NATIONAL AUDIT OFFICE

**DEPARTMENT FOR TRANSPORT**

# Progress on the Channel Tunnel Rail Link

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# SUMMARY

**1** In February 1996, the Department for Transport (the Department) awarded a contract to London & Continental Railways Limited (LCR) to:

- build the Channel Tunnel Rail Link (the Link), a high speed railway between St Pancras Station in London and the Channel Tunnel, and
- run the British arm of the Eurostar international train service (Eurostar UK).

**2** LCR proposed to fund the construction of the Link from private finance (debt and equity) raised on the back of future revenue from Eurostar UK and from direct Government grants. By the end of 1997, actual Eurostar UK revenues indicated that LCR's forecasts were overly optimistic. Consequently, LCR abandoned its plans to raise private finance and approached the Department for additional grants in return for a share of future profits.

**3** At this stage, the Department seriously considered abandoning the project and taking Eurostar UK, along with the intellectual and other assets of LCR, back into the public sector. The Government wanted the Link built, however. After reviewing options, the Department came to the view that the best way forward would be restructuring the existing deal with LCR.

**4** In June 1998, the Deputy Prime Minister set out the principles of a negotiated restructuring that enhanced public sector support for the project. Although direct Government grants would not be increased, the Government agreed to guarantee most of the private sector funding. The Department also agreed to lend public money directly to LCR, up to a specified limit, if it ran out of cash. Construction was split into two sections **(Figure 1 overleaf)**. Railtrack Group joined the project to manage and eventually to purchase Section 1 and took an option to do the same for Section 2.

**5** In 2001, we reported[1] on: the circumstances that led to the 1998 restructuring; the new financing arrangements; and the economic justification for the project. There have, however, been major new and problematic developments since. In particular, in 2001 Railtrack Group did not take up the option to build Section 2 of the Link and it then withdrew altogether from the project in 2002 following the entry of its subsidiary, Railtrack plc, into railway administration.

**6** Taking account of the new developments, this report considers the steps the Department and LCR have taken to minimise the potential future call on the taxpayer. We found that:

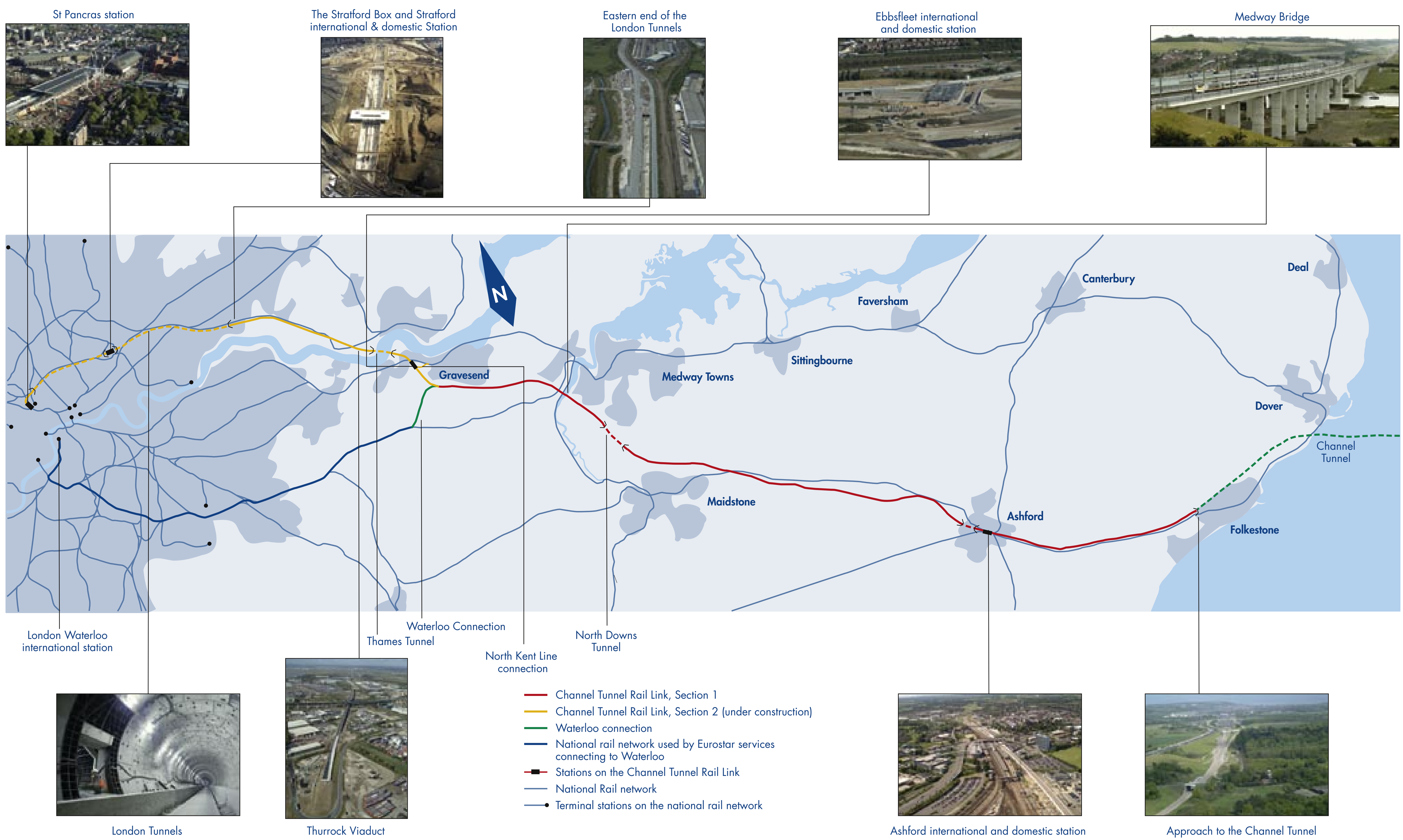
- Our adviser, RBC Capital Markets, part of the Royal Bank of Canada Group, considers that the financing of the project, post 2001, was obtained on good terms. Construction of Section 1 was completed to time and budget, and good progress is being made with the construction of Section 2;
- The likely future call on the taxpayer is uncertain. Current revenue forecasts prepared for the Department suggest that the 1997 present value of the Government's loan to LCR to cover cash flow shortfalls could range between £0 and £400 million[2,3], (1997 prices), net of repayments and the Government's share of revenue from forecast project related property developments. The most likely revenue scenario suggests a figure of £260 million[4] (1997 prices). The range is similar to that forecast at the time of the 1998 restructuring. LCR expects that it will have repaid the loan by 2086, the year its concession is due to end; and
- The economic justification for the project remains marginal. The project depends heavily on assumptions about regeneration benefits. There are, however, encouraging signs at King's Cross, Stratford and Ebbsfleet that these are beginning to materialise.

1 The Channel Tunnel Rail Link, HC 302, Session 2000-2001.
2 This figure is a present value calculated using a discount rate of six percent, which was the Government's discount rate prior to April 2003. For consistency, all present values appearing in the main text of this report have been calculated using the six per cent discount rate. We have produced, in footnotes, present values of future cash flows calculated using the Government's current discount rate of 3½ per cent.
3 £650 million (a 1997 present value in 1997 prices calculated by discounting cash flows using the Government's current discount rate of 3½ per cent).
4 £400 million (a 1997 present value in 1997 prices calculated by discounting cash flows using the Government's current discount rate of 3½ per cent).

## Route of the Channel Tunnel Rail Link

Figure overleaf

1 Route of the Channel Tunnel Rail Link



## Financing and construction of the project have been taken forward since 1998

**7** The debt used to finance construction of the Link, the operation of Section 1 and the current Eurostar UK losses is a combination of:

- Government Guaranteed Bonds;
- Commercial bonds and bank debt secured against LCR's revenue from track access charges and from Government payments for domestic access to Section 1, both sources of revenues having been guaranteed by the Government; and
- Bank debt secured against unconditional payments of seven of the eight parts of the Government's grant for the construction of Section 2.

Our adviser, RBC Capital Markets, considers that LCR's dealings with the capital markets were handled well, given the way the project developed before and since 1998.

**8** Construction of Section 1 of the Link has proceeded well. Despite the occurrence of a number of adverse events, the section opened on time in September 2003 at a cash outturn cost slightly below the target set in 1998. Since opening, the operational performance of Section 1 has exceeded expectations.

**9** Although Section 2 is over 80 per cent complete in cost terms, its construction has entered its most challenging phase. Considerable work remains at St Pancras, where construction activities, including refurbishment of the existing station, are complicated by restricted access, heritage considerations and the proximity of the live railway. Section 2 has, to date, met all its construction milestones on a programme which concludes with the completion of the infrastructure in the spring of 2007.

**10** Prior to the start of major construction activities for Section 2, LCR arranged a risk transfer agreement, known as the Cost Overrun Protection Programme. Under the programme, LCR paid £87 million to Bechtel and a group of insurers to bear £315 million of the first £600 million of any cost overruns including a contractually determined and capped risk for inflation. The Department considered the programme expensive, but approved it as the best value for money obtainable given the Department's desire to proceed with the project, as set out above, because the programme:

- reinforced a perception that the Government would not bail out the whole project;
- placed additional incentives on Bechtel to keep the cost of construction within a target;
- transferred some overrun risk at a time when the Department and the Treasury were concerned about escalating estimates for the costs of running the London Underground Public Private Partnerships and upgrading the east and west coast mainlines; and
- was substantially cheaper than the estimated cost of the improvements that Railtrack Group demanded to its terms if it were to exercise its option to purchase Section 2 and thereby take all associated construction risk. The cost of these improvements would ultimately have been met through increases in public sector support.

**11** The Department and LCR expect that the final cost of Section 2 will exceed the target cost. LCR attributes most of the increase to railway-related inflation and considers that the overrun will be a few percentage points once inflation is removed. Generally, costs have increased faster than the assumed inflation rate (three per cent per annum) used in calculating the target. For the taxpayer, the cost overrun on Section 2 that is not absorbed by the Cost Overrun Protection Programme would, under current arrangements, ultimately flow through to the Department's future loans to LCR.

## The current central case forecast of Eurostar revenues suggests a potential future call on the taxpayer of £260 million, but there is uncertainty

**12** As part of the 1998 restructuring, the Department effectively gave Railtrack Group a guarantee that Eurostar UK would meet its obligations to pay charges for access to Section 1 of the Link. To avoid a call on this guarantee, the Department also put in place an access charge loan facility that LCR, as the owner of Eurostar UK, could draw on to pay access charges if all other sources of funds were exhausted. The Department capped the 1997 present value of the loan at £270 million (1997 prices, discounted at six per cent per annum), net of repayments and the Government's share of revenue from forecast project related property developments. When LCR bought out Railtrack Group's interest in Section 1, it acquired CTRL(UK) (formerly Railtrack (UK) Limited) together with the benefit of the guarantee covering Eurostar UK's track access payment obligations. The guarantee provided LCR the security it needed to borrow further funds from the capital markets.

**13** Since the opening of Section 1, demand for Eurostar train services has grown rapidly, but passenger revenues still remain well below even the cautious forecasts made in 1998 **(Figure 2)**. The current, central case, Eurostar UK revenue forecast suggests the Department could lend LCR about £260 million[5] through the access charge loan (1997 present value in 1997 prices) through to 2051 and net of repayments and other receipts. Given the uncertainty surrounding Eurostar UK's revenues, current forecasts suggest that the loan support could range between 0 and £400 million[6] (1997 present values in 1997 prices). The maximum is not much more than the amount estimated in 1998 using the Government's Downside forecasts, because LCR has secured savings through lowering its cost of capital. Following Railtrack Group's departure from the project, LCR replaced funds carrying Railtrack Group's agreed return with bonds backed by Government supported revenue. LCR cut its expected cost of capital from a weighted average of 8.9 per cent in 1998 to 5.2 per cent in 2003. By the end of the concession in 2086, LCR expects that it will have repaid fully its borrowings under the access charge loan facility.

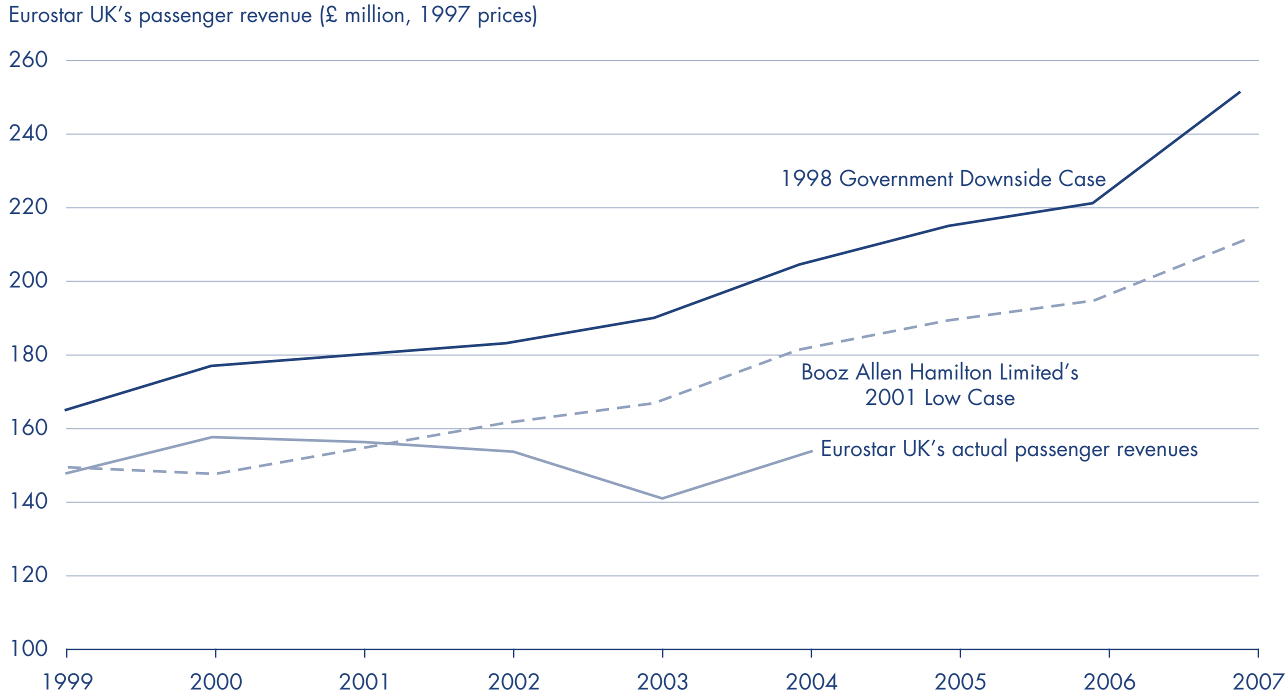
## The economic justification

**14** In 2001, the Department conducted a new appraisal of the uncommitted costs of Section 2 and the associated benefits. The benefit/cost ratio on the then central case passenger revenue forecasts for Eurostar UK (produced in 2001) and excluding regeneration benefits and benefits from the future domestic high speed services was 1.4:1. Subsequent actual revenues have been below the 2001 central projection and also below the 2001 low forecast, at which the benefit/cost ratio was only 0.45:1.

**15** The Department has not recalculated the cost/benefit ratio to determine the effect of lower revenues. While revenues have dropped below the 2001 low case forecasts, the impact is not as negative as the Department's 2001 analysis projected. The lower benefits from lower patronage are offset by the reduction in the additional public sector support through the access charge loan largely due to the reduction in LCR's cost of capital. In the Department's judgement, domestic transport benefits, which should emerge in 2009, the year when domestic train services are planned to start using the Link will exceed the associated costs and improve the economics of the project.

5 £400 million (a 1997 present value in 1997 prices calculated by discounting cash flows using the Government's current discount rate of 3½ per cent).
6 0 and £650 million (1997 present values in 1997 prices calculated by discounting cash flows using the Government's current discount rate of 3½ per cent).

**2** In 2004, Eurostar UK's passenger revenue was still below the 1998 and 2001 low case forecasts but grew by nearly 11 per cent in real terms, reversing a three-year trend of falling revenues




Source: National Audit Office analysis

**16** To the extent that the economic case for infrastructure projects depends on regeneration benefits, the achievement of such benefits at the planned level is a key indicator of the success of the project. For the Channel Tunnel Rail Link, there are encouraging signs of the intended regeneration in the Thames Gateway and around the three international stations at St Pancras, Stratford and Ebbsfleet. The Master Planning Application for Stratford City has been approved and detailed planning applications are being prepared with a view to starting the development in 2006. LCR and its development partners have also submitted a Master Planning Application for the development at King's Cross: the consultation phase for the development has been completed and negotiations with the London Boroughs of Camden and Islington are underway. The London Borough of Camden has also granted planning consent for the £150 million redevelopment of St Pancras Chambers, the former Midland Grand Hotel at the St Pancras terminus. Outline consent has been obtained for the development at Ebbsfleet.

# RECOMMENDATIONS

## Recommendations for the Department

**1** Eurostar UK's revenues grew by 11 per cent in real terms in 2004 thereby exceeding forecasts, however, both passenger volumes and revenues forecasted in 1998 and in 2001 have proven overall to be too optimistic to date. The Department should continue to monitor the risks to which the taxpayer is exposed by reviewing the forecasts regularly so that it can make realistic predictions of the value and timing of future lending to LCR through the access charge loan.

**2** To learn lessons about preparing and using forecasts in appraisals of future infrastructure projects, especially in relation to passenger numbers and revenues, the Department will need to determine and review the economic benefits realised as a result of the project. In the shorter term, the Department is already developing guidance on demand forecasting for highways and local transport. As part of this process it should seek to incorporate material on railway forecasting, including advice on the difficult area of forecasting for one-off projects like the Channel Tunnel Rail Link.

**3** When we started our fieldwork, we found that the Department's management team which had been in post during our investigations for our previous report (published in 2001) had moved on. The Department's internal knowledge of the project's history and the background to key decisions had inevitably been reduced. The Department must develop a robust and reliable means of retaining project knowledge within the Department's personnel. Towards this end, the Department has now established its own in-house corporate finance expertise.

## Recommendations for future projects

**4** The 1998 restructuring arrangements enabled LCR to raise the finance it required at the outset of the project. Project managers were therefore able to focus on delivery of the Link and plan work without being unduly influenced by the timing of funding. To achieve continuity and momentum on large and complex infrastructure projects, departments should ensure that dedicated funding is committed from the start.

**5** Section 1 is, by itself, a major piece of infrastructure. LCR successfully completed the construction of the section on time and at a cost slightly below the target set in the 1998 restructuring. Drawing on the reasons for this achievement, lessons for other similar projects include the importance of:

- appropriate contractual provisions and incentives between the client, the project manager and contractors;
- once the design brief is established, designs that are kept as stable as possible during the pre-construction and construction phases;
- stability and continuity of management personnel during the pre-construction and construction phases; and
- basing allowances for contingency on thorough risk appraisals and releasing the allowances as risks materialise rather than treating contingency as avoidable expenditure.

**6** There were good reasons at the time to put the cost overrun insurance in place and to transfer part of the construction risk of Section 2 from the public sector. From the Government's perspective, the cost overrun insurance represented good value compared to the alternative Railtrack proposals and it was more than an insurance policy because it provided a clear and additional incentive on the private sector to manage and mitigate risk. Nevertheless, departments considering such commercial insurance for future projects should clearly identify the benefits and assess the expected costs. Departments should be particularly wary of one-off novel insurance arrangements. These types of arrangements are likely to be expensive because the insurance market will have limited experience of the risks and, as a consequence, underwriters will, in their pricing, take a risk averse approach.

**7** Part of the justification for public sector involvement in the project was that the project would stimulate local regeneration in Government priority areas. It is essential that there is a robust appraisal of the benefits for projects of this kind. LCR's approach in proactively developing partnerships with property developers has worked well and should be adopted in future transport projects.