of less than 20% at the outset. EuroRoute's central forecasts are based on parity with the ferries' existing tariffs and are robust against any price reductions which might be initiated by the ferries. EuroRoute's commercial freedom will be subject to monopolies legislation, thus further safeguarding the ferries.

56. In addition, EuroRoute has made estimates of non-toll revenues. Since no capital costs have been included for ancillary development at this stage, these revenues are assumed to arise from franchising other operators to build revenue-earning facilities such as duty-free shops, and restaurants. Non-toll revenues on this basis are estimated at some £30m (1985 £) in the first full year of motorway operation – only about 10% of toll revenues, and equivalent to some £2 per passenger. EuroRoute recognises that duty-free facilities may not be permitted and has ensured that its project is not dependent on revenues from this source. Nevertheless the potential for duty-free and other non-toll revenues could be considerably higher than EuroRoute's current forecasts, and the establishment of these facilities would add to the appeal of the fixed link for users.

#### RAIL LINK

57. Coopers & Lybrand have prepared rail traffic forecasts for EuroRoute after discussions with BR and SNCF. Traffic and revenues will of course depend on the marketing policies adopted by these organisations. It is assumed that the extension of the TGV to connect with the Channel fixed link will enable rail journeys from London to Paris and Brussels to compete with the airlines. Through rail freight would take traffic from several sources including the longer sea routes.
58. In advance of a commercial agreement with the two rail companies, an estimate has been made of possible traffic for the cross-Channel segment of the through services for passengers and freight. On this basis, rail revenue in the first full year of operation is estimated at £120m (1985 £)—£250m at inflated prices—with a steady increase in real terms but at a lower rate than motorway revenues thereafter.
59. The tariff assumptions made in these forecasts are that fares will be broadly the same as now, but with a significant premium market emerging from business travellers currently using the airlines.
60. The commercial arrangements between EuroRoute and the two railway networks are under discussion. EuroRoute requires revenues from the rail link commensurate with the costs and risks of constructing it, and believes that the traffic potential exists to secure such revenues while making it worthwhile for BR and SNCF to operate the necessary volume of passenger and freight traffic. The rail link would be dedicated to these through services and hence would be most effectively operated by the railway networks themselves. EuroRoute has started negotiations with BR and SNCF on the payments they would make to EuroRoute for these operating rights and is confident that there will be a mutually satisfactory outcome.
61. With these negotiations still in progress, EuroRoute has not sought any specific commitments from banks and financial institutions for the financing of the rail link. Further approaches will be made when agreement is reached. EuroRoute has every reason to believe from its soundings of the financial markets that, when a satisfactory agreement has been reached with the railway networks, the necessary finance can be raised. EuroRoute believes a rail link can and should be built not only because of the construction work and employment involved and because the rail link can benefit from facilities used for building the motorway link but also because it sees a major opportunity for fast rail passenger services to offer an attractive alternative to the airlines. Express rail freight would certainly benefit from a rail link dedicated to through trains. EuroRoute is therefore committed to a rail link, subject only to its negotiations with BR and SNCF.

#### RISK MANAGEMENT

62. EuroRoute has been particularly conscious of the need to reassure investors, lenders and the Governments about the management of risk in a project of this size. In addition to the funding contingencies already described and the minimum-risk approach adopted in choosing prefabrication and immersed tube techniques for the construction, EuroRoute has taken the following steps to minimise and deal with the major sources of risk:
- The contractual arrangements between the Concession and Construction joint ventures will tightly define any risks remaining with the Concession companies and their investors and will include bonding from the Construction joint venture and its sub-contractors to facilitate completion of the works where necessary. The effects of inflation will be covered by a precise formula.
  - The effect of changes in currency exchange rates will be offset by matching the currencies in which financing is secured with the expected balance of costs and revenues, together with appropriate hedging measures to cover any remaining imbalances, e.g. the use of forward dealing.
  - Insurance cover for other contingencies has been fully investigated and quotations obtained, and the cost of insuring for all reasonable contingencies has been included in construction or operating costs as appropriate.
  - Provision has been made for removal of uncompleted bridges if the project were abandoned.

#### FUNDING PLAN

63. There are four stages in the funding of the Project:

- Stage I** — running up to the award of mandate in early 1986. Funds for this stage have been fully committed by EuroRoute shareholders.
- Stage II** — running up to the expected ratification of the inter-Governmental Treaty in mid-1987. The costs during this stage will be limited to those necessary, particularly in detailed design and project planning, to enable the project to proceed without delay after ratification. This expenditure is currently estimated at £50m. The French share of this amount will be provided by EuroRoute France shareholders. UK institutional investors have indicated their willingness to subscribe for £12.5m, and the balance will be subscribed by existing UK shareholders or by shareholders joining the consortium after award of mandate.
- Stage III** — the main construction period running up to early 1993 for the motorway link.
- Stage IV** — running from the opening of the motorway link to the end of the concession. Operations will generate substantial cash surpluses within a few years of opening the link.

It is therefore during Stage III that the major financing requirement lies. The financing plan proposed by EuroRoute to cover the total of £7.2bn required to be firmly committed for the motorway link at the start of Stage III is:

Equity (including convertible or participating bonds) — £1.3bn  
Bank loans — £5.9bn

In addition, EuroRoute intends to raise some £2bn from the international capital markets after the start of Stage III, which can be used instead of drawdown of bank loan facilities. Over the first 7 years of Stage IV, EuroRoute will refinance a total of £4bn of maturities of bank debt from bond issues in the domestic and international markets, secured on project revenues.

64. The financing plan for the rail link will have a similar structure, with equity amounting to some 20% of debt finance, but precise arrangements will be finalised in the light of the proposed commercial agreement with BR and SNCF.

#### FINANCING PROSPECTS

65. The extensive soundings of the two national and the international markets taken by EuroRoute in September and October 1985 have confirmed the feasibility of its financing plan for the motorway link. Evidence has been provided to the Governments of the availability of the full amount of equity required from the French and British markets. The balance will be raised from domestic and international loans. The three commercial banks within the EuroRoute Consortium have in aggregate committed £500m. They have strongly indicated, after taking account of responses from international banks, that it will be possible to syndicate the loans in both the domestic and international markets. Confirmation of the capacity of the international capital markets to provide bond finance for the project has also been received from international banks.
66. EuroRoute has also explored the possibility of funding, without Government guarantees, from the European Investment Bank. The potential for very substantial funding from this source is being pursued, although EuroRoute's financing plan is not dependent on such funding.
67. EuroRoute believes that the evidence which it is providing to the two Governments on its financing prospects will demonstrate – even at this stage nearly two years before the major funding begins and when financing is handicapped by the existence of competing schemes – that its project can be financed and indeed is an attractive investment.

#### VIABILITY OF PROJECT

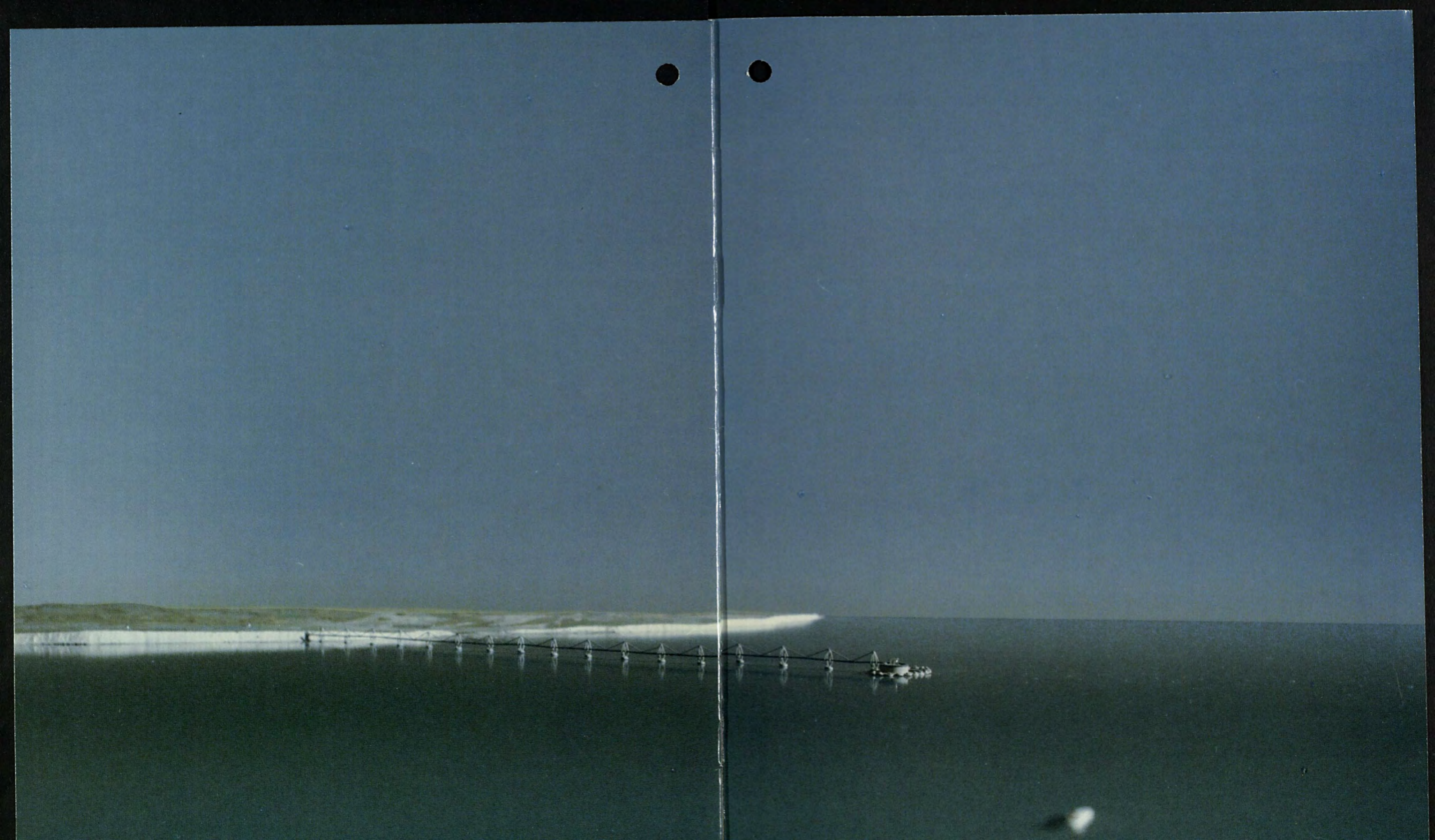
68. Based on the costs, revenues and funding plan described above, EuroRoute's motorway link shows a 17% gross rate of return, which is equivalent to over 10% net of inflation. Because of the long construction and operating periods involved, the project return is little affected by short-term economic or commercial fluctuations.
69. On EuroRoute's central forecasts, revenues are sufficient to cover interest on loans as well as operating costs by the third full year of operation, and EuroRoute ceases to have net borrowings after only 15 years of operation.

70. These key financial milestones are not significantly varied by the building of a rail link, if a commercial agreement on the lines proposed by EuroRoute were to be reached.

#### PUBLIC CONSULTATION

71. EuroRoute's consultative programme has been compressed by the 7-month period allowed by the two Governments between the Invitation to Promoters and the deadline of 31st October for the submission of proposals. During this period, EuroRoute – as a new project not drawing on the legacy of previous fixed link schemes – had first to develop its proposal to a stage where public consultation would be meaningful.
72. Nevertheless, particularly from July 1985 onwards, EuroRoute has embarked, as requested by the British Government, upon an intensive programme of meetings with local authorities, environmental organisations, trade associations, political bodies and many other organisations and individuals who have expressed interest in or concern about the proposal. A mobile exhibition has toured key localities, and public meetings have been held. Comments made during the consultations have been taken into account in EuroRoute's proposal, particularly in the configuration of the UK terminal arrangements.
73. EuroRoute has also sought to ascertain not only the commercial demand for its road and rail links through market research but also the acceptability of its solution to public opinion more generally. An opinion poll conducted in France in late August amongst 1000 people in car-owning households showed 49% preferring a motorway solution, compared with 25% in favour of continuing reliance on the ferries and only 14% for a rail-shuttle. Similar results were obtained from an independent UK poll in early October. 70% of those interviewed supported a fixed link, with only 17% against; and 52% preferred a drive-across solution compared with 31% who preferred to continue using the ferries and 8% for a rail-shuttle.
74. Recognising the special concerns in the localities most immediately affected by a fixed link, EuroRoute commissioned an independent poll of visitors leaving its mobile exhibition in Kent after they had seen the details of the project for themselves. 63% of those interviewed were in favour of a fixed link, and a majority of those expressing a preference for any particular scheme preferred EuroRoute in comparison with other solutions.
75. EuroRoute attaches great importance to continuing consultation with both local and national organisations on such matters as the employment and environmental impact of its proposal. In developing the details of the scheme, it will be ready to respond to the concerns of those affected and to work closely with the relevant local authorities.





# The EuroRoute Consortium

Alsthom  
Associated British Ports  
Banque Paribas  
Barclays Bank  
British Shipbuilders  
British Steel  
British Telecom  
CGE  
GEC  
GTM Entrepose  
John Howard  
Kleinwort Benson  
Société Générale  
Trafalgar House  
Usinor



Secretary of State for Trade and Industry

DEPARTMENT OF TRADE AND INDUSTRY  
1-19 VICTORIA STREET  
LONDON SW1H 0ET 5422  
TELEPHONE DIRECT LINE 01-215  
SWITCHBOARD 01-215 7877

31 October 1985

cc BG  
sent by DN

The Rt Hon Nicholas Ridley MP  
Secretary of State for Transport  
Department of Transport  
2 Marsham Street  
LONDON  
SW1P 3EB

2 Nick,

CHANNEL FIXED LINK : COMPENSATION BETWEEN GOVERNMENT/COMPENSATION  
FOR CLOSURE ON GROUNDS OF DEFENCE AND NATIONAL SECURITY

Thank you for copying to me your letter of 16 October  
to Geoffrey Howe.

2 I am content with the proposals set out in your letter.  
These will help to ensure that private sector investors are not  
discouraged by the possibility that they might be uncompensated in  
the event of cancellation by either Government or of closure or  
interruption on defence or national security grounds.

3 I am copying this letter to the Prime Minister, Members of  
E(A), the Foreign Secretary, the Secretary of State for Defence  
and to Sir Robert Armstrong.

LEON BRITTAN

2  
1

JF5AMC



**The Channel Tunnel Group**

8 Suffolk Street, London SW1Y 4 HG  
Telephone: 01-930 8828/29 Telex: 915553  
Fax No: 839 4204

2

SIR NICHOLAS HENDERSON G.C.M.G.  
Chairman

28 X 85

Charles Powell Esq  
The Private Office,  
NO 10 DOWNING ST.

Prime Minister  
CDP  
30/12

S.L.I.

Dear Charles

I enclose  
summary of the Channel Tunnel  
project, to be unveiled  
to-morrow. You may like to know  
that in case the Prime Minister is  
interested. The detailed  
submission will be conveyed to  
the Ministry of Transport on the 31<sup>st</sup>.  
Yours ever,

N. Chew



A SUMMARY OF THE PROJECT

SUBMITTED TO  
THE BRITISH AND FRENCH GOVERNMENTS

by

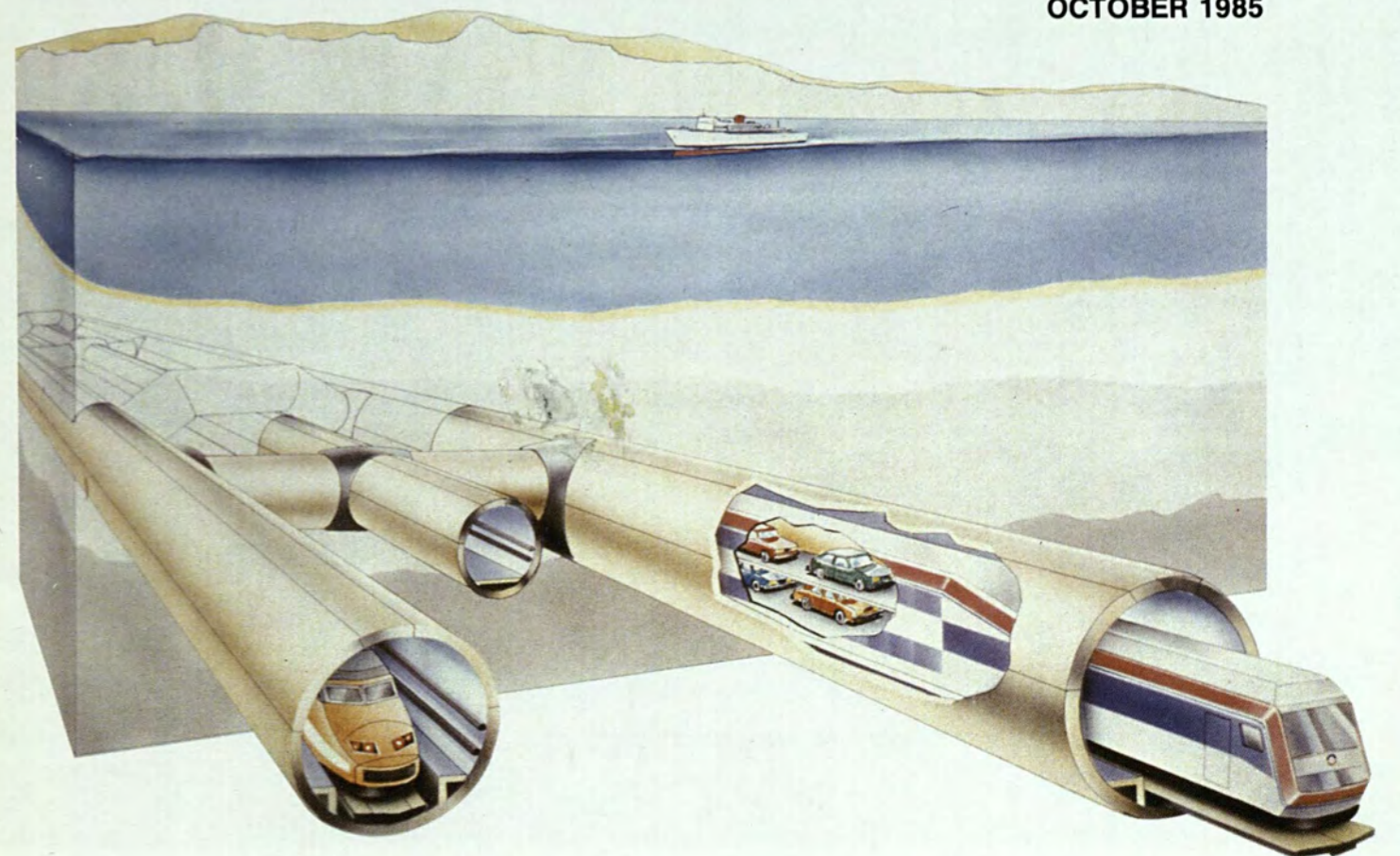
CHANNEL TUNNEL GROUP LIMITED  
and  
FRANCE MANCHE SA

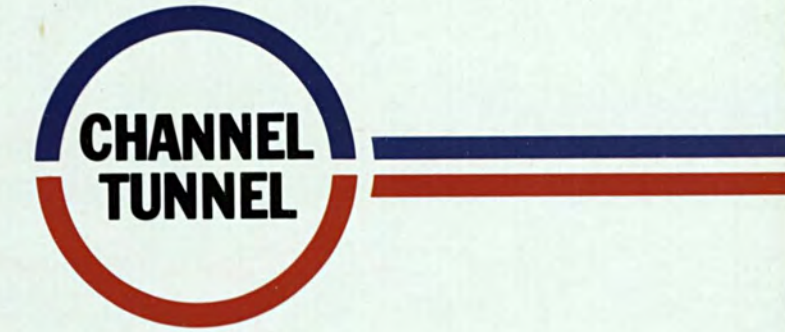


If the peoples of Western Europe are to forge together their separate economies and exploit their varying skills so as to achieve their maximum capabilities by the end of this century, they will have to create fast new means of communication between densely populated regions. Many of these regions are separated by natural barriers—the Alps, the Pyrenees or the Channel. Great improvements have been made in traditional means of transport—motorways and high-speed trains—but new ideas are required to overcome the remaining geographical barriers and increasing transport demands of Western Europe. This is particularly true of the Channel, where traffic is expected to double between now and the end of the century.

The Channel Tunnel Group and France Manche are proposing such an idea—a project for a tunnel link comprising a new system for road vehicles, the shuttle, and a through rail service. This is their response to the INVITATION TO PROMOTERS issued by the British and French Governments.

OCTOBER 1985





Service Tunnel bored in 1975 below Shakespeare Cliff

## CONTENTS

Essential Features of the Tunnel Link	4
Composition of the Anglo French Promoter	10
Future Ownership and Organisation	12
Method of Construction of the Tunnel— and Employment	13
Timetable	13
Traffic, Tariffs and Revenues	14
Comment on Traffic and Revenue Figures	16
Cost of Construction and Operation	16
Financing Plan	17
Advantages Summarised	19
Conclusion	Inside back cover

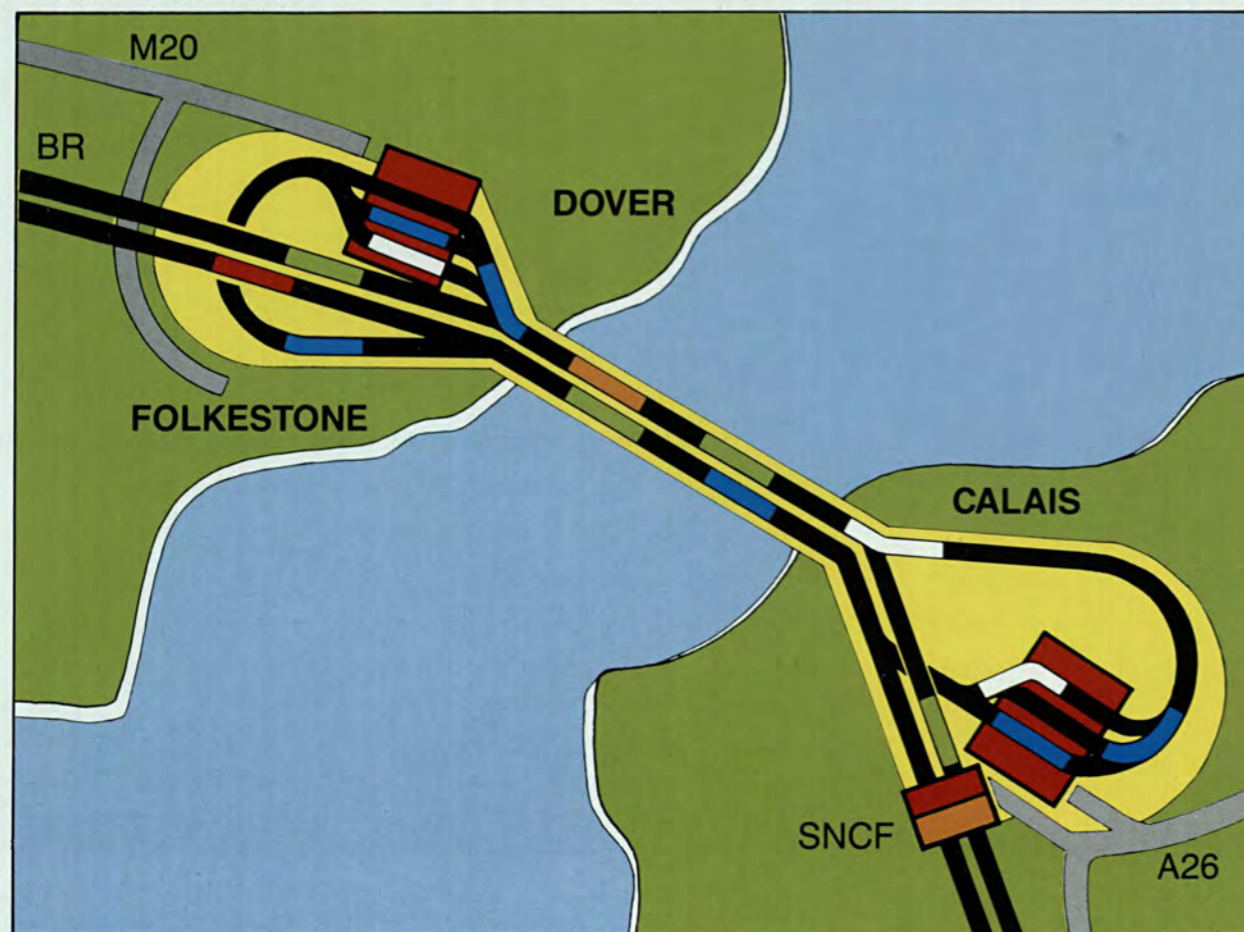
## ESSENTIAL FEATURES OF THE TUNNEL LINK

The essential features of the link are as follows:

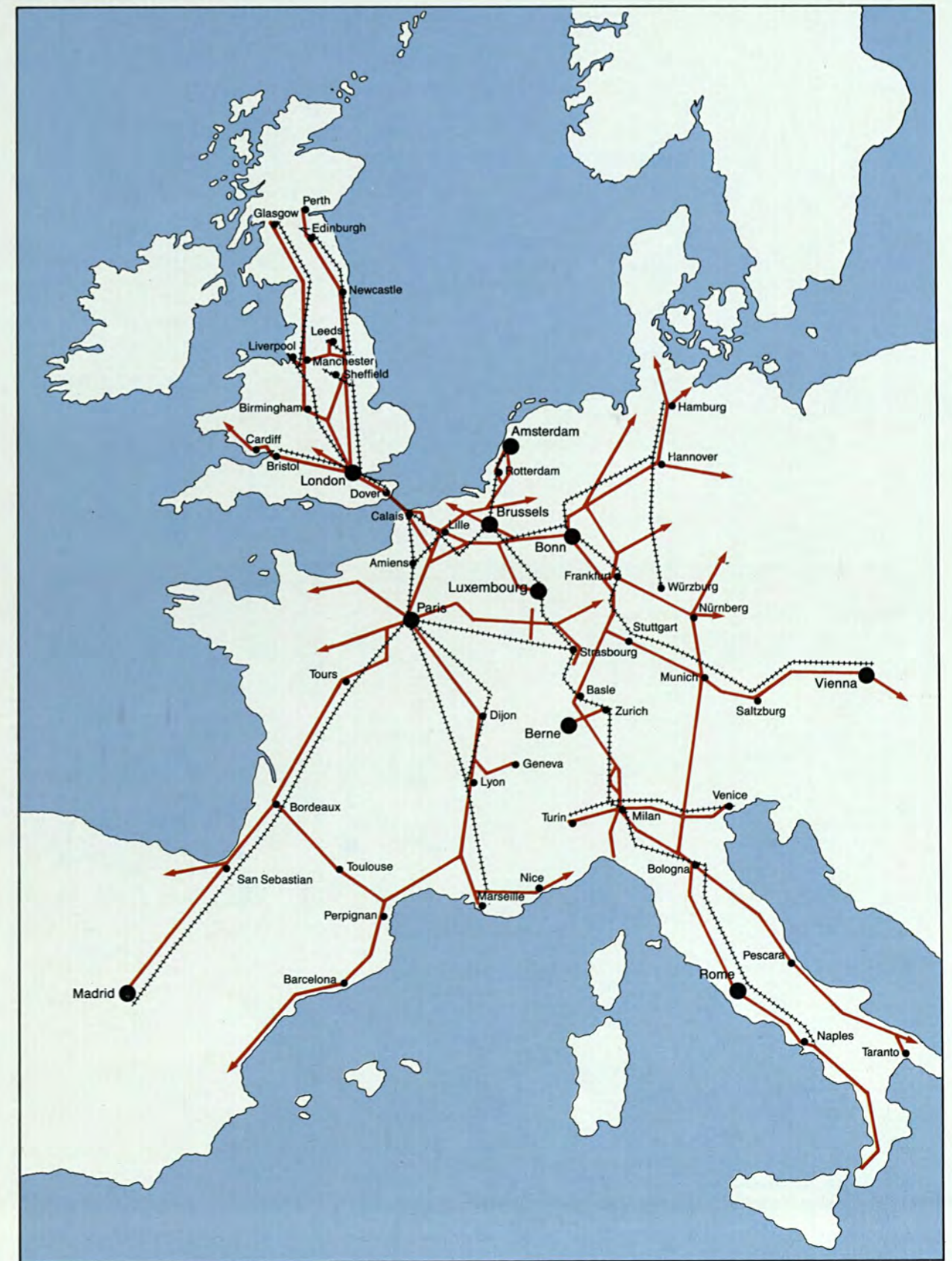
1. It consists of two single track tunnels, each with a diameter of 7.3 metres. There will also be a service tunnel between the main tunnels with a diameter of 4.5 metres, and with access to the main tunnels every 375 metres, so as to provide for ventilation, maintenance and safety (see sub-paragraph 9 below). (Although there will be three tunnels, the project will be referred to henceforth as the Tunnel). Crossovers between the main tunnels will allow the Tunnel to continue in operation even when a section is closed off for any reason.

2. In the Tunnel a roll-on, roll-off shuttle will be operated for road vehicles of all kinds—cars, coaches, caravans and commercial vehicles—to run between the British and French terminals. Although initially average demand may not be more than 1,000 vehicles per hour each way, shuttles will leave as frequently as every three minutes at peak periods, enabling over 4,000 road vehicles to be carried per hour in each direction. This is a capacity higher than that of an ordinary two-lane motorway and much greater than that of an enclosed two-lane motorway.

Tunnel route Cheriton to Frethun



Tunnel route and European Road/Rail network.



3. Shuttles will be made up of one or two rakes. Each rake (a unit of wagons of a particular type) will comprise either 13 double-deck wagons for cars or 13 single-deck wagons for coaches and caravans; two rakes will normally be operated together to provide a capacity of either 200 cars, or 13 coaches or caravans and 160 cars. Specially designed lorry shuttles will carry 25 heavy-goods vehicles each. This "rolling-road" has been designed to the highest standards of safety and for rapid loading and unloading of vehicles, which will be driven on and off by their own drivers. There will be no need to make reservations; drivers will only have to arrive at the terminal and pay the tariff before driving straightaway onto the shuttle. Tariff rates will be competitive with rates on existing services. Passengers will be able to remain in their vehicles or take advantage of refreshments and other facilities in the shuttles that will be brightly lit, well ventilated and sound-proofed.

4. Between the terminal at Cheriton, northwest of Folkestone, and the terminal at Frethun, southwest of Calais, the shuttle will take 30 minutes for the journey, travelling at a maximum speed of 160 kilometres per hour.

5. The national railway companies of the two countries will use the Tunnel to operate passenger and freight services, using the same tracks as those used by the shuttle. The whole organisation—shuttle and rail—will be controlled by a modern and efficient signalling and safety system. The most up-to-date and stringent fail-safe criteria will apply throughout the system.

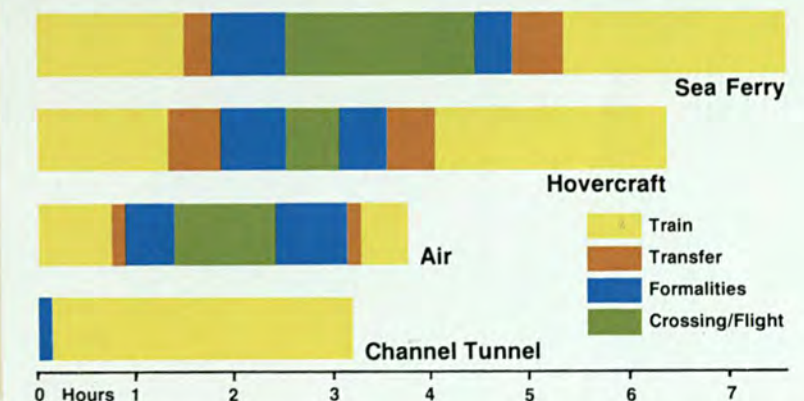
Photograph of model of proposed Cheriton Terminal



Artists Impression of proposed Frethun Terminal



COMPARATIVE  
JOURNEY TIMES  
LONDON/  
PARIS/  
BRUSSELS



6. The Tunnel will thus enable a rapid through-rail service to be provided for passengers between London and other European capitals and between cities in the north and west of Britain and any part of the Continent. Assuming the extension of the existing French high-speed train (TGV) to the Channel coast, the rail journey time between London and Paris or London and Brussels will be about three hours. The design of such TGV trains will be compatible with Tunnel specifications. There are no plans for any new British Rail high-speed line in the U.K. beyond the terminal, and BR/SNCF will develop special dual voltage, high-speed, rolling stock, to BR loading gauge, capable of running straight through on both BR and SNCF tracks.

7. By means of the Tunnel it will be possible for goods to be carried by freight train between the U.K. and the Continent and vice versa in a way that will greatly reduce costs and delays, and provide the equivalent of a domestic delivery service for customers in the U.K. or on the Continent.

The existence of the Tunnel should therefore lead to the development of a new market for the transport of rail freight, particularly bulk traffic, and the cost of rail transport will become increasingly competitive on longer routes.

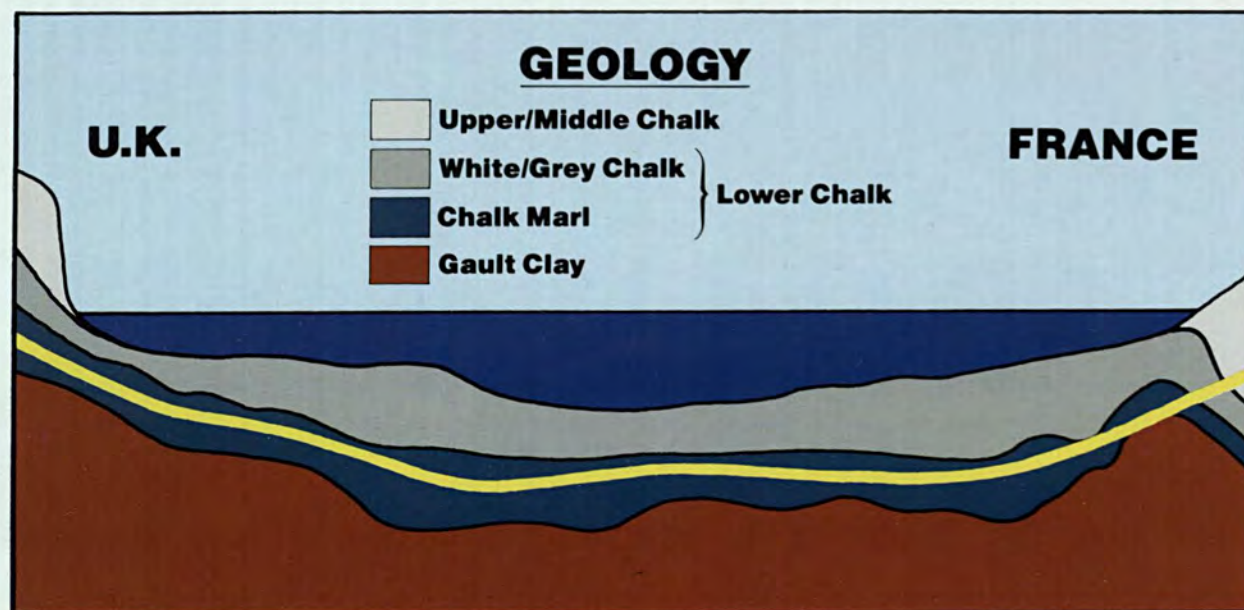
8. The Tunnel will have a length of about 50 kilometres, comprising 3.7 kilometres beneath the French mainland, 9 kilometres beneath the British mainland, and 37 kilometres below sea.

The Tunnel will be bored almost entirely through Chalk Marl. It is an impervious rock which is particularly suitable for tunnelling, and was tested by extensive geological surveys in the 1960s and 1970s. Near the French coast the Tunnel will rise above the lower chalk and some fissured ground will be encountered. This will require grouting (the injection of a mixture of cement and clay into the fissures) before the tunnels can be bored. The entire Tunnel will have an impervious lining of concrete or cast-iron as required.

In the seaward section the Tunnel will be about 100 metres below sea level and about 40 metres below the sea bed.

9. Special measures will be introduced to forestall or deal with terrorism and sabotage. (For security reasons the two Governments have requested that these be submitted separately.) However, it can be stated that in the event of a serious incident passengers would be able to reach the service tunnel and then be evacuated rapidly. The bored tunnel is inherently more stable and resistant to terrorism, sabotage, or explosion than any other form of link.

10. In addition to the strict enforcement of veterinary and health controls, particular procedures will be applied to ensure that illegal or stray animals are not introduced from France to the U.K. or vice versa. These steps which are directed against rabies will also be effective against other epizootics.



Lorries loading



Cars loading



Coaches loading

## COMPOSITION OF THE ANGLO FRENCH PROMOTER

The Channel Tunnel Group comprises the following British civil construction companies and banks as owners:

Balfour Beatty Construction Limited  
Costain U.K. Limited  
Tarmac Construction Limited  
Taylor Woodrow Construction Limited  
George Wimpey International Limited

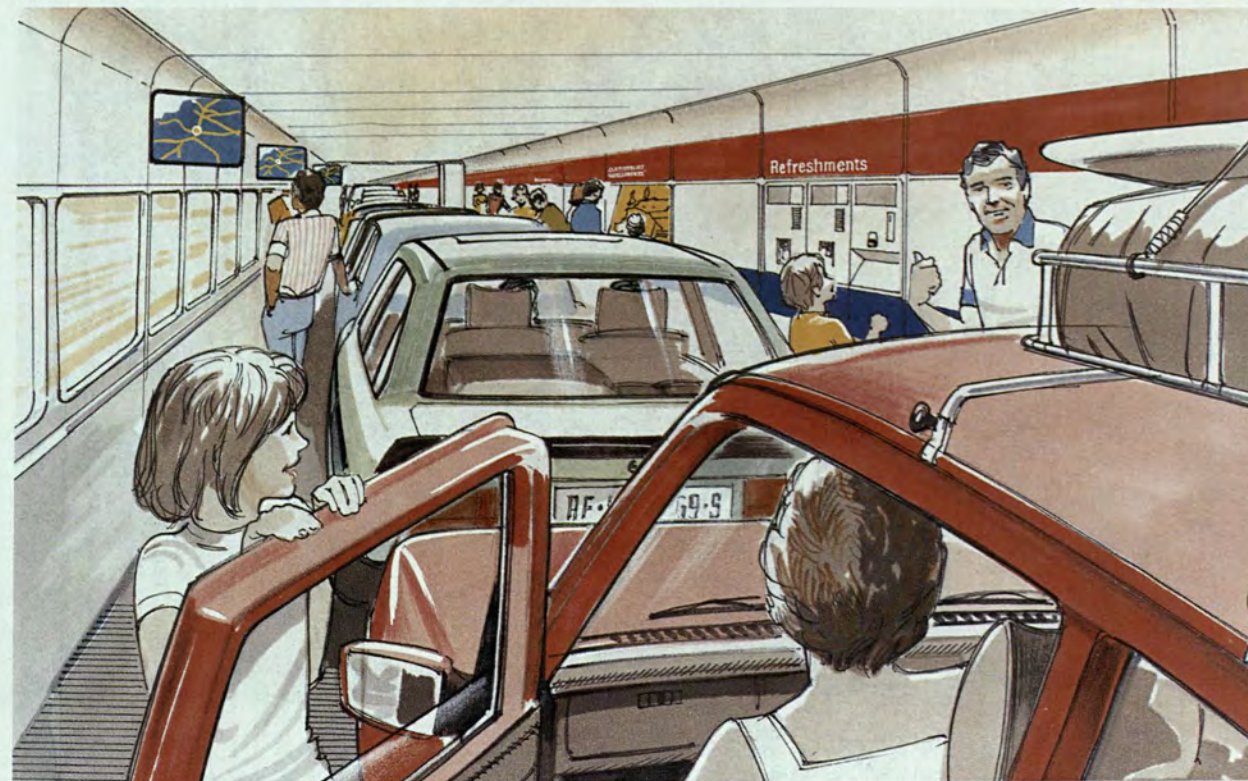
National Westminster Bank PLC  
Midland Bank PLC

Robert Fleming & Company Limited and Morgan Grenfell & Company Limited are merchant bank advisers to CTG.

Granada Group PLC is an associate member of CTG.

The combined turnover of the above construction companies is over £5 billion p.a. (FF 58.5 billion). The assets of the two participating banks total £133 billion (FF 1,556 billion).

Shuttle interior



France Manche comprises the following French construction companies and banks as owners:

Bouygues SA  
Dumez SA  
Société Auxiliaire d'Entreprises SA  
Société Generale d'Entreprises SA  
Spie Batignolles SA

Crédit Lyonnais  
Banque Nationale de Paris  
Banque Indosuez

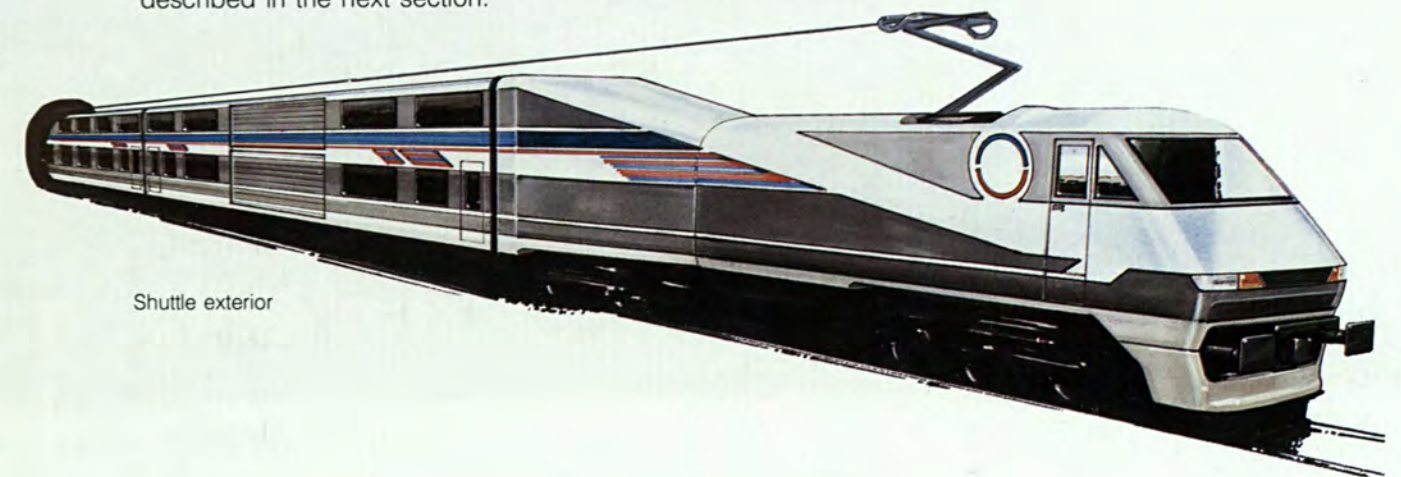
The combined annual turnover of the above construction companies is over FF 84 billion (£7.2 bn). The assets of the three participating banks total FF 2,163 billion (£185 bn).

The participating companies in the two groups and their technical advisers bring together the technical and financial skills and experience required for the development, financing, construction and operation of the Tunnel.

The companies have, with their bank members, established the Financing plan, assisted by their legal and tax advisers and, in the UK, by their merchant bank advisers. The loan finance will be syndicated through a large group of international banks and equity will be raised with the help of merchant banks and brokers in the U.K., by Salomon Brothers in the U.S.A. and by Nomura Securities Limited in Japan.

In the preparation of the main Submission to the two Governments, the Promoter has been advised by leading consultants in various fields, including engineering, finance, economics, operations and the environment. Audit consultants international standing have also been involved with the preparation of the main Submission.

The construction work will be carried out by a joint organisation—described in the next section.



Shuttle exterior

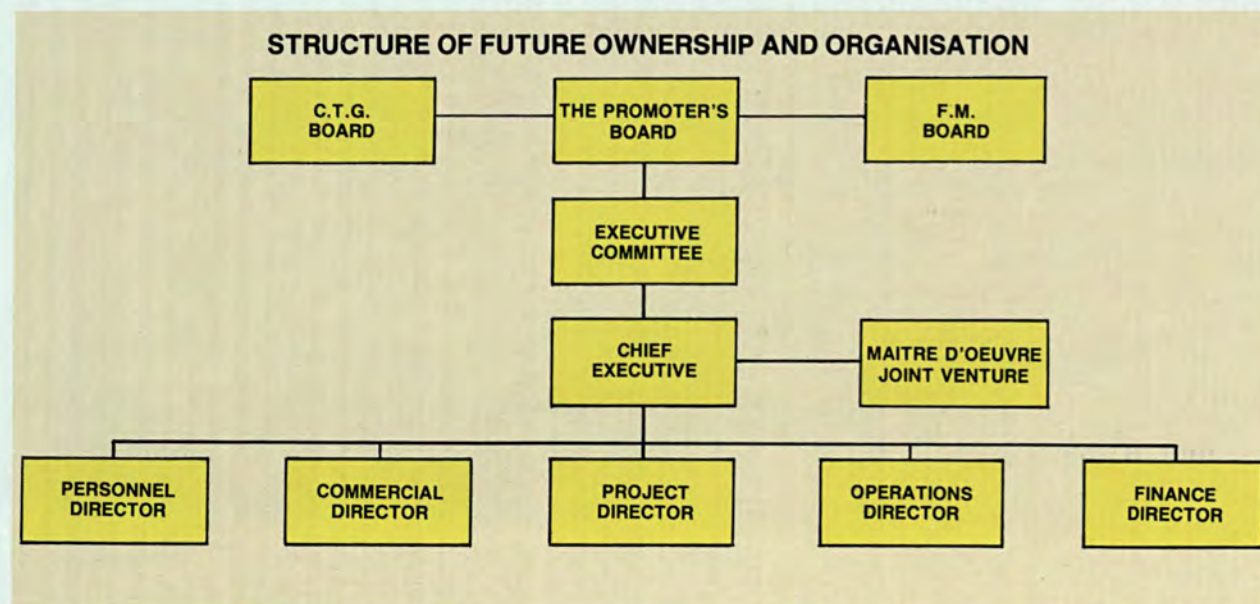
## FUTURE OWNERSHIP AND ORGANISATION

Once the Governments have made their decision, it is intended, in accordance with the requirements of the INVITATION TO PROMOTERS, to incorporate two separate owning companies, one in France and one in the United Kingdom. These companies will immediately assume the ownership hitherto vested in the Channel Tunnel Group and France Manche respectively. Once the Concessions are awarded, they will form an unincorporated partnership—the Partnership (Société en Participation) which will be responsible for the construction and operation of the Tunnel.

In order to ensure a fully binding partnership and an effective, unified management, the Boards of Directors of the two owning companies and of the Partnership will have the same Directors. Only on occasions when this is specifically demanded by French or British law—e.g. annual general meetings of shareholders—will the companies act independently. A Chief Executive will be appointed, and a Deputy who may be the Project Director. These two, together with four other Directors (finance, personnel, operations and commercial) will form an Executive Committee which will report to the Board of the Partnership. The Executive Committee will always be composed of three British and three French representatives.

Prior to the setting up of the Partnership, CTG and FM will continue to work very closely under the supervision of their Joint Executive Committee composed equally of British and French representatives. This Committee will have powers delegated to it from the Boards of CTG and FM for the purpose of negotiating the Concessions.

The two owning companies will have identical statutes. Their share capital will consist of indivisible units comprising one share in the British owning company and one share in the French. Each shareholder will thus own the same number of shares in each company, and will have identical voting and other rights in each.



In accordance with the requirements of the INVITATION TO PROMOTERS, independent audit consultants will be appointed to provide the owning companies with continuing audit throughout all phases of the project.

## METHOD OF CONSTRUCTION OF THE TUNNEL— AND EMPLOYMENT

There will be six tunnelling machines on the U.K. side and five on the French side. The Construction work will require a work force of several thousand people on each side. Orders for about £1 billion (FF 11.7 billion) worth of materials, plant and other equipment will be placed during construction. Employment so created will be partly local to the terminal sites, and partly spread throughout the two countries. Total employment created during construction will exceed 40,000 in the two countries.

It is estimated that the Tunnel will be bored at an average speed of about half a kilometre per month on the French side and somewhat faster, to begin with, on the British side where the conditions are easier for the geological reasons explained above.

## TIMETABLE

Date	
By 31st January 1986	Governments announce decision
By March 1986	Signature of Anglo French Treaty, agreement on terms of Concessions, introduction of legislation into both Parliaments.
1986—mid 1987	Engineering and Financial Development of project and certain preparatory work.
By March 1987	Legislation completed, Anglo French Treaty ratified, Concessions enter into force.
Mid 1987	Construction begins.
Spring 1990	Completion of service tunnel.
Spring 1991	Completion of main tunnels.
Autumn 1992	Completion of fitting out and start of commissioning of shuttle and railway system.
Spring 1993	Operations begin.

## TRAFFIC, TARIFFS AND REVENUES

The British and French Companies commissioned two leading firms of consultants, Wilbur Smith and Associates and Setec Economie, to produce forecasts of the traffic, tariffs and revenues that could be expected by the Tunnel operator. The two firms worked jointly and produced an agreed report, a full presentation of which is included in the Submission.

The report sets out the expected growth in the total market for passenger and freight movement between Britain and the Continent by both sea and air, together with the traffic that could be expected to be diverted from present modes to the Tunnel. To these figures have been added a forecast of the extra traffic that would be generated by the very fact of the existence of a new system—i.e. the Tunnel itself.

In accordance with the requirements of the INVITATION TO PROMOTERS, revenues have been calculated with and without duty free sales. Given the financial significance of duty free revenue, it is submitted that the same facilities should be afforded—or denied—to all methods of cross-Channel transport whether air, surface or tunnel.

The traffic consultants also produced traffic and revenue figures with and without a high-speed (TGV) rail service between London, Paris and Brussels.

The findings of the report for the year 1993 (start of operations) are summarised briefly below:

### 1. TRAFFIC

PASSENGERS (MILLIONS P.A.)	TOTAL CROSS-CHANNEL TRAFFIC	TRAFFIC USING THE TUNNEL	TUNNEL TRAFFIC AS % OF TOTAL TRAFFIC
Car Passengers	9.9	6.3	63.6
Coach Passengers	8.8	4.4	50.0
Passengers in day-trip parties	3.9	3.1	79.5
Other passengers*	47.9**	15.9**	33.2+
	70.5	29.7	42.1

### FREIGHT (MILLION TONNES P.A.)

Ro-Ro	24.2	6.0	24.8
Container and Rail Wagons	7.9	4.0	50.6
Bulk (rail) freight and new vehicles	41.8	3.2	7.7
	73.9	13.2	17.9

\* Assuming TGV. With a conventional rail service in France the figure for such traffic using the Tunnel would be 10.9 million.

\*\* This includes through rail passengers and air passengers between the United Kingdom and all Western European destinations.

+ This is the percentage for the market as described in the above note. The percentage of the prime London to Paris/Brussels market captured by the Tunnel is likely to be very much higher.

### 2. TARIFFS

It is expected that these will be competitive with those charged by other services operating on the French/Belgian-U.K. routes. On the basis of today's money, i.e. without allowing for inflation, our financing plan assumes tariffs for the Tunnel 10%—12.5% less in real terms than the lowest available equivalent present-day tariffs charged by existing operators:—

		£	FF	
Passengers	Car	19.80	232	per passenger*
	Coach	5.70	67	per passenger*
Excursionists:	(e.g. via coach from local start-points)	3.50	41	per passenger*
Through-Rail	(element of total fare)	8.00	94	per passenger
Freight:	Ro-Ro	10.00	117	per tonne
	Container/Rail-wagon	9.20	108	per tonne
Bulk (rail) freight		1.40	16	per tonne
New vehicles		8.80	103	per tonne

\* These are figures for estimating revenues—see below—rather than for showing the actual charge to be paid by each passenger. They are based on an average number of passengers per vehicle and include an element for the vehicle. Thus a single passenger in a private car will pay more than one in a party.

### 3. REVENUES

Combining the above traffic and tariff forecasts, it is possible to arrive at forecasts for revenues. The table below shows the revenues that would accrue in 1993.

SOURCE OF RECEIPTS	REVENUE (1985 MONEY)	
	£ millions	FF millions
Passengers	288.8	3379
Freight	107.3	1255
Ancillary +	35.7	418
Total	431.8	5052

+ Revenue from e.g. sales of petrol and food, foreign currency, vehicle servicing. This includes the sale of duty free goods, without which the ancillary revenues would be halved.



## COMMENT ON TRAFFIC AND REVENUE FIGURES

It should be emphasised strongly that the above traffic figures (thus also revenues) are conservative\*. The Channel Tunnel Group and France Manche have, however, considered it only prudent to base their presentation to the banks on even more cautious figures. If, as they believe, their project can be shown to be viable to outside institutions on this basis, it provides that degree of financial robustness which the Governments and financiers require above all other considerations.

\*It is worth pointing out, for example, that an increase in traffic using the Tunnel of 10% (bringing an increase in revenues of roughly the same order) would mean additional revenue of £43m (FF 517m) (in 1985 money) in 1993.

The forecast takes no account of the effect on traffic of the fulfilment of the European Commission's aim of a Europe without frontiers by 1992.

## COST OF CONSTRUCTION AND OPERATION

The estimated cost of construction of the whole project is £2.33 billion (FF 27.9 billion) at 1985 prices. Of this total the tunnelling will account for about a half.

It is estimated that in 1993 when the Tunnel will start operation annual operating costs for the whole project, shuttles, rail and terminal will be £74 million (FF 888 million) at 1985 prices.

It is expected that additional shuttles will have to be introduced around the turn of the century to cope with rising demand. Terminal buildings will be expanded after a number of years of operation, and mechanical, electrical, telecommunications, ventilation and cooling equipment will also require upgrading during the period of the Concessions. Renewed signalling may also be required. These costs will be met without difficulty as traffic grows.

## FINANCING PLAN

### 1. FINANCING REQUIREMENT

The financing will cover:

- (i) The capital cost of construction, allowing for inflation.
- (ii) Owner's costs during the development and construction period (including front end financing costs).
- (iii) Interest during the construction period and the initial operating period.
- (iv) Contingencies.

Based on £1,000 million (FF 11,700 million) of equity (see **Method of Financing** below), the maximum debt that the project would incur would be £4.3 billion (FF 50.3 billion), including an allowance of £1 billion (FF 11.7 billion) for unforeseen contingencies. The debt figure would have to be adjusted accordingly up to £4.75 billion (FF 55.6 billion) if equity reached a figure intermediate between £650 million (FF 7.6 billion) and £1 billion (FF 11.7 billion).

### 2. METHOD OF FINANCING

The project will be financed partly by equity and partly by loans. These are interdependent, in that the loan money will not be forthcoming unless a minimum level of equity is assured, and the equity will not be forthcoming unless those who are to provide it are confident of sufficient loan monies being available to complete the project. The texts of letters from member banks, merchant/investment banks and brokers, stating that equity and loan finance has been committed or will be available in the amounts required to assure the completion of the project, are contained in the Submission.

The particular advantages of the Channel Tunnel Group/France Manche finance plan are:

- (a) There is a very strong equity base with significant extra shareholders being introduced by Spring/Summer 1986 and an even more wide-spread share offer made to both institutions and the general public a year later.
- (b) The proposed structure of adequate equity giving a foundation to bank debt which is later funded in the bond market is one which is tried and tested.
- (c) All shares will be issued and traded in pairs—one share in an English and one in a French company—and these can never be separated. This ensures equal equity in the French and British companies, underpins the truly joint nature of the project and gives each shareholder an equal share in the British and French companies.
- (d) All the necessary funds will be legally committed to the project before work starts, thus eliminating the possibility of the project being unable to raise funds later on because of, say, a deterioration in sentiment in financial markets.

In this connection assurances have been given by investing institutions of the availability of adequate equity to meet the Channel Tunnel Group/France Manche plan on the basis of the economics

and characteristics of the project as set out in the Submission. As regards bank loans, a group of over fifty international banks have together already given commitments (not just expressions of interest) in respect of substantially all of the bank finance needed.

### A. EQUITY

The equity envisaged for the project is between £650m and £1 billion (FF 7.6 billion and 11.7 billion), raised in three tranches:

**EQUITY 1** The first tranche, of up to £50m (FF 585m) has or will be provided or underwritten by the existing members of CTG and France Manche. This is "seed money" and will cover expenditure on preparation of the Submission to Governments, and expenditure during the post-Submission and early development phases. This is in addition to the money already advanced for the preparation of the Submission.

**EQUITY 2** The second tranche, of approximately £150m (FF 1.75 billion), will be raised in the Spring/Summer of 1986 by a widespread international private placement.

**EQUITY 3** The third tranche, covering the balance of the equity required (i.e. between £450 and £800m, FF 5.3 and FF 9.4 billion) is to be raised internationally (including by public subscription in the U.K. and France) immediately after the Ratification of the Treaty and prior to the commencement of the main construction work. This equity will initially be partly paid, with the balance called up (probably in two tranches) during construction.

Based on the conservative assumptions of traffic and revenues mentioned above, and the fact that bank loans will be refinanced as indicated in C. (i) below, a rate of return of about 19% p.a. can be expected on equity of £1 billion (FF 11.7 billion).

### B. BANK LOANS

These have already been substantially arranged on the basis of conditions precedent which include the raising of adequate equity and the existence of political guarantees as set out in the INVITATION TO PROMOTERS. A significant allowance for contingencies such as cost over-runs up to £1 billion (FF 11.7 billion) is included in the totality of commercial credit arranged.

These bank facilities may either be drawn directly in different currencies or used to support alternative methods of funding if these are less costly.

### C. REFINANCING, REPAYMENT OF DEBT, AND DIVIDEND POLICY

- (i) Once the Tunnel has been commissioned, and as soon as sufficient experience has been obtained of actual levels of traffic, revenues and costs, it is intended to refinance a significant part of the bank debt by means of revenue

bonds. Such refinancing would be entirely normal for a project of this kind, and would serve to lengthen the maturity of debt and free cash flow for distribution to equity shareholders.

- (ii) Debt not refinanced as above would be serviced and repaid by means of the dedication of a specified percentage of Tunnel revenues, with the intention of repaying such debt within a period of 15 years from the date it was incurred.
- (iii) The Owning Companies will be formed for the single purpose of constructing and operating the Tunnel, so that all surpluses after deduction of operating and financing costs will be made available for distribution to shareholders.

## ADVANTAGES SUMMARISED

There have been three recent official reports about a fixed link, two of them Anglo French. All three concluded that a Tunnel of the kind now proposed by this Promoter was the only scheme that was both technically feasible and financially viable. There has been no modification of these views. The British and French Promoter, having studied all possible links, has also, without hesitation, reached the same conclusion. The Promoter wishes to summarise and set out what it believes to be the outstanding advantages of the project:

- (a) It will provide a greatly improved service for passengers and freight currently travelling by road, rail or air; it will cope easily with changing patterns of demand.
- (b) It will create a shuttle by which cars, coaches and lorries will be able to cross the Channel with minimal delay and more quickly than if they were driven; and with less stress to passengers. Frontier controls will be confined to one end of the Tunnel—before entry.
- (c) It will be cheaper to build than any other proposed system, and cheaper to use than any existing systems. Any drive-through scheme would consume over three times more energy.
- (d) For passengers and vehicles there will be no risk of breakdown and none of the disorientation that could arise in driving a long distance in a tunnel. They will be immune from road traffic delays, traffic accidents or the vagaries of weather (wind or fog). The possible dangers and difficulties of driving on an exposed bridge or spiral are thus avoided.
- (e) It will enable fast passenger train services, taking about three hours and thus highly competitive with air transport (and cheaper in price), to be run between London, Paris and Brussels. British Rail and Société Nationale de Chemins de Fer Français are planning to operate hourly services between the three capitals.

- (f) With the longer hauls thus possible, the Tunnel will enable the railways to provide a more economic service and thus secure increased freight traffic.
- (g) Care has been taken to minimise environmental impacts of the terminals and other facilities. There will be no obstructions, during construction or operation, at sea, no collision risks, and no effects on currents and no approach roads crossing the coast-line and foreshore. Consultations have already taken place with local and statutory authorities and with those whose interests may be affected in any way—and these will continue so as to ensure smooth passage of the necessary legislation.
- (h) This project will be a stimulus to the transportation industry. The most up-to-date technology will be used in the construction and operation of the Tunnel, but it will all be proven and used in known conditions. The participating companies have decades of experience in tunnelling.
- (i) The construction will create thousands of jobs in the regions of the tunnels or terminals and throughout the two countries. The start of operations in the Tunnel should give an impulse to industry in, and commerce between, the U.K., France and the rest of the Continent.
- (j) The project has been shown to be entirely financeable from private sources, without resort to public money or Governmental financial guarantees, and demonstrates a solid degree of financial robustness.
- (k) The Tunnel will not require to take such an overwhelming proportion of the traffic across the narrow Straits as to put existing ferries out of business. The Promoter believes that the ferries will continue to operate so that passengers and freight carriers will be able to benefit from a competitive choice of systems. The growth in traffic over the next generation will require both increased and more flexible means of transport.
- (l) The Tunnel will form an important link in the integrated road and rail network to which the members of the E.C. are committed, knowing as they do from recent experience how quickly improved transport has led to higher living standards.
- (m) Since Britain entered the E.C. the pattern of U.K. trade has changed; now over 60% of U.K. exports and imports are to or from the Community countries. The Tunnel will permit the smooth absorption of the increase in traffic to and from the U.K. and the Continent.
- (n) The present high cost and complication of cross Channel carriage whether for passengers or freight are a barrier to

the freer movement of goods and people between the U.K. and the Continent. The Promoter is confident that the Tunnel will provide a highly competitive means of cross-Channel transport—as well as being efficient and continuous.

- (o) The Channel Tunnel Group and France Manche have put together an organisation unparalleled in financial backing and technical experience in order to complete the system within a period of seven years so that operations can start in 1993.

## CONCLUSION

**In short, this project will provide an independent transport system for the future that is:**

- (a) Capable of taking a greater flow of traffic more quickly, securely, dependably and cheaply than any other.**
- (b) Adaptable to a changing and growing market.**
- (c) Financiable without support from public funds.**

**The British and French Promoter is convinced, in submitting this proposal to governments that, being innovative yet practical, it is the only method that is both technically feasible and financially viable for creating a fixed link—an idea that corresponds now more than ever to the needs and hopes, political and economic, of the United Kingdom, of France and of the rest of Western Europe.**







DEPARTMENT OF TRADE AND INDUSTRY  
1-19 VICTORIA STREET  
LONDON SW1H 0ET

TELEPHONE DIRECT LINE 01-215 5422  
SWITCHBOARD 01-215 7877

Secretary of State  
for Trade and Industry

*WBSM*

10 December 1985

Miss M Tomison  
Director of Corporate  
Communications  
British Ferries Ltd  
Sea Containers House  
20 Upper Ground  
LONDON  
SE1 9PF

Copies to:  
PS/Prime Minister  
PS/Minister for Trade  
PS/Sir Brian Hayes  
Mr Roberts  
Mr Brecknell ECIP  
Mr Cammell ID  
Mr Worman MM  
Mr Vile GP  
Mr Hoddinott SBP  
Mr Avery T  
Mr Pearcey ID1  

---

 (on file)  
Enclosures

*Dear Miss Tomison*

The Secretary of State has asked me to thank you for your letter of 25 November enclosing a copy of the Channel Expressway summary, which he found interesting and informative.

*Yours sincerely  
Edmund Hosker*

EDMUND HOSKER  
Private Secretary

DW1AFZ

