

# POPE of Major Schemes Summary Report

<b>Scheme Title</b>	<b>M1 J6a-10</b>
<b>Opening Date</b>	<b>December 2008</b>
<b>POPE Stage</b>	<b>Five Years After</b>

## 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 through the junctions. 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
- New parallel ('Collector-Distributor') roads were also 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 proposal was subsequently dropped during scheme construction. However, variable mandatory speed limits (as part of a controlled motorway) were implemented after the widening scheme opened. The scheme appraisal for the Controlled Motorway element was undertaken separately to the widening scheme. The outturn results include both the Controlled Motorway and the widening impact, as it's not possible to disaggregate the impacts of the two schemes.

<b>Objectives (from AST, August 2007)</b>	<b>Objective Achieved?</b>
<b>Reduce Congestion</b>	✓
<b>Improve Journey Time Reliability</b>	✓
<b>Reduce Accidents</b>	✓

## Summary of Scheme Impacts

### Key Findings

- Journey times and journey time reliability have both improved since the scheme opened.
- Traffic flows on the improved section of the M1 have increased slightly since scheme opening.
- There has been a general decrease in traffic flows on the majority of local roads in the vicinity of the scheme since opening. This indicates that increases observed on the M1 could be a result

of the re-assignment from these routes, where local road users are using the M1 J6a to 10 as an alternative route.

- There has been a significant reduction in collisions on this section of the M1 since the scheme opened.

### Traffic

- Traffic flows on the improved section of the M1 have increased slightly since scheme opening.
- There has been a general decrease in traffic flows on the majority of local roads in the vicinity of the scheme since opening. This indicates that increases observed on the M1 could be a result of the re-assignment from these routes, where local road users are using the M1 J6a to 10 as an alternative route.
- Observed northbound traffic volumes are very close to predicted volumes indicating a high degree of forecasting accuracy. Observed southbound traffic volumes are higher than predicted by between 9 and 12%.
- Post opening journey times are consistently lower for both the northbound and southbound directions at both one year after (OYA) and five year after (FYA) stages.
- Observed FYA journey times are slightly higher than OYA journey times. This can be explained, somewhat, by the increase in traffic volumes during this time period.
- The forecast journey time savings were slightly higher than the observed journey time savings. The difference was largely due to the lower than forecast observed savings for Junction 9 to 10.
- Overall journey time reliability has improved indicating that the scheme has met the objective related to journey time reliability.

### Safety

- The changes in collision rate are statistically significant indicating that the scheme has directly improved safety.
- After allowing for the background trend in collisions, the annual average number of personal injury collisions occurring on the M1 between J6a and J10 has decreased from 188 before the scheme (March 2001 to February 2006) to 67 after scheme opening (January 2009 to December 2013).
- The number of fatal, serious and slight collisions have reduced post opening, but there has been an increase in the collision severity index post opening due to slight collisions declining faster than fatal and serious collisions.
- The impact of the scheme on collisions is not as good as expected, but the scheme is still delivering considerable safety benefits in terms of reduction in total collisions.
- The scheme's impact on security is assessed as slight beneficial as predicted. This is due to CCTV (Closed Circuit Television) provision and lighting.

### Environment

- Noise barriers and earth mounding have been installed as specified and are performing their noise mitigating function as expected.
- There was an increase of 13,700 tonnes of carbon. This was better than expected as an increase of 16,000 tonnes of carbon was predicted.
- Planting is generally establishing very well and is expected to reach its growth targets. Planting plots have generally achieved their target coverage within the time period stated in the 2014 Draft Handover Management Plan (HEMP), and the current levels of plant growth and establishment indicate that their visual screening and landscape integration functions are developing as expected at this stage.

- The visual effect of the scheme has been mitigated through the use of earth mounding, environmental barriers and mitigation planting. Planting has been used to good effect near environmental barriers, softening the effect of these structures.
- No further monitoring of the artificial badger sett, bird boxes, ponds or calcareous grasslands was undertaken beyond one year after opening of the scheme. It is noted at this stage that the calcareous grasslands appear to be slow to establish.
- The Nickey Line Bridge Bat Monitoring has been undertaken as a part of the scheme and in accordance with requirements within the DEFRA (Department for Environment, Food and Rural Affairs) license. As a result of the monitoring, lighting within the tunnel has been changed to ensure that the use of the tunnel by bat species continues. The last monitoring visit was undertaken prior to the installation of the new lighting. It is not possible to comment on its impact at this point in time.

### **Accessibility and Integration**

- This scheme has had no direct impact on public transport provision or interchange, therefore the Appraisal Summary Table (AST) assessment of neutral is considered to be valid in this instance.
- The scheme has maintained the existing crossings, facilitating movement across the M1. The severance impact is therefore neutral as expected.
- The scheme integrates well with the objectives set out in local, regional and national policies as expected.

## Summary of Scheme Economic Performance

		All figures in 2002 Prices discounted to 2002	
		Forecast (Widening & Controlled Motorway)	Outturn (Widening & Controlled Motorway)
Present Value Costs (PVC, investment cost)		£284.6	£256.1m
Journey Time Benefit		£1,232.6m	£716.0m
Safety Benefits		£801.9m	£481.3m
Vehicle Operating Costs		£53.8m	£53.8m
Construction Delay		-£137.8m	-£137.8m
Future Maintenance Impacts		£76.6m	£76.6m
Carbon		£0.7m	£0.7m
Journey Time Reliability		£5.9m	£5.9m
Present Value Benefits (PVB)		£2,033.7m	£1,196.5m
Indirect Tax reduction impact		£17.2m	£17.2m
Indirect tax impact within costs	PVC (incl. indirect tax as increase)	£301.8m	£273.3m
	BCR = PVB / PVC	6.8	4.4
Indirect tax impact within benefit	PVB (incl. indirect tax as a reduction)	£2,016.5m	£1,179.3m
	BCR = PVB / PVC	7.4	4.6

- 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 journey time benefits are lower than expected due to lower than forecast traffic volume increases as well as a smaller than forecast journey time savings.
- The outturn safety benefits are lower than forecast as the number of observed collisions has not reduced by as much as predicted. However, the safety benefits are still considerable.
- The outturn Benefit to Cost Ratio BCR (4.6) is lower than forecast (7.4) but still represents 'very high' value for money.
- The scheme has contributed to the growth aspirations of the Milton Keynes South Midlands (MKSM) growth area by providing additional capacity and improved journey times on the main strategic highway through the area.

This document summarises the findings of the Five Year After (FYA) post opening evaluation study completed in October 2015.

