

Post Opening Project Evaluation of Local Network Management Schemes Year 8 (2011)





M6 J32 Southbound Widening

Introduction

Local network management schemes (LNMS) are improvements which we make to the trunk road network that cost less than £10m. These can vary in scale from simply changing a road sign to building a new bridge.

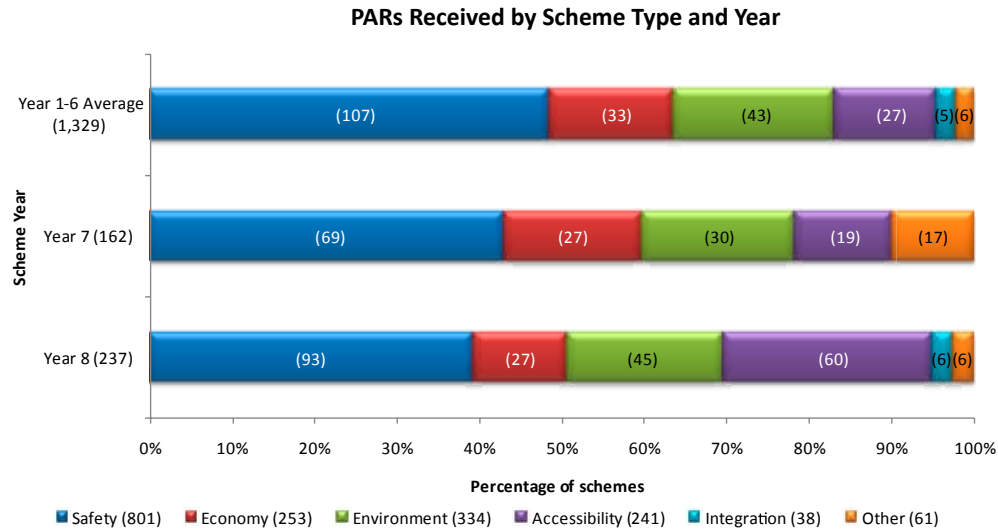
It isn't possible to evaluate every scheme but around one year after opening we go back to look at as many as we can. We do this to see if schemes are performing as expected and having the impacts that we predicted on your journeys, the environment and our economy. This ongoing programme of evaluation is called **post-opening project evaluation (POPE)** of LNMS.

POPE of LNMS has been running for eight years and we now have the results of 560 scheme evaluations to analyse and report. This latest report now includes the results for some schemes that opened in the 2009-10 financial year.

For evaluation we separate the schemes into two groups. Schemes which cost less than £1m to build are called small LNMS and those costing more than £1m are large LNMS.

Investment in LNMS

Each scheme is appraised using a project appraisal report (PAR) and this chart shows how many PARs were retrieved by POPE for each scheme category. The two latest evaluation years are shown in full and the first six years have been averaged.



- Safety schemes have been the biggest category every year, ranging from approximately 40 to 50 per cent of PARs received in any given year. However, that proportion seems to be getting smaller over time.
- The biggest change this year appears to be the number of PARs received for accessibility schemes. More than three times as many as last year; these make up around one-quarter of all PARs received in year 8. This is mainly due to a large proportion of schemes this year being designed to make our network compliant with the disability discrimination act (DDA).

How many LNMS have we evaluated?

Safety and economy LNMS are the two scheme types which we are most likely to be able to evaluate. This is because they tend to have impacts that are quantifiable. We can count the number of accidents saved or the number of minutes that are saved on a particular journey.

We have evaluated 57 per cent of safety and economy small LNMS (491 schemes) and 55 per cent of large LNMS (43 schemes). The main reasons it hasn't been possible to evaluate all schemes are because of a lack of quantifiable impacts and supporting data being permanently unavailable.

Results

Have the latest schemes been a success?

Yes. Small safety and economy LNMS which opened in years seven or eight have produced first year rates of return (FYRR – this is the percentage of a scheme's cost that it repays in benefits within its first year of operation) of 105%. This means that on average they pay for themselves within a year of opening.

Large LNMS evaluated in years seven and eight have an average FYRR of 20%. These schemes have a lower FYRR because the cost of building them in the first year is so much greater. Typically they will pay for themselves in five years and will go on providing benefits for much longer than this.



A5 Potterspurty Crossroads

Perhaps the greatest success is the accident savings, with small and large LNMS saving 2 and 2.1 accidents per scheme on average. Overall we can be confident that the money invested over evaluation years seven and eight is having a measurable, positive impact on your journeys.

How is the LNMS programme performing overall?

The table below shows the observed first year results for safety and economy LNMS from all eight evaluation years. Some outliers have been removed so that the results are not distorted by schemes which performed either extremely well or extremely badly.

Observed first year results							
	Sample	Cost	Accidents Saved	Accident Benefit	Vehicle Hours Saved	Journey Time Benefit	FYRR
Small LNMS	422	£62,521	650	£61,415	1,221,066	£15,102	122%
	Average per scheme	£148	1.5	£146	2,894	£36	
Large LNMS	42	£107,452	126	£12,417	1,849,889	£28,204	38%
	Average per scheme	£2,558	3.0	£296	44,045	£672	

Note: Values are in £000s

These results clearly show that overall the LNMS programme provides great returns on our investments. Small LNMS will typically have paid for themselves within 10 months and large LNMS within 3 years. But of course, nearly all schemes will carry on providing benefits for much longer than this.

Based on the schemes' observed first year performance, we have re-forecast what we expect the results to be over the whole life of the schemes. Some individual schemes are less, but most are appraised and therefore also evaluated over a 60 year period.

We have always calculated the benefit to cost ratio (BCR) for large LNMS but we have only recently begun calculating BCRs for small LNMS. We've also retrofitted this calculation to schemes evaluated in earlier years. This means it is now easier to make a direct comparison between small and large LNMS. The following table shows the re-forecast scheme life results.

Re-Forecast scheme life results					
	Sample	Scheme Life Cost	Scheme Life Accident Benefit	Scheme Life Journey Time Benefit	BCR
Small LNMS	422	£186,316	£3,315,092	£373,428	19.8
	Average per scheme	£442	£7,856	£885	
Large LNMS	42	£107,452	£516,335	£1,243,573	16.4
	Average per scheme	£2,558	£12,294	£29,609	

Note: Values are in £000s

The re-forecast BCRs for safety and economy schemes are 19.8 for small LNMS and 16.4 for large LNMS. This shows that both offer excellent value-for-money.

Comparing the two sizes of scheme suggests that small LNMS are marginally the better investment and, as they are cheaper schemes, also carry less risk. It would however be a short sighted view to just focus on developing small LNMS following this result. The re-forecast BCRs are reasonably similar, and large schemes will always be necessary to respond to larger scale problems. If they were simply ignored as they are not as good value-for-money as small LNMS, the problems may worsen and end up costing us more in the long run. In essence, small and large LNMS are responses to different types and sizes of problems and so cannot substitute for one another.



M25 J15 Safety Improvements

Accuracy of appraisal

Costs

Our appraisal of costs is generally quite good, probably because costs are controllable. Small LNMS typically cost less than expected by around 12 per cent whereas large LNMS typically cost more than expected by around 9 per cent.

Benefits

The appraisal of benefits is less accurate than costs. This is not surprising as there are many variables involved which are beyond our control. Small LNMS benefits are typically 14 per cent higher than forecast while large LNMS benefits are typically 17 per cent lower than forecast. When the spread of the data is taken into account, overall large LNMS are noticeably better appraised for benefits than small LNMS.

At the programme level, it is good to note that benefit appraisal is quite accurate, with the programme producing just 8 per cent less benefits than forecast in the PARs.

Environment, accessibility and integration schemes

This year we have slightly changed the approach we take to how we evaluate environment, accessibility and integration schemes. For many of these types of schemes, particularly those involving landscape or biodiversity, evaluation after one year is not possible because the scheme measures have not had enough time to become established. This year we reconsidered schemes from previous evaluation years alongside those most recently constructed. This meant that we were able to evaluate some schemes three to five years after they were completed.

We have evaluated ten schemes in these categories this year including cycleways, pedestrian crossings, planting schemes, runoff water improvements, otter protection measures and noise mitigation. As well as these we have also evaluated one large accessibility scheme involving a bridle bridge over the A2 in Kent.

This brings our sample of evaluated schemes to 27, meaning we can provide a more robust and detailed evaluation of these scheme types than in previous years.

Sample of environment, accessibility and integration schemes evaluated

Scheme Type	Number of Schemes
Environment	15
Accessibility	9*
Integration	3
Total	27*
	* Including one large LNMS

Overall most environment, accessibility and integration schemes have achieved their objectives and are performing as we expected.

Environment schemes that have not been particularly successful tend to be those relating to biodiversity and landscaping. These types of schemes require a high level of maintenance and after care but we found that this maintenance is not always carried out. Schemes relating to noise reduction and wildlife, however, have done particularly well.

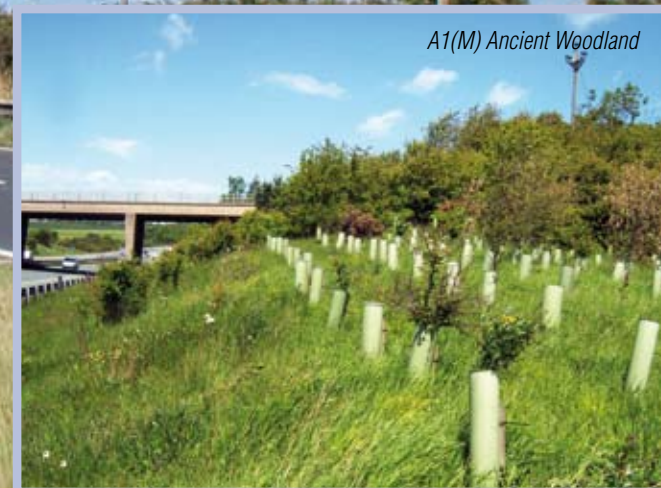
Feedback received during face-to-face surveys tells us that overall you are generally satisfied with the outcomes of **accessibility schemes**. However, there are a few schemes where this has not been the case. It seems that these could potentially have been resolved by us interacting and communicating better with local residents and users at the scheme appraisal stage.

Accessibility schemes that have been particularly successful include cycle and pedestrian schemes where there is a defined journey purpose for users such as travelling to work.

A2 Kingston Bridle Bridge



A1(M) Ancient Woodland



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Find out more

More information about POPE of LNMS and a copy of the full report can be found on our website (**www.highways.gov.uk/evaluation**). The main report provides further detail on how the evaluations are carried out, more in-depth analysis of the results and further discussion of the findings and implications.

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