# Document Control Sheet

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<td>Draft update incorporating SCC comments – Rev 1</td>
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1. Introduction

1.1. Overview

1.1.1 Amey Consulting has been commissioned by Staffordshire County Council (SCC) to prepare an Options Assessment Framework (OAF) Report. The report will be used to inform SCC regards the preferred and reserved Access Improvement Scheme options associated with the redevelopment of the former Royal Ordnance Factory site in Featherstone, Staffordshire (herein referred to as ROF Featherstone). The ROF Featherstone site previously operated as a Second World War munitions factory which closed after the war and has remained vacant ever since.

1.1.2 The ROF Featherstone site has been identified in South Staffordshire Council’s Local Plan (adopted December 2012) as one of four Strategic Employment Sites, the other three sites comprising i54, Hilton Cross and Four Ashes. Although the ROF Featherstone site has been allocated as an employment site in the Local Plan for South Staffordshire since 1996, the site remains vacant due to poor accessibility and planning class restrictions imposed, namely due to the implications associated with HGV movements on the highway network within the vicinity of the ROF Featherstone site (impacts along minor rural roads linking the site to the A449(T) Stafford Road, A460 Cannock Road and Bushbury areas of Wolverhampton).

1.1.3 SCC as the local highway authority is supportive of the redevelopment of the ROF Featherstone site, and although no funding has yet been committed, is considering potential funding options towards the delivery of an Access Improvement Scheme which would improve accessibility to the site and make the site more marketable.

1.1.4 This report builds on the previous work undertaken by SCC, Amey and South Staffordshire Council to inform the preferred and reserved Access Improvement Scheme options associated with the ROF Featherstone site and takes into account the following:

- ROF Featherstone Viability and Delivery Options Study Stage 1 (SCC, December 2013);
- Technical Note: Addendum – ROF Featherstone – Sustainability Appraisal of Access Options – Doc. Ref.: 32367 (Amec Foster Wheeler, August 2016); and
- Options Assessment Report: Access to ROF Featherstone, Staffordshire – Doc. Ref.: CDX8624/1 (Amey, August 2017) – this report provided an overview of the national and local policy context for an Access Improvement Scheme associated with the ROF Featherstone site and a Stage 1 assessment of the potential scheme options.

1.2. Sifting of Scheme Options

1.2.1 Eight scheme options as identified in the Technical Note: Addendum – ROF Featherstone – Sustainability Appraisal of Access Options (Amec Foster Wheeler, August 2016), which build on the options identified in the ROF Featherstone Viability and Delivery Options Study Stage 1 (SCC, December 2013), were assessed in the Options Assessment Report (OAR). The purpose of the assessment was to short list the eight scheme options and take any viable options forward to the next stage of appraisal (which has been undertaken as part of this OAF Report) in order to determine the preferred and reserved Access Improvement Scheme options.

1.2.2 Although Technical Note: Addendum – ROF Featherstone – Sustainability Appraisal of Access Options (Amec Foster Wheeler, August 2016) identifies nine scheme options, Option 1 which is a 'Do Nothing' option comprising the existing ROF Featherstone site access and egress arrangements, was discounted from the assessment in the OAR as this option is not considered feasible due to the existing poor accessibility to the ROF Featherstone site and congestion issues within the vicinity of the site.

1.2.3 For ease of reference, the eight scheme options were:
- Option 2: Do-Minimum – this option includes the use of Traffic Regulation Orders on the existing
ground network to manage HGV movements to/ from the ROF Featherstone site, leading HGVs to
the A449(T) Stafford Road for access to the M6.

- Option 3: Access from Brookhouse Lane to the A460 Cannock Road – this option provides a new
connection from Brookhouse Lane to the A460 Cannock Road; priority junction connection onto the
A460 Cannock Road; potential southern access to the ROF Featherstone site; and a direct connection
onto the A460 Cannock Road.

- Option 4: Egress from Brookhouse Lane to M54 Junction 1 eastbound off-slip road – this option
provides a new link road from Brookhouse Lane providing egress only from the ROF Featherstone site
to the M54 Junction 1 eastbound off-slip road; existing access to the ROF Featherstone site would
remain unchanged, with HGVs using existing available routes (Paradise Lane).

- Option 5: Access from New Road to Brookhouse Lane – this option provides a new primary link road
from New Road to East Road; upgrade of East Road to allow HGV use; and a new access to the ROF
Featherstone site from Brookhouse Lane.

- Option 6: Upgrade existing underpass at Brinsford Lane – this option includes widening of an existing
route under the West Coast Main Line (WCML) to allow HGV movements; localised improvements to
Brinsford Lane and Cat and Kittens Lane; new all movements junction at A449(T) Stafford Road/
Brinsford Lane; and access to the ROF Featherstone ROF Featherstone via Brinsford Lane and Cat and
Kittens Lane.

- Option 7: New connection from Cat and Kittens Lane to the A449(T) Stafford Road and new bridge
over the WCML: this option includes access via new a connection from Cat and Kittens Lane to the
A449(T) Stafford Road, including a new bridge over the WCML and a new all movement junction the
with A449(T) Stafford Road with associated cycle route, footways, road markings and signing.

- Option 8: New connection from Brinsford Lane to the A449(T) Stafford Road and new bridge over the
WCML: the option includes access via new a connection from Cat and Kittens Lane to Brinsford Lane
including a new bridge over the WCML and a new all movement junction with the A449(T) Stafford
Road with associated cycle route, footways, road markings and signing.

- Option 9: New link road from Cat and Kittens Lane to the A460 Cannock Road – this option includes a
new connection from Cat and Kittens Lane to the A460 Cannock Road, including a new 3-arm
roundabout at the junction of Cat and Kittens Lane and new link road with associated cycle route,
footways, road markings and signing.

1.2.4 The eight scheme options were assessed using the Early Assessment Sifting Tool (EAST) developed by the
Department for Transport (DfT) and five scheme objectives defined in the OAR which were derived following a
review of relevant national and local policy; existing transport and access issues on the highway network
within the vicinity of the ROF Featherstone site; and potential physical infrastructure constraints.

1.2.5 The scoring criteria used in the EAST is based on the five-case model for business cases as follows:

- Strategic Case;
- Economic Case;
- Managerial Case;
- Financial Case; and
- Commercial Case.

1.2.6 The five scheme objectives defined in the OAR are:

- Provide high quality highway infrastructure for access to ROF Featherstone;
- Provide a sustainable transport system that complies with South Staffordshire Local Plan;
- Attract investment and create jobs at the Strategic Employment Site;
- Provide efficient and effective access to the local and motorway network and regulate HGV movements; and
- Minimise adverse impact on surrounding environment to make the scheme acceptable in planning terms.

1.2.7 A summary of the outputs from these assessments are provided in Table 1.1 (assessment against scheme objectives), Table 1.2 (EAST assessment against the five cases) and Table 1.3 (EAST Red/ Amber/ Green (RAG) assessment within the economic case). The recommendation of the OAR following assessment of the eight scheme options was to take both Option 7 and Option 9 forward for further assessment; therefore, this report assesses both Access Improvement Scheme Options 7 and 9 in further detail, taking into account any recently available data.

1.2.8 The following sub-section also provides a summary of assessment results from the OAR for both Access Improvement Scheme Options 7 and 9.

<table>
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<th>Table 1.1 Assessment of Options against Scheme Objectives</th>
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<td>Provide efficient and effective access to the local and</td>
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<td>to make the scheme acceptable in planning terms</td>
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Scoring system impact level: 1 = large adverse; 2 = adverse; 3 = neutral/ marginal; 4 = beneficial; 5 = large beneficial
### Table 1.2: Summary of EAST Assessment

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**Key: performance against measure**

- **Highest performance**
- **No change or some performance**
- **Lowest performance**
### Table 1.3: EAST RAG (Red/ Amber/ Green) Assessment

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NC = No Change

### 1.3. OAR Summary: Options 7 and 9

1.3.1 This sub-section provides a brief summary of the key findings from the OAR for both Access Improvement Scheme Options 7 and 9 with the scheme options illustrated in Figure 1.1 and Figure 1.2, respectively.
OAR: Option 7 Summary of Assessment Results

1.3.2 Option 7 was found to be the most publicly acceptable option which included the construction of a new road from Cat and Kittens lane to the A449(T) Stafford Road and a new bridge over the WCML. Although this is a potentially high cost option, it provides an additional direct access onto the A449(T) Stafford Road just north of the M54. It is currently expected that the purchase of the required land will be completed through negotiation rather than compulsory purchase. Although there will be some impact on local communities, it avoids direct impact on adjacent properties. Option 7 also meets the majority of the scheme objectives, with the highest score of 23 out 25 (see Table 1.1).

1.3.3 EAST summary: This option is expected to have a large impact on alleviating the identified problems and a good fit with government objectives. There is also good consensus and high public acceptability for this option. It is a higher cost option but is not expected to have the longest implementation timescales.

Figure 1.1: Indicative Option 7 Routing

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OAR: Option 9 Summary of Assessment Results

1.3.4 Option 9 involves the construction of a new road from Cat and Kittens Lane providing direct access onto the A460 Cannock Road south of the M54. There was considerable public concern expressed about the likely damage that this option could have on historical areas and the surrounding countryside.

1.3.5 This is potentially a high cost option and requires the largest land-take within the Green Belt; however, does not impact on the WCML and there are no concerns regarding land acquisition as the land is controlled by the developer of the ROF Featherstone site. Option 9 scores well in terms of meeting objectives and scores the second highest, but there are concerns regarding its environmental impact.

1.3.6 Although this option does not provide direct access to the north, there are proposals for a link road between the M54 and the M6/ M6 Toll promoted in the Road Investment Strategy 2016-2021 (RIS1) which would further improve connectivity to/ from the ROF Featherstone site. The Government remains committed to deliver the M54 to M6 and M6 Toll Link Road as part of the Road Investment Strategy, subject to contributions from those who stand to benefit from the scheme to support transport funding. A preferred
route is expected be announced later this year and subject to a successful planning application construction of the link road could commence in 2021. The scheme has been included in the 2032 model as a commitment.

1.3.7 EAST summary: This option is expected to have a large impact on alleviating the identified problems and a good fit with government objectives. It has a high degree of consensus and the second highest level of public acceptability. Option 9 scores the highest in terms of practical feasibility and is forecast to have a low overall cost risk.

![Map of Option 9 Routeing](image)

**Figure 1.2: Indicative Option 9 Routeing**
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1.4. **Proportionality**

1.4.1 Recent versions of WebTAG have placed more of an emphasis on the need for proportionality in appraisal. This recognises that the cost of acquiring appraisal information should not exceed the marginal benefit as it relates to:

- Estimating the scale and severity of impacts;
- Assessing the level of uncertainty about estimated impacts; and
- The focus of the local objectives.

1.4.2 At all stages, a proportionate approach needs to be adopted. Therefore, at this early stage excessive detail has been avoided - the level of detail is no more than is needed for a decision to be taken about the way forward. As the proposal develops, a more comprehensive level of information will be required and detailed appraisal can then be carried out.
1.5. **Structure of the Report**

1.5.1 The structure of this report is based on guidance provided in Appendix A of the DfT’s Transport Analysis Guidance: The Transport Appraisal Process (May 2018) which provides a framework for the assessment of scheme options. The structure of this report is as follows:

- Chapter 2: Assessment Methodology
- Chapter 3: Existing situation/ need for the scheme
- Chapter 4: Strategic Fit
- Chapter 5: Value for Money
  - Impact on the Economy
  - Impact on the Environment
  - Impact on the Society
  - Public Accounts
  - Distributional Impacts
  - Indicative Benefit Cost Ratio
- Chapter 6: Financial Case
- Chapter 7: Delivery Case
- Chapter 8: Commercial Case
- Chapter 9: Summary of assessment outputs and recommendations.
2. Assessment Methodology

2.1. Introduction

2.1.1 The methodology used to undertake a more detailed assessment of the remaining two options follows on from that used for the initial assessment and consists of the Transport Business Case Five Case Model criteria using the Option Assessment Framework contained within the DFT’s Transport Analysis Guidance (WebTAG): The Transport Appraisal Process (May 2018).

2.2. Traffic Modelling

2.2.1 In order to efficiently examine and assess the two scheme options it was essential to make use of a traffic model, especially given the close proximity to the Strategic network (i.e. A449(T) and M54 Motorway), as shown previously in Figures 1.1 and 1.2.

2.2.2 There are trade-offs between model complexity and sophistication of outputs versus constraints on resource, computer run-times, data requirements. In summary, the considerations when specifying the design of a transport model are as follows, all of which have implications for planning and implementation and the resulting quality of the outputs:

- The nature of identified problems and their likely solutions;
- The definition and size of the study area;
- The likely number of options to be tested;
- The availability of data and existing models;
- The need to update and (re) calibrate models;
- The need to conduct new surveys;
- The timescale for model development; and
- The required accuracy and robustness of results/recommendations.

2.2.3 At this early stage of the decision-making process more light-touch methods and hence modelling tools are appropriate. However, it is often tempting to use over-simplified modelling approaches, or models designed for other purposes, in the early stages of project development. In the case of highway schemes, like this one, early indicative work may be undertaken with relatively simple fixed-trip network assignment models.

2.2.4 The key objective of the modelling is to be able to give a reasonably robust forecast of the likely impacts that the construction of the schemes would have on highway users on the surrounding local and strategic road network, depending on growth at different points in time.

2.2.5 The preferred approach for this study has been to develop a ROF Featherstone VISUM model, in accordance with Department for Transport modelling guidelines TAG Unit M3.1 and DMRB Volume 12.

2.2.6 The VISUM model has been developed in line with modelling “best practice” and throughout the modelling stage, critical model checks and comprehensive data reviews have been undertaken to ensure the model achieves the required industry standards.

2.2.7 The headline statistics for validation sites within the base model show 91% meeting appropriate criteria for flows and 89% for GEH within both the AM and PM peak periods. This is supported by satisfactory journey time validation, albeit noting the model is generally slightly faster than the observed. The model also shows a good match on turning movements with GEH<7 of 87% and 88% for the AM and PM peaks respectively.

2.2.8 Further information about the model development is available in the VISUM Modelling Report.

2.3. Strategic Fit

2.3.1 Further to the assessment undertaken on the identified options for the scheme, the two remaining route options were now assessed for their alignment with relevant policy objectives set out in the following documents:
2.3.2 The two options were also reassessed using any recently available data against the five headline objectives for the scheme, namely:

- Provide high quality highway infrastructure for access to ROF Featherstone;
- Provide a sustainable transport system that complies with South Staffordshire Local Plan;
- Attract investment and create jobs at the Strategic Employment Site;
- Provide efficient and effective access to the local and motorway network and regulate HGV movements; and
- Minimise adverse impact on the surrounding environment to make the scheme acceptable in planning terms.

2.3.3 The options were scored against the scheme and policy objectives using the following five-point scale:

- 1 = large adverse - option has a substantial negative impact on meeting relevant objectives;
- 2 = adverse - option has some negative impact on meeting relevant objectives;
- 3 = neutral/ marginal - option makes little or no contribution towards meeting relevant objectives;
- 4 = beneficial - Option makes some positive contribution towards meeting relevant objectives; and
- 5 = large beneficial - Option makes a substantial positive contribution towards meeting relevant objectives.

2.4. Value for Money

Impact on the Economy

2.4.1 The economic appraisal was undertaken in accordance with WebTAG guidance. WebTAG specifies the approach by the
Department for Transport (DfT) to be used to assess transport schemes.

2.4.2 The analysis of costs and benefits assesses the impact of each option over a 60-year appraisal period in comparison with a ‘do minimum’ scenario. To allow comparison of costs and benefits that accrue at different points in time, all monetised impacts are discounted and converted to a present value year (2010). The results of the analysis are summarised in the Present Value of Costs (PVC) and the Present Value of Benefits (PVB) for each Route option.

2.4.3 In the impacts on the economy assessment, attention is focussed exclusively on transport economic efficiency (TEE) impacts for business and commuting purposes. No allowance has been made to account for reliability or wider impacts associated with the schemes. This was considered to be a proportionate approach at this stage.

2.4.4 The assessment of options includes a comparison of the Present Value of the following benefits:

- User travel times – distinguishing between trips for business and commuting purposes; and
- Vehicle operating costs – distinguishing between trips for business and commuting purposes.

2.4.5 The traffic model outlined previously is the source of the traffic data which underpins the estimation of the benefits identified above.

2.4.6 Transport User Benefit Appraisal (TUBA) software has been used to undertake the analysis of user travel times and vehicle operating costs. This software has been produced by the DfT to carry out transport scheme economic. The economic impacts of a scheme are derived by comparing the future year situation with the scheme (Do Something scenario) to the situation without the scheme (Do Minimum).

Impact on the Environment

2.4.7 The Transport Appraisal Process, comprises the WebTAG Options Appraisal Framework setting out the types of analysis, key input data and tools, and data outputs to be used in the assessment of potential options. The approach to the environment assessment was based on this framework, in so far as they were applicable at this stage in the option development process.

2.4.8 In accordance with WebTAG Guidance, the environmental appraisal:

- Was primarily a desk-based exercise, but informed by GIS and site walkovers where appropriate and necessary;
- Made best use of existing transport models and data, and recognised limitations of data where relevant;
- Had regard to the guidance provided in WebTAG Unit A3 Environmental Impact Appraisal (December 2015) where the information available allowed, applying the guidance proportionately, and to reflect the level of evidence required at this stage of the process (i.e. sufficient to be able to distinguish the relative benefits and impacts of options under consideration);
- Used a 7-point scale in providing a qualitative assessment of the scale of impact for environmental receptors and topics, adopting a prudent approach to scoring to reflect the quality of information on which scores are based and highlighting any key risks associated with options:
  - 1 = large adverse;
  - 2 = moderate adverse;
  - 3 = slight adverse;
  - 4 = neutral/ marginal;
  - 5 = slight beneficial;
  - 6 = slight beneficial; and
  - 7 = large beneficial.
Had regard to the relevant guidance set out in Highways England’s DMRB to inform the approach to assessment and scoring.

2.4.9 An assessment of impact for each of the assessment areas listed in WebTAG was undertaken, namely:

- Noise;
- Air quality;
- Greenhouse gases;
- Landscape;
- Historic environment;
- Biodiversity; and
- Water environment.

2.4.10 No allowance has been made to account for townscape impacts associated with the schemes at this stage, but would need to be assessed as the scheme develops.

**Impact on Society**

2.4.11 In the impact on society assessment, attention is focussed on the effect of transport on people (i.e. both local residents, and users of the transport network).

2.4.12 The assessment of options includes a comparison of the Present Value of the following benefits:

- User travel times for purposes other than business and commuting;
- Vehicle operating costs for purposes other than business and commuting; and
- Accident benefits.

2.4.13 Along with a qualitative assessment using a 7-point scale of the following:

- Physical activity; and
- Severance.

2.4.14 No allowance has been made to account for journey quality, security, access to services, affordability or option values impacts associated with the schemes. This was considered to be a proportionate approach at this stage.

**Public Accounts**

2.4.15 The cost to the broad transport budget is estimated by inputting estimated scheme costs into TUBA software and estimates of the impact on public accounts is taken from the TUBA Public Accounts table.

**Distributional Impacts**

2.4.16 As the preferred scheme option is yet to be determined, an assessment of the Distributional Impacts has not been undertaken as part of this OAF process. However, an assessment of Distributional Impacts will be conducted as part of the Outline Business Case appraisal process for the preferred scheme option.

**Indicative Benefit Cost Ratio**

2.4.17 An indicative Benefit Cost Ratio has been estimated to enable the two remaining options to be compared. At this stage, it is not intended to present the absolute performance of either option, but is helpful for providing a preliminary indication on whether there is any likelihood of the options representing satisfactory value for money.
2.5. **Financial Case**

2.5.1 The financial case concerns the capital cost and funding allocation and therefore assesses affordability of each the two options. Under the WebTAG Options Assessment Framework, consideration is given to both capital and maintenance costs.

2.5.2 The cost estimates include:

   - The estimated construction costs;
   - An allowance for land costs;
   - Design and supervision costs;
   - Risk contingency costs, and
   - Inflation between the base year of the estimate and the years of expenditure.

2.5.3 No allowance has been made of maintenance costs at this stage. In respect of ongoing costs, there is unlikely to be much of a differentiator between the two options.

2.6. **Delivery Case**

2.6.1 There are three key elements associated with the assessment of the Delivery Case:

   - Likely delivery agents;
   - Stakeholder acceptability; and
   - Public acceptability/interest.

2.6.2 At this early stage of assessment, only immediately obvious challenges to deliverability have been considered rather than any attempt to consider the complexity of scheme delivery and how this is related to the potential delivery agents.

2.6.3 In terms of Stakeholder/Public acceptability, a qualitative assessment has been undertaken of the level of support or challenge from the respective groups in relation to the two options.

2.7. **Commercial Case**

2.7.1 All options are deemed to be at an early stage of development, with a number of key steps needing to be negotiated before potential procurement routes could be assessed, including:

   - Detailed scheme design;
   - Planning approval;
   - Outline Business Case development; and
   - Funding approval.
3. Existing Conditions and Need for the Scheme

3.1. Introduction

3.1.1 This chapter establishes the need for the scheme. It summarises the current situations and discusses problems and issues that have been identified.

3.2. Site Context and Background

3.2.1 The ROF Featherstone site is situated to the west of the village of Featherstone within the district of South Staffordshire in Staffordshire. It is strategically located between Junctions 1 and 2 of the M54; and nearby the i54 and Hilton Cross Strategic Employment Sites which are located to the south-west and south-east of the ROF Featherstone site respectively. The locations of these Strategic Employment sites alongside a number of other employment sites within the locality have significantly increased the importance of the M6/ M54 Corridor to the economy of the West Midlands and Staffordshire.

3.2.2 The successful redevelopment of the ROF Featherstone site as a high-quality employment location will be a major driver in stimulating economic growth and has the potential to create up to 2,500 jobs in the area. This would also help address the lack of employment opportunities within the district and the wider requirements of the Black Country and reduce the level of out-commuting from the district. A large proportion of the workforce currently work in the West Midlands conurbation with the majority of journeys to work undertaken as a car driver, accounting for 76% of the total mode share which is 16% higher than the national average of 60%.¹

3.2.3 The ROF Featherstone site has remained vacant over a number of years, despite having consent for Use Classes B1 and B2, due to the inability to market the site with Use Class B8 Use, which requires good access to the site and a direct road to the trunk road network. The proposed Access Improvement Scheme options would provide the necessary infrastructure required to accommodate HGV traffic to and from the site and reduce traffic impact on minor rural roads within the vicinity of the site which link the site to the A449(T) Stafford Road, A460 Cannock Road and the Bushbury area of Wolverhampton. It would also help to accommodate further planned economic growth within the vicinity of the site, namely at the i54 Strategic Employment Site which would also increase pressure on the surrounding highway network.

3.3. Existing Highway Network and Connectivity

3.3.1 The M6 and M54 motorways and the terminus of the M6 Toll are situated within close proximity to Featherstone, providing access to a number of key destinations within Staffordshire and strategic destinations countrywide. There is no northbound access from the M54 to the M6, and no direct access to the M54 from the M6 southbound at Junction 10A; however, access to the M54 is available from the M6 via the A460 Cannock Road or A5 and A449(T) Stafford Road.

3.3.2 Access to and from Featherstone is signed from the A449(T) Stafford Road via Brewood Road, Old Stafford Road and New Road. Vehicles are not routed along Brinsford Lane, although this route is used by local residents as a shortcut to the south of the village. Vehicles travelling from the south also have the option to route via Cat and Kittens Lane and Brookhouse Lane opposed to travelling north to New Road, and as an alternative to using the M54 to travel eastbound between Junctions 2 and 1.

3.3.3 Further improvements to connectivity with the strategic road network include the proposed link road between the M54 and the M6/ M6 Toll promoted in RIS1.

3.3.4 The A449(T) Stafford Road to the west of the ROF Featherstone site is a dual carriageway (partially trunk road) and provides a north-south corridor through the district and connectivity with Stafford to the north and Wolverhampton and Kidderminster to the south. The A460 Cannock Road is a single carriageway located to the east of the ROF Featherstone site provides connectivity between M54 Junction 1 and M6 Junction 11/ M6 Toll.

¹ Source: Table WD703EW – Method of travel to work, 2011 Census (www.nomisweb.co.uk)
3.3.5 The A449(T) Stafford Road and A460 Cannock Road both currently suffer significant congestion which is exacerbated by strategic traffic routing via these roads. Currently, northbound traffic on the M54 is directed off the M54 at Junction 2 onto the A449(T) Stafford Road and A5 to join the M6 at Junction 12. There is no signed route on the M54 to the M6 Toll. Traffic travelling towards the M6 Toll leaves the M54 at Junction 1 and routes via the A460 Cannock Road, passing the villages of Featherstone and Shareshill, and then crosses over the M6 through Junction 11 to join the M6 Toll at junction T8.

3.3.6 Initial traffic modelling was previously completed to assess the performance of key junctions along the A449 Stafford Road and the A460 Cannock Road to inform the options appraisal for the proposed Access Improvement Scheme. Modelling shows that A460 corridor and A460 Cannock Road/ New Road/ Dark Lane signalised junction in particular currently operate beyond capacity causing queuing in the peak hours. In the period before the delivery of Highways England M6/ M54/ M6 Toll link road additional vehicles in this area are likely to exacerbate traffic conditions. The local community also have concerns regarding the environmental impact of Heavy Goods Vehicles using local roads such as New Road.

3.4. Existing ROF Featherstone Site Accessibility

3.4.1 The ROF Featherstone site can currently only be accessed from Cat and Kittens Lane to the north of the DVSA Test Centre, via an established access point. This provides access into the western side of the site. There is a wide gateway entrance, which affords good visibility splays both northbound and southbound along Cat and Kittens Lane. To the north of the site lies the former Sandvik entrance, now used by the Brinley Fleet vehicle sales and leasing company.

3.4.2 There are particular accessibility issues to the ROF Featherstone site for HGVs as they are constrained by a number of highway restrictions including:

- The left in/ left out junction arrangement at Brinsford Lane and Stafford Road;
- The narrow 3.5m height restricted underpass under the WCML on Brinsford Road;
- The height restriction on Cat and Kittens Lane under the M54, south of the site which may be unsuitable for irregular vehicles;
- HGV prohibition (one way) via a 7.5T weight restriction along Brewood Road from the A449(T) Stafford Road;
- A 7.5T weight restriction on East Road which currently prohibits HGV access from New Road to Brookhouse Lane; and
- Traffic calming measures and narrow access roads through Featherstone village.

3.4.3 As such, the HGV routes that avoid these constraints include Paradise Lane, using New Road and Old Stafford Road. The most direct route for HGVs arriving from the M6 (northbound) is via the A460 Cannock Road, New Road and Paradise Lane. The HGV routes to the site, avoiding the constraints on Brinsford Lane are shown in Figure 2.1.
Further, a review of the local routes has revealed a number of constraints impacting upon accessibility to the ROF Featherstone site for all vehicle types; these have been summarised in Table 2.1.

Table 2.1: ROF Featherstone Site Access Constraints

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Description</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>M54</td>
<td>The M54 runs east-west to the south of the site and the M54 crossed over Cat and Kittens Lane; this bridge has a height restriction of 16’8” (5.1m)</td>
<td>Physical barrier presents height restriction and prohibits alternative access to the south</td>
</tr>
<tr>
<td>WCML</td>
<td>The WCML runs north-south to the west of the site between the site and the A449(T) Stafford Road</td>
<td>Physical barrier to direct access from the strategic network</td>
</tr>
<tr>
<td>Brinsford Lane/WCML bridge (bridge identification no. RB53 54)</td>
<td>Brinsford Lane passes under the WCML; this bridge has a height restriction of 11’6” (3.5m). The carriageway also narrows making it unsuitable for two vehicles to pass at the same time and restricting the passage of wider vehicles such as HGVs</td>
<td>Potential pinch point with height restriction impacting on some vehicle movements</td>
</tr>
<tr>
<td>Brinsford Lane</td>
<td>There are buildings on both sides of Brinsford Lane, located approximately 200m east of the junction with the A449(T) Stafford Road, limiting opportunities for carriageway widening</td>
<td>Potential pinch point and limited opportunities for carriageway widening to better accommodate vehicular traffic and pedestrian/ cycle facilities</td>
</tr>
<tr>
<td>A449(T) Stafford Road/ Brinsford Lane junction</td>
<td>Left in/ left out junction to/ from Brinsford Lane</td>
<td>Restricted movements adding to traffic movements at the roundabouts with M54 Junction 2 to the south and Brewood Road to the north</td>
</tr>
<tr>
<td>Visibility along the A449(T) Stafford Road from Brinsford Lane</td>
<td>The A449(T) Stafford Road crosses the Staffordshire and Worcestershire Canal approximately 130m to the north of its junction with Brinsford Lane, impacting on visibility northwards along the A449(T) Stafford Road due to the increasing gradient of the carriageway over the canal.</td>
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<tr>
<td>---</td>
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<td></td>
</tr>
<tr>
<td>Narrow access roads</td>
<td>Dark Lane and Featherstone Lane could be used to connect to the wider highway network; however, are relatively narrow carriageways and therefore unsuitable for HGVs and heavy traffic flows.</td>
<td></td>
</tr>
<tr>
<td>A460 Cannock Road/ New Road junction</td>
<td>Signalised junction recently upgraded as part of the prison expansion.</td>
<td></td>
</tr>
<tr>
<td>A460 Cannock Road/ The Avenue junction</td>
<td>Priority T-junction with ghost island right-turn from the A460 Cannock Road to The Avenue.</td>
<td></td>
</tr>
<tr>
<td>Brookhouse Lane/ The Avenue</td>
<td>The carriageway routes through Featherstone village and has been subject to traffic calming measures. It is unsuitable for HGVs and heavy traffic movements and is subject to a 7.5T weight restriction.</td>
<td></td>
</tr>
<tr>
<td>East Road weight restriction</td>
<td>East Road is unsuitable for HGVs and is subject to a 7.5T weight restriction between its junctions with New Road and Brookhouse Lane.</td>
<td></td>
</tr>
<tr>
<td>DVSA Test Centre</td>
<td>The DVSA Test Centre is situated off Cat and Kittens Lane to the south-west of the site reducing the length of Cat and Kittens Lane available for a potential site access.</td>
<td></td>
</tr>
<tr>
<td>Land ownership boundaries</td>
<td>Land ownership boundaries/ third party land within the vicinity of the site may restrict potential access points and routes to the strategic road network, especially to the south of the site.</td>
<td></td>
</tr>
<tr>
<td>Watercourse</td>
<td>A small watercourse runs east-west through the northern part of the site.</td>
<td></td>
</tr>
<tr>
<td>National Grid pylons</td>
<td>The pylons run east-west between Cat and Kittens Lane and the WCML to the south of the site and the M54.</td>
<td></td>
</tr>
<tr>
<td>HMP Oakwood, HMP Featherstone, HMP/ YOI Brinsford and Sandvik development site</td>
<td>The prisons and a Sandvik development site are located to the north of the ROF Featherstone site preventing access opportunities from the north to the site. The prisons also present an unattractive setting for a development site.</td>
<td></td>
</tr>
<tr>
<td>Topography</td>
<td>The land is elevated to the north of the site, with a southward sloping profile resulting in the WCML situated higher/ over Brinsford Lane but lower/ under the M54.</td>
<td></td>
</tr>
<tr>
<td>Linkages with surrounding sites and employment catchments</td>
<td>The site is fairly isolated with a number of the physical barriers including the WCML, M54 and prisons affecting connections for pedestrian and cyclists. There is a discontinuous shared foot/ cycleway along Brookhouse Lane between Featherstone and the Northwood/ Bushbury areas to the south of the site. There are no footways northwards along Cat and Kittens Lane adjacent to the site and no bus routes currently serve the roads adjacent to the site.</td>
<td></td>
</tr>
</tbody>
</table>
3.4.5 In summary, the review of the access constraints to the ROF Featherstone site showed that there are a number of constraints affecting potential site access locations and access routes to the strategic road network which in turn are impacting upon the accessibility and associated marketability of the site.

3.4.6 It is therefore evident that for the successful redevelopment of the ROF Featherstone site, highway network infrastructure improvements will be required to manage the traffic demand associated with the site as well as to improve existing accessibility to the site which is poor.
4. Option Assessment: Strategic Fit

4.1. Introduction

4.1.1 This chapter provides an assessment of the two remaining route options for access to the ROF Featherstone site for their alignment with relevant national, regional and local planning, transport and economic policy objectives and with the scheme specific objectives.

4.2. National, Regional and Local Policy Context

4.2.1 This section outlines key national, regional and local policies, plans and strategies of relevance to the Access Improvement Scheme and provides commentary on how the proposed Access Improvement Scheme options align with the policy context.

National Planning Policy Framework (Department for Communities and Local Government, March 2012)

4.2.2 The key aim of the National Planning Policy Framework (NPPF) is to promote and achieve sustainable development. Paragraph 9 states that a number of factors contribute to sustainable development including improvements in the quality of the built, natural and historic environment, and people’s quality of life. Improvements to quality of life include:

- making it easier for jobs to be created in cities, towns and villages;
- moving from a net loss of bio-diversity to achieving net gains for nature;
- replacing poor design with better design;
- improving the conditions in which people live, work, travel and take leisure; and
- widening the choice of high quality homes.’

4.2.3 With regard to promoting sustainable transport, the NPPF states that sustainable transport solutions which reduce greenhouse gas emissions and congestions should be encouraged.

4.2.4 The NPPF encourages joint working across local authority areas and with transport providers in order to ‘develop strategies for the provision of viable infrastructure necessary to support sustainable development, including large scale facilities such as rail freight interchanges, roadside facilities for motorists or transport investment necessary to support strategies for the growth of ports, airports or other major generators of travel demand in their areas.’ [Paragraph 31]

4.2.5 Paragraph 32 of the NPPF also states that ‘Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe’ with Paragraph 197 reinforcing the principle of supporting sustainable development through stating ‘In assessing and determining development proposals, local planning authorities should apply the presumption in favour of sustainable development.’

4.2.6 Both Access Improvement Scheme Options 7 and 9 align with the NPPF as both options would improve accessibility to the ROF Featherstone site and ease congestion and greenhouse gas emissions on the surrounding highway network. However, the proposed routeing of Option 9 is likely to have wider benefits to the surrounding highway network as it provides an alternative routeing to the M54, thereby reducing potential trip impact on the strategic road network.

Circular 02/2013: The Strategic Road Network and Delivery of Sustainable Development

4.2.7 Circular 02/2013 ‘sets out the way in which the Highways Agency [now known as Highways England] will engage with communities and the development industry to deliver sustainable development and economic growth, whilst safeguarding the primary function and purpose of the strategic road network.’
4.2.8 The Circular provides advice on assessing development trip impact on the strategic road network and states that development should seek to make better use of existing capacity on the transport network and not increase demand on sections of the strategic road network that are already operating at levels that are over-capacity.

4.2.9 The Circular echoes the planning principles outlined in the NPPF and states that ‘development should only be prevented or refused on transport grounds where the residual cumulative impacts of the development are severe.’

4.2.10 Paragraphs 25 to 32 discuss the assessment of development impact, Travel Plans and demand management. Demand management of the network ensures that traffic generation from developments is minimised. Paragraph 26 goes on to say ‘The Highways Agency expects the promoters of development to put forward initiatives that manage down the traffic impact of proposals to support the promotion of sustainable transport and the development of accessible sites.’

4.2.11 Both Access Improvement Scheme Options 7 and 9 align with the Circular as their aim is to manage demand on the strategic (and local) highway network by improving accessibility to key destinations of strategic importance and easing congestion. Both route options would also provide sustainable transport infrastructure, including walking and cycling routes, and therefore provide people with more choice on the way they choose to travel.


4.2.12 Planning for the Future sets out Highways England’s approach to the planning process including the consideration of planning applications. Highways England is supportive of local and national economic growth and regeneration and facilitating growth around the strategic road network, whilst maintaining a safe and efficient strategic road network.

4.2.13 Planning for the Future supplements the Circular 02/2013 assessment for determining the scope and scale of impact on the strategic road network from development proposals and states that the assessment should:

i. ‘demonstrate how the proposals will reduce the need to travel, especially by car;

ii. demonstrate how the proposals will improve accessibility by all modes of travel and influence travel behaviours;

iii. assess the likely impact of residual trips (i.e. after measures above have been considered);

iv. identify appropriate and proportionate mitigation measures, and ensure that what is proposed promotes sustainable transport outcomes and avoids unnecessary works to the SRN.’

    Developments should be refused or be conditional only where ‘the residual cumulative impacts of development on the capacity of the SRN (once proposed mitigations are taken into account) are still assessed to be serve.’

4.2.14 In terms of access to developments, access from the local road network or from existing junctions on the road network is encouraged as ‘Access points and junctions on busy, high speed roads generate weaving and turning manoeuvres by drivers, which are likely to create adverse effects on the safety and reliability of journeys.’

4.2.15 Both Access Improvement Scheme Options 7 and 9 align with Planning for the Future by improving accessibility to the ROF Featherstone site by all modes of travel and providing access to the site via the local road network (Cat and Kittens Lane).

**National Infrastructure Delivery Plan 2016–2021 (HM Treasury and Infrastructure and Projects Authority, March 2016)**

4.2.16 The National Infrastructure Delivery Plan sets out the government’s plans for economic infrastructure over the next 5 years. The NIDP updates and replaces the previous NIP 2014, outlining details of £483 billion of
investment in over 600 infrastructure projects and programmes in all sectors and spread across the UK, to 2020-21 and beyond. The investment in infrastructure is essential to drive the following key economic benefits:

- Supporting growth and creating jobs;
- Raising the productive capacity of the economy;
- Driving efficiency; and
- Boosting international competitiveness.

4.2.17 The overarching aim is to create a reliable and high performing road network fit for the 21st century, which improves economic productivity and supports jobs and growth. The network should seek to increase capacity, tackle congestion, support development, strengthen connectivity, improve reliability and resilience, and be of the best possible quality. The plan aims to address these issues by creating smarter roads that use technology and modern road building techniques whilst ensuring the correct projects and programmes are identified and prioritised for delivery.

**Leading for a Connected Staffordshire: Our vision for 2014–2018 (Staffordshire County Council Strategic (April 2014))**

4.2.18 Leading for a Connected Staffordshire is SCC’s strategic plan which sets out a vision and three priority outcomes for the four years to 2018. The strategic plan’s vision is for ‘A connected Staffordshire, where everyone has the opportunity to prosper, be healthy and happy.’

4.2.19 Supporting this vision are the three priority outcomes which are:

- ‘Be able to access more good jobs and feel the benefits of economic growth
- Be healthier and more independent
- Feel safer, happier and more supported in and by their community’.

4.2.20 Both Access Improvement Scheme Options 7 and 9 align with the strategic plan vision and priority outcomes through providing the necessary connectivity with a local high quality employment site which will create more new jobs in the County and support local economic growth.

**Stoke-on-Trent & Staffordshire Enterprise Partnership Strategic Economic Plan (March 2014)**

4.2.21 The Strategic Economic Plan (SEP) sets out the long-term economic strategy to 2030 to support economic growth and prosperity within the Stoke-on-Trent and Staffordshire Local Enterprise Partnership (LEP) area. The SEP recognises the need for investment in major infrastructure to improve strategic connectivity and accessibility across and within the LEP area and sets out five central objectives for delivering economic growth in the LEP area; these being:

- **Stoke on Trent as a Core City**: to rapidly grow the heart of the city centre economy
- **Connected County**: to meet market demand for high quality employment and housing sites which are connected to the transport and communications network
- **Competitive Urban Centres**: to support the sustained economic prosperity of other important urban centres across Staffordshire
- **Sector Growth**: to boost the competitiveness of business in vital sectors with growth potential where Stoke & Staffordshire has a distinctive advantage
- **Skilled Workforce**: to ensure a balanced supply of people with the right skills and know-how needed to drive economic growth.”
4.2.22 The SEP also references the ROF Featherstone site as a priority strategic employment site and also acknowledges the enabling transport enhancements, including major highway schemes, which are required to deliver sites such as the ROF Featherstone site.

4.2.23 As the proposed Access Improvement Scheme specifically aims to unlock the market demand for high quality employment sites by improving the accessibility and connectivity between the ROF Featherstone site with the wider transport network, the SEP is supportive of such a scheme with options for financial support available through the LEP.

4.2.24 Both Access Improvement Scheme Options 7 and 9 align with the SEP as both options would improve accessibility to a high-quality employment site. It could be argued that due to the routeing of Option 9 within the vicinity to the residential areas to the south of the ROF Featherstone site, Option 9 provides greater connectivity to a local workforce which would provide people with more choice about how they travel to/from the ROF Featherstone site.

Staffordshire Local Transport Plan 2011 Strategy Plan (Staffordshire County Council, 2011)

4.2.25 Staffordshire’s Local Transport Plan (LTP) sets out the long-term strategy for transport provision in the county and the strategy for the management and maintenance of local roads and footways.

4.2.26 The LTP recognises the significance of the transport network in supporting forecast economic and housing growth in the county to 2026 and outlines three key challenges which the LTP will help to address; these are:

- ‘Provide opportunities for residents to access jobs, training and education.

- Help businesses access suppliers, markets and a workforce.

- Enable economic growth without causing congestion.’

4.2.27 Both Access Improvement Scheme Options 7 and 9 would assist with meeting the challenges stated in the LTP as both options aim to unlock the employment potential of the ROF Featherstone site through the provision of a new route to the site; alleviate congestion on the highway network and increase accessibility and connectivity between the site and a local workforce.

South Staffordshire Integrated Transport Strategy 2013 – 2028 (Staffordshire County Council, November 2013)

4.2.28 The South Staffordshire Integrated Transport Strategy is part of a series of strategies which have been developed for each of the eight districts/ boroughs in Staffordshire to help inform the District/ Borough Council Local Plan process, prioritise expenditure for transport improvement schemes and identify potential funding steams.

4.2.29 The South Staffordshire Integrated Transport Strategy identifies three priority outcomes for Staffordshire which the delivery of the Strategy (through the Economic Prosperity and Communities priorities) will help achieve. These priority outcomes are:

- ‘Staffordshire is a place where people can easily and safely access everyday facilities and activities through the highways and transport networks

- Staffordshire’s economy prospers and grows, together with jobs, skills, qualifications and aspirations to support it

- Staffordshire’s communities proactively tackle climate change, gaining financial benefit and reducing carbon emissions’.

4.2.30 In line with the priority outcomes and economic prosperity priorities, the Strategy forms links with the Local Plan for South Staffordshire and notes the need to explore the deliverability of sites located in the M54 corridor, including the ROF Featherstone site, to bring these sites forward which in turn will support the local economy of the district and wider county.
A Local Plan for South Staffordshire: Core Strategy Development Plan Document (adopted December 2012)

4.2.31 The Local Plan for South Staffordshire sets out the spatial planning policy for the district to support the economic and housing growth forecast for the district to 2028. The Local Plan identifies the ROF Featherstone site as one of the four existing strategic employment sites within the district and states that the site will continue to be given support for employment and economic development under policies:

- Core Policy 1: The Spatial Strategy for South Staffordshire;
- Core Policy 7: Employment and Economic Development;
- Policy EV1: Retention of Existing Employment Sites; and
- Policy GB2: Land Safeguarded for Longer Term Needs.

4.2.32 Although the ROF Featherstone site has received support for employment development though previous Local Plan periods, this has not previously included B8 Use at the site due to the potential impacts from HGVs on rural minor roads linking the ROF Featherstone site with the A449(T) Stafford Road, A460 Cannock Road and the Bushbury areas of Wolverhampton.

4.2.33 Core Policy 7 states that ‘The Council will support measures which provide the infrastructure necessary to support economic development, supporting transport investment which will help sustain the local economy giving priority to schemes which improve links and improve local accessibility between homes and jobs across the District’ and that ‘The Council will seek to ensure that a supply of employment land is readily available in South Staffordshire to meet justified development needs for general employment development throughout the plan period, whilst recognising the constraints that impact upon the District.’

4.2.34 The proposed Access Improvement Scheme is a vital piece of supporting transport infrastructure which will unlock the employment land potential of the ROF Featherstone site by reducing congestion on the surrounding highway network and improving connectivity between the site and a local workforce. It will also provide an alternative route for HGVs to/from the ROF Featherstone site thereby reducing the potential impact from HGV traffic on the A449(T) Stafford Road, A460 Cannock Road and minor roads throughout the Bushbury areas of Wolverhampton. This improvement is also recognised under Policy EV1 which states that the issues associated with HGV traffic routing to/from the ROF Featherstone site will be addresses as part of any future redevelopment of the site.

South Staffs Sustainable Community Strategy

4.2.35 The ‘South Staffordshire Sustainable community strategy’ is a strategy paper delivered by South Staffordshire’s local strategic partnership (LSP). The LSP represents over 50 organisations in the region. The Strategy is here to set out plans, projects and long-term vision for the future that will make a real difference for everyone in South Staffordshire.

4.2.36 The LSP has selected a number of focus areas for the strategy (Through consultation) which are; Children and Young People, Community Safety, Economic Vibrancy, Environmental Quality and Housing. The areas of relevance for the access improvement scheme are Economic vibrancy and Environmental Quality these are detailed below.

4.2.37 Economic vibrancy; The Strategy looks to increase the range of employment opportunities, support and develop key business, improve access to services and jobs and attract new businesses. The Access improvement scheme fits well within this strategy, complimenting the aims and objectives of the strategy with its own.

4.2.38 Environmental Quality; The natural environment is a key attraction for south Staffordshire. It is essential that the impact from any scheme has as little impact to the environment as possible. The strategy understands the need for improving Staffordshire’s transportation but looks to strike a balance between improvement and the negative effects on the environment which is in line with the schemes aims. There is also focus on reducing the impact on climate change in the region, which is also in line with the access schemes direction.
4.2.39 The proposed scheme sits within the objectives of the South Staffordshire Sustainable Community Strategy. There is a large parallel between the aims of the scheme and the strategy, with the scheme driving to deliver the results that the strategy paper is looking to achieve.

**Stafford Road Corridor Area Action Plan 2013 – 2026 (Wolverhampton City Council, adopted September 2014)**

4.2.40 The Stafford Road Corridor Area Action Plan (AAP) forms part of Wolverhampton City Council’s Development Plan and provides a detailed land use and planning framework setting out how sustainable development and the Black Country Core Strategy, which also forms part of Wolverhampton City Council’s Development Plan, will be delivered in the Stafford Road Corridor area. The AAP covers the Stafford Road Corridor between M54 Junction 2 and the outskirts of Wolverhampton City Centre, which is also a strategic route into and from Wolverhampton and the wider Black Country sub-region.

4.2.41 The Stafford Road corridor already provides access to a number of high quality employment areas including the i54 strategic employment site and its proximity to the strategic road network is stated in the AAP as ‘an excellent location for business’.

4.2.42 Part of the AAP’s vision for the future is for the Stafford Road Corridor to become one of the premier high quality employment locations in the Black Country. It also seeks to support the regeneration of the wider area and ensure that the relevant infrastructure required to deliver development is also provided.

4.2.43 The proposed Access Improvement Scheme complements the strategy for development in the Stafford Road Corridor area as it seeks to improve connectivity with the ROF Featherstone site which is located to the north of the Stafford Road Corridor area. It also aligns with the principles of the AAP in that the Access Improvement Scheme also proposes to improve accessibility to a key employment location unlocking employment land and delivering relevant supporting infrastructure required to make the site viable.

4.3. **National, Regional and Local Policy Alignment**

4.3.1 An analysis has been carried comparing the strategic fit of the two scheme options with key national, regional and local policy. **Table 4.1** below indicates the relationship of the scheme with the policy using a five-point scale.

4.3.1 The analysis reveals that the two scheme options are closely aligned and compliant with the aspirations of relevant national, regional and local policies, specifically helping to contribute to their objectives.
Table 4.1 Policy Assessment of the Scheme against Objectives

<table>
<thead>
<tr>
<th>Policy Objective</th>
<th>Scheme Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Planning Policy Framework (Department for Communities and Local Government, March 2012)</td>
<td>5</td>
</tr>
<tr>
<td>Circular 02/2013: The Strategic Road Network and Delivery of Sustainable Development</td>
<td>5</td>
</tr>
<tr>
<td>National Infrastructure Delivery Plan 2016–2021 (HM Treasury and Infrastructure and Projects Authority, March 2016)</td>
<td>5</td>
</tr>
<tr>
<td>Leading for a Connected Staffordshire: Our vision for 2014–2018 (Staffordshire County Council Strategic (April 2014))</td>
<td>4</td>
</tr>
<tr>
<td>Stoke-on-Trent &amp; Staffordshire Enterprise Partnership Strategic Economic Plan (March 2014)</td>
<td>5</td>
</tr>
<tr>
<td>Staffordshire Local Transport Plan 2011 Strategy Plan (Staffordshire County Council, 2011)</td>
<td>5</td>
</tr>
<tr>
<td>South Staffordshire Integrated Transport Strategy 2013 – 2028 (Staffordshire County Council, November 2013)</td>
<td>5</td>
</tr>
<tr>
<td>A Local Plan for South Staffordshire: Core Strategy Development Plan Document (adopted December 2012)</td>
<td>5</td>
</tr>
<tr>
<td>South Staffordshire Sustainable Community Strategy 2008-2020</td>
<td>4</td>
</tr>
<tr>
<td>Stafford Road Corridor Area Action Plan 2013 – 2026 (Wolverhampton City Council, adopted September 2014)</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>53</strong></td>
</tr>
</tbody>
</table>

Scoring system impact level:
1 = large adverse - option has a substantial negative impact on meeting relevant objectives;
2 = adverse - option has some negative impact on meeting relevant objectives;
3 = neutral/ marginal - option makes little or no contribution towards meeting relevant objectives;
4 = beneficial - Option makes some positive contribution towards meeting relevant objectives; and
5 = large beneficial - Option makes a substantial positive contribution towards meeting relevant objectives.

4.4. Scheme Objectives Fit

4.4.1 An assessment of fit against the scheme objectives for all eight Access Improvement Scheme options was previously undertaken as part of the OAR (Doc. Ref.: CDX8624/1, Amey, August 2017). A summary of the outputs for all eight scheme options has been provided in Section 1.2 Sifting of Scheme Options.

4.4.2 Since the submission of the OAR, further traffic modelling data is now available in the form of geographical distribution of scheme benefits (discussed in Chapter 5). This data has been used to reassess the two options against one of the Scheme Objectives, namely:

- Provide efficient and effective access to the local and trunk road network and regulate HGV movements.

4.4.3 The revised assessment includes the following elements carried forward unchanged from the OAR:

- Provide high quality highway infrastructure for access to the ROF Featherstone site;
- Provide a sustainable transport system in line with South Staffordshire Council’s Local Plan;
- Attract investment and create jobs at the ROF Featherstone site; and
- Minimise adverse impact on the surrounding environment so that the scheme is acceptable in planning terms.

4.4.4 Details of the assessment of each option are summarised in **Table 4.2** (where higher scores represent more preferred options). The summary table is intended to provide a visual guide of the performance of each option.

4.4.5 Overall, Option 7 fits slightly better than Option 9 against the scheme objectives with the only differences in scoring related to:

- ‘Minimise adverse impact on the surrounding environment so that the scheme is acceptable in planning terms’ - This is largely associated with the routing of Option 9 through Green Belt land to the south of the ROF Featherstone site and potential for impact on Moseley Old Hall; and

- ‘Provide efficient and effective access to the local and trunk road network and regulate HGV movements’ – This is due to the poor distribution of benefits associated with movements to/from the ROF site itself, indicating that the scheme doesn’t provide effective access to the road network.

**Table 4.2: Assessment of Options against Scheme Objectives**

<table>
<thead>
<tr>
<th>Scheme Objective</th>
<th>Scheme Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide high quality highway infrastructure for access to the ROF Featherstone site</td>
<td>5</td>
</tr>
<tr>
<td>Provide a sustainable transport system in line with South Staffordshire Council’s Local Plan</td>
<td>3</td>
</tr>
<tr>
<td>Attract investment and create jobs at the ROF Featherstone site</td>
<td>5</td>
</tr>
<tr>
<td>Provide efficient and effective access to the local and trunk road network and regulate HGV movements</td>
<td>5</td>
</tr>
<tr>
<td>Minimise adverse impact on the surrounding environment so that the scheme is acceptable in planning terms</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>23</strong></td>
</tr>
<tr>
<td><strong>Scoring system impact level:</strong></td>
<td></td>
</tr>
<tr>
<td>1 = large adverse - option has a substantial negative impact on meeting relevant objective;</td>
<td></td>
</tr>
<tr>
<td>2 = adverse - option has some negative impact on meeting objective;</td>
<td></td>
</tr>
<tr>
<td>3 = neutral/ marginal - option makes little or no contribution towards meeting objective;</td>
<td></td>
</tr>
<tr>
<td>4 = beneficial - Option makes some positive contribution towards meeting objective; and</td>
<td></td>
</tr>
<tr>
<td>5 = large beneficial - Option makes a substantial positive contribution towards meeting objective.</td>
<td></td>
</tr>
</tbody>
</table>
5. Option Assessment: Value for Money

5.1. Introduction

5.1.1 The Value for Money assessment has been carried out in line with WebTAG guidance, with a proportionate approach being applied where possible to produce an indicative VfM assessment. At this early scheme stage (Stage 1 Option Development), excessive detail needs to be avoided. The principal aim at this early stage is simply to identify which options seem least likely to deliver good value for money. It is WebTAG stage 2 (i.e. further appraisal) that requires a fully specified appraisal, where the modelling is expected to produce robust enough analysis to be used in that appraisal.

5.2. Impact on the Economy

Business and Commuting Users

5.2.1 The impact to business and commuting users is measured by the application of TUBA. TUBA (Transport User Benefits Appraisal) is the DfT approved industry-standard software used to derive the travel time and vehicle operating cost (VOC) elements of the TEE benefits of a scheme. TUBA requires input from the transport model in the form of trip, time and distance matrices by year, time period and user class as well as scheme specific information such as years of appraisal, time slices, costs etc.

5.2.2 TUBA assesses travel time savings over the modelled area and then applies monetary values (i.e. values of time) to derive the monetary benefits of those time savings.

5.2.3 TUBA also calculates VOC changes which occur due to changes in costs associated with such items as fuel, maintenance, and vehicle depreciation. These occur due to changes in speed and distance when the scheme is implemented and can include both positive and negative values depending upon the scheme’s impact upon traffic flows and routing.

5.2.4 The monetised journey time benefits for business and commuting users from TUBA are given in Table 5.1 below.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value (£m) 2010 prices, discounted to 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Option 7</td>
</tr>
<tr>
<td><strong>Commuting</strong></td>
<td></td>
</tr>
<tr>
<td>User benefits: travel time</td>
<td>-0.706</td>
</tr>
<tr>
<td>User benefits: vehicle operating costs</td>
<td>0.085</td>
</tr>
<tr>
<td><strong>Business</strong></td>
<td></td>
</tr>
<tr>
<td>User benefits: travel time</td>
<td>0.309</td>
</tr>
<tr>
<td>User benefits: vehicle operating costs</td>
<td>1.221</td>
</tr>
<tr>
<td><strong>Net Business Impact</strong></td>
<td>0.909</td>
</tr>
</tbody>
</table>

5.2.5 As can be seen, both schemes only produce marginal business/commuting benefits over the 60-year appraisal period. The benefits for Option 7 are predominantly generated by vehicle operating costs savings of £1.3m whilst travel time savings are negative at -£0.4m. Conversely, for Option 9, the benefits are generated by travel time savings of £2.8m and vehicle operating cost savings of £1.1m.

5.2.6 The business user vehicle operating cost savings are anticipated as both proposed schemes promote shorter travel distances for HGVs.
Geographic Distribution of Business and Commuter User Benefits

5.2.7 A key objective of the scheme is to provide efficient and effective access to the local and motorway network and to regulate HGV movements. Therefore, sector analysis has been undertaken to gain a better understanding of the journeys that generate the greatest impacts (both positive and negative) in order to assess whether the schemes are functioning as expected. The transport model zones were grouped into six sectors representing broad geographic areas. Figure 5.1 shows the sector boundaries.

Figure 5.1: Sector Areas

Option 7

5.2.8 The sector analysis of the transport user benefits for option 7 is presented in Table 5.2.

Table 5.2: Option 7 Distribution of Impacts (£) by Sector

<table>
<thead>
<tr>
<th>Sectors</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>£60,506</td>
<td>£21,368</td>
<td>£37,325</td>
<td>£682,248</td>
<td>£89,458</td>
<td>£113,902</td>
<td>£708,505</td>
</tr>
<tr>
<td>2</td>
<td>£16,516</td>
<td>£9,529</td>
<td>£9,868</td>
<td>£155,760</td>
<td>£3,664</td>
<td>£0</td>
<td>£116,183</td>
</tr>
<tr>
<td>3</td>
<td>£35,133</td>
<td>£2,383</td>
<td>£9,980</td>
<td>£117,120</td>
<td>£14,499</td>
<td>£6,969</td>
<td>£123,188</td>
</tr>
<tr>
<td>4</td>
<td>£1,366,933</td>
<td>£254,074</td>
<td>£66,978</td>
<td>£1,279,270</td>
<td>£448,440</td>
<td>£831,232</td>
<td>£870,957</td>
</tr>
<tr>
<td>5</td>
<td>£295,701</td>
<td>£11,248</td>
<td>£22,776</td>
<td>£46,997</td>
<td>£14,409</td>
<td>£6,969</td>
<td>£275,091</td>
</tr>
<tr>
<td>6</td>
<td>£275,496</td>
<td>£0</td>
<td>£92,918</td>
<td>£57,128</td>
<td>£43,679</td>
<td>£0</td>
<td>£711,027</td>
</tr>
<tr>
<td>Total</td>
<td>£874,859</td>
<td>£214,312</td>
<td>£79,947</td>
<td>£849,273</td>
<td>£526,791</td>
<td>£702,253</td>
<td>£909,199</td>
</tr>
</tbody>
</table>

5.2.9 It can be seen that the majority (62%) of the benefits (circa £2.5m) are to/from the immediate ROF area (sectors 5 and 6). This is anticipated as the scheme will improve access (particularly HGVs) onto the A449(T) Stafford Road for these movements.

5.2.10 A large proportion (32%) of the benefits (circa £1.3m) are associated with movements within sector 4 (south of the M54). It is likely that this benefit is associated with HGV movements which are rerouting to the new link road to avoid the restrictions on Moseley Road and Greenfield Lane.
5.2.11 As for the projected scheme dis-benefits, the largest proportion (80%, some £2.5m) is for movements between sector 4 (south of the M54) and the north of the model area (sectors 1 and 2). This is likely to be due to the provision of a new signal controlled junction onto the A449 (T) Stafford Road.

Option 9

5.2.12 The sector analysis of the transport user benefits for option 9 is presented in Table 5.3.

Table 5.3: Option 9 Distribution of Impacts (£) by Sector

<table>
<thead>
<tr>
<th>Sectors</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>£3,624</td>
<td>£12,595</td>
<td>£31,648</td>
<td>£238,018</td>
<td>£9,541</td>
<td>£0</td>
<td>£295,426</td>
</tr>
<tr>
<td>3</td>
<td>£40,851</td>
<td>-£823</td>
<td>£17,959</td>
<td>£469,684</td>
<td>£26,296</td>
<td>£71,739</td>
<td>£625,706</td>
</tr>
<tr>
<td>4</td>
<td>£439,822</td>
<td>£70,268</td>
<td>£110,711</td>
<td>£1,617,516</td>
<td>£299,710</td>
<td>£50,293</td>
<td>£2,588,320</td>
</tr>
<tr>
<td>5</td>
<td>-£27,522</td>
<td>£5,548</td>
<td>£38,923</td>
<td>£202,660</td>
<td>£14,998</td>
<td>£6,448</td>
<td>£241,055</td>
</tr>
<tr>
<td>6</td>
<td>-£64,957</td>
<td>£0</td>
<td>£111,770</td>
<td>-£148,264</td>
<td>£3,045</td>
<td>£0</td>
<td>£98,406</td>
</tr>
<tr>
<td>Total</td>
<td>£324,159</td>
<td>£282,143</td>
<td>£481,227</td>
<td>£2,410,994</td>
<td>£325,396</td>
<td>£54,544</td>
<td>£3,878,463</td>
</tr>
</tbody>
</table>

5.2.13 It can be seen that the largest proportion (38%) of the benefits (circa £1.6m), is associated with movements within sector 4 (south of the M54). As with Option 7, it’s likely that this benefit is associated with HGV movements which are rerouting to the new link road to avoid the restrictions on Moseley Road and Greenfield Lane.

5.2.14 There are around 24% of benefits (circa £1m) for movements between sector 3 (M6 east) and 4 (south of the M54) and the north of the model area (sectors 1 and 2). Also, there is around £0.6m (14%) of benefits for movements between sector 4 (south of the M54) and M6 east (sector 3). The capturing of these benefits suggests that traffic is rerouting onto the link road to avoid the strategic network.

5.2.15 In terms of benefits for movements to/from the ROF area (sectors 5 and 6), only 20% (circa £0.8m) are anticipated.

Benefits Profile

5.2.16 The business and commuting benefits accrued in each year over the life of the scheme for each option are shown in Figure 5.2.
5.2.17 The user benefits over the 60-year appraisal periods show that the benefits for option 7 increase during the modelled years up to 2032 before declining to the end of the appraisal period. The increase is likely to be partially as consequence of the introduction of the M54/M6 link at 2032 and further development coming online at the ROF site. The reverse is true with option 9 whereby the benefits begin to decline from the first modelled year. The decline is mainly linked to the introduction of M54/M6 link at 2032. After the last modelled year, there is assumed to be no further traffic growth and only the impact of growth in value of time is included. With the impact of discounting to the base 2010 prices and values, the benefits are reduced over time post opening year to the end of the appraisal period.

**Impact on the Economy Summary**

5.2.18 The user benefits results show that both options only produce marginal business/commuting benefits over the 60-year appraisal period.

5.2.19 Option 7 does appear to improve accessibility to the ROF though with around 60% of the benefits (circa £2.5m) being associated with movements to/from the ROF area. Overall, travel times experienced are increased (represented by negative values in Table 5.1), which is likely a consequence of the introduction of the new signal-controlled junction on the A449 (T), as highlighted by the fact the largest proportion of scheme dis-benefits are for movements from south of the M54 to north of the model area.

5.2.20 It is noted that Option 9 does not appear to improve accessibility to the site as less than 10% of trips using the link road appear to have a local origin or destination, therefore the majority of scheme benefits are likely to accrue from through movements. Relatively small benefits for travel time and vehicle operating costs are achieved, which is to be anticipated as the scheme promotes shorter travel distances via the new link roads for some movements.

5.3. **Impact on the Environment**

**Introduction**

5.3.1 An Environmental Assessment Report (EAR) was produced by WYG in January 2018 which assessed the potential environmental effects from both Access Improvement Scheme Options 7 and 9. The environmental topics assessed as part of the EAR were in accordance with those identified within Advice Note ‘HA 200/08 Aims and Objectives of Environmental Assessment’ of the Design Manual for Roads and Bridges (DMRB),
Volume 11 Section 1, Part 1 (August 2009). A summary of the outputs from each of the environmental topics have been provided below.

Noise

5.3.2 The assessment of the noise impacts from both Access Improvement Scheme Options 7 and 9 has been undertaken in line with guidance provided in ‘HD 213/11 – Revision 1 Noise and Vibration’ of the DMRB, Volume 11, Section 3, Part 7 (November 2011). The study areas for each route option included a 600m buffer zone around the respective route options and additional links considered to be affected by the route options.

5.3.3 Some of the key findings from the assessment of noise impacts associated with Option 7 were as follows:

- There were 1,280 sensitive receptors in the study area which were predominantly residential and of high sensitivity;
- There is a potential for major changes in noise levels; however, these are resultant from increases in traffic flows along New Road and the A449(T) Stafford Road rather than directly from the implementation of route Option 7; and
- 1,061 receptors (83%) within the study area would be subject to an increase in noise nuisance with 696 receptors (54%) subject to more than a 40% increase in noise nuisance level; 66 receptors (5%) experiencing no change; and 153 receptors (12%) experiencing a decrease in noise nuisance levels.

5.3.4 Some of the key findings from the assessment of noise impacts associated with Option 9 were as follows:

- There were 1,705 sensitive receptors in the study area which were predominantly residential and of high sensitivity;
- The maximum short-term and long-term changes in noise levels, 6.3dB and 7.2dB respectively, were identified at the junction of Paradise Lane/ New Road; and
- 1,221 receptors (72%) within the study area would be subject to an increase in noise nuisance with the largest proportion (45% or 763 receptors) subject to an increase in noise nuisance levels of between 20% – 30%; 39 receptors (2%) would be subject to more than a 40% increase in noise nuisance level; 183 receptors (11%) would experience no change; and 301 receptors would experience a decrease in noise nuisance levels.

5.3.5 Overall, no additional noise mitigation measures were required for either Access Improvement Scheme Options 7 or 9 as the noise impacts were not directly associated with the proposed schemes. Further, no potential conflicts with policies and plans were identified for either route option.

Air Quality

5.3.6 The assessment of the impact on air quality for both Access Improvement Scheme Options 7 and 9 has been undertaken, primarily considering traffic emissions and construction effects together with existing levels of pollutants. The assessment has made use of Atmospheric Dispersion Modelling Software (ADMS) 4.0 to model changes in NO₂ and PM_{10} emissions from traffic. The approach taken to determining the significance of effect of the change in pollutant levels has been undertaken in line with guidance produced by EPUK and IAQM in January 2017 and guidance set out in the DMRB.

5.3.7 Overall, no additional mitigation measures were required for either Access Improvement Scheme Options 7 or 9 as the impacts on air quality were not significant and no potential conflicts with policies and plans were identified for either route option. Access Improvement Scheme Option 7 was found to be slightly more beneficial than Option 9 with regards to receptor exposure to pollutant levels, however, both options resulted in a neutral change in air quality.

Greenhouse Gases
5.3.8 The assessment of greenhouse gases is undertaken within TUBA following the guidance in TAG Unit A3 (Environmental Impact Appraisal). The Greenhouse gas benefit derived from the schemes in 2010 prices and values is:

- Option 7 - £0.219m; and
- Option 9 - £0.178m.

**Landscape**

5.3.9 The landscape appraisal has been undertaken in accordance with the ‘Landscape’ sub objective WebTAG Unit A3.6.

**Option 7**

5.3.10 Route Option 7 passes through an area of landscape that has a suburban/semi-rural character and is influenced by the existing national, regional and local transport corridors that pass on the boundaries and through the site which influence both the visual setting and tranquillity of the area. The construction impacts including the loss of landscape features and impacts upon landscape pattern would result in localised effects upon the perception of character with the proposed bridge resulting in perceived separation of the landscape. The assumed landscape scheme is likely to reduce the effects upon landscape character over time, however, the extent of reduction in effect is difficult to confirm as no landscape scheme is available at this preliminary stage of assessment.

5.3.11 Overall, the impact of the proposed route Option 7 upon the landscape is considered to be slight adverse.

**Option 9**

5.3.12 Option 9 passes through a rural area on the urban fringe which is influenced by the cultural heritage of Moseley Hall and Moseley Old Hall immediately north and south which includes numerous listed structures. The landscape has evolved in connection with these properties. Although the M54 road corridor passes in close proximity to the proposed route, it is relatively well screened along most of its length, apart from in the west near Cat and Kittens Lane where the tranquillity is affected. There is likely to be a loss in landscape features as a result of construction operations, however, a landscape scheme is assumed to be implemented along the length of the route intended to provide screening over time. The initial effects of the scheme are anticipated to reduce over time as the assumed landscape scheme matures providing screening of the route within the surrounding landscape.

5.3.13 Overall, the impact of the proposed route Option 9 upon the landscape is considered to be moderate adverse.

**Historic Environment**

5.3.14 The historic environment appraisal has been undertaken in accordance with the ‘Historic Environment’ sub objective WebTAG Unit A3.8.

**Option 7**

5.3.15 The effect of Option 7 upon the historic environment is principally associated with the change to the cohesion of the historic landscape and its relationship with specific undesignated heritage assets such as Brinsford Farm. There may be a degree of visual intrusion affecting the farm, particularly in relation to the proposed bridge. There also remains a low potential for currently unknown archaeological remains to survive within the scheme footprint.

5.3.16 Overall, the impact of the proposed route Option 7 upon the historic environment is considered to be slight adverse.

**Option 9**

5.3.17 Option 9 will have a significant effect upon the relationship between the historic built environment which comprise the settlement of Moseley both physically and historically. The effects may be reduced where design solutions could create permeation across the divisive structure and where the road could be integrated into the existing historic landscape.
5.3.18 Overall, the impact of the proposed route Option 9 upon historic environment is considered to be high adverse.

**Biodiversity**

5.3.19 The biodiversity appraisal has been undertaken in accordance with the 'Biodiversity' sub objective WebTAG Unit A3.9.

**Option 7**

5.3.20 The proposed development of ROF Featherstone Option 7 and the junction amendments (J5, J10 and J20) is not located within the boundaries of any statutory designated sites and no designated sites are located within 2km of the site. The closest non-statutory site is Coven Heath Local Wildlife Site located 230m west of the site which is designated for it wet heath habitat. The next closest non-statutory site is located over 1km from the site. The proposed development would result in the loss of sections of hedgerows, a low number of mature trees and areas of scrub, tall ruderal and species-poor semi-improved grassland. The works may also impact protected and notable species such as bats which use hedgerows for foraging and commuting purposes and bats and birds which may be roosting or nesting within features supported by mature trees. Reptiles, badgers, schedule 1 birds (such as barn owls), brown hares and hedgehogs could also use the site. The site and surrounding habitats have the potential to be used by large mammals and therefore, as a precautionary approach the Construction Management Plan should include the measure that no excavations should be left uncovered overnight.

5.3.21 Overall, the impact of the proposed route Option 7 upon biodiversity is considered to be slight adverse.

**Option 9**

5.3.22 The proposed development of ROF Featherstone Option 9 and the junction amendments (J5, J8, J10 and J20) is not located within the boundaries of any statutory designated sites and no designated sites are located within 2km of the site. The closest non-statutory site is Coven Heath Local Wildlife Site located west of the site which is designated for it wet heath habitat. The next closest non-statutory site is located over 1km from the site. The proposed development of ROF Featherstone Option 9 and the junction amendments (J5, J8, J10 and J20) would result in the loss of woodland, scrub habitat, tall ruderal and semi-improved species-poor grassland. The proposed works would also directly impact on ephemeral waterbodies located immediately adjacent to Option 9. The proposed works may impact on protected and notable species including bats, badger, reptiles, schedule 1 birds (incl. barn owls), brown hares and hedgehogs. The majority of the habitat to be affected includes arable farmland (supporting wheat crops at the time of the site walkover) and improved grassland (which supported a number of horses). A greater area of habitat and number of species is likely to be affected along the Option 9 route when compared to that of Option 7. The proposed works will also severe connectivity from habitat south of the M54, between Cat and Kitten Lane and Cannock Road A460 to those habitats south of the proposed works which is likely to impact the dispersal of species.

5.3.23 Overall, the impact of the proposed route Option 9 upon biodiversity is considered to be high adverse.

**Water Environment**

5.3.24 The water environment appraisal has been undertaken in accordance with the 'Water Environment' sub objective WebTAG Unit A3.10.

**Option 7**

5.3.25 Overall the proposed Option 7 carriageway is unlikely to have significant impact upon the water environment and the overall impacts are assessed as negligible, with the exception of potential groundwater quality impacts which are predicted to be of low significance. While there are a number of key receptors, namely the underlying principal aquifer, and the potential for adverse impacts, the prevalence of the groundwater resource locally, regionally and even nationally mitigates the potential localised impacts which may arise from the scheme. Brinsford Brook which is expected to receive surface water runoff discharges appears as a relatively small local watercourse, about which the Environment Agency do not publish online data. Again, the presence of multiple surface watercourses in the surrounding area mitigates potential impacts upon Brinsford Brook by diminishing the rarity value of the watercourse.
Overall, the impact of the proposed route Option 7 upon the wider water environment is considered to be neutral.

Option 9

Overall the proposed Option 9 carriageway is unlikely to have significant impact upon the water environment and the overall impacts is assessed as negligible, with the exception of potential risk to groundwater as a consequence of high receptor sensitivity and medium risk posed by the scheme. However, the overall significance of groundwater impacts is assessed as low. While there are a number of key receptors, namely the underlying principal aquifer, and the potential for adverse impacts, the prevalence of the groundwater resource locally, regionally and even nationally mitigates the potential localised impacts which may arise from the scheme. Brinsford Brook which is expected to receive surface water runoff discharges appears as a relatively small local watercourse, about which the Environment Agency do not publish online data. Again, the presence of multiple surface watercourses in the surrounding area mitigates potential impacts upon Brinsford Brook by diminishing the rarity value of the watercourse. The HAWRAT assessment predicts a slightly worse impact to surface waters due to sedimentation from the proposed Option 9 compared to Option 7.

Overall, the impact of the proposed route Option 9 upon the wider water environment is considered to be neutral.

5.4. Impact on Society

Non-Business Users

User benefits experienced by other users have been assessed in a similar manner to the commuting and business user benefits outlined in Section 5.2.

The monetised journey time benefits for other users from TUBA are given in Table 5.4 below.

Table 5.4: Transport Economic Efficiency – Net Business Impact

<table>
<thead>
<tr>
<th>Metric</th>
<th>Option 7</th>
<th>Option 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Others</td>
<td>-0.545</td>
<td>0.978</td>
</tr>
<tr>
<td>User benefits: vehicle operating costs</td>
<td>0.094</td>
<td>0.212</td>
</tr>
</tbody>
</table>

As can be seen, Option 7 produces a small disbenefit over the 60-year appraisal period, whilst Option 9 produces only a marginal benefit.

Geographic Distribution of Other User Benefits

Option 7

The sector analysis of the transport user benefits for option 7 is presented in Table 5.5.
Table 5.5: Option 7 Distribution of Impacts (£) by Sector

<table>
<thead>
<tr>
<th>Sectors</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-£27,964</td>
<td>£7,627</td>
<td>£19,469</td>
<td>-£285,995</td>
<td>£33,778</td>
<td>-£36,628</td>
<td>-£289,713</td>
</tr>
<tr>
<td>2</td>
<td>£6,080</td>
<td>£3,094</td>
<td>£3,640</td>
<td>-£78,932</td>
<td>£746</td>
<td>£0</td>
<td>-£65,372</td>
</tr>
<tr>
<td>3</td>
<td>-£5,396</td>
<td>-£490</td>
<td>£4,622</td>
<td>-£40,461</td>
<td>£5,873</td>
<td>-£5,663</td>
<td>-£41,515</td>
</tr>
<tr>
<td>4</td>
<td>-£544,841</td>
<td>-£38,455</td>
<td>-£29,333</td>
<td>-£13,606</td>
<td>£137,424</td>
<td>£120,177</td>
<td>-£368,634</td>
</tr>
<tr>
<td>5</td>
<td>£123,708</td>
<td>£2,408</td>
<td>£8,998</td>
<td>-£24,328</td>
<td>£7,296</td>
<td>£723</td>
<td>£117,359</td>
</tr>
<tr>
<td>6</td>
<td>£77,281</td>
<td>£0</td>
<td>£33,979</td>
<td>£99,144</td>
<td>-£12,832</td>
<td>£0</td>
<td>£197,572</td>
</tr>
<tr>
<td>Total</td>
<td>-£371,132</td>
<td>-£25,816</td>
<td>£41,375</td>
<td>-£344,178</td>
<td>£172,285</td>
<td>£77,163</td>
<td>-£450,303</td>
</tr>
</tbody>
</table>

5.4.5 It can be seen that the largest proportion (94%) of the benefits (circa £0.7m) are to/from the immediate ROF area (sectors 5 and 6). This is anticipated as the scheme will improve access onto the A449 (T) Stafford Road for these movements.

5.4.6 As for the projected scheme dis-benefits, the largest proportion (83%, some £0.9m) is for movements between sector 4 (south of the M54) and the north of the model area (sectors 1 and 2). This is likely to be due to the provision of a new signal controlled junction onto the A449(T) Stafford Road.

**Option 9**

5.4.7 The sector analysis of the transport user benefits for option 9 is presented in Table 5.6.

Table 5.6: Option 9 Distribution of Impacts (£) by Sector

<table>
<thead>
<tr>
<th>Sectors</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-£27,536</td>
<td>£61,975</td>
<td>£64,472</td>
<td>£24,760</td>
<td>-£3,321</td>
<td>-£26,600</td>
<td>£93,750</td>
</tr>
<tr>
<td>2</td>
<td>£1,850</td>
<td>£3,757</td>
<td>£10,555</td>
<td>£50,751</td>
<td>£3,193</td>
<td>£0</td>
<td>£70,106</td>
</tr>
<tr>
<td>3</td>
<td>£14,694</td>
<td>-£189</td>
<td>£7,372</td>
<td>£177,793</td>
<td>£10,648</td>
<td>£14,947</td>
<td>£225,265</td>
</tr>
<tr>
<td>4</td>
<td>£194,839</td>
<td>£19,922</td>
<td>£42,277</td>
<td>£481,195</td>
<td>£33,016</td>
<td>-£34,511</td>
<td>£736,738</td>
</tr>
<tr>
<td>5</td>
<td>-£11,459</td>
<td>£1,547</td>
<td>£13,803</td>
<td>£81,146</td>
<td>£7,873</td>
<td>£2,208</td>
<td>£95,118</td>
</tr>
<tr>
<td>6</td>
<td>-£20,450</td>
<td>£0</td>
<td>£33,787</td>
<td>-£45,670</td>
<td>£1,080</td>
<td>£0</td>
<td>£31,253</td>
</tr>
<tr>
<td>Total</td>
<td>£151,938</td>
<td>£87,012</td>
<td>£172,266</td>
<td>£769,975</td>
<td>£52,489</td>
<td>-£43,956</td>
<td>£1,189,724</td>
</tr>
</tbody>
</table>

5.4.8 The majority (35%) of the benefits (circa £0.5m) are associated with movements within sector 4 (south of the M54). The capturing of these benefits suggests that traffic is rerouting onto the link road to avoid the strategic network.

5.4.9 There is around 28% of benefits (circa £0.4m) for movements between sector 3 (M6 east) and 4 (south of the M54) and the north of the model area (sectors 1 and 2). Also, there is around £0.2m (16%) of benefits for movements between sector 4 (south of the M54) and M6 east (sector 3). The capturing of these benefits suggests that traffic is rerouting onto the link road to avoid the strategic network.

5.4.10 In terms of benefits for movements to/from the ROF area (sectors 5 and 6), only 15% (circa £0.2m) are anticipated.

**Benefits Profile**

5.4.11 The business and commuting benefits accrued in each year over the life of the scheme for each option are shown in Figure 5.3.
Figure 5.3: Profile of Non-Business User Benefits

5.4.12 The user benefits over the 60-year appraisal periods show that the benefits for option 7 increase during the modelled years up to 2032 before declining to the end of the appraisal period. The increase is likely to be partially as a consequence of the introduction of the M54/M6 link at 2032 and further development coming online at the ROF site. The reverse is true with option 9 whereby the benefits begin to decline from the first modelled year. The decline is mainly linked to the introduction of M54/M6 link at 2032. After the last modelled year, there is assumed to be no further traffic growth and only the impact of growth in value of time is included. With the impact of discounting to the base 2010 prices and values, the benefits are reduced over time post opening year to the end of the appraisal period.

Physical Activity

5.4.13 Both Access Improvement Scheme Options 7 and 9 have been developed in line with the NPPF in order to provide connectivity with the ROF Featherstone site which alongside improving connectivity with the strategic road network, also enhances the sustainability of the site location.

5.4.14 Option 7 would provide a link between Cat and Kittens Lane and the A449(T) Stafford Road and include new pedestrian and cycle infrastructure. The foot and cycleways proposed as part of route Option 7 would connect with existing pedestrian and cycle facilities on the A449(T) Stafford Road which include off-road cycle paths providing connectivity with Coven and Penkridge to the north and the northern residential areas of Wolverhampton to the south.

5.4.15 Option 9 would provide a link from Cat and Kittens Lane to the south of the M54 providing connectivity with the A460 Cannock Road south of the Hilton Cross Strategic Employment Site. Improved pedestrian and cycle infrastructure would also be provided as part of this route option along Cat and Kittens Lane to the south of the M54 motorway bridge and would therefore significantly improve pedestrian and cycle connectivity between the ROF Featherstone site, the northern residential areas of Wolverhampton and the Hilton Cross Strategic Employment Site.

5.4.16 Both Access and Improvement Scheme Options 7 and 9 provide benefits in terms of physical activity through the provision of pedestrian and cycle infrastructure. However, Option 9 would create an improved and safer link for pedestrians and cyclists which crosses the M54 between the ROF Featherstone site and the residential areas of Wolverhampton. This increases opportunities for a local workforce to be sourced who can travel more sustainably to the ROF Featherstone site and thereby have wider benefits to health and
well-being of future employees through increases in physical activity and local air quality benefits through less people travelling by car. Therefore, Option 7 is classed as slight beneficial with Option 9 being classed as moderate beneficial.

**Accidents**

5.4.17 An assessment of accident benefits was undertaken using the DfT’s Cost Benefit to Accidents – Light Touch (COBALT) analysis program for accident savings, which is consistent with WebTAG recommendations. The assessment was undertaken using the current version of the COBALT program (version 2013.2) using COBALT parameter file 2017.1. The COBALT software was run in separate link and junction mode using assignment results from the ROF Featherstone VISUM traffic model as inputs. The software calculates accident benefits for links and junctions separately.

5.4.18 COBALT calculates the number of accidents on each link, in each year of the evaluation period using Average Annual Daily Traffic (AADT), accident rate per km and link length (km). The DfT accident database has been used to obtain Personal Injury Accident (PIA) data for the highway network within the study area akin to the network within the VISUM model. The PIA data was collated for a period of five-years (2012 to 2016); the number and severity of these PIAs have been summarised in **Table 5.7**.

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal</th>
<th>Serious</th>
<th>Slight</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>0</td>
<td>0</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>2013</td>
<td>0</td>
<td>3</td>
<td>45</td>
<td>48</td>
</tr>
<tr>
<td>2014</td>
<td>0</td>
<td>2</td>
<td>54</td>
<td>56</td>
</tr>
<tr>
<td>2015</td>
<td>1</td>
<td>7</td>
<td>54</td>
<td>53</td>
</tr>
<tr>
<td>2016</td>
<td>0</td>
<td>2</td>
<td>35</td>
<td>37</td>
</tr>
<tr>
<td>Average per Year</td>
<td>0.2</td>
<td>2.8</td>
<td>45.4</td>
<td>48.4</td>
</tr>
</tbody>
</table>

5.4.19 The COBALT program was run for Option 7 and Option 9 appraisals separately. The accident benefits are calculated for the appraisal years of 2018, 2021 and 2032. The accident benefits for the complete scheme has been appraised over the same 60-year period as used in the calculation of Transport Economics and Efficiency (TEE) benefits.

5.4.20 The projected changes in the numbers of accidents, casualties and accident costs over the appraisal period for the Do-Minimum scenario and scheme options are set out in **Table 5.8**.

5.4.21 COBALT calculates a severity split using standard factors which estimate the number of accidents classified by injury severity of fatal, serious or slight. COBALT applies the appropriate costs per accident to establish the economic cost of accidents over the appraisal period.

5.4.22 The change in number of accidents/ casualties, and in the severity of injuries has been converted into a monetary value based on the accident rates and values set out in the COBALT parameter file. The cost of accidents in the Do-Minimum and Option 7 scenarios amounts to £72.885m and £78.606m respectively, generating a combined (links and junctions) accident ‘dis-benefit’ of -£5.721m.

5.4.23 The cost of accidents in the Do-Minimum and Option 9 scenarios amounts to £72.885m and £74.457m respectively, generating a combined (links and junctions) accidents ‘dis-benefits’ of -£1.572m.
Table 5.8: Modelled Accidents in 60 Year Appraisal Period

<table>
<thead>
<tr>
<th>Scenario</th>
<th>No. of Accidents</th>
<th>Number of Casualties</th>
<th>Accident Costs (£m/2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Fatal</td>
<td>Serious</td>
</tr>
<tr>
<td>Links</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do-Minimum</td>
<td>458.50</td>
<td>5.50</td>
<td>68.90</td>
</tr>
<tr>
<td>Option 7</td>
<td>455.40</td>
<td>6.40</td>
<td>70.80</td>
</tr>
<tr>
<td>Option 9</td>
<td>435.30</td>
<td>5.30</td>
<td>65.30</td>
</tr>
<tr>
<td>Junctions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do-Minimum</td>
<td>1,255.20</td>
<td>6.60</td>
<td>104.40</td>
</tr>
<tr>
<td>Option 7</td>
<td>1,314.40</td>
<td>8.60</td>
<td>121.30</td>
</tr>
<tr>
<td>Option 9</td>
<td>1,328.30</td>
<td>6.70</td>
<td>109.90</td>
</tr>
<tr>
<td>Combined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do-Minimum</td>
<td>1,713.80</td>
<td>12.10</td>
<td>173.30</td>
</tr>
<tr>
<td>Option 7</td>
<td>1,769.80</td>
<td>15.00</td>
<td>192.10</td>
</tr>
<tr>
<td>Option 9</td>
<td>1,763.60</td>
<td>12.00</td>
<td>175.20</td>
</tr>
<tr>
<td>Change from Do-Minimum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Option 7</td>
<td>56.00</td>
<td>2.90</td>
<td>18.80</td>
</tr>
<tr>
<td>Option 9</td>
<td>49.80</td>
<td>-0.10</td>
<td>1.90</td>
</tr>
</tbody>
</table>

Severance

5.4.24 Regarding the impact on the level of severance experienced by pedestrians, equestrians or cyclists, both would improve connectivity and reduce the likelihood of severance, which is more apparent with Option 9 as it would create an improved pedestrian and cycle link which crosses the M54 between the ROF Featherstone site and the residential areas of Wolverhampton. Therefore, Option 7 is classed as slight beneficial with Option 9 being classed as moderate beneficial.

Impact on Society Summary

5.4.25 The user benefits results show that both options only produce marginal benefits over the 60-year appraisal period for non-business users.

5.4.26 Both options have the capacity to enhance physical activity and reduce severance, with Option p performing slightly better in this regard.

5.4.27 In terms of accidents, both route options are likely to have a negative impact, this is due to the introduction of additional links and junctions onto the network along with local traffic reassignment caused by the increased capacity. This impact is expected to worse with Option 7 due to the introduction of the new signal-controlled junction on the A449 (T).

5.5. Public Accounts

Cost to Broad Transport Budget

5.5.1 The cost to the broad transport budget is estimated by inputting estimated scheme costs into TUBA software and estimates of the impact on public accounts is taken from the TUBA Public Accounts table (present value in 2010 prices). A robust approach to the estimation of scheme costs has been developed by the scheme designers. The approach is outlined in detail in Chapter 6 (Financial Case).

5.5.2 Table 5.9 presents the Public Accounts. The scheme investment costs are expected to be funded by Staffordshire County Council, City of Wolverhampton Council and a private sector developer, so it has been assumed that all costs are attributable to the local authority with no central government costs.
Table 5.9: Public Accounts

<table>
<thead>
<tr>
<th>Criteria</th>
<th>All Modes / Road Infrastructure (£m/2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Option 7</td>
</tr>
<tr>
<td>Revenue</td>
<td>0</td>
</tr>
<tr>
<td>Operating Costs</td>
<td>0</td>
</tr>
<tr>
<td>Investment Costs</td>
<td>25.222</td>
</tr>
<tr>
<td>Developer and Other Contributions</td>
<td>-7.590</td>
</tr>
<tr>
<td>Grant/ Subsidy Payments</td>
<td>0</td>
</tr>
<tr>
<td>Net Impact</td>
<td>17.632</td>
</tr>
</tbody>
</table>

5.5.3 The scheme investment costs for Option 7 amount to £25.222m with the developer contribution of £7.590m, the overall net impact of the scheme amount to £17.632m.

5.5.4 The scheme investment costs for Option 9 amount to £15.892m with the developer contribution of £4.775m, the overall net impact of the scheme amount to £11.117m.

**Indirect tax revenues**

5.5.5 Indirect taxation arises from taxation income changes resulting from altered spending patterns for vehicle-related expenses (fuel, tyres etc.) due to the scheme.

5.5.6 The schemes both reduce overall vehicle-kilometres, which in turn increases spending on fuel and other items of travel. This in turn reduces indirect taxation received by Government.

5.5.7 The Indirect tax revenues generated are £0.496m and £0.421m for Option 7 and Option 9 respectively.

5.6. Indicative Benefit to Cost Ratio

5.6.1 Table 5.10 presents the Analysis of Monetised Costs and Benefits and overall indicative BCR for each scheme option.

5.6.2 Option 7 produce an overall negative PVB of -£5.540, combined with the PVC of £17.632m resulting in a NPV of -£23.172m and a benefit-cost ratio of -0.314.

5.6.3 Option 9 produce an overall PVB of £3.253, combined with the PVC of £11.117m resulting in a NPV of -£7.864m and a benefit-cost ratio of 0.293.

5.6.4 Both Option 7 and Option 9 represent poor value for money, based on DfT guidance (i.e. a BCR is less than 1.0).

Table 5.10: Analysis of Monetised Costs and Benefits

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Cost (£m/2010) and Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Option 7</td>
</tr>
<tr>
<td>Business and Commuting Users</td>
<td>0.909</td>
</tr>
<tr>
<td>Non-Business Users</td>
<td>-0.451</td>
</tr>
<tr>
<td>Greenhouse Gases</td>
<td>0.219</td>
</tr>
<tr>
<td>Accidents</td>
<td>-5.721</td>
</tr>
<tr>
<td>Indirect Tax Revenues</td>
<td>-0.496</td>
</tr>
<tr>
<td>Present Value of Benefits (PVB)</td>
<td>-5.540</td>
</tr>
</tbody>
</table>
5.7. Value for Money Summary

5.7.1 Table 5.11 summarises the value for money scores for Options 7 and 9.

<table>
<thead>
<tr>
<th>Assessment Topic</th>
<th>Option 7</th>
<th>Option 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Business Impact</td>
<td>£0.909m</td>
<td>£3.878m</td>
</tr>
<tr>
<td>Noise</td>
<td>Neutral</td>
<td>Neutral</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Neutral</td>
<td>Neutral</td>
</tr>
<tr>
<td>Greenhouse Gases</td>
<td>£0.219m</td>
<td>£0.178m</td>
</tr>
<tr>
<td>Landscape</td>
<td>Slight adverse</td>
<td>Moderate adverse</td>
</tr>
<tr>
<td>Historic Environment</td>
<td>Slight adverse</td>
<td>High adverse</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>Slight adverse</td>
<td>High adverse</td>
</tr>
<tr>
<td>Water Environment</td>
<td>Neutral</td>
<td>Neutral</td>
</tr>
<tr>
<td>Non-Business Users</td>
<td>-£0.451m</td>
<td>£1.190m</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>Slight Beneficial</td>
<td>Moderate Beneficial</td>
</tr>
<tr>
<td>Accidents</td>
<td>-£5.721m</td>
<td>-£1.572m</td>
</tr>
<tr>
<td>Severance</td>
<td>Slight Beneficial</td>
<td>Moderate Beneficial</td>
</tr>
</tbody>
</table>
6. Option Assessment: Financial Case

6.1. Introduction

6.1.1 This chapter presents the financial case for the scheme. It concentrates on the affordability of the proposal and its funding arrangements. The indicators here are in relation to the schemes’ capital and maintenance outturn costs as opposed to net present value costs.

6.2. Outturn Cost to Implement

6.2.1 Costs for delivering both schemes have been calculated using Q2 2019 prices and including 44% optimism bias and risk. A breakdown of the costs for each option is provided below in Table 6.1.

<table>
<thead>
<tr>
<th>Cost Type</th>
<th>Option 7</th>
<th>Option 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Costs</td>
<td>£15,005,641</td>
<td>£10,191,017</td>
</tr>
<tr>
<td>Land and Property Costs</td>
<td>£5,559,241</td>
<td>£3,650,145</td>
</tr>
<tr>
<td>Preparation Costs</td>
<td>£1,573,081</td>
<td>£648,578</td>
</tr>
<tr>
<td>Supervision Costs</td>
<td>£1,069,986</td>
<td>£466,324</td>
</tr>
<tr>
<td>Developer Contribution</td>
<td>£9,946,264</td>
<td>£6,410,599</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>£33,154,213</strong></td>
<td><strong>£21,368,664</strong></td>
</tr>
</tbody>
</table>

6.2.2 The figures in the table clearly show that Option 7 is the more expensive of the two options under consideration, with a total cost of £33m compared to the £21m for Option 9.

6.3. Operating and Maintenance Costs

6.3.1 At this stage, it is anticipated that future operating and maintenance works associated with the scheme (for either option) will be added to the maintenance inventory and funded from SCC’s maintenance budgets, although it is noted that an allowance has been made for a commuted maintenance lump sum on Option 7 (HE). It is anticipated that the provision of new or upgraded assets (such as drainage system, street lighting, signing and pavement/footways) will reduce future maintenance liabilities on SCC.

6.4. Funding Allocation

6.4.1 While both options include an element of developer contributions, there remains a significant element of the scheme costs to be covered. This could potentially come from central Government funding or directly from the County Council and other public sector partners (the scheme is currently identified for up to £1.5m funding from the Stoke-on-Trent and Staffordshire LEP), but at this stage, the sources of the remaining funding remain unconfirmed.
7. Option Assessment: Delivery Case

7.1. Introduction

7.1.1 This chapter sets out how the scheme is likely to be delivered. It demonstrates that that an appropriate governance structure is in place to oversee delivery, that the delivery agents have appropriate and that suitable stakeholder management is in process.

7.2. Likely Delivery Agents

7.2.1 At this stage in the project, it is considered too early to confirm delivery agents for the scheme, but it is anticipated that the project would be delivered by applying similar processes to other major schemes that have been delivered previously, as summarised below. The governance structure as outlined below will be the same for both Option 7 and Option 9.

7.3. Project Delivery Team

7.3.1 The Project Delivery Team will be the officer group responsible to the Project Board and the Project Manager will chair the team. Amey have early contractor involvement (ECI) facilitated though the Infrastructure+ contract and they are also expected to be awarded the construction contract under the 'New Engineering Contract Third Edition' (NEC3) suite. It is expected that the same Project Manager, employed by the County Council, will be in place at both the ECI and construction stages to ensure a smooth transition between delivery stages. There are several skilled and professionally qualified specialists on the team who are experienced in the delivery of major projects such as this. The team would be anticipated to include at least the following:

- County Council 'Project Manager';
- Amey highway engineers;
- Amey and County Council engineers specialising in structures, lighting, traffic signals and network management;
- County Council environmental specialists covering flood risk, landscape, biodiversity, the historic environment and rights of way;
- South Staffordshire Council officers advising on Local Plan and Development Control issues;
- County Council Legal Services responsible for land acquisition and the District Valuer advising on land negotiations; and
- County Council principal accountant.

7.3.2 The Project Delivery Team will meet each month to consider all aspects of the project and members will be invited as required. It will be responsible for:

- Reporting progress to the Project Board;
- Resolving all detailed day-to-day project issues;
- Ensuring key milestones and timescales are met in accordance with the Project Plan; and
- Ensuring quality control procedures are adopted.

7.4. Stakeholder Acceptability and Public Acceptability/ Interest

7.4.1 Three consultation events were held in January 2017, one with key stakeholders, and two with members of the public. The key stakeholder event, using an exhibition format, was held at Greenfield Golf Club, Cat and Kittens Lane, Wolverhampton on Friday 13th January 2017 09:30am to 12:00pm. The event was attended by officers from SCC's Regeneration Team and Amey's Major Projects Design Team who were available to
answer questions. Information on the proposed routeing options for the Access Improvement Scheme was presented using display boards, booklets, a frequently asked questions document, a feedback form and relevant officers contact information. The event was attended by over 40 key stakeholders.

7.4.2 Invitations to the event were sent out via letter or email which detailed the event information, links to plans and online information and a request for attendance conformation. Invitations were sent to the following:

- Staffordshire County Council: Cabinet Member Economic Growth, Cabinet Member Highways and Transport, Ward County Councillors, Economic Partnerships Manager, LEP Communications Officer;
- South Staffordshire Council: Cabinet Member Strategic Services, Ward Councillors, Director of Planning and Strategic Services, Team Leaders Local Plans;
- Members of Parliament: Wolverhampton North and South Staffordshire;
- Wolverhampton City Council: Ward Councillors, Service Lead Transport Strategy;
- Featherstone and Brinsford Parish Council: Chairperson, Vice Chairperson, Clerk, Ward Councillors;
- Brewood and Coven Parish Council: Chairperson, Clerk, Ward Councillors;
- Hilton Park Parish Council: Clerk;
- Essington Parish Council: Chairperson, Clerk;
- Highways England: Staffordshire Asset Manager and Assistant Asset Manager;
- Staffordshire Emergency Services: Fire, Police, Ambulance;
- Environment Agency;
- Natural England;
- Historic England;
- National Trust;
- Brewood Dole Charity;
- National Grid;
- Western Power Distribution;
- Bus Operators: National Express, Arriva, Select Travel;
- Sustrans Cycle Group;
- Freight Transport Association;
- Road Haulage Association;
- Network Rail;
- HM Prisons: Featherstone, Oakwood and Brinsford YOI;
- Taylor Wimpey;
- Express and Star Newspaper; and
- Local Businesses.

7.4.3 A number of written representation were received from stakeholders; these have been summarised below:
- Director of Planning and Strategic Services, SCC:
  - The ROF Featherstone site is a Strategic Employment Site in SSC’s Adopted Core Strategy;
  - Accessibility to the site is a key constraint preventing development of the site;
  - SSC strongly support this work to identify a suitable access solution; and
  - This work is essential in attracting investment and new jobs to the area.

- Emma Reynolds, MP Wolverhampton North East:
  - Opposes Option 9 as this: crosses green belt land, is an area is of significant historical interest, would damage the environment and local wildlife habitats and would impact Bushbury and Moseley areas; and
  - Option 7 that links to the A449(T) Stafford Road, makes more sense.

- Cabinet Member for City Environment, City of Wolverhampton Council
  - Supports the development of the ROF Featherstone site;
  - Existing highway network does not have capacity to accommodate development;
  - Significant highways mitigation required;
  - Access to site is seriously constrained;
  - Infrastructure for walking, cycling and public transport should be provided;
  - Option 7 is preferred as this provides the most direct access to/ from strategic highway network; and
  - Mitigation should be identified and implemented.

- National Trust:
  - The Trust did not wish to respond to any questions other than question 3, with comments relating to Option 9 only;
  - Option 9 requires greater take of green belt land;
  - New link road would lead to future pressure for development;
  - Importance of heritage settings not just buildings should be considered;
  - Proximity of Grade II listed Moseley Hall Cottage;
  - Buildings are of national importance, conservation is requirement of NPPF (including settings);
  - Option 9 slices through area of remnant rural landscape;
  - Removal of narrow lane access will devalue the significance of the setting and degrade visitor experience; and
  - If access is improved, increase in visitor numbers would cause visitor management issues.

- Peverill Securities and St Francis Group (Land Agent/Developer):
  - Support Option 9 new link road in both technical and marketing terms;
  - Option 9 is most convenient and direct route;
- Land ownership controlled by same parties;
- Connection to strategic network can be provided; and
- The certainty of known elements of the likely costings of the road not involving third party ownership.

7.4.4 The format for the public events mirrored the key stakeholder event with SCC’s Regeneration Team and Amey’s Major Projects Design Team in attendance. The same methods of information dissemination and capture were also used. In addition, hard copy feedback forms were also made available for consultees.

7.4.5 Invitation and communication for the public events included:

- 350 individual postcard invitations distributed to local residents directly affected by the proposals;
- Press release to the Express and Star, Wolverhampton Chronicle, Cannock Chronicle and other regional and business media; this was also shared by Wolverhampton and South Staffordshire Councils;
- SCC website: http://www.staffshirenewsroom.co.uk/views-sought-access-options-job-boosting-business-development/;
- Project website: http://www.staffshire.gov.uk/rofffeatherstone; and
- SCC and partner Councils social media channels.

7.4.6 The ROF Featherstone consultation commenced on 16th January 2017 and closed on 12th February 2017. The results of this consultation revealed that Option 7 was the most publicly acceptable route choice with 59% of respondents considering this the most effective option with the least negative impacts. It was considered to be the shortest route with the quickest links to the strategic road network and i54 strategic employment site.

7.4.7 This was followed by Options 6 and 9 where 11% of respondents considered these routes to be the most effective. However, there was also considerable concern expressed that Option 9 would damage the historical areas and have a negative impact on the scenic quality of the surrounding countryside.

7.5. Delivery Case Assessment

7.5.1 In summary, Staffordshire County Council is confident that both Option 7 and Option 9 schemes are deliverable and their feasibility and practicality can be demonstrated with a Project Plan and governance structure that allocates clear roles and responsibility for the delivery and management of the schemes. The ability of the County Council to deliver major schemes can be evidenced by the fact that over recent years several major highway schemes have been delivered successfully, as outlined below, which have been instrumental in relieving existing congestion and enabling housing and employment growth. These schemes have also been delivered on time and on budget.

- i54 Major Investment Site advanced earthworks;
- Redhill Employment site;
- Meaford Business Park;
- Branston Locks;
- Bericote Four Ashes;
- Rugeley Bypass;
- Burntwood Bypass; and
- Biddulph Bypass.
8. Option Assessment: Commercial Case

8.1. Introduction

8.1.1 This chapter sets out the commercial case including the likely routes to market, preferred delivery option and possible contract arrangements for the scheme.

8.2. Route to Market

8.2.1 Staffordshire County Council presently has two procurement options established for the delivery of major projects, as outlined below. At the time of writing, the preferred delivery option is to use our Infrastructure+ public/private partnership with Amey, however, because the partnership is still developing, the County Council retains the option to deliver the scheme through the Midlands Highway Alliance (MHA) framework.

8.2.2 The County Council is confident that both options represent a modern approach to procurement that will provide value for money and both could be applied to both Option 7 and Option 9.

8.3. Preferred Delivery Option

8.3.1 Building on a previous successful ten-year record of delivery with a private sector partner, Staffordshire County Council chose Amey in March 2014 as its new strategic partner of choice for Infrastructure+, following a rigorous and highly competitive twelve-month procurement process. This innovative partnership has been specifically designed to build capacity, add value and ensure major projects can be delivered in the most efficient manner. The contractor would be involved at the earliest possible opportunity through co-location, with designers and specialists working alongside the on-site delivery teams.

8.3.2 The partnership will provide an end-to-end approach from scheme inception to construction and the ROF Featherstone highway scheme has already benefited from this collaborative working with Amey providing construction advice and contributing to the construction aspects of the cost estimate. This integrated approach ensures cost and time predictability generating associated savings in each of these areas.

8.3.3 The partnership is closely monitored using performance measures based on Staffordshire’s key outcomes that include, innovation, partnering and value for money. The partnership would demonstrate value for money by monitoring and reporting efficiencies, and using actual costs from previous schemes to develop target costs to ensure continuous improvement.

8.4. Reserve Option

8.4.1 Staffordshire County Council was influential in the formation and development of the Midlands Highway Alliance and in recent years has been the major user of the Medium Schemes Framework 1 (MSF1) to deliver its Major Infrastructure Projects. The MHA is a collaborative framework between twenty-one Local Authorities and five Contractors with common goals; to work collaboratively, derive efficiency savings and minimise procurement costs. Following the success of this framework, the Midlands Highway Alliance launched its successor in June 2014; Medium Schemes Framework 2 (MSF2). The key development in respect of the ROF Featherstone highway scheme is that the upper limit of construction value has been increased from £12m to £25m. This enables the scheme to be delivered through this framework as construction costs (excluding utility diversions) are forecast to be under £25m.

8.4.2 Staffordshire County Council has successfully delivered fourteen schemes through MSF1 following its launch in 2010; these include i54 South Staffordshire (£24m), Redhill Employment Park (£7m), A5 Vicarage Road (£2m), A518 Beacon Business Park (£1.8m) and Rocester and Denstone Junction Improvements (£3.3m).

8.4.3 The MHA framework offers three procurement options;

1. Direct call off (short process);
2. Direct call off (long process); and
3. Mini competition.
8.5. **Contract Arrangements**

8.5.1 Whichever procurement route is adopted, it is anticipated that the construction contract would be awarded under the 'New Engineering Contract Third Edition' (NEC3) suite, utilising the 'Engineering and Construction Contract (ECC), Option C – Target Cost with Priced Activity Schedule'.

8.5.2 Risks would be reviewed at contract award stage through a risk workshop and a shared risk register produced to allocate ownership and determine the value of the residual risks to be included within the target cost.

8.5.3 Staffordshire County Council would appoint a Project Manager to oversee the planning and design aspects of the scheme; this includes early contractor involvement and development of the target cost. The Project Manager would then assume the role, and associated responsibilities of, ‘Project Manager’ under the NEC form of contract described above and will retain responsibility for the scheme through to the end of the maintenance period.

8.5.4 The construction contract would be managed in accordance with Staffordshire County Council’s Contract Management Manual. The contract data would define the works information for the contract that would include scheme drawings and the specification, this is a scheme specific specification based on Staffordshire County Council’s base specification for highways works. Changes to the works information would be authorised by the Project Manager and named ‘Supervisor’ in accordance with the Contract Management Manual; changes instructed with a value greater than £100k would be referred to the Project Board.

8.6. **Commercial Case Assessment**

8.6.1 It is considered that the project is still too early in its development to provide a detailed assessment, however it is noted that whichever route is adopted, this would apply to both Option 7 and Option 9, therefore scoring in this section would be equal.
9. Summary and Conclusion

9.1. Background

9.1.1 Amey Consulting has been commissioned by Staffordshire County Council (SCC) to prepare an Options Assessment Framework (OAF) Report. The report will be used to inform SCC regards the preferred and reserved Access Improvement Scheme options associated with the redevelopment of the former Royal Ordnance Factory site in Featherstone, Staffordshire (herein referred to as ROF Featherstone).

9.1.2 Eight scheme options as identified in the Technical Note: Addendum – ROF Featherstone – Sustainability Appraisal of Access Options (Amec Foster Wheeler, August 2016), which build on the options identified in the ROF Featherstone Viability and Delivery Options Study Stage 1 (SCC, December 2013), were assessed in the Options Assessment Report (OAR). The purpose of the assessment was to short list the eight scheme options and take any viable options forward to the next stage of appraisal (which has been undertaken as part of this OAF Report) in order to determine the preferred and reserved Access Improvement Scheme options.

9.2. Need for the Scheme

9.2.1 The review of access constraints to the ROF Featherstone site showed that there are a number of constraints affecting potential site access locations and access routes to the strategic road network which in turn are impacting upon the accessibility and associated marketability of the site.

9.2.2 It is evident that for the successful redevelopment of the ROF Featherstone site, highway network infrastructure improvements will be required to manage the traffic demand associated with the site as well as to improve existing accessibility to the site which is poor.

9.3. Assessment Methodology

9.3.1 The methodology used to undertake a more detailed assessment of the remaining two options follows on from that used for the initial assessment and consists of the Transport Business Case Five Case Model criteria using the Option Assessment Framework contained within the DfT’s Transport Analysis Guidance (WebTAG): The Transport Appraisal Process (May 2018).

9.4. Strategic Fit

Strategic Fit - National, Regional and Local Policy Alignment

9.4.1 The assessment against the national, regional and local policy objectives was carried out for the two scheme options. This is shown in Table 9.1.

9.4.2 The analysis reveals that the two scheme options are closely aligned and compliant with the aspirations of relevant national, regional and local policies, specifically helping to contribute to their objectives.
Table 9.1 Policy Assessment of the Scheme against Objectives

<table>
<thead>
<tr>
<th>Policy Objective</th>
<th>Scheme Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Planning Policy Framework (Department for Communities and Local Government, March 2012)</td>
<td>5</td>
</tr>
<tr>
<td>Circular 02/2013: The Strategic Road Network and Delivery of Sustainable Development</td>
<td>5</td>
</tr>
<tr>
<td>National Infrastructure Delivery Plan 2016–2021 (HM Treasury and Infrastructure and Projects Authority, March 2016)</td>
<td>5</td>
</tr>
<tr>
<td>Leading for a Connected Staffordshire: Our vision for 2014–2018 (Staffordshire County Council Strategic (April 2014)</td>
<td>4</td>
</tr>
<tr>
<td>Stoke-on-Trent &amp; Staffordshire Enterprise Partnership Strategic Economic Plan (March 2014)</td>
<td>5</td>
</tr>
<tr>
<td>Staffordshire Local Transport Plan 2011 Strategy Plan (Staffordshire County Council, 2011)</td>
<td>5</td>
</tr>
<tr>
<td>South Staffordshire Integrated Transport Strategy 2013 – 2028 (Staffordshire County Council, November 2013)</td>
<td>5</td>
</tr>
<tr>
<td>A Local Plan for South Staffordshire: Core Strategy Development Plan Document (adopted December 2012)</td>
<td>5</td>
</tr>
<tr>
<td>South Staffordshire Sustainable Community Strategy 2008-2020</td>
<td>4</td>
</tr>
<tr>
<td>Stafford Road Corridor Area Action Plan 2013 – 2026 (Wolverhampton City Council, adopted September 2014)</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>53</strong></td>
</tr>
</tbody>
</table>

Scoring system impact level:
1 = large adverse - option has a substantial negative impact on meeting relevant objectives;
2 = adverse - option has some negative impact on meeting relevant objectives;
3 = neutral/ marginal - option makes little or no contribution towards meeting relevant objectives;
4 = beneficial - Option makes some positive contribution towards meeting relevant objectives; and
5 = large beneficial - Option makes a substantial positive contribution towards meeting relevant objectives.

Strategic Fit – Scheme Objectives Fit

9.4.3 The assessment against the identified intervention specific objectives was carried out as part of the sifting process but updated slightly based on additional information.

9.4.4 Details of the assessment of each option are summarised in Table 9.2 (where higher scores represent more preferred options). The summary table is intended to provide a visual guide of the performance of each option.

9.4.5 Overall, Option 7 fits slightly better than Option 9 against the scheme objectives with the only differences in scoring related to:

- 'Minimise adverse impact on the surrounding environment so that the scheme is acceptable in planning terms' - This is largely associated with the routeing of Option 9 through Green Belt land to the south of the ROF Featherstone site and potential for impact on Moseley Old Hall; and

- 'Provide efficient and effective access to the local and trunk road network and regulate HGV movements' – This is due to the poor distribution of benefits associated with movements to/from the ROF site itself, indicating that the scheme doesn't provide effective access to the road network.
Table 9.2: Assessment of Options against Scheme Objectives

<table>
<thead>
<tr>
<th>Scheme Objective</th>
<th>Scheme Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide high quality highway infrastructure for access to the ROF Featherstone site</td>
<td>5  5</td>
</tr>
<tr>
<td>Provide a sustainable transport system in line with South Staffordshire Council’s Local Plan</td>
<td>3  3</td>
</tr>
<tr>
<td>Attract investment and create jobs at the ROF Featherstone site</td>
<td>5  5</td>
</tr>
<tr>
<td>Provide efficient and effective access to the local and trunk road network and regulate HGV movements</td>
<td>5  3</td>
</tr>
<tr>
<td>Minimise adverse impact on the surrounding environment so that the scheme is acceptable in planning terms</td>
<td>5  2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>23  18</strong></td>
</tr>
</tbody>
</table>

Scoring system impact level:
1 = large adverse - option has a substantial negative impact on meeting relevant objective;
2 = adverse - option has some negative impact on meeting objective;
3 = neutral/ marginal - option makes little or no contribution towards meeting objective;
4 = beneficial - Option makes some positive contribution towards meeting objective; and
5 = large beneficial - Option makes a substantial positive contribution towards meeting objective.

9.5. Value for Money

9.5.1 The value for money case considers the likely benefits and dis-benefits of each option in terms of the following:

- Impact on the economy;
- Impact on the environmental;
- Impact on society;
- Impact on public accounts; and
- Indicative Benefit Cost Ratio.

9.5.2 Each of these items is summarised below for the two options.

**Value for Money - Impact on the Economy**

9.5.3 The monetised journey time benefits for business and commuting users from TUBA are given in Table 9.3 below.

Table 9.3: Transport Economic Efficiency – Net Business Impact

<table>
<thead>
<tr>
<th>Metric</th>
<th>Option 7</th>
<th>Option 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Business Impact</td>
<td>0.909</td>
<td>3.878</td>
</tr>
</tbody>
</table>

As can be seen, both schemes only produce marginal business/commuting benefits over the 60-year appraisal period.

**Value for Money - Impact on the Environment**

9.5.4 A summary of the anticipated effects of the two options against the environmental topics considered is presented in Table 9.4.
Table 9.4: Summary of Value for Money Scores

<table>
<thead>
<tr>
<th>Assessment Topic</th>
<th>Option 7</th>
<th>Option 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Air Quality</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Greenhouse Gases</td>
<td>£0.219m</td>
<td>£0.178m</td>
</tr>
<tr>
<td>Landscape</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Historic Environment</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Water Environment</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Scoring system impact level:
1 = large adverse; 2 = moderate adverse; 3 = slight adverse; 4 = neutral/marginal; 5 = slight beneficial; 6 = slight beneficial; and 7 = large beneficial.

9.5.5 In summary, both of the options result in largely similar level of effects, but with Option 9 appearing slightly less desirable from a broad environmental perspective across all topics considered.

Value for Money - Impact on Society

9.5.6 The impact on society refers to how the scheme impacts on non-business users in terms of journey time, cost and on other aspects of the travel experience including the impact on non-motorised users, safety, security and severance. Some of these impacts have been monetised while others have been assessed on a qualitative scale. The effects are outlined in Table 9.5.

Table 9.5: Summary of Value for Money Scores

<table>
<thead>
<tr>
<th>Assessment Topic</th>
<th>Option 7</th>
<th>Option 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Business Users</td>
<td>-£0.451m</td>
<td>£1.190m</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Accidents</td>
<td>-£5.721m</td>
<td>-£1.572m</td>
</tr>
<tr>
<td>Severance</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Scoring system impact level:
1 = large adverse; 2 = moderate adverse; 3 = slight adverse; 4 = neutral/marginal; 5 = slight beneficial; 6 = slight beneficial; and 7 = large beneficial.

9.5.1 In summary, both of the options result in largely similar level of effects, but with Option 7 appearing slightly less desirable from a broad society perspective across all topics considered.

Value for Money – Indicative Benefit Cost Ratio

9.5.2 An initial economic analysis of the two options was undertaken based on the traffic and economic data to provide an indicative benefit cost ratio. These results are outlined in Table 9.6.

Table 9.6: Indicative Benefit to Cost Ratio

<table>
<thead>
<tr>
<th>Criteria</th>
<th>(£m/2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present Value of Benefits (PVB)</td>
<td>-5.540</td>
</tr>
<tr>
<td>Present Value of Costs (PVC)</td>
<td>17.632</td>
</tr>
<tr>
<td>Net Present Value (NPV)</td>
<td>-23.172</td>
</tr>
<tr>
<td>Benefit to Cost Ratio (BCR)</td>
<td>-0.314</td>
</tr>
</tbody>
</table>

9.5.1 Both Option 7 and Option 9 represent poor value for money, based on DfT guidance (i.e. a BCR is less than 1.0).
9.6. Financial Case

9.6.1 Costs for delivering both schemes have been calculated using Q2 2019 prices and including 44% optimism bias and risk. Option 7 is the more expensive of the two options under consideration, with a total cost of £33m compared to the £21m for Option 9.

9.6.2 There remains a significant element of the scheme costs to be covered. This could potentially come from central Government funding or directly from the County Council, but at this stage, the scheme itself is not currently on any programme with funding allocated and therefore remains an unknown.

9.7. Delivery Case

9.7.1 In summary, Staffordshire County Council is confident that both Option 7 and Option 9 schemes are deliverable and their feasibility and practicality can be demonstrated with a Project Plan and governance structure that allocates clear roles and responsibility for the delivery and management of the schemes. The ability of the County Council to deliver major schemes can be evidenced by the fact that over recent years several major highway schemes have been delivered successfully, as outlined below, which have been instrumental in relieving existing congestion and enabling housing and employment growth.

9.8. Commercial Case

9.8.1 It is considered that the project is still too early in its development to provide a detailed assessment, however it is expected that both options could be procured successfully.

9.9. Conclusion

9.9.1 In conclusion, both options result in broadly similar level of effects. At this stage, neither of the options emerge as strongly preferred or strongly less desirable across all topics considered, namely:

- Both scheme options are closely aligned and compliant with the aspirations of relevant national, regional and local policies, specifically helping to contribute to their objectives;
- Option 7 fits slightly better than Option 9 against the scheme objectives;
- Both schemes only produce marginal business/commuting benefits over the 60-year appraisal period;
- Option 9 appears slightly less desirable from a broad environmental perspective;
- Option 7 appears slightly less desirable from a broad society perspective;
- Both Option 7 and Option 9 represent poor value for money;
- The financial case identifies option 9 as the lowest cost option; and
- Both Option 7 and Option 9 schemes are deemed deliverable.

9.10. Next Steps

9.10.1 The indicative Benefit to Cost Ratios (BCR) for both Scheme options represent poor value for money. The results indicate that over the lifetime of the scheme the transport benefits are forecast to be less than the total investment required to deliver either scheme option. At this stage in scheme development the costs and benefits are indicative and are therefore subject to change should more detailed information become available or the parameters of the exercise change radically. In purely transport terms the BCR for each scheme option suggests that it would not be appropriate to invest public money in the provision of either scheme. However, if further investigation suggested that significant job creation, high GVA and/or land value uplift could be demonstrated, then a case for investing public monies might still be justified and it is recommended that this work be undertaken next.