

POPE of Major Schemes Summary Report

Scheme Titles	A2/A282 Dartford Improvement and M25 J1b-3 widening
Opening Dates	December 2007, July 2008
POPE Stage	One Year After

A2/A282 Dartford Improvement

Scheme Description

The improvement scheme consisted of the following measures:

- Provision of free-flow links for the principal movements at the junction:
 - Viaduct linking A2 westbound to M25/A282 northbound;
 - Viaduct linking M25/A282 southbound to A2 eastbound;
 - A free-flow slip road for traffic travelling from the A2 westbound onto the M25 southbound;
- Widening of the A2 from 3 to 4 lanes in each direction between the M25/A282 and the Bean junction (1.2 miles), mainly within existing highway boundary with hardshoulders;
- Low noise surfacing on widened sections of carriageway and on existing A2 through and west of M25 J2; and
- Environmental mitigation measures including noise fences, improved drainage and retaining walls.

Objectives - Scheme Assessment Report / Statement of Case

Objective Achieved?

- | | |
|--|---|
| • Reduce journey times and improve reliability; | Yes |
| • Improve safety at the junction; | Yes |
| • Provide enhanced access from the M25 to the major regeneration area of Kent Thames-side and other regeneration areas in north and East Kent; | Yes |
| • To facilitate access to Ebbsfleet International Rail Station from the national motorway and trunk road network; and | Yes |
| • Limit the environmental impact, especially noise. | Yes, except where too early to conclude |

M25 J1b – 3 widening

Scheme Description

The scheme consisted of the following measures:

- Widening within existing highway boundary of:
 - M25 both carriageways from 3 to 4 lanes from J3 to south facing slips of J2, and
 - M25 southbound from 2 to 3 lanes between J1b and J2 and through J2.

- Low noise surfacing;
- Lighting on the previously unlit section J2 to J3;
- Environmental mitigation measures including improved water pollution control measures; and
- Infrastructure for a Controlled Motorway on J2-3 was installed at the same time, although it was not formally part of this scheme.

Objectives - Scheme Assessment Report / Statement of Case

Objective Achieved?

- | | |
|---|---|
| • Reduce journey times by 30-60 seconds; | Yes |
| • Improve reliability; | Yes |
| • Create jobs in Kent Thames Side Regeneration Area through increased labour pool and impacts on companies relying on distribution of goods; | Too early to conclude |
| • Mitigate the environmental impacts and upgrade water pollution control measures; and | Yes, except where too early to conclude |
| • Facilitate future demand management measures to provide some constraint on induced traffic and lock in benefits from widening. These measures would be carried out separately from this scheme. | Yes |

Key Findings

- One year after opening, these schemes have been successful in achieving almost all their objectives.
- The two schemes were constructed at the same time to minimise disruption.
- Traffic on this section of M25 has not grown since 2006 and hence flows are now below forecast. This is linked below expected growth on the M25 in this period, latterly due to the current economic recession.
- Rapid widening techniques within the existing highway boundary were successful for the M25 J1b-3.
- Conversely, traffic on the widened A2 has shown higher than expected growth, which may be linked to the completion of other schemes in the A2 corridor.
- Journey times on the widened A2 and M25 have seen journey time savings for traffic in peak periods in the main direction of flow.
- At the junction, there are journey time savings in the peak and inter-peak for most turning movements. As expected, the highest savings are for traffic now using the new free-flow links with savings up to 2 minutes for traffic between the A2 westbound and A282 northbound.
- Statistically significant safety benefit from the combined effect of the two schemes is much better than the slight impacts expected.
- Infrastructure for a controlled motorway on M25 J2-3 was installed in the period following the construction of this scheme. At the time of this study, it was not in operation.

Summary of Scheme Impacts

Traffic

- Annual Average Daily Traffic on the widened section of the A2 has increased by 7-8% and is now 130,000 AADT. This growth has occurred particularly during the peak periods when journey time savings are also observed.
- 44,000 vehicles use the new free-flow links daily rather than needing to use the roundabout.
- There has been a reduction of $\frac{1}{3}$ in traffic using the circulating carriageway of the roundabout.
- Journey Times using the new free-flow links have improved by up to 2 minutes.
- Annual Average Daily Traffic on the widened M25 has shown little change and it is much lower than forecast. This can be linked to the current economic recession.
- No clear impact of traffic rerouting from local roads.

Safety

- Statistically significant safety benefit from the combined effect of the two schemes is much better than the slight impact expected. However, this may have been influenced by a change in driver behaviour resulting from the construction period when traffic cameras were in operation.
- CCTV cameras installed are beneficial for security.

Environment

- Noise, local air quality and greenhouse gases impacts which are all linked to traffic flows are largely as expected. Noise barriers are higher hence better than originally planned ones.
- Landscape and townscape mitigation in place but OYA is too soon to establish success. Planting has largely been implemented as expected.
- Heritage impacts are largely as expected. Impacts to archaeology are unknown due to limited available data at this stage.
- Biodiversity impacts largely as expected where data is available at this stage. Mitigation by species translocation took place but there is only limited data on success of these.
- Improved water pollution control measures in place but no clear change in water quality has been measured.

Accessibility

- Schemes have improved access to employment and retail for car users.
- Schemes provide access to new Ebbsfleet International Station (opened 2007).

Integration

- The schemes are consistent with transport strategy policies targeting the Kent Thameside regeneration area.

Summary of Scheme Economic Performance

<i>All prices in 2002 prices, discounted to 2002 at 3.5%</i>	Pre Scheme Forecast (2002 Prices)		Post Opening Reforecast (2002 Prices)	
	A2/A282	M25 J1b-3	A2/A282	M25 J1b-3
Journey Time Benefit	£179.0m	£207.8m	£169.5m	£161.2m
Safety Benefit	£0.9m	£2.6m	£14.8m	£22.4m
Total 60 Year Benefits (PVB)	£179.9m	£210.4m	£184.3m	£183.6m
Costs (PVC)	£102.2m	£69.2m	£115.9m	£54.6m
Benefit Cost Ratio (BCR)	2.3		2.2	

- Economic forecast was based on TUBA models of a wide area including the motorway, trunk roads and the Kent Thameside area. POPE evaluation is only possible using a simple method based on changes observed on the key links only. Hence the benefits presented here are likely to underestimate.
- Higher than expected accident savings have resulted in much higher monetised safety benefits than forecast.
- Total cost of the two schemes was slightly below the total forecast.
- The BCR is almost exactly as forecast and therefore the schemes represent good value for money.

This document summarises the findings of the one year after post opening evaluation study completed in September 2010.