POPE of Major Schemes Summary Report

Scheme Title	**M27 Junction 3 to 4 Widening**
Opening Date	January 2009
POPE Stage	One Year After

Scheme Description

This is a Highways Agency major scheme to widen approximately 2.9 miles (4.6 km) of the M27 between junctions 3 & 4. The number of lanes is increased from 3 to 4 in each direction.

The purpose of the scheme was to improve journey times and journey time reliability along the scheme extent which suffers from influxes in journey times during peak periods. Further, by reducing congestion the scheme is expected to reduce accidents.

.Objectives (AST)	Objective Achieved?
• To provide additional capacity and reduce congestion	Yes
• To improve safety	Too early to conclude
• To give improved and more reliable journey times	Yes
• Achieve no significant worsening of the previous environmental assessments and improve on them where possible	Yes

Key Findings

- The outturn cost was £27.9 million, at 2002 prices, 7% lower than predicted (£29.9m).
- The annual average number of accidents has reduced from 24.6 per year to 19. However it remains within the range of numbers of accidents occurring in the five years before scheme construction, and the change is not statistically significant.
- The predicted accident reduction was almost twice that actually achieved. This is mainly due to the COBA default accident rates used for the Do Something not being representative of the scheme link, although this is acknowledged in appraisal assumptions.
- Traffic flows were predicted to increase as a result of the scheme. Observed flow on the scheme link has remained largely unchanged while the flows on local A-roads have decreased a little.
- It appears there has not been reassignment, because the decreases on nearby A-roads are in line with regional traffic decreases. However, there does appear to have been a small induction of traffic, as the scheme link has resisted the general recession related decline better than other Hampshire motorway links.
- While no traffic growth has occurred between scheme opening and 2010 (when this evaluation is conducted), it is likely that following the recession, traffic will start to increase again. Therefore, at this time, the benefits assessed in this evaluation are likely to be conservative estimates; this should be revisited during the Five Year After (FYA) evaluation. The lack of traffic growth due to the economic recession was proven to be the reason for scheme benefits not being has high as predicted. In fact, the evidence suggests that the scheme would have performed better than expected if the expected growth had occurred.

Key Findings continued

- There has been a substantial improvement to journey times following scheme opening. This is observed through all months of the year and all hours of the day. The reduction appears consistent in the eastbound and westbound carriageways.
- This reduction results in substantial monetised journey time saving of 635,977 hours in the opening year. When monetised, these benefits capture 98% of predicted journey time benefits. This is likely to be a conservative estimate though as the evaluation only considers the M27 junction 3-4 whereas the appraisal considered benefits to alternate routes also.
- There is much less variation in journey times throughout the day following the scheme; the long journey times in the peak period are almost completely eradicated post-scheme opening. This, and the fact route stress has decrease 23% implies an improvement in reliability.
- The increase in speed on the route was less than anticipated, as was the increase in traffic volumes. Because of this, the tax revenue from fuel consumption associated with the scheme is lessened from -£5.6m to -£3.6m.
- Impacts of the scheme are largely as expected, however for noise, air quality and greenhouse gases impacts are likely to be better than expected. This is linked to the conclusions of the traffic evaluation which found that actual traffic volume is lower than predicted.
- Using the outturn data gives a Benefit Cost Ratio (BCR) of 13.8. Whilst marginally worse than predicted, this scheme represents excellent value-for-money.

Summary of Scheme Impacts

Traffic

- The traffic volume on the M27 J3-4 is about 119,400vpd, one year after scheme opening. This is only marginally higher than before the scheme, although regionally traffic has declined about 5% in the same time (due to the economic recession).
- On A-roads in Southampton which could potentially have lost traffic to the M27, the fall in traffic is no more than would be expected from background decline. Therefore reassignment from these routes has not been demonstrated.
- Other links on the M27 and M3 show a slight reduction in traffic levels from 2009 to 2010 after the scheme opened. The slight increase seen on the M27 J3-4 demonstrates that the scheme link has been able to resist the general decline in traffic volumes seen as a result of the recession. Therefore, it is likely that there has been a small induction of traffic over the scheme link as a result of the scheme.
- The observed traffic flows are less than predicted; because growth since 1999 (the modelling base year) has been lower than forecast. This is not surprising because the economic recession was not expected.
- After scheme opening, there has been a substantial reduction in average daily journey times and in variability. Previously journey times were much longer in the peak periods, but now they are in line with the rest of the day.

- The journey time saving is less than predicted in the AM peak (the only period when a prediction was given). The observed saving in the AM peak was 84 seconds whereas the AST stated 120 seconds would be saved, though it was not clear whether this prediction was in each direction or a cumulative two way benefit.

Safety

- There has been a small reduction in accidents and casualties, but the change is not significant over the one-year post-opening study period on which this evaluation is made. However, it is recognised that if this reduction is sustained over a longer period it will prove significant.
- The accident rate before the scheme was a little higher than the national average, and is now a little lower than the national average.
- Accident benefits were forecast for this scheme, despite the standard accident rates being the same for 3-lane and 4-lane motorways. The actual benefit is much less than predicted.

Environment

- In relation to environment, impacts of the scheme on noise, air quality and greenhouse gases are likely to be better than expected due to average traffic flows being lower than expected and speeds and percentage HGVs all being broadly as predicted. There are some local concerns regarding noise and air quality but these are based on perceptions of traffic speed and proximity.
- For landscape, impacts are likely to be as expected with some limited impacts better than expected due to the reduction of the lighting and gantry schemes.
- For biodiversity, cultural heritage, water, physical fitness and for journey ambience, impacts are likely to be as expected.

Accessibility

- The scheme was limited to works within the existing motorway boundary, and has not any notable impact on Option Values, Severance, Access to the Transport System, or Transport Interchange.
- However, it is noted that the increase journey time reliability and speeds along the link will benefit public transport users.

Integration

- The scheme supports regional and local land use policies, including the Regional Spatial Strategy for the South East.
- The Priority Area for Economic Regeneration (PAER) of Southampton is supported by the scheme, proving benefits for Land Use Policy.

Summary of Scheme Economic Performance

	Pre Scheme Forecast (2002 Prices)	Post Opening Reforecast (2002 Prices)
Journey Time Benefit	£320.8m	£313.9m
Safety Benefit	£37.6m	£19.5m
Total 60 Year Benefits (PVB)	£358.4m	£333.4m
Present Value of Costs (PVC)	£24.1m	£24.1m
Benefit Cost Ratio	**14.9**	**13.8**

* Same as forecast assumed due to low magnitude of benefits

- The outturn cost is £27.9 million, at 2002 prices, about 7% lower than predicted. The Present Value of Cost (PVC), which takes into account indirect tax revenue, is £24.1 million. Note that the indirect tax effect is reduced compared to appraisal as the traffic volume is not as high as anticipated.
- The monetary benefit from time saving is re-forecast to be £313.9 million, 2% lower than appraised. However, further tests have demonstrated that this was due to the recession, and that if expected levels of growth had been achieved it is likely the scheme would have performed better than predicted for monetary journey time savings.
- The accident saving is re-forecast to be £19.5 million, down 48% from predicted. This appears to be partly due to COBA default accident rates being used in appraisal where observed values would have been more accurate.
- The BCR of 13.8 is marginally lower than predicted due mainly to the lower than expected benefits. Note that this still represents excellent value for money and is thought to be a conservative estimate of BCR as it is based on a one year evaluation that has occurred during a recession. The full 60 year assessment period is unlikely to be against the same economic backdrop as the one year observed.

This document summarises the findings of the one year after post opening evaluation study completed in June 2011.