

POPE of Major Schemes Summary Report

Scheme Title	A500 Stoke Pathfinder
Opening Date	October 2006
POPE Stage	One Year After

Scheme Description

The scheme comprised of improvement to 1.7 miles of the A500 Queensway ('D-Road'), Stoke-on-Trent. Specific elements of the scheme included:

- Construction of a new two-lane dual carriageway in an underpass beneath the Stoke Road and City Road junctions;
- Retention of the existing dual carriageway between Stoke Road and City Road to act as linked slip roads between the junctions, with merges enabling traffic to join the new underpass in each direction;
- Removal of the roundabouts at Stoke Road and City Road, each becoming a pair of linked signal junctions, connecting the slips with Stoke Road and City Road; and
- Upgrading the dual carriage way from 2-lane to 3-lane, northward from the underpass to Shelton New Road, and southward from the underpass to the A50.

Objectives

Objective Achieved?

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| • To relieve congestion and conflicting movements at the two former roundabouts; | Yes |
| • To improve journey time reliability; | Yes |
| • To improve safety for all road users; | Yes |
| • To improve access across the A500 and to Stoke Town centre and railway station for pedestrians, cyclists and public transport; | Unknown |
| • To encourage the most appropriate form of transport including walking and cycling; and | Unknown |
| • To facilitate the development of sites adjacent to the A500 and to promote the economy of the North Staffordshire conurbation generally. | Yes |

Key Findings

- The scheme has achieved its key objectives to relieve congestion, improve journey times, improve safety for all users and improve access.
- Traffic has significantly reduced at the Stoke Road and City Road surface junctions.
- Journey time surveys reveal savings on the A500 along the extent of the Pathfinder. However, other sections of the A500 have become slower, due to the extra traffic attracted to it. Other routes do not show consistent patterns of change.
- The area over which accident savings were appraised is regarded as too large and is likely to have been affected by other factors not of direct relevance to the scheme. Initial indications based on the first year's accident data are that safety has improved to a statistically significant level along the extent of the scheme, yet benefits were on the whole lower than predicted.
- Traffic flows have been generally less than predicted, due to lower levels of development than forecast in the area. In April 2009 the Department for Transport (DfT) issued new

guidelines on 'uncertainty in traffic forecasting' which covers this topic. This guidance is now used in all our scheme appraisal calculations (including the associated greenhouse gas, noise and air quality predictions); ensuring decision makers take account of the range of possible outcomes that may occur.

- Journey time benefits are higher than predicted, but safety benefits are lower. Outturn costs are substantially higher than predicted resulting in a lower BCR than forecast. Since the time of these estimates the Highways Agency has changed the way it estimates scheme costs in order to improve accuracy.
- Most environmental outcomes were as predicted, but the Environment Agency have raised some concerns with the treatment of watercourses.
- Whilst development of sites adjacent to the A500 was facilitated by the scheme, less development than anticipated has materialised. Consultation with Stoke City Council indicates that the scheme has increased the accessibility of the area and has assisted its strategies within the urban area.
- Public transport users have benefits from improved journey times and reliability.

Summary of Scheme Impacts

Traffic

- Flows on the A500 within the scheme have increased by 24% from 61,000 Average Weekday Traffic 'Before' to 76,000 AWT 'After'.
- Traffic flows are lower than predicted on the A500 mainline, parallel link roads, and side roads. This is believed to be due to less development having been completed than was forecast. Around 50% of assumed developments have been completed.
- Approximately two-thirds of the traffic previously using the surface junctions at City Road and Stoke Road has transferred to the new underpass, with consequent benefits to vehicles at the junctions and to through traffic.
- Journey times have improved by up to 2.5 minutes along the length of the scheme, but have become slightly slower on some other sections of the road, probably due to the additional vehicles being attracted to the A500. On other routes there is no consistent pattern of change.
- It appears that fewer pedestrians and cyclists are now crossing the A500 within the extent of the scheme, although proportionally more are now crossing at the Stoke Road and City Road junctions.

Safety

- The total annual average number of Personal Injury Accidents has decreased from an average around 19 before the scheme opened to 12 since opening, a decrease of 38%.
- This decrease in accidents is statistically significant, but is lower than the predicted decrease of 16. However, the outturn savings are for the improved area of the A500 only and do not include any benefits in the wider network.
- The fall in accidents on the A500 has taken place despite an increase in traffic. The rate per million vehicle-kilometres has fallen from 0.353 to 0.180.
- The 'Severity Index' has risen from 0.017 'Before' to 0.167 'After'. It should be noted that the absolute numbers of fatal and serious accidents are very small, and it is too early to draw any conclusions about this.

Environment

- As traffic flows are lower than predicted in the corridor, the impacts of the scheme on noise, air quality and greenhouse gas emissions are assessed as being better than expected.
- In general for other sub-objectives the proposed improvements and mitigation have been carried out as proposed.

- Some of the landscape planting has not been undertaken and weed growth has not been controlled. Regular maintenance of landscape planting is essential for fulfilling the mitigation aims of the Environmental Statement (ES).
- The treatment of watercourses was not entirely as the Environment Agency expected. . The Fowlea Brook has been placed in open channel but vertical concrete walls have been retained in two locations, which was not the proposed mitigation in the ES.

Accessibility

- The number of cyclists and pedestrians crossing the A500 was expected to increase following scheme opening. However, surveys indicate that despite increases at Stoke Road and City Road, the total numbers have fallen. The reasons for the decline are unknown.
- Access to bus stops and the railway station have been improved as a result of overbridges replacing surface level signalised roundabouts.
- Bus services and passengers have benefits from improved journey times and reliability.

Integration

- Stoke City Council have indicated that the implementation of the scheme has improved accessibility and thus increased the competitive advantage and hence attractiveness of the inner urban core, an objective of the Local Development Framework (LDF) Core Spatial Strategy.
- The scheme has facilitated developments in the area, but half have not yet been completed.

Summary of Economic Performance

	Costs in £m 2002 Prices discounted to 2002	
	Pre-scheme Forecast	Post-opening re-forecast
Journey Time Benefit	£108.9m	£144.8m
Safety Benefits	£6.4m	£4.8m
Total 30 Year Benefits (PVB)	£115.3m	£149.6m
Costs (2002) prices	£34.4m	£59.2m
Benefit Cost Ratio (BCR)	3.3	2.5

- Journey time benefits at £144.8m are 30% more than predicted.
- Accident benefits at £4.8m are lower than the prediction.
- Out-turn costs at £59.2m, are considerably higher than forecast.
- Despite benefits being higher than forecast, the higher costs result in the BCR being lower than expected, but still representing good value for money.

This document summarises the findings of the one year after post opening evaluation study completed in March 2009.