

# CHANNEL TUNNEL RAIL LINK, LONDON-KENT, UK

## OVERVIEW

**LOCATION:** LONDON-KENT, UK  
**SCOPE:** REGIONAL/INTERNATIONAL  
**TRANSPORT MODE:** RAIL  
**PRINCIPAL CONSTRUCTION:** AT GRADE  
**NEW LINK:** YES

## PRINCIPAL OBJECTIVES

**INTERNATIONAL/NATIONAL LINK**  
**PART OF EU TEN-T NETWORK**  
**INCREASE CAPACITY**  
**TRAVEL TIME SAVINGS**  
**EMERGENT OBJECTIVE:** REGENERATION

## PRINCIPAL STAKEHOLDERS

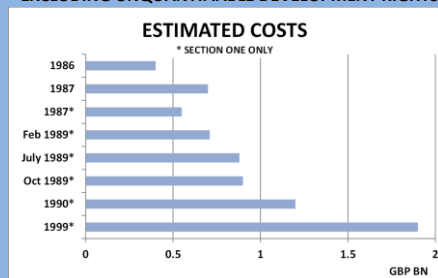
**CLIENT:** BRITISH RAIL & DEPARTMENT OF TRANSPORT  
**CONCESSIONAIRE:**  
**LONDON & CONTINENTAL RAILWAYS (LCR)**  
**PROJECT MANAGER:** RAIL LINK ENGINEERING/LCR  
**FUNDER:** LCR (WITH GOVERNMENT BACKING)

## PLANNING AND IMPLEMENTATION

**PLANNING START DATE:** 1974  
**CONSTRUCTION START DATE:** 10/1998  
**OPERATION START DATE:** 11/2007  
**MONTHS IN PLANNING:** 264  
**MONTHS IN CONSTRUCTION:** 109  
**PROJECT COMPLETED:**  
**48 MONTHS BEHIND SCHEDULE**

## COSTS (IN 2010 USD)

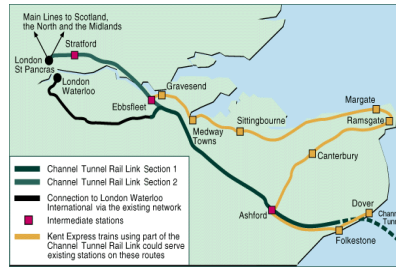
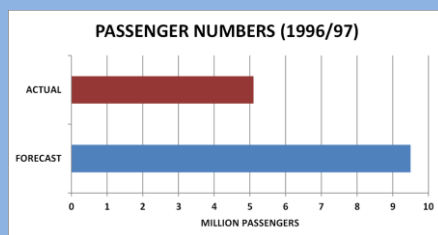
**PREDICTED COST:** 6.14BN  
**ACTUAL COST:** 9.63BN  
**PROJECT COMPLETED:** 57% OVER BUDGET  
**FUNDING:** 29% PUBLIC\* / 71% PRIVATE  
 \*EXCLUDING UNQUANTIFIABLE DEVELOPMENT RIGHTS



## INFRASTRUCTURE QUANTITIES

**LENGTH:** 113KM; **IN TUNNEL:** 26KM  
**NUMBER OF BRIDGES:** 152  
**COST PER KM (2010 USD):** 0.085BN

## PATRONAGE



## INTRODUCTION

The Channel Tunnel Rail Link (CTRL) is a UK high speed rail link between the Channel Tunnel and London St Pancras International, with three intermediate stations at Ashford, Ebbsfleet and Stratford (see map above). The Link opened in November 2007, since when all four stations have become major hubs for urban development and regeneration of the surrounding areas.

The genesis of the project lies in negotiations between the British and French governments to build a fixed rail link between the two countries, culminating in the 1986 Channel Tunnel Treaty, and parallel negotiations between the national rail companies (British Rail and SNCF) to build rail links to their respective capital cities.

## BACKGROUND

The objectives of the project were initially to increase rail capacity and to reduce journey times between London and the Channel Tunnel, and to link London with Paris and Brussels. The aim of using the Link to stimulate local and sub-regional urban regeneration emerged *during* the route planning process, not before. The Link is part of the EU TEN-T Network, a trans-national priority project within the high speed rail axis between Paris, Brussels, Cologne, Amsterdam and London.

A series of route options were proposed (notably by British Rail and the consultancy firm Ove Arup) in 1989, and subsequently evaluated between the late 1980s and early 1990s.

The 1996 Channel Tunnel Rail Link Act provided outline planning consent. Later that year, London & Continental Railways (LCR) was awarded the concession to build, operate and maintain the Link. Local authorities along the route were responsible for awarding detailed planning permission and were represented on a 'high level forum'. Among the most influential were Kent County Council, which significantly influenced the southern route of the Link and insisted on the inclusion of Ashford as one of the stations, and the London Borough of Newham, which lobbied successfully for an international station at Stratford as part of a wider urban regeneration project. The potential for development around the Thames Estuary (now known as Thames Gateway) was first identified in the regional planning framework in the early 1990s.

An environmental impact assessment in 1996 established Minimum Requirements specifying protection measures to be taken along the route, but the public opposition that had been provoked by BR's 1974 proposals was revived.

**TIMELINE**

CONCEPTION: 1971: BR & SNCF WORK ON COMBINED RAIL SCHEME BETWEEN TWO CAPITAL CITIES

CONCEPTION: 1974: BR FIRST PROPOSES LINK



CONTEXT: 1986: UK AND FRANCE SIGN CHANNEL TUNNEL TREATY

CONTEXT: 1987: CHANNEL TUNNEL ACT RULES OUT PUBLIC FUNDING FOR INTERNATIONAL SERVICES

INCEPTION: 1988: BR STUDY OF ROUTE AND TERMINAL CAPACITY

INCEPTION: 1989: BR INVITES TENDERS FOR JOINT VENTURE PARTNER. EURORAIL SELECTED

DELAY: 1990: BR'S JOINT VENTURE WITH EURORAIL DISBANDED

INCEPTION: 1991: EVALUATION OF ROUTE OPTIONS

INCEPTION: 1991: GOVERNMENT ANNOUNCES CONSTRUCTION WILL BE JOINT VENTURE UNDER PRIVATE FINANCE INITIATIVE

INCEPTION: 1994: PUBLIC CONSULTATION ON PREFERRED ROUTE. CHANNEL TUNNEL RAIL LINK BILL IN PARLIAMENT

CONTEXT: 1995: THAMES GATEWAY PLANNING FRAMEWORK PUBLISHED

INCEPTION: 1996: CTRL BILL GAINS ROYAL ASSENT. ENVIRONMENTAL IMPACT STUDY. LCR APPOINTED AS CONCESSIONAIRE

DELAY: 1997/98: LCR UNABLE TO RAISE SUFFICIENT FINANCE. FINANCIAL RESTRUCTURING AGREED

CONSTRUCTION: 1998 (OCT): CONSTRUCTION OF STAGE ONE BEGINS

CONSTRUCTION: 2001 (JUL): CONSTRUCTION OF STAGE TWO BEGINS

DELIVERY: 2003 (SEP): STAGE ONE OPENS

DELIVERY: 2007 (NOV): STAGE TWO OPENS

DELIVERY: 2009: IMPACT STUDY

DELIVERY: 2010: CONCESSION SOLD TO CANADIAN PENSION PLAN

In 2009, an Environmental Impact study suggested the project's benefits were more than double the costs. A workforce of 8,000 was subsequently employed on the project, and an estimated 50,000 jobs created as a result.

BR's cost estimates for the Link increased steadily from GBP 0.4bn in 1986 to GBP 1.255bn for Section 1 alone in 1990. At Royal Assent in December 1996, the estimated construction cost of the Link was GBP 3bn<sup>i</sup> (USD 6.13bn at 2010 prices). In 1998 the target construction cost agreed between LCR and the UK Department of Transport, for sections 1 and 2 including allowances for inflation, was GBP 5.233bn<sup>ii</sup>. The final cost for Sections 1 and 2 was GBP 5.8bn<sup>iii</sup> (USD 9.63bn at 2009 prices) – 10% above the cost agreed in 1998 and 57% above the cost estimated at Royal Assent in 1996, adjusted for inflation.

Rail Link Engineering, a consortium formed in 1997 of LCR's four engineering stakeholders (Arup, Bechtel, Halcrow and Systra) acted as project manager, and the six main contracts were awarded to high profile contractors such as Alfred MacAlpine and Balfour Beatty. The Link was built in two sections – Section 1: Channel Tunnel to Fawkham Junction (constructed from October 1998 to September 2003) and Section 2: Southfleet Junction to St Pancras (constructed from July 2001 to November 2007).

**TIMELINE ISSUES**

Route selection was a lengthy process influenced by political considerations, the emergence of strategic development potential and competing agendas. Key events are shown in the timeline on the left.

**FUNDING**

The project's reliance on private sector funding dates from its conception and was at the insistence of the Prime Minister of the time (Margaret Thatcher). This situation (at least in its rhetoric) continued beyond 1997, despite the change in government. LCR was responsible for financing its construction and operation, but the government agreed to provide GBP 1.7bn funding and development rights around Kings Cross and Stratford stations, and guaranteed LCR's debt<sup>iv</sup>.

However, LCR was *unable* to raise the GBP 0.8bn equity and GBP 3-4bn debt finance needed to build the Link. Escalating costs and reduced passenger forecasts were cited as reasons. The government refused to provide more grant funding, but agreed a financial restructuring with LCR, involving the sale and leaseback of trains, in 1998. Revenue and patronage have continued since to be *below* forecast. In 2010, the 30 year concession was sold to a Canadian pension plan for GBP 2.1 bn<sup>v</sup>.

<sup>i</sup> HC Deb, 29.02.96, cc 999-1016  
<sup>ii</sup> HC Deb, 19.05.99, c354W  
<sup>iii</sup> HC Deb, 16.10.07, c969w N.B This value excludes certain real estate components  
<sup>iv</sup> Butcher (2011) Railways: Channel Tunnel Railway Link SN/BT/267, House of Commons Library  
<sup>v</sup> *ibid*