

POPE of LNMS - Summary Report

Scheme Title: **Spittals Interchange – Provision of Traffic Signals**
 HA Number: **DD78702**
 Opening Date: **January 2006**
 POPE Stage: **Two Years After Study**

Scheme Description

The A14 Spittals Interchange is a grade-separated junction located to the west of Huntingdon in Cambridgeshire. Prior to the scheme the junction had been identified as being close to capacity, with queuing identified from the Cambridge and Huntingdon directions and high accident frequencies on the approach roads and circulatory carriageway.

The outturn scheme had the three main components, as follows:

- ◆ Installation of MOVA (Microprocessor Optimised Vehicle Actuation) signal control on each arm and the circulatory carriageway;
- ◆ Strip widening to the A14 eastbound and westbound approaches and to sections of the circulatory carriageway; and
- ◆ Realignment of the A141 exit.

An assessment period of 5 years has been selected for this project owing to changes that will take place on the A14 in relation to the planned Ellington to Fen Ditton scheme.

Scheme Objectives and Attainment

Objectives	Objective Achieved?
1. To have a positive impact on road safety	Yes
2. To improve operational efficiency at the junction by reducing delays and associated queues	Yes

Economic Summary

	Predicted	Predicted Corrected	Actual
First Year Benefit*	£458,000	£680,000	£844,000
Five Year Benefit*	£3,607,000	£3,118,000	£3,907,000
Cost*	£1,742,530	£1,927,742	£1,962,423
Benefit Cost Ratio (BCR)	2.07	1.62	1.99
%FYRR	26.3%	35.3%	43.0%

*Figures are quoted in 2002 price base and discounted to 2002

Main Scheme Impacts

Economy	<ul style="list-style-type: none"> - Journey time benefits were larger than forecast in the predicted corrected PAR; - Traffic flows increased on the A14 North and A14 South during both peak periods - Flows increased on the A141 in the PM Peak only and fell on the A14 West during both peak periods. This supports the consultation feedback from Cambridge County Council that traffic conditions has not been improved on these arms.
Safety	<ul style="list-style-type: none"> - Accident benefits were 14% higher than forecast with the scheme saving 9.7 accidents in the opening year; - The accident severity index has increased from 9.4% to 10.4%, although the absolute number of severe and fatal accidents has actually decreased.
Environment	<ul style="list-style-type: none"> - As predicted in the PAR the scheme has had little impact upon environmental, accessibility and integration objectives. - Other than predicted, the scheme had beneficial impacts to ambience due to a reduced number of accidents and improved 'readability' of the roundabout; and - Slightly adverse impacts upon local air quality due to increased traffic levels.
Accessibility	<ul style="list-style-type: none"> - The scheme had no measurable impacts on public transport interchange or cycling/walking accessibility
Integration	<ul style="list-style-type: none"> - The objectives of the scheme were in alignment with policies identified in the Cambridgeshire LTP2

Lessons Learnt

- ◆ The scheme was implemented in accordance with the latest PAR;
- ◆ Despite offering only a temporary solution, the scheme has provided good value for money as illustrated by a BCR of 2;
- ◆ Technical data can help to support issues identified by stakeholders and vice versa, illustrating the value of anecdotal evidence in scheme appraisal;
- ◆ As with many other large LNMS schemes the impact of junction improvements can be variable by arm;
- ◆ Given that prior to opening the junction was operating at capacity, the observed 1-9% increase in traffic volumes at the junction can be attributable to enhanced capacity;
- ◆ The availability of pre-opening journey time/delay data can help verify both the extent of an issue being addressed and the modelling outputs used to inform scheme appraisal;
- ◆ It appears that, with relation to economic benefits, the PAR predicted a negative first year rate of return due to the delays from ARCADY being underestimated.
- ◆ Marginal journey time savings can be observed even where the scheme is predominantly lead by safety objectives;
- ◆ The limited ability of TRANSYT to measure the benefits of MOVA may have affected the reliability of journey time saving calculations in both the PAR appraisals;
- ◆ The area of analysis for accidents was too narrow and did not fully consider the wider changes in the occurrence/distribution of accidents that may emerge as a result of changing queue lengths on other arms.