

# Private LESSONS

Today the Channel tunnel is officially opened. Last week bidding opened for the high-speed rail link. Denise Chevix asks what operators of such private finance schemes can learn from the Channel experience.



TODAY BRITAIN becomes officially joined to continental Europe when the Queen and President Mitterrand open the £10-billion Channel Tunnel. Away from the ceremonial, Charbon and Sanghaie, many of those that built, designed and kept the world's first major privately financed infrastructure project will be reflecting on the lessons learned as they prepare for the next round of schemes.

The first of those major projects is the 33 km, £2-billion high-speed Channel Tunnel Rail Link from Folkestone to St Pancras for which six consortiums put their names forward to the Department of Transport last week.

The £600m modernisation of the West Coast railway line and the £200m Docklands Light Railway extension are among future projects for which the Government is considering the private sector.

"Before the tunnel, the idea of financing major infrastructure projects was unknown to banks," points out Colin Stannard, chairman of the first chief executive, Charbon and Sanghaie. "But from that less structured many others around the world." UK examples include the Dartford River Crossing and the Second Severn Crossing.

Stannard was a key figure in getting the Channel tunnel project started. He first became involved as part of a buying group commissioned by the Government to investigate the viability of a fixed link. Now he is a director of consultant Finance for Enterprise, which is advising some of the bidders for the high-speed rail link.

Like many of those involved in construction of the 33 km tunnel, he considers it "a marvelous achievement. The fact that there are lessons to be learned doesn't stop us saying that."

Stannard was one of the first BOOT - Build Own Operate and Transfer - schemes. Under that regime a promoter gets a concession from the government to build, own and operate a road, bridge or, in this case, tunnel, and transfer it back to state ownership after the concession has ended.

The biggest lesson learned the hard way by those involved with the tunnel is that if you are going to set up a BOOT scheme you have to get it off on the right footing, so to speak. "The first thing you have to do



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is a BOOT project is concentrate on creating a clear, concise contract between the contractor and the client. The first step is to define the project and the way the project will be managed. It was a common but nightmare. Boys feared between contractor and client. Each crisis followed each crisis and costs doubled to £2 billion. "In all probability," says Stannard, "all of the cost increase is due to exceptionally high interest rates, 30% to 40% changes in specification because of government safety requirements, and 10% to 15% cost increases because of inflation." This cost was not on large projects.

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MANY OF the problems on the Channel tunnel project can be traced back to its beginnings. The seeds of the idea were sown in the early 1980s by a group of contractors eager to create construction work. By April 1985 the UK and French governments were calling for tenders to submit bids for a fixed Channel link.

On 20 January 1986, the two governments announced that the winning rail tunnel will service tunnel submitted by the Channel Tunnel Group and Franco-Manche - five British contractors and three banks and five French contractors and three banks had won.

The concession was granted five months later. By this time, at the banks' insistence, the original joint venture had been elevated from the middle to first client operator. Eurotunnel and contractor TMI.

By the time construction work began at the start of 1986, TMI, DHL and Eurotunnel had signed one of the most extensive design and build contracts. Signed one of the contracts. It agreed to build the tunnel for a fixed price with only the fastest outline of a design to go on. Although it was a "fixed price," according to one former Eurotunnel architect. "This contract was made later to be the nature of an out-going skid on a Eurotunnel project. It was a concession as delivered a November scheme TMI, now it is a For Eurotunnel."

Another aspect of the scheme was the introduction of an inter-governmental inquiry 18 months after the contract was signed. This imposed dramatic changes in requirements for the tunnel.



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## SUNBELT TECHNOLOGY



*"As a financing project the Channel can't be broken."*  
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engineering of the tunnels, terminals and the fixed equipment. He worked closely with John Brown, founding director of TMI, and director general until 1985.

Brown claims that splitting the contractor from the banks "was the biggest mistake of the minister of the project. If that had not happened the concession and project work has been built a good deal cheaper because excellent leads to be followed for the rail link. That is what hindsight is all about."

Brown, who will today deliver a lecture on the lessons learned from the Channel tunnel to lawyers in Copenhagen, recalls the provision financing in the project's early days. "The BOOT contracts you have to be certain about the road from the beginning. It was a difficult because there is often no certainty about the project. That is why it is necessary to share the risk with a large number of partners."

"Also, when we started we were a company on paper, but we had no real assets or a definite future. The only people that would come and work for us were those who would be working on the construction's member companies. That is not the right way of going about it - you don't have any real assets and people with the right talents and commitment."

Phillips, both Brown and Myers say that future projects will need a framework for dealing with intervention from government commissions. The new railway specifications imposed by the inter-governmental commission accounted for a 40% increase in costs.

Good fortune is going to promote projects it would be naive to think that they are not inevitable. "I don't think anyone would object to it - that's what they would object to in a business plan."

For the first four years on the tunnel, Brown headed a business unit consisting of team and oversee

underground, there were many key changes. Changes in the way the first major use of New American Tunneling Method by British engineers who had previously given it the name of the tunnel.

Traditional boring machines dug the 8 m-diameter running tunnels and 4 m service tunnels at record speeds. NATM was used to excavate the 150-m-long cross-section chambers.

Following its success on the Channel tunnel project, NATM tunnel construction has been further developed on the Jubilee Line and the London Heathrow Express.

Balfour Beatty Civil Engineering was awarded the £100-million contract to construct running tunnels and stations for the £100-million Heathrow Express Station at Heathrow. Myers is Balfour Beatty's project manager.

Myers says that the Channel tunnel's specifications for the remaining tunnels set to the service tunnel, even passages between them and between ground stations - called for more high-tech techniques.

By 1990, 100,000 tonnes of rock and sanding in 100 tonnes of equipment every day called for eight rail sets north - Britain's third largest.

"As a financing project the Channel can't be broken. But the Heathrow Express is not called for eight rail sets north," says Myers.