POPE of Major Schemes Summary Report

Scheme Title	**M25 Junction 28 / A12 Brook Street**
Opening Date	March 2008
POPE Stage	One Year After

Scheme Description

The M25 Junction 28 / A12 Brook Street scheme opened in March 2008 and comprised the following elements:

- A new dedicated left turn lane from the M25 clockwise exist slip road to the A12 eastbound.
- Extension of the A12 merge lane towards Ipswich;
- Widening of the A12 London bound exit slip road to four lanes;
- Realignment of the A1023 Brook Street to M25 clockwise;
- Widening of the M25 anticlockwise exit slip road to four lanes; and
- Other minor works to improve junction safety.

Objectives (Non Technical Summary, October 2006)	Objective Achieved?
Improve safety at the junction	Not at this stage
Improve circulation of the junction to deliver a reduction in vehicle queuing and journey times.	Yes

Key Findings

- The objectives of the scheme were to improve circulating flows at the junction to reduce queuing and journey times, and to improve safety. Journey times have improved but the number of accidents has increased.
- A number of methodologies have been used to analyse the 60 year outturn benefits, giving a wide range of results. Given the high level of benefits predicted to occur from 2023 onwards and the very low benefits predicted for the first year after opening, it is considered that it is too early at the OYA stage to conclude whether the scheme will achieve the predicted level of benefits. It is noted that only 0.2% of the entire scheme benefits are predicted to occur in the opening year.
- Given that the outturn journey time benefits cannot be accurately determined using the evidence currently available, it is not possible to derive a BCR at the OYA stage.
- The scheme has had no major impact on traffic flows, and journey times through the junction have improved as predicted.
- There has been an increase in accidents at the junction with a high proportion due to poor lane discipline. A number of remedial measures have been implemented since the scheme opened including reflective marker post on the splitter island, and additional signing on the circulatory carriageway.
- The scheme cost is 35% lower than forecast.
- The traffic model used for the original scheme appraisal did not include the signalised Wigley Bus Lane junction on Brook Street. The observed delays at this junction causing queues back onto the roundabout were therefore not considered in the appraisal.
- Severance is likely to be slightly worse as expected due to NMU's having to cross an increased number of lanes. However, the number of NMU's is so low this is not considered to be significant.
- Current work to upgrade the M25 between Junctions 27 and 30, including the installation of VMS (Variable Message Signs) will improve the ability of the HA to respond to major incidents and reduce the likelihood of severe congestion events at Junction 28 which have been known to occur.

Summary of Scheme Impacts

Traffic

- The scheme has had no major impact on traffic flows through the junction as predicted.
- There is potentially a small amount of re-routing of traffic accessing the M25 from north east of the scheme. Traffic may have therefore swapped from using Brook Street to the A12 Brentwood Bypass due to the widening of the A12 westbound offslip.
- Traffic frequently queues back onto the roundabout from Brook Street in peak periods due to congestion at the nearby traffic signals. The modelling undertaken for the scheme did not cover this junction, and therefore the issue was not identified during the appraisal.
- Journey times through the junction have generally improved since the scheme opened.

Safety

- The annual rate of Personal Injury Accidents (PIA's) has increased from 15.6 pre scheme opening to 23.0 post opening. This is worse than the forecast reduction of 3 accidents in the opening year.
- However, the observed changes in accident numbers are not statistically significant, therefore the change in accident rate is not necessarily due to the implementation of the scheme.
- There has been a decrease of around 8% in damage only accidents since the scheme opened, however, this data includes a large amount of the construction period and therefore the results should not be overstated.
- Since the opening of the scheme new permanent reflective posts at the splitter island and a new lane allocation sign has been implemented.

Environment

- Evaluation based on traffic flows indicates that the schemes effect on the local noise and air quality climate is slightly better than expected at most locations.
- The greenhouse gas impact of the scheme is considered neutral due to the negligible changes in traffic flows.
- The landscaping and mitigation measures implemented are in line with those outlined in the Environmental Statement. The impact can therefore be considered as expected.
- Limited heritage and townscape impacts were predicted due to the location of the scheme.
- The majority of the biodiversity mitigation measures appear to have been implemented as expected. However, slightly less woodland planting has been undertaken.
- The water mitigation measures recommended in the ES appear to have been implemented and there is no evidence to suggest they are not operating as intended. The evaluated impact is therefore neutral as expected.
- New footways have been implemented and improved as part of the scheme. The numbers of Non Motorised Users (NMU's) using the paths in the vicinity of the junction are low; therefore the neutral impact predicted has been achieved by the minor improvements made.
- The impact on journey ambience is slightly worse than expected due to congestion on Brook Street blocking the roundabout at peak times.

Accessibility

- The scheme has had no impact on option values as expected.
- Severance is likely to be slightly worse as expected due to NMU's having to cross an increased number of lanes. However, the number of NMU's is so low this is not considered to be significant.

Integration

- The scheme is consistent with a number of the policies outlined in the Essex Local Transport Plan 2, East of England Plan, and Havering Unitary Development Plan.

Summary of Scheme Economic Performance

	Pre Scheme Forecast (2002 Prices)	Post Opening Reforecast (2002 Prices)
Journey Time Benefit	£259.6m	N/A
Safety Benefit	£4.7m	£-11.7m
Total 60 Year Benefits (PVB)	£264.3m	N/A
Costs (PVC)	£14.8m	£9.5m
Benefit Cost Ratio (BCR)	**17.9**	**N/A**

- The original appraisal predicted costs and benefits over a 60 year period and used VISSIM microsimulation modelling and JUICE economic evaluation software.
- Most of the monetised benefit was predicted to arise from savings in journey times. Also, the vast majority of these savings were predicted to occur in the PM peak from 2023 onwards, with little benefit expected in the opening year.
- It is considered too early to accurately determine the level of outturn journey time benefits of the scheme, given the high level of benefits which are predicted to occur from 2023 onwards.
- The increase in accidents results in a safety disbenefit of £-11.7m. However, it is noted that the increase is not statistically significant and this will be revisited in the Five Years After evaluation, when more data is available.
- The outturn scheme cost is £9.5m which is 35% lower than predicted.
- Given the above limitations, the evidence available at the OYA stage does not provide conclusive evidence of the long term economic impact of this scheme and hence it value for money.