

POPE of Major Schemes Summary Report

Scheme Title	A43 Improvements
Opening Date	18 th September 2002
POPE Stage	Five Year After Study

Scheme Description

The A43 improvements formally opened on 18th September 2002 and broadly consisted of upgrading 3 single carriageway sections of the A43 to dual carriageway and of improvements to M40 Junction 10. The villages of Syresham and Silverstone were bypassed as part of the improvement. The three component schemes are summarised as follows:

- A43 Widening from M40 to B4031, 6.6 km in length (to include reconfiguration of M40 Junction 1)
- The A43 Syresham Bypass (also known as the A43 Whitfield Turn to Brackley Hatch Improvement), 4.1 km in length; and
- A43 Silverstone Bypass, 7.7 km in length.

Objectives (Appraisal Summary Table)

Objective Achieved

- | | |
|---|----------------------|
| • Complete the dualling of the A43 between the M40 and M1 | Yes |
| • Relieve flow problems on single carriageway and M40 J10 | Yes (except M40 J10) |
| • Improve journey time reliability | Yes |
| • Improve the environment in Syresham and Silverstone | Yes |

Key Findings

- In addition to completing the dualling of the A43 between the M40 and M1, these schemes have generally met their objectives to improve safety, relieve traffic flow problems, improve journey time reliability and improve the environment in Syresham and Silverstone.
- The dualling scheme has successfully lowered the accident rate on links between junctions. But at some junctions, particularly M40 Junction 10, accident rates have risen. The HA has since undertaken studies into the safety issues at this junction and is considering the measures recommended.
- The traffic modelling used to forecast the traffic impacts of these schemes did not include the likely effects of reassignment or induced traffic, resulting in traffic forecasts that were too low. Since the appraisal of this scheme the HA's traffic modelling procedures have improved.
- Despite the A43 improvements, the additional traffic generated by special race events requires temporary restrictions on normal traffic.
- There has been increased flooding in the area. The HA has met with representatives of Northamptonshire CC on site and the balancing pond seemed to be performing well.
- The estimated economic return on this scheme is not as high as we predicted. All three schemes cost more than predicted. This was due to delays in construction caused by the foot-and mouth outbreak, poor winter weather, and additional work undertaken as part of preparation for the 2002 Formula One weekend.
- The economic benefits for this scheme are substantially less than forecast due to higher than expected traffic on the A43 eroding journey time benefits (especially on Silverstone Bypass) and an increase in accidents at M40 J10.

Summary of Scheme Impacts

Traffic

- Average weekday traffic flows (AWTs) on the A43 are 35,900 vehicles per day (vpd) north of the M40, 37,600 vpd on the Syresham bypass, and 38,200 vpd on the Silverstone bypass.
- AWTs on the old A43 through Syresham and Silverstone have reduced by 97% and 90% respectively. These reductions are broadly in line with pre-opening forecasts.
- Corridor traffic flows (traffic using the old road and new road) have increased by 45% and 60% over the last 5 years through Syresham and Silverstone respectively.
- Reassignment from the M1 and A361 accounts for most of the additional traffic on the A43. The remainder may have been reassigned from other routes, or may have been induced.
- The flows on the new A43 are 29% to 46% higher than forecast. The traffic forecasts for each of the schemes were produced separately, but all assumed that no additional traffic would use the improved A43.
- The A43 journey time saving for travelling between the M40 and A5 ranges from 6 to 9 minutes, although the saving is reduced to less than a minute northbound in the PM peak due to queuing delays at the A5 roundabout.
- When the British Grand Prix is held at Silverstone, special traffic management measures ban through traffic from the A43, to allow race-going traffic to gain access to the event without experiencing undue delay.

Safety

- As predicted, an annual accident saving of 31 PIAs has been observed on the A43 bypass sections at Syresham and Silverstone.
- This saving has been partially offset by an increase in accidents at junctions between the M40 and B4031.

Environment

- Air Quality in the bypassed villages of Syresham and Silverstone has improved through substantial reductions in traffic volumes.
- Due to higher than predicted traffic flows, the collective impact of the schemes on Noise and Air Quality is likely to be more severe than forecast.
- Landscape and Biodiversity mitigation measures have generally helped minimise the scheme's impact on the environment in line with expectations. Landscape planting has established satisfactorily and should reach its objectives of providing visual screening and landscape integration subject to continued maintenance and management.
- There has been an increase in flooding incidents and severity of them in recent years. The role of the bypass in contributing to flooding in Silverstone is being investigated, but so far no link has been substantiated.
- The result of an archaeological study has resulted in a greater historical understanding of an area of the country for which little was previously known.
- The removal of traffic through Silverstone has delivered substantial benefits for a conservation area and around 20 listed buildings.

Accessibility

- Reduced traffic in villages helped create a better environment for vulnerable users – this has largely been achieved through making it easier to cross the former A43 and through maintaining rights of way routes.

Integration

- The scheme conforms with Oxfordshire and Northamptonshire Structure Plans. Probably little effect on proposed development at Upper Heyford airbase, but assists developments at Brackley, Towcester, and Silverstone racing circuit.

Summary of Scheme Economic Performance

	Pre-scheme forecast	Post-opening forecast
Cumulative Scheme Journey Time Saving	£173.1m	£98.3m
Cumulative Scheme Accident Saving	£144.7m	£65.0m
Total 30 year Benefits (2002 prices)	£317.8m	£163.3m
Costs (2002 Prices)	£76m	£119m
Benefit Cost Ratio (BCR)	4.2	1.4

- Total journey time savings observed 5 years after opening for the 3 schemes combined were 43% lower than predicted.
- Outturn accident benefits 55% lower than predicted, for 3 schemes combined.
- The actual cost of the three schemes was £119 million, 57% higher than the predicted £76m.