POPE of Major Schemes Summary Report

Scheme Title	**A5117/A550 Deeside Park Junctions Improvement**
Opening Date	**March 2009**
POPE Stage	**Five Years After**

Scheme Description

The A5117 / A550 Deeside Park Junctions Improvement is a Highways England major scheme to provide grade-separation at two junctions on the route of the A494, A550 and A5117, and to extend the M56 motorway to bypass a third junction. The scheme extends over three miles, almost all of which is in Cheshire, apart from a short section falling within Flintshire.

Construction began in October 2006; all the junction improvements were operational by December 2008, with full scheme completion in March 2009.

Objectives	Objective Achieved?
To improve safety for all users	✓
To benefit the economy by reducing congestion and improving journey time reliability	✓
To minimise adverse impacts to people, property, landscape, and sensitive ecological areas	✓
To Improve access to local communities and businesses	✓
To provide a safe route for cyclists, pedestrians, and horse-riders	✓

Summary of Scheme Impacts

Key Findings

- The A494/A550 section of the scheme is used by over 70,000 vehicles per day (vpd) on weekdays.
- Increased traffic on the section of road through the scheme is the result of rerouting traffic; especially strategic east-west traffic from the alternative section of the A55.
- Traffic flows are lower than predicted due to influences beyond the scheme.
- Journey times have improved and congestion reduced through the provision of free-flow movements for strategic traffic at the junctions.
- The number of injury collisions has reduced significantly, more than was forecast.
- Economic evaluation shows the scheme to be value for money.
- The provisions for cyclists, pedestrians and horse riders have improved as a result of measures built into the scheme and these are being well-used.

Traffic

- The section of A494/A550 improved by the scheme is used by over 70,000 vehicles per day on weekdays, an increase of 10% since before construction.
- Increased traffic on the section of road through the scheme is the result of rerouting traffic especially strategic east-west traffic from the alternative section of the A55.
- Traffic through the scheme is 14% lower than predicted due to the trend in recent years recent of lower traffic linked to the economic downturn also due to the A494 widening scheme on the adjacent section of road in Wales not being built.
- Vehicles using the A494/A5117 through the improved junctions experience journey time savings in all periods and both directions.
- The greatest time savings are in the peak periods, particularly westbound, which saw a saving of 4.5 minutes in the AM peak, while there were at least 30 seconds savings in the inter-peak.
- Reliability on this route has been improved through increased capacity and free flow movement of the trunk road through the junctions.

Safety

- Collision numbers on the roads through the scheme have reduced post-opening by 49%, an annual saving of 14 collisions. This reduction has included the national trend of background reduction; is statistically significant hence is attributed the scheme.
- Woodbank junction which is now mainly grade-separated, has seen the greatest safety improvement.
- The collision rate on the A494 (formerly A5117), which takes into account the extra traffic on this route, has decreased by a significant 58%.
- Collisions which are classed as slight have reduced at a greater rate than the much smaller number of serious and fatal ones, so the overall severity index has increased slightly from 13% to 16%.
- The collision savings are 41% higher than forecast.

Environment

- Observed traffic flows are lower than predicted at two locations on the A494/A5117 within the scheme and slightly higher in on the A494 near Queensferry, west of the scheme. Based on POPE methodology, predicted noise impacts remain as expected and air quality impacts are presumed better than expected.
- Woodland and hedgerow planting within the scheme is progressing well and is expected to reach its design year growth targets. However, handover maintenance requirements including control of noxious weed growth, removal of plant shelters and recent plant replacement appear to have not been undertaken. The lack of maintenance has impacted particularly in species-rich grassland where noxious weeds have remained uncontrolled.
- Gateway features of a lion and a dragon along the lines of the white horse carving of Wiltshire were installed on the verges at the boundary between England and Wales, however these do not appear to have received recent maintenance to ensure the visibility and definition of the features is maintained.
- Growth within planting plots is progressing well. Although there was initial post opening monitoring of great crested newts, bats and breeding birds, the planned further biodiversity monitoring in the aftercare period has not been done.
- Ponds appear to be operating as expected, although the pond south of the Deeside Park junction is showing signs of blockage / siltation at its outlet. Vandalism of this pond is also noted. It is unclear to POPE when this vandalism occurred and no information on frequency of maintenance inspections has been made available. Noxious weed growth is noted in some pond areas that has remained uncontrolled.
- All public rights of way (PRoWs) assessed show signs of use, including use by cyclists throughout the day and lunchtime pedestrians taking a break from the various offices located near Deeside Park junction. All PRoW appeared well-maintained for ease of use. Improvements at the various crossing points over the trunk roads are in place as expected.

Accessibility and Integration

- Provision for cyclists, pedestrians and horse riders is better than before the scheme was built as a non-motorised user route has been provided along the length of the scheme, improved crossings at Woodbank junction and the use of a new bridge over the A5117. This has reduced severance and improved accessibility.
- The scheme has not led to any change in public transport provision.
- The scheme has had no impacts on transport interchange.
- The scheme supports regional and local land use policies.

Summary of Scheme Economic Performance

All monetary figures in 2002 Prices and values			Forecast	Outturn re-forecast
Indirect Tax impact as increasing the cost	Present Value Benefits	Journey Times	£937.1m	£173.6m *
		Construction / Maintenance Impact	£-13.3m	
		Safety	£3.5m	£18.3m
		Total	£927.3m	£178.6m
	Present Value Costs (includes indirect tax)		£65.5m	£77.2m
	Benefit Cost Ratio (BCR)		14.2	2.3
Indirect Tax impact as reducing the benefit	Present Value Benefits (including indirect tax)	Total	£906.9m	£158.2m
	Present Value Costs		£45.1m	£56.8m
	Benefit Cost Ratio (BCR)		20.1	2.8

**The evaluation of the journey time benefits is based on A5117 corridor only whereas the forecast covered a very wide area extending from Flint to Chester and Ellesmere Port. Hence this figure represents an underestimate of the true benefits.*

- The investment cost of the scheme was £51.7million in 2002 prices, 18% above that estimated. This was partly due to additional costs of rerouting a major gas main.
- The journey time benefits are evaluated as £173.6million over 60 years over the local area only. This represents a conservative assessment of the benefits and is hence much lower than forecast which covered a much wider area and included the impacts of strategic rerouting.
- The monetary benefits of the savings in the number of injury collisions is evaluated as £18.3million over 60 years, higher than forecast despite including the impact of background reduction in collisions over this period.
- The outturn BCR assessments are over 2, despite only a conservative assessment of the benefits, and this represents over £2 of benefits for every £1 spent which is considered as high value for money.

This document summarises the findings of the Five Years After (FYA) post opening evaluation study completed in 2015.