A6 to Manchester Airport Relief Road

Monitoring and Evaluation Plan

Stockport Metropolitan Borough Council, Manchester City Council, Cheshire East Council

August 2014

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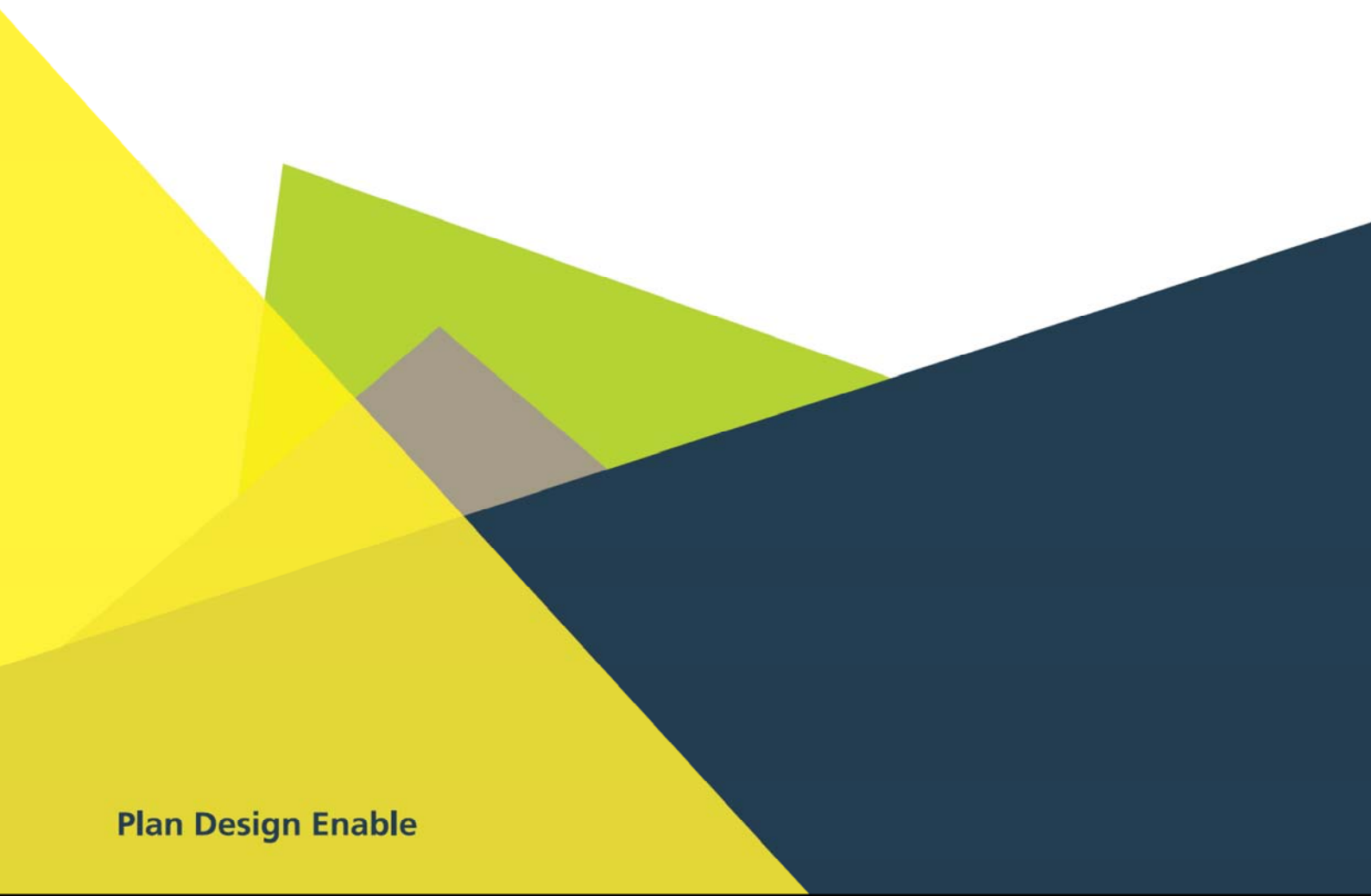

Plan Design Enable

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Document history

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1. Scheme Background and Context

Introduction

1.1. The A6 to Manchester Airport Relief Road is a key part of the overall access strategy for South Manchester. The project includes a series of highway improvements which will improve linkages and provide better highway access across the south east of Manchester – specifically to Manchester Airport. These improvements include additional facilities for cyclists and pedestrians and offer the opportunity to make more efficient use of road space via improved public transport facilities. This will assist in making the region more attractive to inward investment, ultimately improving the quality of the physical environment and the associated societal benefits.

Scheme Background and Context

1.2. Traffic congestion and the lack of connectivity along the south Manchester corridor remain the most important transport issues to be resolved in the area, due to the substantial implications this has for the economy, society and environment. Greater Manchester is the largest economy outside of London, with Cheshire East's economy contributing above average levels of per capita economic value (when compared to the national economy). The North West as a whole is not contributing its full potential to the UK economy, with traffic congestion and the associated reduced journey reliability placing a constraint on the ability of the region's economy. Furthermore, the lack of strategic connectivity is a direct barrier to business and employment opportunity along the south Manchester corridor.

1.3. Manchester Airport is the UK's largest airport outside of the South East, and is a key international gateway. Numerous studies have flagged that its development should be managed to ensure that the already substantial benefits that it brings to the local and wider economy are maximised via the national and international connectivity it provides for business and tourism. The existing lack of surface access capacity to the airport is considered to be the most significant constraint for future growth of the airport and the associated airport employment hub.

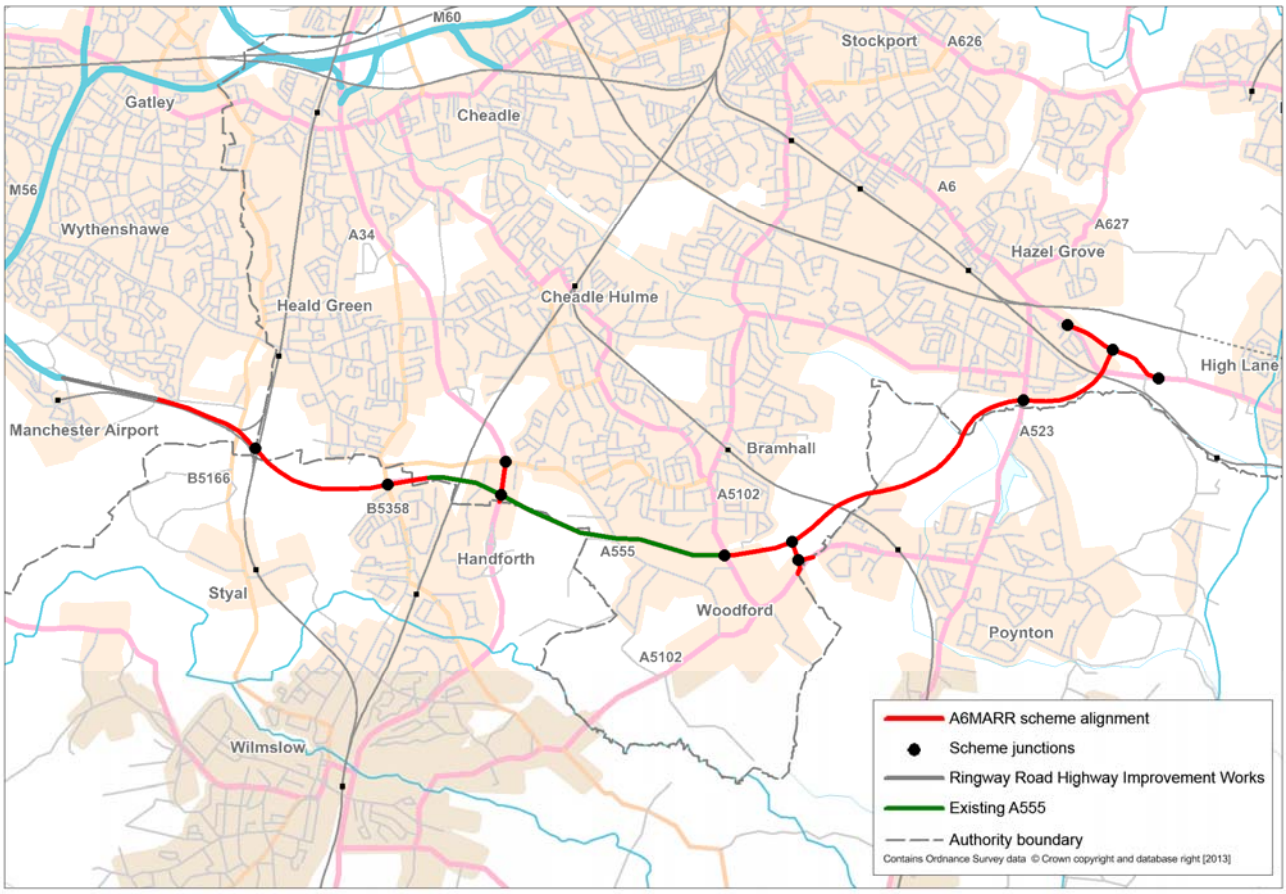
1.4. The A6 to Manchester Airport Relief Road will improve surface access to Manchester Airport and provide better connectivity along the south Manchester corridor, to assist Greater Manchester and Cheshire East in meeting their aspirations for economic growth. It directly supports the Government's objective 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.

1.5. 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 Current Scheme

1.6. The alignment and geography of the scheme is illustrated in Figure 1.

Figure 1. Location of the A6 to Manchester Airport Relief Road Scheme

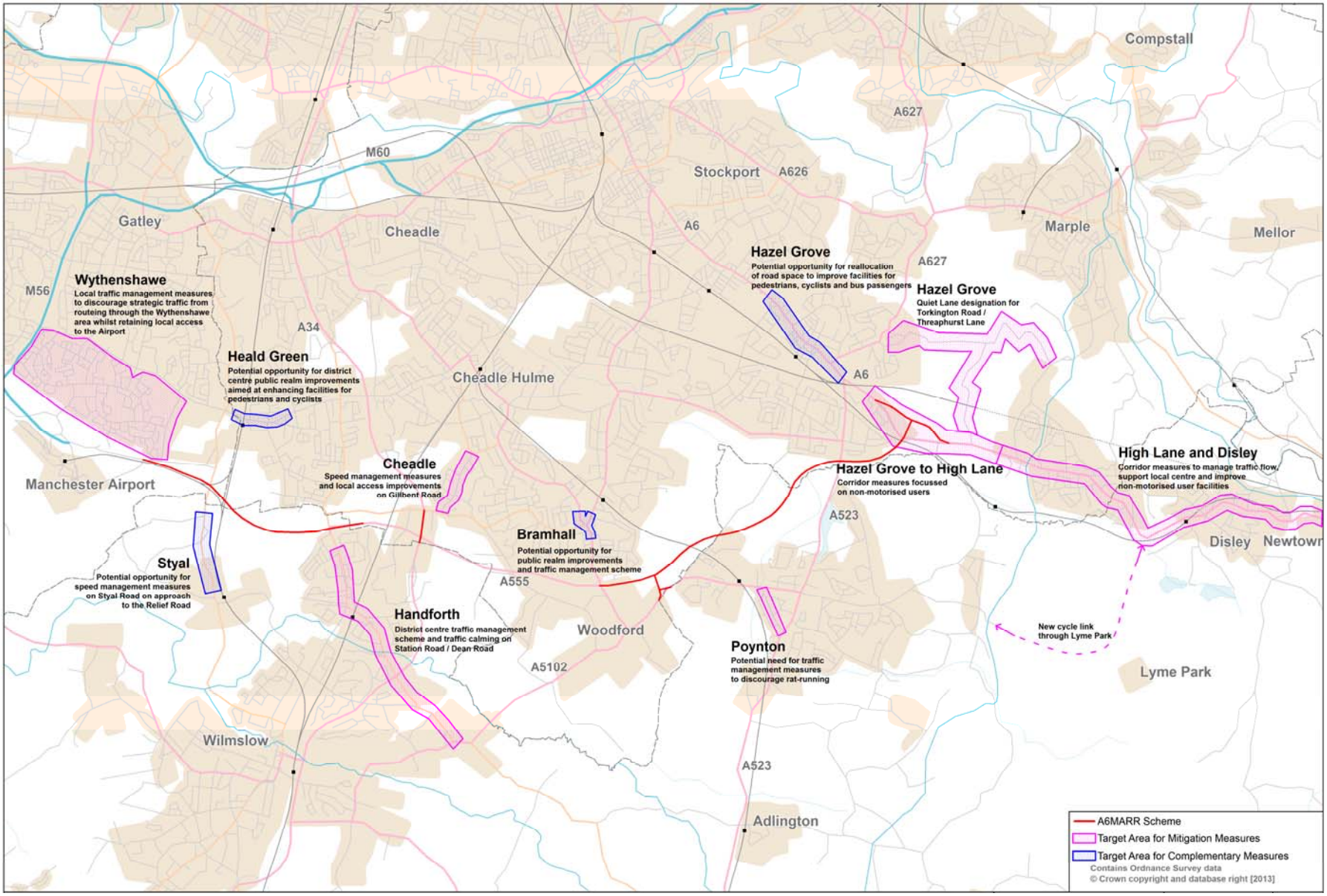


1.7. The SEMMMS A6 to Manchester Airport Relief Road Scheme comprises the following components:

- **The Relief Road**, which is a broadly east-west route from the A6 near Hazel Grove (south east from Stockport) to the revised layout of the junction of Ringway Road / Ringway Road West adjacent to Manchester Airport, incorporating eleven new/ improved junctions;
- **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;
- **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; and
- **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.

1.8. The scheme has been designed with sustainability borne in mind from the conceptualisation of the scheme through the detailed design. A CEEQUAL assessment was undertaken to examine the sustainability of the scheme. An 'excellent' CEEQUAL rating was awarded for both Project Strategy and Sustainability Performance. This scheme was the first to be awarded such a rating for Project Strategy.

Figure 2. Priority Areas for Complementary and Mitigation Measures



Costs

1.9. Detailed cost estimates for the total scheme, including the preparation costs, the design, supervision and construction of the road, and associated complementary and environmental mitigation costs, have been prepared and independently scrutinised.

1.10. Table 1 provides a summarised breakdown of the un-inflated base cost estimate, which excludes allowances for inflation, risk and optimism bias, for the latest scheme design.

Table 1. Breakdown of Costs

Cost Item	Cost (£, Q1 2014)
Preparation & Client (Local Authority) costs	£9,593,635
Construction costs	£102,455,144
Employer's Agent costs	£3,544,487
Land costs	£33,262,800
Network rail costs	£2,034,486
Statutory undertaker's diversions	£14,556,043
Complementary and mitigation measures	£4,710,000
Total Base Cost (excluding inflation, risk and optimism bias)	**£170,156,595**

1.11. The following table sets out the Quantified Cost Estimate (QCE), which includes risk and inflation, and shows the years in which the costs are incurred.

Table 2. Quantified Cost Estimate (£m, outturn)

Cost element	Year cost are incurred							Total
	Spend up to End of 2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Post 2017/18	
Preparation	4.86	1.97	1.54					**8.37**
Land Acquisition	0.18	0.42	13.12	3.68	1.79	1.79	21.89	**42.87**
Main Works		1.18	53.63	50.55	57.31	15.37	0.56	**178.60**
Total	**5.04**	**3.57**	**68.29**	**54.23**	**59.10**	**17.16**	**22.45**	**229.85**

Delivery timeframe

1.12. Table 3 sets out key milestones associated with the delivery of the project.

Table 3. Key Project Milestones

Milestone	Date
'Programme Entry' Submission	September 2012
Programme Entry Granted	February 2013
Tender Documents Issued	May 2013
Tenders Returned	August 2013
Submission of Planning Application	November 2013
ECI Contractor Appointed	November 2013
Publication of Draft Orders	December 2013
Planning Permission granted by 3 LPAs	June 2014
CPO/SRO & S.19 Public Inquiry	September/October 2014
Approval of Orders	February 2015
DfT Final Approval	February / March 2015
Main Construction Works Commence	March 2015
Road Opens	Autumn 2017
Post-Scheme Opening Evaluation	2018 / 2022

2. Scheme Objectives and Outcomes

Scheme objectives and outcomes

2.1. 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 4.

Table 4. Summary of Study Area Problems and Relief Road Scheme Objectives

Problems	Objectives
Poor connectivity along the south Manchester corridor, with a fragmented east-west highway network and lack of surface access to Manchester Airport, that acts as a barrier to economic growth and regeneration. In its Ground Transport Plan the Airport identifies surface access capacity as the most significant constraint on its future growth and therefore the economic benefits that it can help deliver to the Northern economy. Enhanced surface access to the Airport is also important in improving access to employment opportunities at the Airport and the new Enterprise Zone, particularly from nearby deprived neighbourhoods. Whilst the construction of the Metrolink Line to the Airport and other initiatives to promote greater public transport mode share, will reduce the proportion of total trips arriving at the Airport by private car, growth of passenger and employee numbers at and around the airport will translate to an increasing demand for vehicle trips. In the absence of the Relief Road, the highway capacity constraints will constrain the ability of the Airport and the Enterprise Zone to fulfil their potential for job creation and economic growth.	***Increase employment and generate economic growth*** by providing 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) The A6 to Manchester Airport Relief Road scheme will remove the current capacity constraints and substantially improve surface access to the Airport. This will enable the Airport and the Enterprise Zone to deliver the envisaged growth in jobs and economic output.
Congestion on the local and strategic network, with average peak hour 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. These problems will become significantly worse in the future if there is no highway improvement. Tests using the do-minimum model indicate that total vehicle delay across the network will increase by nearly 200% between 2009 and 2032.	***Boost business integration and productivity***: improve the efficiency and reliability of the highway network, reduce the conflict between local and strategic traffic, and provide an improved route for freight and business travel.
There are particular congestion problems along the A6 and in the urban centres of Gatley, Bramhall, Heald Green, Hazel Grove, Poynton, Wilmslow, Handforth and Cheadle Hulme, leading to delays to public transport and affecting accessibility.	***Reduce the impact of traffic congestion*** on local businesses and communities. ***Promote fairness through job creation and the regeneration of local communities***: reduce severance and improve accessibility to, from and between key centres of economic and social activity.
Poor environmental conditions in the District and Local Centres along the south Manchester corridor, 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.	***Support lower carbon travel:*** reallocate road space and seek other opportunities to provide improved facilities for pedestrians, cyclists and public transport.
Unsafe conditions for pedestrians and cyclists through busy urban areas along the extent of the south Manchester corridor, with all non-motorised transport users facing severance and problems of safely accessing education, employment and leisure facilities.	***Improve the safety of road users, pedestrians and cyclists:*** reduce the volume of through-traffic from residential areas and retail centres.

Logic Map

2.2. Logic mapping is now considered an essential part of the evaluation process. It is a systematic and visual representation linking the key components of an intervention in order to produce a causal pathway. It includes:

- Inputs – what is being invested in terms of resources and activities
- Outputs – new & modified transport network that is being constructed
- Outcomes - short and medium-term results, such as changes in traffic flow levels and journey times
- Impacts - long-term results such as land use development, better quality of life, environmental benefits, economic benefits.

2.3. The process of drawing up the intervention logic ensures that the decision about what to evaluate and even how to evaluate (in terms of the approach to be selected) is based on a sound analysis and explicit articulation of the anticipated scope and scale of the intervention in terms of input, output, outcomes and impacts. The following logic map shown in Figure 3 provides a visual representation of the process by which the scheme outputs will deliver the primary objectives, including the wider and longer term impacts which are necessary if the scheme is to achieve its primary objectives. The outline summary of the evaluation approach for monitoring the extent to which these are achieved as part of a pre and post-opening monitoring report is summarised below.

Outline of Evaluation for Standard Measures and Components of a Fuller Evaluation (as per DfT guidelines)

Scheme Build, Delivered Scheme:
Process evaluation covering qualitative assessment of programme/ delivery dates, stakeholder, risk management strategies. Comparison of scheme design & outputs. Lessons learnt.

Delivery Process:
Qualitiative assessment of critical success factors & risk management

Costs:
Quantitative & qualitative assesment of costs and any issues

Travel Demand:
Quantitative impact on road traffic, cyclist numbers and bus patronage

Travel Times & Reliability:
Quantitative impact on journey times & reliability

Carbon:
Quantitative impact of carbon emissions

Impact on the Economy:
Quantitative impact using key economic indicators eg. unemployment data, job creation, level of deprivation.
Qualitative impact evidence based on consultation with stakeholders, key agencies, local businesses and user groups.

Noise:
Quantitative assessment of change in noise levels

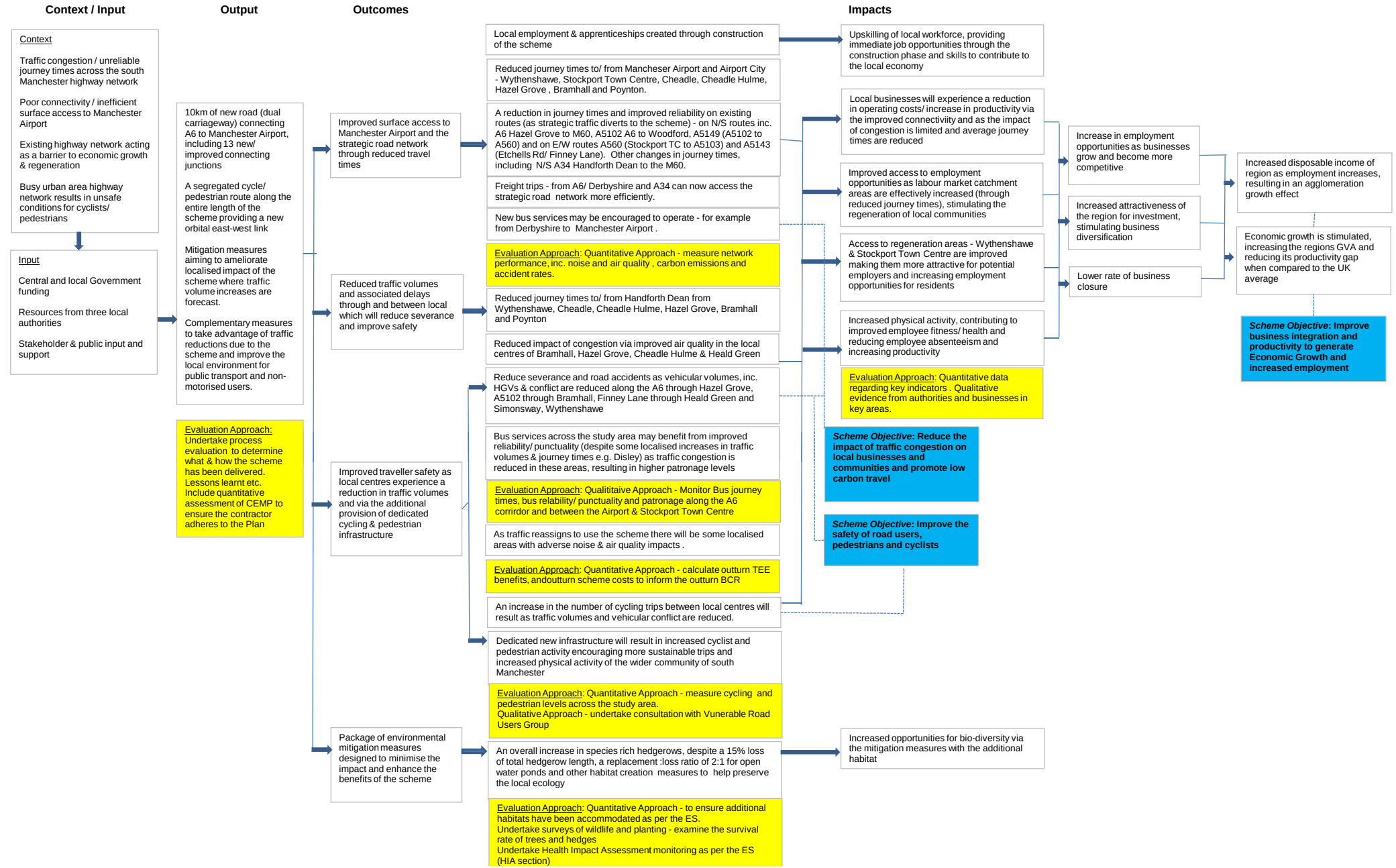
Local Air Quality:
Quantitative assessment of change in air quality levels

Accidents:
Quantitative assessment of change in accident numbers.

Travel Behaviour:
Quantitative assessment of scheme on mode shift along key corridors

Appraisal Assumptions:
Quantitative assessment of outturn TEE benefits & BCR

Figure 3: Logic Map for the A6 to Manchester Airport Relief Road Evaluation & Monitoring Plan



3. Evaluation objectives and research questions

Introduction

3.1. The A6 to Manchester Airport Relief Road is to be the subject of a fuller evaluation. As documented in chapter five of the DfT's Monitoring and Evaluation Framework, the aim of undertaking a fuller evaluation 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 effects.

3.2. 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. This is important for understanding how and why a scheme was successful (or not) in delivering the intended benefits and provides information on how to improve the management and implementation of other schemes.
- What difference did the scheme make? This requires an assessment of the outcomes and impacts generated by the scheme, focussing on quantifying them. It is undertaken via an **impact** evaluation.
- 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.

3.3. The scheme objectives and the logic mapping presented in Section Two essentially define the scope of the evaluation and monitoring required.

Evaluation objectives

3.4. At a high level, the evaluation of the scheme seeks to provide accountability for the investment in the scheme.

3.5. The objectives of the A6 to Airport Relief Road evaluation plan are focussed on understanding:

- Whether and how the scheme's main objectives have been achieved, exceeded or not reached.
- Provide transferable evidence that may be used to inform future decision-making on similar schemes;
- Improve the efficiency and effectiveness in the delivery of future schemes based on the lessons learnt from this scheme.
- Did the benefits justify the costs?

3.6. The focus of this evaluation would therefore be demonstrating local accountability, achieved through measuring key outcome metrics and comparing them with ex-ante forecasts. As part of the DfT's knowledge development, the evaluation will incorporate the opportunity to learn lessons on the implementation of a scheme of this nature.

3.7. Whilst some of the evaluation objectives are broad in nature, this is a reflection of the nature of the scheme and the potential wider learning opportunities it provides. The potential research questions that have been developed to address the evaluation objectives are set out in the next section.

Scope of the evaluation

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. It is these wider 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.

3.9. 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 main scheme objectives presented in the previous sections have been summarised in the following table.

Table 5. Summary of scheme objectives

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

Research questions

3.11. As far as possible, the list of research questions have been developed to be broadly consistent with the evaluation components as outlined in DfT guidance and summarised in the following table.

Table 6. Components for a 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 and during delivery and post opening	Economic evaluation

Process Evaluation

3.12. Understanding what has been delivered, how it was delivered and what changes/ delays were encountered along the way all feed into the overall evaluation and provide important information on how to improve the management of other schemes.

3.13. It is proposed that data is collected and interviews be conducted during the implementation stages of the scheme delivery. This will allow for real time feedback, with the aim of improving the overall delivery of the scheme.

3.14. The broad questions that the evaluation seeks to answer include:

- What lessons can we learn from the scheme delivery process?
- Has the scheme been delivered as intended?
- Were there any factors external to the scheme which impacted on the delivery of the scheme?

Impact Evaluation

3.15. The impact evaluation assesses the outcomes and impacts generated by the scheme, focussing on the key question, what difference did the scheme make?

3.16. The impact evaluation will focus on monitoring outcomes and longer term impacts associated with the objectives above in line with the Department's recommended measures as below:

- Scheme Objectives
- Impact on Travel Demand
- Travel Times and Reliability
- Changes in travel behaviour
- Impacts on the economy
- Carbon
- Noise
- Air quality
- Accidents.

3.17. Specifically, the evaluation process will focus on measuring outcomes relating to:

- Changes in traffic flows across the network and the associated impacts
- Changes in journey time reliability
- Changes in safety (number and severity of road traffic accidents)
- Changes in air quality emissions and noise impacts
- Regeneration and wider economic benefits.

3.18. The questions that the impact evaluation seeks to answer in relation to the scheme objectives include:

- To what extent has the scheme resulted in a reduction in traffic congestion?
- To what extent has the scheme improved road safety?
- To what extent has the scheme led to growth in employment and increased GVA?

3.19. Other questions that the impact evaluation seeks to answer include:

- Are the forecast traffic volumes on both the existing and new road networks in line with outcome volumes?
- Is the scheme encouraging more low carbon travel eg. Cyclists, public transport users?
- Has the scheme resulted in travel time savings?
- Are the travel times more reliable/ consistent with the scheme?
- Has there been a change in bus service punctuality/ reliability, or have new services started to operate?
- How have greenhouse gas emissions changed between forecast and outcome?
- How do forecast and outcome noise levels compare?
- How do forecast and outcome air quality levels compare?
- How do forecast and outturn accident changes compare?

Economic evaluation

3.20. The economic evaluation focuses on the outturn appraisal assumptions. The outcomes from the impact evaluation will be used to calculate actual Transport Economic Efficiency and actual monetised benefits, for comparison with (pre-implementation) predicted values.

3.21. The questions that the economic evaluation seeks to answer are:

- Did the benefits justify the costs?
- Does the scheme represent value for money as anticipated in the MSBC?
- What are the actual opening year outturn benefits of the scheme, and how do these compare with those forecast in the MSBC?
- What contributing factors have influenced the potential variation in outturn benefits?
- What is the potential net return for the scheme over the 60 year appraisal period?

4. Evaluation Approach

Outline of the evaluation approach

4.1. We have developed a scheme evaluation plan that will enable robust evaluation against each of the DfT's appraisal objectives and more specifically the objectives of the proposed scheme (as set out in Section 2).

4.2. It is noted that the scheme specific objectives will be realised over different timescales. One of the more immediate outcomes of the scheme opening will be a reduction in traffic congestion across the study area. In the medium term some improvements in safety may be noted, whilst the longer term scheme impacts relate to the less tangible economic growth and employment objectives. For these reasons, the scheme evaluation will be undertaken in three stages, as follows:

- Pre-construction/ Baseline Report, commencing Autumn 2014
- One Year Post Opening Outcome Evaluation Report, commencing Autumn 2018
- Five Year Post Opening Impact Evaluation Report, commencing Autumn 2022

4.3. The Pre-construction/ Baseline Report is required to ensure that data is collected that reflects the existing conditions prior to the implementation of the scheme. The timing of the data collection is important, and should be prior to any construction, such that any effects such as road closures/ delays due to construction are not incorporated into the survey data. At this stage it is envisaged that construction will commence in winter 2014/ 15, so the Baseline Report is proposed to represent Autumn 2014.

4.4. The data utilised as part of the Baseline Report will need to be collected in both post opening evaluation periods such that the effect of the scheme can be established. The One Year Post Opening Outcome Evaluation focuses on measuring the immediate outcomes of the scheme. Whilst the Five Year Post Opening Evaluation repeats the survey and analysis from the earlier evaluations in order to track the changes, and also identifies the impacts of the scheme – notably the effect on economic growth and employment.

4.5. It is important at each Evaluation stage to consider the extent to which the scheme has delivered its objectives, consider whether the scheme has had any unintended outcomes or impacts, and the effect these might have had on the overall success of the scheme. If any unintended outcomes or impacts are identified as part of the Year One Evaluation, it will be necessary to alter the scope of the Year Five Evaluation accordingly to further monitor their impact. The following sections provide an overview of the tasks required at each period throughout the scheme evaluation.

4.6. The remainder of this section sets out the proposed evaluation approach.

Scheme Build

4.7. DfT guidelines specify that an assessment of the management of each project before and during construction is required. As part of the fuller evaluation, the guidelines recommend that the wider delivery process is evaluated, including a review of the scheme context.

4.8. The work programme and project plan will be reviewed, with actual delivery at key milestones monitored and documented. This includes the potential impact of a change in delivery dates. Any good practice and lessons learnt will be highlighted. The stakeholder management and risk management processes and effectiveness will also be presented and evaluated in the report.

4.9. To undertake this it is recommended that the evaluators meet with the Project Management team during the collation of the baseline data, and then every six months throughout the scheme construction. An additional meeting at the end of the scheme construction is recommended.

4.10. This information will be presented in the One Year Post Opening report only.

4.11. A more detailed outline of the proposed process evaluation is provided in Appendix A of this report.

Delivered Scheme

4.12. The first stage of the evaluation plan is to present a full description of the scheme outputs in the One Year Post Opening 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 final funding approval and implementation. The reasons and potential impact of the changes will be assessed. Any assumptions that have been made will be presented and then compared with the actual inputs/outcomes. For example this could include assumptions about land use developments.

4.13. Any changes that were made to the complementary or mitigation measures will also be presented, with reasons for the change along with the potential impacts of the change.

4.14. Unintended outcomes, including possible additional unforeseen benefits, will be identified and investigated and any lessons learned documented.

Outturn Scheme Costs

4.15. 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.

4.16. 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.

Impact on Travel Demand

Traffic volumes

4.17. A set of Baseline traffic volume surveys will be conducted across the study area, against which post-scheme results can be compared at the One Year and Five Year Post Opening stages. This will enable the evaluators to undertake an assessment of the impact of the scheme on traffic flows and their assignment across the network. For example, it will highlight if traffic volumes through local centres such as Bramhall, Hazel Grove, Heald Green and Cheadle Hulme have fallen as per forecasting. These outturn traffic volumes will be compared with forecast traffic volumes.

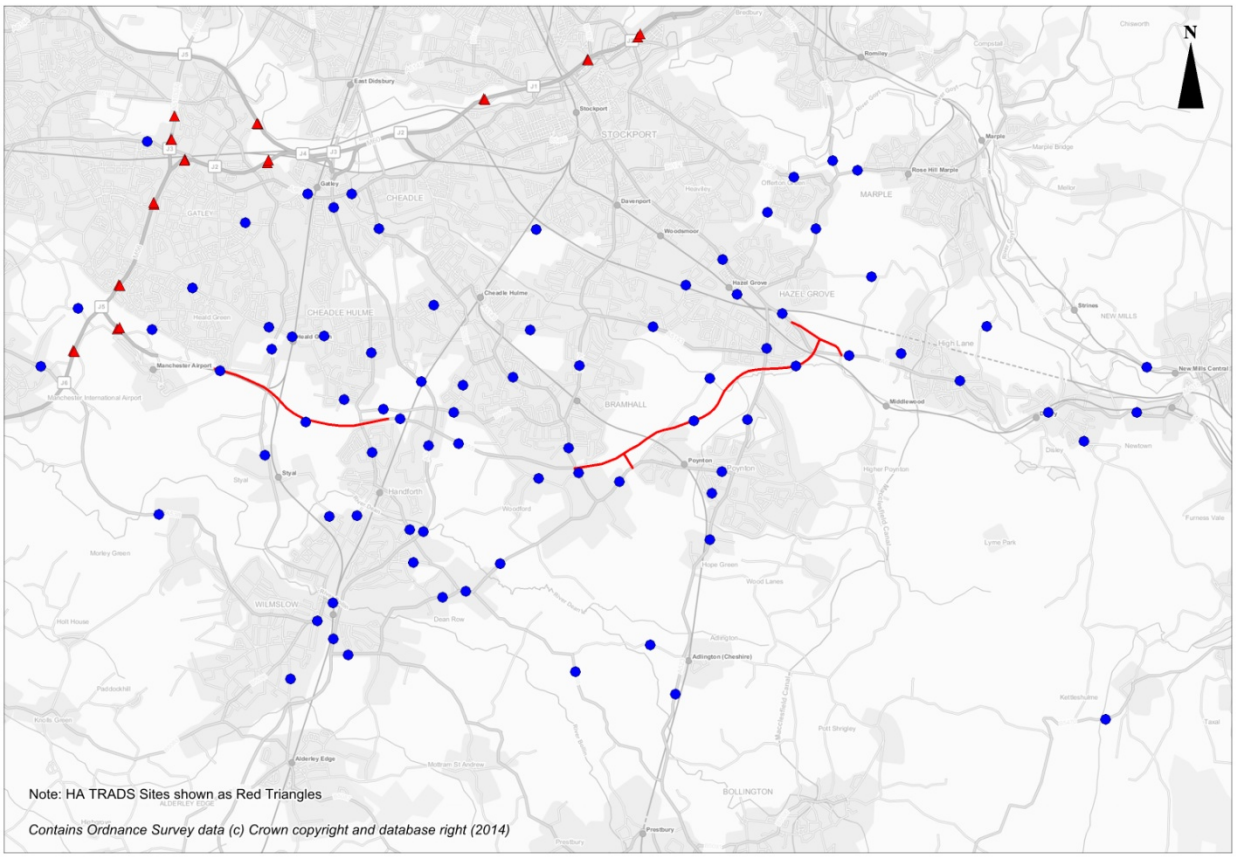
4.18. Furthermore, particular attention will be given to the complementary/ mitigation areas to ensure the impact of the measures are monitored. For this reason traffic count data is recommended to be collected through such areas.

4.19. The traffic volume data needs to be classified, such that any changes in HGV flows are monitored. This is especially important given the focus of the scheme on providing improved access to Manchester Airport and the strategic road network for freight trips, with the long term aim of fostering economic growth – while reducing local centre traffic with the aim of providing a better environment for the local community.

4.20. Traffic data is available from a large number of existing 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. 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.

4.21. A map showing the proposed traffic volume survey locations is shown in Figure 4. A consistent set of traffic volume data will be collected prior to the start of construction, for the Baseline Report and at the Year One and Five post-scheme evaluation stages.

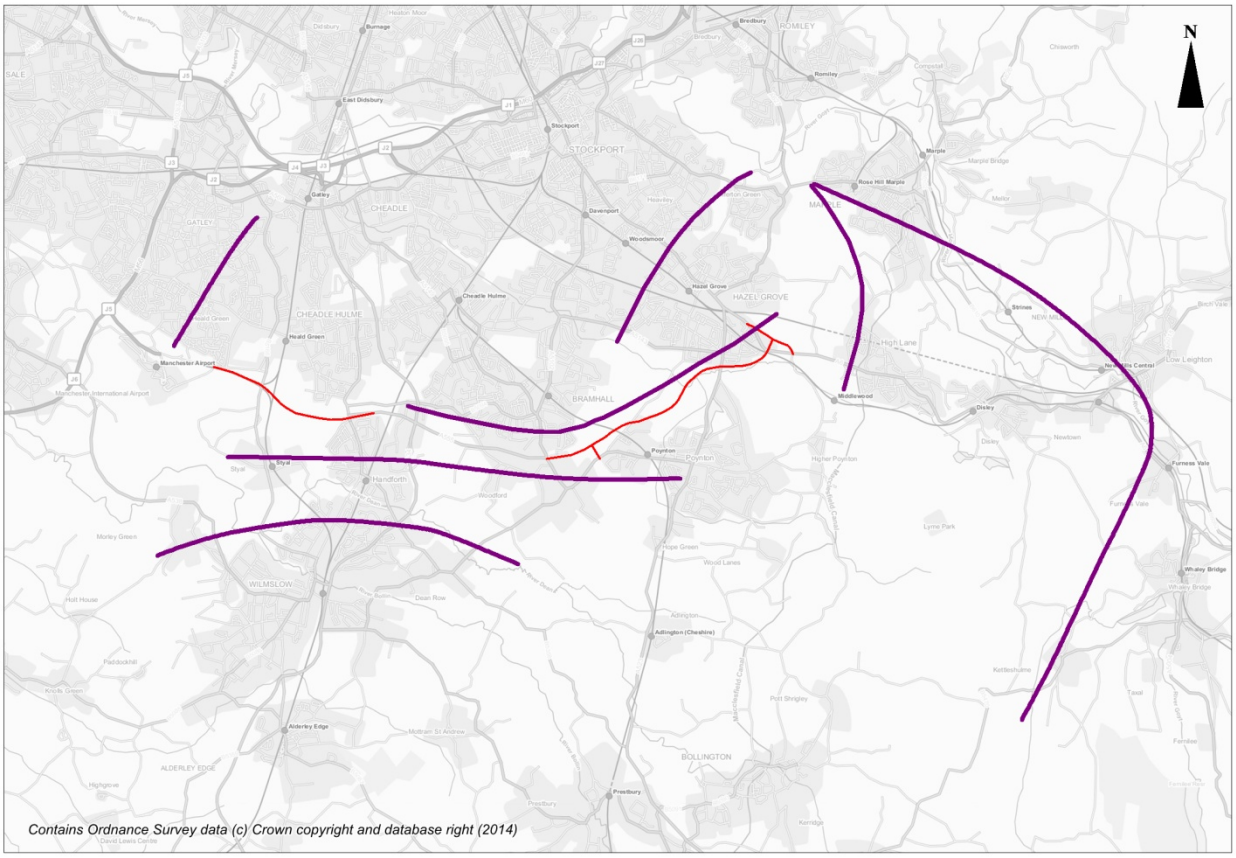
Figure 4. Proposed Traffic Survey Locations



Cordons and Screenlines

4.22. In addition to the monitoring of individual link counts a series of cordon and screenlines have been devised to allow the evaluators 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 changes in traffic volumes or show a transfer of trips between parallel routes. The following cordons are proposed for use within the evaluation.

Figure 5. Proposed Cordon Locations

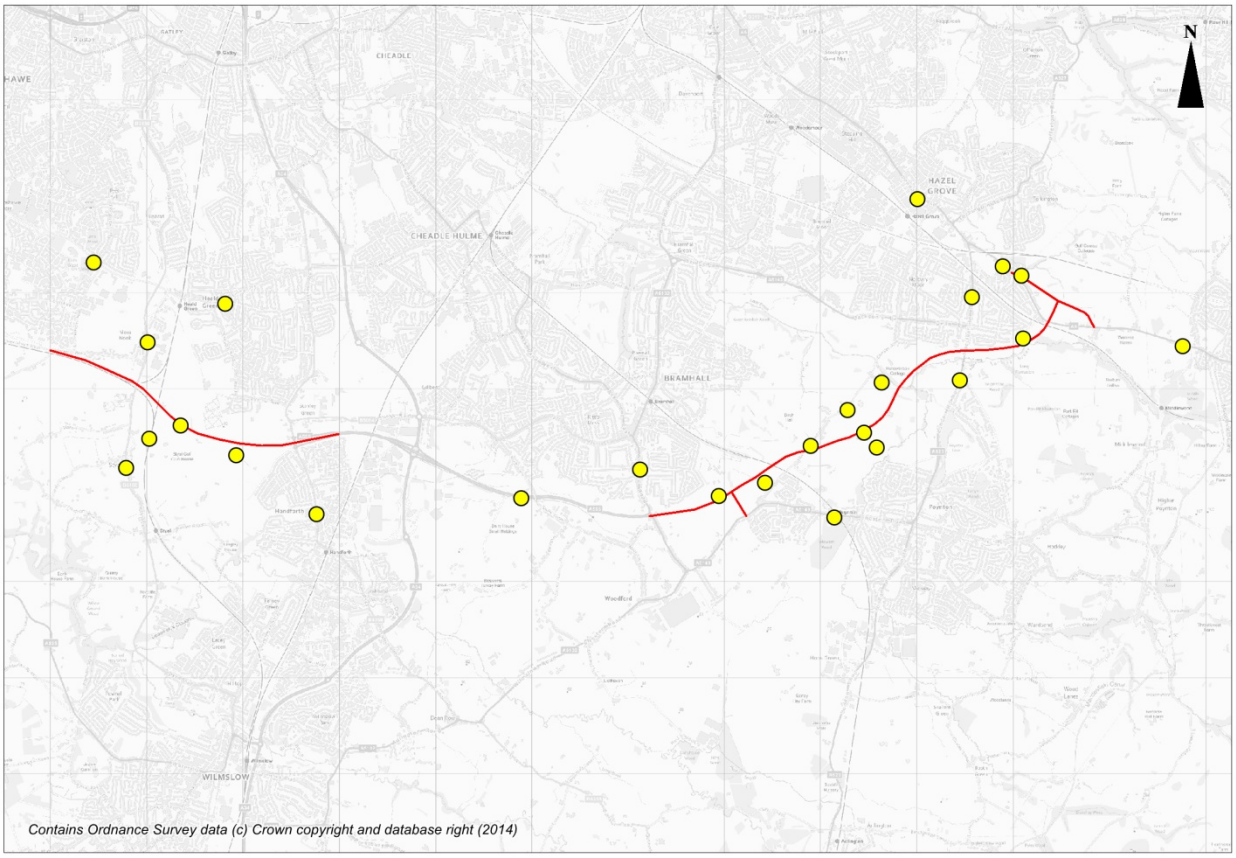


Pedestrians and Cyclists

4.23. A key component of the scheme is the provision of the segregated cycle/pedestrian route along the scheme and the existing A555, 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 roads. Consequently we will evaluate the impacts of the scheme on the number of cyclists/pedestrians and the changes to the routes they use.

4.24. The following map shows the proposed locations of pedestrian and cycle count data, which will be used to evaluate the number of pedestrians and cyclists pre and post scheme construction through key local centres.

Figure 6. Proposed Cycle Count Locations



4.25. It is proposed that consultation be undertaken with the 'Vulnerable Road Users Group' to capture their views and opinions on the impact of the scheme. This will attempt to gauge perceptions in pedestrian and cycling safety and how this may have changed due to the scheme. The consultation is recommended at the Year One and Five Post Opening stages.

Public Transport

4.26. Bus journey times and patronage levels are indicators of the impact of the scheme, as the reduced impact of congestion and associated journey time savings will enable more reliable and possibly faster bus services, which may result in increased bus patronage levels.

4.27. Bus patronage and journey time/ reliability data will be collected along the A6, between Hazel Grove and Manchester, as well as the existing services between Stockport and Manchester Airport (369 and X69 – and the 368 between Wythenshawe and Stockport). Services in High Lane and Disley (High Peak service 199) may experience a slight increase in journey times due to the forecast localised increase in traffic volumes and associated travel times in this location. Bus patronage and journey time/ reliability data collection is recommended for service 199.

4.28. The bus operators will be consulted about their perceptions of the scheme impact on bus travel after it is constructed.

4.29. The construction of the Relief Road opens up the possibility of new bus services being introduced along the route – for example it may result in new bus services opening between Derbyshire and Manchester Airport. Details of any new services will be reported and patronage data will be sought to understand increased bus usage. In this instance, bus passenger surveys will be conducted to understand the level of mode shift from car to bus. This is more relevant to the five year evaluation.

Travel Times and Reliability

4.30. In order to understand the effect that the scheme has had on travel times – including their reliability and consistency – journey time analysis is required. The reduced journey times and improved reliability are envisaged to be a key outcome of the scheme implementation, ultimately impacting on business operating costs and potential employment opportunities and providing the platform for the region's economy to increase its GVA.

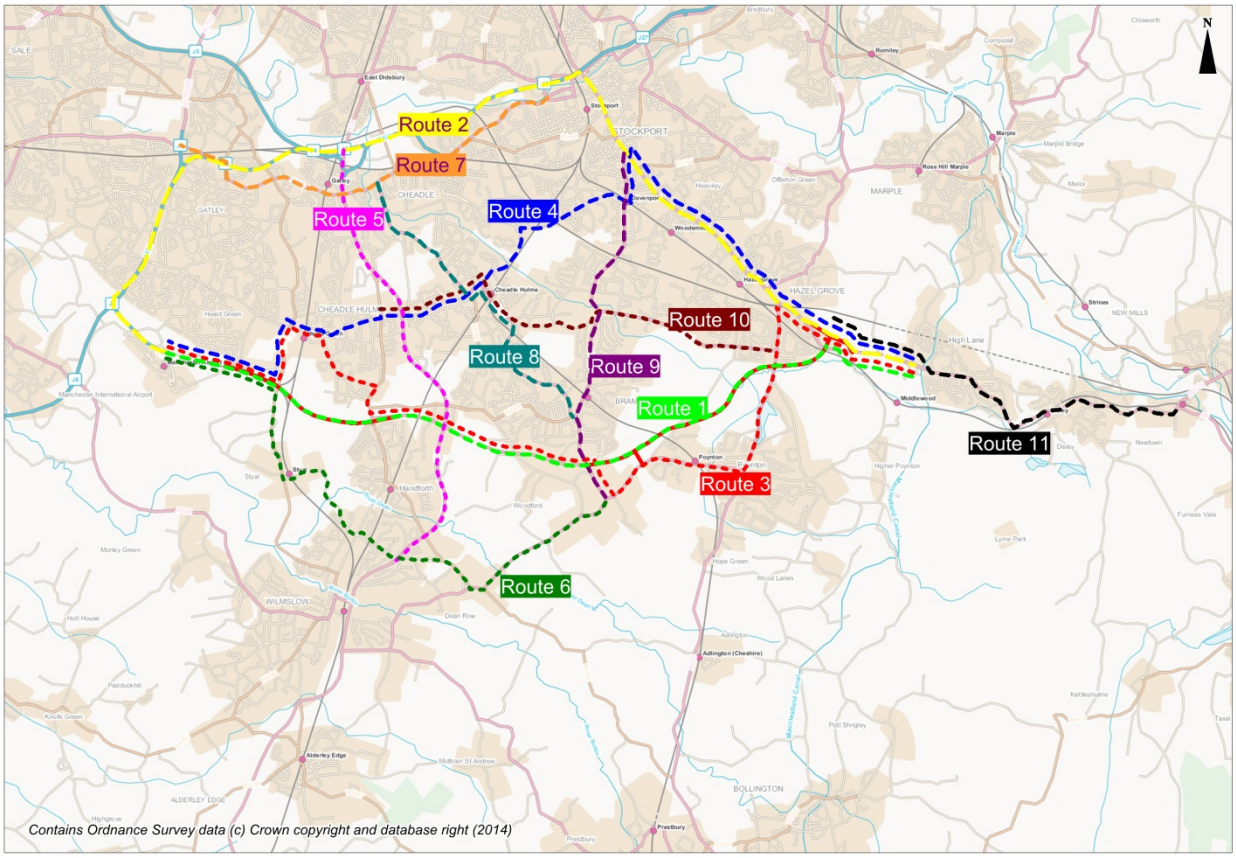
4.31. Figure 7 shows the routes on which we would recommend that journey time data is used in order to provide an evaluation of the observed impacts of the scheme, which include the following:

- 1 - Windlehurst Road to Manchester Airport via the scheme
- 2 - Windlehurst Road to Manchester Airport via the A6 and M60
- 3 - Windlehurst Road to Manchester Airport via Poynton and A555
- 4 - Windlehurst Road to Manchester Airport via Cheadle Hulme (Adswood Road and Ladybridge Road) and Heald Green
- 5 - A34/ Dean Row Road to M60
- 6 - Woodford to Manchester Airport via Wilmslow Road and Dean Row Road
- 7 - E/W route A560 from Stockport Town Centre (A5145) to A5103

4.32. In order to assess the impact of the scheme on journey time savings through local centres, the following additional routes are recommended:

- 8 – A5149 (A5102 to A560)
- 9 – A5102 (A6 to Woodford)
- 10 – A523/ A5143 to Etchells Road/ Finney Lane
- 11 – A6/ A6015 Albion Road to scheme terminus

Figure 7. Proposed Journey Time Survey Routes for Evaluation



4.33. The journey time data will be collected prior to the start of construction, for the Baseline Report and at the Year One and Five post-scheme evaluation stages to enable direct comparisons to be undertaken.

Impacts on the Economy

4.34. Monitoring socio-economic changes in the vicinity of the scheme will enable better understanding of the economic impact and how the scheme contributes to wider economic growth. Challenges exist in exploring the economic impact of any development, limited by the availability of information and the ability to identify additionality. Setting out the limitations and identifying how to overcome them will ensure the metrics to monitor and report economic change are in place. The two most significant limitations include:

- Difficulty in making a direct link between the construction /operation of the scheme and changes in economic, demographic or other economic development factors in the locality and sub-region; and,
- Data is not always available at a detailed geographic level, has a time lag and/or is not consistently captured over time meaning impacts are difficult to identify or delayed.

4.35. To overcome these limitations, data will be collected from a variety of sources, using primary and secondary data collection. In order to establish the impact, the Homes and Communities Agency (HCA) Additionality Guide 2014 will be used to guide the data collection and analysis process. The guide supports the capture and analysis of information around direct, indirect and multiplier effects of the scheme and will be adhered to where possible given the data limitations and scope of the scheme.

Economic Baseline

4.36. The economic baseline provides a foundation for any changes in the economy to be assessed against. This will allow a counterfactual position and subsequent economic additionality from the

scheme to be set out. The baseline will capture information on the local economy and will occur at the following stages:

1. Pre-construction
2. One year following completion
3. Five years since completion.

4.37. The economic baseline will also establish a reference case upon which change can be evaluated and supports identification of what would have happened without the scheme. A broad range of socio-economic indicators need to be identified. This includes analysis of the population and employment, land and employment, labour market analysis and employment and business analysis. These indicators are typically monitored by the following indicators:

Table 7. Economic Monitoring

Theme	Description	Spatial Level	Source	Limitations
Job impact of scheme, direct & indirect.	Secondary data from firms involved in the scheme can provide estimates on jobs created by the scheme. Engagement with these firms or economic analysis can help to understand those indirectly created by construction and ongoing operation.	Site Level	Companies involved in project.	Uncertainty over indirect jobs.
Population	Understanding current population in study area and trends in population growth/decline. This would also help to provide insight in to the impact on the local tax base.	Lower Super Output Areas (LSOA)	Mid Year Population Estimates, Census or Annual Population Survey	None
Unemployment, Economic Activity & Inactivity	Understanding the economic activity of the local labour market provides insight into the extent to which job opportunities exist and the population is engaged in work.	Mid-Super Output Area (MSOA) or Local Authority	DWP, ONS data or APS	Data suppression and lack of scheme specific data can limit analysis.
Skills & Occupational Profile	The skills and occupational profile of a local area can outline the types of work that is sought and the skills that the local labour market can provide.	Local Authority	Annual Population Survey, Census, ONS	
Wage Levels	Data available on average wages is available from a range of sources, allowing an understanding of how wages have increased or decreased.	Local Authority & Sector	Annual Survey of Hours and Earnings UK, Annual Population Survey, Census	
Employment and economic structure	The sectoral profile of the economy and where people are employed can be explored at a detailed and broad level. This includes job creation and loss, public/private sector split, jobs per resident and forecasts.	Local Authority	IDBR, Enterprise Counts, Annual Population Survey, UKCES Working Futures.	Data suppression and sector detail.
Deprivation	IMD data is available at a detailed geographic level and can support understanding changes in deprivation	LSOA	IMD	Not updated regularly.
Travel to work	Travel to work data can support better understanding	Travel to Work Area	Census	Next update is due 2015.

Theme	Description	Spatial Level	Source	Limitations
House prices and rental levels/ values	Help to understand the comparative strength of the housing market.	Local Authority	DCLG, Land Registry & Private Data sources	Geographic detail not detailed enough for this study.
Access to broadband	Helping to understand the digital connectivity of the local area.		OFCOM	
Car use and access	Understanding in detail the use of cars and access to cars in a household.		Department for Transport, Census.	
Congestion	Understanding impact on congestion	Available at road & Local Authority	Department for Transport	
Manchester Airport	Understanding revenue, occupancy rates and passenger numbers.	Airport	Airport	Commercial sensitivity of data.
GVA	Assessing economic output changes	Local Authority (NUTS 3)	ONS	Geographic detail.

4.38. Changes in GVA can arise from improvements to connectivity to business and labour as transport supply changes. The key drivers of economic development in the locality of the Relief Road are expected to be Manchester Airport, the Airport City Enterprise Zone, Stanley Green Industrial Estate, Hazel Grove and Handforth Dean that all lie adjacent to the new road. We will apply particular focus on these sites in the secondary data analysis and business survey. Development and growth in other locations, for example Wythenshawe and Stockport regeneration areas, will also be monitored. Using data relating to employment land developed and jobs created by the scheme a sector a high-level calculation of additional GVA will be provided. As noted in the table above, GVA data is not available at a detailed geographic level; however information for the whole of South Manchester can help test estimates of GVA contribution of the scheme and future change.

4.39. For many data sources the most detailed level that data is available is at local authority level. To overcome this there will be a requirement to seek economic data through the business survey. The research team will also identify other data sources (as proxies) where data gaps exist, data has changed in focus (e.g. questions in the survey), been discontinued or future iterations of data have limited release. Gap filling data activities include:

- Seeking detailed information on business numbers from IDBR or privately held data (e.g. Yellow Pages or Experian) within a defined area and understanding changes in firm numbers and employment (note additional cost);
- Contacting local businesses and property agents about rental values and property prices.
- Supplementing information using secondary data and research reports focused on the local area from sources including New Economy Manchester, Manchester Airport and the South Manchester Strategic Regeneration Framework.

4.40. The analysis of the data will establish the overall change over the evaluation time period. Collecting information for the wider North West and England will also provide an understanding on the extent to which growth has been more or less pronounced in the study area.

Consultation

4.41. A series of consultations would supplement the baseline data, provide more geographically focused data changes and make links between the scheme's development and local economic changes. This would be undertaken at the three milestones: Pre-construction, Year One and

Year Five Post Opening. It is noted that during at this time some consultation may be occurring for the Poynton Relief Road. As a result it is important to make clear that we are consulting on the A6 to Airport Relief Road and not the Poynton Relief Road.

Qualitative Interviews

4.42. Interviews will provide a detailed exploration of issues and characteristics connected with the scheme. This will include:

Table 8. An Overview of the Qualitative Interview Approach

Time Period	Description
Pre Construction	We will use existing stakeholder engagement and management plans to consult with employers and stakeholders on their pre-construction aspirations/expectations. This would include questions over: benefits to businesses, cost savings for businesses, employment creation ambitions and changes to the local economy.
Year One	This stage of interviews will explore initial impact and the success of changes to congestion and access. It will also explore disruption, employment and initial changes to the local economy and ways in which the businesses operate.
Year Five	It will also be necessary to undertake post-scheme consultation, when the impacts can be monitored. Questions should explore impact on employment, business operations locally, costs savings, changes to the local economy and benefits or challenges that the local business base faces.

4.43. It will be necessary to ensure that the consultation includes samples of consultees from all the geographic areas that have been affected and from key sectors of the economy. This would ideally involve engaging with 10-15 individuals with a strong understanding of the local area and business base. This could include those working for or on behalf of the FSB, Airport and businesses in key sectors (e.g. tourism and retail).

Business Survey

4.44. It is suggested that a both an online and telephone business survey is conducted to understand the local economic impact in more detail. The surveys will be undertaken:

- Pre-construction.
- Five years following the scheme's completion.

4.45. Business surveys are a cost effective method of producing detailed information on the local economic impacts. The telephone survey will be focused upon the immediate airport (Manchester Airport, the Airport City Enterprise Zone, Handforth Dean, Stanley Green Industrial Estate and Hazel Grove) and the online survey will be targeted at the wider area to understand broader impacts.

- The telephone survey will be undertaken using a fieldwork agency to undertake 10-15 minute interviews with businesses. Firm data would be purchased from a private data holder and stratified according to a sampling frame based on the local business base (between 80-120[1])
- The online survey will be distributed by email to local business networks (e.g. FSB, AGMA, local authority lists) and websites and will take 5-10 minutes to complete. We suggest using an online business survey tool (e.g. SurveyMonkeyTM) and distributing to businesses that have engaged in the scheme or are known to contractors, stakeholders and other individuals. Further email addresses may be bought to supplement the research. We would aim to capture between 50 and 80 firms to provide an understanding of the wider areas impacts.[2]

[1] According to ONS Enterprise Counts which show that 1,140 businesses are located in the immediate area and between 8-10% of this.
[2] Again linked to the wider business base, estimated at around 8,000 businesses.

4.46. Results will be weighted according to business size, location and sector. The question topics will be the same or very similar (reflecting the time period) between the two surveys. The questions will focus on issues including:

- 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.
- Changes in employment
- Changes in customer/ supplier base.
- Changes in turnover (and GVA) and barriers and other factors affecting economic growth
- Changes in developer interest and reasons for investment / development (or lack of). Supply chain impacts and rental values.
- Unanticipated impacts (e.g. perception of the area, increased land values) and relocation issues.
- Travel times / accessibility changes to businesses. Employee travel to the new or expanded businesses. (E.g. are they local, Manchester based or from outside the city?).
- Employment opportunities – potential for employment within certain geographies. Increasing access to job opportunities and local services.
- Changes in productivity, business performance and growth.
- Congestion relief and other public transport uses and links to other motorways and assets (airports, shops, ports).
- The level, type and location of development that has materialised (new start ups, relocations, expansions) and factors that have influenced this development.

Area engagement and assessment

4.47. More informal business engagement and survey work at all milestones fills gaps in the data and helps to understand economic impact locally. Activities that could support further data collection include:

- Understanding of occupancy rates in key shopping areas.
- Engagement with property owners over trends since and before development.
- Traffic count at peak periods.
- Engagement with users of cycle ways.
- Perceptions of how the road has changed access and business opportunities.
- This could also include capturing aesthetic impacts or other features not visible without local interaction (e.g. leisure assets, education).

4.48. The use of this stage in the methodology will be assessed considering the time and resources available. Information for many of the points above is available from other data collected for the scheme whereas a site visit would contribute to gathering the other data requirements. This stage would provide a holistic understanding of the impact of the scheme and allow a triangulation of data and support identification of the linkages between economic outcomes and the scheme development.

Impact Analysis

4.49. The outputs will include judgements based on primary and secondary methodologies as well as quantitative and qualitative data about the relative importance of the scheme in supporting economic growth. Information will be collected at all milestones during the study:

- Pre-construction: Data will be collected to support future analysis and an initial assessment of the economic impact. No assessment will be made but this initial review needs to be robust to support future evaluation and impact analysis.
- Year One: Evaluation at Year One is generally regarded as too early to identify any significant wider economic impacts. Data restrictions will exist as there is often a lag in production of data or the detail. As such, Year One evaluation will focus on the quantitative transport data, which will be used to give an indication of how the scheme has affected connectivity and transport supply, and laying the foundations for economic development. Employment levels and rental values will be broadly assessed in Year One, where data permits.
- Year Five: the Five Year Post Opening report will include a much greater focus on data which is current and economic development and job creation measures. Using information gathered

prior to the scheme's construction and in Year One, the data in Year Five will provide an understanding as to progress or impact.

4.50. The Major Scheme Business Case for the Relief Road includes a detailed assessment of wider economic impacts and the economic impact will draw on the work that has already been done and use observed transport inputs to assess actual impacts and the accuracy of the outputs.

Carbon

4.51. 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 new road is expected to be counter-balanced by the complementary measures that reallocate roadspace to non-car modes of travel.

4.52. It is proposed that the evaluator uses the existing cordoned traffic model to undertake the carbon assessment.

Noise

4.53. 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 be carried out prior to construction in order to create a baseline for the pre-construction situation. This will be compared to post-scheme noise surveys, enabling any actual changes in noise to be quantified.

4.54. 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.

4.55. The following methodology is proposed to enable a consistent pre and post scheme assessment for traffic noise:

- Obtain 'actual' traffic counts, including 18 hour AAWT flows, HGVs, traffic speeds, immediately prior to construction (2014) and update the network model; this information can be input to the existing noise model. Undertake simultaneous short term (3 hours) baseline monitoring, at each of the selected receptors as outlined below.
- To obtain an overview of the actual noise levels (as predicted from actual traffic count data) for each year of assessment (base year and Year one and five), we would select a proportionate number of representative locations along the route corridor. These locations will be selected based on a number of criteria, including proximity to the carriageway, Important Areas (as identified by Defra Noise Mapping), consultation with the local authorities and identified sensitive non-dwelling receptors, such as schools and hospitals.
- Provide 'actual' predicted traffic noise levels for each of the receptors from the noise model.
- The above steps will be repeated for Years one and five with the relevant 'actual' traffic data for these years, for the identified selected receptors as outlined above.

4.56. The noise monitoring will follow the shortened measurement procedure as outlined in Calculation of Road Traffic Noise (CRTN). Any noise contribution from sources other than road traffic (e.g. aircraft noise) will be excluded from the measurements.

Local Air Quality

4.57. 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_2 and PM10 indicators are expected to largely balance each other out. The impact of the scheme on Local Air Quality Management Areas will be highlighted.

4.58. The monitoring surveys undertaken to support the Planning Application will be five years old in 2014 – the year prior to construction. Consequently it is proposed that a six month programme of NO_2 monitoring, using a mixture of single and triplicate diffusion tubes, together with coordination of existing local authority monitoring data be repeated. Particular emphasis should be placed on areas already in exceedence of air quality standards, and those areas at risk of new exceedences in air quality standards associated with the proposed scheme.

4.59. We would further recommend that feedback from public consultation be included in the selection of monitoring sites to ensure the Council is not only collecting information for reporting to DfT, but also that commitments made to local residents and the parents of local school children, that local air quality will be monitored before and after construction, are implemented.

4.60. Equivalent monitoring surveys will be repeated for the Post Opening Years One and Five.

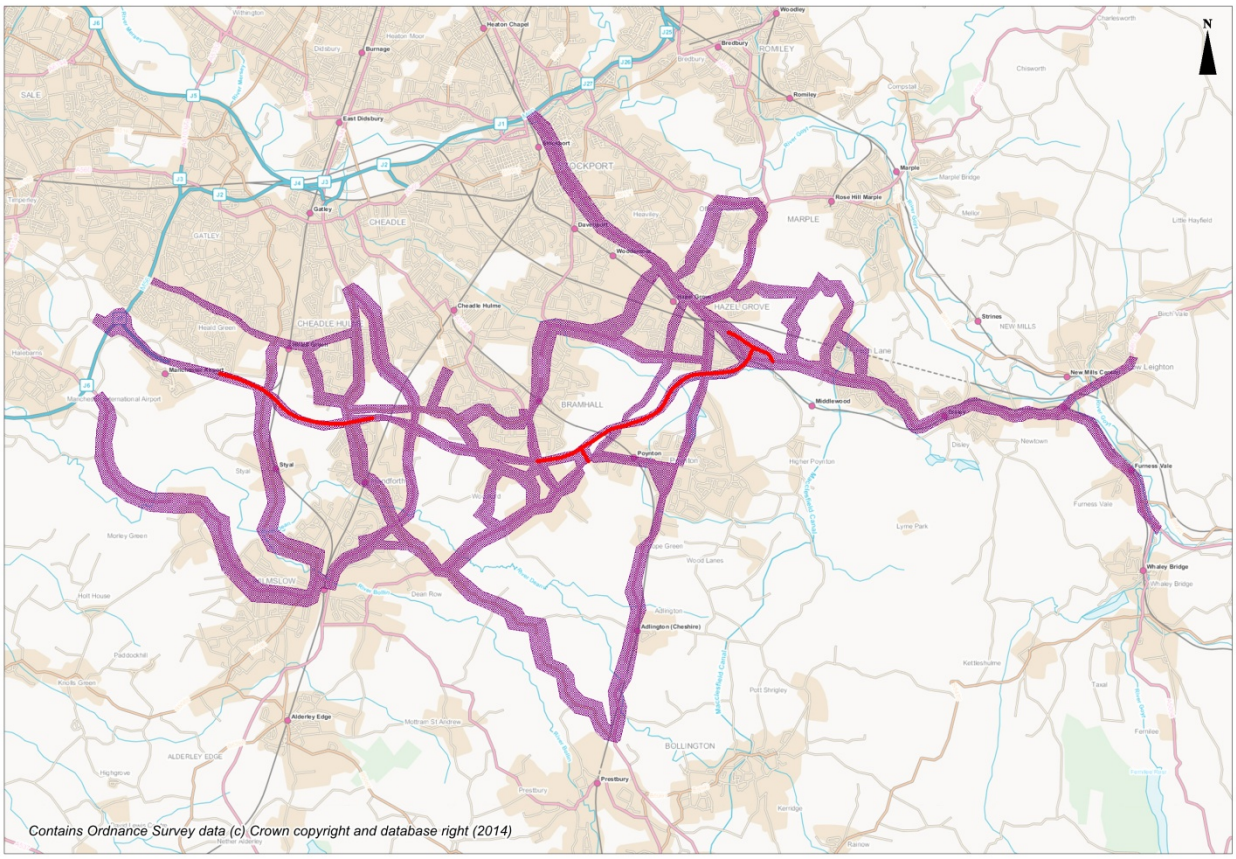
Accidents

4.61. The scheme is forecast to deliver small overall benefits to road safety. In order to calculate the impact of the scheme on road safety for all road users (including cyclists and pedestrians) it is proposed that the evaluator will use a study area that covers those roads that are forecast to see a significant change in traffic volume or road safety. The size of the study area is important as if too many roads are included there is a risk that other accident trends and road safety issues are evaluated that are unrelated to the scheme. It is proposed that the study area will cover:

- The link road and all junctions between the link road and the existing road network;
- Key roads through local centres, including A6 through Hazel Grove, A5102 through Bramhall and Finney Lane through Heald Green;
- Other roads where a significant change in the absolute and percentage traffic volume is expected (e.g. where AADT is >10%); and
- Those road and areas that have received complementary and mitigation measures expected to affect road safety.

4.62. The study area may need to be reviewed at the time of analysis to ensure that it appropriate given the outturn traffic conditions. At this stage the proposed study area for the accident analysis is indicated in Figure 8.

Figure 8. Proposed Study Area for the Accident Analysis



4.63. It is proposed that the evaluator 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 Year One Post Opening 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 Year Five Post Opening Evaluation will give a much better indication of the statistical significance of the change in accident.

4.64. 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.

Health Impacts

4.65. A Health Impact Assessment was prepared for the scheme in 2013. The report provides a Baseline assessment against which post-scheme impacts will be assessed against for both the Year One and Year Five post opening evaluations.

4.66. Overall, the health and wellbeing impacts across the life of the A6MARR are predicted to be more positive than negative for the majority of residents, users of amenities and workers in Stockport, Cheshire East and South Manchester and the wards areas considered in the Health Impact Assessment.

4.67. During construction of the A6MARR, the Health Impact Assessment predicts that the majority of negative health and wellbeing impacts will be localised on residents, users of amenities and workers

living within 200m of the A6MARR. Following opening of the A6MARR, there are predicted to be a complex set of positive and negative health and wellbeing impacts for residents, users of amenities and workers as well as those living, using amenities and working close to and further away from the A6MARR.

4.68. Key positive health and wellbeing impacts are predicted to be:

- The economic and employment opportunities associated with construction activities and improved road connectivity;
- Improved accessibility afforded by the new road and improvements to the footpath, cycle and bridleway networks; and
- Reductions in traffic flow, congestion, noise, air pollution, and visual intrusion, and associated increases in social capital / community cohesion in some residential areas.

4.69. Key negative impacts are predicted to be the loss of land, and increases in traffic flow and pollution close to the scheme and on affected routes.

4.70. The Health Impact Assessment identified a number of indicators against which the actual and perceived positive and negative health and wellbeing impacts on local residents living near the A6MARR can be monitored and evaluated. Many indicators are covered separately under the relevant sections in respect of impacts on Local Air Quality, Noise, Accidents, and Pedestrians and Cyclists, and in respect of the requirement to monitor traffic flow changes, implement appropriate mitigation and complementary measures, and promote the adoption of Travel Plans for new and existing development. Other indicators of health and wellbeing require additional post scheme opening surveys and consultation with residents and communities living close to the A6MARR scheme.

4.71. It is recommended that the public consultation is undertaken via the 'Local Liaison Forum' to determine the level of impact the scheme has had.

Social Distributional Impacts

4.72. 'Social' impacts relate to effects on individuals and society and lend themselves to assessing the social change processes invoked by the introduction of a transport intervention. These impacts include the effects on communities such as cohesion, stability and services; people's way of life (how they live, work and play); the environment such as the quality of the air and landscape; the health and wellbeing; personal fears and sense of security.

4.73. 'Distributional' impacts relate to the extent to which there are differences in the way impacts affect different groups in society. For example, the noise impacts of an intervention will affect different groups of households, with some experiencing increases, and others decreases. Depending on the geographical locations of different groups of people, these groups will each experience different impacts.

4.74. As per the Social Distributional Impacts (SDIs) that were summarised in the MSBC, a full assessment that will incorporate the noise and air quality will be undertaken to determine the impact of the scheme.

Ecology

4.75. As outlined in the Environmental Statement (ES), with the proposed mitigation measures in place, there are no significant effects forecast with regard to flora and fauna. As part of the monitoring process it is proposed to assess the progress of these mitigation measures and to determine the impact of the scheme on the areas ecology.

4.76. The following table summarises the habitat monitoring that will be undertaken. It is noted that at each of the Post Opening year surveys, the survival rate of these habitats will be monitored.

Table 9. Proposed Habitat Monitoring

Habitat Type	Mitigation Measure
Norbury Brook SBI	Re-introduction of new woodland within SBI boundary equivalent to 1% of total woodland area (19.86ha mixed habitat)
Semi-natural broad-leaved woodland	14.5ha of mixed native woodland
Semi-improved grassland	15.6ha species rich grassland
Open water (ponds)	34 new open water ponds
Running water	Diverting 70m Norbury Brook to reflect existing profiles & associated vegetation. The online bridging of 60m section of Lady Brook
Hedgerows	5825m species rich hedgerow planted
Schedule 9 plants	None proposed

4.77. The ES listed the fauna present within the area of interest. However, such findings are typically only considered to be 'valid' for one year, as fauna may naturally move locations. As such, the ES recommends that pre-construction fauna surveys are undertaken. The results of these surveys may impact upon the final mitigation measures and monitoring. The ES summarised the following findings with respect to fauna:

- Bat surveys did not locate any roosts within trees that will be felled as part of the scheme, however, it is recognised that bats use such roosts dynamically, and that prior to construction bats may well be roosting within trees to be felled and therefore emergence/return surveys will be repeated prior to construction. Should the surveys identify trees with active roosts a licence from Natural England will be required to fell the tree and, bat boxes will be will be provided on trees adjacent to the road prior to the roost tree's felling.

- Pre-commencement surveys of otter activity, badger activity/ foraging surveys and great crested newt activity is also required to be undertaken. An extensive programme of ecological mitigation including protected species translocation, checks in advance of works commencing in specific areas and the creation of suitable replacement habitat will be carried out.

- Vegetation clearance will be undertaken outside of the bird nesting season (typically March to July inclusive). Where this is not possible, surveys will be undertaken to check for the presence of active nests to establish if clearance can proceed during the breeding season. Where active nests are identified, work in the vicinity of such areas will not be allowed to proceed until the young have fledged.

- A survey will be undertaken during the summer prior to construction to determine whether any kingfisher burrows are present and if they are, whether they could be disturbed during construction. If kingfisher burrows are present and in use, then work will proceed to close the burrow in winter when it is not used by these birds (it cannot be closed during their breeding season, which begins in April and lasts until the end of July).

4.78. A schedule of all the pre-construction surveys is required to be submitted to and agreed with the three local authorities. Surveys will inform the preparation of detailed mitigation/compensation strategies for great crested newts, bats, badgers, breeding birds, brown hare, otters and barn owls. Mitigation/compensation strategies should include a monitoring programme to assess outcomes. It is proposed that monitoring surveys are undertaken for the Post Opening Years One and Five.

4.79. Any buildings, other built structures or trees, assessed as being more than low risk for bat habitation as part of the Environment Statement, and not removed prior to March 2016, will require reassessment for bat habitation. Likewise, any ponds within the footprint of the development or that fall inside the exclusion fencing that have not been removed by March 2016 shall be reassessed and/ or surveyed for great crested newts habitation. Where necessary, appropriate mitigation will be identified following the findings of the assessments.

4.80. It is noted that at some locations, longer term monitoring of 10 year post opening may be required where great crested newts are observed during the pre-construction surveys. This will be dependent upon the license requirements of the great crested newts.

Outturn Appraisal Assumptions

4.81. As documented in the DfT guidance, '*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*'.

4.82. Under the Department's Economy objective, the scheme is expected to deliver monetised benefits to business and consumer users based on savings in travel times and improvements in journey time reliability. At the Year One Post Opening, the evaluation of these will focus on the comparison of the pre-scheme forecasts, as documented in the MSBC, with the outturn values. This will involve updating the transport model to be reflective of the Year One Post Opening situation, and using the model to assess the network wide impact of journey time changes and associated changes in travel costs.

4.83. In order to be consistent with the approach adopted during the MSBC and to provide a true comparison with the forecasted benefits, the following approach is proposed:

- Update the forecast (do-something) model using outturn traffic count and journey time data to reflect the traffic conditions in the Year One Post Opening stage. The model network will need to be reviewed to ensure the scheme is reflective of the implemented scheme and any wider network changes will be incorporated. Ensure that the latest economic parameters are incorporated into the model.
- An outturn do minimum scenario will need to be created by removing the scheme from the re-validated Year One Post Opening model in order to undertake the TUBA assessment.
- Where appropriate update the forecast scheme costs to be reflective of the outturn scheme costs.
- Ensure that the latest economic parameters are incorporated into the appraisal process, and undertake the outturn economic assessment, that is consistent with the one undertaken in the MSBC. This will involve using TUBA to assess the vehicle operating costs and journey time economic benefits/ disbenefits. An assessment of accidents will also be incorporated.
- The Year One Post Opening outturn benefits will be reviewed and compared to those forecast within the MSBC. All of the key assumptions within the MSBC will be reviewed in order to gauge which factors have potentially contributed to any potential variation in outturn benefits.
- In order to evaluate the benefits achieved over a 60 year appraisal period, the opening year outturn benefits will adopt the same 60 year profile of benefits as in the MSBC. This will develop a representative 60 year economic appraisal, without undertaking forecasting. However, the latest economic parameters will be used.

4.84. An outturn BCR will be estimated based on the outturn TEE benefits and outturn costs, all expressed in terms of present value using the same price base and discounting rate as used for the economic appraisal presented in the MSBC. This outturn BCR can then be compared with the forecast to determine if the delivered scheme represents the value for money that was forecast in the MSBC.

Summary of Key Appraisal Tasks

4.85. Specific tasks for undertaking the Pre-construction/ Baseline Report include the following:

- Undertake the process consultation, commencing with the Project Management consultation during the Baseline process
- Collate a summary of the contextual factors that may impact on the scheme
- Commission traffic surveys at key locations to ensure up to date, pre-construction traffic flows are available
- Undertake journey time surveys/ collate TOMTOM information
- Commission cycle and pedestrian count data at key locations

- Commission noise and air quality monitoring at key sites
- Collate the quantitative evidence base for the existing economy conditions eg. Employment rates, enterprise levels, office rental rates etc
- Request and collate bus patronage and performance data
- Undertake consultation with stakeholders to understand their aspirations and expectations of the scheme
- Undertake pre-commencement ecology surveys
- Collate all documentation and data associated with the bid.

4.86. One Year Post Opening Evaluation key tasks include:

- Update and report on the summary of contextual factors that may impact on the scheme
- Document the work programme and project plan review, including good practice and lessons learnt.
- Report on key delivery milestones throughout construction and their associated impact on the overall delivery dates
- Comparison of scheme outputs with the scheme design – reasons and potential impact of changes. Identify and investigate unintended outcomes, and identify lessons learned.
- Comparison of outturn costs with those in the funding bid. Identify savings and overruns and reasons. Are operating costs in line with forecast and reasons if differ.
- Report on scheme build assessment – assessment of project management/ lessons learnt
- Report on risk management strategy and the effectiveness of mitigation measures
- Report on the scheme's construction KPIs
- Commission traffic surveys to ensure we have an identical set of surveys as per the Pre-Construction/ Baseline Study
- Compare Yr1 and Baseline traffic flows to determine immediate scheme effects
- Commission identical journey time surveys/ collation of data as those undertaken for the Pre-Construction/ Baseline Study
- Compare Yr1 and Baseline journey time information to assess the immediate scheme impacts
- Undertake high level analysis of economic impacts, including employment levels and rental values
- Commission identical cycling and pedestrian count data to that collected for the Pre-Construction/ Baseline Study
- Compare Yr1 and Baseline cycling and pedestrian data to assess the immediate scheme impacts
- Undertake consultation with the vulnerable road users group to gauge the perceived impact of the scheme on pedestrians and cyclists
- Collect bus performance and bus patronage data
- Compare Yr1 and Baseline bus patronage and bus performance data to assess the immediate impact the scheme has had on bus travel
- Undertake consultation with bus operators to determine the scheme impact on bus operations
- Commission identical noise and air quality monitoring as those undertaken for the Pre-Construction/ Baseline Study
- Compare Yr1 and Baseline noise and air quality levels to assess the immediate scheme impact
- Undertake Greenhouse Gas emissions assessment and compare with the forecast
- Undertake identical ecology surveys and compare Yr1 and Baseline survey results to assess scheme impacts
- Undertake consultation via the 'Local Liaison Forum' to assess the scheme's perceived impact upon wellbeing
- Undertake consultation with stakeholders to discuss their view on the initial impact of the scheme
- Calculate outturn TEE and associated BCR and compare it with the forecast.

4.87. Note that only high level economic data will be collected in year one, such as employment levels and rental values as it is considered too early in the life of the scheme for it have had an impact, especially given the time lag in available data .

4.88. Five Year Post Opening Evaluation key tasks are as per Year One (excluding the process evaluation) plus:

- Update and report on the summary of contextual factors that may impact on the scheme
- Undertake an analysis of five years of accident data and compare it with the Baseline accident analysis to determine the scheme impact on safety. Compare this with the forecast.
- Identify any new bus services that have started operating along the route – assess patronage numbers and mode shift effect from car to bus
- Assess the impact of the complementary/ mitigation measures, including consultation with the relevant authorities to gauge the impact of the measures
- Undertake Greenhouse Gas emissions assessment and compare with the forecast
- Undertake quantitative assessment of wider economic impacts – analysis of key economic indicators.
- Undertake identical ecology surveys and compare Yr5 and Baseline survey results to assess scheme impacts
- Undertake a SDI assessment incorporating the noise and air assessments and compare to that forecast within the MSBC
- Undertake consultation via the 'Local Liaison Forum' to assess the scheme's perceived impact upon wellbeing
- Undertake consultation with key stakeholders and businesses to gauge their views on the impact of the scheme.

4.89. These key tasks are summarised in the following Evaluation Summary Tables.

Table 10. Evaluation Plan Summary – Scheme Specific Objectives

Scheme Specific Objectives	Evaluation Methodology Outline	Pre-construction Baseline Report	Yr 1 Post Opening Evaluation	Yr 5 Post Opening Evaluation
Improve business integration and productivity to generate economic growth and increased employment	Establish the overall change in economic indicators. Use quantitative and qualitative approach to assess impact of the scheme in relation to the change.	✓		✓
Reduce the impact of traffic congestion on local businesses and communities and promote low carbon travel	Monitor network performance, assessing traffic volumes along individual links and across screenlines, journey time data. Impact on air quality and noise levels. Monitor cycling levels. Assess the impact on public transport – bus performance data and patronage levels. Consultation with bus operators.	✓	✓	✓
Improve the safety of road users, pedestrians and cyclists	Undertake analysis of accident data (STATS19). Consultation with bicycle user groups.			✓

Table 11. Evaluation Plan Summary – DfT Standard Evaluation Criteria

DfT Standard Evaluation Criteria	Stage	Evaluation Methodology Outline	Pre-construction Baseline Report	Yr 1 Post Opening Evaluation	Yr 5 Post Opening Evaluation
Scheme Build	Input	Use Programme/project plan assessment, including measures of delivery at key milestones (e.g. implementation log) to assess the project management in place with the aim of identifying good practice/ lessons learnt. This will include an assessment of stakeholder and risk management. Monitor key delivery milestones throughout construction – and impact of change in delivery dates.	✓	✓	
Delivered Scheme	Output	Assessment of scheme outputs and a comparison with the scheme design – reasons and potential impact of changes. Identify and investigate unintended outcomes, and identify lessons learned.	✓	✓	
Outturn Costs	Input	Comparison of outturn investment costs with those in the funding bid, broken down by elements as in funding bid. Identify savings and overruns and reasons. Are operating costs in line with forecast and reasons if differ.	✓	✓	
Scheme Objectives	Outcome/ Impact	See Table above			
Impact on Travel Demand	Outcome	Monitor traffic flows to assess the impact of the scheme on traffic assignment. Changes in bus passenger patronage along key corridors and cycling levels.	✓	✓	✓
Travel Times and Reliability	Outcome	Calculate journey times and the standard deviations of these times for trips on key routes.	✓	✓	✓
Impacts on the economy	Impact	Establish the overall change in economic indicators. Use quantitative and qualitative approach to assess impact of the scheme in relation to the change.	✓		✓
Carbon	Outcome	Assess the net impact of carbon emissions after scheme implementation using traffic flow and speed data.		✓	✓

Table 12. Evaluation Plan Summary – DfT Enhanced and Fuller Evaluation Criteria

DfT Fuller Evaluation Criteria	Stage	Evaluation Methodology Outline	Pre-construction Baseline Report	Yr 1 Post Opening Evaluation	Yr 5 Post Opening Evaluation
Noise	Impact	Undertake monitoring to assess the effect of the scheme on noise levels at key locations. Compare this to forecasts.	✓	✓	✓
Local Air Quality	Impact	Undertake monitoring to assess the effect of the scheme on local air quality at key locations. Compare this to forecasts.	✓	✓	✓
Accidents	Impact	Effect of the scheme on accidents in the area of interest using STATS19 data over a five year period. Calculate actual safety PVB and compare it with forecast.			✓
Delivery Process	Input	Identification of other factors influencing the extent to which objectives have been achieved – assess contextual issues which may influence scheme impact. Identification of what worked well and challenges through the delivery process, including how risk were managed.	✓	✓	
Travel Behaviour	Outcome	Assess the impact of the scheme on mode shift on key corridors eg. A6, scheme corridor. Consultation with businesses to assess the impact of the scheme on business operations.	✓	✓	✓
Outturn Appraisal Assumptions	Outcome	Assess any changes to cost assumptions. Calculate outturn TEE and BCR and compare it with the forecast.		✓	

5. Data Requirements

Data Availability

5.1. 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. By utilising existing data as much as possible the evaluators will ensure that the evaluation is as consistent with ongoing monitoring processes as possible and will minimise the requirement to collect additional data.

5.2. 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.

5.3. 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 it is recommended the evaluators 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 the scheme specific evaluation data collection to fill the gaps.

5.4. The following sections outline the additional data that will need to be collected in order to develop the Baseline, prior to the schemes construction. Equivalent data would also be required in the Year One and Year Five Post Opening stages.

Traffic Counts

5.5. There is a large amount of existing traffic data available from which the baseline conditions can be established and this can be supplemented by additional surveys where required. Traffic data is considered to be 'out of date' after six years, and as such only existing traffic data that has been collected in 2010 to date is deemed suitable for use in the Baseline Report.

5.6. 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.

5.7. 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.

5.8. Fully classified surveys will be undertaken at each site for a minimum of two weeks during a neutral month. The surveys will be repeated to inform the Year 1 and Year 5 post-opening evaluations.

Cycle and Pedestrian Count Data

5.9. The following table summarises the proposed cycle count locations, and the new data that is required in order to undertake the evaluation. Where new data is required, it is recommended that data is collected on one weekday, one Saturday and one Sunday in an to attempt to gauge a 'typical day', with 12 hour count data collected.

5.10. In 2010 the SEMMMS team undertook 'Rights of Way' surveys to determine the level of usage of footpaths in the immediate vicinity of the proposed scheme. The existing data will be used, with the survey sites referred to in the following table, as referenced in the Footpath Monitoring Report.[3]

[3] SEMMMS A6 to Manchester Airport Relief Road Footpath Monitoring Report (1007/4.13/048), July 2010

Table 13. Proposed Pedestrian & Cycle Count Data

Proposed Pedestrian & Cycle Counter Location	Existing Data Source	New Data Required
Simonsway, west of Styal Road	TfGM core automatic cycle counts/ not active	Yes
B5166 Styal Road north of scheme	2010 FMR site 13A	No
Styal Road south of scheme	2010 FMR site 13B	No
Finney Lane, Heald Green		Yes
Scheme shared use footway and cycleway between junctions with B5166 Styal Road and B5358 Wilmslow Road		Yes
Scheme shared use footway and cycleway to the west of junction with A5102 Woodford Road		Yes
Scheme shared use footway and cycleway to the west of junction with A523 Macclesfield Rd		Yes
B5358 Wilmslow Road, Handforth south of Scheme		Yes
A5102 Woodford Road, south of Bramhall		Yes
A523, south of A6	TfGM core automatic cycle counts (SB only)	Yes
A523 Macclesfield Road south of Scheme	2010 FMR site 4	No
A6 Hazel Grove		Yes
A6 west of Scheme terminus	2010 data FMR site 1	No
A6 near High Lane, east of Scheme terminus		Yes
A5149 Chester Road, west of A523		Yes
Road into Hazel Grove Golf Club, at bridge over the stream	2010 data FMR site 2	No
Footpath 76 at the bottom of Old Mill Lane	2010 data FMR site 3	No
Footpath 3 at the end of Mill Hill Hollow	2010 data FMR site 5	No
Footpath 37, just north of Park House Farm	2010 data FMR site 6	No
Footpath 31 at the gate/ footpath sgin on Woodford Rd	2010 data FMR site 7	No
Footpath 21 on Woodford Rd	2010 data FMR site 8	No
Footpath 19 off Woodford Rd, opposite house No. 32	2010 data FMR site 9	No
Intersection of footpaths 14a, 15 and 16	2010 data FMR site 10	No
Off Clay Lane, Handforth, NW of the Grange	2010 data FMR site 11	No
Footbridge over the railway, nr Hollin Lane, Styal	2010 data FMR site 12	No

Bus patronage data

5.11. There is a considerable amount of existing bus performance data that is available, subject to confidentiality issues, and where appropriate it is recommended that the evaluators seek to make use of it. Greater Manchester Combined Authority, Manchester City Council and Stockport Metropolitan Borough Council have developed a bus quality partnership scheme (QPS) for the A6 between Manchester City Centre, Stockport and Hazel Grove. As part of the QPS a bus performance data is currently being collected along the A6 between Hazel Grove and Manchester.

5.12. One of the key bus services, the 192 operated by Stagecoach between Hazel Grove and Manchester is currently being monitored annually (in May), including journey time and the number of boarders and alighters.

5.13. In addition to the QPS monitoring, Transport for Greater Manchester (TfGM) also use the Punctuality & Reliability Monitoring System (PRMS), which is a Management Information tool providing an evidence base and reporting mechanism for the achieved punctuality, reliability and regularity of bus services. Along the A6 the PRMS provides start and mid point performance data, providing an indication of reliability/ punctuality.

5.14. Bus performance and patronage data is considered highly commercially sensitive. In order for this data to be released for use with the evaluation, a formal request is necessary via the TfGM forum.

Table 14. Bus Monitoring Data Requirements

Monitoring Recommended	Existing Data Request	Additional Data Requirement
Bus patronage data along A6 between Hazel Grove & Manchester	QPS data/ bus operator data – to be requested for Baseline, Year 1 and Year 5 post-opening reports.	None required
Bus performance data including journey time reliability data along A6 between Hazel Grove & Manchester	QPS data/ PRMS data – to be requested for Baseline, Year 1 and Year 5 post-opening reports.	None required
Existing services between Stockport Town Centre & Manchester Airport/ Wythenshawe	Bus operator patronage data – to be requested for Baseline, Year 1 and Year 5 post-opening reports.	None required
Along route 199 in High Lane/ Disley	Bus operator patronage & performance data – to be requested for Baseline, Year 1 and Year 5 post-opening reports.	None required
Any new services that may begin operating along the scheme following construction		Bus patronage data & on board passenger surveys to determine mode shift

Journey time

5.15. On all POPE (Post Opening Project Evaluation) schemes for the Highway's Agency, Atkins now recommends the use of TomTom data for journey time data, which it regards as a better quality approach than using the Trafficmaster database.

5.16. TomTom data is collected from satellite navigation systems and has the advantage of large sample sizes, with data being available for all time periods from January 2008. The provision of the journey time data works by separating the road network into 'segments' of length between 1m and 1000m. Each car with a satellite navigation system in, which passes through a segment is recorded and its journey time, speed and date is logged against that segment. The TomTom webportal aggregates this segment data, to provide high sample sizes. A journey time route may

contain 100s of 'segments', which each have their own sample and these are appended to create an overall journey time.

5.17. In addition, Atkins has developed an online tool to convert the data into Mapinfo format. This provides access to mean speed, median speed, sample and standard deviation by segment.

Economic indicators

5.18. In order to develop the Baseline, population and economic data need to be collated, using existing data sources, including census data and national statistics, as summarised in more detail in Section 4. No additional data collection is proposed, although consultation with business is an important indicator of the scheme's impact.

Carbon

5.19. In order to undertake this assessment the proposed approach is to use the traffic flow and speed information as a direct output from the cordoned traffic model. A series of checks were undertaken on this model in late 2013, which determined that the model was reflective of current traffic conditions across the study area. This model will be used to determine the Baseline carbon assessment, and as such there are no specific data collection requirements for the carbon assessment.

Noise

5.20. The proposed methodology for the noise evaluation assumes that the existing noise model will be updated using 2014 traffic count data.

5.21. Furthermore, it is recommended that the evaluators select a proportionate number of representative locations along the route corridor in order to obtain an overview of the actual noise levels. At the current time there are 23 sites, which include the site locations originally identified in the Environmental Statement, as well as an additional eight sites that were highlighted as part of the SEMMMS Consultation Phase 2 process. The proposed locations are indicated in **Appendix B**. Short term (3 hours) monitoring is recommended for the Baseline.

5.22. Prior to commencement of construction, the noise impact assessment, including any necessary mitigation measures is required to be submitted to the three local authorities.

Air Quality

5.23. A six month programme of NO_2 monitoring is recommended, using a mixture of single and triplicate diffusion tubes. It is anticipated that during 2014 a six month period of diffusion tube monitoring would be undertaken at the 67 locations that were monitored to inform the Environmental Statement. A map showing these locations is shown in Figure 9. A further seven sites are recommended in the vicinity of St James' Catholic High School where monitoring was undertaken in 2013. The locations of these sites are shown in Figure 10.

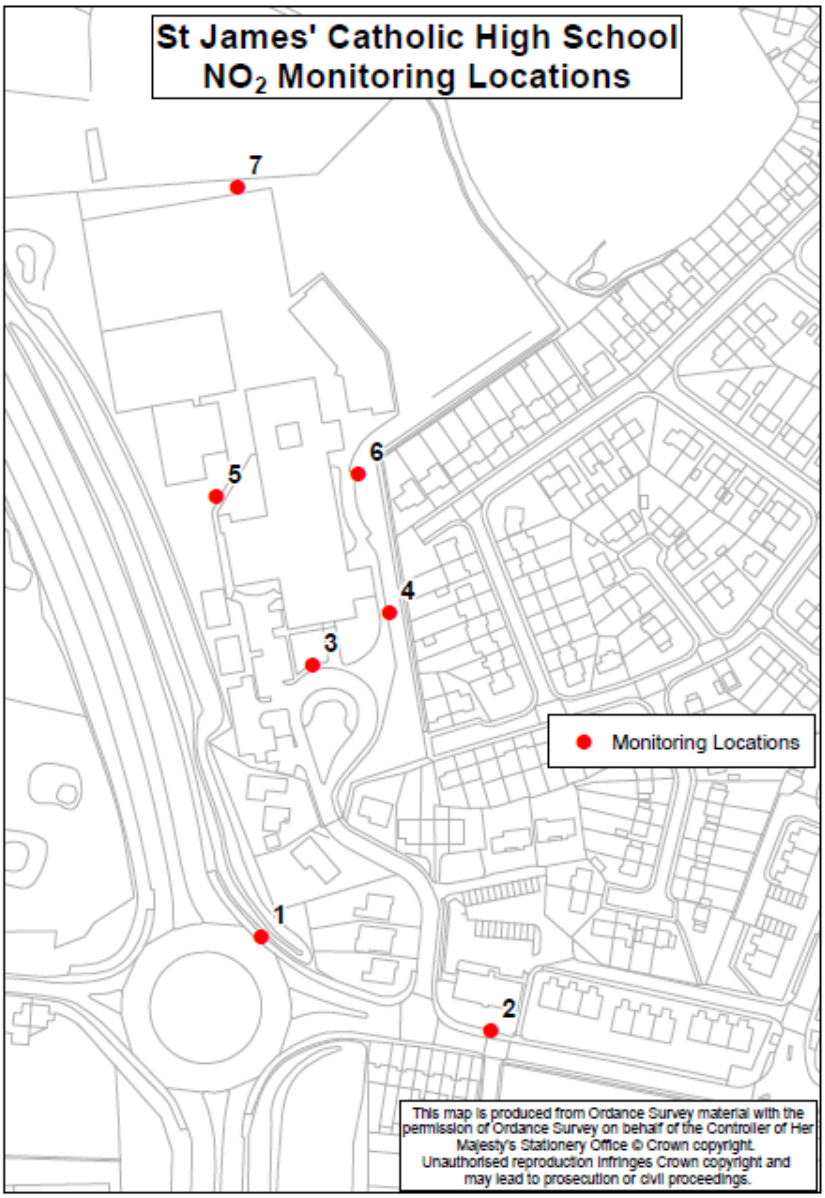
5.24. In addition, monitoring is recommended at a number of additional locations as a result of the consultation process, including:

- Three locations at Queensgate Primary School
- Three locations at residential areas in the vicinity of the junction with Macclesfield Road (monitoring has been undertaken at two locations on Macclesfield Road, but monitoring should also be undertaken at further locations near to the junction of the existing A6 and Macclesfield Road in Hazel Grove);
- Two locations at residential areas in High Lane near the A6 (monitoring has been undertaken at two locations on Buxton Road at High Lane, but further monitoring should be undertaken to improve coverage);
- Three locations in the AQMA at the eastern end of the scheme to consider the influence of the off-line traffic mitigation measures which are to delivered by the scheme (some monitoring has been undertaken in this area already, but more should be undertaken to improve coverage);

- Monitoring will be undertaken in Disley next to the A6 (two locations), where none had previously been undertaken and where the ES predicted exceedences of the NO_2 limit value (it should be noted that the Council do undertake monitoring in Disley, but it will ensure greater consistency if project specific monitoring is also performed there). Monitoring will also be undertaken at Newtown next to the A6 (one location); and
- Several locations in the Poynton area: Chester Road (one location), Glastonbury Drive estate (one location), and Mill Hill Hollow (one location (if a suitable location can be found)). Concerns about air quality have been raised by residents of Chester Road, Glastonbury Drive estate and Mill Hill Hollow.

Figure 9. Proposed Air Quality Monitoring Sites for Evaluation

Figure 10. Proposed Air Quality Monitoring Sites at St James' Catholic High School



Ecology

5.25. Pre-commencement surveys of the following are required to be undertaken:

- Surveys for bat roosts of trees to be felled as part of the scheme. Should those trees identify trees with active roosts, bat boxes will be will be provided on trees adjacent to the road prior to the roost tree's felling;
- Otter activity;
- Badger activity/foraging surveys;
- Great crested newt activity (in ponds 34 and 139);
- Destructive hand search of all areas suitable as habitat for amphibians and reptiles will be undertaken in advance of vegetation clearance. This will involve hand searching for individual reptiles and amphibians followed by removal of the top layers of soil to prevent their returning. Removed individuals will be released in suitable nearby habitat;
- Where vegetation clearance cannot be undertaken outside of the bird nesting season (typically March to July inclusive), surveys will be undertaken to check for the presence of active nests. Where active nests are identified, work in the vicinity of such areas will not be allowed to proceed until the young have fledged;

- Survey to be undertaken during the summer prior to construction to determine whether any kingfisher burrows are present and if they are, whether they could be disturbed during construction. If kingfisher burrows are present and in use, then work will proceed to close the burrow in winter when it is not used by these birds (it cannot be closed during their breeding season, which begins in April and lasts until the end of July).

5.26. A schedule of all surveys will be submitted to and agreed with the three local authorities as part of the pre-construction works. Since these surveys have been commissioned outside the scope of this report, they are assumed to be 'existing information', and have not been included in the costings for developing the Baseline. No additional Baseline information is required. The schedule will take account of the restrictions on the timing of surveys and creation of alternative habitats relating to protected species as set out in Table 15.

Table 15. Protected Species Timing Restrictions

Species	Timing Restriction
Nesting birds	Woody vegetation clearance permissible between September – February
Nesting kingfishers	Surveys of kingfisher burrows to occur in the summer prior to construction. Closure of kingfisher burrows to occur in winter prior to construction.
Otter Holts	No time restriction on holt closure. Restrictions will be dependant upon activity. Licence and mitigation to occur up to 1 year in advance of holt closure.
Badger Setts	Badger licence up to one year prior to sett closure (only allowed 1st July – 30th November) creation of alternative sett up to 1 year prior to orignial' s closure
Bat Roosts	Bat licence and creation of artificial roosts up to one year prior to roost closure (Preferred october - April)
Great Crested Newts	Capture and exclusion for all works occurring in great crested newt habitat would need to occur in the breeding period (February – June) prior to works commencing. Exclusion fencing would need to be installed by February Licence required for trapping and relocation of newts up to one year prior to pond creation of alternative pond up to 2 years prior to original's destruction

Health

5.27. It is not proposed that the Health Impact Assessment undertaken as part of the planning application for the A6MARR scheme will be repeated in light of new traffic flow information established in the Baseline report. Therefore the general conclusions in respect of the impacts of the scheme on the health and wellbeing of affected residents and communities remain the same as presented in the original Health Impact Assessment. Many indicators of wellbeing reported in the Health Impact Assessment are covered through the assessment of Local Air Quality, Noise, Accidents, and Pedestrians and Cyclists. However, additional monitoring of selected indicators is proposed for the Year One and Year Five post-opening evaluations.

5.28. A key specific monitoring requirement of the Health Impact Assessment is the delivery of a post-construction survey of residents within 200m of the scheme to evaluate wellbeing and identify benefits/positives and negatives experienced following the opening of the scheme.

5.29. In addition, consultation with the Directors of Public Health and local Clinical Commissioning Groups serving the communities along the A6MARR are proposed to identify health and wellbeing impacts, for instance increase in GP visits for mental/physical health issues that are explicitly linked to the construction/operation of the A6MARR.

Accidents

5.30. Police accident records for personal injury traffic accidents (STATS 19) for the period five years prior to the start of construction for this scheme should be collected (2010-2014). As this data is retained in the long term, this data is best obtained at the Year Five Post Opening stage of the evaluation, when the five years of post-opening data is obtained. This ensures consistency of the accident analysis.

5.31. The accident data will need to include information on accident date, severity, type, contributory factors, casualty statistics including whether any casualties were vulnerable users (i.e. pedestrians, cyclists or with physical, sensory and mental problems), and a detailed description. The number and severity of casualties should also be included in the data.

6. Data Collection Methods

Assumptions

Data Collection Responsibilities

6.1. 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 by new data collection.

6.2. In addition to the quantitative data, the evaluator will also need to gather some qualitative opinions about the impacts of the scheme. A questionnaire/consultation exercise will need to be undertaken with the stakeholders and a range of different sections within the various local authorities.

6.3. 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

6.4. 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.

6.5. Consultation with specific groups about the current project began in 2010 and is still ongoing. Communication about the project is being undertaken via the following methods:

- Stakeholder management;
- Project website;
- Pre-planning consultation;
- Local Liaison Forums;
- Newsletters (internal and external);
- Telephone information/help line;
- A possible ‘chat-room’ style facility to answer questions and debate issues; and
- Media broadcasts.

6.6. Some of 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.

6.7. 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 recommended that face to face meetings or group workshops with key stakeholders will form a part of the evaluation process.

7. Resourcing and governance

Monitoring and evaluation budgets

7.1. An indicative cost estimate for the data collection required to undertake the Scheme Evaluation Plan has been prepared, and is summarised in the following table. All costs quoted are in 2014 prices.

Table 16. Indicative Cost Estimate for the Monitoring and Evaluation Plan

Pre-Construction/ Baseline Report		
Activity	Pre-Construction/ Baseline Report	
Programme	Early 2015	
Deliverables	Baseline Report	
Cost Estimate	Consultant *Survey Costs:* Traffic Surveys Journey Time Surveys Cyclist/ Pedestrian Counts Air Quality Monitoring Noise Monitoring Impacts on the Economy Pre-Commencement Ecology Surveys **TOTAL**	19,120 19,700 11,100 9,045 13,342 5,080 15,108 (250,000) cost already incurred **£92,495** *Costs exclude VAT*
Year One Post Opening Report		
Activity	Year One Post Opening Report	
Programme	Spring 2019	
Deliverables	Year One Post Opening Report	
Cost Estimate	Consultant *Survey Costs:* Traffic Surveys Journey Time Surveys Cyclist/ Pedestrian Counts Air Quality Monitoring Data Collection Noise Monitoring Data Collection Impacts on the Economy Ecology Surveys **TOTAL**	65,000 (inc. VfM) 24,500 11,100 28,300 11,824 7,720 7,180 400,000 (Total post opening costs) **£555,624** *Costs exclude VAT*
Year Five Post Opening Report		
Activity	Year Five Post Opening Report	
Programme	Spring 2023	
Deliverables	Year Five Post Opening Report	
Cost Estimate	Consultant *Survey Costs:* Traffic Surveys Journey Time Surveys Cyclist/ Pedestrian Counts Air Quality Monitoring Data Collection Noise Monitoring Data Collection	44,200 24,500 11,100 28,300 11,824 6,896

	Impacts on the Economy Ecology Surveys **TOTAL**	15,108 Indicative costs for this are included in Yr 1 **£141,928** *Costs exclude VAT*

Note: (1) The Ecology pre-construction survey costs have already been incurred, and are not included in the Monitoring & Evaluation costs.

(2) The Ecology Post Opening Costs are high level cost estimates as they are dependent on the pre-construction survey findings. For this reason, the post opening survey costs are provided as a lump sum and not separated between Yr 1 and Yr 5. Within this figure, allowance has been made to accommodate any longer term (10 year) monitoring that maybe required for great crested newts.

(3) The scope of the Yr5 evaluation may need to be altered, depending on the outcome of Yr 1 evaluation findings, e.g. if there unintended consequences. The Yr 5 evaluation costs may therefore vary accordingly.

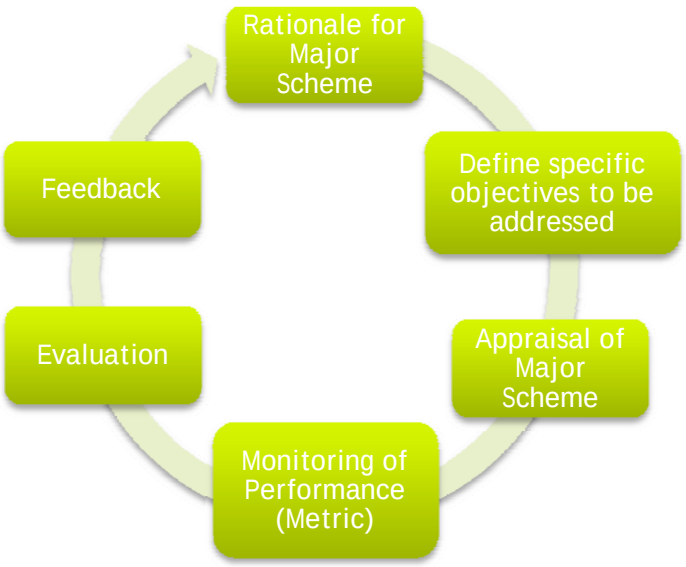
Governance structure for delivery of the Monitoring and Evaluation Plan

7.2. 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.

Evaluation Objectives

7.3. Stockport Metropolitan Borough, Manchester City and Cheshire East Councils place significant value on the focused and timely evaluation of major transport projects, recognising that its value goes beyond simply monitoring progress against targets set in the early planning and design stages. The role that evaluation has in terms of identifying lessons learnt for the future development of major schemes by the partnering organisations promoting this scheme.

Figure 11. Evaluation Feedback Loop



7.4. 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 DfT guidelines

- 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
- An assessment of the schemes opening year outturn value for money compared with the forecast.

Responsible Personnel

7.5. 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.

7.6. The Project Director will take overall responsibility, with the A6MARR Project manager taking responsibility for the delivery and programming of the evaluation programme outlined within this Evaluation Plan. This will include the procurement of specialist consultancy support and survey contractors to evaluate and report and collect and collate the necessary information, respectively.

7.7. The consultancy support to deliver this Evaluation Plan and prepare the initial post-scheme reporting from the baseline data collected has been procured; Atkins. Atkins report to the Project Manager and advise on the format and extent of information that is required to inform the Plan and the subsequent reporting, pre and post-scheme implantation. Similarly, the necessary measures and appointments are in place for all the baseline reporting and in preparation for post-scheme monitoring and surveys. This includes the relevant unit within Transport for Greater Manchester who will be progressing the appropriate traffic and non-motorised user surveys.

7.8. The procurement and approval of the support services is taken from the Project Director, and the proposals are reported into Programme Board where there is representation from Cheshire East, Manchester and Stockport Council's, where the majority of the monitoring and survey work is undertaken. For any survey presence on site each of the relevant local authorities is informed to enable them to inform relevant officers and Council Members prior to works commencing.

7.9. The programme and budget for the monitoring and evaluation to deliver the Plan and subsequent reporting is managed by the A6MARR project management team.

Procedures for risk management

7.10. A risk register for identifying the key risks associated with the development of the Monitoring and Evaluation Plan, along with possible mitigation strategies has been developed and is summarised in Table 17. This register should be considered 'live', and should be updated as appropriate – for example – if a key risk is identified, or as a minimum on a monthly basis throughout the data collection/ reporting phases of the Plan.

7.11. The risks identified from the Evaluation Plan will be taken into the overall Risk Register for the scheme. This is a joint client and contractor risk register that is evaluated on a regular basis, currently monthly, by members of both the client and contractor led teams. The application of the risk register follows that outlined within the project's Risk Management Plan.

7.12. This Risk Management Plan, documented in Appendix F of the the MSBC, sets out the process and responsibilities for undertaking risk management to deliver the A6MARR scheme. Implementation of a structured, forward looking and continuous risk and opportunity management process is intended to increase the certainty of cost-effective scheme delivery and operational success. The Risk Management Plan forms an integral part of planning and implementing a cost effective approach to improving certainty in scope, cost and time to deliver and operate the scheme. The Evaluation and Monitoring activities and potential outcomes from the reporting form part of this planning in terms of delivery on all aspects of the scheme.

Quality assurance

7.13. The Evaluation and Monitoring Plan will be undertaken in accordance with the Quality Plan for the overall project. This is documented in Appendix F of the MSBC.

7.14. The overall responsibility for the quality of the project rests with the SRO. However, the responsibility for implementing relevant processes and procedures; the setting of acceptability criteria and the delivery of quality on the project rest with the Project Manager.

7.15. The Project Management team ensure that the various workstream leads that have been assigned and / or procured to the individual areas of the project follow suitable quality assurance procedures. Workstreams from within the Council will follow the QA procedures, including checks and approvals, for deliverables. Consultants will either have been procured from a suitable framework agreement or through a procurement process that requires them to demonstrate and commit to QA procedures that have been vetted by the Council prior to appointment. All parties are required to be quality assured to ISO 9001:2000 or equivalent and will therefore be responsible for ensuring that all products for which they are responsible have been subject to checking and review procedures. The Project Management team will again ensure that the deliverables have followed the appropriate procedures.

7.16. The Project Director will be responsible for informing reporting at least quarterly to the Project Board on the quality of deliverables throughout the project. The Project Manager will oversee each of the Evaluation reporting phases

7.17. Project assurance will be provided by the Corporate Risk & Project and Programme Management team at Transport for Greater Manchester (TfGM). The Project Board are required to review key project products to ensure the scheme is represented in the most effective and accurate way. The TfGM Gateway Review Process (GRP) is the form of project assurance applied and scheduled. The relevant Gateways have been undertaken, or are scheduled accordingly with respect to the stage and position of the project and key milestones.

7.18. Stockport Council has also undertaken its own internal audit procedures on the A6MARR project as this is a high profile infrastructure project being led by the Council from their offices. Further audits are scheduled, as per the GRP in line with key milestones to be achieved.

Table 17. Evaluation and Monitoring Risk Register

Risk ID	Impact of Risk	Action
Baseline data not collected prior to scheme construction	Baseline data does not fully reflect the pre-construction conditions	Ensure that Monitoring and Evaluation is given the appropriate level of priority in scheme planning/ programming to allow plenty of time for planning the additional data collection
Baseline data is incomplete/ has errors	Baseline data is not robust	Seek approval for additional data collection to be undertaken at the earliest opportunity when a potential problem is highlighted
Project Management team don't give priority to evaluating the effectiveness of the Scheme Build Process	Effectiveness of the Scheme Build – inc. good practice and lessons learnt not fully captured	Evaluation of the scheme process is given a regular agenda item at the PM meetings
Staff turnover of the evaluation team between the preparation of the baseline and subsequent stages of post opening evaluation	Lack of consistency in terms of contextual understanding by the evaluation team, along with increased risk of errors with data handling	Evaluation team will be requested to ensure a succession plan is in place which includes a proposed knowledge sharing strategy resulting from staff turnover over the duration of the evaluation
Limited response rate from business consultation	Limited assessment opportunities regarding business and wider economic impact of scheme	By making use of the existing stakeholders/ previous consultations should ensure higher response rates due to earlier engagement. The telephone surveys will be undertaken by a field agency, so commitment to achieving a certain number of completed interviews is required upon appointment
Limited access to bus patronage data	More limited ability to assess the impact of the scheme on public transport usage	For an additional cost, and with the agreement of bus operators new surveys could be undertaken
Late overall project delivery which increases the evaluation timeframe/ expense	Increased cost of the evaluation	Where possible adjust evaluation meetings/ approach if necessary to incorporate the change in timeframe to minimise additional work
Other scheme outcome/ impacts and influencing factors are omitted from the initial Plan	Some data is not collected, and/ or outcomes/impacts are not directly attributable to the scheme	The Monitoring and Evaluation Plan will need to be continually assessed to confirm its suitability. Where appropriate it will be amended to ensure, where possible, all outcome/ impacts are captured

8. Delivery Plan

8.1. This section provides a summary of the data collection requirements for each of the proposed evaluation categories as outlined in this document. The recommended timeframes for undertaking data collection across the entire monitoring and evaluation lifespan are included, thus conforming to the Delivery Plan requirement.

Timeframe for data collection

8.2. The timeframe for the data collection is closely linked to each of the stages of the evaluation, as documented in Section 4 of this report, and summarised as follows:

- Pre-construction/ Baseline Report, commencing Autumn 2014
- One Year Post Opening Outcome Evaluation Report, commencing 2018
- Five Year Post Opening Impact Evaluation Report, commencing 2022

8.3. In order to ensure the Baseline Report reflects the actual conditions prior to the scheme implementation, it is recommended that all data collection and surveys are undertaken before construction begins, as this may result in a change to typical travel patterns and journey times due to the actual construction process. The current Scheme Programme assumes that the main construction works will commence in March 2015. It is recommended that Baseline data collection takes place in Autumn 2014.

8.4. Data collection requirements and associated timescales for the monitoring and evaluation periods are presented in Table 18. Timescales for data collection are based on an anticipated commencement of construction in early 2015.

Table 18. Baseline Data Collection Requirements

Evaluation Criteria	Baseline (2014)	Construction (2015-2017)	Yr One Opening (2018)	Yr Five Opening (2022)
Scheme Build	✓	✓	✓	
Delivered Scheme	✓	✓	✓	
Outturn Costs	✓	✓	✓	
Scheme Objectives	N/A	N/A	N/A	N/A
Impact on Travel Demand - Traffic count data - Cycle count data - Bus Patronage data - Vulnerable Road Users Group Consultation - Bus Operator Consultation	 ✓ ✓ ✓		 ✓ ✓ ✓ ✓ ✓	 ✓ ✓ ✓ ✓ ✓
Travel Times and Reliability - Tom Tom JT data	✓		✓	✓
Impacts on the economy - Economic performance indicators - Targeted consultation	✓ ✓		✓	✓ ✓
Carbon			✓	✓
Noise	✓		✓	✓
Local Air Quality	✓		✓	✓

Evaluation Criteria	Baseline (2014)	Construction (2015-2017)	Yr One Opening (2018)	Yr Five Opening (2022)
Accidents				✓
Delivery Process	✓	✓	✓	
Travel Behaviour			✓	✓
Outturn Appraisal Assumptions			✓	N/A
Ecology	✓		✓	✓
Health Impact Assessment - Community Liaison Forum			✓	✓

9. Dissemination Plan

Communication to key stakeholders

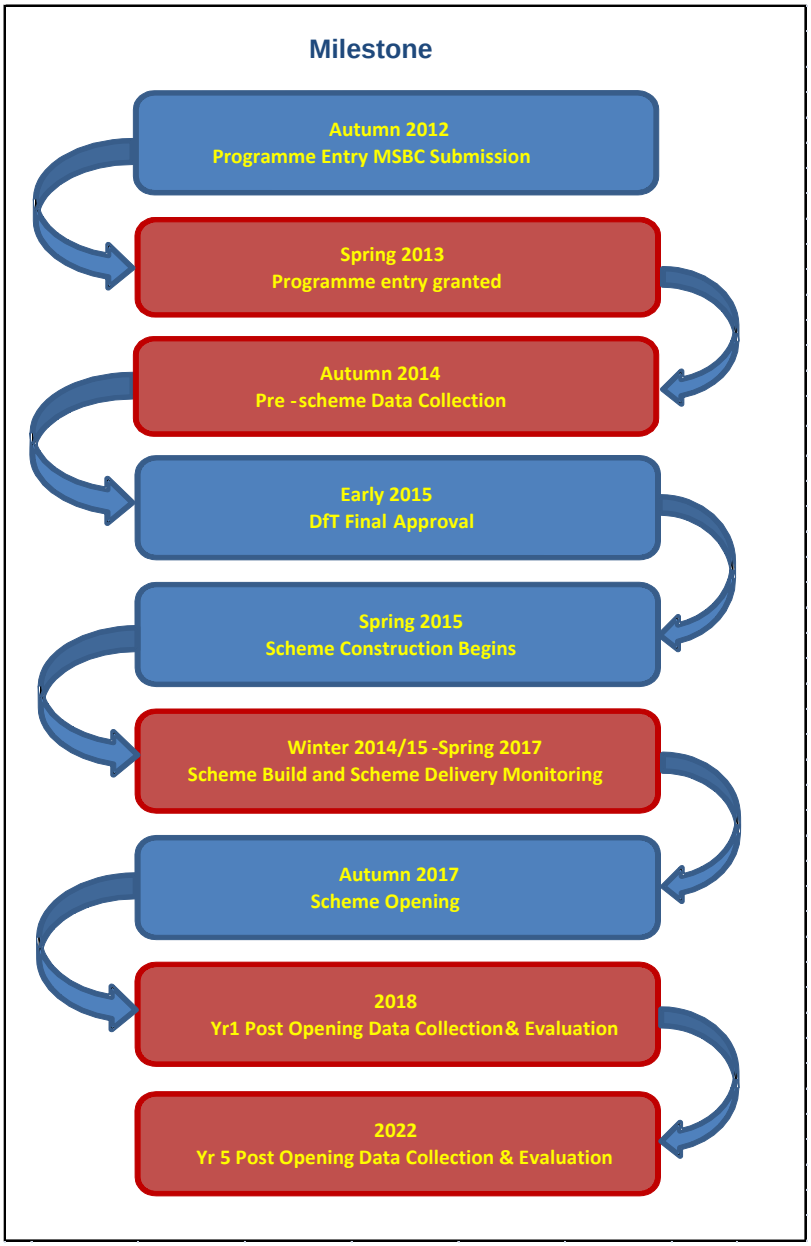
Evaluation Milestones and Outputs

9.1. As outlined in Section 4 of this report, it is recommended that the evaluation is undertaken in three stages. This programme uses the latest project milestones of Final DfT approval in early 2015 and main construction commencement in Spring 2015:

- Pre-Construction Baseline Report (2014);
- One Year Post Opening Evaluation Study (2018); and
- Five Year Post Opening Evaluation Study (2022).

9.2. The scheme evaluation milestones are presented in Figure 11. This includes the scheme milestones, which are presented in blue boxes and the evaluation milestones which are shown in the red boxes.

Figure 12. Scheme and Evaluation Milestones



Lessons disseminated

9.3. It is recommended that the Post Opening Monitoring and Evaluation reports be disseminated to the Project Board, the DfT and key stakeholders by Stockport Metropolitan Borough Council.

9.4. Meetings/ briefings are recommended with the nominated SRO and other key stakeholders.

9.5. Once those meetings have been held, the main method of disseminating the Monitoring and Evaluation reports will be via the A6MARR website. This will be managed by Stockport MBC. Where appropriate local press releases will be issued.

Appendices

Appendix A. Process Evaluation

This section provides further information on the recommended methodology for undertaking the process evaluation. This is important for understanding how and why a scheme was successful (or not) in delivering the intended benefits and provides information on how to improve the management and implementation of other schemes.

A.1. Process Evaluation

The process evaluation covers the scheme delivery process and delivered scheme and as defined by the DfT, includes the following components:

- Scheme Delivery – including scheme context, scheme inputs and risk management.
- Delivered Scheme – scheme outputs and causal pathway.

Much of this is recorded in the Gateway Review Process by TfGM, and this will be referred to as part of the process evaluation.

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.*

Proposed approach: A key component of the evaluation is the impact of the scheme on the employment opportunities and the growth of the local/ regional economy. Since the scheme covers a relatively wide geographical area and improves connectivity across the area, the range of impacts directly attributable to the scheme poses some challenges. The monitoring of contextual factors is therefore considered important in order to holistically understand the impact of the scheme. Key contextual factors include:

- Localised traffic management measures that may influence travel patterns.
- Initiatives by local development agencies – including Airport City that could influence employment patterns or development locations.
- Changes across the wider economy. More standardised indicators could be monitored including employment rate, GDP, fuel prices etc.

It is recommended that these are collated as part of the baseline process, then monitored every six months until the scheme is fully constructed. Followed by monitoring at the Yr1 & Yr5 post opening.

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).*

Proposed approach: Capital and revenue investment – 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. It is important to understand why these differences occurred and what actions were taken/ would have been appropriate.

Key questions include:

- What were the largest challenges to scheme delivery and how were these addressed?
- How did the forecast construction costs compare with the outturn construction costs?
- Which phase of the scheme construction resulted in the largest cost variant, and why?
- To what extent did local employees contribute to the construction of the scheme?

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*.

Proposed approach: All risks as documented in the risk register will be assessed as part of the initial baseline development. The assumptions that were made about the project risks will be compared with the manifestation of these risks and any change in risk, new risks and the risk mitigation measures adopted/ proposed will be assessed to determine which risks were the most significant to the scheme delivery and how effectively these were addressed.

Key questions include:

- Which area of the scheme delivery was the subject of the most risk, and what was/ can be done to address this?
- Which mitigation measures were effectively used, and why. Did these have any unintended consequences?

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*.

Proposed approach: Prior to scheme construction, evaluators will highlight the key delivery milestones in the baseline reporting. Throughout construction, changes to delivery dates will be monitored, along with the impact/ risk of the changes.

Following the scheme construction, the evaluators will work with the Project Manager team to assess the outturn scheme design. This will include the assessment of any change in scheme design, the reasons and potential impacts of the changes.

Key questions include:

- What were the changes in the key delivery milestones – and what impact did this have on overall delivery?
- How does the outturn scheme design compare with the approved funding design?
- What were the main reasons for the change in scheme design?
- What is the likely impact of the change in scheme design?

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.*

Proposed Approach: In order to facilitate the longer term (or impact) scheme objective of economic growth, the associated reduction in travel times and network congestion is required and for evaluation purposes is considered an immediate outcome. Tracking of the causal pathway will be undertaken, via the logic map, to determine if the scheme is delivering as intended. If not, the process evaluation will focus on the reasons why and attempt to understand what this may mean for the scheme outcome of increased employment opportunities and economic growth.

Appendix B. Noise Monitoring

B.1. Proposed Noise Measurement Locations

ID	Source	Area/ junction
1	Additional consultation	Glastonbury Drive estate, Poynton
2		Residential areas east of Macclesfield Road, near proposed junction
3		Residential areas west of Macclesfield Road, near proposed junction
4		Macclesfield Road.
5		High Lane
6		Disley
7	SEMMMS Phase 2 consultation	Queensgate Primary School, Albany Road, Stockport, Cheshire SK7 1NE
8		Macclesfield Road Junction
MP01	2013 ES Noise Chapter / Atkins Report	Cranleigh Drive
MP02		Opposite no 12 Old Mill Lane
MP03		Between 12 and 19 Sheldon Road
MP04		Mill Hill Hollow
MP05		Woodford Road
MP06		Opposite no 173 Chester Road
MP07		Albany Road – between nos 83 and 86 and adjacent to field.
MP08		Dairy House Lane
MP09		10 Swettenham Road
MP10		Clay Lane
MP11		Bolshaw Farm Lane
MP12		Styal Road
MP13		Tedder Drive
MP14		Carsdale Road
MP15		Felskirk Road / Thaxted Walk