Lower Thames Crossing

Economic Appraisal of Option A14 at Long List

Description of Option A14

Option A14 is a dual 2 lane twin bored tunnel at Location A running from south of M25 J2 to north of M25 J30. J2 and J30, and intermediate junctions along the M25/ A282 corridor, would not be connected to the long tunnel. The option was appraised as part of the longlist appraisal of options.

Model runs were undertaken for a range of speed limits 50, 60 and 70 mph within the tunnels to test viability.

Route Option A14 comprises a new route approximately 800m to the east of the existing QEII bridge. The route takes the form of a 7.4km long dual 7.4km two-lane tunnel with a merge/diverge south of J2 and north of J30. The tunnel is a dual bore until just north of Junction 31 at which point it becomes a two single bores to pass either side of Junction 30 to then tie-in with the M25 north of Junction 30.

Appraisal against Scheme Objectives

Transport	To relieve the congested Dartford Crossing and approach roads and improve their performance by providing free flowing north-south capacity	The 7.4km long tunnel would carry relatively low levels of traffic compared to the total flow across Dartford. **Figure 1** shows traffic flows in vehicles per hour in 2025, both with Option A14 and without the option. Whilst the capacity of the new tunnels would be 8,000 vehicles per hour, the forecast usage in the peak hours would be only 3,400-3,700 vehicles in 2025. This is because the long tunnel would not have connections with M25/A282 junctions between J2 and J30, and would therefore only be attractive to long-distance traffic; in particular, traffic joining the M25 at J2 (A2) and J30 (A13) would not be connected to the new tunnel. High traffic flow levels would remain on the existing M25/A282 corridor between J2 and J30, and traffic flows on the A2 and A13 would not be relieved.
	To improve resilience of the Thames crossings and major road network.	The long tunnel provides some improvement in network resilience, but this is limited due to the lack of connection with the A13 and A2. For example, in the event of a closure of the QEII bridge, traffic would need to be diverted to circulate around J29 and J3 to access the long tunnel, leading to substantial congestion of the network.
	To improve safety.	The option would provide limited improvement in safety for traffic using the existing M25/ A282 corridor.
Economic	To support sustainable local development, regional economic growth in medium to long term.	The economic benefits provided are poor with a negative NPV.
	To be affordable to government and users	The outturn (nominal) capital cost (P50) is £6.6b – more than twice the cost of the on-line options at Location A **(See Table 1)**
	To achieve value for money.	The Initial BCR (excluding Wider Economic Benefits) is **0.47**, which represents poor value for money. **(See Table 2)**
Environment and Community	To minimise adverse impacts on health and the environment.	There would be limited improvements in air quality and noise impacts along the M25/A282 corridor.

Conclusion The option performs very poorly against the transport and economic scheme objectives and no further should be undertaken.

Table 1: Assessed Estimated Costs for A14 – Long Bored Tunnel (Nominal P50)

Route Option	**A14 £bn**
Base Estimate	3.158
Unscheduled items	0.187
Risk Adjustment and uncertainty allowance	0.669
CESS Sub-Total (A)	**4.013**
Inflation adjustment	2.206
Portfolio office risk adjustment	0.384
RET Adjustment subtotal **(B)**	2.591
Estimated Outturn (A + B)	**6.604**

Table 2: Estimated Economics for A14 – Long Bored Tunnel PVB £bn (2010 prices over 60 years)

PVB (£bn)	**A14 Long Tunnel**
Greenhouse Gases	-0.166
Accidents	-0.217
Travel time	1.783
VOC	-0.106
User charges	-0.104
Indirect Taxation	0.336
Noise	0.000
C&M delays	0.000
Total PVB (excl WIs & JTR)	1.526
PVC (£bn)	3.265
NPV (£bn)	-1.739
Initial BCRs	**0.47***
Wider Impacts (£bn)	Not calculated
Reliability	Not calculated
Adjusted BCRs	Not calculated

*Ranked as Poor Value for Money

Figure 1 - 2025 Peak Hour Traffic Flows (vehicles/hr)