National Audit Office

HIGHWAYS AGENCY

A5 Queue Relocation in Dunstable – Wider Lessons

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL | HC 1043 Session 2005-2006 | 28 April 2006

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LONDON: The Stationery Office
£6.75

Ordered by the
House of Commons
to be printed on 24 April 2006

This report has been prepared under Section 6 of the National Audit Act 1983 for presentation to the House of Commons in accordance with Section 9 of the Act.

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3 April 2006

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SUMMARY


WELCOME TO
DUNSTABLE
MARKET TOWN SINCE 1109
TWINNED WITH
PORZ AM RHEIN AND
BOURGOIN-JALLIEU

Dunstable town centre suffers severe traffic congestion, due to limited road capacity and high volumes of heavy goods vehicles, causing poor air quality. The Dunstable A5 queue relocation scheme was designed to provide a co-ordinated traffic management control system using existing and new traffic signals along the A5. The scheme's aims were to improve the flow of traffic; reduce queues; improve safety and accessibility for pedestrians; improve the accident safety record at Caddington Turn junction and lessen noise and pollution. Construction began in 1999 and was completed in 2004. The scheme was budgeted to cost £1.4 million and the final outturn was £2 million.

The way the scheme's objectives were described by the Highways Agency created high expectations locally which were not ultimately satisfied. Although there has been an overall reduction in accidents, there has been an increase in the number of accidents occurring at junctions in Dunstable town centre since the queue relocation scheme came into operation. Local stakeholders attributed this to increased waiting times and pedestrian unfamiliarity with the new road layout. Despite the overall fall in the number of accidents, the scheme has not delivered the expected decrease in their severity. (It should be noted though, that beyond the post opening period covered by the Agency's Post Opening Project Evaluation report, the total figures for accidents causing injury, and pedestrian injuries in particular, have fallen.)

The modifications the Agency made to the scheme resulted in busier roads and longer waits at pedestrian crossings.

The Agency accepts that it did not recognise or manage this 'expectation gap', which is at the heart of residents' and local councils' dissatisfaction with the completed scheme.

Following initial public consultation, the Agency modified the specification for the scheme but did not impart these changes effectively to local residents and local councils, who still expected the completed scheme to reduce congestion, improve journey times and improve air quality.

The Agency's Post Opening Project Evaluation report[1] indicates that the scheme has not delivered some of the benefits forecast for safety, journey times, environment, accessibility, and scheme costs. The evaluation makes no mention of the impact on congestion on the A5, in the Town Centre or on surrounding routes, and did not fully evaluate changes in air quality. Local stakeholders were not consulted during the post-completion evaluation of the scheme. The Agency may not therefore be aware of additional costs and other unintended outcomes arising from its schemes.

The Transport Minister and the Agency's Chief Executive have met local representatives to discuss ongoing problems. Local dissatisfaction has highlighted the potential for conflict between national and local interests when proposing solutions to problems affecting the trunk road network. The MP for Bedfordshire South West referred the matter to the Comptroller and Auditor General and the National Audit Office for investigation, through the Chairman of the Committee of Public Accounts. The results of the Comptroller and Auditor General's review are set out in this report.

Whilst the circumstances of the Dunstable scheme are specific to that location, our enquiries have identified lessons which could apply more widely across the Agency. Our findings and suggestions for improvement are set out in the rest of this report.

1 LNMS Evaluation Report: A5 Dunstable Queue Relocation, September 2005, amended and re-released in January 2006.

RECOMMENDATIONS

On managing stakeholder expectations:

1 For future schemes, the Agency should:

- consider making local stakeholders aware as soon as possible of constraints on delivering service improvements, so as to help manage expectations.
- provide training for Project Sponsors on managing stakeholder expectations to promote realistic outcomes for schemes.

2 Where modifications are made to the specifications of road schemes or to scheme objectives after consultation locally, the Agency should inform all parties of changes and their likely impact especially if these are potentially adverse.

On prioritising road schemes:

3 In view of the potential for sub-optimal prioritisation of road schemes, the Agency should carry out a re-evaluation of the merits of a scheme when costs or specification are revised, or the expected benefits of the scheme have been re-assessed. The Agency introduced a cost control procedure in March 2003 for all schemes over £500k. Schemes with a low first year rate of return (FYRR) like Dunstable require approval at senior management level above the team promoting the scheme. Similarly scheme cost increases greater than 10% require Divisional Director approval, including review of the first year rate of return.

On modelling:

4 As far as possible, the Agency should model the full effects of a proposed traffic scheme to pick up issues like increased 'rat running'.[2]

On improving cost data:

5 In the absence of reliable preparation and supervision cost data on schemes using novel traffic management measures, the Agency should benchmark cost data from other organisations, such as local transport authorities, who have implemented similar schemes. This would need co-operation from local highways authorities.[3]

On post project evaluation:

6 The Agency should consider commissioning and publishing a review of the operation of the Split Cycle Offset Optimisation Technique (SCOOT)[4] system in Dunstable.

7 Surveying local councils and local highways authorities after completion of the work, would provide useful feedback on whether the schemes have delivered the benefits promised and help the Agency identify areas for improvement.

8 The Agency should also consider consulting local authorities on accident trends as part of its Post Opening Project Evaluations.

2 Where drivers use other routes to make regular frequent journeys.
3 The Traffic Management Act 2004 requires any future schemes of this nature to be developed in partnership with the local highways authority.
4 Split Cycle Offset Optimisation Technique (SCOOT) is a tool for controlling traffic signals in urban areas. On-street detectors embedded in the road allow it to respond automatically to fluctuations in traffic flow.



On improving traffic schemes generally:

9 To improve information sharing about novel solutions devised to address difficulties when implementing schemes:

- The Agency should establish a central database of schemes, allowing Project Sponsors to identify other schemes, for example, which reduce congestion and are using SCOOT and other traffic queuing measures.
- Traffic Operations Directorate's Regional Operations Managers should discuss novel or problematic schemes at their monthly meetings.
- The Agency should also consider publicising on its web site and in trade magazines the lessons learned from its use of novel schemes and new technologies that will be of interest to local highways authorities.

A5 QUEUE RELOCATION SCHEME

What was the problem?

Dunstable town centre has suffered from severe and longstanding traffic congestion

1 Dunstable town centre has suffered from severe traffic congestion problems for many years, due to limited road capacity, a high volume of heavy goods vehicles using the A5 to access the M1 South, and continuous heavy traffic. The busy A5 trunk road, used as an M1 overspill, runs through Dunstable town centre where it intersects with the A505 and other local routes as shown in **Figure 1 overleaf**. As a result, Dunstable town centre is prone to grid-locking, bringing local and through traffic to a standstill and resulting in poor air quality in the town.

Central and local government decided on a short term, local solution for Dunstable's traffic

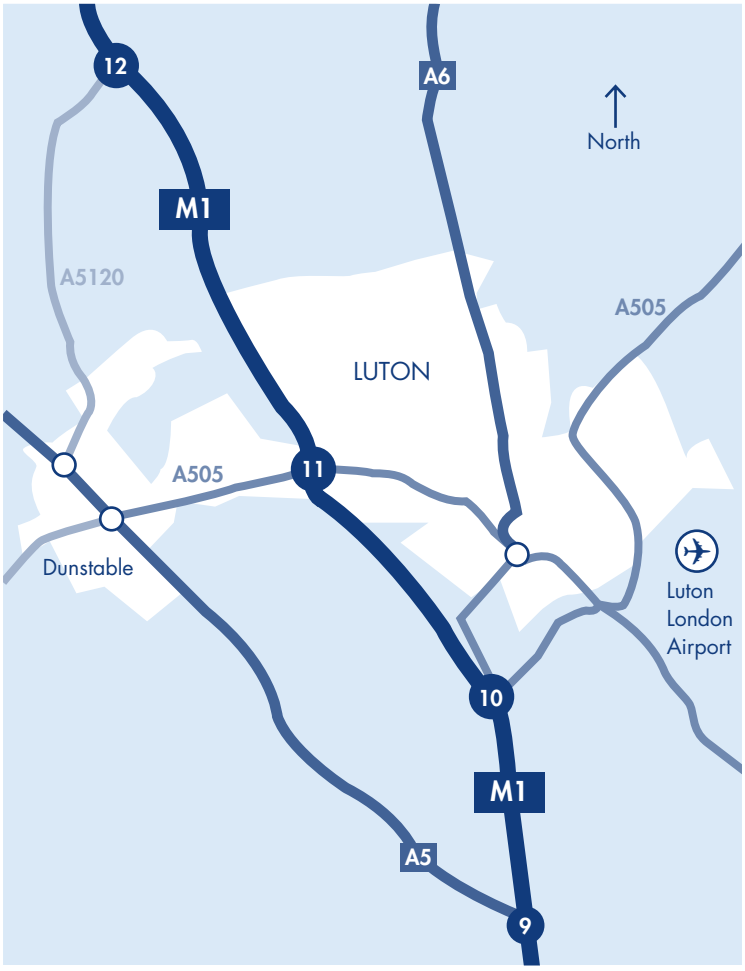
2 With further increases in traffic levels expected in and around Dunstable, central and local government recognised the need for measures to ease traffic congestion and alleviate local disappointment, following the postponement of the Dunstable Eastern Bypass (since overtaken by plans for a proposed Northern Bypass). The Dunstable A5 queue relocation scheme was conceived as a short term solution to provide a co-ordinated traffic management control system of all existing and newly installed traffic signals along the A5 in the Dunstable area. In April 1999, the Agency proposed a scheme based on Dunstable Town Centre Management Committee's 1997 report, *The Future of Our Town Centre*[5], to be progressed under a Partnering arrangement between the Agency and Bedfordshire County Council, South Bedfordshire District Council and Dunstable Town Council. This included a proposal to replace the Dunstable town centre mini roundabouts with traffic signals.

5 The Future of Our Town Centre: A Strategy for Dunstable 1997.

The Agency used a computerised traffic signalling system to minimise congestion, reduce queues and improve pedestrian access

3 The principal aims of the scheme were to improve the flow of traffic through Dunstable by linking all the traffic signals to a common traffic management system, to minimise the number of times vehicles were stationary in the town centre; reduce traffic queues; improve safety and accessibility for pedestrians across the busy A5 by installing more signal controlled pedestrian crossings; improve the accident safety record at Caddington Turn junction by installing a new set of traffic signals; and lessen the associated problems of noise and pollution in the town centre. **Figure 2 (opposite)** shows the changes made to Dunstable town centre under the Scheme. In the absence of a tried and tested solution to town centre congestion, the Agency combined the use of external gateways with a computerised traffic signalling system, SCOOT, which it had used previously in conjunction with Bedfordshire County Council in Bedford and in Luton on the trunk road network.

1 The A5 at Dunstable is a major trunk route alongside the M1



Source: National Audit Office

The original scheme created unrealistic local stakeholder expectations

4 In April 1999, the Agency presented the Dunstable TRANSYT Assessment: *Queue Re-location Strategy Report* prepared[6] by URS Thorburn Colquhoun[7] to the local councils. The report stated the potential benefits of the scheme positively and with such authority that it generated unrealistically high expectations amongst the councils of the benefits to be delivered by the scheme. For example, the final conclusion of the report states **"the coordination of traffic signals will reduce the randomness in the current traffic system and result in a reduction in vehicular delay and all of the associated environmental disbenefits"**.

5 The Agency promoted the scheme as creating a "green wave" effect in Dunstable, with pulses of traffic passing through the town centre. In practice, not all pedestrian crossings along the route were connected to the newly installed traffic signals, interrupting the free flow of traffic. The Agency believes that the pedestrian crossings not connected to the SCOOT are located at sufficient distance from junctions so that traffic does not queue back to the junctions. The scheme's limited ability to reduce queuing first became evident at the detailed design stage, but the Agency did not effectively communicate these constraints to local councils and residents. The Agency agrees with our view that the way the scheme's objectives were described to the residents of Dunstable in the Agency's public information leaflet and at its public exhibition created high expectations that queuing times would be reduced.

There were flaws in the planning and public consultation processes

Local stakeholder concerns were not treated as risk factors in the Agency's scheme prioritisation and appraisal processes

6 Taking the time to identify and acknowledge or address stakeholders' concerns is an important facet of working in partnership with the community, especially where the Agency recognises in advance that its scheme will not fully address local issues. The Agency accepts that it placed too much dependence on theoretical models that had not been rigorously validated or tested. It also accepts that it did not have a true "partnership" with all the affected bodies. The Agency funded the scheme and the associated development costs and tended to focus on its own issues without consideration of the wider impact. For example, the prime concerns of local residents and their representatives about the Dunstable queue relocation scheme were its likely impacts on congestion, road safety, 'rat running' (where drivers transfer to less busy local routes to complete their journeys), and further deterioration in the air quality in Dunstable town centre. The Agency knew of local stakeholders' concerns, but it did not build an area wide traffic model and so was not able to fully represent the effect of rat-running. It did not take air quality or rat running into account as risk factors when appraising and prioritising the scheme, or take steps with local councils to mitigate the risks.

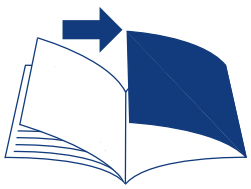
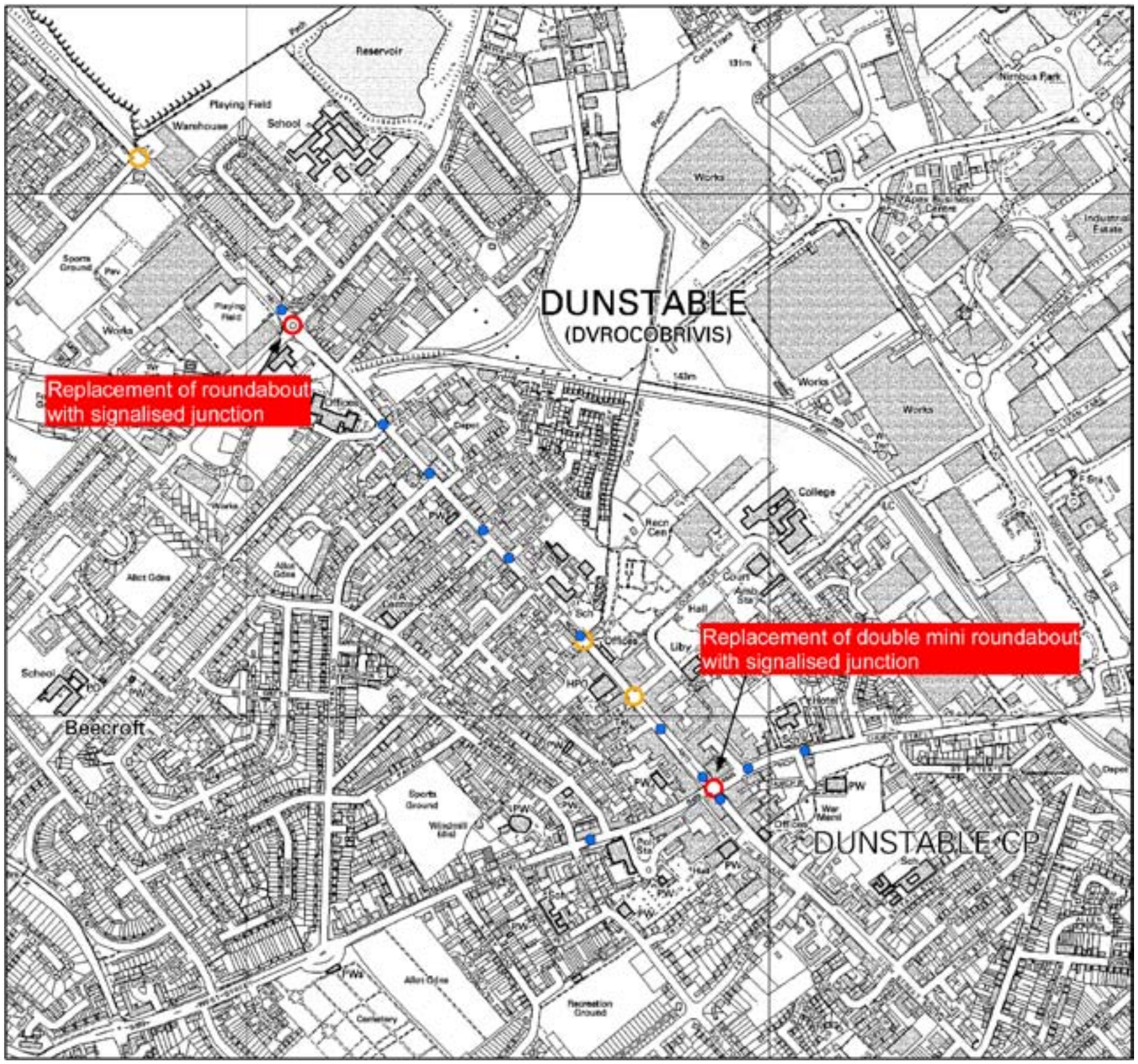


Figure 2 overleaf

6 Dunstable TRANSYT Assessment Queue Relocation Strategy; March 1999.
7 URS Thorburn Colquhoun are now called Carillion-URS.

2 Signals were installed and existing signals utilised for SCOOT



Source: Highways Agency

NOTE

Pedestrian User Friendly Intelligent (PUFFIN) crossings differ from the more familiar Pelican crossings in that the crossing indicator (green or red man) is sited above the push button allowing pedestrians to see the traffic and crossing indicator at the same time and sensors allow the demand to be cancelled if the pedestrian moves away and the crossing time to be extended if necessary.

Legend

- Location of PUFFIN Crossings
- Location of Signalised Crossings
- Location of newly Signalised Junctions since implementation of SCOOT

0 115 230 460

Metres

North

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7 The Agency considers that, in retrospect, the implications and associated costs for all parties would have been better identified if each had contributed their share of the costs. This approach, it believes, would also have led to greater acceptance of the proposals because all parties would have worked together.

8 On rat-running, the Agency knew from its modelling that some drivers would transfer to local routes to complete their journeys. It did not, however, commission quantitative survey data on residential road usage in Dunstable prior to work commencing on the scheme, against which to monitor subsequent changes.

The modified scheme did not meet the original scheme's objectives

9 Following the initial public consultation, the Agency modified the specification for the A5 queue relocation scheme when it realised that out of town queues would be unmanageable. As originally planned, the scheme would have held traffic back on the outskirts of the town centre on red signals, with traffic being released through Dunstable in short pulses. But traffic modelling at the detailed design phase revealed an unacceptable increase in rat running on unsuitable roads through surrounding villages. The modified scheme on the other hand, held traffic on the A5 at the northern and southern entry points to Dunstable until the queues reached a predetermined length, then released vehicles through to the town centre. This approach reduced, but did not eliminate, rat running and allowed some congestion to build up in Dunstable High Street. The Agency did not, however, impart these changes effectively to local residents and the local councils, who still expected the completed scheme to reduce congestion, improve journey times and lessen air quality problems in the town centre.

10 Local stakeholders considered that the Agency should have undertaken more detailed design work to assess the feasibility of the original scheme before seeking their support. They also felt that the Agency should have met with them again when it realised that the original scheme needed to be modified, particularly given the potential impact on the town. The Agency accepts that it did not recognise or manage this 'expectation gap', which is at the heart of residents' and local councils' dissatisfaction with the completed scheme.

Local stakeholders view the scheme as not having met the original scheme objectives, which the Agency accepts were overly optimistic. The Agency's Project Sponsor, on the other hand, believes that the Agency has achieved the best practical solution, in light of the problems it faced and the inherent limitations of the scheme.

The objectives identified in the Agency's value management process were not the same as the scheme objectives it publicised to stakeholders

11 The National Audit Office reviewed the application of the value management process to the A5 Dunstable scheme, taking into account that the process in place at the time the A5 scheme was approved did not use comprehensive national guidance to score schemes or choose between them. The cost benefit analysis in the A5 scheme's original Project Appraisal Report, completed in June 2001 by the Area 8 Managing Agent Contractor, showed that the scheme was proposed and selected for the network management programme on the basis of benefits from safety improvements and on journey time improvements.

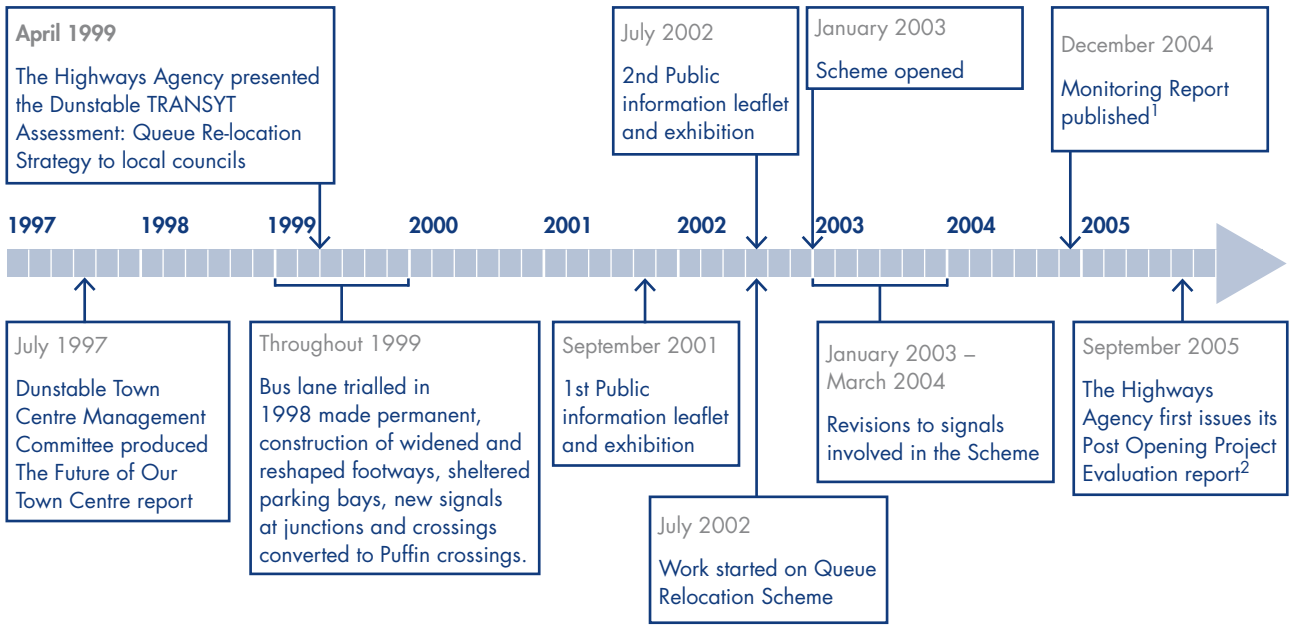
12 Whilst the value management process prioritised the A5 Dunstable scheme solely on the basis of these improvements, the scheme objectives in the Agency's Public Information leaflet are far broader and included improved air quality, reduced noise pollution, economic growth and a pleasant pedestrian environment. Publicising additional benefits before the detailed design work had established that they were deliverable was, at best, overly optimistic.

The scheme took longer and cost more than planned

The scheme was begun in 1999, reached its second phase in 2002 and was finally completed in 2004

13 Construction was completed on the first phase of the scheme in Summer 1999, and work started on the second phase in July 2002 as shown in **Figure 3**. The scheme initially opened in January 2003, with further revisions to the signals throughout the year and was completed in March 2004. The scheme was originally budgeted at some £1.4 million and was delivered for around £2 million.

3 Timeline showing the development of the Scheme



Source: National Audit Office

NOTES

1 Monitoring report carried out by Carillion-URS.

2 Post Opening Project Evaluation (POPE) report carried out by Atkins.

The Agency underestimated the scheme's preparation and supervision costs

14 Prior to the scheme in Dunstable, the queue relocation concept had not been used by the Agency on a town centre route. In the absence of a precedent, the Agency's budgets for preparation and supervision costs were based on a default percentage of works costs of nine per cent (£96,000) and five per cent (£54,000) respectively. In practice, these cost estimates were unrealistically low, given the complexity of the Dunstable scheme and the considerable design input required after the works to adjust the signal timings to optimise traffic flows. Outturn costs were £236,000 for preparation and design and £694,000 for site supervision (146 per cent and 1,185 per cent above budget respectively).

15 To prioritise schemes for the regional network management programme and compare predicted rate of return, the Agency needs reasonably accurate cost estimates. One source of this data could be local transport authorities, who have implemented similar schemes.

The scheme was not re-evaluated when its rate of return was reduced

16 The original Project Appraisal Report, completed in June 2001 by the Agency's agents, showed a predicted First Year Rate of Return of 16.25 per cent, and indicated that works costs would be recovered from cost benefits in just over six years. This led to the scheme being rated high priority and entered into the network management programme. When the Project Appraisal Report for the A5 Queue Relocation Scheme was revised in February 2002 after public consultation, the First Year Rate of Return was recalculated as 7.9 per cent, indicating that it would take at least twice as long to recover the scheme costs. At this point, the Agency's agents identified unquantifiable ancillary benefits, including improved pedestrianised areas with raised planting beds and seating, disabled parking facilities, improved bus lay-bys and crossing facilities. These additional benefits were cited in the Project Sponsor's proposal to retain the scheme in the network management programme and were discussed with, and supported by, the local councils.

17 Under the value management process then in place, the Project Sponsor's proposal justifying continuing with the scheme did not rank or re-evaluate the scheme relative to other schemes competing to be in the network management programme. The Project Sponsor has since provided the National Audit Office with details of the First Year Rate of Return for other schemes carried out by the Agency around the same time, which indicate that the revised First Year Rate of Return for the A5 Queue Relocation Scheme was still comparable.

Evaluations carried out since the scheme opened indicate that the scheme has not delivered some of the forecast benefits

18 The Agency does not commission post-completion assessments on all completed network management schemes but an assessment of the benefits delivered by the A5 Dunstable Queue Relocation Scheme was carried out after completion in response to pressure from local councils. It took the form of a Monitoring Report prepared by Carillion-URS for the Agency and it was published in December 2004. Large schemes are subject to a Post Opening Project Evaluation (POPE).[8] The POPE for the scheme was carried out by Atkins and the report was initially released in September 2005, it was subsequently amended and re-released in January 2006. This assessed whether the predicted benefits had been delivered for safety, traffic volumes, journey times, environment, accessibility, and scheme costs.

19 The POPE report **makes no mention of the impact of the scheme on congestion on the A5, in the Town Centre or on surrounding routes**. This is disappointing, given the innovative use of SCOOT; in conjunction with gating. It concluded that:

- **There has been a reduction of 8.2 accidents per year along the route**. Atkins' analysis of the limited data to date suggested that this was not due either to a reduction in accidents at junctions, or to a reduction in pedestrian accidents. Atkins concluded that the reduction was attributable to vehicles between junctions, perhaps because vehicle speeds were lower on this route. It should be noted though, that beyond the post opening period covered in the POPE report, the total figures for accidents causing injury as a whole, and pedestrian injuries in particular, have fallen.

- **The modest journey time reductions forecast in the Project Appraisal Report have not materialised, and the POPE assessment identified longer journey times**. Atkins calculated average increases in travelling times of 79 seconds in morning peak hours, 66 seconds in the afternoon peak hours, and 54 seconds in the adjacent to peak, or interpeak, hours, as shown in **Figure 4**.[9] These increases amounted to estimated total additional journey time of 126,617 hours in the first year of operation of the scheme but Atkins could not determine from the data available whether all, or only part, of this additional time was directly attributable to the scheme.

- **The POPE report noted that it could not evaluate in full whether the scheme had impacted on noise and air quality** because there was insufficient data on whether stop-start movements had decreased. The report as published in September 2005 was silent on changes in air quality. This was a surprising and disappointing omission, as air quality had been a serious concern for the local community, and the Agency had assured us that it had modelled the likely air quality changes in DRACULA and carried out pre-and post-scheme air quality monitoring along the route. When the report was re-released in January 2006, Atkins considered that, although it had been unable to fully evaluate it, the impact of the scheme on noise and air quality was likely to have been neutral.

- **The number of accidents has fallen overall but the proportion of fatal and serious accidents** (known as the severity index) **has not**. In the period prior to Phase 1 of the **scheme**, fatal and serious accidents accounted for 14 per cent of all accidents, compared to 15 per cent in the post-Phase 1 period and 20 per cent in the post-Phase 2 period, as shown in **Figure 5**.

- **Accidents at Caddington Turn fell but accidents at other junctions, notably Church Street and Houghton Road have increased**. Atkins concluded that the reduction in the accident rate was not as a consequence of an improvement in safety at junctions.

8 POPE is managed by the Agency's Safety Standards and Research Directorate, whose Traffic Appraisal, Modelling and Economics Group handles the work. POPE is an independent review, as the Agency area in which the scheme is based is not consulted.

9 Atkins based its calculations on peak hour traffic flows and journey times on the A5 in 2004. They assumed that the flow of traffic remained constant before and after implementation of the scheme, and that journey times measured in time surveys applied to all vehicles using the road.

4 Journey times have increased since the implementation of the Scheme

Time of Travel	Direction on A5	Journey time[1] prior to scheme opening	Journey time[1] after scheme opened[2]	Increase in journey time[1]	Percentage increase in journey time
Morning peak	Northbound	05:40	06:28	0:48	14%
	Southbound	08:51	10:41	1:50	21%
Off peak	Northbound	07:30	07:36	0:06	1.3%
	Southbound	07:25	09:08	1:43	23%
Afternoon peak	Northbound	07:45	09:51	2:06	27%
	Southbound	08:50	08:56	0:06	1.1%

Source: LNMS Evaluation Report A5 Dunstable Queue Relocation, September 2005 and January 2006, Atkins Consultants Ltd

NOTES

1 Journey times in minutes and seconds.

2 Average of four surveys conducted.

5 Accidents have decreased slightly since the implementation of the scheme, but the severity has worsened

	Fatal	Serious	Slight	Total	Total per month	Total per year	Severity index
Accidents during the 84 months prior to the scheme opening	7	28	213	248	2.95	35.4	14%
Accidents during the 19 months after the scheme opened	1	6	36	43	2.26	27.2	16%
Total Accidents	8	34	249	291	–	–	14%

Source: LNMS Evaluation Report A5 Dunstable Queue Relocation, September 2005 and January 2006, Atkins Consultants Ltd

Overall conclusion on the A5 Scheme

20 Although there has been an overall reduction in accidents, there has been an increase in the number of accidents occurring at junctions in Dunstable town centre since the queue relocation scheme came into operation. Local stakeholders attribute this increase to longer waiting times and pedestrian unfamiliarity with the new road layout. The modifications which the Agency made to the scheme resulted in busier roads and longer waits at pedestrian crossings. When it modified the scheme, the Agency should have consulted on whether the new layout met the needs of pedestrians, as well as other road users. The Agency agreed the location of the crossing with Dunstable Town Council within the constraints of its standards. The relocation of the crossing is now, we understand, the subject of debate with Dunstable Town Council. On future schemes, taking the time to consult local stakeholders on pedestrian access may help the Agency improve road safety and avoid costly road crossing relocation work. The Agency should also consider consulting local authorities on accident trends as part of its POPE evaluations.

21 On air quality, the Agency had forecast improvements to air quality in Dunstable from the scheme. It modelled the likely effects of the scheme on air quality using the DRACULA[10] micro simulation model and took air quality readings from monitoring stations along the A5 for the pre-construction period right through to the post opening period, enabling a comparison of before and after scenarios. The monitoring results showed large seasonal variations but the Agency told us that all readings indicated that no levels exceeded those deemed hazardous to health. Since the modelling was undertaken, there has been an increase in traffic through Dunstable which will have affected air quality in addition to any impact of the scheme. Local stakeholders consider that since the scheme opened, the air quality at the Church St–West St crossroads had deteriorated due to the sheer number of vehicles using the junction, such that it was designated an Air Quality Management Area in January 2005. When implementing its Route Management Strategy for the A5 and developing the Route Management Plan and Route Outcomes for the section through Dunstable, the Agency will need to work closely with local authorities to help alleviate congestion and improve air quality.

The A5 Queue Relocation Scheme has not reduced congestion or improved air quality

22 Having reviewed the A5 Dunstable Queue Relocation Scheme, it is apparent from our discussions with third parties that the scheme has not delivered a demonstrable reduction in congestion or an improvement in air quality in Dunstable. This is due in part to an increase in road traffic. Congestion and air quality are of prime importance to local stakeholders and the way in which the Agency initially promoted the scheme as improving these aspects raised unrealistic expectations which the Agency could not subsequently deliver.

Local stakeholders were not consulted during the post-completion evaluation of the scheme

23 The Agency has no formal policy on consulting stakeholders as part of its post-completion evaluation of small network management schemes. The decision to consult affected stakeholders in such cases is a matter of judgement for Area teams.

24 The Agency considers the Carillion-URS Monitoring Report, published in December 2004, and the POPE review issued in September 2005 and January 2006 to be objective assessments of its performance in delivering the A5 Dunstable queue relocation scheme against the scheme objectives and has shared the report with local councils. But Carillion-URS and the POPE did not consult local councils and stakeholders directly affected by the A5 Dunstable Queue Relocation Scheme. Nor did the Carillion-URS and POPE reports evaluate whether the sixth objective listed in the Agency's public information leaflet (September 2001) which was to "*Improve air quality and reduce noise pollution in the town centre*" had been met. In light of local concerns over a reduction in air quality, this diminishes the lessons which the Agency might otherwise have learnt from the scheme.

10 Dynamic Route Assignment Combining User Learning and Microsimulation.

There are wider lessons from the A5 scheme

25 The absence of routine feedback from local stakeholders on completion of small network management schemes means that the Agency may not be made aware of additional costs and other unintended outcomes arising from its schemes. For example, local authorities may have to deal with complaints from residents.

Lessons learned on the A5 Dunstable scheme were not shared with other teams working on traffic management and queuing schemes

26 The Project Sponsor for the A5 Dunstable Queue Relocation project considers that the Dunstable Queue Relocation Scheme was a unique solution that the Agency was unlikely to replicate elsewhere, and that there were no plans to share the experience gained from the Dunstable scheme with other Area Teams. From our discussions with the Traffic Operations Business Support Team, the National Audit Office has since learnt that the Agency has used schemes elsewhere to manage traffic movement and queuing using linked traffic signals. An Agency scheme, completed on 31 March 2005 on the A663 in Oldham, for example, used SCOOT to link pedestrian crossings in order to reduce queuing. There is therefore scope to improve the way Areas disseminate information about the novel solutions to traffic problems which they have devised.

The Agency needs closer working relationships with local authorities

27 The Project Sponsor believes that the Agency achieved the best practical solution in the light of the problems it faced, but this view is not shared by local stakeholders. The Agency has now established closer working relationships with South Bedfordshire Council and Dunstable Town Council and it is working to improve its relationship with the local highways authority, Bedfordshire County Council.