

# **Monitoring and Evaluation Framework for Local Authority Major Schemes**

**September 2012**

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# Foreword

Evaluation is an integral element in understanding how well National and Local Government are delivering services and investing public finances. In the context of Local Authority Major Schemes, demonstrating delivery of transport improvements that are good value for money and drive economic growth, whilst balancing the need for sustainability, will be vital to securing future funding. Learning about which schemes are the most effective in achieving these objectives and responding to local transport issues will build the evidence base to support future decision making and share lessons about delivery of best practice.

Although evaluation is important, we recognise that it needs to be cost effective and proportionate. This framework aims to strike a balance between ensuring evidence is available to demonstrate which schemes offer the best value for money and to facilitate programme level analysis without being too much of a burden on Local Authorities.

The role for evaluation in a world of devolved decision making will be enhanced, with the potential for future spending to be predicated on demonstration of delivery against key measures. We believe this framework sets in place sound principles for the future.



**John Dowie**

## 1. Introduction

- 1.1 The Department is responsible for demonstrating that its funding for local-level investment has provided value for money for the taxpayer. It is also responsible for ensuring that lessons are learnt from this evidence to inform future decision making. The Departmental approach to achieving this varies to reflect the nature and scale of the programme under consideration.
- 1.2 The funding of Local Authority Major Schemes represents a substantial investment for government. Evaluating the investment in this funding stream can deliver the following objectives:
  - Provide accountability for the investment;
  - Evidence future spending decisions;
  - Learn about which schemes deliver cost-effective transport solutions;
  - Enhance the operational effectiveness of existing schemes or future schemes; and
  - Improve future initiatives based on learning.
- 1.3 The recent National Audit Office (NAO) report on Local Authority Major Schemes<sup>1</sup> highlighted the importance of evaluation for ensuring transparent and accountable decision making. The report concluded that whilst the Department has made advances in this area, there is still scope for improvement in the coverage, quality and resourcing of evaluations.
- 1.4 The Department is therefore releasing this framework to meet our responsibilities for evaluation of Local Authority Major Schemes<sup>2</sup>. We have aimed to make the process as consistent and proportionate as possible.
- 1.5 This evaluation system aims to be complementary with the devolution of decision making, developing a consistent evidence base to enable a clear demonstration that intended outcomes and impacts<sup>3</sup> have been delivered effectively and scheme objectives have been achieved. This will provide valuable evidence to support future funding streams.
- 1.6 A consistent monitoring approach across all Local Authority Major Schemes will also facilitate programme level analysis to be carried out by the Department on a regular basis, enabling dissemination of good practice and lessons learnt across the programme.
- 1.7 The framework sets out:

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<sup>1</sup> National Audit Office (2011), Review of Local Authority Major Capital Transport Schemes.

<sup>2</sup> This framework is aimed at schemes approved as part of the 'Supported Pool' in 2010 or the 'Development Pool' process in late 2011 and early 2012.

<sup>3</sup> For the purposes of this framework, the terms outcome and impact are defined as: **outcomes** - intermediate effects, such as changes in traffic flows or mode; **impacts** - longer-term effects on wider economic and social outcomes, such as contribution to economic growth).

- The Department's expectations for the monitoring and evaluation of Schemes and engagement with DfT - *Sections 2 and 7*;
  - Standard monitoring requirements - *Section 3 and Appendix 1*;
  - Enhanced monitoring requirements - *Section 4 and Appendix 2*;
  - Fuller evaluation requirements - *Section 5 and Appendix 3*;
  - The schemes selected for fuller evaluation - *Appendix 4* and,
  - Monitoring and evaluation plan requirements - *Appendix 5*.
- 1.8 The Department has been working to these guidelines in taking forward the Local Authority Major schemes' Programme, but this framework now finalises expectations and processes

## 2. Monitoring and Evaluation Expectations

- 2.1 The guidance in this document is primarily aimed at Local Authority Major Schemes that have been approved for funding as part of the 'Supported Pool' in 2010 or as part of the 'Development Pool' process in late 2011 and early 2012.
- 2.2 This framework reflects a move away from a blanket approach to evaluation, in which all Local Authority Major Schemes were expected to undertake a full evaluation of their scheme, to a more proportionate and targeted approach.
- 2.3 Three tiers of monitoring and evaluation<sup>4</sup> are being introduced:
- **Standard monitoring:** All schemes will be required to monitor and report on a standard set of measures;
  - **Enhanced monitoring:** Further measures will be monitored and reported for schemes costing more than £50m or which are anticipated to have a significant impact on particular indicators (e.g. local air quality);
  - **Fuller evaluation:** A selection of schemes (listed in *Appendix 4*) will be required to undertake a fuller evaluation which consists of assessments of the delivery process, outcomes and impacts and value for money. These schemes have been selected based on the scale of investment, the nature of the scheme and the benefits to be gained from the evaluation evidence generated. Best practice evaluation guidance will be issued to support Local Authorities design fuller evaluations. It replaces previous evaluation guidance and will be available to scheme promoters in due course.
- 2.4 This document sets out our requirements for the monitoring of schemes. However, we recognise that the design of evaluations should be tailored to the specific context of the scheme and a high

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<sup>4</sup> For the purposes of this framework, **monitoring** is defined as the collection of data to check progress against planned targets and benefits. **Evaluation** is defined as the assessment of the scheme effectiveness and efficiency during and after implementation (this includes measuring the causal effect of the scheme on planned outcomes and impacts and assessing whether the anticipated benefits and value for money have been realised).

level of prescription would not be suitable given the range of schemes within the programme. In the cases where schemes have been selected for fuller evaluation, Local Authority scheme promoters are responsible for designing the evaluation approach which is best suited to their scheme and the research questions which the evaluation needs to address.

- 2.5 Although this document gives a clear steer on the Department's expectation for the monitoring and evaluation of Local Authority Major Schemes, the measures highlighted here should not be seen as a constraint to scheme promoters. There may be a number of further elements that promoters may wish to measure, for local accountability purposes for example, and we would encourage promoters to do this and report such measures to the Department as well as the measures indicated.
- 2.6 Local Authority Major Schemes that were approved for funding outside the 'Supported Pool' and 'Development Pool' process should be carrying out a full evaluation in accordance with the funding conditions for the scheme. For such schemes where evaluation plans are still being developed or delivered, this framework and associated best practice evaluation guidance can be seen as a useful reference prior to submission of any plans or reports to the Department.
- 2.7 It is the responsibility of scheme promoters to fund and ensure the delivery of scheme monitoring and evaluation in line with the agreed plan<sup>5</sup>.

### **3. Standard Monitoring**

- 3.1 All scheme promoters are required to monitor their scheme's progress against a set of standard measures. Full details of the requirements are provided in Appendix 2 and are summarised below.
- 3.2 The following measures (covering inputs, outputs<sup>6</sup>, outcomes and impacts) will be monitored for all schemes:
  - Scheme build;
  - Delivered scheme;
  - Costs;
  - Scheme Objectives;
  - Travel demand;
  - Travel times and reliability of travel times;
  - Impacts on the economy; and

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<sup>5</sup> Unless any changes are subsequently agreed with the Department.

<sup>6</sup> Inputs: are defined as the resources, equipment, skills which are being invested and activities undertaken to deliver the scheme and outputs: what has been delivered and how it is being used.

- Carbon Impacts.
- 3.3 For maintenance schemes, these standard measures are likely to only need to be reported in a 'One Year After' evaluation report. For other scheme types, these and other measures will need to be reported in both a 'One Year After' and a 'Final' evaluation report.

## 4 Enhanced Monitoring

- 4.1 The following measures will also need to be reported for schemes with estimated outturn costs in excess of £50m<sup>7</sup> or where the impacts were anticipated to be significant when the scheme was assessed, and/or where complimentary data (e.g. travel demand information) suggests that there has been a significant effect:
- Noise;
  - Local Air Quality; and,
  - Accidents.
- 4.2 Full details of the requirements are provided in Appendix 2.

## 5 Fuller Evaluation

- 5.1 The aim of undertaking a fuller evaluation for selected schemes is to generate evidence on:
- Whether the scheme was delivered effectively and efficiently;
  - The causal effect of the scheme on the anticipated outcomes and whether these have contributed to the intended impacts; and,
  - Whether it had any unintended adverse or positive affects.
- 5.2 Evaluations should seek to answer the following high level questions:
- *How was the scheme delivered?* This covers the processes by which the scheme was implemented and is undertaken via a **process evaluation**;
  - *What difference did the scheme make?* This requires an assessment of the outcomes and impacts generated by the scheme and is undertaken via an **impact evaluation**; and,
  - *Did the benefits justify the costs?* Once the evidence on processes and impacts is available it is important to assess whether the costs of the scheme have been outweighed by the benefits via an **economic evaluation**.
- 5.3 Fuller evaluation will build on the evidence generated through standard and enhanced monitoring<sup>8</sup>. In particular, triangulating this data with other bespoke evaluation data collected to demonstrate the causal

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<sup>7</sup> As estimated in the Full Approval application.



pathway between the scheme and the observed outcomes and impacts.

- 5.4 Appendix 4 provides the list of schemes which have been selected for fuller evaluation, based on the criteria listed below, following consultation with Local Authority Major Scheme promoters. These are consistent with guidance from the National Audit Office<sup>9</sup> and the HM Treasury<sup>10</sup>.

<b>Criterion</b>	<b>Explanation</b>
1. Overall scale of the scheme	The scale of the overall expenditure of the scheme as well as the anticipated benefit
2. Nature of the scheme	Consideration of the need for evaluation for accountability purposes based on the degree of risk / sensitivity / profile and to learn lessons based on the degree of innovation within the scheme design.
3. Benefits from evaluation	How the evaluation evidence will add value to the existing knowledge-base and how this will be used to inform future investment and delivery decisions.

- 5.5 To ensure proportionality, we have not prescribed how each scheme should be evaluated or how much resource should be allocated to it. We expect scheme promoters to design an evaluation approach which is fit-for-purpose and cost-effective. We will review each scheme's plans for evaluation within its own context and consider whether it is suitable for the specific scheme.
- 5.6 Scheme promoters are encouraged to collaborate with the scheme promoters of other similar schemes, in developing evaluation methods and approaches, if this offers economies of scale or improves consistency of approach.

## **6 Supplementary Evaluation Best Practice Guidance**

- 6.1 To support Local Authority Major Scheme promoters design fuller evaluations, the DfT will be issuing a revised edition of Best Practice Guidance for Evaluating Local Authority Major Schemes which is compliant with the HMT Magenta Book and includes the latest transport evaluation guidance. This will replace the 2006 evaluation guidance.

<sup>8</sup> On its own, good quality monitoring data can provide an objective assessment of changes in key metrics over time. However, it is generally not sufficient to assess the causality of the observed changes. This is needed in order to attribute the outcomes and impacts observed back to the scheme.

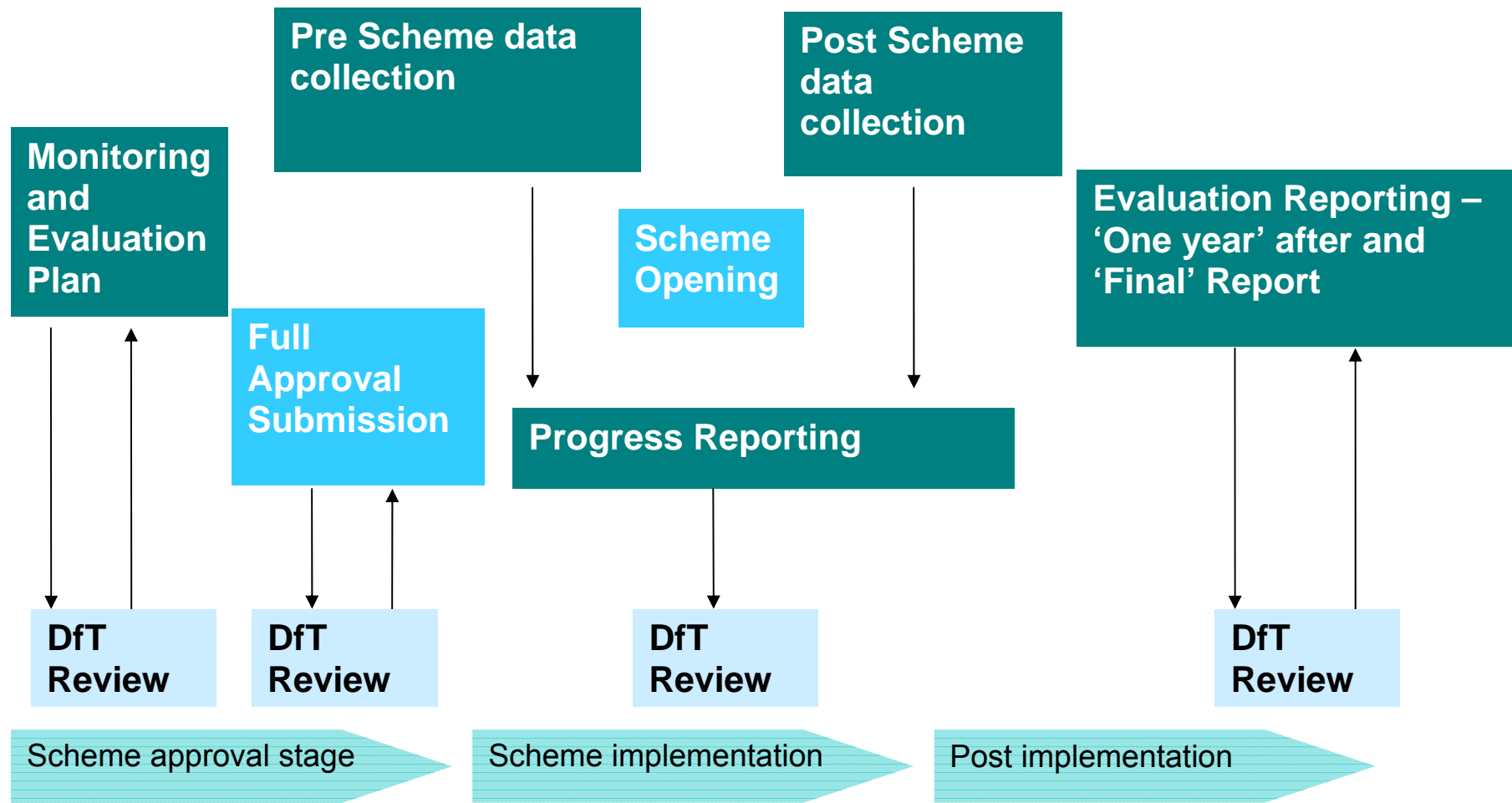
<sup>9</sup> See Appendix two of the NAO (2011) report for the evaluation framework.

<sup>10</sup> HMT (2011) Magenta Book: Guidance for evaluation.

## 7 Local Authority Engagement Process

- 7.1 Scheme promoters are expected to submit a detailed Monitoring and Evaluation Plan to the Department within 3-6 months prior to the Full Approval submission or before any data collection is programmed, whichever is the earliest.
- 7.2 The Department will provide feedback on the Monitoring and Evaluation Plan, giving advice on best practice and agreeing data collection, analysis and reporting.
- 7.3 Agreed Monitoring and Evaluation Plans should be published on the Local Authority's website for the purposes of local accountability and transparency. The Department may also make reference to these in discussions with other promoters and on its own website.
- 7.4 Further details of the contents expected in the Monitoring and Evaluation Plan are provided in Appendix 5.
- 7.5 The promoter should keep the Department informed of progress on evaluation. The process for progress reporting should be set out by promoters within the Monitoring and Evaluation Plan.
- 7.6 The timing for reporting will be agreed as part of the Monitoring and Evaluation Plan but, in most cases, is expected to be as follows:
  - An initial report based on data collected at least one year (but less than two years) after scheme opening; with a report published within two years of scheme opening.
  - A final report based on both 'one year after' data and further data collected approximately five years after scheme opening; with a report published within six years of scheme opening (this report may not be required for maintenance schemes, where the expectation is, an evaluation one year after scheme opening will suffice).
- 7.7 It is anticipated the reports will be sent to the Department in draft for comment, with the aim of publishing a report agreed by the scheme promoter and the Department. It is expected that all Evaluation Reports will be published by the scheme promoter on an appropriate website with the Department providing links from its own site.
- 7.8 The Department will periodically produce and publish meta-analysis of Local Authority Major Scheme evaluations, reporting on best practice and findings more generally on benefit realisation and attainment of objectives. This is likely to take place on an annual basis, with results published on the Department's website.
- 7.9 Figure 1 (below) shows the steps in the engagement process.

**Figure 1 – Local Authority Major Schemes: Monitoring and Evaluation Engagement Process**



# APPENDICES

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## **APPENDIX 1 – Standard Monitoring**

### **1. Key Assumptions**

- 1.1 Scheme promoters within the Development Pool and Supported Pool are expected to follow a programme of monitoring, analysis and reporting of standard measures as outlined in this Appendix.
- 1.2 These standard measures should be seen as the minimum requirements for monitoring for all schemes. Scheme promoters may wish to collect further data to meet local objectives and should not feel constrained by the prescription included here.

### **Timing for Data Collection and Reporting**

- 1.3 Prior to scheme construction, a Monitoring and Evaluation Plan will have been agreed with the Department.
- 1.4 In order to track change in the standard measures over time, the monitoring data should provide a time series with multiple data points collected in a consistent and comparable fashion. The frequency of data collection will depend on the data sources available; for instance, whether they are routinely collected or bespoke to the scheme and whether the data are collected continuously or intermittently. The more data points available within the timeframe provide an increased opportunity to observe and understand changes over time. However, we recognise that this will depend on the context for individual schemes, and scheme promoters are encouraged to consider the best balance between frequency of data collection and a proportionate monitoring approach.
- 1.5 The timing of the standard monitoring process is anticipated to be as follows:
  - Baseline data requirements will need to be collected / collated before / during the scheme construction<sup>11</sup>.
  - Data used to monitor scheme delivery performance and processes should be collected during construction.
  - Initial analysis of monitoring data conducted at least one year (but less than two years) after scheme opening; with a 'One Year After' report published within two years of scheme opening<sup>12</sup>.
  - A final report based on analysis of both 'One Year After' data and enhanced with further data collected up to approximately five years

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<sup>11</sup> Baseline data collection should be carried out as close as possible to opening year of the scheme. This may be before the scheme construction commences, however, in some cases this may be significantly into the build process, if it is clear that the data being collected will remain unaffected by the scheme whilst under construction.

<sup>12</sup> This provides sufficient time for the outcomes of the scheme to settle down (e.g. traffic flows and/or patronage, etc.). This also reduces the risk of extraneous effects masking the impacts of the scheme (i.e. changes to the land use pattern in the area through time).

after scheme opening; with a report published within six years of scheme opening<sup>13</sup>. For maintenance schemes it is the general expectation that this report will not be required, and the 'One Year After' report<sup>14</sup> should be treated as the final report. Although, evidence should be provided in the Monitoring and Evaluation plan to support this suggestion.

- As part of the final funding bid submission (for Full Approval), it is expected that a table of forecast monitoring and evaluation<sup>15</sup> measures will be reported to enable ease of comparison with future monitoring and evaluation report output.

1.6 Although the general expectation on timing is outlined above, if there is good reason to alter these timings (e.g. to coincide with monitoring and evaluation of adjacent schemes) then this issue should be presented in the Monitoring and Evaluation Plan.

### **Logic Mapping**

1.7 To support the monitoring and evaluation process, schemes need to clearly articulate the assumptions underpinning how the scheme will deliver the intended outcomes and impacts. Logic mapping<sup>16</sup> should be undertaken to present the schemes causal pathways (the chain of connections showing how a scheme is expected to achieve desired results and anticipated benefits). It is anticipated that the logic mapping will be informed by analysis of the existing evidence base as far as possible. A number of nested logic maps may be required depending on how complex the causal pathways are. As a minimum the overarching scheme map should be presented in the Monitoring and Evaluation Plan.

### **Assessment of Value for Money**

1.8 For schemes which will not be undertaking a fuller evaluation, the findings from the standard monitoring should be analysed in detail, with conclusions drawn in the reporting about the implications of the findings on the Value for Money of the scheme. In some cases this may take the form of a qualitative assessment about whether the monitoring data collected suggests that the ex-ante appraisal values remain valid.

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<sup>13</sup> This data analysis and synthesis will enable reporting on those elements that may have a longer lag time and/or require time series data for robust assessment to be carried out (e.g. accidents). This report should include findings from the monitoring of the outcomes and longer term impacts of the scheme.

<sup>14</sup> Scheme promoters should consider the scope and timing of the reporting in their Monitoring and Evaluation Plans. .

<sup>15</sup> For schemes selected for fuller evaluation.

<sup>16</sup> For guidance on developing logic maps see "Logic Mapping: Hints and Tips guide" The Tavistock Institute (2010). <http://www.dft.gov.uk/publications/logic-mapping-advice-guide/>

## 2 Measures to be Monitored for All Schemes

- 2.1 As a general rule, the measures have been included on the basis of their importance to demonstrating accountability and improving the particular areas of knowledge. Consideration has been given to the likely level of resource needed for data collection and analysis and a proportionate approach has been adopted which will allow some programme analysis and provide the opportunity to disseminate good practice.
- 2.2 The various measures are considered in terms of the key stages of the scheme as follows:
- Inputs (i.e. what is being invested in terms of resources, equipment, skills and activities undertaken to deliver the scheme).
  - Outputs (i.e. what has been delivered and how it is being used, such as roads built, bus services delivered).
  - Outcomes (i.e. intermediate effects, such as changes in traffic flows, modal shifts).
  - Impacts (i.e. longer-term effects on wider social and economic outcomes, such as supporting economic growth).
- 2.3 A summary table of the required measures for all schemes is provided below. As well as showing the core required measures, this table also shows the stage that is being measured, timing of the data collection exercise and the rationale for collection of the data (i.e. whether the objective of the data collection is to support accountability or development of knowledge).

**Table A1 – Standard Measures for All Schemes**

Item	Stage	Data Collection timing	Rationale
Scheme Build	Input	During delivery	Knowledge
Delivered Scheme	Output	During delivery / post opening	Accountability
Costs	Input	During delivery / post opening	Accountability
Scheme Objectives (Maximum three)	Output / Outcome / Impact	Pre or during delivery / post opening (up to 5 years)	Accountability
Travel Demand	Outcome	Pre or during delivery / post opening (up to 5 years)	Accountability / Knowledge
Travel Times and Reliability	Outcome	Pre or during delivery / post opening (up to 5 years)	Accountability / Knowledge

Impact on the Economy	Impact	Pre or during delivery / post opening (up to 5 years)	Accountability / Knowledge
Carbon	Impact	Pre or during delivery / post opening (up to 5 years)	Accountability / Knowledge

### 3 Details of the Standard Measure Requirements

#### Scheme Build

- 3.1 Information that would need to be provided:
- Programme/project plan assessment, including measures of delivery at key milestones (e.g. implementation log);
  - Stakeholder management approaches and lessons learnt from this;
  - Risk management effectiveness (assessing impacts from the risk register); and,
  - Assessment of whether the scheme is on track to deliver the anticipated benefits and details of any benefits realised.
- 3.2 The scheme build material will help inform the assessment of the project management in place for the scheme. It will also help the Department to identify good practice in this area and share this through meta-analysis and reporting.
- 3.3 It would be expected that the reporting of such material would be included in the 'One Year After' report (released 1-2 years post scheme implementation).

#### Delivered Scheme

- 3.4 Information to be provided:
- A full description of implemented scheme outputs; including a clear map of the overall scheme and maps of individual elements if appropriate;
  - Identification of any changes to the scheme since funding approval. For example, changes to route and/or design of the scheme and details of the reasons for any such changes;
  - If relevant, identification of any changes to assumptions on fare levels or provision of services by operators and provision of any evidence and/or analysis available for the reason for any such changes;
  - An assessment of whether the scheme has reached the intended beneficiaries; and,



- Identification of changes to mitigation measures (e.g. on landscape, noise mitigation, etc.) with a clear description of the changes and the reasons for implementation.
- 3.5 The assessment of the scheme outputs will help assess scheme delivery, identify any changes to scope and design of the originally envisaged scheme and identify the reasons for such changes. It will also help the Department to identify good practice in this area and share this through meta-analysis and reporting.
- 3.6 It would be expected that this measure would be included in the 'One Year After' report (released 1-2 years post scheme implementation).

### **Outturn Costs**

- 3.7 Information that would need to be provided:
- Outturn investment costs broken down into elements in a similar form as for the Major Scheme funding bid;
  - Analysis of manifestation of identified risk in the elements of investment costs;
  - Identification of cost elements with savings and identification of the reasons for cost savings;
  - Analysis of cost elements with overruns and identification of the reasons for cost overruns;
  - Outturn operating costs; including evidence of differences between outturn and forecasts and identification of any reasons for the differences, and,
  - Outturn maintenance or other capital costs compared with forecasts and any unanticipated costs identified. The causes of any variations from forecast costs should be analysed.
- 3.8 The cost material will help in evaluation of the scheme finances and the economic case.
- 3.9 It would be expected that the reporting of most of such material would be included in both the 'One Year After' report (released 1-2 years post scheme implementation) and a final report (released approximately five years after scheme implementation); although a clear picture on operating costs is only likely to be available in time for the final report.

### **Scheme Objectives**

- 3.10 Information that would need to be provided:
- Up to three main objectives of the scheme should be identified and appropriate metrics agreed for measurement of achievement<sup>17</sup>;

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<sup>17</sup> In some cases it may be appropriate to monitor scheme objectives using the standard measures outlined in this appendix.

- 3.11 The identification of the main objectives should be consistent with the Best and Final Funding Bid submitted to the Department. The objectives should be monitored to assess whether the anticipated changes have occurred as forecast. It is expected that assessment of these metrics would be included in both the 'One Year After' report (released 1-2 years post scheme implementation) and a final report (released approximately five years after scheme implementation); although this will clearly be dependent on the nature of the scheme objectives.

### **Impact of Scheme on Travel Demand**

- 3.12 Information that would need to be considered would include:
- Road traffic flows in the corridors of interest, including analysis of the difference between outturn results and scheme forecasts at both route and screenline level;
  - Patronage of the public transport system in the area of interest (e.g. bus passenger flows, tram passenger flows etc.), including analysis of the difference between outturn results and scheme forecasts at both route and screenline level (i.e. identification of abstraction from pre-existing services);
  - Counts of pedestrians and cyclists.
- 3.13 The scheme demand information will help in the assessment of whether the scheme has had the anticipated effect on travel patterns.
- 3.14 It would be expected that the reporting of changes to this measure would be included in both the 'One Year After' report (released 1-2 years post scheme implementation) and the final report (released approximately five years after scheme implementation).

### **Travel times and Reliability**

- 3.15 Information that would need to be provided includes:
- Travel times in the corridors of interest, including analysis of the difference between outturn results and scheme forecasts at route level;
  - Variability of travel times in the corridors of interest, and if applicable, analysis of the difference between outturn results and scheme forecasts at route level.
- 3.16 Consideration will need to be given to the modal coverage of such data collection and this would be agreed in the Monitoring and Evaluation Plan.
- 3.17 The effect of the scheme on travel times and reliability will help in understanding whether the scheme has had the anticipated affect on travel times.
- 3.18 It would be expected that the reporting of such material would be included in both the 'One Year After' report (released 1-2 years post

scheme implementation) and the final report (released approximately five years after scheme implementation).

### **Impacts on the Economy**

- 3.19 Promoters will be required to monitor and report information which shows how the scheme is contributing to economic growth. The Department is expecting Local Authorities to take a lead in developing metrics which could be employed and would be useful for both local accountability and to provide an evidence base at a programme level.
- 3.20 In monitoring the impact of the scheme on the economy, it is expected that consideration will be given to the following types of metrics (as well as those outlined above):
- Travel times / accessibility changes to businesses;
  - Employment levels; and,
  - Rental values.
- 3.21 The above is a far from exhaustive list, and the Department will be looking to learn from approaches put forward by schemes promoters in their Monitoring and Evaluation plans, to develop proportionate measures that can be applied consistently across the programme.
- 3.22 It would be expected that the reporting of such material would be included in both the 'One Year After' report (released 1-2 years post scheme implementation) and the final report (released approximately five years after scheme implementation).

### **Carbon**

- 3.23 Information that would need to be provided:
- Effect of the scheme on carbon in the area of interest (we anticipate that this will be modelled based on demand/vehicle speed information) and analysis of the difference between outturn results and scheme forecasts.
- 3.24 It would be expected that the reporting of such material would be included in both the 'One Year After' report (released 1-2 years post scheme implementation) and the final report (released approximately five years after scheme implementation).

## **APPENDIX 2 – Enhanced Monitoring**

### **1 Details of Enhanced Monitoring Requirements**

- 1.1 It is expected that some schemes will undertake enhanced monitoring in addition to the standard measures. These are schemes which have an expected outturn cost of over £50m (as estimated at the time of the Full Approval application), or schemes which are anticipated to have a significant impact on particular measures.
- 1.2 The level of impact of any scheme on these measures should be identified and agreed as part of the Monitoring and Evaluation Plan, where a case should be made for inclusion or exclusion of each of these measures in the monitoring of the scheme.
- 1.3 In making the case, the sensitivity of results needs to be considered. For example, if a scheme has an effect in an Air Quality Management Area, that would be a compelling argument for inclusion of local air quality in the monitoring and evaluation of the scheme.
- 1.4 The measures that fall into this category are shown in the summary table below. As well as showing the measures required this table also shows the stage that is being measured, timing of the data collection exercise and the rationale for collection of the data (i.e. whether the objective of the data collection is to support accountability or development of knowledge).

**Table A2 – Enhanced Monitoring Measures**

<b>Item</b>	<b>Stage</b>	<b>Collection timing</b>	<b>Rationale</b>
Noise	Impact	Pre or during delivery / post opening (up to 5 years)	Accountability / Knowledge
Local Air Quality	Impact	Pre or during delivery / post opening (up to 5 years)	Accountability / Knowledge
Accidents	Impact	Pre or during delivery / post opening (up to 5 years)	Accountability / Knowledge

#### **Noise**

- 1.5 Information that would need to be provided:
- Effect of the scheme on noise levels at important receptor locations and analysis of the difference between outturn results and scheme forecasts.
- 1.6 It would be expected that the reporting of such material would be included in both the ‘One Year After’ report (released 1-2 years post scheme implementation) and the final report (released approximately five years after scheme implementation).

## **Local Air Quality**

- 1.7 Information that would need to be provided:
- Effect of the scheme on local air quality in the area of interest and analysis of the difference between outturn results and scheme forecasts; particular attention would need to be paid to Local Air Quality Management Areas.
- 1.8 It would be expected that the reporting of such material would be included in both the 'One Year After' report (released 1-2 years post scheme implementation) and the final report (released approximately five years after scheme implementation).

## **Accidents**

- 1.9 Information that would need to be provided:
- Effect of the scheme on traffic accidents in the area of interest and analysis of the difference between outturn results and scheme forecasts.
- 1.10 It would be expected that the reporting of such material would only be included in the final report (released approximately five years after scheme implementation), as elapse time of this length would be required to enable statistically sound evidence of any change in accident rates to be identified.

## **APPENDIX 3 – Fuller Evaluation**

### **1 Key Assumptions**

#### **Evaluation approach**

##### *Impact Evaluation*

- 1.1 Scheme promoters delivering Development Pool and Supported Pool schemes which have been selected for fuller evaluation are expected to develop an evaluation approach which will provide reliable evidence of the extent to which the scheme has caused the changes observed in the outcomes and impacts and an assessment of any unintended impacts of the scheme<sup>18</sup>.
- 1.2 Attributing the changes observed to the scheme should be a central consideration for the evaluation design. Scheme promoters should demonstrate how they have selected the most appropriate evaluation approach for delivering this. Where the scheme context is so complex that attribution is not possible, for instance because it is being delivered alongside other schemes which also influence the intended outcomes and impacts, the evaluation design should aim to demonstrate what level of contribution the scheme has made to the observed result.
- 1.3 In the circumstances where complementary schemes are being delivered and there are benefits in combining evaluation planning and data collection (e.g. cost savings), this will be acceptable, as long as the quality of the evaluation is not compromised and the effects of the individual schemes can be identified and assessed as far as possible.

##### *Process Evaluation*

- 1.4 All fuller evaluations should seek to learn lessons from the experience of implementing the scheme and assess whether the scheme has been delivered as intended in order to understand how the scheme has influenced the outcome and impact results observed. Therefore, all fuller evaluations are expected to include a process evaluation.

##### *Economic Evaluation*

- 1.5 All fuller evaluations should seek to value the benefits of the scheme and relate these to the cost of the intervention. These should be compared with the costs and benefits presented in the business case. The ex-ante appraisal model should be updated with outturn values and the underlying model assumptions should be updated based on the observed evidence in order to learn and share lessons for future scheme appraisal.
- 1.6 As far as possible, the economic evaluation should separate out the impacts of schemes funded by non-DfT sources.

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<sup>18</sup> This is in addition to standard and enhanced (if appropriate) monitoring.

### **Timing for fuller evaluation data collection and reporting**

- 1.8 The timing of data collection and reporting will depend on the anticipated timeframe for the impacts to be observed and benefits to be realised. It will not be possible to directly observe some of the impacts or test some of the appraisal assumptions which have significantly long timeframes (e.g. traffic forecasts over the appraisal period), therefore measuring intermediate indicators will be important and these should be clearly set out in the monitoring and evaluation plan.
- 1.9 Just like the standard measures, baseline data collection will be important for fuller evaluations and the monitoring data collected is likely to be supplemented with primary data collection (e.g. surveys of the target population). The additional data collected for fuller evaluation is more likely to be bespoke to the needs of the evaluation. As with the monitoring data, the frequency of data collection is important and scheme promoters should seek to minimise the time lag between baseline measurement and scheme opening, as far as possible, to reduce the influence of other factors. However, baselines should be measured before any effects of the scheme are felt (e.g. if an existing route / service is closed during the implementation of the scheme). In order to triangulate with the data collected through the standard and enhanced monitoring, the timing of data collected for fuller evaluation should be kept as consistent as possible.
- 1.10 Post-scheme data collection will need to be timed to allow the scheme effects to be observed whilst enabling attribution. For instance, assessing traveller behaviour should be conducted around one year after scheme implementation because a longer time lag may risk other factors influencing the results. This means it is important to understand what the short-term effects of the scheme might be (using the logic map) and how to measure whether the scheme is on track to deliver the anticipated impacts. There will be other outcomes which may take longer to realise e.g. enabling local development and which may be better assessed over a longer timeframe. However, some interim assessment is beneficial after the first year (e.g. research with developers) to understand the role of the scheme in influencing the outcome.
- 1.11 Process evaluation should be conducted during the scheme implementation stages and reported alongside the one year post - scheme implementation findings.
- 1.12 Economic evaluation requires sufficient data to be collected on the costs and benefits so it may not be feasible to conduct and report on this analysis until the final report.

## 2 Evaluation design

- 2.1 There are a range of schemes within the Local Authority Major Scheme programme which have been selected for fuller evaluation. Each scheme is unique and therefore the evaluation design will need to be bespoke to respond to the nature of the scheme, the local context and the research questions which scheme promoters have identified.
- 2.2 Whenever possible, scheme promoters are encouraged to share ideas / peer review with other Local Authorities evaluating similar types of schemes.
- 2.3 We recognise that it is not feasible to prescribe a standard evaluation approach which would be suitable for all schemes or would deliver evidence to meet a range of needs. However, the evaluation evidence has value beyond the specific scheme to generate and share lessons to be used by other Local Authorities and for DfT to assess the value of the programme. This requires a commitment to generating reliable evidence which can be transferred to other contexts.
- 2.4 The evaluation design should be proportionate to the scheme and therefore some of the smaller-scale schemes selected for fuller evaluation may have to prioritise which research questions their evaluation will address in order to effectively target resources.
- 2.5 The DfT will review and quality assure evaluation plans with the following in mind<sup>19</sup>:
  - The scope of the evaluation and the research questions which it will answer;
  - The extent to which the evaluation design will deliver evidence to answer the research questions;
  - Whether the evaluation design is fit for purpose, in order to generate transferable evidence from which to learn lessons about scheme delivery, its outcomes and impacts and cost-effectiveness;
  - There is a clear and convincing justification as to why the approach proposed is the most appropriate within the circumstances of the scheme;
  - The suitability of the proposed data collection methods to generate the evidence required; and,
  - There is a clear vision about how the evidence will be used to answer the research questions and how the findings will be disseminated.

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<sup>19</sup> This is not an exhaustive list.



### 3 Components for fuller evaluation

3.1 To aid comparability and transferability of findings between schemes, we have outlined below a range of components which are likely to be relevant to a number of schemes and some standards for assessing these (see Table A.3 for an overview). This is not an exhaustive list and may be developed over time, drawing on best practice examples from submitted Monitoring and Evaluation plans. Scheme Promoters are encouraged to develop these for their schemes (where appropriate) and also identify appropriate measures within their Monitoring and Evaluation plan. Table A.4, at the end of this section, provides details of key evidence gaps identified in consultation with Local Authorities. These may help scheme promoters consider the research questions for their scheme.

**Table A.3 - Components for fuller evaluation**

Item	Stage	Data collection timing	Rationale
Delivery process	Inputs	During delivery	Process and economic evaluation
Delivered scheme	Outputs	During delivery / post opening	Process evaluation
Travel behaviour	Outcomes	Pre and post opening	Impact Evaluation
Impacts on the Economy	Impacts	Pre and post opening	Impact Evaluation
Impacts on Carbon	Impacts	Pre and post opening	Impact Evaluation
Scheme objectives	Impacts	Pre and post opening	Impact Evaluation
Outturn appraisal assumptions	Impacts	Before or during delivery and post opening	Economic evaluation

#### Delivery process

3.2 A process evaluation should seek to go beyond a desk based review of key documents to encompass a systematic approach to obtaining feedback from key stakeholders, delivery partners and transport users / local communities / businesses using robust research methods.

3.3 Areas which should be routinely evaluated are:

- **Scheme context** - A detailed description of the context at the time of planning. Significant changes in the context should be documented during scheme construction to help determine whether similar results may be expected in other areas or whether the results are site specific.
- **Scheme inputs** - An assessment of the critical success factors and key obstacles to resourcing the scheme (to be considered in its widest sense of capital and revenue investment, staffing, skills / expertise, leveraging resources,

securing approvals, accessing fit for purpose materials and services).

- **Risk management** - An assessment of the effectiveness of the risk management strategy and mitigation measures on key risks; for example, safety during construction, delays and any negative (perceived or real) impacts on transport users, local communities and businesses during construction. Depth case studies may be required to investigate significant risks or issues experienced during construction.

### **Delivered scheme**

3.4 Areas which should be routinely evaluated are:

- **Scheme outputs** - Evidence that the scheme has been delivered to the quality standard expected and meets the requirements set out in the business case, including the needs of stakeholders and end users.
- **Assessment of causal pathway** - Evidence that the scheme has been delivered as intended and is on track to deliver the intended outcomes. In cases where the outputs differ from what was anticipated it is important to understand why and what the impacts of this will be on the delivery of the outcomes.

### **Changes in travel behaviour**

#### *Mode shift*

3.5 This will build on the evidence generated through the objective measure of travel demand set out in the standard measures section, by demonstrating that assumptions about mode shift have been realised and understanding unintended effects. The evidence provided on mode shift is central to the analysis of scheme impacts (e.g. on the economy, carbon or health).

3.6 For example, this could be collected across the target population which is likely to be at a household level via a robust travel survey. This could be compared with a suitable comparison group, not affected by the scheme, in order to assess the additional impact of the scheme. If a comparison group is not feasible due to the nature of the scheme, then consideration should be made as to comparability with the [National Travel Survey](#) at an appropriate level of disaggregation. This will require a comparable methodological approach (e.g. using household travel diaries).

3.7 The monitoring and evaluation plan should clearly present the survey design, sampling approach and analysis.

#### *Changes in destination*

3.8 Some schemes will lead to changes in trip destinations. For example, for employment or accessing services. Depending on the nature of the intended outcome, this data can be collected from employment sites or

households affected by the scheme compared with those not affected by the scheme, in the form of a representative survey approach. Where possible, it is recommended that this information is collected at the same time as assessing mode shift.

### **Impacts on the economy**

3.9 Fuller evaluation should aim to deliver evidence about how the scheme has generated economic impacts. The standard measures set out in Appendix A are not suitable for attributing directly to the scheme on their own. This evidence needs to be triangulated with evidence collected on, for instance, self-reported changes to travel behaviour, objective measures of travel demand, journey times and reliability and evidence collected from local businesses representing employers, service providers, developers and freight industry.

3.10 The evaluation should be designed to measure the following (as applicable to the scheme design):

- Congestion relief;
- Increasing access to job opportunities and local services;
- Facilitating local development; and,
- Jobs created by the scheme directly through construction, and ongoing operation and indirectly by supporting business relocation and growth.

3.11 As with the standard measures, this list is still subject to further development by Local Authorities.

### **Carbon Impacts**

3.12 Analysis of changes to travel behaviour should be used to supplement the analysis of carbon outlined in the standard monitoring section.

### **Scheme objectives**

3.13 The scheme objectives identified for standard monitoring should be evaluated as part of the fuller evaluation.

3.14 The objective measurement of impacts on noise, local air quality and accidents has been set out in the enhanced monitoring. This can be further developed by measuring the experience of community members and their perceptions of these issues.

### **Outturn Appraisal Assumptions**

3.15 Information that would need to be provided:

- Comparison of the model forecast and appraisal assumptions with outturn values – for example GDP, fuel prices, fares.
- Used together with other metrics (such as scheme demand, effect on journey times, outturn costs); analysis of the outturn Transport

Economic Efficiency (TEE) benefits and Benefits Cost Ratio compared with those projected in the Business Case.

**Table A.4 Gaps in the existing evidence base**

Evidence gap	Research question(s)
1. Empirical evidence of how economic activity changes as a result of transport improvements	a. How does the geographical distribution of economic activity change?
	b. What is the overall and net impact?
	c. What are the effects on employment (scale and location), regeneration?
	d. Did dependent development occur within anticipated timescales? What effects did this have on employment, land use, land values and housing levels?
2. Access to employment / services	a. Has the scheme delivered accessibility improvements to the local population in the ways expected in appraisal?
3. The impact of improved quality and reliability to inform appraisal and demand forecasts	a. What is the impact of improved quality?
	b. To what extent have service enhancements shifted perceptions towards different modes? Does this lead to mode shift / open up new journeys by the mode?
	d. What impacts do schemes have on reliability (esp. public transport) (actual and perceived) and how do passengers respond?
4. Effectiveness of proposed mitigation measures	a. Do planned mitigation measures (e.g. environmental / landscape, social / distributional impacts or delivery risk) get delivered as expected and how successful are they?
5. Comparative effectiveness of schemes in delivering strategic objectives	a. Which types of schemes are the most effective in achieving / contributing to the Dept's strategic objectives?
6. Understanding of optimism bias linked to the management of a scheme and cost	a. What are the reasons for cost overruns and how do promoters respond to them?
	b. What can promoters do to reduce the likelihood and scale of cost overruns?
7. Learning lessons from innovative schemes	a. How do schemes with complex interfaces / innovative technology manage successful delivery?
	b. what is the combined effect of packages of measures?
8. Dependent Transport	a. How do existing bus operators respond to public transport
	c. What is the impact on fares and competition within the market?
9. Understand how local investment in schemes are resourced to learn lessons about future resourcing options	a. What is the impact of schemes on the local tax base?
	b. To what extent are fare strategies used to maximise revenue of economic welfare?
10. Evidence of the VfM of Local Major Schemes to inform case with HMT	a. What are the benefits local major schemes?
	b. Do they provide the VfM anticipated in appraisal? Are they over / undere timated in appraisal?
	c. Do they provide wider benefits?

## APPENDIX 4 - Schemes selected for fuller evaluation

**Table A.5 Schemes selected for fuller evaluation**

Scheme	Scale	Scheme nature	Key evidence gaps	
			Public Transport	Dependent Development
A43 Corby Link Road				√
A6182 White Rose Way Improvement Scheme (Doncaster)				√
Bath Transportation Package		√		
Beverley Integrated Transport Plan*		√		
Bexhill to Hastings Link Road*	√	√		√
BRT Ashton Vale to Temple Meads (Bristol) *	√#	√	√	
Camborne-Pool-Redruth Transport Package*		√		√
Chester Road (Birmingham) *				√
Crewe Green Link Southern Section (Crewe) *				√
Croxley Rail Link (Watford) *	√	√	√	
Darlaston (Walsall) *		√		√
Ipswich Fit for the 21st Century		√		
Kingskerswell By-pass (Devon/Torbay)	√	√		
Leeds New Generation Transport (Trolleybus) *	√	√	√	
Leeds Rail Growth*	√	√		√
Lincoln Eastern Bypass*	√			
Manchester Cross City Bus			√	
Morpeth Northern Bypass*		√		√
North Fringe to Hengrove Package BRT (Bristol) *	√#	√	√	
Norwich Northern Distributor Road*	√	√		√
Pennine Reach (East Lancashire. Rapid Transit) *			√	
Rochdale Interchange				√
South Bristol Link Phases 1&2*	√#	√		
South Yorkshire Bus Rapid Transit Phase 1 (Sheffield) *			√	
Sunderland Strategic Corridor*	√	√		√
Tipner Interchange (Portsmouth)*				√
Worcester Integrated Transport Scheme*		√	√	
Heysham to M6 Link Road*	√	√		
Midland Metro - Birmingham City Centre Extension	√	√	√	

\* These schemes will be required to undertake fuller evaluation should they be Fully Approved by the Department.

# These three schemes are being considered as a programme.

- 1.1 The thresholds applied to the criteria are explained in more detail below:
- Scale - includes schemes which are expected to cost more than £50m.
  - Scheme nature - includes schemes which are expected to cost more than £10m and the nature of the scheme is considered to be at least one of the following:
    - innovative;
    - have an adjusted benefit cost ratio of less than 2; and/ or,
    - have potential risks or sensitivities (particularly in the form of local opposition) which may affect scheme delivery and benefits realisation.
  - Key evidence gaps - includes schemes which are expected to cost more than £10m and will generate evidence to inform key evidence gaps<sup>20</sup>; either about the effectiveness of public transport initiatives or scheme outcomes on dependent development.

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<sup>20</sup> There are other evidence gaps identified in Table A.4, but these are quite generic and are not specifically relevant for particular schemes.

## **APPENDIX 5 - Monitoring and Evaluation Plan**

1.1 Scheme promoters within the Development Pool and Supported Pool are expected to submit a plan outlining the anticipated monitoring, evaluation and reporting of standard / enhanced measures and fuller evaluation (where applicable). The expected content of such a plan is discussed in this appendix. The Department may wish to use examples from evaluation plans to share as best practice with other Local Authorities or on the DfT website. This will be subject to agreement with the relevant Local Authority Scheme Promoter.

1.2 The Plan should provide the following information:

<b>Section heading</b>	<b>Description</b>	<b>Standard measures</b>	<b>Enhanced Measures</b>	<b>Fuller Evaluation</b>
1. Scheme background and context	Short description of the scheme (including costs, the delivery timeframe and explanation of the wider delivery context).	√	√	√
2. Scheme objective and outcomes	Define the scheme objectives and the associated outcomes and impacts. Provide assumptions underpinning how the scheme will achieve these in the form of a logic map.	√	√	√
3. Evaluation objectives and research questions	Set out the scope of the evaluation and the questions which the evaluation will answer.			√
4. Outline the evaluation approach	Clearly define which overarching evaluation approach and analytical techniques will be applied (for instance to establish causality) and the justification for this approach.			√
5. Data requirements	Provide details of the data being collected for each measure. Use template below for recording data requirements.		√	√
6. Data collection methods	Provide an overview of the data collection approaches including assumptions being made about sample sizes, mode and frequency of data collection. Where appropriate provide maps showing spatial coverage of data collection.	√	√	√
7. Resourcing and governance	Provide details of the monitoring and evaluation budget(s), the governance structure for the delivery of the Monitoring and Evaluation plan, including details of who will be responsible for delivering the plan and procedures for risk management and quality assurance.	√	√	√
8. Delivery plan	Project plan and timeframe for data collection, progress reporting back to the Department and reporting of monitoring and evaluation findings.	√	√	√
9. Dissemination plan	Details of how the findings from the evaluation will be communicated to key stakeholders and lessons disseminated.	√	√	√

### **Measures Template**

<b>Measure</b>	<b>Data to be used</b>	<b>Rationale for inclusion</b>	<b>Data collection methods</b>	<b>Frequency of data collection</b>