

# A6 to Manchester Airport Relief Road

## Outline Scheme Evaluation Plan

**November 2012**

### Notice

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### Document History

JOB NUMBER: 5108350			DOCUMENT REF: Scheme Evaluation Plan			
3	Revised using DfT Guidance	SB	PB	NM	NM	Nov 2012
2	MSBC Submission	SB	PB	NM	NM	May 2012
1	Draft for Review	SB	PB	NM	NM	May 2012
Revision	Purpose Description	Originated	Checked	Reviewed	Authorised	Date

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# 1. Introduction

- 1.1 Stockport Metropolitan Borough Council is the lead promoter for this scheme that runs through the local authority areas of Manchester City and Cheshire East as well as Stockport. Atkins has been commissioned by Stockport Metropolitan Borough Council to produce an Outline Scheme Evaluation Plan for the major scheme business case to construct a link road between Manchester Airport and the A6 at Hazel Grove. This is the first stage in developing an Evaluation Plan for the scheme and the plan is subject to further refinement in response to comments from the DfT and changing circumstances relating to the scheme itself and within the south Manchester area.

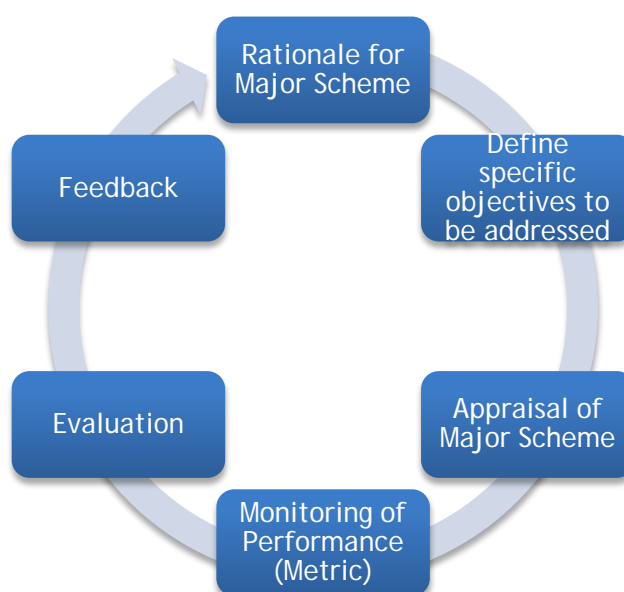
## Evaluation Context

- 1.2 In accordance with the requirements set out in 'Monitoring and Evaluation Framework for Local Authority Major Schemes (Department for Transport, September 2012)', there is a requirement that transport business cases are accompanied by an Evaluation Plan underpinned by clear arrangements for monitoring and evaluation. Guidance is provided in this document on the level of evaluation that is expected for different categories of Major Scheme to ensure that evaluation effort and expense is proportionate to the size of the scheme. The guidance specifies that this scheme requires an 'Enhanced' level of monitoring and evaluation, rather than 'Standard' or 'Fuller' evaluations. This document forms our Outline Evaluation Plan for discussion with the DfT prior to drafting and submission of the final document.

## Evaluation Objectives

- 1.3 Stockport Metropolitan Borough, Manchester City and Cheshire East Councils place significant value on the focused and timely evaluation of major transport projects, and think that its value goes beyond simply monitoring progress against targets set in the early planning and design stages. Instead, we recognise the role that evaluation has in identifying lessons learnt for the future development of major schemes by the partnering organisations promoting this scheme (Figure 1.1).

**Figure 1.1 – Evaluation Feedback Loop**



- 1.4 We have therefore developed a methodology that is both flexible enough to capture such intended and unintended scheme outcomes, ensures proportionate evaluation (appropriate to the scale of the likely scheme impact and data availability), and essentially enables the commissioning body, partners and general public to learn important lessons relating to the key impacts, design and implementation processes, wider transferability of application and value for money of the major scheme programme. This evaluation methodology set out in this document has been specifically designed to ensure that robust qualitative and quantitative evaluation methods are in place to enable:

- A quantitative and qualitative analysis of scheme impacts consistent with the scheme specific objectives and national transport objectives set out in WebTAG;
- Identification and description of discrepancies between forecast and outturn impacts;
- Explanations of reasons for differences between forecast and outturn impacts;
- Identification of key issues relating to appraisal methods that will assist in the ongoing improvement of partnering authority appraisal techniques and processes associated with the implementation of major transport schemes.

## This Document

- 1.5 To ensure that our evaluation plan strongly captures the benefits to be realised as part of this scheme, we have incorporated best practice and current guidance from the following documents in to our methodology:

- Monitoring and Evaluation Framework for Local Authority Major Schemes, (DfT, September 2012);
- Local Authority Major Scheme Evaluation: Standard Metrics (Draft), (DfT, April 2012);
- HM Treasury Magenta Book: Guidance for Evaluation (HM Treasury, April 2011);
- Guidance for Transport Impact Evaluations: Choosing an evaluation approach to achieve better attribution (Tavistock Institute, March 2010);
- Logic mapping: hints and tips for better transport evaluations (Tavistock Institute, March 2010);
- The Highways Agency Lean Benefits Realisation Guide: A guide to capturing benefits accruing from the use of Lean techniques and Methods (November 2011);
- The Highways Agency Post Opening Project Evaluation of Major Schemes (2011/12); and
- Guide to Cost Benefit Analysis of Investment Projects (European Commission, 2008).

- 1.6 The remainder of this note is structured as follows:

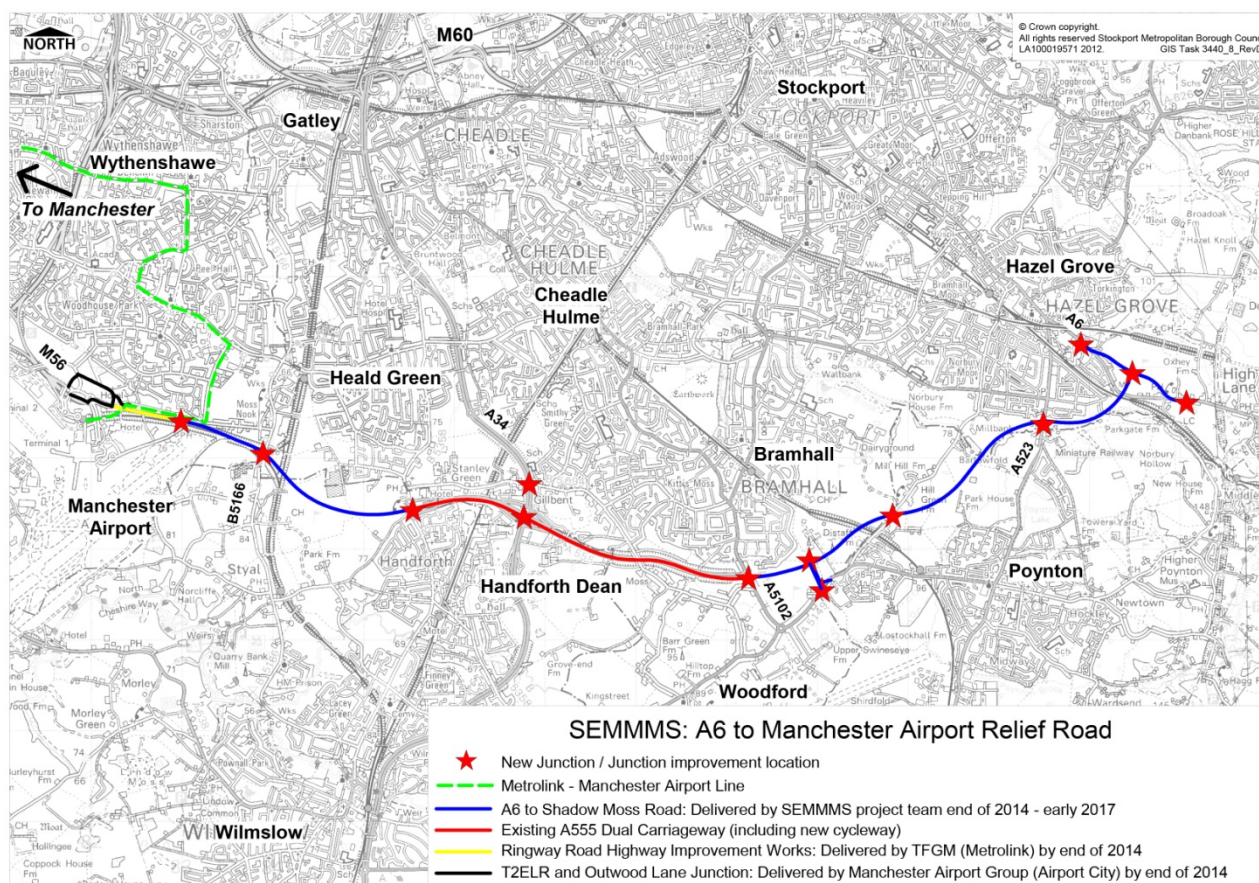
- **Scheme Background and Objectives:** Describes the main characteristics of the scheme and it's high level objectives;
- **Evaluation Design:** Sets out the general approach to developing the evaluation plan and capturing benefits realisation;
- **Outline Evaluation Plan:** sets out detail of the evaluation approach for this scheme to capture performance against both scheme specific and WebTAG based objective; and
- **Project Management and Delivery Plan:** details the reporting and monitoring procedures to be adopted to ensure cost efficient and timely benefits realisation processes.

## 2. Scheme Background and Objectives

### Scheme Context

- 2.1 The A6 to Manchester Airport Relief Road will improve surface access to Manchester Airport and provide better connectivity along the south Manchester corridor, to assist Greater Manchester and Cheshire East in meeting their aspirations for economic growth. It directly supports the Government's objective to provide major transport infrastructure that will deliver economic growth, a fact acknowledged by the announcement on prioritisation for funding in the Chancellor's Autumn Budget Statement in November 2011.
- 2.2 The scheme will provide congestion relief to local communities and generate wider benefits to business through improved journey time reliability on the local and strategic highway network. Furthermore, it is widely recognised that the A6 to Manchester Airport Relief Road is critical to delivering the long-term objectives of the SEMMMS strategy, and to meet national objectives for growth, employment and connectivity. The alignment and geography of the scheme is illustrated in Figure 2.1.

**Figure 2.1 – Location of the A6 to Manchester Airport Relief Road Scheme**



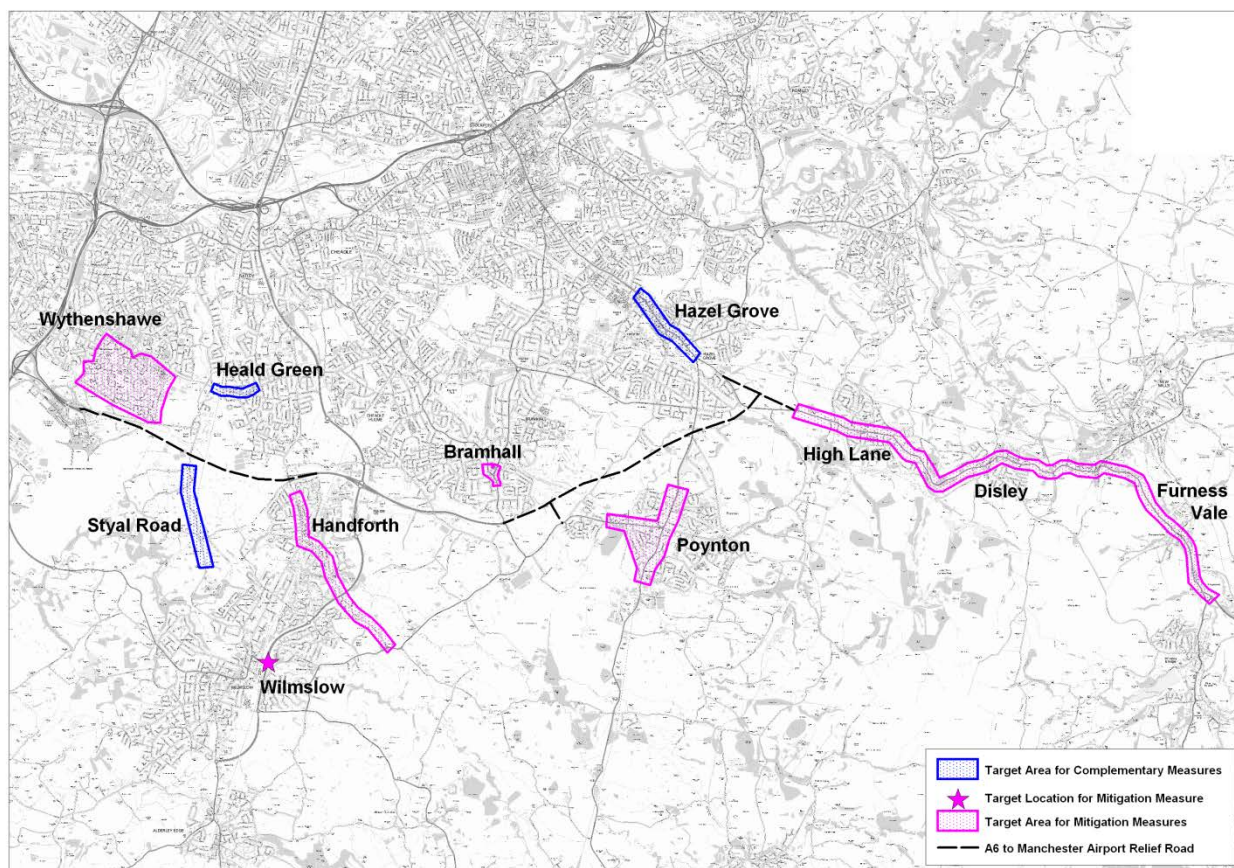


## Components of the Preferred Scheme

2.3 The SEMMMS A6 to Manchester Airport Relief Road Scheme comprises the following components:

- **The Relief Road (10km)**, which is a broadly east-west route from the A6 near Hazel Grove (south east from Stockport) to Manchester Airport and the link road to the M56, incorporating up to **thirteen new and improved junctions and four railway crossings**;
- **A package of complementary measures** in accordance with the SEMMMS Strategy that will maximise the scope of benefits by making the most efficient use of road space where there are forecast reductions in car traffic. These measures will prevent available road space from simply filling up with more cars;
- **A package of mitigation measures** will contribute to overall value for money by limiting any negative impacts resulting from the scheme, including environmental and construction engineering mitigation to minimise the effect of the road on local communities and surrounding habitats;
- **Provision of a segregated cycle/pedestrian** route adjacent to the new road and existing length of the A555, providing a new orbital link for the Strategic Cycle /Pedestrian Network; and
- **Changes to the existing A34 junctions with the A555 and Stanley Road** due to changed traffic movements.

Figure 2.2 – Priority Areas for Complementary and Mitigation Measures



## Scheme Objectives

- 2.4 The A6 to Manchester Airport Relief Road scheme will alleviate a number of problems to bring benefits to the local population and businesses and to the wider economy. The major problems in the area – and objectives defined to address them – are presented in Table 2.1. Linkages with the WebTAG objectives are also illustrated.

**Table 2.1 – Summary of Study Area Problems and Relief Road Scheme Objectives**

Problems	Scheme Specific Objectives	WebTAG Impact Classification
<b>Poor connectivity</b> along the south Manchester corridor, with a <b>fragmented east-west highway network</b> and <b>lack of surface access to Manchester Airport</b> , that acts as a <b>barrier to economic growth and regeneration</b>	<b>The scheme will Increase employment and generate economic growth</b> through the provision of efficient surface access and improved connectivity to, from and between Manchester Airport, local, town and district centres, and key areas of development and regeneration (e.g. Manchester Airport Enterprise Zone);	<b>Business Users and Transport Providers</b> <b>Reliability Impact on Business users</b> <b>Regeneration</b> <b>Wider Impacts</b>
<b>Congestion on the local and strategic network</b> , with average vehicle speeds of less than 10mph on most parts of the highway network and journey times that are longer than all other 'large' urban areas across the UK, including those in London	<b>The scheme will boost business integration and productivity</b> through improvement in the efficiency and reliability of the highway network, reducing the conflict between local and strategic traffic, and providing an improved route for freight and business travel;	<b>Commuting and Other Users</b> <b>Reliability Impact on Commuting and Other Users</b> <b>Access to Services</b> <b>Severance</b> <b>Option Values</b>
There are particular <b>congestion problems along the A6 and in the urban centres of Gatley, Bramhall, Heald Green, Hazel Grove, Poynton, Wilmslow, Handforth and Cheadle Hulme</b> , leading to delays to public transport and affecting accessibility.	<b>The scheme will Promote fairness through job creation and the regeneration of local communities.</b> It will reduce severance and improve accessibility to, from and between key centres of economic and social activity	<b>Noise</b> <b>Air Quality</b> <b>Greenhouse Gases</b> <b>Landscape/Townscape</b> <b>Physical Activity</b> <b>Journey Quality</b> <b>Accidents</b>
<b>Poor environmental conditions in the District and Local Centres along the south Manchester corridor</b> , caused by the high volume of traffic passing through these towns to reach other destinations, leading to a number of locations in the study area being designated Air Quality Management Areas – by reducing the amount of traffic through District and Local Centres	<b>The scheme will reduce the impact of traffic congestion</b> on local businesses and communities.  <b>The scheme will Support lower carbon travel.</b> It will reallocate road space and seek other opportunities to provide improved facilities for pedestrians, cyclists and public transport	
<b>Unsafe conditions for pedestrians and cyclists through busy urban areas along the extent of the south Manchester corridor</b> , with all non-motorised transport users facing <b>severance and problems of safely accessing education, employment and leisure facilities</b>	<b>The scheme will Improve the safety of road users, pedestrians and cyclists.</b> It will reduce the volume of through-traffic from residential areas and retail centres;	<b>Townscape</b> <b>Physical Activity</b> <b>Accidents</b>



### 3. Evaluation Objectives and Principles

#### Introduction

- 3.1 The purpose of scheme evaluation and monitoring is to understand if, how and why the intended outcomes and impacts of a scheme have been achieved or exceeded.
- 3.2 The recent DfT guidance documents on evaluation explain that scheme evaluations are carried out in order to:
- Provide accountability for the investment;
  - Provide evidence for future spending decisions;
  - Learn about which schemes deliver cost-effective transport solutions;
  - Enhance the operational effectiveness of existing schemes or future scheme extensions; and
  - Improve future initiatives based on learning.
- 3.3 We expect the DfT to advise on whether a full impact evaluation or a simple scheme monitoring report is required for the scheme before funding is approved. It is anticipated that a full impact evaluation would be required for a project of this scale. The DfT is promoting the use of standard metrics in order to provide a consistent understanding of the impacts of schemes and lessons learnt exercises.
- 3.4 The various measures of a scheme can be categorised in the following way:
- Inputs (investment of resources and activities);
  - Outputs (roads and schemes to be delivered);
  - Outcomes (short and medium term results, such as traffic volumes changes and land use development); and
  - Impacts (longer term results such as wider economic development or a better quality of life).
- 3.5 The evaluation will cover a wide range of outcomes and impacts and provide an analysis of why these have occurred. It would also consider various 'what if' scenarios concerned with value for money, external factors, how the results relate to the actual background change and comparison groups, unintended impacts and lessons learnt.

#### Evaluation Objectives

- 3.6 The table below gives an example of the sort of questions that will need to be considered when the scheme evaluation is carried out.

Questions to be addressed in a full impact evaluation
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- |   |
|---|
| <ul style="list-style-type: none"> <li>• To what extent are the observed changes additional to what would have happened in the absence of the scheme?</li> <li>• Have there been any unanticipated impacts / displacement effects?</li> <li>• How are the impacts distributed?</li> <li>• Has the scheme been successful, why / why not?</li> <li>• Which target groups has the scheme been most effective for?</li> <li>• What lessons can be learnt for future scheme development?</li> <li>• How does the scheme contribute to wider national and local goals?</li> <li>• To what extent have the anticipated costs and benefits matched the actual outcomes?</li> </ul> |
|---|

*Source: Guidance for transport impact evaluations (Tavistock Institute, March 2010)*

- 3.7 There are wider, secondary and long term impacts relating to economic growth and development that are of key importance to this scheme. These will contribute greatly to the level of 'success' that can be attributed to the scheme.
- 3.8 The key features of the scheme business case are to deliver major travel time and vehicle operating benefits that will, in turn, deliver substantial benefits to the wider economy in the form of new job creation and economic output.
- 3.9 The evaluation will need to examine how the scheme has benefited businesses in the immediate area of the scheme and those businesses that may be located further away but that are still affected by the scheme. The scheme is expected to contribute to the wider policy objectives set out in the previous section and the evaluation will provide the evidence to judge whether these expected impacts have been realised.
- 3.10 The Appraisal Summary Table for the scheme includes other objectives relating to road safety and the environment. These are the secondary objectives that will also be part of the evaluation plan.
- 3.11 The main scheme objectives presented in the previous sections have been summarised in the following table:

	<b>Scheme Objective Summary</b>
<b>1</b>	<b>Improve business integration and productivity to generate Economic Growth and increased employment</b>
<b>2</b>	<b>Reduce the impact of traffic congestion on local businesses and communities and promote low carbon travel</b>
<b>3</b>	<b>Improve the safety of road users, pedestrians and cyclists</b>

## Data Availability and Quality Assessment

- 3.12 The local authorities promoting the scheme, plus TfGM already collect a large volume of data that will be essential in carrying out the scheme evaluation process. Current data sources, availability and quality will need to be established and we will then use this as a baseline against which to develop the most appropriate and cost-effective evaluation plan. By utilising existing data as much as possible we will ensure that the evaluation is as consistent with ongoing monitoring processes as possible and will minimise the requirement to collect additional data.
- 3.13 The quality and long term availability of data are key issues to consider. The quality of data will need to be tested before it is used within the evaluation. Data used will need to be compared with other data sources in order to verify its accuracy. This may be done by comparing data from a source over different, separate time periods or by using different sources of data to validate against.
- 3.14 Data availability may well change between now and the 'Pre Construction' or the 'Post-scheme' stages of the evaluation, so if new data becomes available we will make use of it. Conversely, other data sources may disappear or have a different format, particularly over the long term, and it may be necessary to replace this 'lost' data with our own data collection to fill the gaps.

## 4. Outline Evaluation Plan

### Introduction

- 4.1 Based on the evaluation model for Major Schemes adopted by the Highways Agency (HA), we have developed a scheme evaluation plan that will enable robust evaluation against each of the DfT's appraisal objectives (as listed in the current AST) and more specifically the objectives of the proposed scheme (as set out in Section 2).
- 4.2 The remainder of this section sets out our proposed evaluation approach and provides detail behind the evaluation plan included in Appendix A. Each of the DfT measures presented below will feature in the following reports. These are explained in more detail in Chapter Five, Management and Reporting:
- Pre-construction Progress Report
  - One Year After Opening Evaluation Report
  - Final Evaluation Report

### Scheme Build

- 4.3 DfT is keen to assess the management of each project before and during construction. This information will be presented in the One Year After report only.
- 4.4 The work programme and project plan will be included and this will be measured against actual delivery at key milestones. The stakeholder management and risk management processes and effectiveness will also be presented and evaluated in the report.

### Scheme Delivery

- 4.5 The first stage of the evaluation plan is to present a full description of the scheme outputs on the One Year After Report. This will include a description and drawings that present all elements of the scheme and any changes to the scheme that were made between funding approval and implementation. Any assumptions that have been made need to be presented and then compared with the actual inputs/outcomes. This could include assumptions about land use developments and public transport fares, for instance.
- 4.6 Any changes that were made to the complementary or mitigation measures also need to be presented, with reasons for the change.

#### **Outturn Scheme Costs (Public Accounts)**

- 4.7 The forecast cost will be compared against the outturn investment cost of the scheme in order to produce an actual Present Value of Costs which can then be used to produce an observed Benefit Cost Ratio when it is compared against the evaluated monetary benefits of the scheme. Scheme costs will be broken down into individual elements in order to identify where cost savings and overruns occurred.
- 4.8 The assumptions that were made about project risk will be compared with the manifestation of these risks and the main reasons for any cost savings or cost overruns will be presented.

## Traffic Impact Evaluation

### Traffic volume

- 4.9 Given the importance of traffic forecasting in major scheme appraisal and the public interest in traffic flow changes resulting from a major transport project, we propose to undertake a post opening evaluation of traffic flows at the one year and five year after opening evaluations.
- 4.10 There is a large amount of 'before' traffic data available from which the baseline conditions can be established and this can be supplemented by additional surveys where required. Data from traffic volume surveys will be collected from the identified survey sites and used to produce the Pre-Construction Baseline against which post-scheme results can be compared at the One Year After and Five Year After construction stage.
- 4.11 Traffic data is available from a large number of automatic traffic counters (ATC) on key roads near to the scheme. These ATCs provide a very good measurement of long term change over time that provides useful information about background trends as well as change on an individual road link. Traffic count data is available from Transport for Greater Manchester, Highways Agency, Cheshire East, Manchester Airport and from the traffic model development process. The survey sites that are currently available are shown in Appendix B.
- 4.12 It is essential that new ATCs are provided within the carriageway construction of the new scheme. These will be the most useful count sites for evaluating actual flows on the new road, post-scheme opening.
- 4.13 The ATC surveys can be supported by existing and new manual traffic surveys where gaps in the information exist. Manual surveys provide a useful snapshot of road conditions on a particular day and they can be essential at critical points on the network, such as junctions, where information is required about the volumes of traffic making various turns.
- 4.14 The key priorities of the scheme are related to economic development and removing through traffic from sensitive roads, so the presence of HGVs is of particular importance. Traffic surveys will be classified in order to provide the data on changes in HGV volumes and the proportion of HGVs within total traffic flows.
- 4.15 A programme of existing and proposed traffic volume surveys will be drawn up and this data will be collected prior to the start of construction and at the post-scheme evaluation stages.

### Cordons and Screenlines

- 4.16 In addition to the monitoring of individual link counts we will devise a series of cordon and screenline analyses to assess how traffic volumes have changed across wide geographic areas. This will be used to judge whether changes on a particular link are representative of wider increases in traffic volume or show a transfer of trips between parallel routes. Cordon and screenline analyses were carried out during the traffic model development and we will use this experience to develop screenlines for use in the post scheme evaluation.

### Pedestrians and Cyclists

- 4.17 A key component of the scheme is the provision of the segregated cycle/pedestrian route and the complementary measures that have been proposed to make efficient use of the road space that will be released when traffic is removed from existing links. Consequently we will evaluate the impacts of the scheme on the number of cyclists/pedestrians and the changes to the routes they use.

**Journey times**

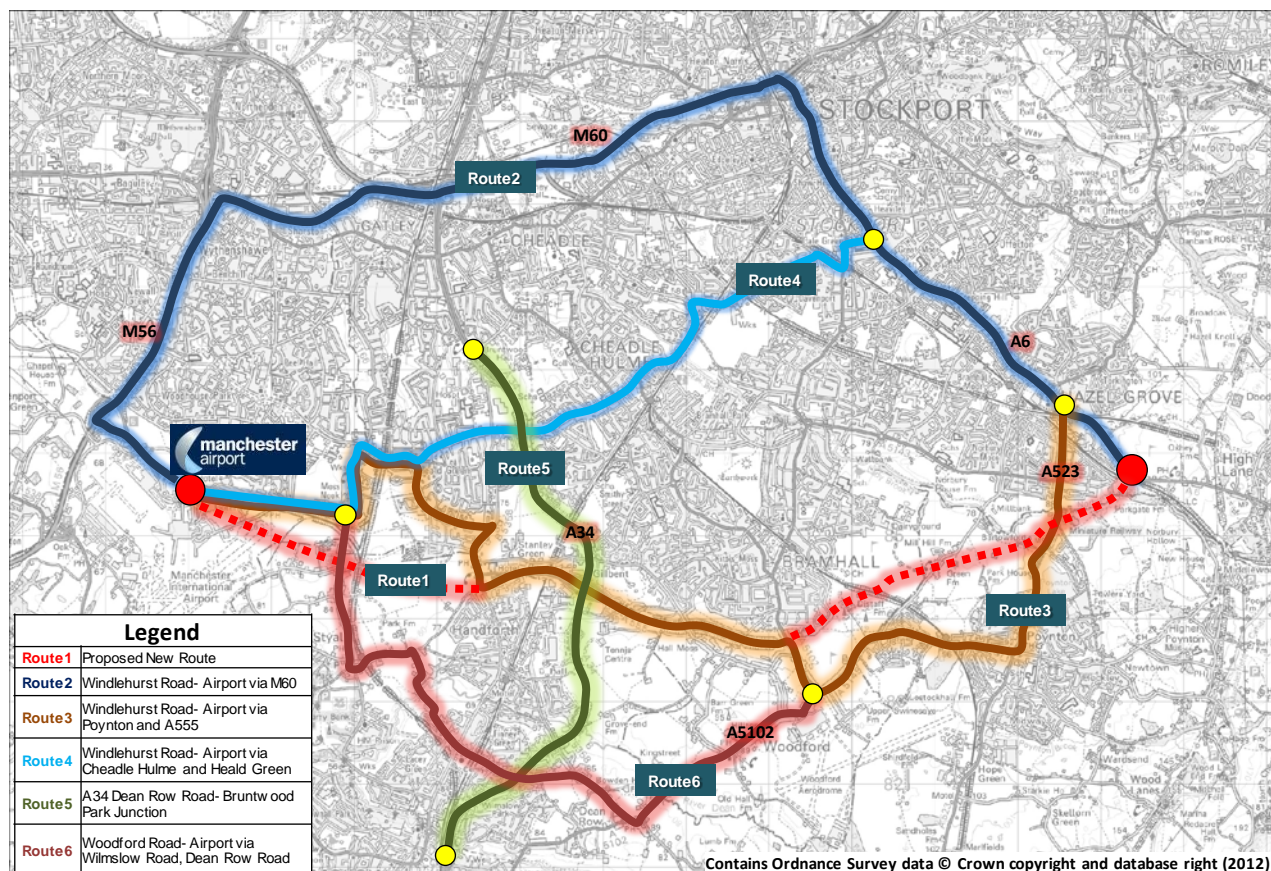
- 4.18 The outturn economic benefits of the scheme will be based upon the comparison of journey times in the pre-scheme and post-scheme scenarios. Figure 4.1 shows the routes on which we would recommend that journey times are surveyed in order to provide an evaluation of the observed impacts of the scheme.
- 4.19 The results of the journey time analysis can also be compared with the results of the traffic modelling scheme appraisal that was carried out in order to evaluate the accuracy of the forecasts that were made.
- 4.20 Data is available from sources such as the HA's Journey Time Database and private sources such as TomTom satellite navigation that provide journey time data over a large range of routes and timing periods. This data provides the sorts of sample sizes required to provide a high level of confidence in the results and to carry out better analysis of objectives like the journey time reliability than is possible with more traditional journey time survey methods.

**Public Transport**

- 4.21 Bus journey times are a key indicator of success and we are aiming to make use of the new technology being adopted in Manchester through the installation of 'real time' tracking equipment on the bus fleet. This will provide high quality 'Before' and 'After' data on the impacts of the scheme on bus journey times. We will also be consulting the bus operators about their perceptions of the scheme after it is constructed.
- 4.22 The construction of the Relief Road opens up the possibility of new bus services being introduced along the route. Details of any new services will be reported and patronage data will be sought to understand increased bus usage. Consideration will be given to undertaking bus passenger surveys to understand the level of mode shift from car to bus. Whilst this will be undertaken for the one year after opening evaluation, it is more relevant to the five year evaluation.
- 4.23 Bus user satisfaction surveys may also be used by drawing on TfGM's existing programme of Bus Customer Satisfaction monitoring.



Figure 4.1 – Proposed Journey Time Survey Routes for Evaluation



## Economy

### Wider Economic Impacts

- 4.24 The One Year After opening evaluation is probably too early to identify any significant wider economic impacts but the Five Year After opening report will include a much greater focus on economic development and job creation.
- 4.25 The One Year After evaluation will require qualitative input from the Planning Authorities, private developers and businesses at the airport and in the other centres of employment along the route. Quantitative transport data will be available at this stage and this will be used to give an indication of how the scheme has affected connectivity and transport supply, and hence economic development.
- 4.26 The key drivers of economic development are expected to be Manchester Airport, the Airport City Enterprise Zone and Handforth Dean that all lie adjacent to the new road. We will apply particular focus on these sites while also monitoring growth in other locations. There should be more quantitative economic data to use at the Five Year After opening stage, relating to the key objectives of local and wider job creation and economic output.
- 4.27 The scheme is expected to generate over £1Bn of additional economic benefits (Gross Value Added, GVA) through the impacts on agglomeration, labour market impacts and increased productivity. These impacts are expected to be distributed across Stockport (45%), Cheshire East (35%) and other parts of Greater Manchester (20%). Further benefits are derived from the improvements to international connectivity.

- 4.28 The approach will be to establish the overall change in economic indicators over the evaluation time period and then to make a judgement based on quantitative and qualitative data about the relative importance of the scheme in achieving these outcomes. We will analyse the following issues:
- Level and type of development was expected to be facilitated by the scheme
  - The level and type of development that has materialised (new start ups, relocations, expansions)
  - Rental values
  - The factors (transport and non-transport related) that have influenced this development
  - Job creation
  - The source of relocated employers
  - Employee travel to the new or expanded businesses Are they local, Manchester based or from outside the city?
- 4.29 To answer these questions will require a mixture of qualitative data from planning authorities and stakeholders concerning actual and potential economic growth and change in the labour market along with quantitative data relating to job creation, business start ups and mobility and transport inputs to these economic impacts.
- 4.30 We will utilise the existing Stakeholder engagement and management plan to consult with employers and stakeholders on their pre-construction aspirations/expectations and the post-scheme reality. It will be necessary to ensure that the consultation includes representative samples of consultees from all the geographic areas that have been affected and from the all sectors of the economy. Perception surveys of businesses and visitors that are not already part of the stakeholder group will also be used to build up a picture of the wider economic impact of the scheme. The Stakeholder Engagement and Management Plan is presented in more detail in the next section of this report.
- 4.31 Changes in GVA can arise from improvements to connectivity to business and labour as transport supply changes. In addition to the stakeholder consultation exercise we will be able to use the observed changes in access to different markets and changes in travel costs to provide a more quantitative evaluation of the impact of the scheme on economic growth.
- 4.32 The Major Scheme Business Case for the Relief Road includes a very detailed assessment of Wider Economic Impacts and the Evaluation Plan will draw on the work that has already been done and use observed transport inputs to assess actual impacts and the accuracy of the forecasts.

#### **Business/Consumer Users and Providers**

- 4.33 The impact of the scheme on user and provider benefits is expected to be in the order of £785m. These are made up largely of travel time benefits for road users and businesses with a secondary saving of Vehicle Operating Costs. The results of the surveys of traffic volume and journey time will be used to quantify the observed impacts of the scheme on overall travel time and monetary benefit.

#### **Reliability**

- 4.34 Reliability is concerned with the variability in journey times. A proxy for reliability can be obtained by examining the variation in journey times on the network. This approach requires good sample sizes in order to provide a reasonable level of confidence that the average journey time and the variation is representative of actual conditions. By comparing the change in the standard deviation of journey times a good indicator of the change in reliability can be obtained.

## Safety

### Accidents

- 4.35 The scheme is forecast to deliver small overall benefits to road safety. In order to calculate the impact of the scheme on road safety we will use a study area that covers those roads that we expect to see a significant change in traffic volume or road safety. We need to avoid using a study area that covers too many roads because there is a risk that we would then be evaluating other accident trends and road safety issues that are unrelated to the Relief Road. The study area will cover:
- The link road and all junctions between the link road and the existing road network;
  - Other roads where a significant change in the absolute and percentage traffic volume is expected (e.g. where change is >10% and >100 peak hour vehicles); and
  - Those road and areas that have received complementary and mitigation measures expected to affect road safety.
- 4.36 Once the study area has been defined we will analyse the change in accident numbers, severity and causation between the pre-scheme and post-scheme periods. Five years of pre-scheme data will be used to build up a baseline against which to compare post-scheme accident rates. The One Year After evaluation will provide some indication of road safety impacts but this period does include the 'settling down' period so is not necessarily representative of the long term impacts. The Five Year After evaluation will give a much better indication of the statistical significance of the change in accident.
- 4.37 It is important to ensure that other factors and trends, external to the scheme, are considered when conclusions are being drawn about a change in accidents as a result of the scheme. Therefore, we will analyse and present the accident trends that have been observed in Manchester, Stockport and Cheshire East and we would also use a 'Control' area that contains similar urban areas and highway links to the study area as a further comparison. By looking at accident trends across a wide area and a comparable 'Control' area we will be able to judge what would have been expected to happen in the A6 to Manchester Airport Relief Road study area without the scheme and then compare this with the actual change in accidents.

### Personal Security

- 4.38 The scheme is expected to have a minimal impact on security. We will carry out an evaluation of the features of the scheme that may affect security and verify the accuracy of this forecast.

## Environment

- 4.39 Environmental evaluation of the following Transport Assessment objectives will be carried out to assess what the actual change in each category has been, and how the actual change compares with the forecasts that were made. The pre-scheme Environmental Statement will be used as a baseline comparator as well as to check the actual impacts against those forecast in the Environmental Statement.

### Noise

- 4.40 Noise is largely dependent on the volume of traffic, the mix of the vehicle fleet and the way that vehicles use the network. Data on these variables will be collected and used to draw conclusions about the outcomes of the scheme. Noise surveys will need to be carried out prior to construction in order to create a baseline for the Part 1 Claims process. We will ensure that comparable post-scheme noise surveys are also carried out so that actual changes in noise can be quantified.
- 4.41 Ongoing noise data is also available due to the monitoring that is carried out relating to the airport operations and we will also make use of this where possible.

- 4.42 The forecast is that the scheme will have a moderate adverse impact on noise, due to the traffic on the new road. Reductions in noise at other locations are also forecast but, on balance, the situation with regards to noise is expected to get moderately worse. The observed changes in noise level, traffic, vehicle fleet and vehicle speeds will be used to draw conclusions about the change in noise at sensitive receptors and then compared with the forecasts that were made.

#### **Local Air Quality**

- 4.43 Before and After Air Quality measurements and outturn traffic characteristics will be used to draw conclusions about the impact of the scheme on local air quality, and how these changes compare with the forecasts that were made. The scheme is expected to have an overall beneficial impact on local air quality as beneficial and adverse impacts on NO<sub>2</sub> and PM<sub>10</sub> indicators are expected to largely balance each other out. The impact of the scheme on Local Air Quality Management Areas will be highlighted.

#### **Greenhouse Gases**

- 4.44 Traffic volume and speed characteristics will be used to assess the change in greenhouse gas emissions as a result of the scheme. The outturn figures will then be compared with the forecasts that were made. The scheme is expected to generate a very small increase in greenhouse gases compared with the Do Minimum scenario. The increase in greenhouse gas emissions generated by the traffic on the proposed road is expected to be counter-balanced by the complementary measures that reallocate roadspace to non-car modes of travel.

### **Health Impacts**

- 4.45 A Health Impact Assessment is currently being prepared for the scheme. Post-scheme impacts will be assessed against this baseline also. This is proposed for both the one-year and five-year post opening evaluations.



## 5. Management and Reporting

### Evaluation Milestones and Outputs

- 5.1 We propose that the evaluation process consists of 3 key phases. This programme uses the latest project milestones of Full DfT approval in Autumn 2014 and main construction commencement in Winter 2014:

- Phase 1: Pre-Construction Baseline Report (2014);
- Phase 2: One Year After Evaluation Study (2018); and
- Phase 3: Five Year After Evaluation Study (2022)

#### **Phase 1 – Pre-Construction Evaluation Report (2014)**

- 5.2 Some data will need to be collected on baseline conditions during 2014, in advance of Full Approval of the scheme by DfT. This will ensure that limited data collection opportunities are not missed and the data is not compromised by the construction period that starts in December 2014.
- 5.3 Following Full Approval more data will be collected before construction commences and a report will be produced to collate and document all evidence relating to the scheme description, the economic situation with regards to the large employers and centres of employment and network conditions. It will include all the assumptions that have been made at that point in time about the scheme and the wider economy and transport network.
- 5.4 We have assumed that a pre-scheme perception survey of businesses, visitors, employees and residents is not required at this stage. It will be more appropriate to gather information on a change in perceptions with a single survey after the scheme has been implemented rather than carrying out two separate 'Before' and 'After' surveys when it would be difficult to ensure that the two surveys completed years apart are compatible.

#### **Phase 2 – One Year After Opening Evaluation Report (2018)**

- 5.5 This report will focus primarily on the immediate impacts on transport network performance and the early signs of wider economic benefit. The report will include:
- A detailed description of the outturn scheme that was implemented, with final scheme costs and any changes that were made to the scheme after funding approval was granted;
  - Transport network performance, including traffic volumes, journey times, public transport and road safety;
  - Initial economic perceptions and outcomes, including land use changes or new development proposals related to the scheme; and
  - Other key impacts included in the Appraisal Summary Table, such as environmental impacts (where readily available data exists).

#### **Phase 3 – Five Year After Opening Evaluation Report (2022)**

- 5.6 This report will look at the longer term impacts of the scheme on network performance and economic development. It will provide a much greater focus on the long term development and job creation that has taken place at the Airport and the other centres of employment in the South Manchester corridor. Evidence from the local planning authorities, new and existing employers and developers will be used to build up a picture of the level and type of development that has taken place, how the road scheme has contributed to this development and whether it met, exceeded or fell short of expectations.



- 5.7 We will quantify the number and types of job that have been created and describe who has filled these jobs and evaluate the effect of the scheme on economic output through improvements to journey times and reliability.
- 5.8 The study will re-examine any significant issues that were raised at the One Year After stage. We will be able to draw more certain conclusions about road safety and environmental issues at the Five Year After stage. Any other residual issues with the project implementation will also be cleared up in this report.

**Figure 5.1 – Scheme and Evaluation Milestones**



Scheme milestones – Blue boxes

Evaluation milestones – Red boxes

## Data Collection Responsibilities

- 5.9 It is anticipated that SMBC/MCC/CEC/TfGM will provide the basic data from which to carry out the majority of the evaluation, using their existing data collection processes. This data will need to be supplemented by data from other sources, either external to the local authorities or new data collected by them.
- 5.10 In addition to the quantitative data we will also need to gather some qualitative opinions about the impacts of the scheme so a questionnaire/consultation exercise will need to be undertaken with the stakeholders and a range of different sections within the various local authorities. The consultation will seek views on:
- Perceptions of pre-scheme and post-scheme transport capacity and how it impacts on development;
  - The impact of the scheme on the potential for business expansion and inward investment;
  - The number and type of planning applications submitted;
  - Barriers and other factors affecting economic growth;
  - Changes in developer interest with reasons;
  - Vacancy and turnaround rates;
  - Reasons for investment / development (or lack of); and
  - Unanticipated impacts.
- 5.11 Potential indicators are presented in Appendix A.
- 5.12 It is recommended that the promoting authorities appoint an officer to take overall responsibility for all aspects of the evaluation, to manage the evaluation programme and to procure consultancy support and survey contractors.

## Stakeholder Engagement and Management Plan

- 5.13 A Communication Strategy has been established for the project that builds on the engagement with the public and stakeholders that has been carried out over the last nine years. The main aim of this strategy is to ensure that the community and stakeholders are kept informed about the progress of the project.
- 5.14 Consultation with specific groups about the current project was recommenced in 2010 and is still ongoing. Communication about the project is being done through the following methods:
- Stakeholder management;
  - Project website;
  - Pre-planning consultation;
  - Community workshops;
  - Newsletters (internal and external);
  - Telephone information/help line;
  - A possible 'chat-room' style facility to answer questions and debate issues; and
  - Media broadcasts.
- 5.15 These existing channels of communication will be used as part of the evaluation process in order to seek views and learn lessons at the post-scheme stage.

- 5.16 Key stakeholders and landowners have been involved in the project throughout its development and these links will be maintained for the evaluation process by means of formal consultation letters, telephone and email communication. It is also likely that face to face meetings or group workshops with key stakeholders will form a part of the evaluation process.

## Evaluation Cost Summary

- 5.17 A cost estimate for the Scheme Evaluation Plan will be developed once the evaluation regime has been agreed with the DfT and the promoting authorities.

## 6. Summary and Recommendations

- 6.1 This Outline Scheme Evaluation Plan has set out the objectives, principles and methodology that will be applied to analyse and evaluate the changes that will occur as a result of the relief road scheme.
- 6.2 The approach adopted for the evaluations is as follows:
- Phase 1: Pre-Construction Baseline Report (2014), that will include pre-construction activities required to establish a comprehensive baseline;
  - Phase 2: One Year After Evaluation Study (2018), that will be a comprehensive study that analyses scheme delivery and short term impacts on the transport network, economy and environment; and
  - Phase 3: Five Year After Evaluation Study (2022), that will be a comprehensive study that re-assesses the scheme impacts but with greater emphasis on the longer term impacts, such as the economy and road safety.
- 6.3 The evaluation reports will monitor the extent to which the forecast benefits are being delivered by the scheme and produce outturn results that can be compared with the appraisal forecasts. They will provide:
- A quantitative and qualitative analysis of scheme impacts consistent with the scheme specific objectives and national transport objectives set out in WebTAG;
  - Identification and description of discrepancies between forecast and outturn impacts;
  - Explanations of reasons for differences between forecast and outturn impacts;
  - Identification of key issues relating to appraisal methods that will assist in the ongoing improvement of partnering authority appraisal techniques and processes associated with the implementation of major transport schemes.
- 6.4 The role of the scheme in facilitating economic growth is of key importance and effective engagement with employers, land-use developers and local authorities will be a key feature of the evaluation plan.

## Appendix A - Potential indicators and monitoring approaches

A.1.1 This section provides further information regarding potential indicators and monitoring approaches for pre and post opening monitoring. It does not cover the requirements for a full impact evaluation. These will need to be developed in detail if the Department determines that a full impact evaluation is required for the scheme.

A.1.2 Where possible, the monitoring / evaluation plan will draw on indicators where collected for the Third Local Transport Plan. This includes:

- Congestion – average journey time per mile during the morning peak
- Local bus passenger journeys originating in the authority area
- Bus services running on time (punctuality / reliability)
- Journey times along key corridors and regional public transport trips (will be monitored sub-regionally)
- Customer satisfaction (to be monitored through TfGM's Bus User Satisfaction Survey).

### Network performance (Traffic flow, all vehicles)

A.1.3 Traffic flow data on key routes in the study area can be obtained from the on-going programme of traffic surveys carried out by Stockport MBC, Manchester City Council, Cheshire East Council and TfGM.

<b>Process</b>	<b>Analyse traffic flow data for key routes in the study area</b>
<b>Outcome</b>	<b>Change in traffic flow (pre and post opening), compared with forecast growth and background/control traffic change</b>

### Network performance (Average journey times, all vehicles)

A.1.4 Journey times will be collected on a minimum of six key routes in the study area using automatically generated sources (such as the HA's Journey time Database or TomTom satellite navigation data) or moving observer journey time surveys.

<b>Process</b>	<b>Analyse congestion data (average journey time per mile) for the morning peak period</b>
<b>Outcome</b>	<b>Change in average journey time (pre and post opening) compared with the change in traffic volume</b>



**Public transport journey times**

- A.1.5 Changes to bus journey times can be readily captured through an analysis of the real time bus journey time system currently being planned in Greater Manchester.

<b>Process</b>	<b>Analyse bus journey time data (average journey time per mile) using actual and timetabled bus movements</b>
<b>Outcome</b>	<b>Change in average bus journey time (pre and post opening) compared with the change in traffic volume</b>

**Public transport punctuality / reliability**

- A.1.6 Bus punctuality / reliability is monitored as part of the LTP process and this will be the data source assuming TfGM will continue to monitor this.

<b>Process</b>	<b>Analyse actual and timetabled arrivals and departures</b>
<b>Outcome</b>	<b>Scale of reliability / punctuality improvement / deterioration</b>

**Public transport patronage**

- A.1.7 The relief road will open up opportunities for new bus services to be introduced along this corridor. The impact of any such services will be measured.

<b>Process</b>	<b>Analyse bus patronage in scheme corridor</b>
<b>Outcome</b>	<b>Scale of mode shift to bus</b>

**Economic development**

- A.1.8 Data will be needed from the local planning authorities and major employers about any changes in land use, job creation and economic output in the vicinity of the scheme. The final evaluation plan will need to specify the nature, sources and costs of the evidence required. The methodology could involve a simple online survey or more in-depth interviews (face to face, telephone based or workshop format) with local authorities and key stakeholders.
- A.1.9 Additional data would be required if it is necessary to quantify whether the new jobs created have been taken by local residents or by commuters from further afield.

Process	Analyse local planning authority data and qualitative/quantitative data from major employers
Output	Scale of new development against the projected level. Number of new jobs created.
	Total employment land available for use (existing sites identified in the LDF and vacant land with planning permission)
	Number of planning requests received / granted for employment / housing
	New employment floorspace / housing by year
	Rental values
	Amount of safeguarded employment land without planning consent
	Occupancy rates, turnaround time, length of time premises are vacant
	Net additional jobs created and types of employment use
	Indices of Multiple Deprivation
	Number of new housing units and affordable housing units provided

**Environment**

- A.1.10 Pre-scheme data is due to be collected on noise and air quality as well as key animal surveys to establish an environmental baseline against which to compare post-scheme conditions (including Part 1 claims). Data will be collected post-scheme to use as an indicator of environmental change.

Process	Analyse existing and new data on noise and air quality
Output	Change in noise and air quality at sensitive receptors

Process	Understand existing key animal habitats
Output	Impact on key animal habitats

## Appendix B – Existing Traffic Survey Sites

