Appendix A

Communities Directorate

Coventry and Warwickshire Local Enterprise Partnership
Warwickshire County Council
Strategic Economic Plan

Major Transport Scheme Business Case

Scheme : A444 Coton Arches Junction Improvement

November 2014

Warwickshire County Council

Communities Directorate

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SEP Package:	A444 Corridor Improvement Package
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1 Business Case Development

1.1 Business Case Structure

1.1.1 The structure of this business case is based upon the DfT Pinch Point Programme fund application(based on The Green Book appraisal and valuation approach to business cases). The document provides a description of the project and details the strategic, financial, economic, commercial and management cases, benefits realisation and monitoring proposals.

2 Project Description

2.1 Headline Description

2.1.1 The proposed scheme is a key element in the A444 Corridor Improvements Package (A444 CIP included in the Strategic Economic Plan)features as a priority in the A444 North-South Corridor package of schemes in the SEP. The A444 North-South Corridor has been identified as one of the seven transport LEP priorities.

2.1.2 The scheme proposal involves the following highway improvements:

- Signalisation of Coton Arches Roundabout and provision of a “hamburger” link through the roundabout facilitating the A444 southbound movement.
- Widening of the approaches to the roundabout to provide additional lane capacity.
- Application of SCOOT signal control to provide maximum capacity and minimum delay.
- Provision of pedestrian crossing facilities and potentially cycle facilities (subject to further design assessment).

2.1.3 These improvements are required in order to address a serious congestion issue on the Warwickshire County Council (WCC) highway network which results in significant and regular queuing on the main route from Nuneaton to the M6 and Coventry.

2.1.4 Nuneaton and Bedworth Borough Council (NBBC) Local Plan proposals allocate over 3000 houses to the north of Nuneaton whilst the majority of employment is expected to be located south of Nuneaton, there is also a very significant existing draw for commuters towards employment in Coventry. This forecast growth compounds the problems on an already heavily congested section of the corridor. The scheme identified forms a significant proportion of the Local Plan development transport mitigation schemes, these were identified in work undertaken by Warwickshire County Council (WCC) in the NBBC Local Plan Strategic Transport Assessment (211439-19.R015 NBBC STA Detailed Modelling – available upon request).

2.1.5 The scheme is located on the A444 to the immediate south of Nuneaton town centre. The A444 serves as Nuneaton’s primary southern access to the Strategic Road Network (SRN) in terms of the M6, A46 and Coventry city centre. The road also serves as the main link between Nuneaton, George Eliot Hospital and major employment sites in the Bermuda area. The NBBC Local Plan has identified this area to accommodate up to 75Ha of further employment land.

2.1.6 Plans showing the proposed network improvements are included in Appendix A. Schemes will be subject to more detailed modelling and Road Safety Audits. Final schemes may therefore differ in layout as the schemes are optimised and refined.

2.1.7 The scheme forms part a wider scheme for which an outline business case was prepared for the SEP. The wider improvements provide additional network changes identified through the Borough Plan Strategic Transport Assessment and include:

- Conversion of the College St roundabout to signalised cross roads.
- Mini-roundabout and link capacity improvements on College St/Bull Ring junction.
- Removal of mini-roundabout at Greenmoor Rd/College St junction and replace with traffic signals
- Signalise the access to GEH
- Apply SCOOT signal control to provide maximum capacity and minimum delay.

2.1.8 The benefits attributable to the A444 Coton Arches scheme are not dependent on the delivery of these schemes nor have they been assumed in the assessment. Clear benefits are accrued in the reference case conditions for 2017, 2022 and 2028 test year model outputs presented in this report. However, the inclusion of these schemes within the economic assessments and capacity assessments would enhance the case for the delivery of these improvements. Funding sources for further improvements in the area are likely to be developer contribution, County funding and/or through further central government funding opportunities

2.2 Geographical Area

2.2.1 The scheme location is focussed on the A444 in the south of Nuneaton. It serves as Nuneaton's primary southern access onto the Strategic Road Network (SRN) and provides access to the M6, A46 and Coventry. The road also serves as the main link between Nuneaton, GEH and employment in the Bermuda area.

OS Grid Reference: 436200,290850
Postcode: CV11 4NQ

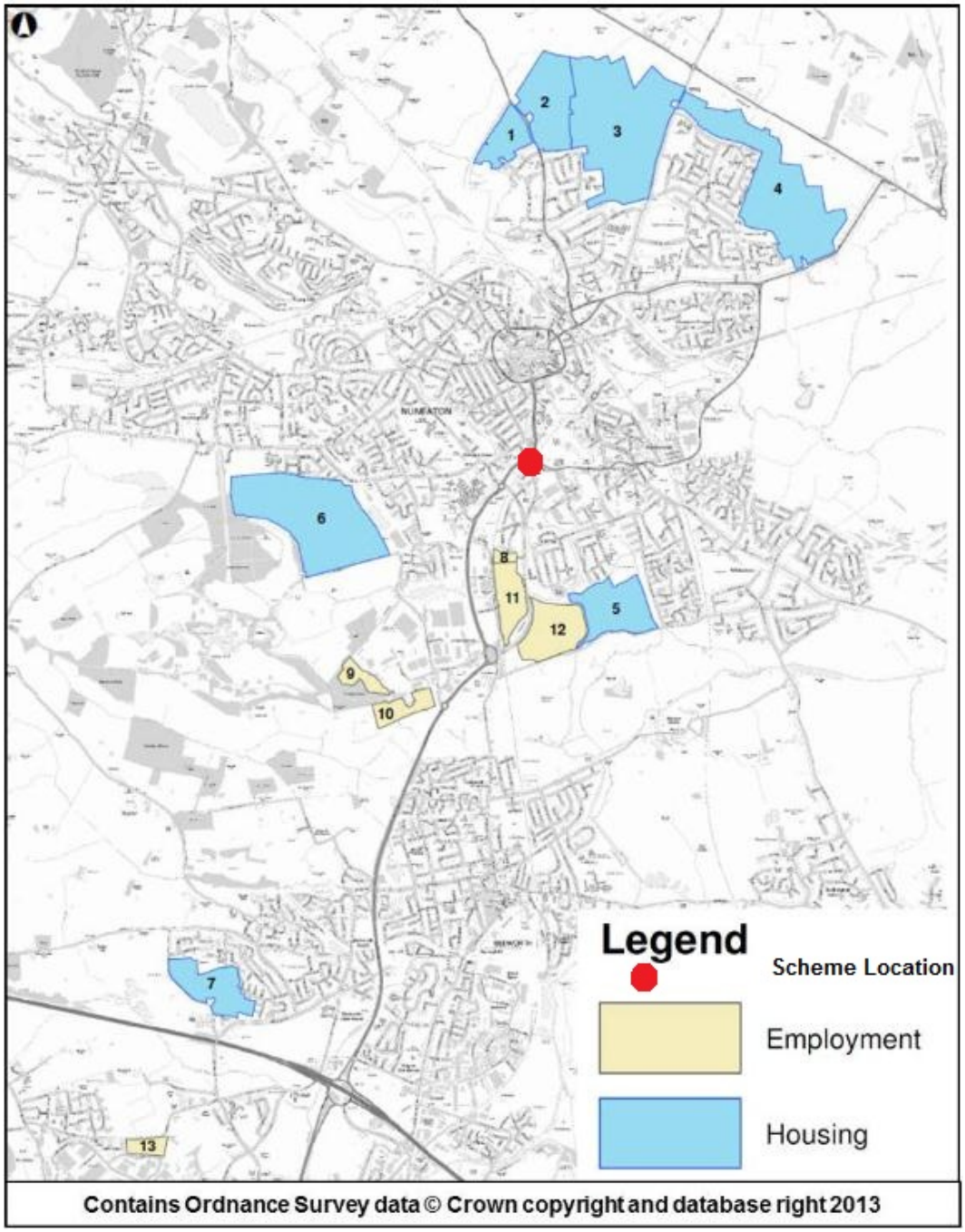

Fig. 1.1 Scheme location, existing employment and potential housing and employment sites

2.2.2 The proposed scheme is marked as schemes 2in the A444 Corridor Improvement Package (A444 CIP) as highlighted in Fig. 1.2.

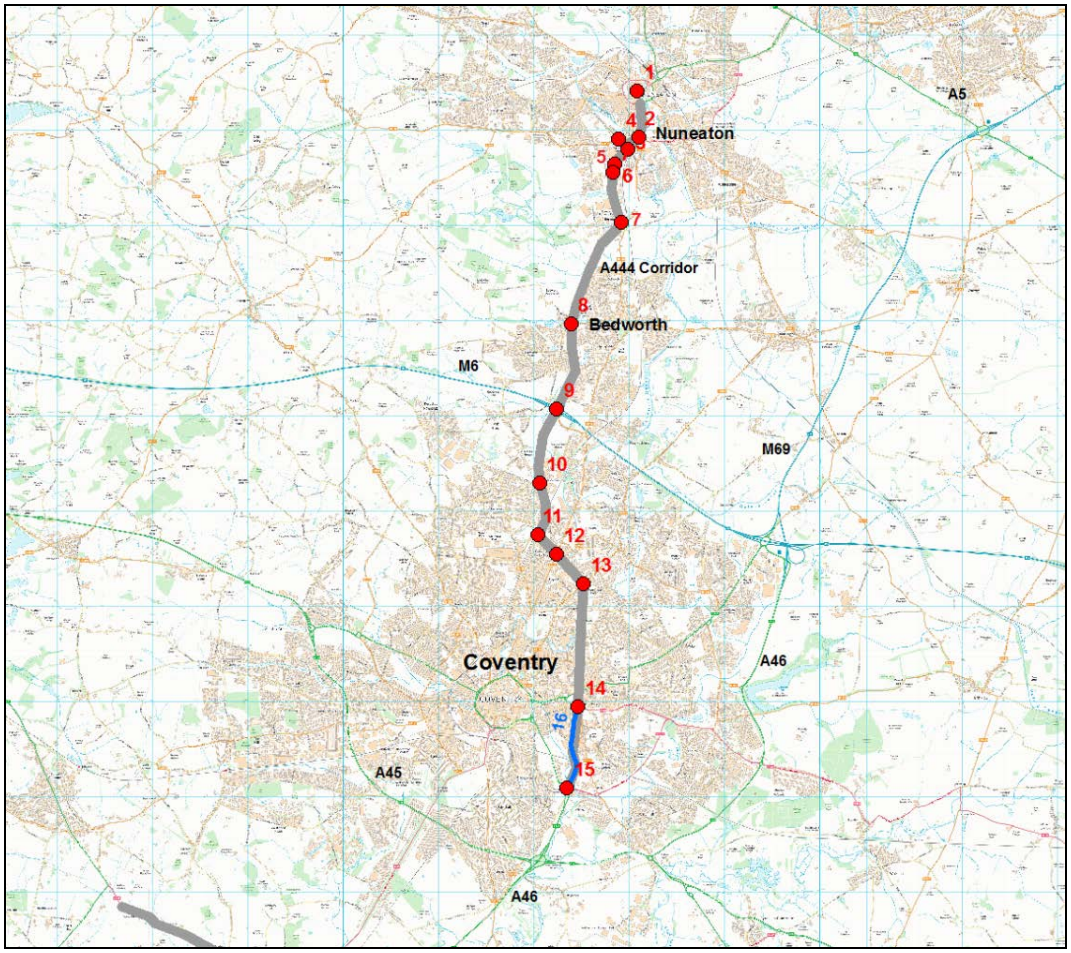

Fig. 1.2 A444 Corridor Improvement Package Schemes

2.3 Type of Bid

Small Project Bid (£1m-£5m)	☒
Large Project Bid (£5m-£20)	☐

2.4 Partnership Bodies

2.4.1 Partnership working with NBBC (in relation to the Local Plan), Network Rail (in relation to works near a railway bridge) and public transport operators will be required. A support letter from the NBBC is also included in Appendix B.

2.4.2 The scheme will be designed by the County Council's in-house 'Design Services' team. The delivery of the scheme will be undertaken by the County Council and its appointed Principal Contractor.

2.5 Scheme Development Status

2.5.1 The scheme is at a preliminary design stage. Modelling assessments have been undertaken in S-Paramics microsimulation software (wider area and local model) and LINSIG traffic signals design software. S-Paramics modelling have been undertaken for the following scenarios:

- 2017 year of opening (under reference case forecast growth conditions).
- 2022 5 years post opening (under reference case forecast growth conditions).
- 2028 reference case conditions.
- 2028 NBBC Local Plan growth conditions

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2.5.2 It is likely that further changes to the scheme will be necessary in response to Road Safety Audit (RSA) requirements. Further optimisation of the schemes and inclusion of sustainable transport facilities is also currently being assessed

2.5.3 Modelling assessments have been undertaken using S-Paramics modelling software and Benefit Cost Ratios (BCR) have been derived through the add-on Paramics Economic Assessment of Road Schemes (PEARS) tool, further details are provided in section 3.

3 The Business Case

3.1 The Scheme – Summary

3.1.1 Please select what the scheme is trying to achieve (this will need to be supported by evidence in the Business Case). Please select all categories that apply.

☒Improve access to a development site that has the potential to create housing

☒Improve access to a development site that has the potential to create jobs

☒Improve access to urban employment centres

☐Maintain accessibility by addressing the condition of structures

☒Ease congestion / bottlenecks

☒Other(s), Please specify – address a serious safety concern

3.2 The Strategic Case

A The Issue to be addressed

3.2.1 The economy of Nuneaton & Bedworth is the poorest performing within the CWLEP area. GVA per head (a common measure of relative economic performance) is 38% lower in Nuneaton & Bedworth than the UK average, and the lowest across all local authority areas in the CWLEP. Business and employment growth have been weak over the past decade, and recent analysis on the resilience of local economies has shown that not only is Nuneaton & Bedworth the most vulnerable within the CWLEP area, its position has deteriorated since the last analysis in 2011. The business as usual economic forecasts for the area suggest this under-performance will continue, with the gap with the best performing areas for the CWLEP continuing to grow.

3.2.2 NBBC are developing an ambitious Local Plan that aims to substantially enhance and grow the local economy. The preferred option for the plan period is to build 7,900 new homes and create 75ha of new employment land. Warwickshire County Council have undertaken an economic impact assessment of these plans, and we estimate that collective the net present impact of plans (taking into account displacement and applying a discount rate) would be an increase in GVA of £894,608,615. This would be a huge increase to the economic activity of Nuneaton & Bedworth, and a major contributor to the growth of the wider CWLEP area into the future. However, to deliver this Local Plan, significant investments are needed in the infrastructure of the area. This project is one of two (Bermuda Connectivity Project and A444 Coton Arches) that is seeking funding from Growth Deal 1 Plus, and is part of a wider package of public and private investment to help deliver this step-change in economic performance of the Nuneaton & Bedworth area.

3.2.3 There is an existing significant congestion issue in the Coton Arches area consistently occuring during the weekday AM and PM peak periods. The issue is becoming and is forecast to be a barrier to future economic growth. The NBBC Local Plan is anticipated to allocate the majority of housing requirments (over 3,000 dwellings) to the north of Nuneaton. This compounds the current congestion issues as the draw of commuter traffic is towards employment in the south of Nuneaton , the M6 and Coventry. Furthermore there are significant Local Plan employment proposals just south (Bermuda Park expansion) of the scheme extent and further large housing sites to the west of the scheme (Gipsy Lane housing development).

3.2.4 The schemes have been identified within the NBBC Strategic Transport Assessment (STA) undertaken by WCC and will be part of the NBBC Infrastructure Delivery Plan. However NBBC have expressed concerns over the viablity of the Local Plan propsals due to the cost of highway mitigation schemes. The scheme cost of approximately £3.05m (a high level estimate of £2.4m was provided within the STA), this represents approximately 7% of the full transport IDP requirements.

3.2.5 Delivery of a scheme in this location will improve transport network links to major existing and planned employment sites at;

- MIRA
- Bermuda Park
- Pro Logis
- Ansty Park
- Birch Coppice

3.2.6 The congestion issues in this area have not been addressed previously due to the costs involved and the reduction in congestion during the economic downturn. There are no outstanding planning obligations with highways mitigation related to this area.

Strategic Economic Plan, Local Transport Plan, other adopted plans

Strategic Economic Plan

3.2.7 The scheme forms one element of a wider scheme business case which formed part of the SEP to support investment in the A444 North-South Corridor. The A444 has been identified as one of the seven SEP transport priority schemes. The scheme has been selected for this round of funding as it has potential to deliver the maximum amount of benefits compared to other elements of the wider scheme.

Local Transport Plan 3(LTP3)

3.2.8 Two LTP3 area strategies can be applied to the delivery of this scheme.

Key Objectives - North-South Corridor

- Support the local and sub-regional economy, including the Coventry to Nuneaton regeneration zone area, the various town and city centres within the corridor, Warwick University and major(re)development sites;
- Support future housing and employment growth within Nuneaton and Bedworth Borough, Warwick District, Rugby Borough, Coventry City and Hinckley and Bosworth Borough; and
- Reduce the environmental impact of traffic within the corridor and improve local air quality.

Key Objectives - Nuneaton and Bedworth Urban Area Strategy

- Support the regeneration of Nuneaton and Bedworth town centres and the stability and growth of the local economy;
- Support future housing and employment growth within the Borough, including development within the Coventry to Nuneaton Regeneration Zone;
- Support access to services and facilities, particularly for those without access to a car; and
- Reduce the environmental impact of traffic within the Borough and improve local air quality

Emerging NBBC Local Plan

3.2.9 The scheme forms part of the wider essential mitigation packages to enable the delivery of the Local Plan and will feature in the Infrastructure Delivery Plan (IDP).

B The Options Considered

3.2.10 Optioneering was undertaken during WCC's modelling assessments for Nuneaton and Bedworth (NBBC) Local Plan. Schemes considered included the signalisation of Coton Arches without the cut through arrangement, capacity improvements were less than with the proposed scheme.

3.2.11 The scheme represents the minimum highway network intervention required to deliver planned growth in the area. Value engineering will be undertaken during the design process. The scheme will be subject to further modelling, optimisation and design refinement. Optioneering was undertaken during WCC's modelling assessments for Nuneaton and Bedworth (NBBC) Local Plan. Schemes considered included the signalisation of Coton Arches without the cut through arrangement, capacity improvements were less than with the proposed scheme.

3.2.12 The scheme represents the minimum highway network intervention required to deliver planned growth in the area. Value engineering will be undertaken during the design process. The scheme will be subject to further modelling, optimisation and design refinement.

Facilitating Sustainable Travel Options -

3.2.13 The scheme creates an opportunity to improve sustainable transport connections. Bus priority and further cycle infrastructure provision could be incorporated into the scheme design but will require further detailed investigation.

C The Expected Benefits and Outcomes

3.2.14 The proposed scheme is designed to address existing congestion problems and related safety concerns by reducing vehicle delays at key pinch points on the approach to and from Nuneaton town centre and to facilitate significant future employment and housing growth as set out in Nuneaton and BedworthBorough's Local Plan.

3.2.15 Benefits in terms of congestion relief should be realised immediately upon scheme completion.

3.2.16 NBBC Local Plan growth equates to approximately 7,900 houses and 75Ha of employment land. The Joint Housing Market Assessment provides the current best estimate, this suggest these figures could be significantly more. The proposed SEP scheme provides sufficient capacity to accommodate Local Plan growth, but it also has capacity to enable significant further growth.

Gross Value Added

Job Creation – Local Plan Employment

3.2.17 Warwickshire County Council has undertaken an economic impact assessment on the NBBC proposed local plan, utilising a model derived from data provided through Cambridge Econometrics and their Local Economic Forecasting Model (LEFM). In summary, the model looks at the following factors:

- An estimate of gross jobs to be created on employment sites, by applying HCA employment density calculations on size and use class of the employment land in question.
- A phasing of this jobs over time (recognising that sites will not be built out from year 1)
- An estimate of the cumulative gross uplift in GVA by multiplying the jobs by sector by the average GVA/worker figures by year contained within the LEFM for the area in question.
- Application of a discount rate to provide a net present value of the uplift
- Application of displacement rate by type of employment, utilising figures provided by Regeneris Consulting as result of evaluation activity they have undertaken on employment land in the past. (A standard displacement rate of 60% for B8 activity, and 40% for B1 and B2 (20% for high technology B1 use) is applied unless evidence to suggest different).
- Consideration of additionality and deadweight (i.e. that which would have happened without the intervention) based on the intervention and land in question.

3.2.18 This model estimates that the gross discounted GVA impact of NBBC's Local Plan is £871m (of which the 75ha of new employment land generates £365m increase, and the 7,900 new homes generate some £506m). Displacement is only applied to the employment land, which reduces the total uplift to £752m.

3.2.19 This scheme forms a component of the wider Infrastructure Delivery Plan for Nuneaton & Bedworth, representing 7% of the total required investment. Transport modelling work undertaken for NBBC's Local Plan suggests that by half way through the forecast period, traffic congestion would becoming a limiting factor to future development, so a 50% additionality rate has been applied to the impact assessment for this project. This results in a total net uplift of GVA to Nuneaton & Bedworth as a result of the Local Plan of £376m (net present value). The share of this uplift attributable to this project (7%) is therefore £24,236,077 (net present value).

Job Creation -Scheme Construction

3.2.20 In addition, based on similar completed schemes, during project construction the following FTE jobs are expected to be created:

Construction: 9 FTE
Utility: 6 FTE
Architectural design and engineering: 5 FTE
Business Support: 1.5 FTE

3.2.21 Based on GVA/worker in these sectors, this is expected to create an additional direct GVA impact of £585,000.

Job Creation – GVA Total

3.2.22 The total GVA impact is £24,821,077.

D The Scope to Reduce Costs

3.2.23 The primary objective of the scheme is to address an existing and forecast, seriouscongestion issue on the County road network. Addressing this situation removes a significant barrier to growth. Additionally improving capacity will facilitate further economic growth, beyond Local Plan aspirations. The proposed WCC scheme represents the minimum requirement to meet this objective. However, further modelling and value engineering will be undertaken during the detailed design phase which may potentially reduce costs.

3.2.24 The scheme forms part of a wider scheme proposal for the A444 between Coton Arches and George Eliot Hospital. The scope of the scheme has been reduced in order to improve the probability of securing external funding contributions. The revised scheme cost breakdown is provided in C. The A444 Coton Arches scheme costs represent approximately 25% of the costs to deliver improvements from GEH to Coton Arches (see Appendix A for wider scheme extent)

E Related Activities – Scheme Interdependencies

3.2.25 The scheme has been designed to be within the Highway Extent. However, further optioneering and scheme development may result in some land requirements. If this is the case then WCC will seek to secure land by agreement, but will run a CPO process in parallel.

3.2.26 The scheme forms part of a wider scheme proposal for the A444, however the benefits of the scheme (based on reference case conditions) presented in this report are not dependent on the delivery of the wider Local Plan mitigation strategies.

F Funding Security

3.2.27 The proposed scheme represents the minimum transport inervention to meet the objective of providing capcity to facilitate the Local Plan and provide additional growth capcity.

3.2.28 A scheme at this location will be required to mitigate the impact of the Local Plan growth, however due to the costs of all IDP schemes, NBBC has informed WCC that viability may be an issue. Therefore the future funding commitments towards the scheme, via S106 and CIL mechanisms, is uncertain.

3.2.29 An external funding contribution of £2m is required. WCC Capital Growth Fund will cover any funding shgrtfall. There are currently no alternative funding streams that can be used to develop this scheme.

3.2.30 Due to the fact that the impact of forecast traffic growth has only recently been realised through the Strategic Transport Assessment process, there has been no opportunity to identify alternative funding mechanisms.

G Statutory Environmental Constraints

3.2.31 There are no statutory environmental constraints that would impact on the delivery of the scheme.

3.3 The Financial Case – Project Costs

3.3.1 WCC Design Service have provided cost estimates for the scheme based on the scheme drawing (TCIS/143/001) shown in Appendix B. A 40% supplement of the construction costs has been included to represent the costs of dealing with utilities in an urban environment, this figure has been derived through analysis of a number scheme final outturn costs and the attributable utilities costs. A 44% contingency has also been included to reflect the uncertainties in this early stage of scheme development, this is appropriate for early 'inception' stage estimates where we have no properly developed design and have no service diversion estimates.. The cost breakdown is provided in Table 2.2, and Appendix C.

3.3.2 The forecast spend profile is highlighted in Table 2.1. It is anticipated that the scheme would be completed within 1 financial year. A retention period of 12 months is required post construction period, £50,000 from local authority will cover costs during this period.

£000's	2015-16	2016-17	2017-18	2018-2019
SEP Funding Sought		£2.0m		
Local Authority Contribution or Third Party Contribution		£1.0m	£0.05m	

Table 2.1: Funding profile (Nominal terms)

3.3.3 Cost Estimates are provided below (Table 2.2). For the purposes of the business case this value has been rounded to £3.05m.

COTON ARCHES PROJECT: BUDGETARY ESTIMATE	OCTOBER 2014
DESCRIPTION	**COST (£)**
WORKS	
Highway Works	1,030,000
Traffic Control and Information Systems	245,000
Sub-total	1,275,000
Contingencies on Sub-total (at 44% for Inception Stage)	561,000
Works Total	**1,836,000**
DESIGN & PROCUREMENT	
Highway Design, Engineering Client and Procurement Functions	166,000
Traffic Control and Information Systems Design	20,000
Sub-total	186,000
Contingencies on Sub-total (at 44% for Inception Stage)	82,000
Design & Procurement Total	**268,000**
DESIGN PHASE ENABLING WORK & SERVICES	
Surveys, Site Investigations, Consultation Costs, TROs and Legal Work	32,000
Sub-total	32,000
Contingencies on Sub-total (at 44% for Inception Stage)	14,000
Design Phase Enabling Work & Services Total	**46,000**
STATUTORY UNDERTAKER DIVERSIONS & PROTECTION WORKS	
Electricity, Gas, Water, Telecommunications and Other Services	510,000
Sub-total	510,000
Contingencies on Sub-total (at 44% for Inception Stage)	224,000
Design Phase Enabling Work & Services Total	**734,000**
CONSTRUCTION SUPERVISION	
Project Manager, Supervisor, Quantity Surveyor and Clerk of Works Services	89,000
Traffic Control and Information Systems Installation Supervision and Commissioning	15,000
Sub-total	104,000
Contingencies on Sub-total (at 44% for Inception Stage)	46,000
Construction Supervision Total	**150,000**
PROJECT TOTAL	**3,034,000**

Table 2.2 Outturn Costs for A444 Coton Arches Junction Improvement

3.4 The Financial Case - Local Contribution / Third Party Funding

3.4.1 Due to the fact that the impact of forecast traffic growth has only recently been realised through the Strategic Transport Assessment process, there has been no opportunity to identify alternative funding mechanisms.

3.4.2 WCC Capital Growth Fund will cover any shortfall in funding for the scheme. The full scheme costs are £3.05m, the Local Growth Deal required funding contribution is £2m. The WCC Capital Growth Fund fund has been established to support schemes which help enable the delivery of economic growth.

3.4.3 It is also anticipated that a local contribution from development can be achieved. This is likely to increase as development in the area comes forward. Developer contributions are likely to be accrued through a Community Infrastructure Levy

3.5 The Financial Case – Affordability and Financial Risk

3.5.1 A risk register and quantitative risk assessment is included in Appendix D.

A Risk Allowance in Project Costs

3.5.2 Risk allowance is summarised in Table 2.3 below.

Pre Mitigation			
Confidence Levels			
Mean	10%	50%	80%
£39.2K	£6k	£40k	£60.6k

Post Mitigation			
Confidence Levels			
Mean	10%	50%	80%
£17.6K	0	£11.9k	£37.5k

Table 2.3 Risk Allowance

3.5.3 The mean risk value is recognised to appear low. It represents approximately one third of the risk allowance identified for the £11.7m wider improvement scheme and is therefore in line with previous risk assessments for schemes on this corridor. As such some of the risks have been reduced, furthermore the development of the scheme is further advanced and there is a better understanding of the risks involved

3.5.4 It should also be recognised that a 40% supplement of the construction costs has been included to represent the costs of dealing with utilities in an urban environment, this figure has been derived through analysis of a number scheme final outturn costs and the attributable utilities costs. A 44% contingency has also been included to reflect the uncertainties in this early stage of scheme development.

3.5.5 WCC will undertake to continue to review the risk register throughout the development of the scheme.

B Dealing with Cost Overruns

3.5.6 WCC will ultimately be liable for any cost overruns, however value engineering,budget savings on other schemes within the SEP Transport Packages and local funding contributions could help to address any cost overruns.

C Main Risks to Project Delivery and Impact on Costs

3.5.7 The main risks associated with the delivery of the scheme are those typical of any major road scheme and will be associated with land requirements and acquisition costs,lead-in time for diverting utilities network disruption during construction and environmental works. Other risks are associated with the final housing and employment allocations for NBBC Local Plans.

3.5.8 All scheme risks are summarised in the Risk Register and QRA included in Appendix D.

3.6 The Economic Case – Value for Money

3.6.1 The scheme has been through a detailed and robust modelling process to derive network benefits and Benefit Cost Ratios (BCR). The S-Paramics model development was based on a cordoned version of the Nuneaton and Bedworth Wide Area model.

3.6.2 Modelling assessments have been undertaken in S-Paramics microsimulation software (wider area and local model) and LINSIG traffic signals design software. S-Paramics modelling have been undertaken for the following scenarios:

- 2017 year of opening (under reference case forecast growth conditions).
- 2022 5 years post opening (under reference case forecast growth conditions).
- 2028 reference case conditions.
- 2028 NBBC Local Plan growth conditions (Matrices were derived from the equivalent Nuneaton and Bedworth Wide Area forecast models which were forecast using a combination of TEMPRO and NTM adjusted TEMPRO factors depending upon the origin and destination zone type. The full forecasting methodology is discussed in detail within the Nuneaton & Bedworth Future Year Model Amendments Report, January 2013 (available upon request).

3.6.3 The delays experienced under 2028 conditions (Reference Case and Local Plan forecast conditions) represent an unrealistic situation. Impacts are extensive. Growth in the area would not be possible without the delivery of highway mitigation measures. Therefore Economic Analysis (BCR and NPV) analysis has been undertaken for the following scenarios:

- 2017 year of opening (under reference case forecast growth conditions).
- 2022 5 years post opening (under reference case forecast growth conditions).

3.6.4 The S-Paramics base model development meets DMRB guidance criteria for model calibration and validation (Appendix D). A cordon model of the area surrounding the A444 Coton Arches junction was developed specifically for the analysis of the capacity and economic benefits pertaining to the proposed scheme. A model development and forecasting technical note is provided in Appendix G.

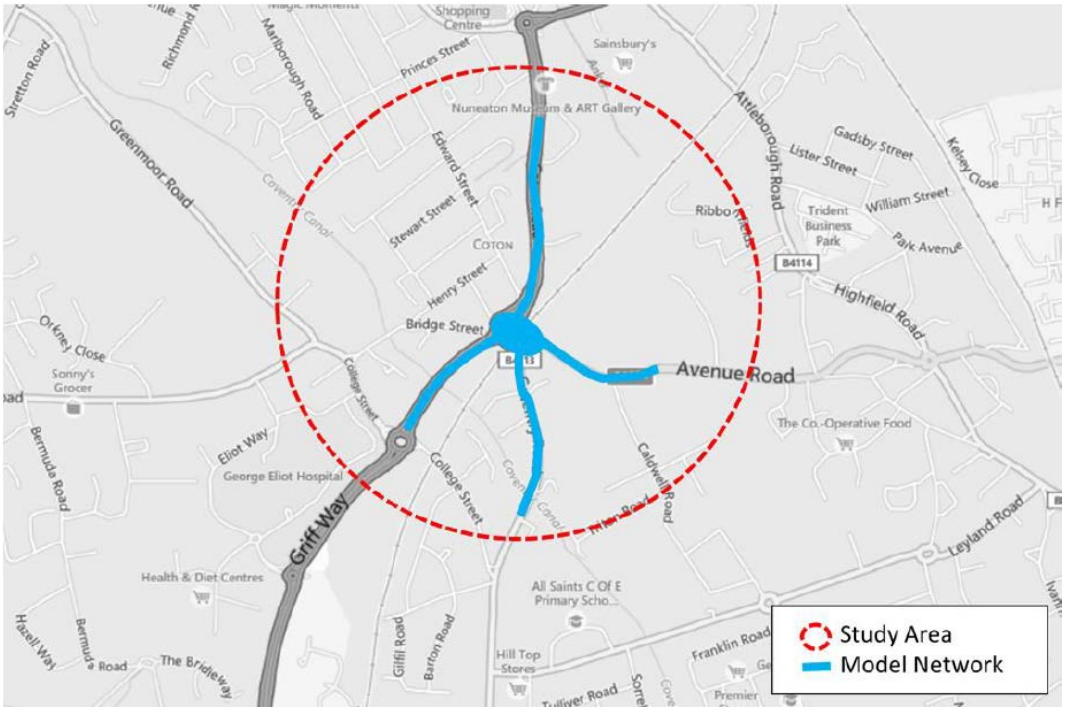

Fig 2.1 Modelled Network

3.6.5 The S-Paramics modelling suite contains the PEARS (Program for Economic Assessment of Road Schemes) module. PEARS is an economic assessment package, developed and maintained by Transport Scotland, that has been specifically designed for use with the output from traffic microsimulation models to assess the economic impacts of proposed road schemes. PEARS carries out trip-based assessments of changes in travel time costs and vehicle operating costs. The costs of a trip-based assessment are derived by aggregating the costs of each individually modelled vehicle on the network. This represents the preferred and most suitable model to calculate a BCR.

3.6.6 A BCR of 8.19 is achieved with a Net Present Value of £18.24m. The details of the PEARS BCR analysis are provided in Appendix B.

3.6.7 These monetised costs are in line with the previous calculated BCR for the A BCR of 8.21 is achieved with a Net Present Value of £22.1m.

3.6.8 Full details of the PEARS BCR analysis are provided in Appendix B.The following assumptions are contained within the PEARS analysis:

- Analysis is based on Central traffic growth.
- Benefits appear as positive numbers, while costs appear as negative numbers.
- All entries are discounted to 2010
- Evaluation period 30 years.
- Scheme opening year 2017.

3.6.9 The scheme achieves its primary objective of addressing all queuing and congestion issues on the A444 corridor at this location. Additionally, the scheme provides capacity for NBBC Local Plan growth over the plan period (up to 2028). The scheme also has sufficient capacity to accommodate significant further growth.

3.6.10 Detailed analysis of the modelling outcomes is provided in Appendix G Scheme Impact Pro Forma.

3.6.11 Headline journey time outputs are provided in Fig.2.1. The impact of these savings is significant when applied to every vehicle travelling on the modelled network, for example by assuming 2028 reference case conditions an AM peak weekday time saving of approximately 24,700 hours. The saving in the PM peak and under Local Plan growth assumtption are even greater.

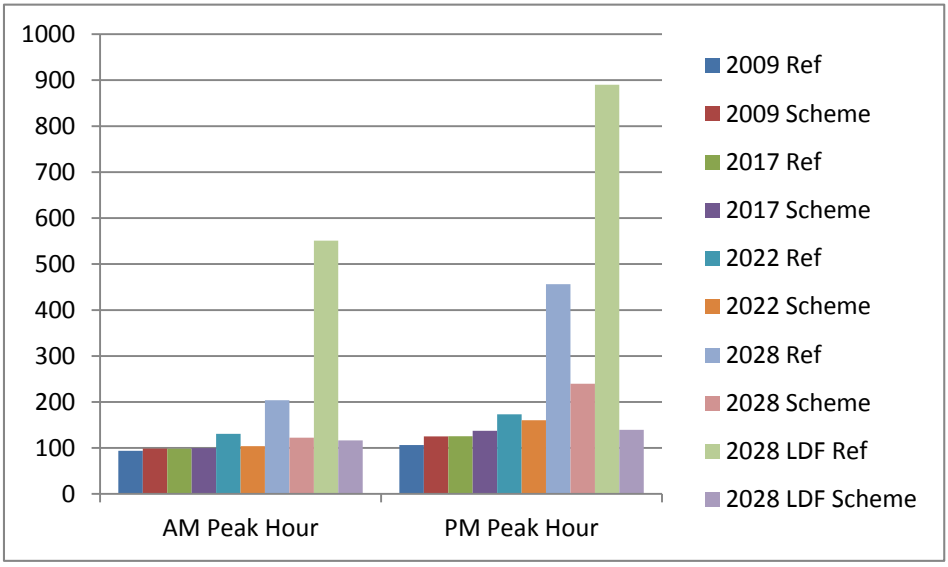

Fig 2.2 Average vehicle journey time (seconds) per vehicle

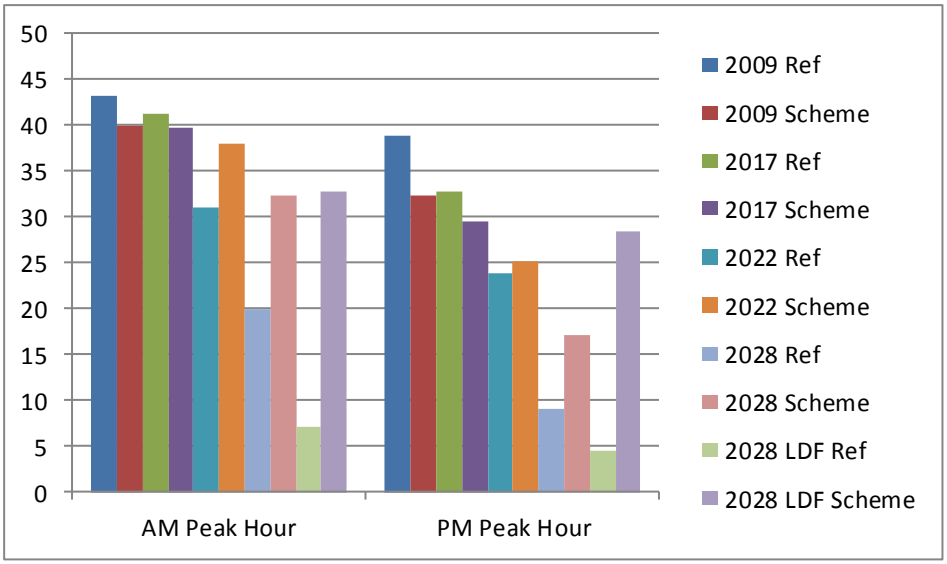

Fig 2.3 Average vehicle speed (kph)

3.6.12 The impact of queue reduction is most obvious when assessing the impact on the junction approaches in both AM and PM periods in the +5years after scheme completion results. Full analysis of queue impacts show significant queue savings for all period, all approaches and in all forecast years, the detailed analysis is provided in Appendix G. The change in the AM peak average maximum queuing conditions(number of vehicles), with and without the scheme, has been presented for all movements within the following Figures:

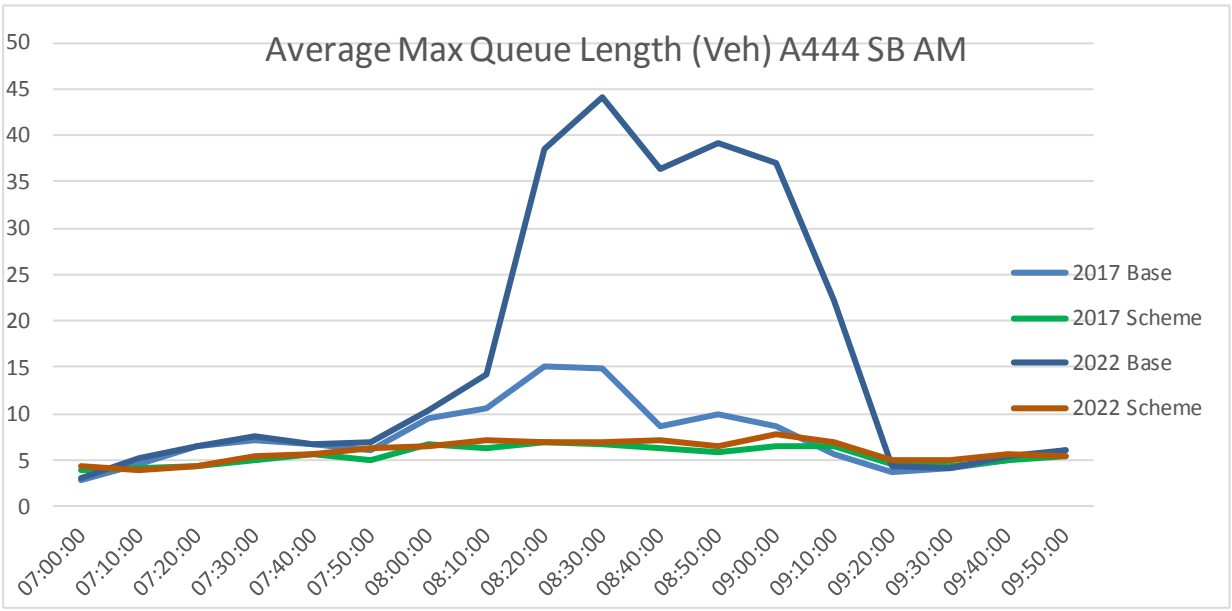

Fig 2.4 Average Max Queue Length (Veh) A444 SB AM

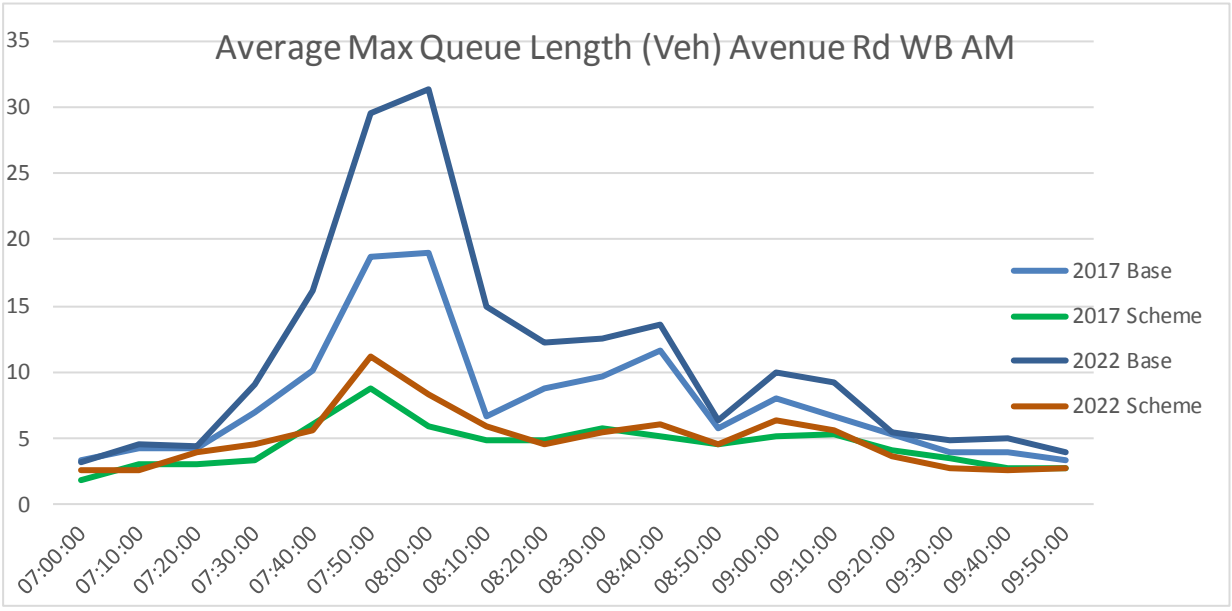

Fig. 2.5 Average Max Queue Length (Veh) Avenue Rd WB AM

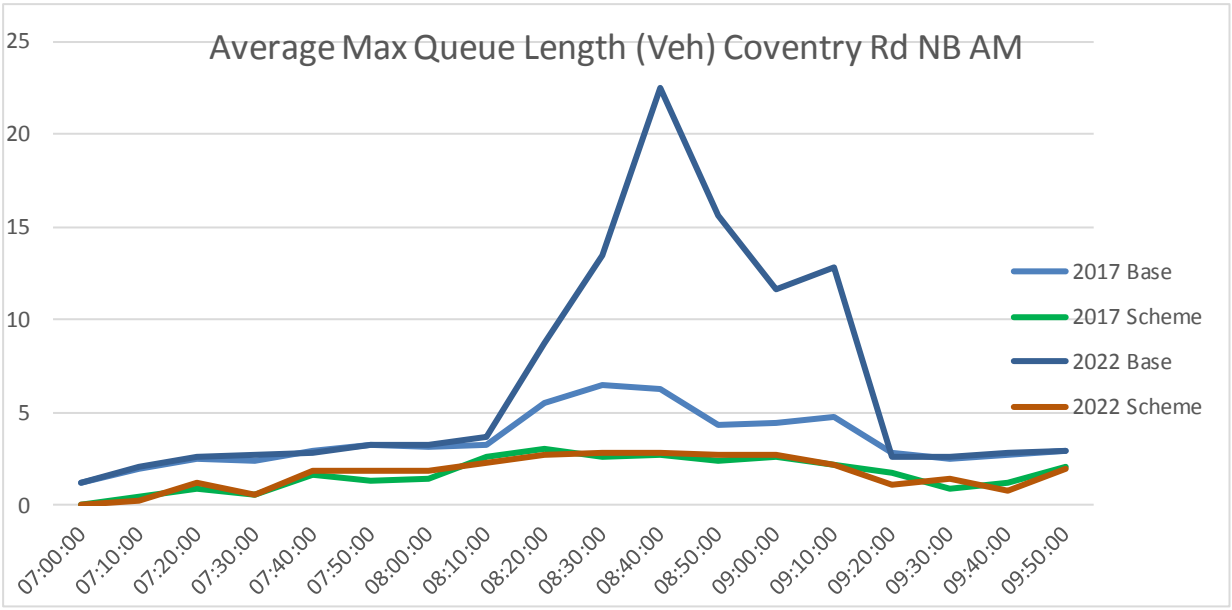

Fig.2.6 Average Max Queue Length (Veh) Coventry Rd NB AM

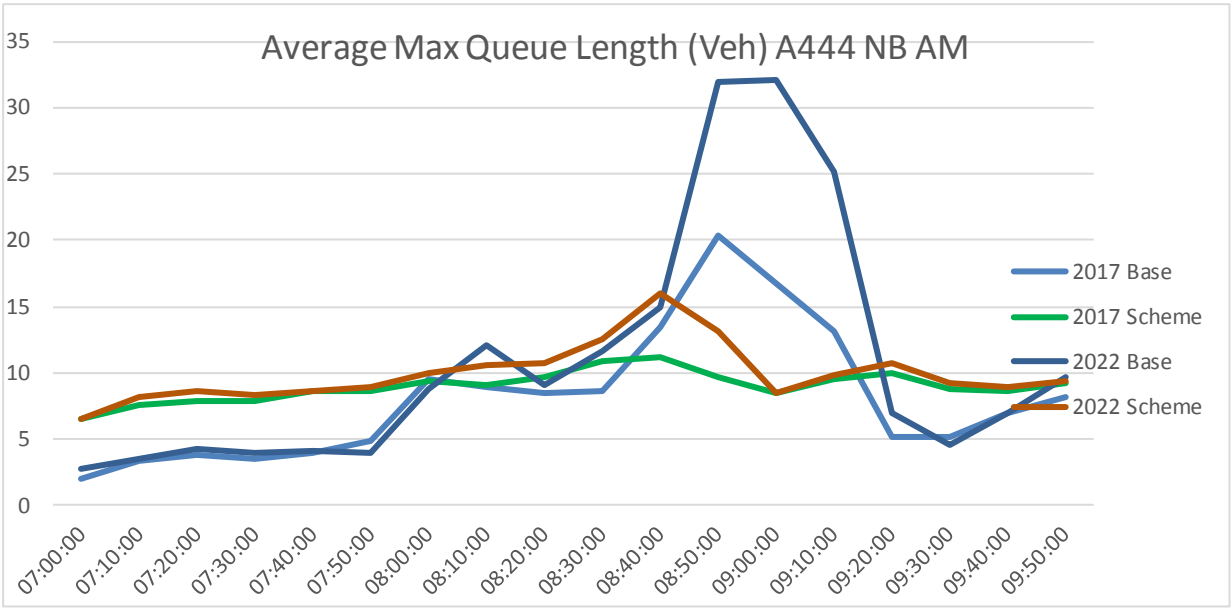

Fig. 2.7 Average Max Queue Length (Veh) A444 SB AM

Scheme Impacts Pro Forma

3.6.13 A scheme impacts pro forma is included in the Appendix G. This summarises the impact of proposals against a number of metrics relevant to the scheme objectives. It is based on the Proforma used by DfT – along with other centrally sourced data – to form an estimate of the BCR of the scheme.

3.6.14 Headline statistics are highlighted in Table 2.4 & 2.5.

	2009		2017		2022		2028		2028 LDF	
	Ref	Scheme	Ref	Scheme	Ref	Scheme	Ref	Scheme	Ref	Scheme
AM Peak Hour	43	40	41	40	31	38	20	32	7	33
	-7.61%		-3.93%		22.17%		62.74%		358.55%	
AM Peak Period	45	41	44	40	36	39	23	33	7	35
	-10.59%		-8.49%		8.51%		46.55%		439.58%	
PM Peak Hour	39	32	33	29	24	25	9	17	4	28
	-16.69%		-10.27%		5.69%		89.27%		533.72%	
PM Peak Period	42	37	38	35	29	32	10	19	4	27
	-11.35%		-5.87%		11.41%		80.56%		506.17%	
Inter-Peak Period	47	41	46	40	43	40	36	26	9	28
	-13.18%		-11.95%		-8.60%		-25.56%		214.88%	

Table 2.4 Average Journey Time Summary Statistics

	2009		2017		2022		2028		2028 LDF	
	Ref	Scheme	Ref	Scheme	Ref	Scheme	Ref	Scheme	Ref	Scheme
AM Peak Hour	94	99	98	100	131	104	204	122	551	116
	5.39%		1.30%		-20.40%		-40.03%		-78.86%	
AM Peak Period	89	97	92	98	112	101	178	118	607	108
	9.01%		6.50%		-10.31%		-33.38%		-82.14%	
PM Peak Hour	106	125	125	137	173	160	456	240	890	139
	17.81%		9.39%		-7.47%		-47.44%		-84.34%	
PM Peak Period	98	108	108	113	143	125	392	215	906	146
	10.58%		4.15%		-12.32%		-45.24%		-83.90%	
Inter-Peak Period	86	96	88	98	93	100	113	150	452	141
	12.41%		10.84%		6.78%		32.08%		-68.92%	

Table 2.5 Average Journey Time Summary Statistics

Appraisal Summary Table

3.6.15 A completed Appraisal Summary Table (AST) is provided in Appendix H. The AST provides an assessment of all the impacts included within the table and highlight any significant Social or Distributional Impacts (SDIs). Quantitative and monetary estimates where. The level of detail provided in the table is proportionate to the scale of expected impact with particular emphasis placed on the assessment of carbon, air quality, bus usage, sustainable modes, accessibility and road safety. The source of evidence used to assess impacts is clearly stated within the table.

Value for Money statement

3.6.16 A Value foMoney (VfM) statement is provided in Appendix K. The independent VfM statement categorises the scheme as ***very high*** based on the AST and and Business case work

3.7 The Commercial Case

3.7.1 The preferred balance of risk between the promoter and the contractor is set out between the Employer and Contractor in the NEC3 Engineering and Construction Contract (ECC) Option A Priced Contract with Activity Schedule (October 2013). The standard conditions of contract (the core clauses) have been amended as outlined in Appendix I.

3.7.2 The works will be procured through the County Council's new Construction Framework Contract. Under this Framework Contract, all works with a total pre-quotation construction estimate of greater value can be 'called- off' without need for further tendering / procurement exercises. If, for any reason the Framework cannot be used then the EU Restricted Procedure for a one-off scheme procurement will be followed.

3.8 The Management Case - Delivery

Project Plan and Key Milestones

3.8.1 A project plan is provided in Appendix J. This is a high level overview of timescales with detail proportionate to the current level of scheme development.

3.8.2 Key Milestones are highlighted below, dates will be informed through the development of the project plan:

- Secure Funding
- Complete Detailed Design (incl. bus and cycle facilities)
- Environmental Works
- Advanced Utilities Works
- Tender Period
- Award Contract
- Commence construction
- Scheme Opening (February 2017)

3.9 The Management Case – Statutory Powers and Consents

3.9.1 Planning permission will not be required as the scheme is within highway extent and contiguous to the existing highway.

3.9.2 Compulsory Purchase Orders may be necessary to secure land if required. This process will run in parallel to negotiations with landowners seeking to exchange land by agreement.

3.9.3 Section 85 notices will be placed on the area affected by the scheme in order that public utilities companies would have to pay for diversions should they install equipment new equipment prior to construction

3.10 The Management Case – Governance

3.10.1 Warwickshire County Council (WCC) will assume full responsibility for delivery of the scheme. The scheme will be managed as a project using PRINCE2. Scheme design will be carried out in house by WCC and tenders will be invited from civil engineering contractors for construction.

3.10.2 The senior responsible officer will be appointed from a senior position at WCC. The project manager will be Alan Law, Principal Transport Planner. The project will be managed in accordance with WCC standard governance procedures which determine delegations for decision making, reporting and monitoring requirements.

3.10.3 A Project Board will be established which will meet as frequently as required (but at least monthly) to oversee delivery of the project. The Board will comprise a project executive officer, a senior user (probably the local county councillor) and a senior supplier (a senior officer from the WCC in house design group). The project manager will report to this Board. The Board will derive its authority to deliver the scheme through WCC Cabinet and the Portfolio Holder for Transport and Highways as appropriate under the WCC governance structure.

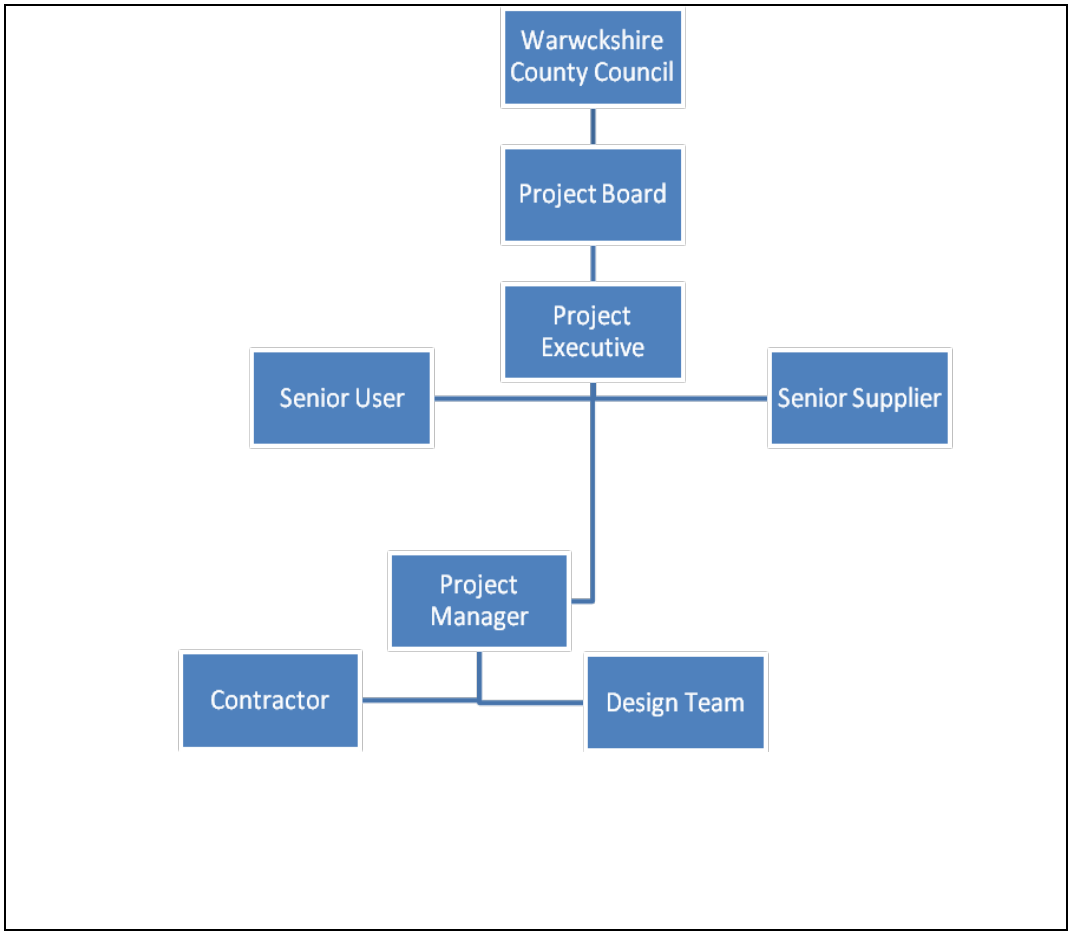

Fig. 2.4 Project Delivery Structure

3.11 Management Case - Risk Management

3.11.1 A risk register and QRA report are included in Appendix D. Further details are provided section 3.5.

3.11.2 WCC have an good track record for delivering schemes on time and to budget, the following are some recent examples:

Stratford Parkway (Local Sustainable Transport Project)

- Station will opened 7 months early (originally planned to open in December 2013)
- Under budget.
- Total scheme budget £8.866m

A452 Europa Way Corridor Improvements (Local Pinch Point Fund Scheme)

- £2m budget
- Completed early and within budget (Feb 2014)

Barford Bypass

- Cost £10.38m.
- Completed on budget.
- Completed on time. May 2007

3.11.3 WCC will ensure sufficient resources are in place in order to deliver the scheme on time and to budget.

3.11.4 Levels of contingency have been applied which are appropriate to the current stage in the design process.

3.12 Management Case - Stakeholder Management

Key Stake Holders

3.12.1 Key stakeholders include the following:

- Warwickshire Police
- Local Businesses
- Parish Councils
- NBBC
- Network Rail
- Local residents
- Guide Dogs for the Blind
- Warwickshire Blind Association
- Road Haulage Association
- Freight Transport Association
- SUSTRANS

3.12.2 Local businesses and other stakeholders will be consulted at appropriate stages throughout the scheme development process.

Stakeholder Perceptions

3.12.3 There are currently no external campaigns against this specific proposal

4 Monitoring Evaluation and Benefits Realisation

4.1 Benefits Realisation

Benefits realised upon completion of the scheme

4.1.1 The scheme fully addresses significant safety and congestion issue on HA and County road network, the daily total network delay in the study area for 2028 reference case conditions is reduced by approximately 107 hours AM peak and 322 hours PM peak.

Forecast benefits realised 5+ years post completion

4.1.2 The scheme performs well up to and beyond 2028 forecast Reference Case and Local Plan scenarios.

4.1.3 The scheme opens up the area for housing and employment growth in line with NBBC Local Plan and provides significant capacity beyond this identified growth.

4.2 Monitoring and Evaluation

4.2.1 Planned outcomes in terms of reduced congestion and safety improvements will be realised immediately upon completion of the scheme

4.2.2 Extensive surveys were undertaken as part of the modelling process. Key surveys will be repeated at regular intervals and Automatic Traffic Count (ATC) loop sites will be included as part of the scheme. All monitoring will be undertaken at the annual peak. Scheme performance will then be compared against model forecast performance.

4.2.3 WCC will continue to monitor access to sustainable modes of travel to local employment sites and will help support and encourage mode shift.

4.2.4 The scheme will be assessed in terms of the following measures:

- Scheme build;
- Delivered scheme;
- Costs;
- Scheme objectives;
- Travel demand;
- Travel times and the reliability of travel times;
- Impacts on the economy; and
- Carbon Impacts