HIGHWAYS AGENCY

Safe roads, reliable journeys, informed travellers

POPE of Major Schemes Summary Report

Scheme Title	M27 Junction 11 – 12 Climbing Lanes
Opening Date	September 2008
POPE Stage	Five Years After

Scheme Description

The M27 junction 11 to junction 12 Climbing Lanes is a Highways Agency major scheme which was completed in September 2008. The scheme provided climbing lanes approximately 1.1 miles (1.8 km) long in each direction, approaching a summit between junction 11 and junction 12 of the M27. The widened sections of carriageway are now 4 lanes wide, and return to 3 lanes by outside lane merging. The purpose of the scheme was to separate slow-moving heavy goods vehicles from faster traffic and to improve vehicle flow on this section of the motorway.

Scheme Objectives

Objectives (from Environmental Statement and public information leaflet)	Objective Achieved?
To improve traffic flows and reduce congestion	✓
To minimise environmental impacts	✓
To improve safety	✗
To improve journey times and reliability	Partial

Key Findings

- Traffic forecasts assumed no additional traffic would be generated as a result of the scheme and this is consistent with the observed findings. Observed journey times are lower in the westbound direction compared to pre-scheme and slightly higher in the eastbound direction.
- There has been a slight increase in the number of collisions since the scheme opened.
- The outturn Benefit-Cost Ratio (BCR) of 4.1 is lower than forecast BCR of 5.5. This is due to the lower than expected benefits. However the scheme still represents high value for money.

Summary of Scheme Impacts

Traffic

- The observed post opening flows are 2% lower than pre-scheme flows along the scheme section. Traffic flows on other roads in the scheme vicinity has also recorded lower traffic flows (1% to 11%).
- Observed traffic is lower than forecast traffic in all three growth scenarios considered for scheme appraisal.
- The proportion of heavy vehicles (over 5.2metres in length) has reduced from 13.5% to 12% since the scheme opened.

- Westbound journey times are about 20 seconds lower compared to pre-scheme and eastbound journey times are slightly higher than the pre-scheme.
- For the westbound direction peak period, the observed time saving is slightly higher than the forecast time saving and in the eastbound direction the observed time saving is lower than the forecast.
- The scheme has had a moderate beneficial effect on journey time reliability in line with that forecast in the appraisal and the route stress has reduced from 94% in the pre-scheme to 84% post opening. Journey time variability has decreased (with the exception of the eastbound direction in the PM peak).

Safety

- After accounting for background trend in collision reduction, there has been a slight increase of 3.4 collisions per annum on the M27 (an increase from 13.8 to 17.2 collisions). This increase is not statistically significant.
- The numbers of fatal and slight collisions have reduced post opening, but there has been an increase in the number of serious collisions.
- Closer examination of the directional distribution of collisions pre-scheme and post opening has revealed that there is an increase in the frequency of collisions in the eastbound direction with a cluster of collisions near the eastbound lane merge. In the westbound direction, the number of collisions has reduced to half than that of pre-scheme.
- A reduction in collisions of 1% was forecast for the opening year, but observed data shows that collisions have increased by 25% compared to pre scheme after accounting for the background trend in collision reduction (an increase from 13.8 to 17.2 collisions).

Environment

- The scheme's impact on local air quality is better than expected. Greenhouse gas emissions are lower than forecast and lower than pre-scheme emissions. This is primarily due to lower traffic levels than forecast.
- Establishment of planting is mixed. Lack of topsoil within planting plots has directly resulted in widespread failures of trees and shrubs. Calcareous grass establishment is in line with expectations at this stage. However, based on the lack of control of invasive scrub species such as gorse and bramble, planting areas outside of the scheme boundaries, planted as a part of the scheme, are not receiving the control required in the Handover Environmental Management Plan. Due to the increase in retained vegetation during construction, the effects of the tree and shrub failures are not significant.
- No monitoring of the reptile translocation has been undertaken to determine the establishment of habitat enhancement.

Accessibility and Integration

- The scheme's impact on the Option Values, Severance and Access to the Transport System sub-objectives of neutral as expected.
- This scheme is compatible with regional and national transport polices and most local policies.

Summary of Scheme Economic Performance

Present Value Benefits (£m 2002 prices, discounted)	**Forecast**	**Outturn Re-forecast**
Journey Times	65.7	48.3
Vehicle Operating Costs	-10.0	2.8
TEE impacts during construction and maintenance	-2.6	
Safety	0.0	0.0
Total Present Value of Benefits (PVB)	**53.1**	**48.5**
Investment Cost	13.3	13.3
Operating Cost	-2.1	
Indirect Tax	-8.3	2.3
Total Present Value of Costs (PVC)	**2.9**	**13.5**
Benefit Cost Ratio (BCR)-Indirect Tax as Cost	**18.0**	**3.6**
Benefit Cost Ratio (BCR)-Indirect Tax as Benefit	**5.5**	**4.1**

- The outturn investment cost is marginally lower than forecast by 1%.
- The outturn assessment of the scheme benefits is £48.5m, 9% lower than predicted. This is due to lower than expected benefits from journey time savings (as a result of lower than forecast traffic volumes).
- The forecast for indirect tax revenues assumed that with the scheme more vehicles would be travelling at higher speeds, thereby increasing fuel consumption. The provision of a climbing lane in both directions has not resulted in any additional traffic and consequently traffic levels are lower than pre-scheme. This means there is less fuel consumption (and therefore tax revenue) than in the pre-scheme situation.
- The outturn BCR (4.1) is lower than forecast BCR (5.5). This is due to the lower than expected benefits. However the scheme still represents high value for money.

This document summarises the findings of the Five Year After (FYA) Opening post opening evaluation study completed in April 2014.