

## POPE of Major Schemes Summary Report

Scheme Title	<b>M1 Junctions 6a to 10 Widening</b>
Opening Date	December 2008
POPE Stage	One Year After

### Scheme Description

The M1 Junction 6a to 10 widening scheme in Hertfordshire opened in December 2008 and brought this section of the M1 to a full standard four lane motorway with continuous hard shoulders. This was achieved by widening the following sections from 3 to 4 lanes:

- Junctions 6a to 7 southbound;
- Junctions 8 to 9 northbound and southbound;
- Junctions 9 to 10 southbound; and
- Also new parallel roads were constructed between Junctions 7 and 8 to cater for local traffic travelling between Hemel Hempstead and St Albans.

It was originally envisaged that the additional capacity provided by this scheme would be used as an opportunity to trial a High Occupancy Vehicle (HOV) lane. This was proposal was subsequently dropped during scheme construction. However, implementation of Controlled Motorway (CM) has occurred and is currently operational with variable advisory speed limits. It should be noted that the scheme appraisal did not consider the impacts of a HOV lane or the Controlled Motorway which was appraised separately.

### Objectives (AST)

### Objective Achieved?

- |                                    |     |
|------------------------------------|-----|
| • Reduce congestion                | Yes |
| • Improve journey time reliability | Yes |
| • Reduce accidents                 | Yes |

### Key Findings

- The objectives of this scheme to reduce congestion, improve reliability and reduce accidents have all been met based on the evidence available at this one year after opening stage.
- There is evidence of limited traffic re-assignment onto the M1 motorway from nearby parallel roads in the local area.
- The observed journey times and safety benefits almost exactly match those forecast to occur.
- Observed northbound traffic volumes correlate well with the forecasts, whilst the southbound traffic flows are generally higher than forecast
- The investment cost of the scheme was less than forecast – despite the additional costs incurred implementing the controlled motorway.
- The environment mitigation measures, including extensive planting, have largely been put in place.

## Summary of Scheme Impacts

### Traffic

- Traffic flows on the improved section of the M1 have increased by slightly since scheme opening.
- There has been a general decrease in traffic flows on the majority of the local roads in the vicinity of the scheme since opening. This indicates that the slight increase in traffic observed on the M1 could be a result of re-assignment from these routes.
- Post opening journey times are consistently lower in both directions. The average journey time is now approximately 15 minutes whereas previously the journey time ranged from 18 minutes to 25 minutes during peak periods.
- There is less variability in journey times since the scheme opened with peak journey times similar to those recorded in the off peak.
- The scheme has therefore achieved its objective of reducing congestion.
- Observed northbound traffic volumes are very close to predicted indicating a high degree of forecasting accuracy.
- Observed southbound traffic flows are higher than predicted. The reasons for these forecasting inaccuracies are unclear following a review of the appraisal documentation.
- Traffic flows on the A414 (former M10) are considerably lower than forecast, potentially due to the traffic modelling not taking account of the downgrading of this route following scheme opening.
- The observed journey time saving of three minutes along the extent of the scheme is almost the same as forecast.

### Safety

- An annual saving of 222 accidents (and 417 casualties) across the COBA modelled network compared to five years before opening indicates that the scheme has been successful in meeting its objective to reduce accidents.
- There is no evidence of any accident clusters since the scheme opened.
- The observed accident saving is almost exactly the same as predicted which shows that the forecasting approach was robust in this instance.
- Statistical tests show that the change in accident rate is not a result of chance alone, so therefore can be attributed to the scheme.
- The accident rate on the M1 is now lower than the national average for this type of road, compared to an accident rate higher than the national average before the scheme opened.
- The impact on personal security is slight beneficial as expected due to improved journey time reliability and increased CCTV provision.

### Environment

- The environmental mitigation measures have largely been implemented in line with proposals.
- Consultation with Parish Councils has identified local areas of concern such as tunnel lighting.
- Based on the information available environmental sub-objectives at OYA are considered to be as expected (with the exception of physical fitness).

### Accessibility

- It is considered that the AST forecast for option values is valid and that no more detailed evaluation would reveal any changes connected to the scheme.
- This scheme has had no direct impact on public transport provision, therefore the AST assessment of neutral impact is considered to be valid in this instance.
- The scheme has maintained the existing crossing facilities facilitating movement across the M1. The severance impact is therefore neutral as expected.

### Integration

- The scheme has not had an impact on the provision of public transport interchange as expected.
- The scheme integrates well with the objectives set out in local, regional and national policies as expected.

### Summary of Scheme Economic Performance

	Pre Scheme Forecast (2002 Prices)	Post Opening Reforecast (2002 Prices)
Journey Time Benefit	£1,235.7m	£925.3m
Safety Benefit	£773.4m	£763.1m
Other Benefit (VOC's, Construction delay, Maintenance Delay)	£-4.8m	£-4.8m*
Total 60 Year Benefits (PVB)	£2,004.3m	£1,683.6m
Present Value of Costs (PVC)	£290.0m	£275.4m
<b>Benefit Cost Ratio</b>	<b>6.9</b>	<b>6.1</b>

\* Same as forecast assumed due to low magnitude of benefits

- The re-forecast safety benefits are almost exactly the same as predicted (although evaluation was undertaken using only one year's worth of observed data).
- The outturn scheme costs are lower than forecast. This is despite the outturn figures including elements of controlled motorway which were not considered in the forecast.
- The outturn BCR is slightly lower than forecast due lower than predicted journey times (although it is recognised this is a conservative estimate) and fewer accident savings. However, the scheme still represents good value for money.
- An analysis of the standard deviation of before and after journey times indicates that journey time reliability has improved as a result of the increased capacity provided by the scheme.
- The scheme has contributed to the growth aspirations of the MKSM (Milton Keynes South Midlands) area by providing additional capacity and improved journey times on the main strategic highway through the area.